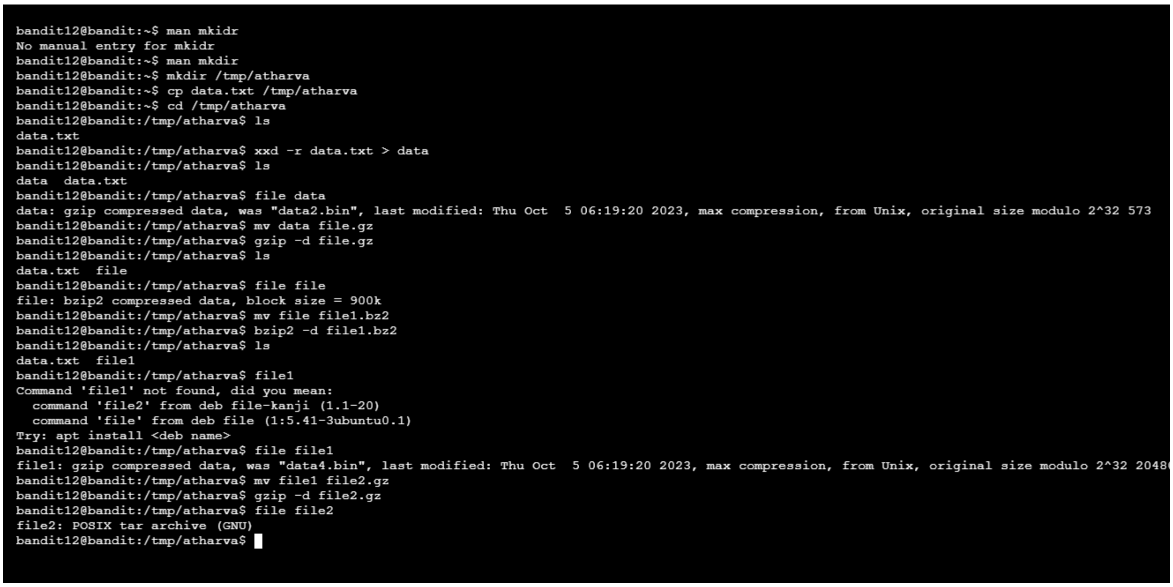
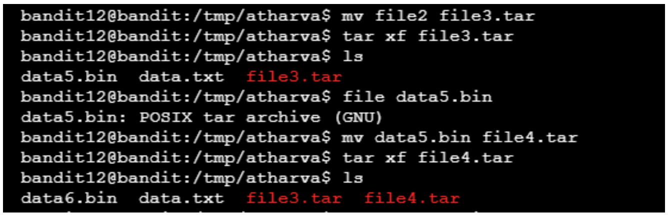
WRITEUP [Bandit Lv12-21]

Lv 12->13

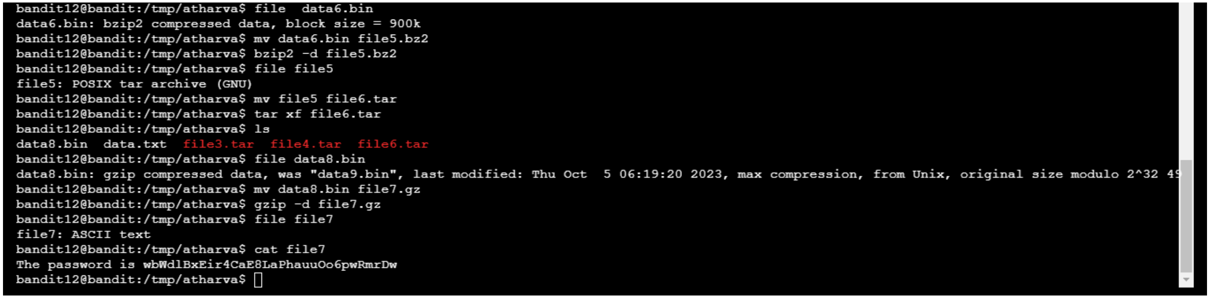
Application used: ssheasy.com



```
bandit12@bandit:~$ man mkidr
No manual entry for mkidr
bandit12@bandit:~$ man mkdir
bandit12@bandit:~$ mkdir /tmp/atharva
bandit12@bandit:~$ cp data.txt /tmp/atharva
bandit12@bandit:~$ cd /tmp/atharva
bandit12@bandit:/tmp/atharva$ ls
data.txt
bandit12@bandit:/tmp/atharva$ xxd -r data.txt > data
bandit12@bandit:/tmp/atharva$ ls
data  data.txt
bandit12@bandit:/tmp/atharva$ file data
data: gzip compressed data, was "data2.bin", last modified: Thu Oct  5 06:19:20 2023, max compression, from Unix, original size modulo 2^32 573
bandit12@bandit:/tmp/atharva$ mv data file.gz
bandit12@bandit:/tmp/atharva$ gzip -d file.gz
bandit12@bandit:/tmp/atharva$ ls
data.txt  file
bandit12@bandit:/tmp/atharva$ file file
file: bzip2 compressed data, block size = 900k
bandit12@bandit:/tmp/atharva$ mv file file1.bz2
bandit12@bandit:/tmp/atharva$ bzip2 -d file1.bz2
bandit12@bandit:/tmp/atharva$ ls
data.txt  file1
bandit12@bandit:/tmp/atharva$ file1
Command 'file1' not found, did you mean:
  command 'file2' from deb file-kanji (1.1-20)
  command 'file' from deb file (1:5.41-3ubuntu0.1)
Try: apt install <deb name>
bandit12@bandit:/tmp/atharva$ file file1
file1: gzip compressed data, was "data4.bin", last modified: Thu Oct  5 06:19:20 2023, max compression, from Unix, original size modulo 2^32 2048
bandit12@bandit:/tmp/atharva$ mv file1 file2.gz
bandit12@bandit:/tmp/atharva$ gzip -d file2.gz
bandit12@bandit:/tmp/atharva$ file file2
file2: POSIX tar archive (GNU)
bandit12@bandit:/tmp/atharva$ █
```



```
bandit12@bandit:/tmp/atharva$ mv file2 file3.tar
bandit12@bandit:/tmp/atharva$ tar xf file3.tar
bandit12@bandit:/tmp/atharva$ ls
data5.bin  data.txt  file3.tar
bandit12@bandit:/tmp/atharva$ file data5.bin
data5.bin: POSIX tar archive (GNU)
bandit12@bandit:/tmp/atharva$ mv data5.bin file4.tar
bandit12@bandit:/tmp/atharva$ tar xf file4.tar
bandit12@bandit:/tmp/atharva$ ls
data6.bin  data.txt  file3.tar  file4.tar
```

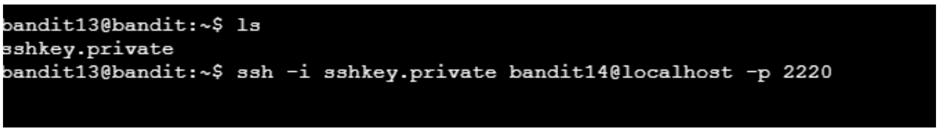


```
bandit12@bandit:/tmp/atharva$ file  data6.bin
data6.bin: bzip2 compressed data, block size = 900k
bandit12@bandit:/tmp/atharva$ mv data6.bin file5.bz2
bandit12@bandit:/tmp/atharva$ bzip2 -d file5.bz2
bandit12@bandit:/tmp/atharva$ file file5
file5: POSIX tar archive (GNU)
bandit12@bandit:/tmp/atharva$ mv file5 file6.tar
bandit12@bandit:/tmp/atharva$ tar xf file6.tar
bandit12@bandit:/tmp/atharva$ ls
data8.bin  data.txt  file3.tar  file4.tar  file6.tar
bandit12@bandit:/tmp/atharva$ file data8.bin
data8.bin: gzip compressed data, was "data9.bin", last modified: Thu Oct  5 06:19:20 2023, max compression, from Unix, original size modulo 2^32 4
bandit12@bandit:/tmp/atharva$ mv data8.bin file7.gz
bandit12@bandit:/tmp/atharva$ gzip -d file7.gz
bandit12@bandit:/tmp/atharva$ file file7
file7: ASCII text
bandit12@bandit:/tmp/atharva$ cat file7
The password is wbWdlBxEir4CaE8LaPhauuOo6pwRmrDw
bandit12@bandit:/tmp/atharva$ 
```

In this, we had to first make our own folder using mkdir command and copy data.txt file over there to get the password, since data.txt is compressed a lot we decompressed it from it's gzip and bzip2 types using gzip -d/ bzip2 -d commands and extracted .tar files until we got the filetype as ASCII from where we received our password as "wbWdlBxEir4CaE8LaPhauuOo6pwRmrDw"

Exit to logout of current bandwit12 and login to bandwit13 using this password

BANDWIT 13->14



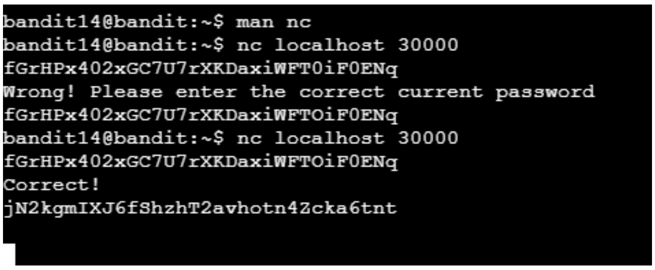
```
bandit13@bandit:~$ ls
sshkey.private
bandit13@bandit:~$ ssh -i sshkey.private bandit14@localhost -p 2220
```

In this level we get into bandit13 and see the file sshkey.private in it, since pass is visible to only bandit14 users we login to bandit14 using this key, ssh -i helps to read the private key as an identification command through which we can login to bandit14

In bandit14 in order to get the password we have to use cat command with the file where password is stored and we get

“fGrHPx402xGC7U7rXKDaxiWFTOiF0ENq”

Lvl 14->15



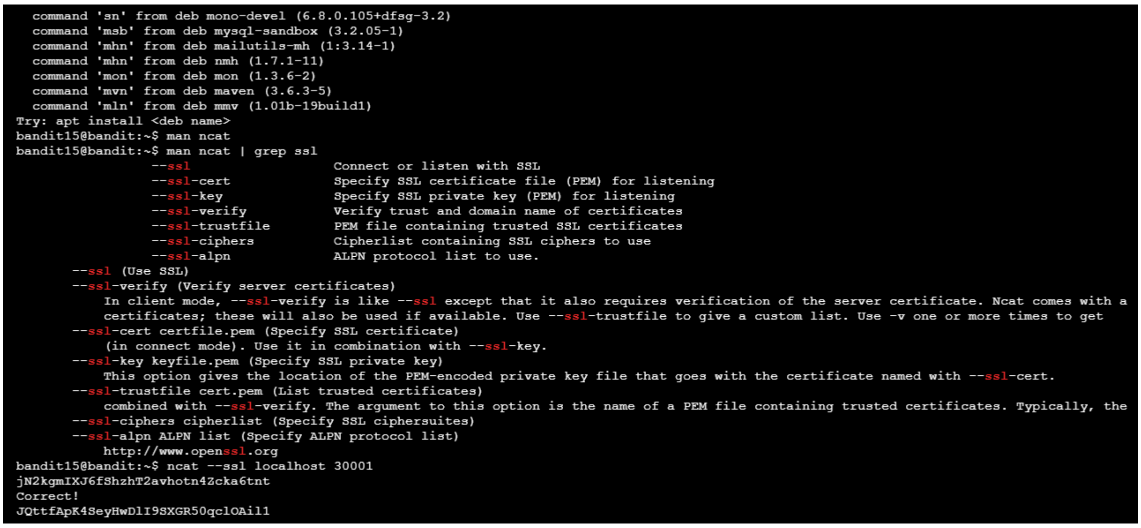
```
bandit14@bandit:~$ man nc
bandit14@bandit:~$ nc localhost 30000
fGrHPx402xGC7U7rXKDaxiWFTOiF0ENq
Wrong! Please enter the correct current password
fGrHPx402xGC7U7rXKDaxiWFTOiF0ENq
bandit14@bandit:~$ nc localhost 30000
fGrHPx402xGC7U7rXKDaxiWFTOiF0ENq
Correct!
jN2kgmIXJ6fShzhT2avhotn4Zcka6tnt
```

In this, we learn the nc command, [netcat helps in port scanning TCP and UDP connections etc], we have to switch to port 30000 and paste password of bandit14 there to retrieve password of bandit15

using nc we switch to port 30000 and then paste the password of bandit14 successfully getting password of bandit15 which is

“jN2kgmIXJ6fShzhT2avhotn4Zcka6tnt”

Lvl 15->16



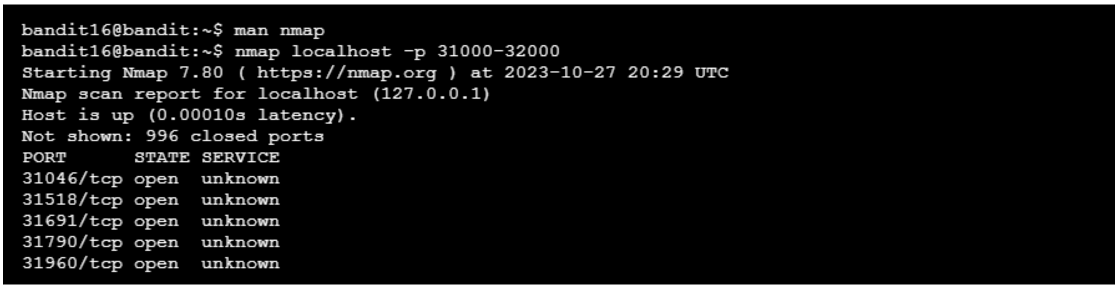
```
  command 'sn' from deb mono-devel (6.8.0.105+dfsg-3.2)
  command 'msb' from deb mysql-sandbox (3.2.05-1)
  command 'mhn' from deb mailutils-mh (1:3.14-1)
  command 'mhn' from deb nmh (1.7.1-11)
  command 'mon' from deb mon (1.3.6-2)
  command 'mvn' from deb maven (3.6.3-5)
  command 'mln' from deb mmv (1.01b-19build1)
Try: apt install <deb name>
bandit15@bandit:~$ man ncat
bandit15@bandit:~$ man ncat | grep ssl
                 --ssl                      Connect or listen with SSL
                 --ssl-cert                 Specify SSL certificate file (PEM) for listening
                 --ssl-key                  Specify SSL private key (PEM) for listening
                 --ssl-verify               Verify trust and domain name of certificates
                 --ssl-trustfile            PEM file containing trusted SSL certificates
                 --ssl-ciphers              Cipherlist containing SSL ciphers to use
                 --ssl-alpn                 ALPN protocol list to use.
       --ssl (Use SSL)
       --ssl-verify (Verify server certificates)
           In client mode, --ssl-verify is like --ssl except that it also requires verification of the server certificate. Ncat comes with a
           certificates; these will also be used if available. Use --ssl-trustfile to give a custom list. Use -v one or more times to get
       --ssl-cert certfile.pem (Specify SSL certificate)
           (in connect mode). Use it in combination with --ssl-key.
       --ssl-key keyfile.pem (Specify SSL private key)
           This option gives the location of the PEM-encoded private key file that goes with the certificate named with --ssl-cert.
       --ssl-trustfile cert.pem (List trusted certificates)
           combined with --ssl-verify. The argument to this option is the name of a PEM file containing trusted certificates. Typically, the
       --ssl-ciphers cipherlist (Specify SSL ciphersuites)
       --ssl-alpn ALPN list (Specify ALPN protocol list)
           http://www.openssl.org
bandit15@bandit:~$ ncat --ssl localhost 30001
jN2kgmIXJ6fShzhT2avhotn4Zcka6tnt
Correct!
JQttfApK4SeyHwDlI9SXGR50qclOAil1
```

Honestly, this one was hardest for me specifically because of ssl encryption thing had to google out ways to solve such problem just to know that instead of nc we can use ncat which is net concatenate which is similar to nc command

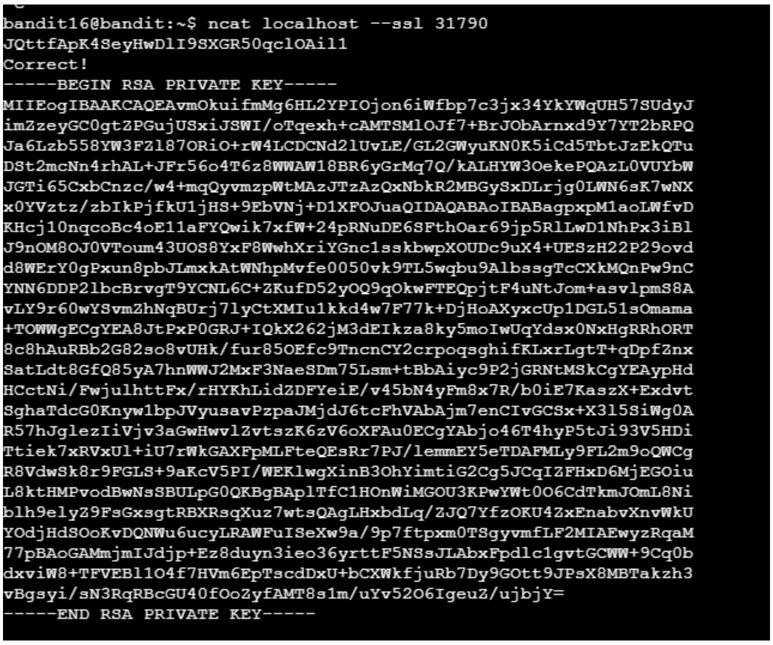
using "ncat –ssl localhost 30001" found out using the man command of the function we can switch to port 30001 and type the password of bandit15 to access password for bandit16 which is

"JQttfApK4SeyHwDlI9SXGR50qclOAil1"

Lvl 16->17



```
bandit16@bandit:~$ man nmap
bandit16@bandit:~$ nmap localhost -p 31000-32000
Starting Nmap 7.80 ( https://nmap.org ) at 2023-10-27 20:29 UTC
Nmap scan report for localhost (127.0.0.1)
Host is up (0.00010s latency).
Not shown: 996 closed ports
PORT      STATE SERVICE
31046/tcp open  unknown
31518/tcp open  unknown
31691/tcp open  unknown
31790/tcp open  unknown
31960/tcp open  unknown
```



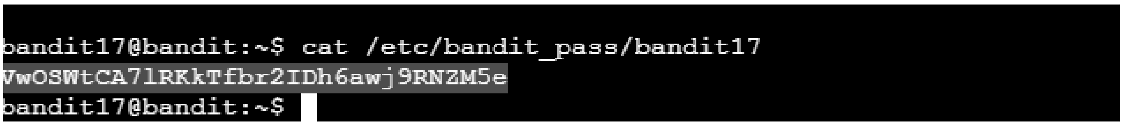
```
bandit16@bandit:~$ ncat localhost --ssl 31790
JQttfApK4SeyHwDlI9SXGR50qclOAil1
Correct!
-----BEGIN RSA PRIVATE KEY-----
MIIEogIBAAKCAQEAvmOkuifmMg6HL2YPIOjon6iWfbp7c3jx34YkYWqUH57SUdyJ
imZzeyGC0gtZPGujUSxiJSWI/oTqexh+cAMTSMlOJf7+BrJObArnxd9Y7YT2bRPQ
Ja6Lzb558YW3FZl87ORiO+rW4LCDCNd2lUvLE/GL2GWyuKN0K5iCd5TbtJzEkQTu
DSt2mcNn4rhAL+JFr56o4T6z8WWAW18BR6yGrMq7Q/kALHYW3OekePQAzL0VUYbW
JGTi65CxbCnzc/w4+mqQyvmzpWtMAzJTzAzQxNbkR2MBGySxDLrjg0LWN6sK7wNX
x0YVztz/zbIkPjfkU1jHS+9EbVNj+D1XFOJuaQIDAQABAoIBABagpxpM1aoLWfvD
KHcj10nqcoBc4oE11aFYQwik7xfW+24pRNuDE6SFthOar69jp5RlLwD1NhPx3iBl
J9nOM8OJ0VToum43UOS8YxF8WwhXriYGnc1sskbwpXOUDc9uX4+UESzH22P29ovd
d8WErY0gPxun8pbJLmxkAtWNhpMvfe0050vk9TL5wqbu9AlbssgTcCXkMQnPw9nC
YNN6DDP2lbcBrvgT9YCNL6C+ZKufD52yOQ9qOkwFTEQpjtF4uNtJom+asvlpmS8A
vLY9r60wYSvmZhNqBUrj7lyCtXMIu1kkd4w7F77k+DjHoAXyxcUp1DGL51sOmama
+TOWWgECgYEA8JtPxP0GRJ+IQkX262jM3dEIkza8ky5moIwUqYdsx0NxHgRRhORT
8c8hAuRBb2G82so8vUHk/fur85OEfc9TncnCY2crpoqsghifKLxrLgtT+qDpfZnx
SatLdt8GfQ85yA7hnWWJ2MxF3NaeSDm75Lsm+tBbAiyc9P2jGRNtMSkCgYEAypHd
HCctNi/FwjulhttFx/rHYKhLidZDFYeiE/v45bN4yFm8x7R/b0iE7KaszX+Exdvt
SghaTdcG0Knyw1bpJVyusavPzpaJMjdJ6tcFhVAbAjm7enCIvGCSx+X3l5SiWg0A
R57hJglezIiVjv3aGwHwvlZvtszK6zV6oXFAu0ECgYAbjo46T4hyP5tJi93V5HDi
Ttiek7xRVxUl+iU7rWkGAXFpMLFteQEsRr7PJ/lemmEY5eTDAFMLy9FL2m9oQWCg
R8VdwSk8r9FGLS+9aKcV5PI/WEKlwgXinB3OhYimtiG2Cg5JCqIZFHxD6MjEGOiu
L8ktHMPvodBwNsSBULpG0QKBgBAplTfC1HOnWiMGOU3KPwYWt0O6CdTkmJOmL8Ni
blh9elyZ9FsGxsgtRBXRsqXuz7wtsQAgLHxbdLq/ZJQ7YfzOKU4ZxEnabvXnvWkU
YOdjHdSOoKvDQNWu6ucyLRAWFuISeXw9a/9p7ftpxm0TSgyvmfLF2MIAEwyzRqaM
77pBAoGAMmjmIJdjp+Ez8duyn3ieo36yrttF5NSsJLAbxFpdlc1gvtGCWW+9Cq0b
dxviW8+TFVEBl1O4f7HVm6EpTscdDxU+bCXWkfjuRb7Dy9GOtt9JPsX8MBTakzh3
vBgsyi/sN3RqRBcGU40fOoZyfAMT8s1m/uYv52O6IgeuZ/ujbjY=
-----END RSA PRIVATE KEY-----
```

Using hit and trial, we find the port in which we can get the credential, in this case we got it in form of a private key

Using the private key we can login to bandit17 and in case you need the password we can extract it from there itself

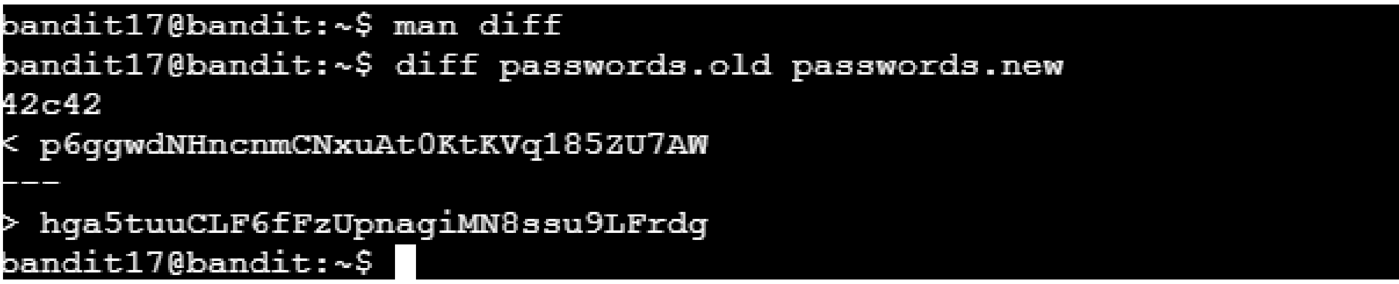
password bandit17 after logging in using private key using cat /etc/bandit_pass/bandit17 is:

“VwOSWtCA7lRKkTfbr2IDh6awj9RNZM5e”



```
bandit17@bandit:~$ cat /etc/bandit_pass/bandit17
VwOSWtCA7lRKkTfbr2IDh6awj9RNZM5e
bandit17@bandit:~$
```

Lvl 17->18



```
bandit17@bandit:~$ man diff
bandit17@bandit:~$ diff passwords.old passwords.new
42c42
< p6ggwdNHncnmCNxuAt0KtKVq185ZU7AW
---
> hga5tuuCLF6fFzUpnagiMN8ssu9LFrdg
bandit17@bandit:~$
```

In this lvl given 2 files passwords.old and passwords.new we will use diff command in order to retrieve them

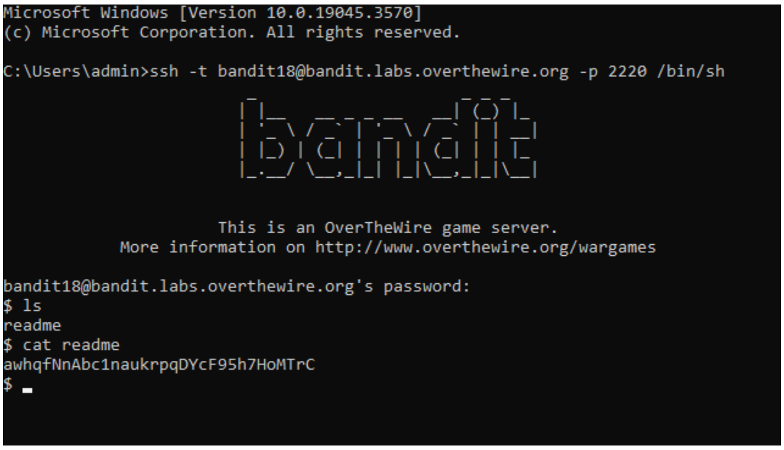
the passwords we obtain are

“p6ggwdNHncnmCNxuAt0KtKVq185ZU7AW”

“hga5tuuCLF6fFzUpnagiMN8ssu9LFrdg”

trying each password the second pass which is “hga5tuuCLF6fFzUpnagiMN8ssu9LFrdg” worked [used this bandit lvl on cmd prompt since ssheasy website was showing connection error]

Lvl 18->19



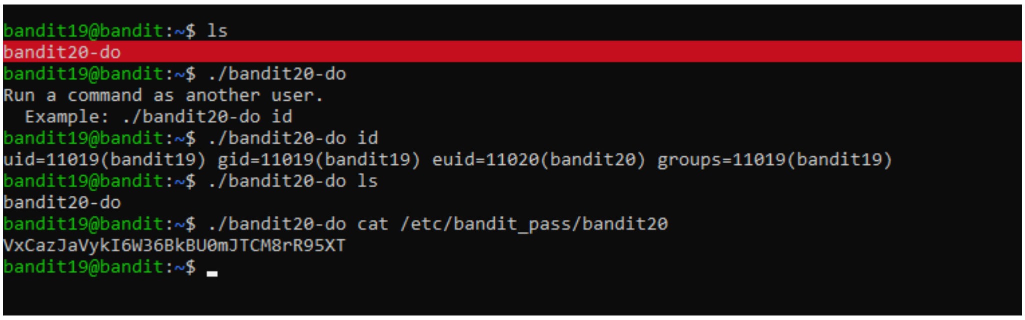
```
Microsoft Windows [Version 10.0.19045.3570]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin>ssh -t bandit18@bandit.labs.overthewire.org -p 2220 /bin/sh
                         _                     _ _ _
                        | |__   __ _ _ __   __| (_) |_
                        | '_ \ / _` | '_ \ / _` | | __|
                        | |_) | (_| | | | | (_| | | |_
                        |_.__/ \__,_|_| |_|\__,_|_|\__|


                      This is an OverTheWire game server.
            More information on http://www.overthewire.org/wargames

bandit18@bandit.labs.overthewire.org's password:
$ ls
readme
$ cat readme
awhqfNnAbc1naukrpqDYcF95h7HoMTrC
$ _
```

Since normally we can’t login to bandit18 as per the level because of modification of .bashrc, we login again but this time using command as shown in screenshot after entering the password we can enter in bandit18 and then using cat readme we can get password for level 19

“awhqfNnAbc1naukrpqDYcF95h7HoMTrC”

[Shifted to cmd windows prompt since we had to use ssh -t alongwith /bin/sh which we can’t directly as much as I know using online ssh client]

Lvl 19->20



```
bandit19@bandit:~$ ls
bandit20-do
bandit19@bandit:~$ ./bandit20-do
Run a command as another user.
  Example: ./bandit20-do id
bandit19@bandit:~$ ./bandit20-do id
uid=11019(bandit19) gid=11019(bandit19) euid=11020(bandit20) groups=11019(bandit19)
bandit19@bandit:~$ ./bandit20-do ls
bandit20-do
bandit19@bandit:~$ ./bandit20-do cat /etc/bandit_pass/bandit20
VxCazJaVykI6W36BkBU0mJTCM8rR95XT
bandit19@bandit:~$ _
```

In this case we saw we have a filenamed bandit20-do

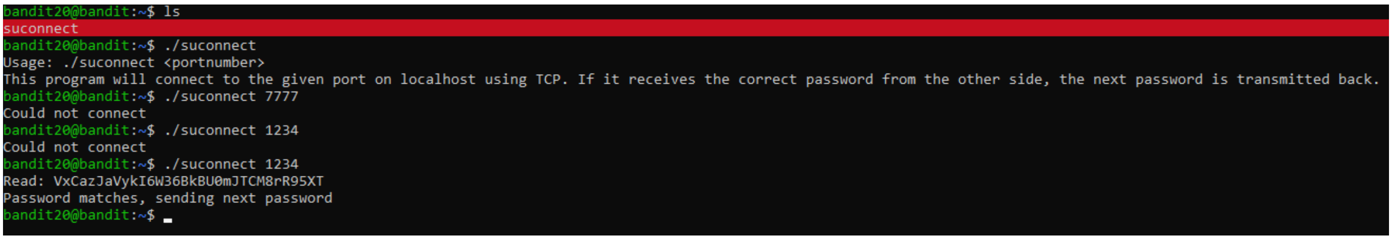
using the cmd ./bandit20-do cat /etc/bandit_pass/bandit20 we can retrieve password for bandit20 which came out to be

“VxCazJaVykI6W36BkBU0mJTCM8rR95XT”

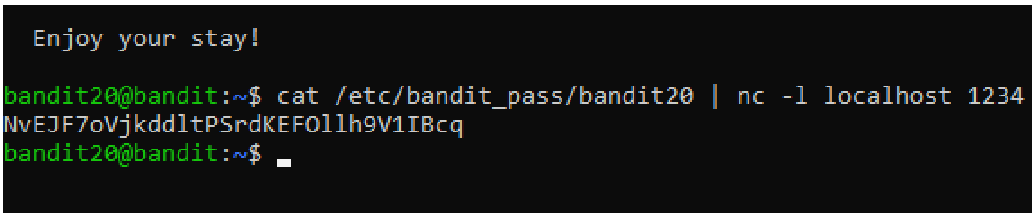
[We Used ./ before since it’s binary]

Lvl 20->21

In this level we had to work at 2 cmd prompt simultaneously, in one where we'll use the binary file named suconnect and in other where we will specify the port number and receive the password for bandit21



```
bandit20@bandit:~$ ls
suconnect
bandit20@bandit:~$ ./suconnect
Usage: ./suconnect <portnumber>
This program will connect to the given port on localhost using TCP. If it receives the correct password from the other side, the next password is transmitted back.
bandit20@bandit:~$ ./suconnect 7777
Could not connect
bandit20@bandit:~$ ./suconnect 1234
Could not connect
bandit20@bandit:~$ ./suconnect 1234
Read: VxCazJaVykI6W36BkBU0mJTCM8rR95XT
Password matches, sending next password
bandit20@bandit:~$ 
```



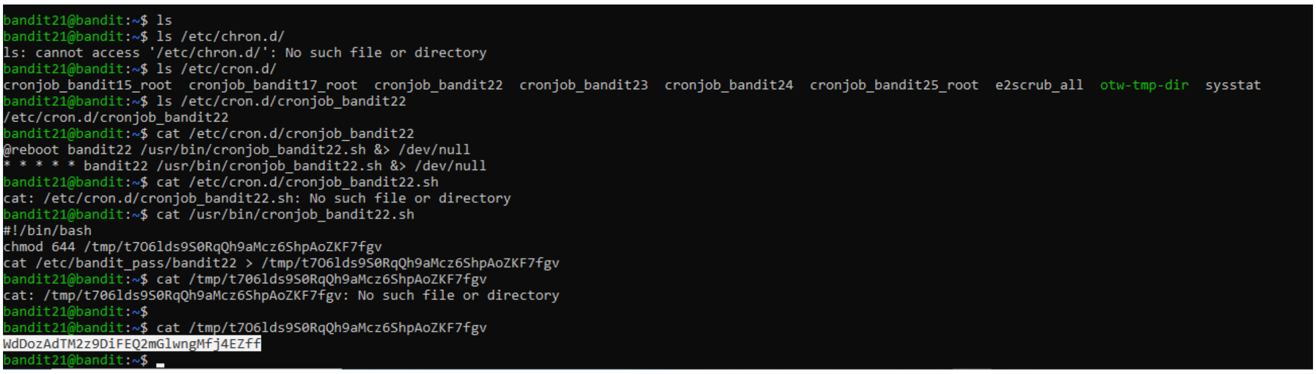
```
  Enjoy your stay!

bandit20@bandit:~$ cat /etc/bandit_pass/bandit20 | nc -l localhost 1234
NvEJF7oVjkddltPSrdKEFOllh9V1IBcq
bandit20@bandit:~$ 
```

First we'll use the 2nd image's command then simultaneously type the command with first image mentioning the same port number, in the first image it'll show sending next password which is received in 2nd window of command prompt

password for bandit21 obtained is

"NvEJF7oVjkddltPSrdKEFOllh9V1IBcq"

Lvl21->22



```
bandit21@bandit:~$ ls
bandit21@bandit:~$ ls /etc/chron.d/
ls: cannot access '/etc/chron.d/': No such file or directory
bandit21@bandit:~$ ls /etc/cron.d/
cronjob_bandit15_root  cronjob_bandit17_root  cronjob_bandit22  cronjob_bandit23  cronjob_bandit24  cronjob_bandit25_root  e2scrub_all  otw-tmp-dir  sysstat
bandit21@bandit:~$ ls /etc/cron.d/cronjob_bandit22
/etc/cron.d/cronjob_bandit22
bandit21@bandit:~$ cat /etc/cron.d/cronjob_bandit22
@reboot bandit22 /usr/bin/cronjob_bandit22.sh &> /dev/null
* * * * * bandit22 /usr/bin/cronjob_bandit22.sh &> /dev/null
bandit21@bandit:~$ cat /etc/cron.d/cronjob_bandit22.sh
cat: /etc/cron.d/cronjob_bandit22.sh: No such file or directory
bandit21@bandit:~$ cat /usr/bin/cronjob_bandit22.sh
#!/bin/bash
chmod 644 /tmp/t7O6lds9S0RqQh9aMcz6ShpAoZKF7fgv
cat /etc/bandit_pass/bandit22 > /tmp/t7O6lds9S0RqQh9aMcz6ShpAoZKF7fgv
bandit21@bandit:~$ cat /tmp/t706lds9S0RqQh9aMcz6ShpAoZKF7fgv
cat: /tmp/t706lds9S0RqQh9aMcz6ShpAoZKF7fgv: No such file or directory
bandit21@bandit:~$
bandit21@bandit:~$ cat /tmp/t7O6lds9S0RqQh9aMcz6ShpAoZKF7fgv
WdDozAdTM2z9DiFEQ2mGlwngMfj4EZff
bandit21@bandit:~$ 
```

in this lvl we accessed the /etc/cron.d/ file where we saw a file inside it named cronjob_bandit22 in it

when we used cat on that file location we saw a new location /usr/bin/cronjob_bandit22.sh while using cat on the new file location we saw it transferred data to a new tmp folder while accessing that tmp folder we got password for bandit22 which is

“WdDozAdTM2z9DiFEQ2mGlwngMfj4EZff”