First basic CTF

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> CTF is in tryhackme rooms. username: `PTpaint`

High level process:

1. nmap the IP - found port 3000 & 22
2. Open in browser - http://192.168.100.223:3000/. There is a simple NodeJS app.
3. Find hint link hidden in developer tools
4. Login as admin using SQL injection
5. Upload any file - it will lead to a button that will show the file content
6. There is a File Inclusion Vulnerability - Can read the /etc/passwd file - see there is a user `james`
7. Search for `id_rsa` private key for james - found in his home directory
8. Login as `james` to ssh.
9. Check this user privileges - he can use `head` as sudo.
10. Use GTFobins to find a way to PrivEsc that. We can read /etc/shadow file - and therefore many other interesting files we did not have access to before.
11. read /root/flag.txt file - we got the flag!

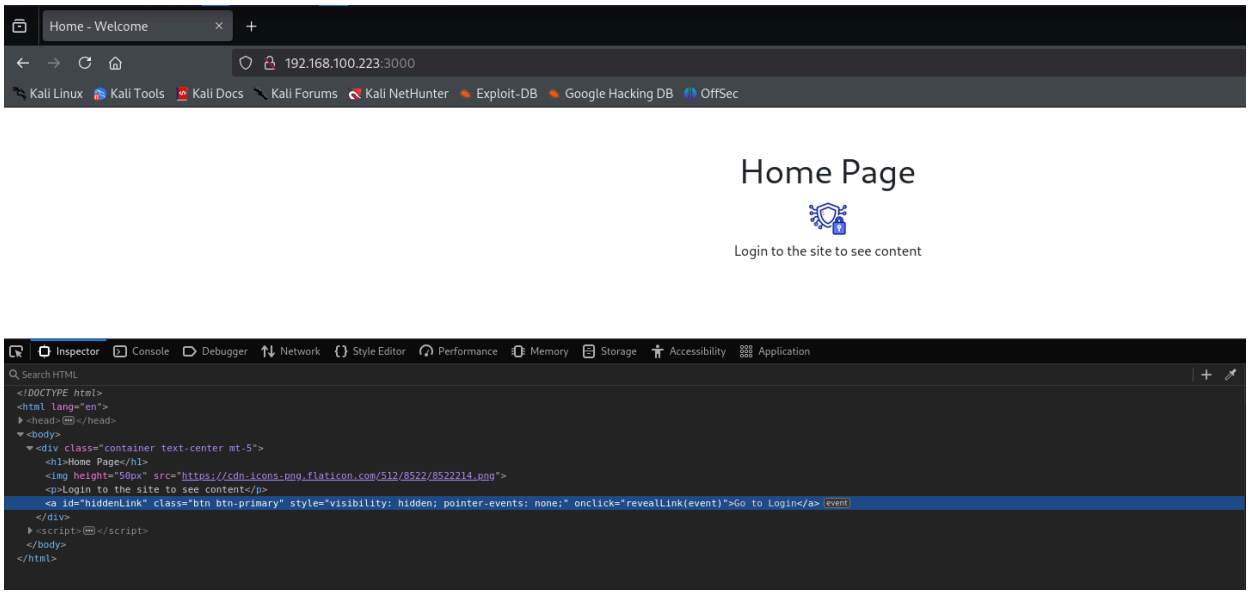
Walkthrough

1. Nmap: port 22 for ssh and port 3000 for web server are open.

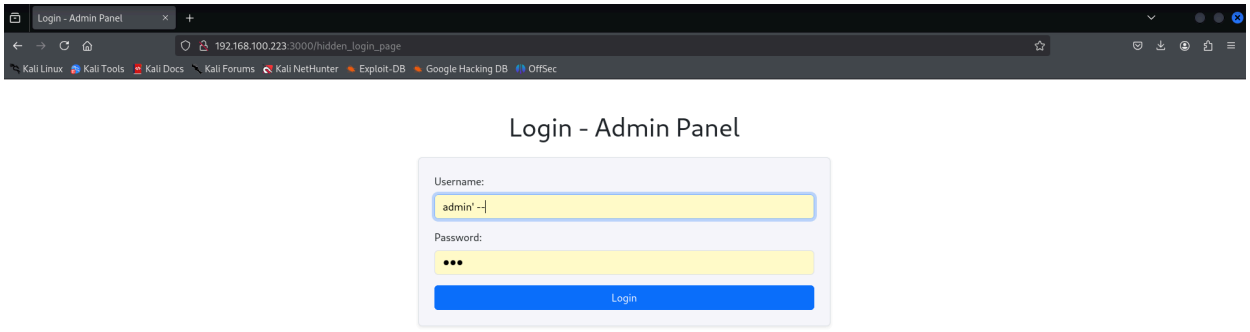
```
┌──(raya㉿kali)-[~/CTFs]
└─$ nmap 192.168.100.223 -sC -sV
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-11-12 04:35 EST
Nmap scan report for 192.168.100.223
Host is up (0.0014s latency).
Not shown: 998 filtered tcp ports (no-response)
PORT     STATE SERVICE VERSION
22/tcp   open  ssh     OpenSSH 8.9p1 Ubuntu 3ubuntu0.10 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|   256 33:bd:1b:3e:d2:a2:19:fb:98:2b:89:be:90:f8:ee:ec (ECDSA)
|_  256 23:13:aa:e6:ef:51:ef:2f:85:8a:8d:67:80:8a:24:73 (ED25519)
3000/tcp open  http    Node.js (Express middleware)
|_http-title: Home - Welcome
Service Info: OS: 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 21.21 seconds
```

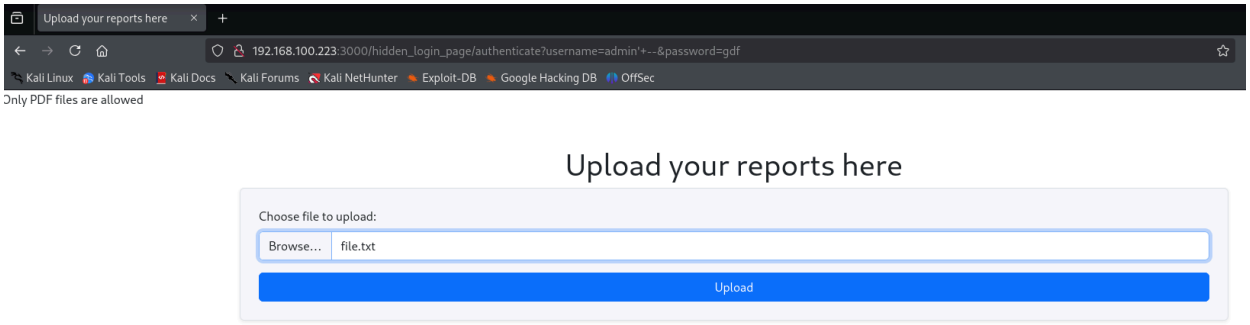
2. start with web - In dev tools - remove the style from `<a></a>` tag and we get the button. Click the button - will show in developer tools the route for login.



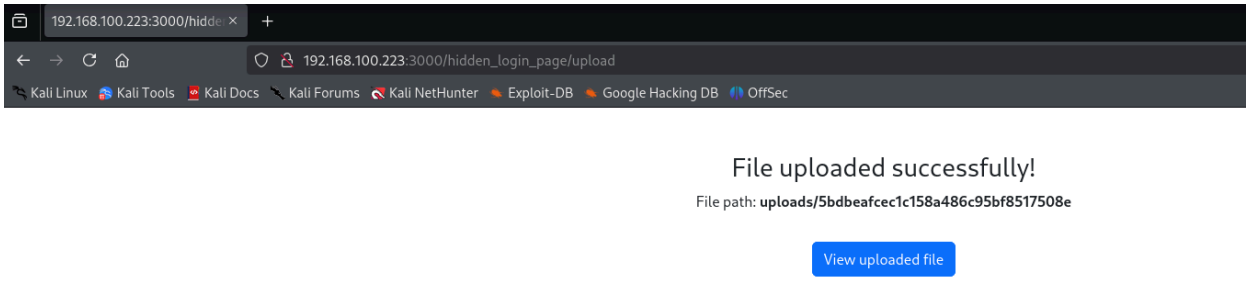
3. SQL inject the username to login as admin:



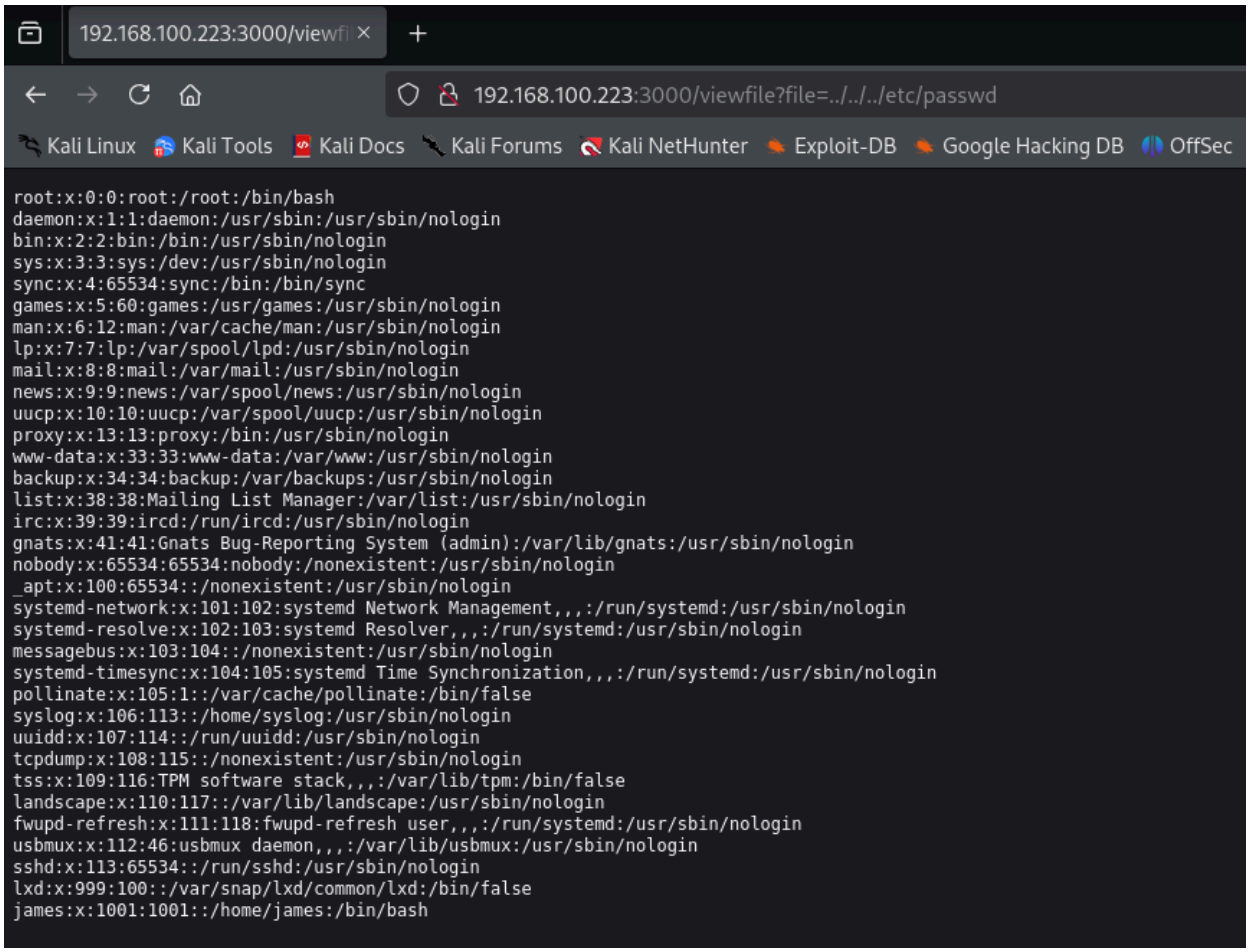
4. Now we can upload a file - any file..



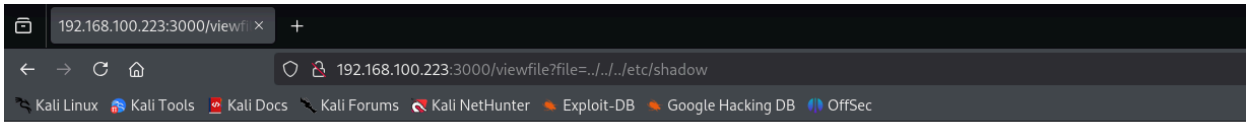
5. Follow the link to view uploaded file



6. There is a File Inclusion Vulnerability - Can read the /etc/passwd file - see there is a user `james`

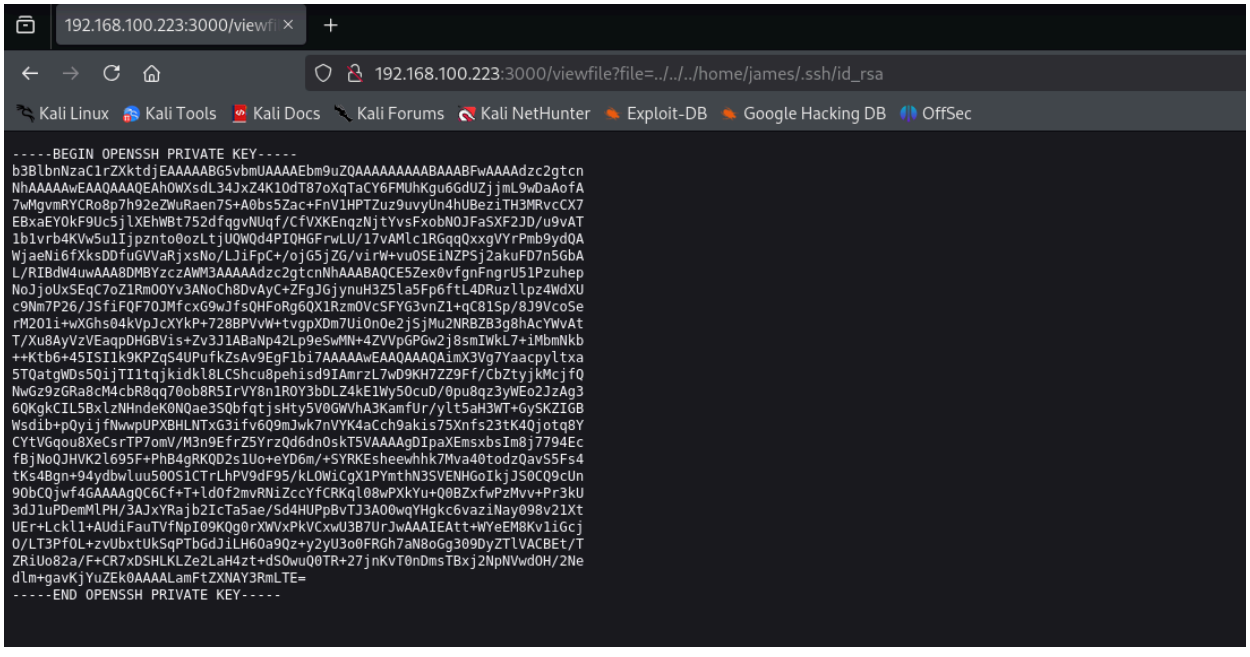


7. Trying to read /etc/shadow for example - gives an error



Access to /etc/shadow is forbidden.

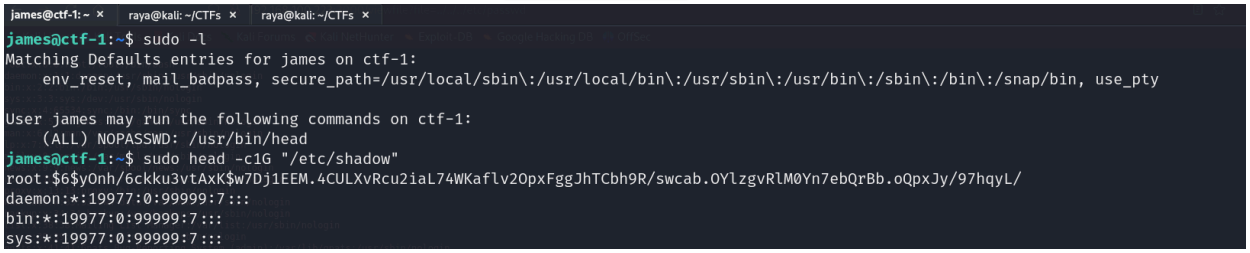
8. Read the `id_rsa` of `james`



9. Save to a file and connect as james

```
nano id_rsa_james
...copy content
chmod 600 id_rsa_james
ssh -i id_rsa_james james@192.168.100.223
```

11. Search for special privileges the user has: he can run the command `head` as root - that allows us to read the important file `/etc/shadow` and get the hash for the root user



12. Try to read the flag.txt file in the root folder -