Introduction

The Bandit Heist challenge involves infiltrating a simulated server to understand the tools and techniques used by the attackers. This document outlines the steps taken to solve the first 16 levels, the commands used, and the learnings from the process.

Level-wise Progress and Steps

Level 0 to Level 1

- **Objective**: Connect to the server using SSH.
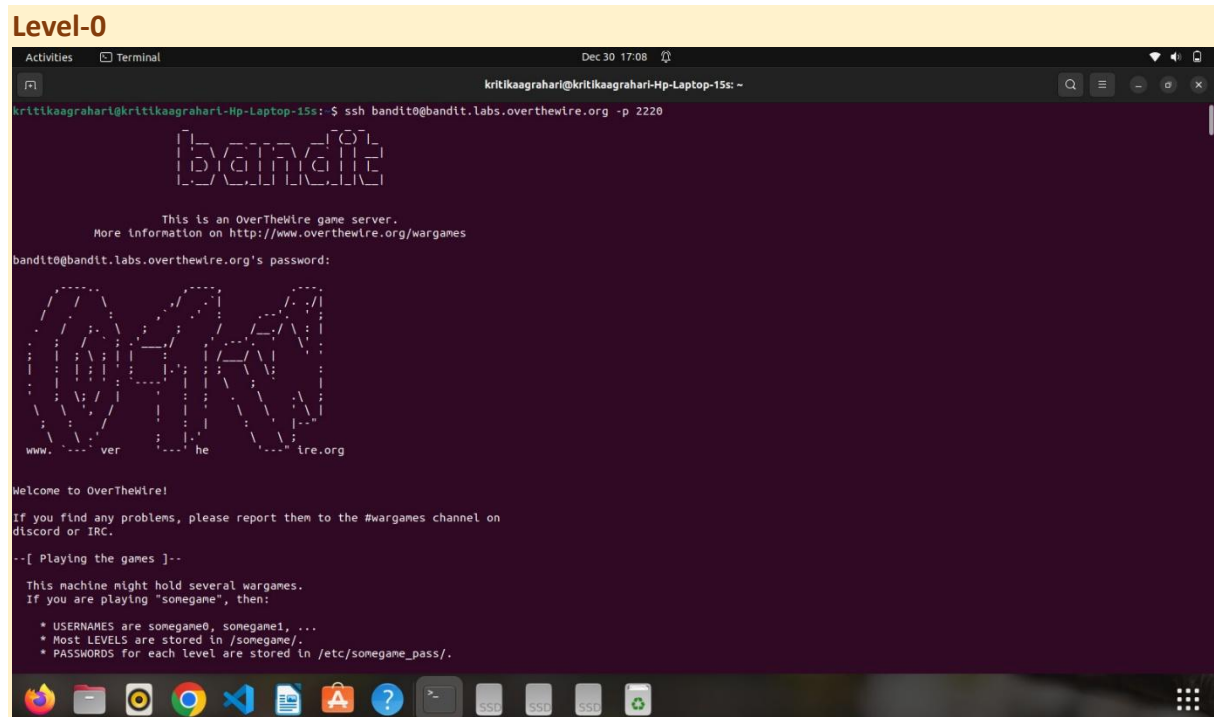
Level 1 to Level 2

- **Objective**: Find the password for the next level in a file named readme

Level 2 to Level 3

- **Objective**: Locate the password in a hidden file.

Repeat similar formatting for Levels 4 to 16

Level-0

```
      * gabinit (https://github.com/gabinit/Gabinit) in /opt/gabinit/
      * pwntools (https://github.com/Gallopsled/pwntools)
      * radare2 (http://www.radare.org/)

--[ More information ]--

  For more information regarding individual wargames, visit
  http://www.overthewire.org/wargames/

  For support, questions or comments, contact us on discord or IRC.

  Enjoy your stay!

bandit0@bandit:~$ ls -alps
total 24
4 drwxr-xr-x  2 root    root    4096 Sep 19 07:08  /
4 drwxr-xr-x 70 root    root    4096 Sep 19 07:09  ../
4 -rw-r--r--  1 root    root     220 Mar 31  2024 .bash_logout
4 -rw-r--r--  1 root    root    3771 Mar 31  2024 .bashrc
4 -rw-r--r--  1 root    root     807 Mar 31  2024 .profile
4 -rw-r-----  1 bandit1 bandit0  438 Sep 19 07:08 readme
bandit0@bandit:~$ cat readme
Congratulations on your first steps into the bandit game!!
Please make sure you have read the rules at https://overthewire.org/rules/
If you are following a course, workshop, walkthrough or other educational activity,
please inform the instructor about the rules as well and encourage them to
contribute to the OverTheWire community so we can keep these games free!

The password you are looking for is: ZjLjTmM6FvvyRnrb2rfNWOZOTa6ip5If

bandit0@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit1@bandit.labs.overthewire.org -p 2220
```

          This is an OverTheWire game server.

Level-1

bandit1@bandit.labs.overthewire.org's password:

```
      ,----.           ,----.         ,----. ,--.
     / /`-. \         / /`-. \       / /`-. |/. ||
    | |   \ |        | |   \ |      | |__/_/| |__|
    | |    | |       | |    | |     |  __|   |    |
    | |    | |       | |    | |     | |      |    |
     \ \__/ /         \ \__/ /       \ \__/  |    |
      `----'           `----'         `----' '----'
  www.  `----' ver     `----' he      `----' ire.org
```

Welcome to OverTheWire!

If you find any problems, please report them to the #wargames channel on
discord or IRC.

--[Playing the games]--

  This machine might hold several wargames.
  If you are playing "somegame", then:

    * USERNAMES are somegame0, somegame1, ...
    * Most LEVELS are stored in /somegame/.
    * PASSWORDS for each level are stored in /etc/somegame_pass/.

  Write-access to homedirectories is disabled. It is advised to create a
  working directory with a hard-to-guess name in /tmp/. You can use the
  command "mktemp -d" in order to generate a random and hard to guess
  directory in /tmp/. Read-access to both /tmp/ is disabled and to /proc
  restricted so that users cannot snoop on eachother. Files and directories
  with easily guessable or short names will be periodically deleted! The /tmp
  directory is regularly wiped.
  Please play nice:

    * don't leave orphan processes running

  For support, questions or comments, contact us on discord or IRC.

  Enjoy your stay!

```
bandit1@bandit:~$ ls -alps
total 24
4 -rw-r-----  1 bandit2 bandit1   33 Sep 19 07:08 -
4 drwxr-xr-x  2 root    root    4096 Sep 19 07:08 ./
4 drwxr-xr-x 70 root    root    4096 Sep 19 07:09 ../
4 -rw-r--r--  1 root    root     220 Mar 31  2024 .bash_logout
4 -rw-r--r--  1 root    root    3771 Mar 31  2024 .bashrc
4 -rw-r--r--  1 root    root     807 Mar 31  2024 .profile
bandit1@bandit:~$ cat ./-
263JGJPfgU6LtdEvgfWU1XP5yac29mFx
bandit1@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit2@bandit.labs.overthewire.org -p 2220
```

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

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

bandit2@bandit.labs.overthewire.org's password:

```
      ,----.           ,----.         ,----. ,--.
     / /`-. \         / /`-. \       / /`-. |/. ||
    | |   \ |        | |   \ |      | |__/_/| |__|
    | |    | |       | |    | |     |  __|   |    |
    | |    | |       | |    | |     | |      |    |
     \ \__/ /         \ \__/ /       \ \__/  |    |
      `----'           `----'         `----' '----'
```

Level-2

```
bandit1@bandit:~$ ls -alps
total 24
4 -rw-r-----  1 bandit2 bandit1   33 Sep 19 07:08 -
4 drwxr-xr-x  2 root    root    4096 Sep 19 07:08  /
4 drwxr-xr-x 70 root    root    4096 Sep 19 07:09  ./
4 -rw-r--r--  1 root    root     220 Mar 31  2024 .bash_logout
4 -rw-r--r--  1 root    root    3771 Mar 31  2024 .bashrc
4 -rw-r--r--  1 root    root     807 Mar 31  2024 .profile
bandit1@bandit:~$ cat ./-
263JGJPfgU6LtdEvgfWU1XP5yac29mFx
bandit1@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit2@bandit.labs.overthewire.org -p 2220
```

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

bandit2@bandit.labs.overthewire.org's password:
```

```
* radare2 (http://www.radare.org/)

--[ More information ]--

  For more information regarding individual wargames, visit
  http://www.overthewire.org/wargames/

  For support, questions or comments, contact us on discord or IRC.

  Enjoy your stay!

bandit2@bandit:~$ ls -alps
total 24
4 drwxr-xr-x  2 root    root    4096 Sep 19 07:08  /
4 drwxr-xr-x 70 root    root    4096 Sep 19 07:09  ./
4 -rw-r--r--  1 root    root     220 Mar 31  2024 .bash_logout
4 -rw-r--r--  1 root    root    3771 Mar 31  2024 .bashrc
4 -rw-r--r--  1 root    root     807 Mar 31  2024 .profile
4 -rw-r-----  1 bandit3 bandit2   33 Sep 19 07:08 spaces in this filename
bandit2@bandit:~$ cat spaces\ in\ this\ filename
MNk8KNH3Usiio41PRUEoDFPqfxLPlSmx
bandit2@bandit:~$ ^C
bandit2@bandit:~$ ^C
bandit2@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit3@bandit.labs.overthewire.org -p 2220
```

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

bandit3@bandit.labs.overthewire.org's password:
Permission denied, please try again.
bandit3@bandit.labs.overthewire.org's password:
```

Level-3


```
   * radare2 (http://www.radare.org/)

--[ More information ]--

  For more information regarding individual wargames, visit
  http://www.overthewire.org/wargames/

  For support, questions or comments, contact us on discord or IRC.

  Enjoy your stay!

bandit2@bandit:~$ ls -alps
total 24
4 drwxr-xr-x  2 root    root    4096 Sep 19 07:08 ./
4 drwxr-xr-x 70 root    root    4096 Sep 19 07:09 ../
4 -rw-r--r--  1 root    root     220 Mar 31  2024 .bash_logout
4 -rw-r--r--  1 root    root    3771 Mar 31  2024 .bashrc
4 -rw-r--r--  1 root    root     807 Mar 31  2024 .profile
4 -rw-r-----  1 bandit3 bandit2   33 Sep 19 07:08 spaces in this filename
bandit2@bandit:~$ cat spaces\ in\ this\ filename
MNk8KNH3Usiio41PRUEoDFPqfxLPlSmx
bandit2@bandit:~$ ^C
bandit2@bandit:~$ ^C
bandit2@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit3@bandit.labs.overthewire.org -p 2220
```

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

bandit3@bandit.labs.overthewire.org's password:
Permission denied, please try again.
bandit3@bandit.labs.overthewire.org's password:
```



```
bandit2@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit3@bandit.labs.overthewire.org -p 2220
```

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

bandit3@bandit.labs.overthewire.org's password:
Permission denied, please try again.
bandit3@bandit.labs.overthewire.org's password:
```

```
 www.  `----' ver   `----' he   `----'" ire.org


Welcome to OverTheWire!

If you find any problems, please report them to the #wargames channel on
discord or IRC.

--[ Playing the games ]--

  This machine might hold several wargames.
  If you are playing "somegame", then:
```

Level-4

```
For support, questions or comments, contact us on discord or IRC.

Enjoy your stay!

bandit4@bandit:~$ ls -alps
total 24
4 drwxr-xr-x  3 root root 4096 Sep 19 07:08 ./
4 drwxr-xr-x 70 root root 4096 Sep 19 07:09 ../
4 -rw-r--r--  1 root root  220 Mar 31  2024 .bash_logout
4 -rw-r--r--  1 root root 3771 Mar 31  2024 .bashrc
4 drwxr-xr-x  2 root root 4096 Sep 19 07:08 inhere/
4 -rw-r--r--  1 root root  807 Mar 31  2024 .profile
bandit4@bandit:~$ cat inhere/-file0
cat: inhere/-file0: No such file or directory
bandit4@bandit:~$ cd inhere
bandit4@bandit:~/inhere$ cd inhere/
-bash: cd: inhere/: No such file or directory
bandit4@bandit:~/inhere$ ls -al
total 48
drwxr-xr-x 2 root     root     4096 Sep 19 07:08 .
drwxr-xr-x 3 root     root     4096 Sep 19 07:08 ..
-rw-r----- 1 bandit5 bandit4    33 Sep 19 07:08 -file00
-rw-r----- 1 bandit5 bandit4    33 Sep 19 07:08 -file01
-rw-r----- 1 bandit5 bandit4    33 Sep 19 07:08 -file02
-rw-r----- 1 bandit5 bandit4    33 Sep 19 07:08 -file03
-rw-r----- 1 bandit5 bandit4    33 Sep 19 07:08 -file04
-rw-r----- 1 bandit5 bandit4    33 Sep 19 07:08 -file05
-rw-r----- 1 bandit5 bandit4    33 Sep 19 07:08 -file06
-rw-r----- 1 bandit5 bandit4    33 Sep 19 07:08 -file07
-rw-r----- 1 bandit5 bandit4    33 Sep 19 07:08 -file08
-rw-r----- 1 bandit5 bandit4    33 Sep 19 07:08 -file09
bandit4@bandit:~/inhere$ find . -type f | xargs file
./-file08: data
./-file02: data
./-file09: data
./-file01: data
./-file00: data
./-file05: data
./-file07: ASCII text
./-file03: data
./-file06: data
./-file04: data
```

```
Enjoy your stay!

bandit3@bandit:~$ ls -alps
total 24
4 drwxr-xr-x  3 root root 4096 Sep 19 07:08 ./
4 drwxr-xr-x 70 root root 4096 Sep 19 07:09 ../
4 -rw-r--r--  1 root root  220 Mar 31  2024 .bash_logout
4 -rw-r--r--  1 root root 3771 Mar 31  2024 .bashrc
4 drwxr-xr-x  2 root root 4096 Sep 19 07:08 inhere/
4 -rw-r--r--  1 root root  807 Mar 31  2024 .profile
bandit3@bandit:~$ c inhere/
c: command not found
bandit3@bandit:~$ cd inhere/
bandit3@bandit:~/inhere$ ls -al
total 12
drwxr-xr-x 2 root     root     4096 Sep 19 07:08 .
drwxr-xr-x 3 root     root     4096 Sep 19 07:08 ..
-rw-r----- 1 bandit4 bandit3    33 Sep 19 07:08 ...Hiding-From-You
bandit3@bandit:~/inhere$ cat .hidden
cat: .hidden: No such file or directory
bandit3@bandit:~/inhere$ cat inhere/...Hiding-From-You
cat: inhere/...Hiding-From-You: No such file or directory
bandit3@bandit:~/inhere$ cd ..
bandit3@bandit:~$ cat inhere/...Hiding-From-You
2WmrDFRmJIq3IPxneAaMGhap0pFhF3NJ
bandit3@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit4@bandit.labs.overthewire.org -p 2220


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


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

bandit4@bandit.labs.overthewire.org's password:
```

```
bandit4@bandit:~$ cd inhere
bandit4@bandit:~/inhere$ cd inhere/
-bash: cd: inhere/: No such file or directory
bandit4@bandit:~/inhere$ ls -al
total 48
drwxr-xr-x 2 root    root    4096 Sep 19 07:08 .
drwxr-xr-x 3 root    root    4096 Sep 19 07:08 ..
-rw-r----- 1 bandit5 bandit4   33 Sep 19 07:08 -file00
-rw-r----- 1 bandit5 bandit4   33 Sep 19 07:08 -file01
-rw-r----- 1 bandit5 bandit4   33 Sep 19 07:08 -file02
-rw-r----- 1 bandit5 bandit4   33 Sep 19 07:08 -file03
-rw-r----- 1 bandit5 bandit4   33 Sep 19 07:08 -file04
-rw-r----- 1 bandit5 bandit4   33 Sep 19 07:08 -file05
-rw-r----- 1 bandit5 bandit4   33 Sep 19 07:08 -file06
-rw-r----- 1 bandit5 bandit4   33 Sep 19 07:08 -file07
-rw-r----- 1 bandit5 bandit4   33 Sep 19 07:08 -file08
-rw-r----- 1 bandit5 bandit4   33 Sep 19 07:08 -file09
bandit4@bandit:~/inhere$ find . -type f | xargs file
./-file08: data
./-file02: data
./-file09: data
./-file01: data
./-file00: data
./-file05: data
./-file07: ASCII text
./-file03: data
./-file06: data
./-file04: data
bandit4@bandit:~/inhere$ man xargs
bandit4@bandit:~/inhere$ cat ./file07
cat: ./file07: No such file or directory
bandit4@bandit:~/inhere$ cat ./-file07
4oQYVPkxZOOEOO5pTW81FB8j8lxXGUQw
bandit4@bandit:~/inhere$ exit
logout
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit5@bandit.labs.overthewire.org -p 2220
```

Level-5

```
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit5@bandit.labs.overthewire.org -p 2220


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

bandit5@bandit.labs.overthewire.org's password:


  www. `----` ver   `---` he     `---`" ire.org


Welcome to OverTheWire!

If you find any problems, please report them to the #wargames channel on
discord or IRC.

--[ Playing the games ]--

  This machine might hold several wargames.
  If you are playing "somegame", then:

    * USERNAMES are somegame0, somegame1, ...
    * Most LEVELS are stored in /somegame/.
    * PASSWORDS for each level are stored in /etc/somegame_pass/.
```

```
bandit5@bandit:~$ ls -alps
total 24
4 drwxr-xr-x  3 root root    4096 Sep 19 07:08 ./
4 drwxr-xr-x 70 root root    4096 Sep 19 07:09 ../
4 -rw-r--r--  1 root root     220 Mar 31  2024 .bash_logout
4 -rw-r--r--  1 root root    3771 Mar 31  2024 .bashrc
4 drwxr-x--- 22 root bandit5 4096 Sep 19 07:08 inhere/
4 -rw-r--r--  1 root root     807 Mar 31  2024 .profile
bandit5@bandit:~$ cd inhere
bandit5@bandit:~/inhere$ ls -al
total 88
drwxr-x--- 22 root bandit5 4096 Sep 19 07:08 .
drwxr-xr-x  3 root root    4096 Sep 19 07:08 ..
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere00
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere01
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere02
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere03
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere04
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere05
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere06
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere07
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere08
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere09
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere10
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere11
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere12
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere13
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere14
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere15
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere16
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere17
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere18
drwxr-x---  2 root bandit5 4096 Sep 19 07:08 maybehere19
bandit5@bandit:~/inhere$ find . -type f -size +0c -exec file {} \;| grep "ASCII text"
./maybehere02/.file1: ASCII text, with very long lines (6350)
./maybehere02/-file1: ASCII text, with very long lines (3800)
./maybehere02/spaces file1: ASCII text, with very long lines (6745)
./maybehere02/.file2: ASCII text, with very long lines (2576)
./maybehere02/spaces file2: ASCII text, with very long lines (8487)
./maybehere19/.file1: ASCII text, with very long lines (7208)
./maybehere19/-file1: ASCII text, with very long lines (6301)
```

```
./maybehere04/spaces file2: ASCII text, with very long lines (2496)
./maybehere13/.file1: ASCII text, with very long lines (5257)
./maybehere13/-file1: ASCII text, with very long lines (1358)
./maybehere13/spaces file1: ASCII text, with very long lines (3951)
./maybehere13/.file2: ASCII text, with very long lines (1422)
./maybehere13/-file2: ASCII text, with very long lines (8951)
./maybehere13/spaces file2: ASCII text, with very long lines (951)
./maybehere18/.file1: ASCII text, with very long lines (5701)
./maybehere18/-file1: ASCII text, with very long lines (9696)
./maybehere18/spaces file1: ASCII text, with very long lines (7333)
./maybehere18/.file2: ASCII text
./maybehere18/-file2: ASCII text, with very long lines (2083)
./maybehere18/spaces file2: ASCII text, with very long lines (6347)
./maybehere16/.file1: ASCII text, with very long lines (5425)
./maybehere16/-file1: ASCII text, with very long lines (4276)
./maybehere16/spaces file1: ASCII text, with very long lines (9772)
./maybehere16/-file2: ASCII text, with very long lines (5300)
./maybehere16/.file2: ASCII text, with very long lines (8471)
./maybehere16/spaces file2: ASCII text, with very long lines (3145)
bandit5@bandit:~/inhere$ find . -type f -size +1033c -executable;
./maybehere02/.file1
./maybehere02/-file1
./maybehere02/spaces file1
./maybehere02/spaces file3
./maybehere02/.file3
./maybehere19/.file1
./maybehere19/-file1
./maybehere19/spaces file1
./maybehere19/spaces file3
./maybehere08/.file1
./maybehere08/-file1
./maybehere08/-file3
./maybehere08/spaces file3
./maybehere08/.file3
./maybehere15/.file1
./maybehere15/-file1
./maybehere15/spaces file1
./maybehere15/-file3
./maybehere15/spaces file3
./maybehere03/.file1
./maybehere03/spaces file1
```

Level-6

```
logout
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit6@bandit.labs.overthewire.org -p 2220
```

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

bandit6@bandit.labs.overthewire.org's password:
```

```
www. `----' ver       '----' he       '---' ire.org


Welcome to OverTheWire!

If you find any problems, please report them to the #wargames channel on
discord or IRC.

--[ Playing the games ]--

  This machine might hold several wargames.
  If you are playing "somegame", then:

    * USERNAMES are somegame0, somegame1, ...
    * Most LEVELS are stored in /somegame/.
```

```
bandit6@bandit:~$ ls -alps
total 20
4 drwxr-xr-x  2 root root 4096 Sep 19 07:08 ./
4 drwxr-xr-x 70 root root 4096 Sep 19 07:09 ../
4 -rw-r--r--  1 root root  220 Mar 31  2024 .bash_logout
4 -rw-r--r--  1 root root 3771 Mar 31  2024 .bashrc
4 -rw-r--r--  1 root root  807 Mar 31  2024 .profile
bandit6@bandit:~$ find . -type f size 33c;
find: paths must precede expression: `size'
bandit6@bandit:~$ find . -type f -size 33c;
bandit6@bandit:~$ find . -size 33c -exe file {} \;
find: unknown predicate `-exe'
bandit6@bandit:~$ find . -type f -size 33c -exec file {} \;
bandit6@bandit:~$ find / -type f -user bandit7 -group bandit6 -size 33c;
find: '/drifter/drifter14_src/axTLS': Permission denied
find: '/root': Permission denied
find: '/snap': Permission denied
find: '/tmp': Permission denied
find: '/proc/tty/driver': Permission denied
find: '/proc/670889/task/670889/fdinfo/6': No such file or directory
find: '/proc/670889/fdinfo/5': No such file or directory
find: '/home/bandit31-git': Permission denied
find: '/home/ubuntu': Permission denied
find: '/home/bandit5/inhere': Permission denied
find: '/home/bandit30-git': Permission denied
find: '/home/drifter8/chroot': Permission denied
find: '/home/drifter6/data': Permission denied
find: '/home/bandit29-git': Permission denied
find: '/home/bandit28-git': Permission denied
find: '/home/bandit27-git': Permission denied
find: '/lost+found': Permission denied
find: '/etc/polkit-1/rules.d': Permission denied
find: '/etc/multipath': Permission denied
find: '/etc/stunnel': Permission denied
find: '/etc/xinetd.d': Permission denied
find: '/etc/credstore.encrypted': Permission denied
find: '/etc/ssl/private': Permission denied
find: '/etc/sudoers.d': Permission denied
find: '/etc/credstore': Permission denied
find: '/dev/shm': Permission denied
find: '/dev/mqueue': Permission denied
find: '/var/log/amazon': Permission denied
```

```
find: '/run/screen/S-bandit25': Permission denied
find: '/run/screen/S-bandit18': Permission denied
find: '/run/screen/S-bandit24': Permission denied
find: '/run/screen/S-bandit21': Permission denied
find: '/run/sudo': Permission denied
find: '/run/user/11017': Permission denied
find: '/run/user/11022': Permission denied
find: '/run/user/11013': Permission denied
find: '/run/user/11018': Permission denied
find: '/run/user/11014': Permission denied
find: '/run/user/11021': Permission denied
find: '/run/user/11023': Permission denied
find: '/run/user/11016': Permission denied
find: '/run/user/11019': Permission denied
find: '/run/user/11020': Permission denied
find: '/run/user/11000': Permission denied
find: '/run/user/11001': Permission denied
find: '/run/user/20002': Permission denied
find: '/run/user/11024': Permission denied
find: '/run/user/11002': Permission denied
find: '/run/user/11025': Permission denied
find: '/run/user/11009': Permission denied
find: '/run/user/11003': Permission denied
find: '/run/user/11006/systemd/inaccessible/dir': Permission denied
find: '/run/user/11012': Permission denied
find: '/run/user/11032': Permission denied
find: '/run/user/11015': Permission denied
find: '/run/user/11005': Permission denied
find: '/run/user/11004': Permission denied
find: '/run/user/11007': Permission denied
find: '/run/user/11028': Permission denied
find: '/run/user/11008': Permission denied
find: '/run/user/11027': Permission denied
find: '/run/chrony': Permission denied
find: '/run/udisks2': Permission denied
bandit6@bandit:~$ cat /var/lib/dpkg/iunfo/bandit7.password
cat: /var/lib/dpkg/iunfo/bandit7.password: No such file or directory
bandit6@bandit:~$ cat /var/lib/dpkg/info/bandit7.password
morbNTDkSW6jIlUc0ymOdMaLnOlFVAaj
bandit6@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
```

Level-7

Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit7@bandit.labs.overthewire.org -p 2220

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

bandit7@bandit.labs.overthewire.org's password:

Welcome to OverTheWire!

If you find any problems, please report them to the #wargames channel on
discord or IRC.

--[Playing the games]--

  This machine might hold several wargames.
  If you are playing "somegame", then:

    * USERNAMES are somegame0, somegame1, ...
    * Most LEVELS are stored in /somegame/.
    * PASSWORDS for each level are stored in /etc/somegame_pass/.

--[Tips]--

  This machine has a 64bit processor and many security-features enabled
  by default, although ASLR has been switched off. The following
  compiler flags might be interesting:

    -m32   compile for 32bit
    -fno-stack-protector disable ProPolice
    -Wl,-z,norelro   disable relro

  In addition, the execstack tool can be used to flag the stack as
  executable on ELF binaries.

  Finally, network-access is limited for most levels by a local
  firewall.

--[Tools]--

 For your convenience we have installed a few useful tools which you can find
 in the following locations:

    * gef (https://github.com/hugsy/gef) in /opt/gef/
    * pwndbg (https://github.com/pwndbg/pwndbg) in /opt/pwndbg/
    * gdbinit (https://github.com/gdbinit/Gdbinit) in /opt/gdbinit/
    * pwntools (https://github.com/Gallopsled/pwntools)
    * radare2 (http://www.radare.org/)

--[More information]--

 For more information regarding individual wargames, visit
 http://www.overthewire.org/wargames/

 For support, questions or comments, contact us on discord or IRC.

 Enjoy your stay!

bandit7@bandit:~$ cat data.txt | grep "milliont"
milliont   dfwvzFQi4mU0wfNbFOe9RoWskMLg7eEc
bandit7@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.

Level-8

bandit8@bandit.labs.overthewire.org's password:

Welcome to OverTheWire!

If you find any problems, please report them to the #wargames channel on
discord or IRC.

--[Playing the games]--

  This machine might hold several wargames.
  If you are playing "somegame", then:

      * USERNAMES are somegame0, somegame1, ...
      * Most LEVELS are stored in /somegame/.

executable on ELF binaries.

  Finally, network-access is limited for most levels by a local
  firewall.

--[Tools]--

  For your convenience we have installed a few useful tools which you can find
  in the following locations:

      * gef (https://github.com/hugsy/gef) in /opt/gef/
      * pwndbg (https://github.com/pwndbg/pwndbg) in /opt/pwndbg/
      * gdbinit (https://github.com/gdbinit/Gdbinit) in /opt/gdbinit/
      * pwntools (https://github.com/Gallopsled/pwntools)
      * radare2 (http://www.radare.org/)

--[More information]--

  For more information regarding individual wargames, visit
  http://www.overthewire.org/wargames/

  For support, questions or comments, contact us on discord or IRC.

  Enjoy your stay!

bandit8@bandit:~$ ls -alps
total 56
 4 drwxr-xr-x 2 root   root   4096 Sep 19 07:08 ./
 4 drwxr-xr-x 70 root   root   4096 Sep 19 07:09 ../
 4 -rw-r--r-- 1 root   root   220 Mar 31 2024 .bash_logout
 4 -rw-r--r-- 1 root   root   3771 Mar 31 2024 .bashrc
36 -rw-r----- 1 bandit9 bandit8 33033 Sep 19 07:08 data.txt
 4 -rw-r--r-- 1 root   root   807 Mar 31 2024 .profile
bandit8@bandit:~$ tr -s '[:space:]' '\n' < data.tsx | sort | uniq -c | awk '$1 == 1 {print $2}'
-bash: data.tsx: No such file or directory
bandit8@bandit:~$ tr -s '[:space:]' '\n' < data.txt | sort | uniq -c | awk '$1 == 1 {print $2}'
4CKMh1JI91bUIZZPXDqGanal4xvAg0JM
bandit8@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit9@bandit.labs.overthewire.org -p 2220

Level-9


```
Enjoy your stay!
bandit9@bandit:~$ ls -alps
total 40
 4 drwxr-xr-x  2 root      root      4096 Sep 19 07:08 ./
 4 drwxr-xr-x 70 root      root      4096 Sep 19 07:09 ../
 4 -rw-r--r--  1 root      root       220 Mar 31  2024 .bash_logout
 4 -rw-r--r--  1 root      root      3771 Mar 31  2024 .bashrc
20 -rw-r-----  1 bandit10 bandit9  19379 Sep 19 07:08 data.txt
 4 -rw-r--r--  1 root      root       807 Mar 31  2024 .profile
bandit9@bandit:~$ grep -o "=.*" data.txt
grep: data.txt: binary file matches
bandit9@bandit:~$ grep -o '= *[A-Za-z0-9 ,.\-]*'
^[[A
bandit9@bandit:~$ grep -o '= *[A-Za-z0-9 ,.\-]*' data.txt
grep: data.txt: binary file matches
bandit9@bandit:~$ strings data.txt | grep -o '= *[A-Za-z0-9 ,.\-]*'
=
=
=
=
=
=
=
=
=
=
= the
=
=.dEXU
=
=
=
=
=
= passwordi
```

Level-10


```
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit10@bandit.labs.overthewire.org -p 2220
```

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

bandit10@bandit.labs.overthewire.org's password:
```

```
Welcome to OverTheWire!

If you find any problems, please report them to the #wargames channel on
discord or IRC.

--[ Playing the games ]--

  This machine might hold several wargames.
  If you are playing "somegame", then:

    * USERNAMES are somegame0, somegame1, ...
    * Most LEVELS are stored in /somegame/.
    * PASSWORDS for each level are stored in /etc/somegame_pass/.
```

```
        -m32                    compile for 32bit
        -fno-stack-protector    disable ProPolice
        -Wl,-z,norelro          disable relro

  In addition, the execstack tool can be used to flag the stack as
  executable on ELF binaries.

  Finally, network-access is limited for most levels by a local
  firewall.

--[ Tools ]--

  For your convenience we have installed a few useful tools which you can find
  in the following locations:

    * gef (https://github.com/hugsy/gef) in /opt/gef/
    * pwndbg (https://github.com/pwndbg/pwndbg) in /opt/pwndbg/
    * gdbinit (https://github.com/gdbinit/Gdbinit) in /opt/gdbinit/
    * pwntools (https://github.com/Gallopsled/pwntools)
    * radare2 (http://www.radare.org/)

--[ More information ]--

  For more information regarding individual wargames, visit
  http://www.overthewire.org/wargames/

  For support, questions or comments, contact us on discord or IRC.

  Enjoy your stay!

bandit10@bandit:~$ ls -alps
total 24
4 drwxr-xr-x  2 root     root     4096 Sep 19 07:08 ./
4 drwxr-xr-x 70 root     root     4096 Sep 19 07:09 ../
4 -rw-r--r--  1 root     root      220 Mar 31  2024 .bash_logout
4 -rw-r--r--  1 root     root     3771 Mar 31  2024 .bashrc
4 -rw-r-----  1 bandit11 bandit10   69 Sep 19 07:08 data.txt
4 -rw-r--r--  1 root     root      807 Mar 31  2024 .profile
bandit10@bandit:~$ grep -o -P '\b[A-Za-z0-9+/]{4,}={0,2}\b' data.txt
VGhlIHBhc3N3b3JkIGlzIGR0UjE3M2ZaS2ZIwUlJzREZTR3NnMlJXbnBOVmozcVJyCg
bandit10@bandit:~$ exit
```

Level-11

Level-12

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

bandit12@bandit.labs.overthewire.org's password:

Welcome to OverTheWire!

If you find any problems, please report them to the #wargames channel on
discord or IRC.

--[Playing the games]--

  This machine might hold several wargames.
  If you are playing "somegame", then:

    * USERNAMES are somegame0, somegame1

  Enjoy your stay!

bandit12@bandit:~$ man xxd
bandit12@bandit:~$
bandit12@bandit:~$ mkdir /tmp/kritika
bandit12@bandit:~$ cp data.txt /tmp/kritika
bandit12@bandit:~$ cd data.txt /tmp/kritika
-bash: cd: too many arguments
bandit12@bandit:~$ cd /tmp/kritika
bandit12@bandit:/tmp/kritika$ ls
data.txt
bandit12@bandit:/tmp/kritika$ xxd r data.txt > data
xxd: r: No such file or directory
bandit12@bandit:/tmp/kritika$ xxd -r data.txt > data
bandit12@bandit:/tmp/kritika$ ls
data data.txt
bandit12@bandit:/tmp/kritika$ file data
data: gzip compressed data, was "data2.bin", last modified: Thu Sep 19 07:08:15 2024, max compression, from Unix, original size modulo 2^32 574
bandit12@bandit:/tmp/kritika$ man gzip
bandit12@bandit:/tmp/kritika$ mv data file.gz
bandit12@bandit:/tmp/kritika$ gzip -d file.gz
bandit12@bandit:/tmp/kritika$ ls
data.txt file
bandit12@bandit:/tmp/kritika$ file file
file: bzip2 compressed data, block size = 900k
bandit12@bandit:/tmp/kritika$ mv file file.bz2
bandit12@bandit:/tmp/kritika$ man bzip2
bandit12@bandit:/tmp/kritika$ bzip2 -d file.bz2
bandit12@bandit:/tmp/kritika$ ls
data.txt file
bandit12@bandit:/tmp/kritika$ file file
file: gzip compressed data, was "data4.bin", last modified: Thu Sep 19 07:08:15 2024, max compression, from Unix, original size modulo 2^32 20480
bandit12@bandit:/tmp/kritika$ mv file file.gz
bandit12@bandit:/tmp/kritika$ gzip -d file.gz
bandit12@bandit:/tmp/kritika$ file file
file: POSIX tar archive (GNU)
bandit12@bandit:/tmp/kritika$ mv file file.tar
bandit12@bandit:/tmp/kritika$ tar xf file.tar
bandit12@bandit:/tmp/kritika$ ls
data5.bin data.txt file.tar
bandit12@bandit:/tmp/kritika$ exit
logout

Level-13


```
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit13@bandit.labs.overthewire.org -p 2220
```

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

bandit13@bandit.labs.overthewire.org's password:
```

```
Welcome to OverTheWire!

If you find any problems, please report them to the #wargames channel on
discord or IRC.

--[ Playing the games ]--

  This machine might hold several wargames.
  If you are playing "somegame", then:

    * USERNAMES are somegame0, somegame1, ...
    * Most LEVELS are stored in /somegame/.
    * PASSWORDS for each level are stored in /etc/somegame_pass/.
```



```
  Enjoy your stay!

bandit13@bandit:~$ ls -alps
total 24
4 drwxr-xr-x  2 root    root     4096 Sep 19 07:08 ./
4 drwxr-xr-x 70 root    root     4096 Sep 19 07:09 ../
4 -rw-r--r--  1 root    root      220 Mar 31  2024 .bash_logout
4 -rw-r--r--  1 root    root     3771 Mar 31  2024 .bashrc
4 -rw-r--r--  1 root    root      807 Mar 31  2024 .profile
4 -rw-r-----  1 bandit14 bandit13 1679 Sep 19 07:08 sshkey.private
bandit13@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit14@bandit.labs.overthewire.org -p 2220
```

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

bandit14@bandit.labs.overthewire.org's password:
```

Level-14

kritikaagrahari@kritikaagrahari-Hp-Laptop-15s: ~

```
For support, questions or comments, contact us on discord or IRC.

  Enjoy your stay!

bandit13@bandit:~$ ls -alps
total 24
4 drwxr-xr-x  2 root     root     4096 Sep 19 07:08 /
4 drwxr-xr-x 70 root     root     4096 Sep 19 07:09 ../
4 -rw-r--r--  1 root     root      220 Mar 31  2024 .bash_logout
4 -rw-r--r--  1 root     root     3771 Mar 31  2024 .bashrc
4 -rw-r--r--  1 root     root      807 Mar 31  2024 .profile
4 -rw-r-----  1 bandit14 bandit13 1679 Sep 19 07:08 sshkey.private
bandit13@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit14@bandit.labs.overthewire.org -p 2220
```

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

bandit14@bandit.labs.overthewire.org's password:
```

```
www.     ver        he      ire.org
```

kritikaagrahari@kritikaagrahari-Hp-Laptop-15s: ~

```
 * pwntools (https://github.com/Gallopsled/pwntools)
 * radare2 (http://www.radare.org/)

--[ More information ]--

  For more information regarding individual wargames, visit
  http://www.overthewire.org/wargames/

  For support, questions or comments, contact us on discord or IRC.

  Enjoy your stay!

bandit14@bandit:~$ cat /etc/bandit_pass/bandit14
MU4VWeTyJk8ROof1qqmcBPaLh7lDCPvS
bandit14@bandit:~$ nc localhost 30000

MU4VWeTyJk8ROof1qqmcBPaLh7lDCPvS
Correct!
8xCjnmgoKbGLhHFAZlGE5Tmu4M2tKJQo

^C
bandit14@bandit:~$
bandit14@bandit:~$ ssh bandit15@bandit.labs.overthewire.org -p 2220
The authenticity of host '[bandit.labs.overthewire.org]: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
Failed to add the host to the list of known hosts (/home/bandit14/.ssh/known_hosts).
```

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

!!! You are trying to log into this SSH server with a password on port 2220 from localhost.
!!! Connecting from localhost is blocked to conserve resources.
!!! Please log out and log in again.
```

Level-15


```
 * pwntools (https://github.com/Gallopsled/pwntools)
 * radare2 (http://www.radare.org/)

--[ More information ]--

 For more information regarding individual wargames, visit
 http://www.overthewire.org/wargames/

 For support, questions or comments, contact us on discord or IRC.

 Enjoy your stay!

bandit14@bandit:~$ cat /etc/bandit_pass/bandit14
MU4VWeTyJk8ROof1qqmcBPaLh7lDCPvS
bandit14@bandit:~$ nc localhost 30000

MU4VWeTyJk8ROof1qqmcBPaLh7lDCPvS
Correct!
8xCjnmgoKbGLhHFAZlGE5Tmu4M2tKJQo

^C
bandit14@bandit:~$
bandit14@bandit:~$ ssh bandit15@bandit.labs.overthewire.org -p 2220
The authenticity of host '[bandit.labs.overthewire.org]: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
Failed to add the host to the list of known hosts (/home/bandit14/.ssh/known_hosts).
```

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

!!! You are trying to log into this SSH server with a password on port 2220 from localhost.
!!! Connecting from localhost is blocked to conserve resources.
!!! Please log out and log in again.
```



```
 Enjoy your stay!

bandit15@bandit:~$ ls -alps
total 24
4 drwxr-xr-x  2 root     root     4096 Sep 19 07:08 ./
4 drwxr-xr-x 70 root     root     4096 Sep 19 07:09 ../
4 -rw-r-----  1 bandit15 bandit15   33 Sep 19 07:08 .bandit14.password
4 -rw-r--r--  1 root     root      220 Mar 31  2024 .bash_logout
4 -rw-r--r--  1 root     root     3771 Mar 31  2024 .bashrc
4 -rw-r--r--  1 root     root      807 Mar 31  2024 .profile
bandit15@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
kritikaagrahari@kritikaagrahari-Hp-Laptop-15s:~$ ssh bandit16@bandit.labs.overthewire.org -p 2220
```

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

bandit16@bandit.labs.overthewire.org's password:
```

Level-16