Overthewire
Bandit

This is my learning journey

First we are starting from level 0

In the the basic thing about the over the wire this is one kind of game that helps to improve over self .In this game there are 34 levels in each level there is a password to next level if the password are missed then you have to start from the beginning so this is my brief introduction for this game so let's start

Level Goal

The goal of this level is for you to log into the game using SSH. The host to which you need to connect is **bandit.labs.overthewire.org**, on port 2220. The username is **bandit0** and the password is **bandit0**. Once logged in, go to the Level 1 page to find out how to beat Level 1.

Commands you may need to solve this level

ssh

Helpful Reading Material

- Secure Shell (SSH) on Wikipedia
- How to use SSH on wikiHow

Ok this is the challenge to get into the game we have to connect with bandit labs(like levels) for this we have to open terminal in kali linux then type **ssh bandit0@bandit.labs. overthewire.org -p** then it will ask password .the password has been given in the challenge (bandit0) after this we will move into the next level.

Bandit Level 0 → Level 1

Level Goal

The password for the next level is stored in a file called **readme** located in the home directory. Use this password to log into bandit1 using SSH. Whenever you find a password for a level, use SSH (on port 2220) to log into that level and continue the game.

Commands you may need to solve this level

ls , cd , cat , file , du , find

TIP: Create a file for notes and passwords on your local machine!

Passwords for levels are *not* saved automatically. If you do not save them yourself, you will need to start over from bandit0.

Passwords also occasionally change. It is recommended to take notes on how to solve each challenge. As levels get more challenging, detailed notes are useful to return to where you left off, reference for later problems, or help others after you've completed the challenge.

This is the next challenge, in this we have to try to find the password which is stored in the readme located in the home directory first of all we do what i said previously like open terminal in kali linux then type **ssh bandit0@bandit.labs. overthewire.org -p** then it will ask password .the password has been given in the challenge (bandit0). In this we will type "ls" it will show same files and also we can type "ls -alps"->it will show with roots also we can use any one in that. Then in the files there will be a file name called readme that we want to type "cat" command stands for **"concatenate"and it's mainly used to:**

- ◆ **Display the contents of a file**

bash
Copy code
```
cat filename.txt
```

This will print the contents of `filename.txt` to the terminal.

- ◆ **Create a new file**

bash

Copy code
```
cat > newfile.txt
```

Type some text, then press `Ctrl+D` to save and exit.

◆ **Combine multiple files**

bash
Copy code

```
cat file1.txt file2.txt > combined.txt
```

This merges `file1.txt` and `file2.txt` into `combined.txt`.

◆ **Read binary data (e.g., password files in CTFs)**

bash
Copy code

```
cat somefile | hexdump -C
```

💡 **Common in CTF/Bandit labs:**

If a file has a space or special character, you escape it:

bash
Copy code

```
cat "file with spaces.txt"
cat file\ with\ spaces.txt
cat ./-\ file.txt
```

This is pasted from the chatgpt to know what will be the cat commend do .Ok let's move on to the topic in the terminal we will type "cat readme" then we will get the password to the next level
I got the password:level 0 - 1 ->ZjLjTmM6FvvyRnrb2rfNWOZOTa6ip5If

Bandit Level 1 → Level 2

Level Goal

The password for the next level is stored in a file called - located in the home directory

Commands you may need to solve this level

ls , cd , cat , file , du , find

```
bandit1@bandit:~$ ls -alps
total 24
4 -rw-r———      1 bandit2 bandit1    33 Jul 28 19:03 -
4 drwxr-xr-x    2 root     root    4096 Jul 28 19:03 ./
4 drwxr-xr-x 150 root     root    4096 Jul 28 19:06 ../
4 -rw-r--r--    1 root     root     220 Mar 31  2024 .bash_logout
4 -rw-r--r--    1 root     root    3851 Jul 28 18:47 .bashrc
4 -rw-r--r--    1 root     root     807 Mar 31  2024 .profile
bandit1@bandit:~$ cat ./
cat: ./: Is a directory
bandit1@bandit:~$ cat ./-
263JGJPfgU6LtdEvgfWU1XP5yac29mFx
bandit1@bandit:~$ ZjLjTmM6FvvyRnrb2rfNWOZOTa6ip5If
```

Bandit Level 2 → Level 3

Level Goal

The password for the next level is stored in a file called **–spaces in this filename–** located in the home directory

Commands you may need to solve this level

ls , cd , cat , file , du , find

Helpful Reading Material

- Google Search for "spaces in filename"

```
bandit2@bandit:~$ cat spaces-in-this-file
cat: spaces-in-this-file: No such file or directory
bandit2@bandit:~$ cat -spaces-in-this-file-
cat: invalid option -- 'p'
Try 'cat --help' for more information.
bandit2@bandit:~$ cat spaces\ in\ this\ filename
cat: 'spaces in this filename': No such file or directory
bandit2@bandit:~$ cat -- '--spaces in this filename--'
MNk8KNH3Usiio41PRUEoDFPqfxLPlSmx
```

Bandit Level 3 → Level 4

Level Goal

The password for the next level is stored in a hidden file in the **inhere** directory.

Commands you may need to solve this level

ls , cd , cat , file , du , find

```
bandit3@bandit:~$ ls -alps
total 24
4 drwxr-xr-x   3 root root 4096 Jul 28 19:03 ./
4 drwxr-xr-x 150 root root 4096 Jul 28 19:06 ../
4 -rw-r--r--   1 root root  220 Mar 31  2024 .bash_logout
4 -rw-r--r--   1 root root 3851 Jul 28 18:47 .bashrc
4 drwxr-xr-x   2 root root 4096 Jul 28 19:03 inhere/
4 -rw-r--r--   1 root root  807 Mar 31  2024 .profile
bandit3@bandit:~$ cd inhere
bandit3@bandit:~/inhere$ ls al
ls: cannot access 'al': No such file or directory
bandit3@bandit:~/inhere$ ls -al
total 12
drwxr-xr-x 2 root     root     4096 Jul 28 19:03 .
drwxr-xr-x 3 root     root     4096 Jul 28 19:03 ..
-rw-r——— 1 bandit4 bandit3    33 Jul 28 19:03 ...Hiding-From-You
bandit3@bandit:~/inhere$ cat ...Hiding-From-you
cat: ...Hiding-From-you: No such file or directory
bandit3@bandit:~/inhere$ cat -- '...Hiding-From-you' --
cat: ...Hiding-From-you: No such file or directory
cat: --: No such file or directory
bandit3@bandit:~/inhere$ ls -lB
total 0
bandit3@bandit:~/inhere$ lav -b
Command 'lav' not found, did you mean:
  command 'gav' from deb gav (0.9.0-3.2)
  command 'lnav' from deb lnav (0.11.2-1)
  command 'lv' from deb lv (4.51-9)
  command 'dav' from deb dav-text (0.9.0-2)
  command 'sav' from deb savvy-util (2.1.0-2)
Try: apt install <deb name>
bandit3@bandit:~/inhere$ la -b
...Hiding-From-You
bandit3@bandit:~/inhere$ ls -b
bandit3@bandit:~/inhere$ \.\.\.Hiding-From-You
...Hiding-From-You: command not found
bandit3@bandit:~/inhere$ cat \.\.\.Hiding-From-You
2WmrDFRmJIq3IPxneAaMGhap0pFhF3NJ
bandit3@bandit:~/inhere$ exit
logout
Connection to bandit.labs.overthewire.org closed.
```

Bandit Level 4 → Level 5

Level Goal

The password for the next level is stored in the only human-readable file in the **inhere** directory.
Tip: if your terminal is messed up, try the "reset" command.

Commands you may need to solve this level

ls , cd , cat , file , du , find

```
bandit4@bandit:~/inhere$ file ./*
./-file00: data
./-file01: data
./-file02: data
./-file03: data
./-file04: data
./-file05: data
./-file06: data
./-file07: ASCII text
./-file08: data
./-file09: data
bandit4@bandit:~/inhere$ cat ./-file07:
cat: './-file07:': No such file or directory
bandit4@bandit:~/inhere$ cat ./-file07
4oQYVPkxZOOEOO5pTW81FB8j8lxXGUQw
bandit4@bandit:~/inhere$ exit
```

Bandit Level 5 → Level 6

Level Goal

The password for the next level is stored in a file somewhere under the **inhere** directory and has all of the following properties:

- human-readable
- 1033 bytes in size
- not executable

Commands you may need to solve this level

ls , cd , cat , file , du , find

```
bandit5@bandit:~/inhere$
::1                                ff02::2       →dfwvzFQi4mU0wfNbFOe9  ip6-mcastprefix                     narnia
bandit                             ff02::3                             krypton                             narnia.labs.overthewire.org
bandit.labs.overthewire.org        formulaone                         krypton.labs.overthewire.org        utumno
behemoth                           formulaone.labs.overthewire.org     leviathan                           utumno.labs.overthewire.org
behemoth.labs.overthewire.org      ip6-allhosts                        leviathan.labs.overthewire.org      vortex
drifter                            ip6-allnodes                        localhost                           vortex.labs.overthewire.org
drifter.labs.overthewire.org       ip6-allrouters                      manpage                             wc2.wechall.net
fe00::0                            ip6-localhost                       manpage.labs.overthewire.org
ff00::0                            ip6-localnet                        maze
ff02::1                            ip6-loopback                        maze.labs.overthewire.org
bandit5@bandit:~/inhere$ find. -type f -size 1033 ! -executable
Command 'find.' not found, did you mean:
  command 'find' from deb findutils (4.9.0-5)
  command 'findg' from deb ncl-ncarg (6.6.2.dfsg.1-3)
  command 'findv' from deb polylib-utils (5.22.5-4+dfsg)
Try: apt install <deb name>
bandit5@bandit:~/inhere$ find . -type f -size 1033c ! -executable
./maybehere07/.file2
bandit5@bandit:~/inhere$ cat ./maybehere07/.file2
HWasnPhtq9AVKe0dmk45nxy20cvUa6EG
```

Bandit Level 6 → Level 7

Level Goal

The password for the next level is stored **somewhere on the server** and has all of the following properties:

- owned by user bandit7
- owned by group bandit6
- 33 bytes in size

Commands you may need to solve this level

ls , cd , cat , file , du , find , grep

```
bandit6@bandit:~$ ls
bandit6@bandit:~$ ls -alps
total 20
4 drwxr-xr-x   2 root root 4096 Jul 28 19:03 ./
4 drwxr-xr-x 150 root root 4096 Jul 28 19:06 ../
4 -rw-r--r--   1 root root  220 Mar 31  2024 .bash_logout
4 -rw-r--r--   1 root root 3851 Jul 28 18:47 .bashrc
4 -rw-r--r--   1 root root  807 Mar 31  2024 .profile
bandit6@bandit:~$ find . -type -user bandit7 -group bandit6 -size 33c
find: Unknown argument to -type: -
bandit6@bandit:~$ find / -type f -user bandit7 -group bandit6 -size 33c
find: '/sys/kernel/tracing': Permission denied
```

```
bandit6@bandit:~$ cat /var/lib/dpkg/info/bandit7.password
morbNTDkSW6jIlUc0ymOdMaLnOlFVAaj
bandit6@bandit:~$ exit
```

Bandit Level 7 → Level 8

Level Goal

The password for the next level is stored in the file **data.txt** next to the word **millionth**

Commands you may need to solve this level

man, grep, sort, uniq, strings, base64, tr, tar, gzip, bzip2, xxd

Thrrer will be so may pasword but we have to fillter this with the cmd

Bandit Level 8 → Level 9

Level Goal

The password for the next level is stored in the file **data.txt** and is the only line of text that occurs only once

Commands you may need to solve this level

grep, sort, uniq, strings, base64, tr, tar, gzip, bzip2, xxd

Helpful Reading Material

- Piping and Redirection

cat data.txt
sort data.txt
sort data.txt | uniq -c
We will use this highlated cmd
After that we will find the 1 uniq key

```
    10 2MNStSLFTXWoyBKApJoWoBooHSqZQWoX
    10 2SPrkAR4oFkkPtWV3of0Z7rR7GkEArp5
    10 2t2sOTXDwEQeObR6WGAqXXDBBum2TR5d
    10 3bWHAOcHJggMxm5NgPkMpeA9GzFQG5vo
    10 3HT5LY4uSXQXsRRNK3uUW0enxPbarRYQ
    10 3mr60VTCYFuQFCgD2QRl2ojnF3nbcXdL
     1 4CKMh1JI91bUIZZPXDqGanal4xvAg0JM
    10 51T6T1zM6XPVhTlNzVfqpM94ed3dS39n
    10 52JmRMNVxV0iiAep6voOaBOyfFqG62PC
    10 5J6LfcYB30UUQsUTyjMC0×Dq76F6Syry
    10 5Ts8Y3d8pVhxsMzXNrgDHHpeVT2tqmhD
    10 6ZYAZU8PvoUSXATpzoPwQ2iqC3E2yvUS
    10 7idNOOeLKpD1sHOwRMYqnjvOizSIqAzN
    10 85X2LqA8sKG9VaeYz5isEZZkONVUHgom
    10 8ODDg1YTM4Ec87IKfBA16nDPXpdkVvGz
```
like this

```
bandit9@bandit:~$ strings data.txt | grep "="
^y=7
=?t)
=&]'
════════ the
If=q
U.=4!
k={7
lTOB=
YZ=*
D════════ password
w════════ is
=*{>
=wu,
h=O"
4,=Y
*y=1
4=+0
7]J=0
zSKc=
]2m══
════════ FGUW5ilLVJrxX9kMYMmlN4MgbpfMiqey
t|HfY=
```

Bandit Level 10 → Level 11

Level Goal

The password for the next level is stored in the file data.txt, which contains base64 encoded data

Commands you may need to solve this level

grep, sort, uniq, strings, base64, tr, tar, gzip, bzip2, xxd

Helpful Reading Material

- **Base64 on Wikipedia**

```
bandit10@bandit:~$ cat data.txt
VGhlIHBhc3N3b3JkIGlzIGR0UjE3M2ZaS2IwUlJzREZTR3NnMlJXbnBOVjozcVJyCg==
bandit10@bandit:~$ base
Command 'base' not found, did you mean:
  command 'ase' from deb ase (3.22.1-3)
  command 'basex' from deb basex (10.5-1)
  command 'bash' from deb bash (5.2.21-2ubuntu1)
  command 'basez' from deb basez (1.6.2-3)
Try: apt install <deb name>
bandit10@bandit:~$ base64 -d data.txt
The password is dtR173fZKb0RRsDFSGsg2RWnpNVj3qRr
```

Bandit Level 11 → Level 12

Level Goal

The password for the next level is stored in the file data.txt, where all lowercase (a-z) and uppercase (A-Z) letters have been rotated by 13 positions
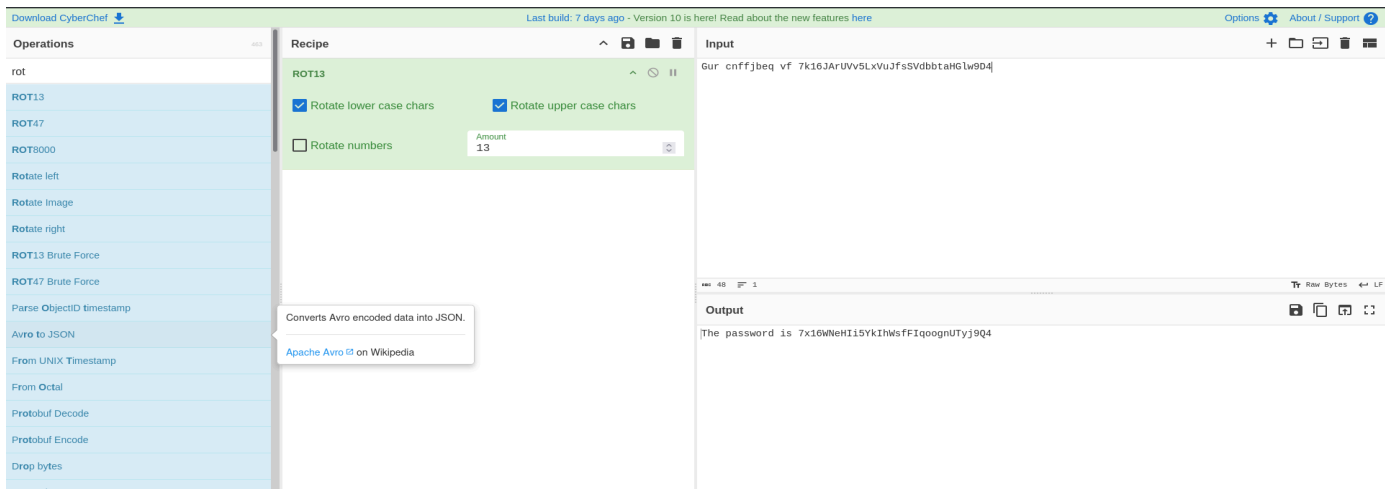
Commands you may need to solve this level

grep, sort, uniq, strings, base64, tr, tar, gzip, bzip2, xxd

Helpful Reading Material

- **Rot13 on Wikipedi**

Operations	Recipe	Input

rot

ROT13

ROT47

ROT8000

Rotate left

Rotate Image

Rotate right

ROT13 Brute Force

ROT47 Brute Force

Parse **ObjectID** timestamp

Avro to JSON

From UNIX **Timestamp**

From **Octal**

Protobuf Decode

Protobuf Encode

Drop bytes

ROT13

☑ Rotate lower case chars   ☑ Rotate upper case chars

☐ Rotate numbers   Amount: 13

Converts Avro encoded data into JSON.

Apache Avro ⬀ on Wikipedia

Input

Gur cnffjbeq vf 7k16JArUVv5LxVuJfsSVdbbtaHGlw9D4

48   1   Tr Raw Bytes   ↵ LF

Output

The password is 7x16WNeHIi5YkIhWsfFIqoognUTyj9Q4

Bandit Level 12 → Level 13

Level Goal

The password for the next level is stored in the file data.txt, which is a hexdump of a file that has been repeatedly compressed. For this level it may be useful to create a directory under /tmp in which you can work. Use mkdir with a hard to guess directory name. Or better, use the command "mktemp -d". Then copy the datafile using cp, and rename it using mv (read the manpages!)

Commands you may need to solve this level

grep, sort, uniq, strings, base64, tr, tar, gzip, bzip2, xxd, mkdir, cp, mv, file

Helpful Reading Material

- **Hex dump on Wikipedia**

File Actions Edit View Help

```
bandit12@bandit:~$ ls
data.txt
bandit12@bandit:~$ cat data.txt
00000000: 1f8b 0808 84c9 8768 0203 6461 7461 322e  .......h..data2.
00000010: 6269 6e00 0142 02bd fd42 5a68 3931 4159  bin..B...BZh91AY
00000020: 2653 592b 25cc 1e00 0017 7fff f9df a1ff  &SY+%...........
00000030: f67f f7ff befe dded befd efaf dcff b7ff  ................
00000040: bff7 abbd bf6f eb0f b79f bbf9 b001 3998  .....o........9.
00000050: 1034 0c80 01a3 d40d 1a06 8680 6800 0c80  .4..........h...
00000060: 0003 41a0 01a3 41a3 4188 1a68 3400 01a0  ..A...A.A..h4...
00000070: 7a80 01a3 2686 87a1 9432 7a88 1a32 1a68  z...&....2z..2.h
00000080: d343 41a6 4068 6868 0d00 d1a3 1000 1a00  .CA.@hhh........
00000090: 0d03 4680 64f5 068d 1a0d 191a 3403 4c80  ..F.d.......4.L.
000000a0: 00c8 d1a6 8320 0d0d 1a31 0626 4d1a 3350  .....  ...1.&M.3P
000000b0: c8d3 434d 01a0 07a4 3403 4068 1a32 7a86  ..CM....4.@h.2z.
000000c0: 8680 068f 51a0 c800 0000 1a68 1a68 6464  ....Q......h.hdd
000000d0: 000d 00c8 0000 2043 046e b096 140b 6718  ...... C.n....g.
000000e0: d116 a448 9806 2099 d59f 5645 922e ca16  ...H..  ...VE....
000000f0: 4088 ac23 c692 555d 9b97 31aa 2c30 bd07  @..#..U]..1.,0..
00000100: f8d0 0bc9 7c91 2400 27c8 1b72 3a00 359a  ....|.$.'..r:.5.
00000110: 345c 4fef 37b9 1f81 5ff9 80b8 502d 28d1  4\O.7..._...P-(.
00000120: 099a 381e e83f d9e4 2291 bf26 0e74 b58d  ..8..?.."..&.t..
00000130: 5a7c 5449 9599 cb96 005a b473 4542 e02d  Z|TI.....Z.sEB.-
00000140: e1ab e8f5 2614 0b78 9cff 3fb6 8d81 645d  ....&..x..?...d]
00000150: 39be 981f b351 84be 8d26 4185 299e 8e1a  9....Q...&A.)...
00000160: 605e c7bc 40c1 1534 e890 b70c 23ac 8e82  `^..@..4....#...
00000170: 5150 ebff 40fc 5b5b ca8e 40eb 948b 0f8d  QP..@.[[..@.....
00000180: 8e5e 18af 6133 189a a02f 3e5a 36ea c32b  .^..a3.../>Z6..+
00000190: 0379 7b59 0191 fe0c 5736 7b08 ae9f b16b  .y{Y....W6{....k
000001a0: 7e58 14a0 ed44 f1d3 a873 dee3 589b 1e26  ~X...D...s..X..&
000001b0: db78 5e49 bbc1 0940 cbb3 5c5c 201d 7a23  .x^I...@..\\ .z#
000001c0: e821 e953 c38d 98ea a49c fc01 5466 241f  .!.S........Tf$.
000001d0: 3a72 e52d 8351 afc1 982a af8c d2f4 01ae  :r.-.Q...*......
000001e0: 2611 2982 048f 308d 3f8c 4d21 b9b0 122d  &.)...0.?.M!...-
000001f0: 5661 3c9c c7d1 a074 8e42 992a 3d6f 10f2  Va<....t.B.*=o..
00000200: 2386 9456 3055 2853 1039 5606 1450 782b  #..V0U(S.9V..Px+
00000210: ca43 2fed b01d 5b10 5cd4 0c9f a115 10b0  .C/...[.\.......
00000220: d187 f73d c330 8411 3a76 857e 59b3 fccf   ...=.0..:v.~Y...
00000230: 528d b640 56da a5a7 5623 a28d a900 9f5f  R..@V...V#....._
00000240: f116 55bd 7cb4 6112 a32c 2a57 f145 c107  ..U.|.a..,*W.E..
00000250: fc5d c914 e142 40ac 9730 78f7 9850 1142  .]...B@..0x..P.B
00000260: 0200 00                                  ...
bandit12@bandit:~$ mkdir /tmp/alexis
mkdir: cannot create directory '/tmp/alexis': File exists
bandit12@bandit:~$ cp data.txt /tmp/alexis
bandit12@bandit:~$ cd /tmp/alexis
bandit12@bandit:/tmp/alexis$ ls
```

```
bandit12@bandit:/tmp/alexis$ file data5.bin
data5.bin: POSIX tar archive (GNU)
bandit12@bandit:/tmp/alexis$ mv data5.bin data.tar
bandit12@bandit:/tmp/alexis$ tar xf data.tar
bandit12@bandit:/tmp/alexis$ la
data6.bin   data.tar
bandit12@bandit:/tmp/alexis$ ls
data6.bin   data.tar
bandit12@bandit:/tmp/alexis$ file data5.bin
data5.bin: cannot open `data5.bin' (No such file or directory)
bandit12@bandit:/tmp/alexis$ file data6.bin
data6.bin: bzip2 compressed data, block size = 900k
bandit12@bandit:/tmp/alexis$ mv data6.bin data.bz2
bandit12@bandit:/tmp/alexis$ bzip2 -d data.bz2
bandit12@bandit:/tmp/alexis$ ls
data   data.tar
bandit12@bandit:/tmp/alexis$ ls
data   data.tar
bandit12@bandit:/tmp/alexis$ file data
data: POSIX tar archive (GNU)
bandit12@bandit:/tmp/alexis$ mv data data.tar
bandit12@bandit:/tmp/alexis$ ls
data.tar
bandit12@bandit:/tmp/alexis$ tar xf data.tar
bandit12@bandit:/tmp/alexis$ ls
data8.bin   data.tar
bandit12@bandit:/tmp/alexis$ file data8.bin
data8.bin: gzip compressed data, was "data9.bin", last modified: Mon Jul 28 19:03:32 2025, max compres
sion, from Unix, original size modulo 2^32 49
bandit12@bandit:/tmp/alexis$ mv data8.bin data.gz
bandit12@bandit:/tmp/alexis$ gzip -d data.gz
bandit12@bandit:/tmp/alexis$ ls
data   data.tar
bandit12@bandit:/tmp/alexis$ file data
data: ASCII text
bandit12@bandit:/tmp/alexis$ cat data
The password is FO5dwFsc0cbaIiH0h8J2eUks2vdTDwAn
bandit12@bandit:/tmp/alexis$
```

Bandit Level 13 → Level 14

Level Goal

The password for the next level is stored in **/etc/bandit_pass/bandit14 and can only be read by user bandit14**. For this level, you don't get the next password, but you get a private SSH key that can be used to log into the next level. **Note: localhost** is a hostname that refers to the machine you are working on

Commands you may need to solve this level

ssh, telnet, nc, openssl, s_client, nmap

Helpful Reading Material

- SSH/OpenSSH/Keys

```
bandit13@bandit:~$ ls
sshkey.private
```

```
bandit13@bandit:~$ ssh -i sshkey.private -p 2220 bandit14@localhost
The authenticity of host '[localhost]:2220 ([127.0.0.1]:2220)' can't be established.
ED25519 key fingerprint is SHA256:C2ihUBV7ihnV1wUXRb4RrEcLfXC5CXlhmAAM/urerLY.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Could not create directory '/home/bandit13/.ssh' (Permission denied).
Failed to add the host to the list of known hosts (/home/bandit13/.ssh/known_hosts).
```

```
           _                  _   ()  _
          | |_     _ _  _    _| | _|
          |  _ \ / `| | / `| || | _|
          | |_) | (_| | | | | | (_| | | |_
          |_._/ \__,__|| |_|\_,__|\_|

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

```
bandit14@bandit:~$ cat /etc/bandit_pass/bandit14
MU4VWeTyJk8ROof1qqmcBPaLh7lDCPvS
bandit14@bandit:~$ ▯
```

Bandit Level 14 → Level 15

Level Goal

The password for the next level can be retrieved by submitting the password of the current level to **port 30000 on localhost**.

Commands you may need to solve this level

ssh, telnet, nc, openssl, s_client, nmap

Helpful Reading Material

- How the Internet works in 5 minutes (YouTube) (Not completely accurate, but good enough for beginners)
- IP Addresses
- IP Address on Wikipedia
- Localhost on Wikipedia
- Ports
- Port (computer networking) on Wikipedia

```
bandit14@bandit:~$ nc localhost 30000
MU4VWeTyJk8ROof1qqmcBPaLh7lDCPvS
Correct!
8xCjnmgoKbGLhHFAZlGE5Tmu4M2tKJQo
```

Bandit Level 15 → Level 16

Level Goal

The password for the next level can be retrieved by submitting the password of the current level to **port 30001 on localhost** using SSL/TLS encryption.

Helpful note: Getting "DONE", "RENEGOTIATING" or "KEYUPDATE"? Read the "CONNECTED COMMANDS" section in the manpage.

Commands you may need to solve this level

ssh, telnet, nc, ncat, socat, openssl, s_client, nmap, netstat, ss

Helpful Reading Material

- Secure Socket Layer/Transport Layer Security on Wikipedia
- OpenSSL Cookbook - Testing with OpenSSL

```
bandit15@bandit:~$ cat /etc/bandit_pass/bandit15
8xCjnmgoKbGLhHFAZlGE5Tmu4M2tKJQo
bandit15@bandit:~$ ncat --ssl localhost 30001
8xCjnmgoKbGLhHFAZlGE5Tmu4M2tKJQo
Correct!
kSkvUpMQ7lBYyCM4GBPvCvT1BfWRy0Dx
```

Bandit Level 16 → Level 17

Level Goal

The credentials for the next level can be retrieved by submitting the password of the current level to **a port on localhost in the range 31000 to 32000**. First find out which of these ports have a server listening on them. Then find out which of those speak SSL/TLS and which don't. There is only 1 server that will give the next credentials, the others will simply send back to you whatever you send to it.

Helpful note: Getting "DONE", "RENEGOTIATING" or "KEYUPDATE"? Read the "CONNECTED COMMANDS" section in the manpage.

Commands you may need to solve this level

ssh, telnet, nc, ncat, socat, openssl, s_client, nmap, netstat, ss

Helpful Reading Material

- Port scanner on Wikipedia

```
bandit16@bandit:~$ nmap localhost -p 31000-32000
Starting Nmap 7.94SVN ( https://nmap.org ) at 2025-07-31 15:36 UTC
Nmap scan report for localhost (127.0.0.1)
Host is up (0.00010s latency).
Not shown: 996 closed tcp ports (conn-refused)
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:~$ cat /etc/bandit_pass/bandit16
kSkvUpMQ7lBYyCM4GBPvCvT1BfWRy0Dx
```

```
bandit16@bandit:~$ ncat --ssl localhost 31790
kSkvUpMQ7lBYyCM4GBPvCvT1BfWRy0Dx
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/v45bN4yFm8×7R/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------
```

That password have to be store in the key type "vim key" then paste the password in there to brief information about the vim commend

🧭 Basic Vim Commands

Task	Command
Enter Vim	`vim filename`
Enter insert mode	Press `i`
Exit insert mode	Press `Esc`
Save and Exit	`:wq` then press `Enter`
Exit without Saving	`:q!` then press `Enter`
Save without Exit	`:w` then press `Enter`

```
┌──(kali㊀kali)-[~]
└─$ chmod 600 key

┌──(kali㊀kali)-[~]
└─$ ssh -i key bandit17@bandit.labs.overthewire.org -p 2220
```

Bandit Level 17 → Level 18

Level Goal

There are 2 files in the homedirectory: **passwords.old and passwords.new**. The password for the next level is in **passwords.new** and is the only line that has been changed between **passwords.old and passwords.new**

NOTE: if you have solved this level and see 'Byebye!' when trying to log into bandit18, this is related to the next level, bandit19

Commands you may need to solve this level

cat, grep, ls, diff


```
bandit17@bandit:~$ diff passwords.old password.new
diff: password.new: No such file or directory
bandit17@bandit:~$ diff passwords.old passwords.new
42c42
< QqPdv6c2Ncstw7dg4MbSh4vxwY7pHJmE
---
> x2gLTTjFwMOhQ8oWNbMN362QKxfRqGlO
```

The second password is help to open

Bandit Level 18 → Level 19

Level Goal

The password for the next level is stored in a file **readme** in the homedirectory. Unfortunately, someone has modified **.bashrc** to log you out when you log in with SSH.

Commands you may need to solve this level

ssh, ls, cat

```
 ┌──(kali㉿kali)-[~]
 └─$ 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
cGWpMaKXVwDUNgPAVJbWYuGHVn9zl3j8
$
```

Bandit Level 19 → Level 20

Level Goal

To gain access to the next level, you should use the setuid binary in the homedirectory. Execute it without arguments to find out how to use it. The password for this level can be found in the usual place (/etc/bandit_pass), after you have used the setuid binary.

Helpful Reading Material

- setuid on Wikipedia


```
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
0qXahG8ZjOVMN9Ghs7iOWsCfZyXOUbYO
bandit19@bandit:~$
```

Bandit Level 20 → Level 21

Level Goal

There is a setuid binary in the homedirectory that does the following: it makes a connection to localhost on the port you specify as a commandline argument. It then reads a line of text from the connection and compares it to the password in the previous level (bandit20). If the password is correct, it will transmit the password for the next level (bandit21).

NOTE: Try connecting to your own network daemon to see if it works as you think

```
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:~$ cat /etc/bandit_pass/bandit20
0qXahG8ZjOVMN9Ghs7iOWsCfZyXOUbYO
bandit20@bandit:~$ nmap -F localhost
Starting Nmap 7.94SVN ( https://nmap.org ) at 2025-07-31 17:31 UTC
Nmap scan report for localhost (127.0.0.1)
Host is up (0.00038s latency).
Not shown: 98 closed tcp ports (conn-refused)
PORT     STATE SERVICE
22/tcp   open  ssh
8000/tcp open  http-alt

Nmap done: 1 IP address (1 host up) scanned in 0.06 seconds
```

```
bandit20@bandit:~$ nc -lvp 4444
Listening on 0.0.0.0 4444
Connection received on localhost 37646
0qXahG8ZjOVMN9Ghs7iOWsCfZyXOUbYO
EeoULMCra2q0dSkYj561DX7s1CpBuOBt
bandit20@bandit:~$ exit
logout
There are stopped jobs.
```

```
bandit20@bandit:~$ ./suconnect 4444
Read: 0qXahG8ZjOVMN9Ghs7iOWsCfZyXOUbYO
Password matches, sending next password
```

Bandit Level 21 → Level 22

Level Goal

A program is running automatically at regular intervals from **cron**, the time-based job scheduler. Look in **/etc/cron.d/** for the configuration and see what command is being executed.

```
bandit21@bandit:~$ cat /etc/cron.d/          48 level19 ...
cat: /etc/cron.d/: Is a directory            49 level20 - Z1→EeoULMCra2q0dSkYj561DX7s1CpBuOBt
bandit21@bandit:~$ vim /etc/cron.d/          50 level21 - 22→tRae0UfB9v0UzbCdn9cY0gQnds9GF58Q
bandit21@bandit:~$ ls /etc/cron.d/           51
behemoth4_cleanup  cronjob_bandit22  cronjob_bandit24  leviathan5_cleanup   otw-tmp-dir
clean_tmp          cronjob_bandit23  e2scrub_all       manpage3_resetpw_job  sysstat
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 /usr/bin/cronjob_bandit22.sh
#!/bin/bash
chmod 644 /tmp/t7O6lds9S0RqQh9aMcz6ShpAoZKF7fgv
cat /etc/bandit_pass/bandit22 > /tmp/t7O6lds9S0RqQh9aMcz6ShpAoZKF7fgv
bandit21@bandit:~$ cat /tmp/t7O6lds9S0RqQh9aMcz6ShpAoZKF7fgv
tRae0UfB9v0UzbCdn9cY0gQnds9GF58Q
bandit21@bandit:~$ █
```

Bandit Level 22 → Level 23

Level Goal

A program is running automatically at regular intervals from **cron**, the time-based job scheduler. Look in **/etc/cron.d/** for the configuration and see what command is being executed.

NOTE: Looking at shell scripts written by other people is a very useful skill. The script for this level is intentionally made easy to read. If you are having problems understanding what it does, try executing it to see the debug information it prints.

Commands you may need to solve this level

cron, crontab, crontab(5) (use "man 5 crontab" to access this)

```
bandit22@bandit:~$ cat /etc/cron.d/cronjob_bandit23
@reboot bandit23 /usr/bin/cronjob_bandit23.sh  &> /dev/null
* * * * * bandit23 /usr/bin/cronjob_bandit23.sh  &> /dev/null
bandit22@bandit:~$ cat /usr/bin/cronjob_bandit23.sh
#!/bin/bash

myname=$(whoami)
mytarget=$(echo I am user $myname | md5sum | cut -d ' ' -f 1)

echo "Copying passwordfile /etc/bandit_pass/$myname to /tmp/$mytarget"

cat /etc/bandit_pass/$myname > /tmp/$mytarget
bandit22@bandit:~$ whoami
bandit22
bandit22@bandit:~$ myname
myname: command not found
bandit22@bandit:~$ myname=bandit23
bandit22@bandit:~$ whoami
bandit22
bandit22@bandit:~$ echo I am user $myname | md5sum | cut -d ' ' -f 1
8ca319486bfbbc3663ea0fbe81326349
bandit22@bandit:~$ cat /tmp/8ca319486bfbbc3663ea0fbe81326349
0Zf11ioIjMVN551jX3CmStKLYqjk54Ga
bandit22@bandit:~$ █
```

All the passwords till now:

level - - 0 -> bandit0

level 0 - 1 ->ZjLjTmM6FvvyRnrb2rfNWOZOTa6ip5If

level 1 - 2 ->263JGJPfgU6LtdEvgfWU1XP5yac29mFx

level 2 - 3 ->MNk8KNH3Usiio41PRUEoDFPqfxLPlSmx

level 3 - 4 ->2WmrDFRmJlq3IPxneAaMGhap0pFhF3NJ

level 4 - 5 ->4oQYVPkxZOOEOO5pTW81FB8j8IxXGUQw

level 5 - 6 ->HWasnPhtq9AVKe0dmk45nxy20cvUa6EG

level 6 - 7 ->morbNTDkSW6jIlUc0ymOdMaLnOlFVAaj

level 7 - 8 ->dfwvzFQi4mU0wfNbFOe9RoWskMLg7eEc

level 8 - 9 ->4CKMh1JI91bUIZZPXDqGanal4xvAg0JM

level 9 - 10->FGUW5ilLVJrxX9kMYMmlN4MgbpfMiqey

level10 - 11->dtR173fZKb0RRsDFSGsg2RWnpNVj3qRr

level11 - 12->7x16WNeHIi5YkIhWsfFIqoognUTyj9Q4

level12 - 13->FO5dwFsc0cbaliH0h8J2eUks2vdTDwAn

level13 - 14->MU4VWeTyJk8ROof1qqmcBPaLh7IDCPvS

level14 - 15->8xCjnmgoKbGLhHFAZIGE5Tmu4M2tKJQo

level15 - 16->kSkvUpMQ7IBYyCM4GBPvCvT1BfWRy0Dx

level16 - 17---->

-----BEGIN RSA PRIVATE KEY-----
MIIEoglBAAKCAQEAvmOkuifmMg6HL2YPlOjon6iWfbp7c3jx34YkYWqUH57SUdyJ
imZzeyGC0gtZPGujUSxiJSWl/oTqexh+cAMTSMlOJf7+BrJObArnxd9Y7YT2bRPQ
Ja6Lzb558YW3FZl87ORiO+rW4LCDCNd2lUvLE/GL2GWyuKN0K5iCd5TbtJzEkQTu

DSt2mcNn4rhAL+JFr56o4T6z8WWAW18BR6yGrMq7Q/kALHYW3OekePQAzL0VUYbW
JGTi65CxbCnzc/w4+mqQyvmzpWtMAzJTzAzQxNbkR2MBGySxDLrjg0LWN6sK7wNX
x0YVztz/zblkPjfkU1jHS+9EbVNj+D1XFOJuaQIDAQABAoIBABAgpxpM1aoLWfvD
KHcj10nqcoBc4oE11aFYQwik7xfW+24pRNuDE6SFthOar69jp5RlLwD1NhPx3iBl
J9nOM8OJ0VToum43UOS8YxF8WwhXriYGnc1sskbwpXOUDc9uX4+UESzH22P29ovd
d8WErY0gPxun8pbJLmxkAtWNhpMvfe0050vk9TL5wqbu9AlbssgTcCXkMQnPw9nC
YNN6DDP2lbcBrvgT9YCNL6C+ZKufD52yOQ9qOkwFTEQpjtF4uNtJom+asvlpmS8A
vLY9r60wYSvmZhNqBUrj7lyCtXMlu1kkd4w7F77k+DjHoAXyxcUp1DGL51sOmama
+TOWWgECgYEA8JtPxP0GRJ+IQkX262jM3dElkza8ky5molwUqYdsx0NxHgRRhORT
8c8hAuRBb2G82so8vUHk/fur85OEfc9TncnCY2crpoqsghifKLxrLgtT+qDpfZnx
SatLdt8GfQ85yA7hnWWJ2MxF3NaeSDm75Lsm+tBbAiyc9P2jGRNtMSkCgYEAypHd
HCctNi/FwjuIhttFx/rHYKhLidZDFYeiE/v45bN4yFm8x7R/b0iE7KaszX+Exdvt
SghaTdcG0Knyw1bpJVyusavPzpaJMjdJ6tcFhVAbAjm7enClvGCSx+X3l5SiWg0A
R57hJglezliVjv3aGwHwvlZvtszK6zV6oXFAu0ECgYAbjo46T4hyP5tJi93V5HDi
Ttiek7xRVxUl+iU7rWkGAXFpMLFteQEsRr7PJ/lemmEY5eTDAFMLy9FL2m9oQWCg
R8VdwSk8r9FGLS+9aKcV5Pl/WEKlwgXinB3OhYimtiG2Cg5JCqlZFHxD6MjEGOiu
L8ktHMPvodBwNsSBULpG0QKBgBAplTfC1HOnWiMGOU3KPwYWt0O6CdTkmJOmL8Ni
blh9elyZ9FsGxsgtRBXRsqXuz7wtsQAgLHxbdLq/ZJQ7YfzOKU4ZxEnabvXnvWkU
YODjHdSOoKvDQNWu6ucyLRAWFulSeXw9a/9p7ftpxm0TSgyvmfLF2MlAEwyzRqaM
77pBAoGAMmjmlJdjp+Ez8duyn3ieo36yrttF5NSsJLAbxFpdlc1gvtGCWW+9Cq0b
dxviW8+TFVEBl1O4f7HVm6EpTscdDxU+bCXWkfjuRb7Dy9GOtt9JPsX8MBTakzh3
vBgsyi/sN3RqRBcGU40fOoZyfAMT8s1m/uYv52O6IgeuZ/ujbjY=
-----END RSA PRIVATE KEY-----
level17 - 18->x2gLTTjFwMOhQ8oWNbMN362QKxfRqGlO
level18 - 19->cGWpMaKXVwDUNgPAVJbWYuGHVn9zl3j8
level19 - 20->0qXahG8ZjOVMN9Ghs7iOWsCfZyXOUbYO
level20 - 21->EeoULMCra2q0dSkYj561DX7s1CpBuOBt
level21 - 22->tRae0UfB9v0UzbCdn9cY0gQnds9GF58Q
level22 - 23->0Zf11ioIjMVN551jX3CmStKLYqjk54Ga

And why i am stoping hear means i am not able to do the next level by soon i will update
—> shanyu-pilli