PSP0201 Week 6 Writeup

Group Name: Gold
Members:

ID	Name	Role
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Day 21: Blue Teaming- Time for some ELForensics

Tools used: THM Attackbox, Remmina

Solution/walkthrough:

Question 1

Read the contents of the text file within the Documents folder. What is the file hash for db.exe? -

596690FFC54AB6101932856E6A78E3A1

```
PS C:\Users\littlehelper\Documents> more '.\db file hash.txt'
Filename:       db.exe
MD5 Hash:       596690FFC54AB6101932856E6A78E3A1
```

Question 2

What is the MD5 file hash of the mysterious executable within the Documents folder? -

5F037501FB542AD2D9B06EB12AED09F0

```
PS C:\Users\littlehelper\Documents> Get-FileHash -Algorithm MD5 .\deebee.exe

Algorithm       Hash
---------       ----
MD5             5F037501FB542AD2D9B06EB12AED09F0
```

Question 3

What is the SHA256 file hash of the mysterious executable within the Documents folder? -

F5092B78B844E4A1A7C95B1628E39B439EB6BF0117B06D5A7B6EED99F5585FED

```
PS C:\Users\littlehelper\Documents> Get-FileHash -Algorithm SHA256 .\deebee.exe

Algorithm       Hash
---------       ----
SHA256          F5092B78B844E4A1A7C95B1628E39B439EB6BF0117B06D5A7B6EED99F5585FED
```

Question 4

Using Strings find the hidden flag within the executable? -

THM{f6187e6cbeb1214139ef313e108cb6f9}

```
Using SSO to log in user...
Loading menu, standby...
THM{f6187e6cbeb1214139ef313e108cb6f9}
Set-Content -Path .\lists.exe -value $(Get-
yte) -Encoding Byte -Stream hidedb
```

Question 5

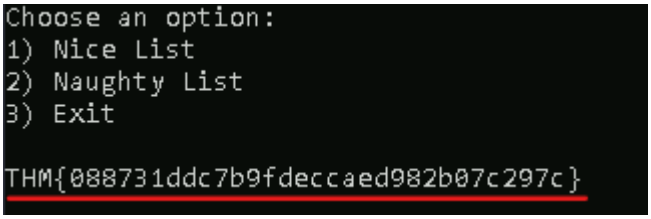
What is the powershell command used to view ADS? - Get-Item -Path file.exe -Stream *

The command to view ADS using Powershell: `Get-Item -Path file.exe -Stream *`

Question 6

What is the flag that is displayed when you run the database connector file? -

THM{088731ddc7b9fdeccaed982b07c297c}

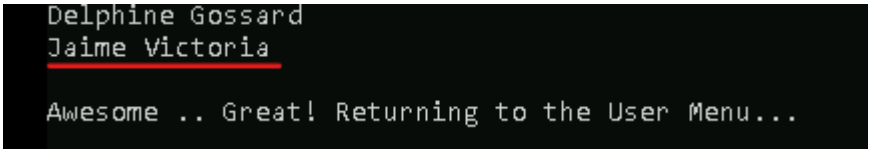


Question 7

Which list is Sharika Spooner on? - Naughty list

Question 8

Which list is Jaime Victoria on? - Nice list



Thought Process/ Methodology:
use the AttackBox and Remmina to connect to the remote machine. For Server provide (MACHINE_IP) as the IP address provided to you for the remote machine. The credentials for the user account is, user name: littlehelper and user password: iLove5now!.With PowerShell, we can obtain the hash of a file by running the following command: Get-FileHash -Algorithm MD5 file.txt. The command to run for the Strings tool to scan the mysterious executable: c:\Tools\strings64.exe -accepteula file.exe. Alternate Data Streams (ADS) is a file attribute specific to Windows NTFS (New Technology File System). The command to view ADS using Powershell: Get-Item -Path file.exe -Stream *. The command to run to launch the hidden executable hiding within ADS: wmic process call create $(Resolve-Path file.exe:streamname). And we are done.

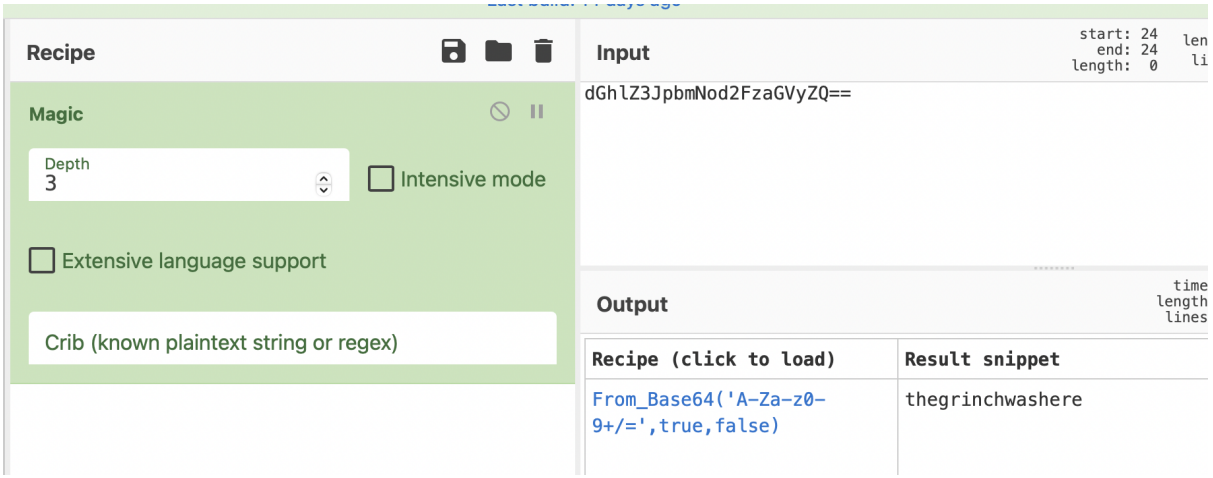
Day 22: Blue Teaming- Elf McEager becomes CyberElf

Tools used: THM Attackbox, Remmina, Keepass, Cyberchef

Solution/walkthrough:

Question 1

What is the password to the KeePass database? - thegrinchwashere



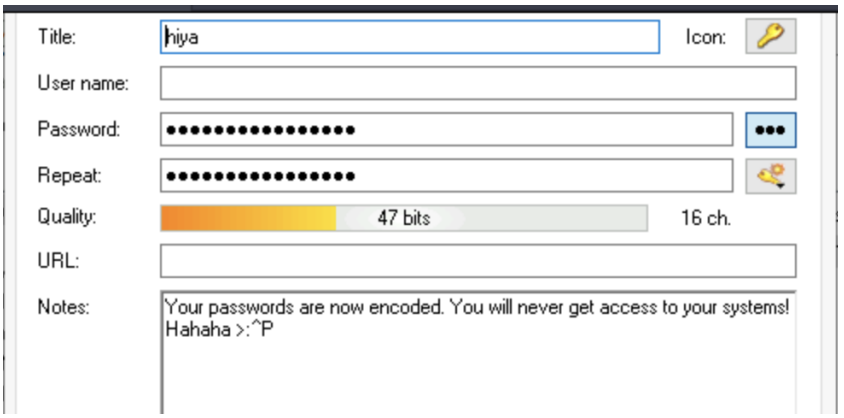
Question 2

What is the encoding method listed as the 'Matching ops'? - base64

Result snippet	Properties
thegrinchwashere	Possible languages: English German Dutch Indonesian Matching ops: From Base64,

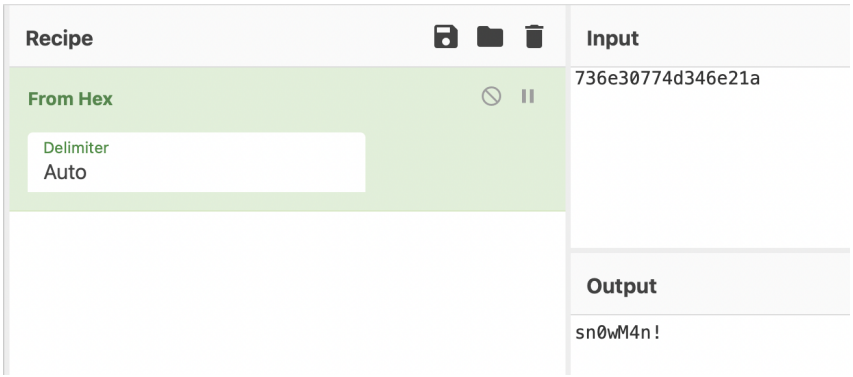
Question 3

What is the note on the hiya key? - Your passwords are now encoded. You will never get access to your systems! Hahaha >:^P



Question 4

What is the decoded password value of the Elf Server? - sn0wM4n!

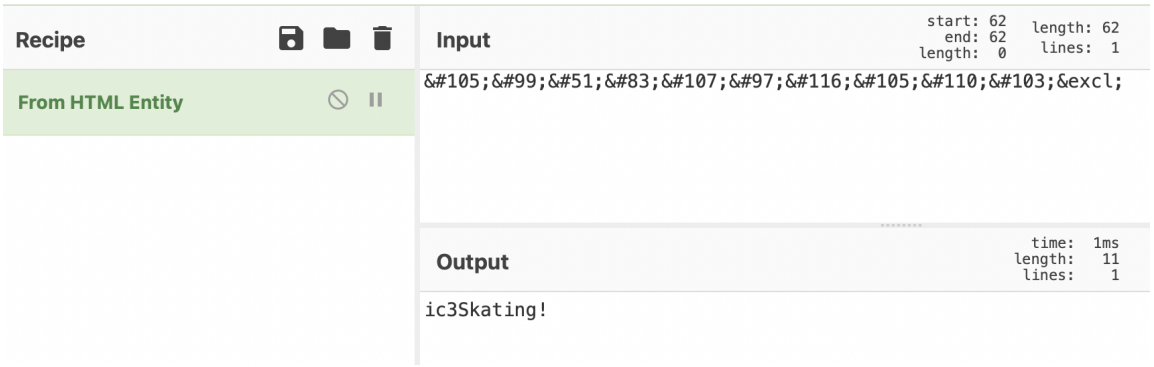


Question 5

What was the encoding used on the Elf Server password? - hex

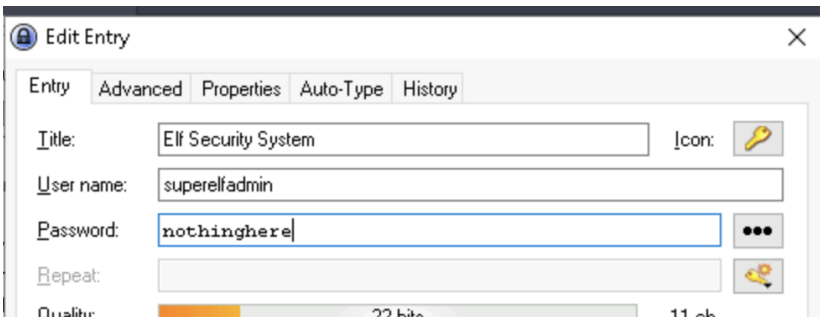
Question 6

What is the decoded password value for ElfMail? - ic3Skating!



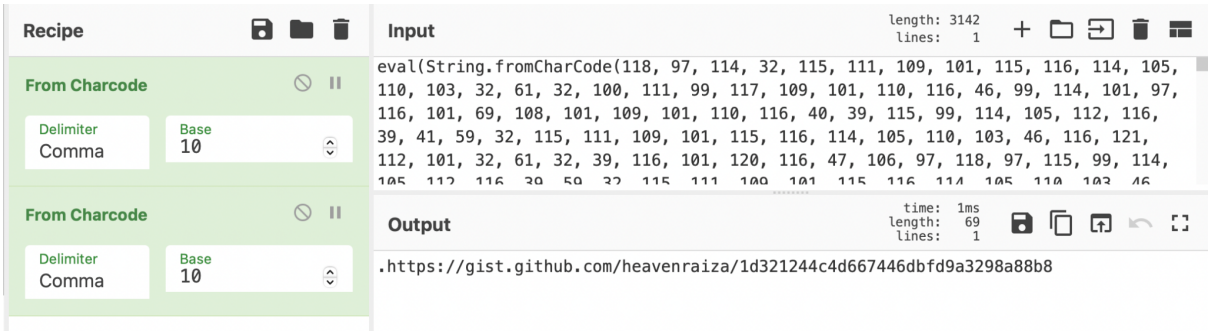
Question 7

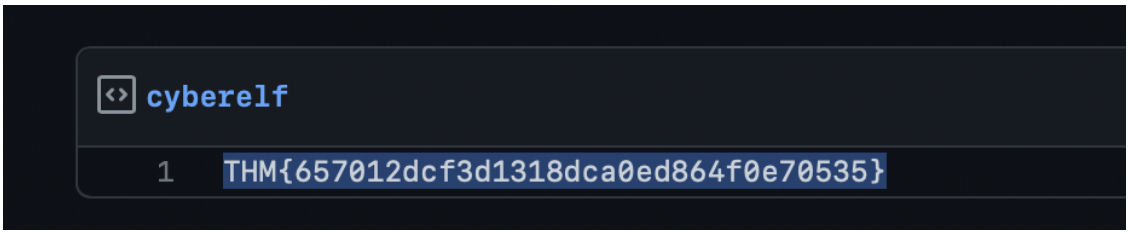
What is the username:password pair of Elf Security System? - superelfadmin:nothinghere



Question 8

Decode the last encoded value. What is the flag? - THM{657012dcf3d1318dca0ed864f0e70535}





Thought Process/ Methodology:

We use Attackbox and Remmina to connect to the remote machine. After we create a RDP with credentials username:Administrator and password:sn0wF!akes!!!, we can now log into the remote system. Decode the filename on the desktop using cyberchef to get the Keepass's master password. Now that we have successfully unlocked Keepass, we can see that there are more encodings within the Keepass database file. There are also notes in each file that contain clues such as cyberchef recipes to decode the passwords. To get the flag, we should decode the encoded value first and open the link from the decoded value to get the flag.

Day 23: Blue Teaming- The Grinch strikes again!

Tools used: THM Attackbox, Remmina

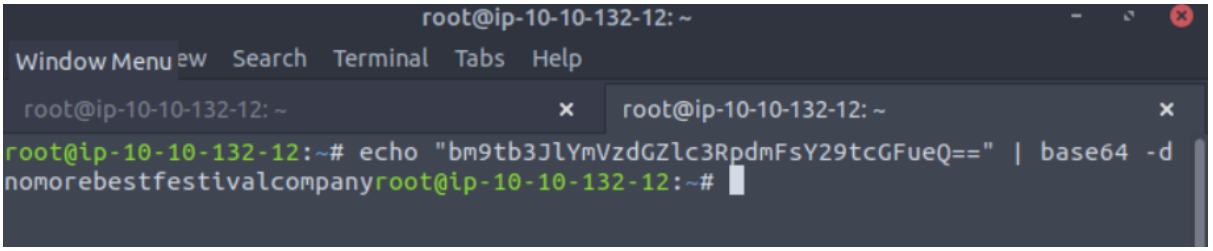
Solution/walkthrough:

Question 1

What does the wallpaper say? -THIS IS FINE

Question 2

Decrypt the fake 'bitcoin address' within the ransom note. What is the plain text value? -nomorebestfestivalcompany

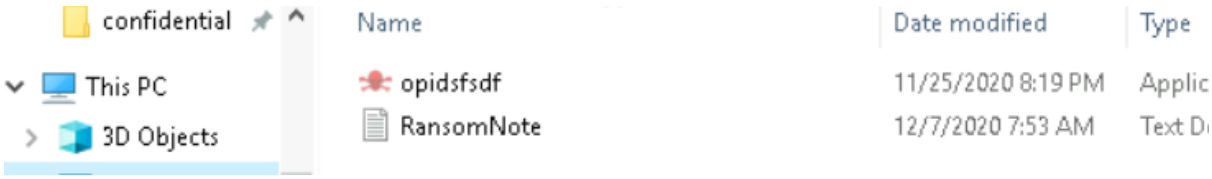


Question 3

At times ransomware changes the file extensions of the encrypted files. What is the file extension for each of the encrypted files? -.grinch

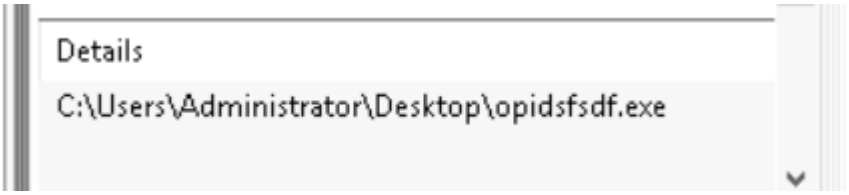
Question 4

What is the name of the suspicious scheduled task? -opidsfsdf



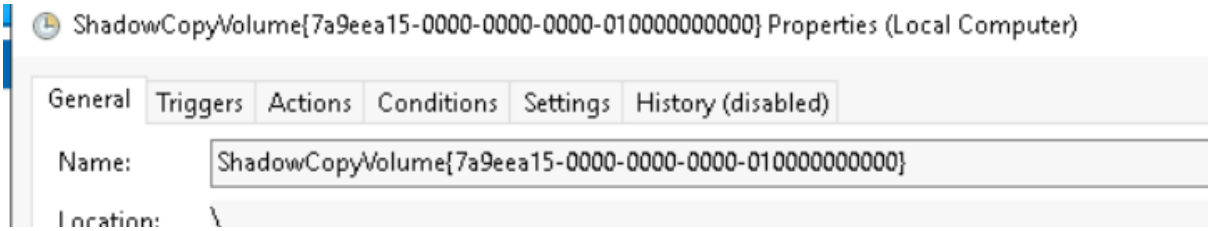
Question 5

Inspect the properties of the scheduled task. What is the location of the executable that is run at login? -C:\Users\Administrator\Desktop\opidsfsdf.exe



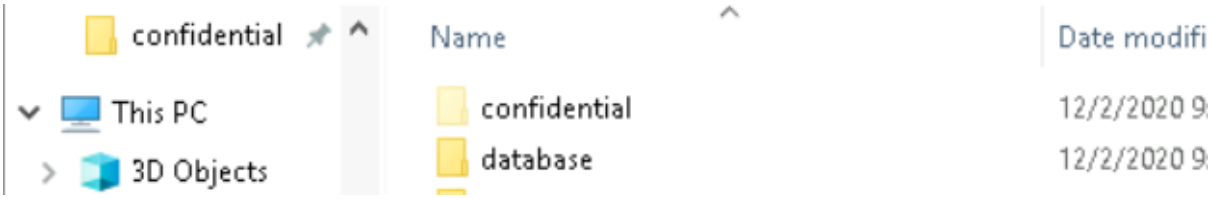
Question 6

There is another scheduled task that is related to VSS. What is the ShadowCopyVolume ID? -7a9eea15-0000-0000-0000-010000000000



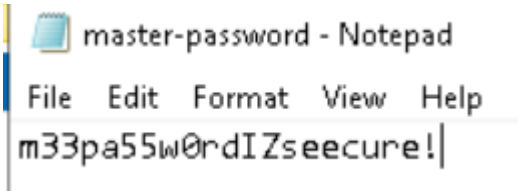
Question 7

Assign the hidden partition a letter. What is the name of the hidden folder? -confidential



Question 8

Right-click and inspect the properties for the hidden folder. Use the 'Previous Versions' tab to restore the encrypted file that is within this hidden folder to the previous version. What is the password within the file? -m33pa55w0rdIZseecure!



Thought Process/ Methodology:
We start by booting Remmina (remmina &) on the terminal which will lead us to **Remmina Remote Desktop Client.** Next, we open Remmina Preferences on the RDP section where we change the `Quality settings: Poor (fastest)` and `select: wallpaper`. Then, we press the + button and enter the IP Address in the **Server**, the given username and password in the **User name** and **User password** field and manipulate the **Color depth** to `RemoteFX(32 bpp)`. This will open the Admin Port. There, we have access to admin files.

Day 24: Final Challenge- The Trial Before Christmas

Tools used: THM AttackBox, Gobuster, BurpSuite, CrackStation

Solution/walkthrough:

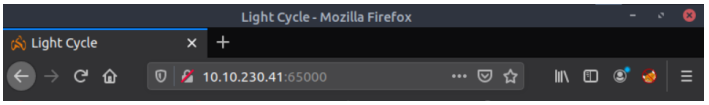
Question 1

Scan the machine. What ports are open? -80, 65000

```
Not shown: 65533 closed ports
PORT      STATE SERVICE
80/tcp    open  http
65000/tcp open  unknown
```

Question 2

What's the title of the hidden website? -Light Cycle



Question 3

What is the name of the hidden php page? -/uploads.php

```
===============================================
2020/12/20 05:53:02 Starting gobuster
===============================================
/uploads.php (Status: 200)
/assets (Status: 301)
```

Question 4

What is the name of the hidden directory where file uploads are saved? -/grid

```
/api (Status: 301)
/grid (Status: 301)
```

Question 5

What is the value of the web.txt flag? -THM{ENTER_THE_GRID}

```
cat web.txt
THM{ENTER_THE_GRID}
```

Question 6

What lines are used to upgrade and stabilize your shell?
- export TERM=xterm
- python3 -c 'import pty;pty.spawn("/bin/bash")'
- stty raw -echo; fg

Working inside the reverse shell:

1. The first thing to do is use `python3 -c 'import pty;pty.spawn("/bin/bash")'`, which uses Python to spawn a better-featured bash shell. At this point, our shell will look a bit prettier, but we still won't be able to use tab autocomplete or the arrow keys, and Ctrl + C will still kill the shell.
2. Step two is: `export TERM=xterm` – this will give us access to term commands such as `clear`.
3. Finally (and most importantly) we will background the shell using `Ctrl + Z`. Back in our own terminal we use `stty raw -echo; fg`. This does two things: first, it turns off our own terminal echo (which gives us access to tab autocompletes, the arrow keys, and `Ctrl + C` to kill processes). It then foregrounds the shell, thus completing the process.

The full technique can be seen here:

Question 7

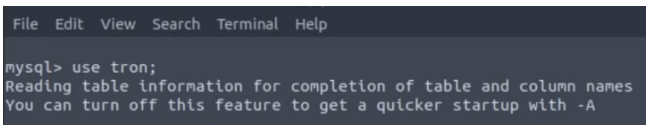
Review the configuration files for the webserver to find some useful loot in the form of credentials.

- tron:IFlightForTheUsers

```
$dbpass = "IFightForTheUsers";
$database = "tron";
```

Question 8

Access the database and discover the encrypted credentials. -tron

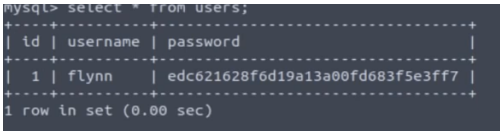


Question 9

Crack the password. What is it? -@computer@

Question 10

Use su to login to the newly discovered user by exploiting password reuse. What is the user you are switching to? -flynn



Question 11

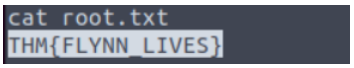
What is the value of the user.txt flag? -THM{IDENTITY_DISC_RECOGNISED}

Question 12

Check the user's groups. Which group can be leveraged to escalate privileges? -lxd

Question 13

What is the value of the root.txt flag? -THM{FLYNN_LIVES}



Thought Process/ Methodology:

We use Nmap tool to scan open ports on a system using command nmap -vv 10.10.230.41 . After we've found the open ports, we look for the hidden website by entering the ip address along with the ports we've found earlier; 10.10.230.41:65000 . Next, we're using gobuster to look for the name of the hidden php page. Using gobuster result we've got, we try to accessing the listed directory where server keeps the uploaded files is in /grid. To upload and execute a reverse shell, we first change the script's configuration. After we're done with the php reverse shell script, we move to bypass the client-side filter.With Burpsuite tools help, we manage to upload the reverse shell script. We set up nertcat before we execute the file using command nc -nlvp 1234 followed by clicking on the uploaded script on web's /grid directory to execute the script. To find the value of the web.txt flag, where the flag can be seen on /var/www/ directory and we're using cat web.txt to read the contents inside text file. To upgrade and stabilize the shell we use lines export TERM=xterm ,python3 -c 'import pty;pty.spawn("/bin/bash")' and stty raw -echo; fg .Then, we navigate to /var/www/ directory and list all the items inside where we found bunch of .php files inside and dbauth.php and here we got to discover the encrypted credentials we needed. Using credentials we've found, we use it to to login into mysql database to look for the name of the database we find these in before, using command

mysql -utron -p followed by entering the password. We use the database using use tron; to look for the db. We use sql querry to display all the contents in it, the syntax is select * from users; . With the password that we've found in mysql database before is in hash form, so to determine the exact password, we bruteforce it using Crackstation. After we know both of the username and password combination for another account now we use su command to login. Next, to find the value of the user.txt flag we navigate into flynn's home directory and to read the text value, we use linux command cat user.txt . To view to which group can be leveraged to escalate privileges we type id in terminal and found that flynn's account is inside group lxd. To abuse this group to escalate privileges to root we only follow along the DarkStar's tutorial video. Lastly, to find the value of the root.txt flag, we navigate into /mnt/root/root because we've knew that there is a file called 'root.txt' while we're abusing the lxc container before.To open it up, we use cat root.txt and there we got our last flag for this task.