Sidney 2.0

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1 . Executive Summary:

I have performed penetration test to identify various vulnerabilities on Sidney system. I have tried various method to exploit the system, at initial stage their were no opening that can be seen through very easily. But doing some analysis and exploring the site gave me lead towards my process. At the end I discovered various vulnerabilities that can result in unauthorised access to various information present.

Focus area include are:

1. Gaining access of the sensitive information.
2. Exploiting the file upload feature to gain control over the server.

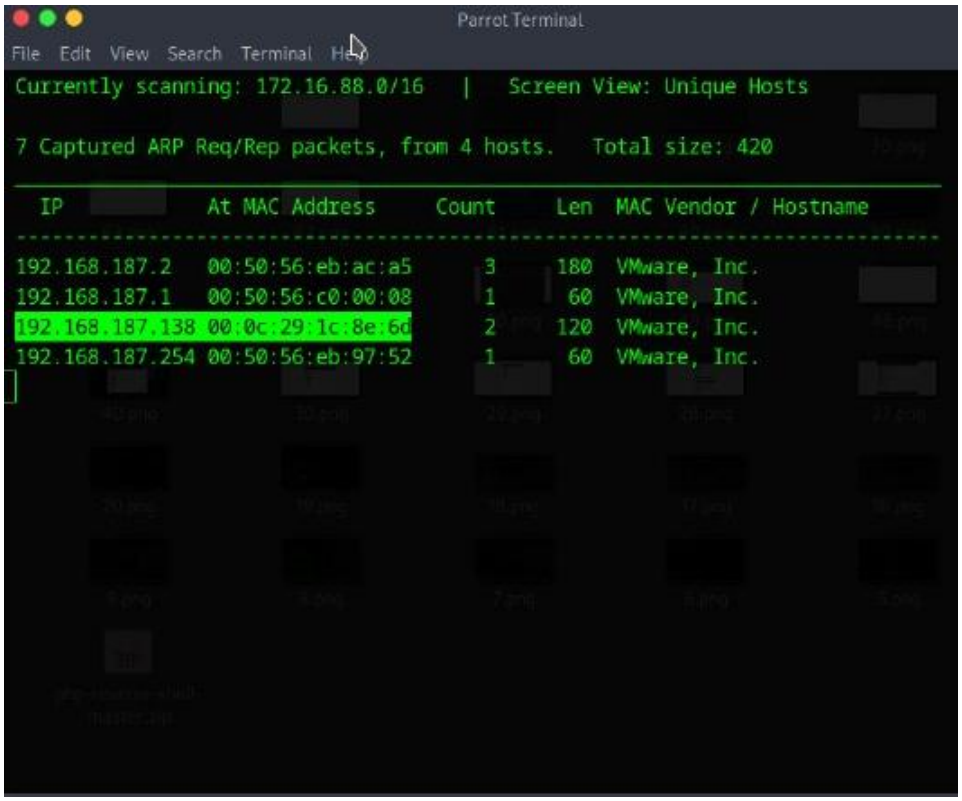
Very High potential risk exploits are present on the system that can result in gaining access of the system and using sensitive information or manipulating data that can harm user.

Summary of the Result:

1. Scanning the site to find open port through **which attacker can get access.**
2. Analysing the website resulted in **identifying high risk credential attacks.**
3. Login page was found and we can **easily get access** of the login id and password through easy attacks.
4. Attackers can get access of the system by just uploading some files and running them at the site itself. By just running the file the attack can **access of sensitive information** very easily.
5. Attacker can get your **terminal access** so to manipulate the various important information in an **unauthorized manner.**
6. Attacker can **retrieve flags,** as it can found on root when the terminal is accessed.

2. Attack Narrative:

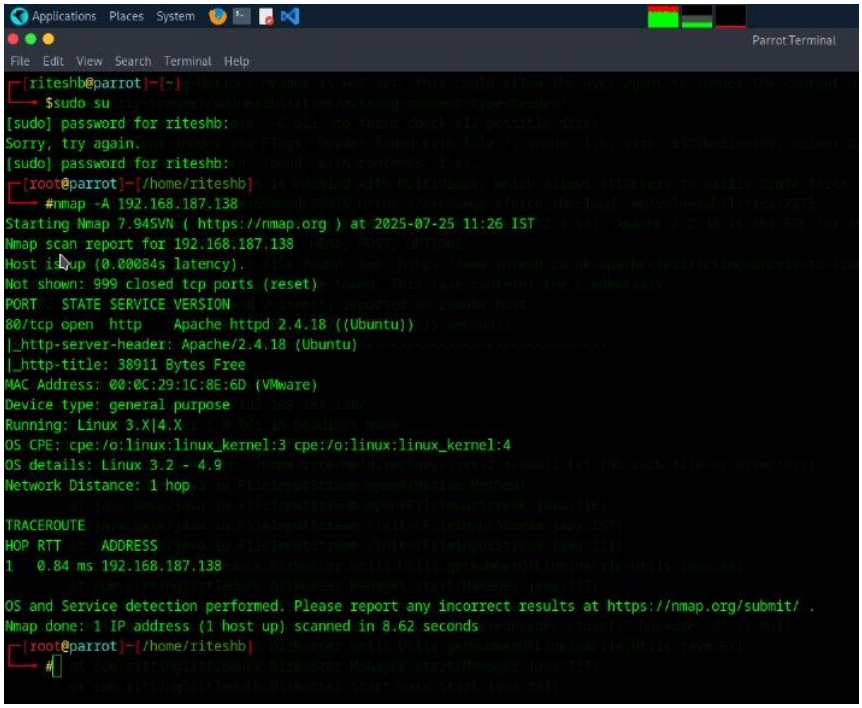
1). Starting our process with “netdiscover” command to get the IP of the system with the help of a known MAC address.



Here we retrieve the IP address of the system as 192.168.187.138 with the known mac address 00:0c:29:1c:8e:6d.

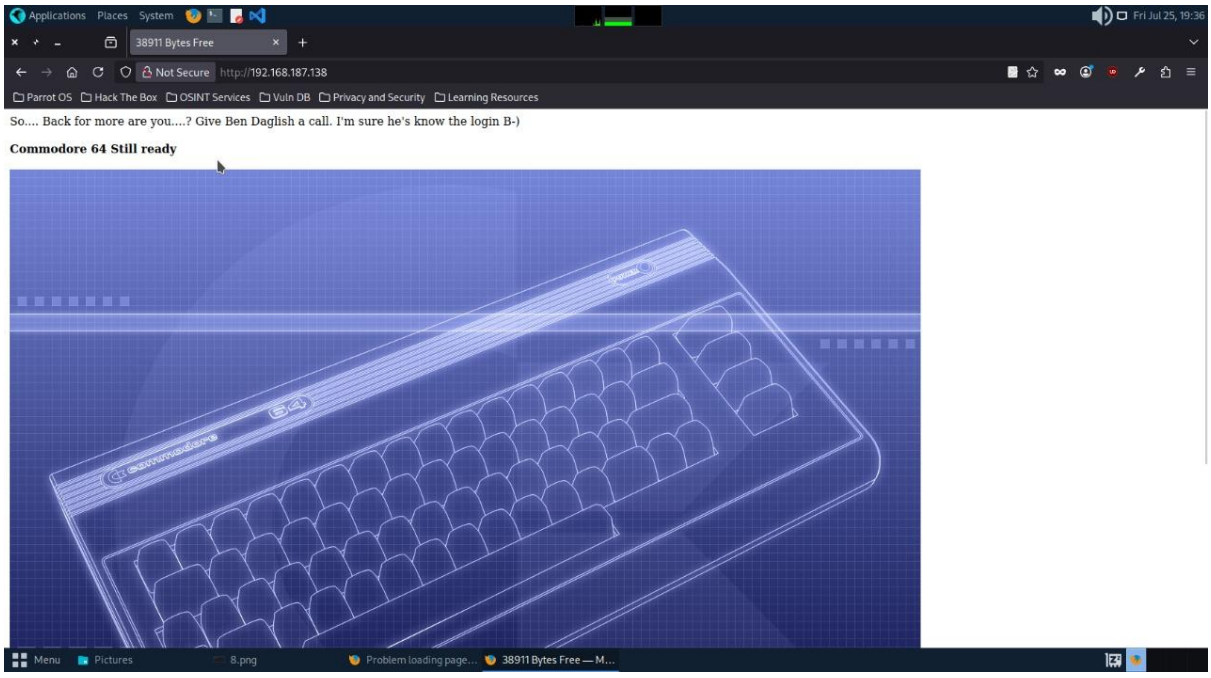
2). After getting the IP address we scanned the open port with nmap command.

We used nmap -A for the Aggressive scan.

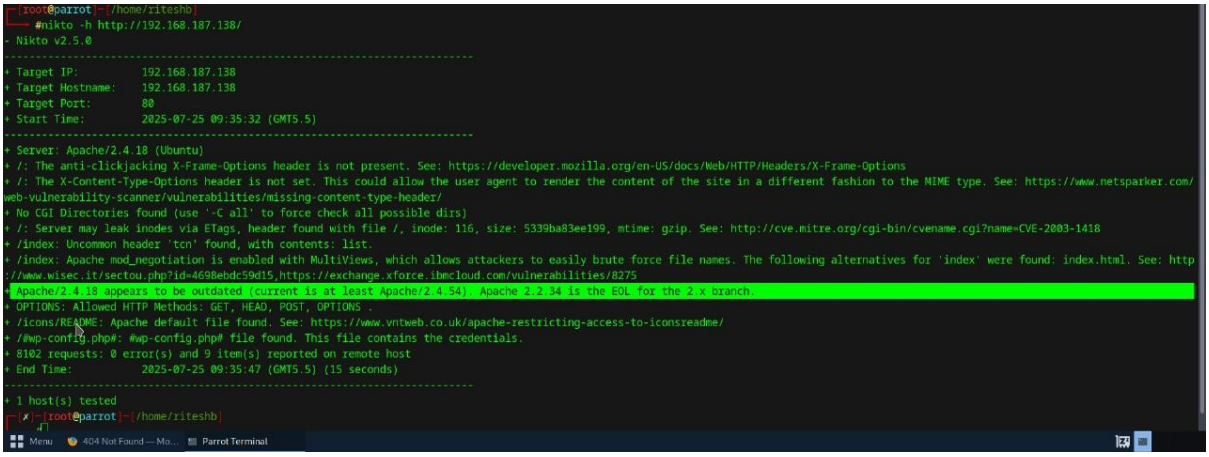


We can clearly see that http port is open so we open the IP in browser.

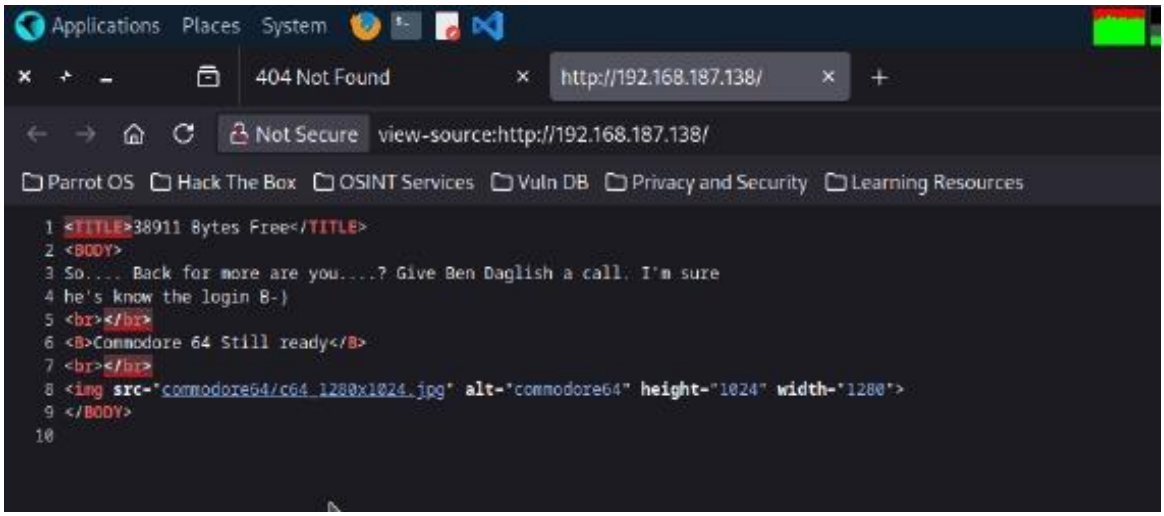
3). Opening the site.



4). Analysis the Website

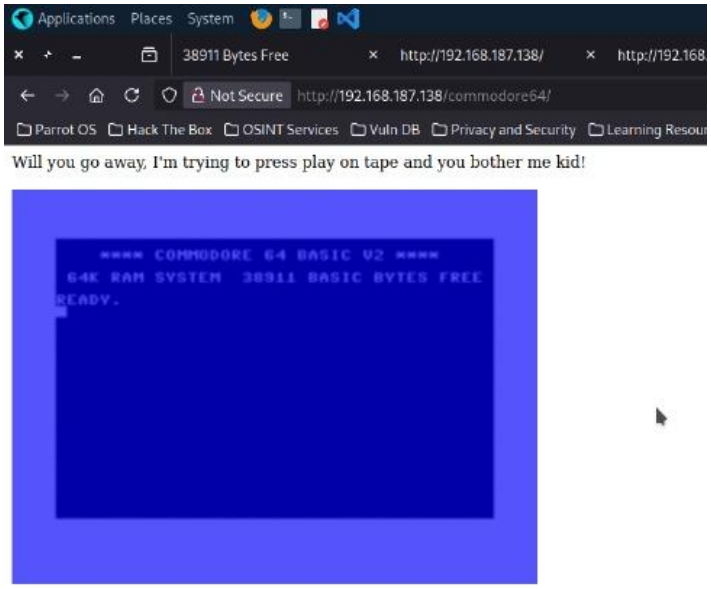


Used the nikto tool to scan the website to find the vulnerabilities but didn't got any here.



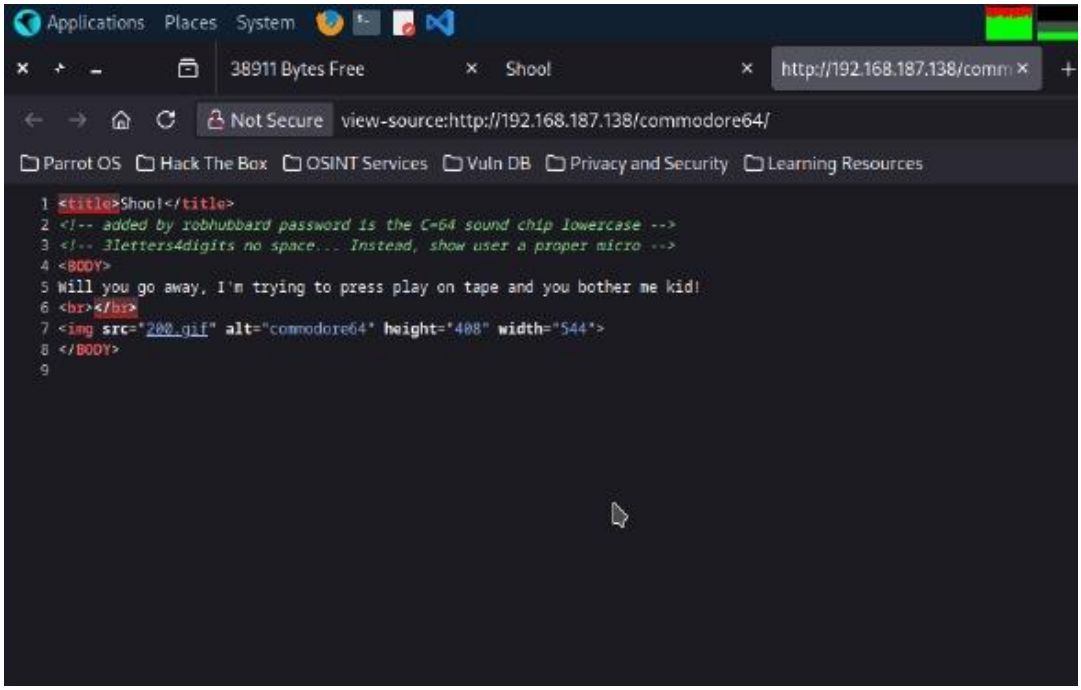
Analysing the source code gave the direction towards the commodore64 as the image is posted on it.

We redirect to the site of commodore64 and found the following page.



Analysing this window also, so we can again get some more leads towards are penetration.

Checking the source code.



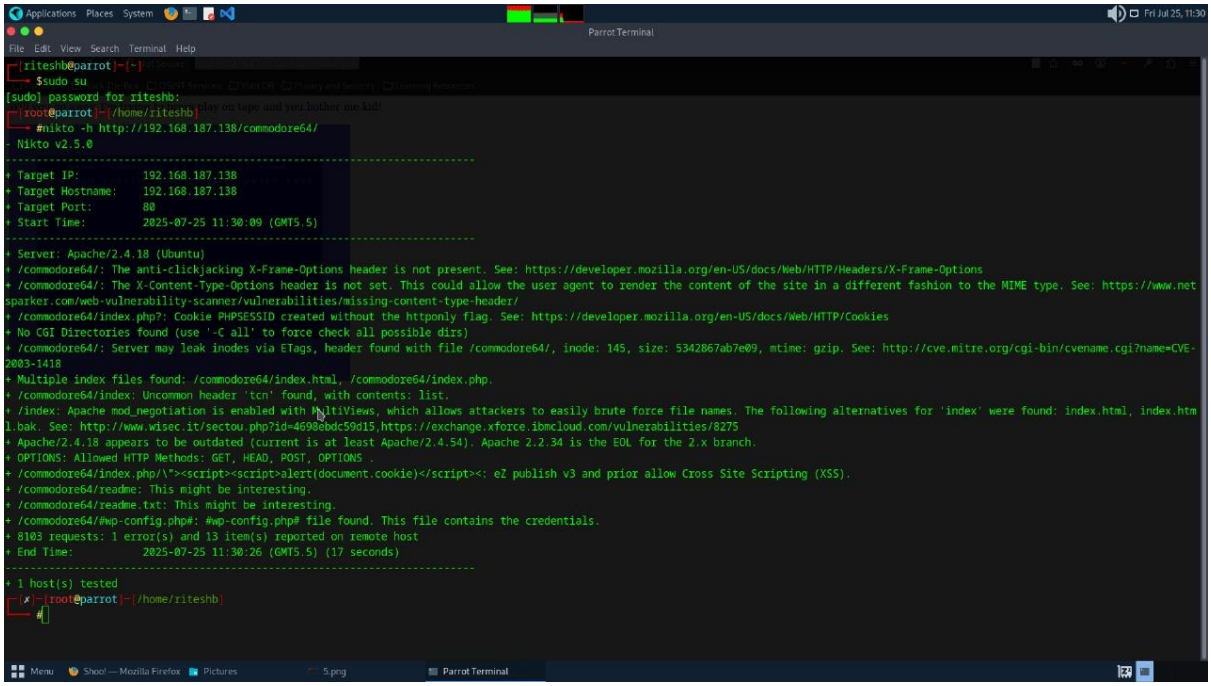
Here we got the hint for the login id and password.

Clearly from the wording the login id is “robhubbard” and password consist of 3 letter and 4 digits and lowercase.

5). Exploring the login page

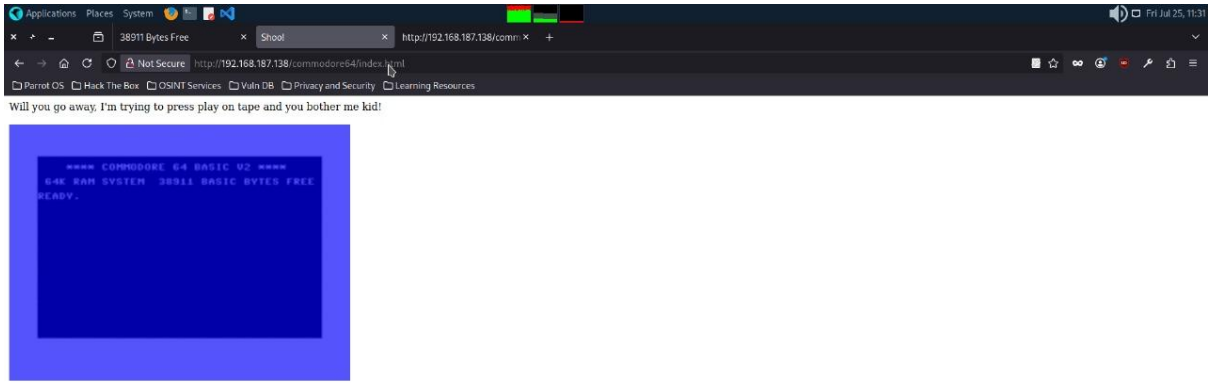
Now as we got login detail now we find the login page.

We use nikto tool again to get information present on this page.



In that we found the index.html/index.php/redme.txt/ …..

Clearly login is index.html or index.php.



Didn’t got.

At index.php we got the login page.

6). Finding password.

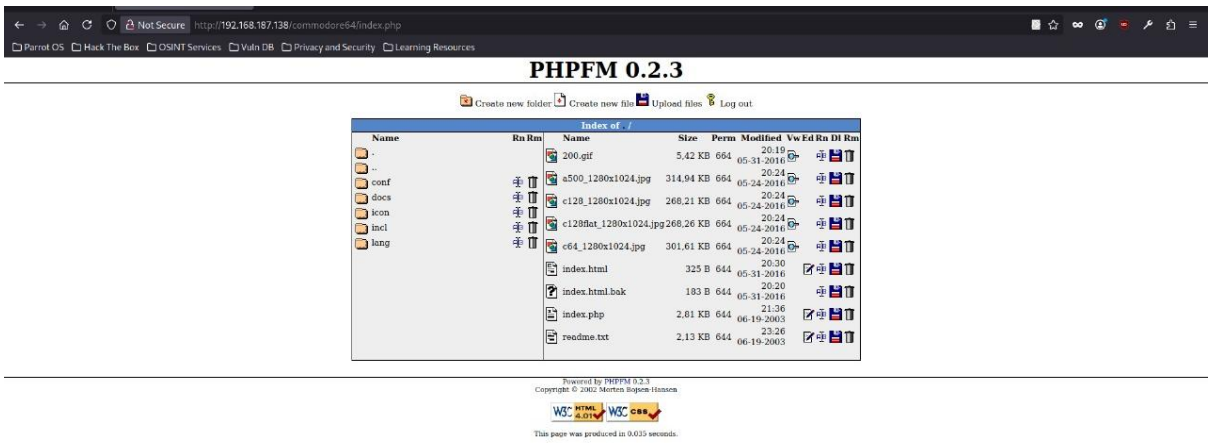
As we got hint on password and also got the login id we use hydra to brute password.

```
┌──[root@parrot]─[/home/riteshb]
└──╼ #hydra -l robhubbard -P /home/riteshb/pass.txt 192.168.187.138 http-post-form "/commodore64/index.php:username=^USER^&password=^PASS^:Invalid login"
Hydra v9.4 (c) 2022 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 2025-07-25 11:49:14
```

Brute force result gives password as “mos6518”.

7). Login into site with id – robhubbard and password – mos6518



Here we got many functionalities like-

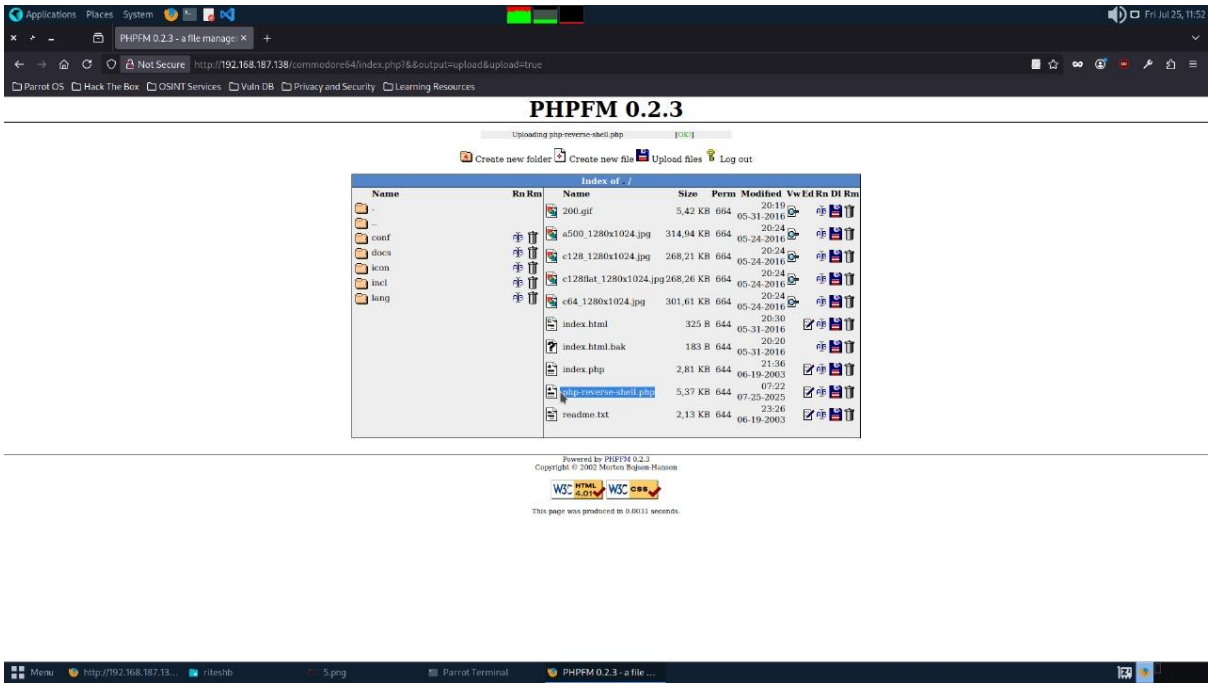
Create folder

Creating file

Upload file

8). Exploiting through upload section

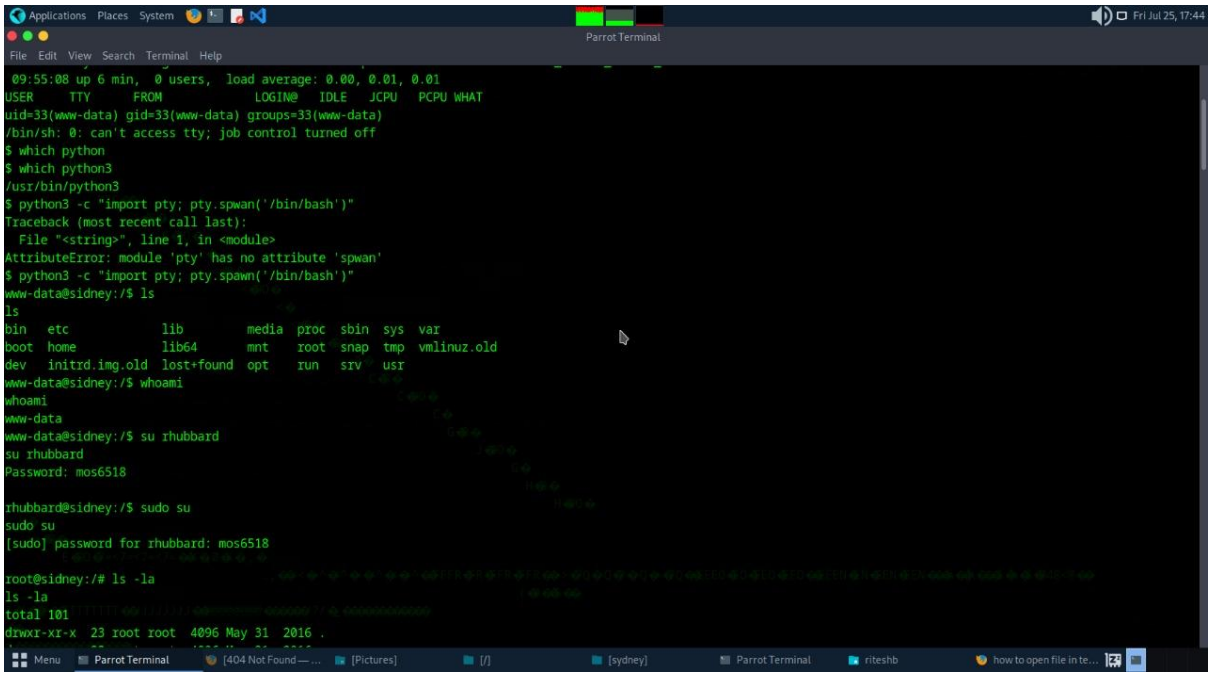
Uploading reverse-shell file and used “netcat” for listening to get the access of the terminal.



Successfully uploaded the php file into the panel now running it and checking to get access at the terminal where we are listening through netcat.

We successfully got the access of the shell.

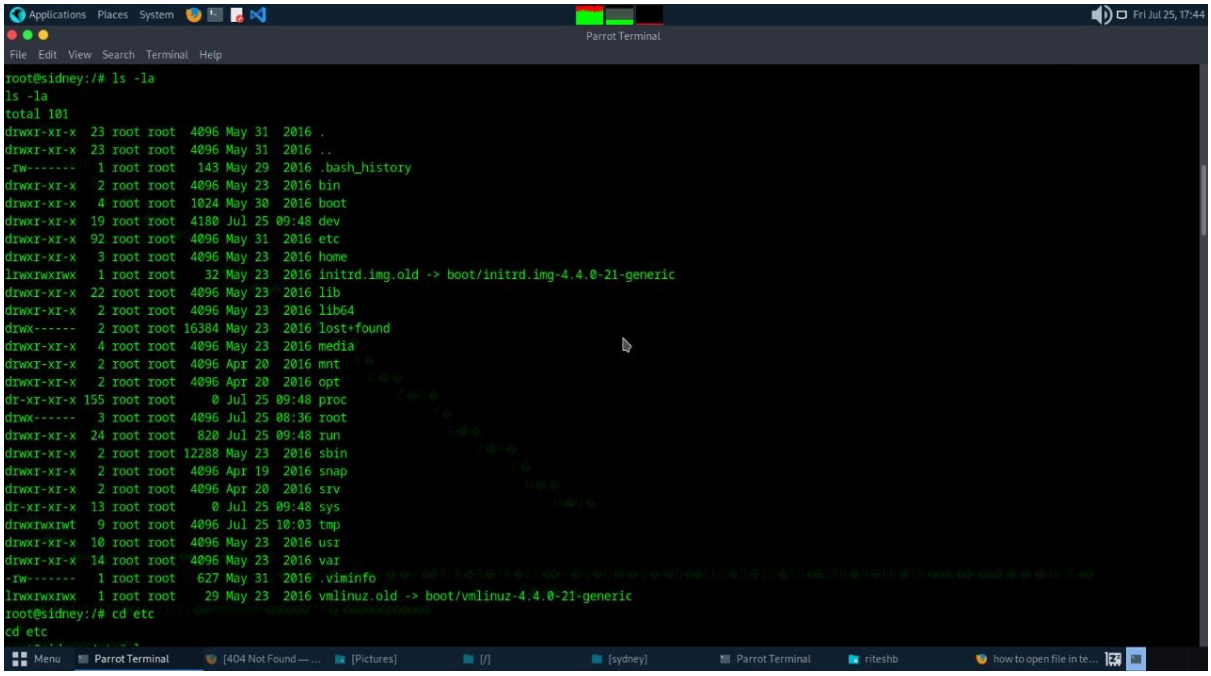
9). Exploiting more to get the access of the terminal

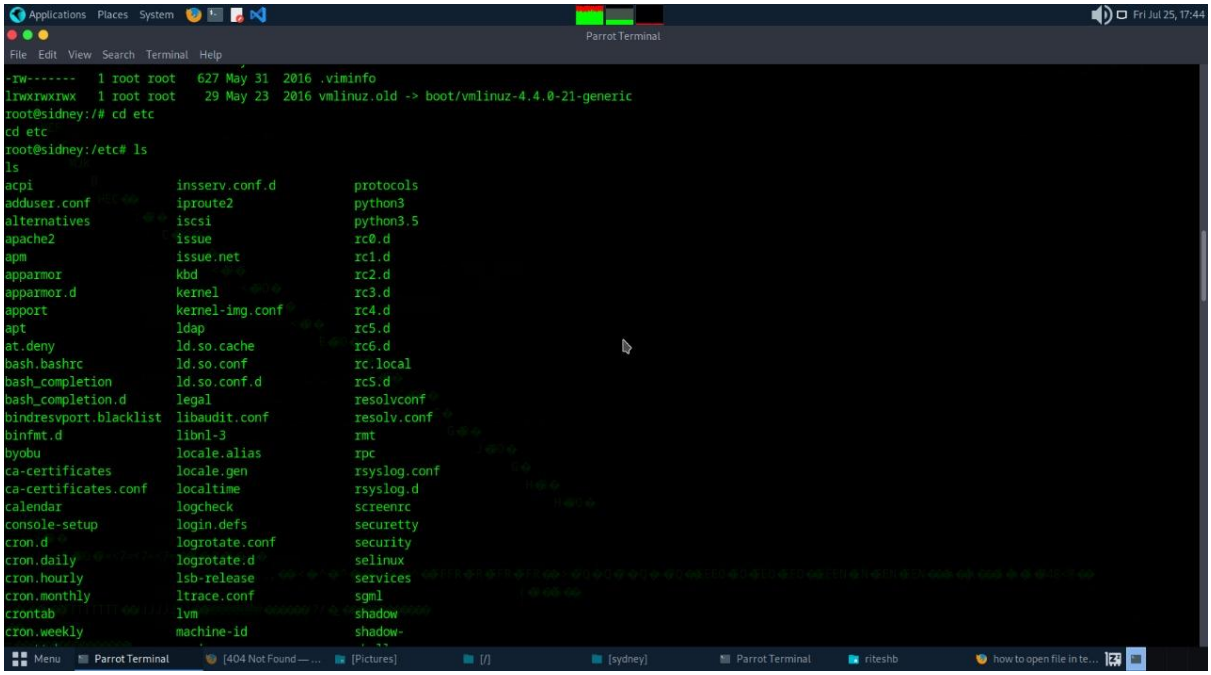


Checking for the python dependency of the system is there or not here in start we can see python3 dependency is present.

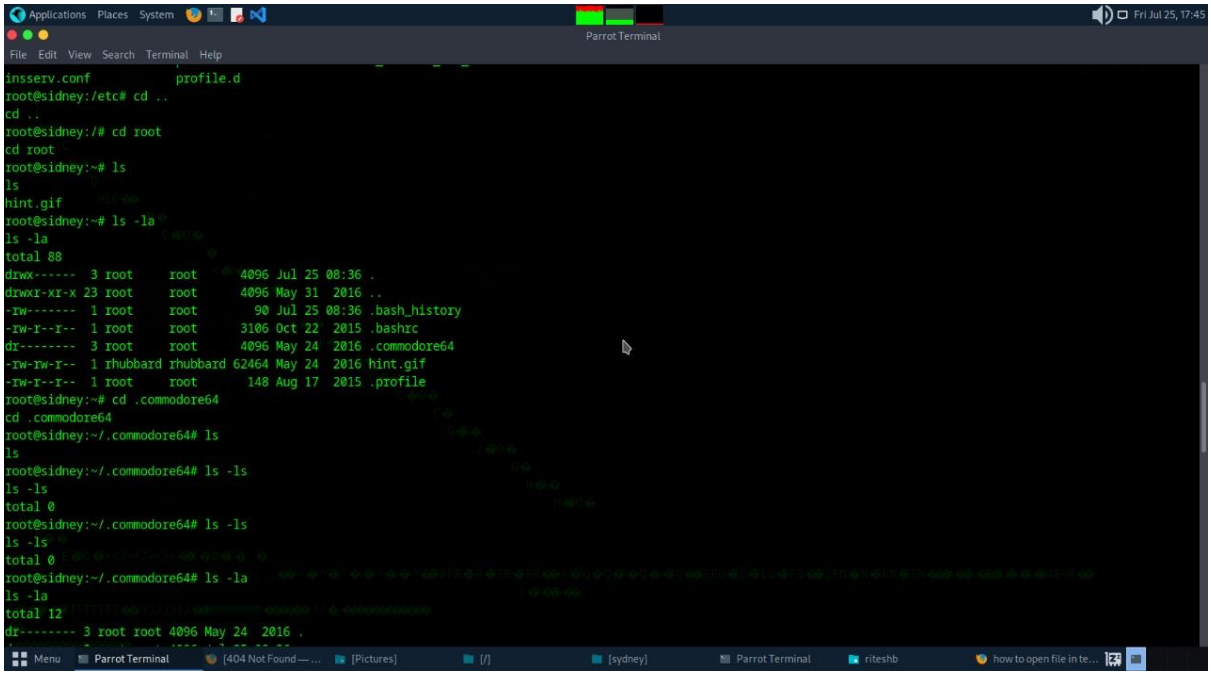
Running python3 and proceding and at the end we get the terminal access successfully.

Also getting the root access so that we can access more files.

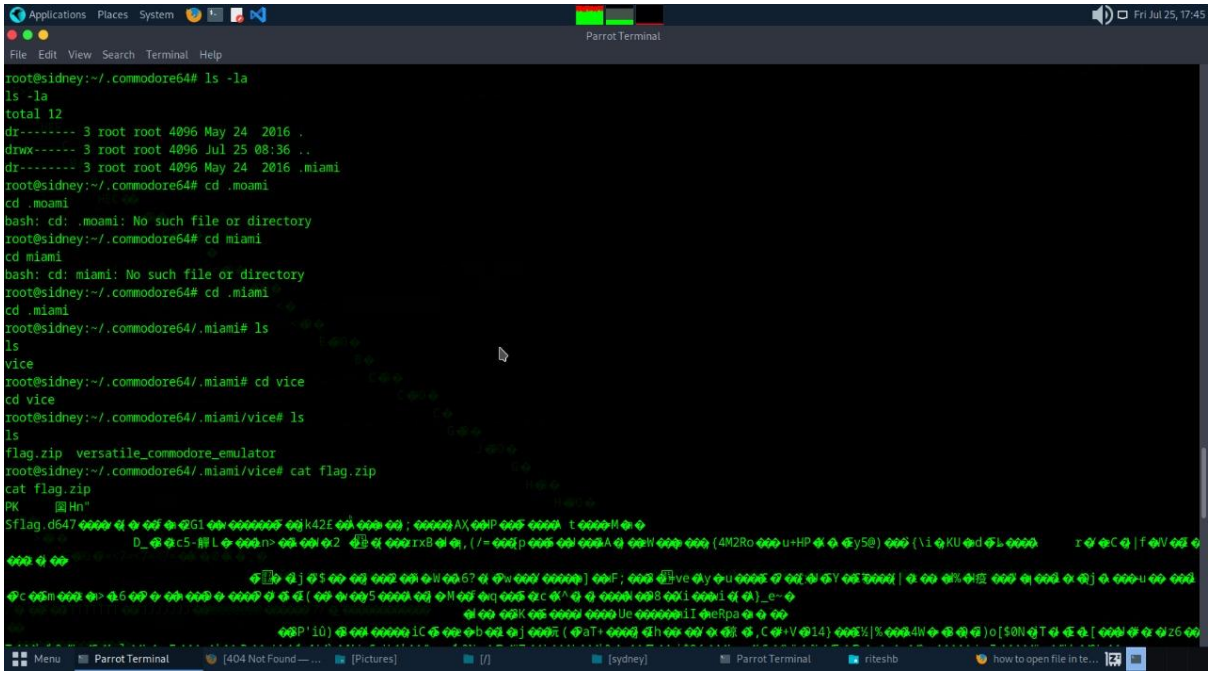




Exploring to gather more information.

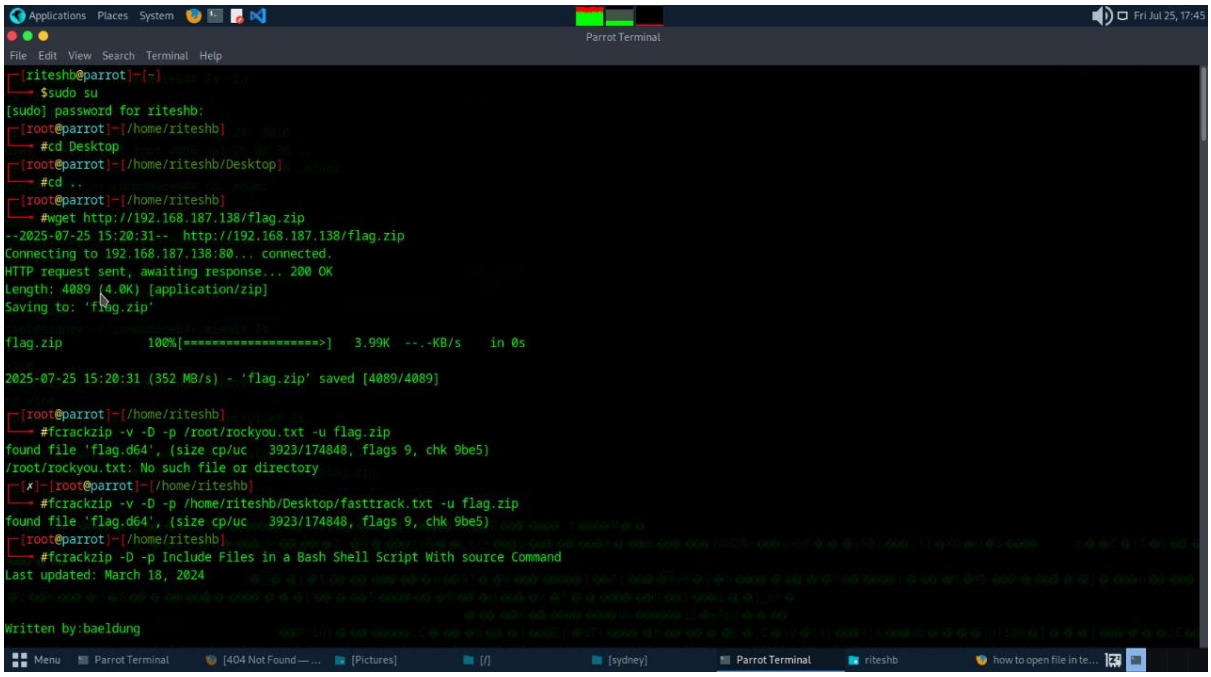


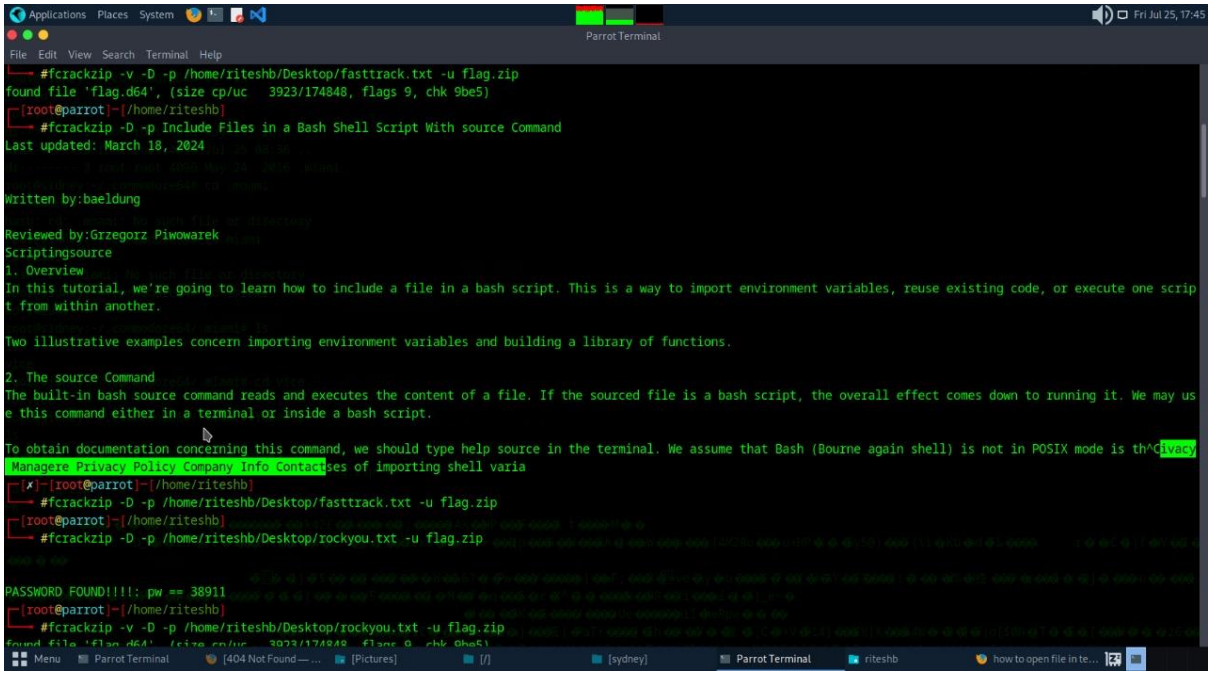
Here we can find .commodore as hidden file so exploring more in this direction.



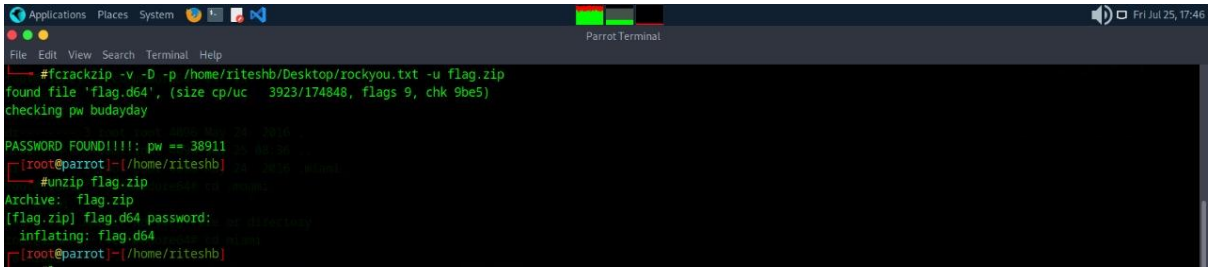
After exploring most files we get the flag zip file successfully.

But the file is password protect so to get the password we use fcrackzip.





Successfully got the password of the zip file as 38911 .



We got the final flag as flag.d64.

Conclusion:

The Sidney 2.0 machine penetration test identified a serious flaw in the target system's security that permitted an attacker to gain complete root control access after gaining unauthenticated access.
Among these weaknesses are:

• The source code contains the username and password.

• Weak authentication procedures that allow credential guessing;

• An easily brute-forced login page.

• Anyone can upload malicious files or data that cannot be detected after logging in.

• Inadequate privilege separation that permits privilege escalation to take root.

These issues demonstrate how an attacker can quickly get access to the system, alter data, or obtain secret or concealed information. They can even take over as root user and deny the owner access.

Recommendation:

1. It is advised that source code be cleaned of username and password hints and that two-factor authentication or captcha be installed for verification.
2. Change the login feature to prevent brute force attempts, such as limiting the number of attempts to five.
3. Implement strong password policies, such as requiring both capital and lowercase letters, special symbols, and numbers to make the password difficult to bruteforce.
4. Verify and clean up every file upload by using the file type and size limitations.
5. To stop kernel and privilege escalation exploits, apply OS and software patches on a regular basis.
6. Strict permissions and restricted directories are the best places to keep sensitive files.