

## TASK – 5

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## Bandit war game :

A screenshot of a terminal window titled "Terminal" with a date and time of "Jun 26 12:14 PM". The terminal shows a multi-tabbed interface with three tabs: "shanmukh@shanmukh-Dell: ~", "bandit13@bandit: ~", and "shanmukh@shanmukh-Dell: ~". The active tab is "shanmukh@shanmukh-Dell: ~". The user has executed the command `ssh bandit@bandit.labs.overthewire.org -p 2220`. The terminal output shows the SSH connection details, including the host `bandit@bandit.labs.overthewire.org`'s password and the Linux version `bandit.0tw.local 5.4.8 x86_64 GNU/Linux`. A large ASCII art logo for "OverTheWire" is displayed, followed by the text "Welcome to OverTheWire!". Below this, a message asks the user to report problems to Steven or morla on `irc.overthewire.org`. The terminal then shows the prompt `--[ Playing the games ]--`. A message states that the machine might hold several wargames and provides instructions for playing "sonegame". It lists that usernames are `sonegame0`, `sonegame1`, etc., levels are stored in `/sonegame/`, and passwords are stored in `/etc/sonegame_pass/`. It also mentions that `homedirectories` is disabled and advises creating a hard-to-guess directory in `/tmp/`. Finally, it provides a list of "Please play nice" rules: don't leave orphan processes running, don't leave exploit-files laying around, don't annoy other players, don't post passwords or spoilers, and again, DON'T POST SPOILERS! It concludes with a note that this includes writeups of the solution on a blog or website. The terminal ends with the prompt `--[ Tips ]--`.

A screenshot of a Linux terminal window titled "Terminal". The terminal shows a user named "shankmukh@shankmukh-Dell:" logging into a remote host "bandit13@bandit:". The user runs several commands:

- `* gdbint`: A message about a GitHub repository for GDBint.
- `* pwnools`: A message about a GitHub repository for pwnools.
- `* radare2`: A message about a website for Radare2.
- `* checksec.sh`: A message about a website for checksec.sh.

The user then runs `--[ More Information ]--`, which displays information about OverTheWire, including links to their website and IRC channel, and instructions on how to get support. Next, the user runs `bandit@gbandit1:~$ ls -alps`, which lists files in the current directory. The output shows a file named `readme`. The user then runs `bandit@gbandit1:~$ cat readme`, which displays the password for the next bandit user: `b09jbbUNN7ktD7800spQdtuHC3MY1`. Finally, the user runs `bandit@gbandit1:~$ exit`, which logs them out. The terminal also shows the connection to the OverTheWire game server being closed and the user being prompted to report any problems.















```
Activities Terminal Jun 26 12:16 PM
shannukh@shannukh-Dell: ~
bandit13@bandit: ~
bandit13@bandit: ~
shannukh@shannukh-Dell: ~

00000200: 7426 072f fc20 ab05 9002 b3fc 5dc9 14e1 18./[.....]...
00000250: 4242 393c 7320 90f7 681d 3d02 0000 B09<s ..h.....
bandit12@bandit:~$ man xxd
bandit12@bandit:~$ 
bandit12@bandit:~$ ls
data.txt
bandit12@bandit:~$ xxd -r data.txt > data
-bash: data: Permission denied
bandit12@bandit:~$ mkdir /tmp/shannukh
mkdir: cannot create directory '/tmp/shannukh': No such file or directory
bandit12@bandit:~$ mkdir /tmp/shannukhe
mkdir: cannot create directory '/tmp/shannukhe': No such file or directory
bandit12@bandit:~$ mkdir /tmp/alex1s
mkdir: cannot create directory '/tmp/alex1s': No such file or directory
bandit12@bandit:~$ ls
data.txt
bandit12@bandit:~$ mkdir /tmp/shannukh
bandit12@bandit:~$ cd /tmp/shannukh
bandit12@bandit:/tmp/shannukh$ ls
data.txt
bandit12@bandit:/tmp/shannukh$ xxd -r data.txt > data
bandit12@bandit:/tmp/shannukh$ ls
data data.txt
bandit12@bandit:/tmp/shannukh$ file data
data: gzip compressed data, was "data2.bin", last modified: Thu May 7 18:14:30 2020, max compression, from Unix
bandit12@bandit:/tmp/shannukh$ man gzip
bandit12@bandit:/tmp/shannukh$ mv data file.gz
bandit12@bandit:/tmp/shannukh$ gzip -d file.gz
bandit12@bandit:/tmp/shannukh$ ls
data.txt file
bandit12@bandit:/tmp/shannukh$ file file
file: bzip2 compressed data, block size = 900k
bandit12@bandit:/tmp/shannukh$ mv file file.bz2
bandit12@bandit:/tmp/shannukh$ man bzip2
bandit12@bandit:/tmp/shannukh$ ls
data.txt file.bz2
bandit12@bandit:/tmp/shannukh$ bzip2 -d file.bz2
bandit12@bandit:/tmp/shannukh$ ls
data.txt file
bandit12@bandit:/tmp/shannukh$ file file
file: gzip compressed data, was "data4.bin", last modified: Thu May 7 18:14:30 2020, max compression, from Unix
bandit12@bandit:/tmp/shannukh$ mv file file.gz
bandit12@bandit:/tmp/shannukh$ gzip -d file.gz
bandit12@bandit:/tmp/shannukh$ ls
data.txt file
bandit12@bandit:/tmp/shannukh$ file file
file: POSIX tar archive (GNU)
bandit12@bandit:/tmp/shannukh$ mv file file.tar
bandit12@bandit:/tmp/shannukh$ tar xf file.tar
bandit12@bandit:/tmp/shannukh$ ls
data5.bin data.txt file tar
data5.bin data.txt file tar
```

```
Activities Terminal Jun 26 12:16 PM
shannukh@shannukh-Dell: ~
bandit13@bandit: ~
bandit13@bandit: ~
shannukh@shannukh-Dell: ~

data.txt file
bandit12@bandit:/tmp/shannukh$ file file
file: POSIX tar archive (GNU)
bandit12@bandit:/tmp/shannukh$ mv file file.tar
bandit12@bandit:/tmp/shannukh$ tar xf file.tar
bandit12@bandit:/tmp/shannukh$ ls
data5.bin data.txt file tar
bandit12@bandit:/tmp/shannukh$ file data5.bin
data5.bin: POSIX tar archive (GNU)
bandit12@bandit:/tmp/shannukh$ rm file.tar
bandit12@bandit:/tmp/shannukh$ rm data
rm: cannot remove 'data': No such file or directory
bandit12@bandit:/tmp/shannukh$ ls
data5.bin data.txt
bandit12@bandit:/tmp/shannukh$ rm data
rm: cannot remove 'data': No such file or directory
bandit12@bandit:/tmp/shannukh$ rm data.txt
bandit12@bandit:/tmp/shannukh$ ls
data5.bin
bandit12@bandit:/tmp/shannukh$ file file
file: cannot open 'file' (No such file or directory)
bandit12@bandit:/tmp/shannukh$ file data5.bin
data5.bin: POSIX tar archive (GNU)
bandit12@bandit:/tmp/shannukh$ mv data5.bin data.tar
bandit12@bandit:/tmp/shannukh$ tar xf data.tar
bandit12@bandit:/tmp/shannukh$ ls
data6.bin data.tar
bandit12@bandit:/tmp/shannukh$ file data6.bin
data6.bin: bzip2 compressed data, block size = 900k
bandit12@bandit:/tmp/shannukh$ mv data6.bin data.bz2
bandit12@bandit:/tmp/shannukh$ bzip2 -d data.bz2
bandit12@bandit:/tmp/shannukh$ ls
data data.tar
bandit12@bandit:/tmp/shannukh$ file file
file: cannot open 'file' (No such file or directory)
bandit12@bandit:/tmp/shannukh$ file data
data: POSIX tar archive (GNU)
bandit12@bandit:/tmp/shannukh$ mv data data.tar
bandit12@bandit:/tmp/shannukh$ ls
data5.tar
bandit12@bandit:/tmp/shannukh$ tar xf data.tar
bandit12@bandit:/tmp/shannukh$ ls
data8.bin data5.tar
bandit12@bandit:/tmp/shannukh$ file data8.bin
data8.bin: gzip compressed data, was "data9.bin", last modified: Thu May 7 18:14:30 2020, max compression, from Unix
bandit12@bandit:/tmp/shannukh$ mv data8.bin data.gz
bandit12@bandit:/tmp/shannukh$ gzip -d data.gz
bandit12@bandit:/tmp/shannukh$ ls
data data.tar
bandit12@bandit:/tmp/shannukh$ file data
data: ASCII text
bandit12@bandit:/tmp/shannukh$ cat data
The password is BZjycRLBfYkneahWxcV3ub2a10RpVL
exit
```



```
Activities Terminal Jun 26 12:16 PM
shankmukh@shankmukh-Dell: ~
bandit13@bandit: ~
bandit13@bandit: ~
shankmukh@shankmukh-Dell: ~

bandit13@bandit:~$ cat data
The password is 8ZjyCR1BMPYkneahWxcV3wbZa10RpVl
bandit13@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
shankmukh@shankmukh-Dell:~$ ssh bandit13@bandit.labs.overthewire.org -p 2220
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames
bandit13@bandit.labs.overthewire.org's password:
Linux bandit.otw.local 5.4.8 x86_64 GNU/Linux

  Oo4o
www...ver...he...ire.org

Welcome to OverTheWire!
If you find any problems, please report them to Steven or morla on
irc.overthewire.org.

--[ Playing the games ]--

This machine might hold several wargames.
If you are playing "somegame", then:
* USERNAMES are somegame0, somegame1, ...
* Host 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/ and /proc/ is disabled
so that users can not snoop on eachother. Files and directories with
easily guessable or short names will be periodically deleted!

Please play nice:
* don't leave orphan processes running
* don't leave exploit-files laying around
* don't annoy other players
* don't post passwords or spoilers
* create your own config file!
```

```
Activities Terminal Jun 26 12:16 PM
shankmukh@shankmukh-Dell: ~
bandit13@bandit: ~
bandit13@bandit: ~
shankmukh@shankmukh-Dell: ~

For support, questions or comments, contact us through IRC on
irc.overthewire.org #wargames.

Enjoy your stay!

bandit13@bandit:~$ ls
sshkey.private
bandit13@bandit:~$ ssh -l sshkey.private bandit14@localhost
Could not create directory '/home/bandit13/.ssh'.
The authenticity of host 'localhost (127.0.0.1)' can't be established.
ECDSA key fingerprint is SHA256:9BUL02Wt85496tCRkKlo20X30PnyPS8t5SRPbhczc.
Are you sure you want to continue connecting (yes/no)? no
Host key verification failed.
bandit13@bandit:~$ ssh -l sshkey.private bandit14@localhost
Could not create directory '/home/bandit13/.ssh'.
The authenticity of host 'localhost (127.0.0.1)' can't be established.
ECDSA key fingerprint is SHA256:9BUL02Wt85496tCRkKlo20X30PnyPS8t5SRPbhczc.
Are you sure you want to continue connecting (yes/no)? yes
Failed to add the host to the list of known hosts (/home/bandit13/.ssh/known_hosts).
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames
Linux bandit.otw.local 5.4.8 x86_64 GNU/Linux

  Oo4o
www...ver...he...ire.org

Welcome to OverTheWire!
If you find any problems, please report them to Steven or morla on
irc.overthewire.org.

--[ Playing the games ]--

This machine might hold several wargames.
If you are playing "somegame", then:
* USERNAMES are somegame0, somegame1, ...
* Host 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
```

```
Activities Terminal Jun 26 12:16 PM
shankmukh@shankmukh-Dell: ~
bandit13@bandit: ~
bandit13@bandit: ~
shankmukh@shankmukh-Dell: ~

* don't post passwords or spoilers
* again, DON'T POST SPOILERS!
This includes writeups of your solution on your blog or website!

--[ 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 usefull tools which you can find
in the following locations:

* gef (https://github.com/hugsy/gef) in /usr/local/gef/
* pwndbg (https://github.com/pwndbg/pwndbg) in /usr/local/pwndbg/
* peda (https://github.com/l0ng0d/peda.git) in /usr/local/peda/
* gdbint (https://github.com/gdbint/gdbint) in /usr/local/gdbint/
* pwntools (https://github.com/Gallopsled/pwntools)
* radare2 (https://www.radare.org/)
* checksec.sh (http://www.trapkit.de/tools/checksec.html) in /usr/local/bin/checksec.sh

--[ More Information ]--

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

For support, questions or comments, contact us through IRC on
irc.overthewire.org #wargames.

Enjoy your stay!

bandit14@bandit:~$ cat /etc/bandit_pass/bandit14
4wCvU1FwK8KLSH0zzznT8Ht0wUbb3e
bandit14@bandit:~$ nc localhost 30000
^C
bandit14@bandit:~$ exit
logout
Connection to localhost closed.
bandit13@bandit:~$ ssh bandit14@bandit.labs.overthewire.org -p 2220
ssh: connect to host bandit.labs.overthewire.org port 2220: Connection timed out
bandit13@bandit:~$
```

```
Activities Terminal Jun 26 12:17 PM
shankmukh@shankmukh-Dell: ~
shankmukh@shankmukh-Dell: ~
bandit13@bandit: ~
bandit13@bandit: ~
shankmukh@shankmukh-Dell: ~

shankmukh@shankmukh-Dell:~$ ssh bandit14@bandit.labs.overthewire.org -p 2220
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames

bandit14@bandit.labs.overthewire.org's password:
Linux bandit.0tw.local 5.4.8 x86_64 GNU/Linux

www. ver he tre.org

Welcome to OverTheWire!

If you find any problems, please report them to Steven or morla on
irc.overthewire.org.

--[ Playing the games ]--

This machine might hold several wargames.
If you are playing "s0m3g4m3", then:

* USERNAMES are s0m3g4m3, s0m3g4m3, ...
* Most LEVELS are stored in /s0m3g4m3/.
* PASSWORDS for each level are stored in /etc/s0m3g4m3_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/ and /proc/ is disabled
so that users can not snoop on eachother. Files and directories with
easily guessable or short names will be periodically deleted!

Please play nice:

* don't leave orphan processes running
* don't leave exploit-files laying around
* don't annoy other players
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* again, DON'T POST SPOILERS!
This includes writeups of your solution on your blog or website!

--[ Tips ]--

This machine has a 64bit processor and many security-features enabled
```



```
Activities Terminal Jun 26 12:17 PM shanmukh@shanmukh-Dell: -
shanmukh@shanmukh-Dell: - bandit13@bandit: - bandit13@bandit: - shanmukh@shanmukh-Dell: -

--[ Tools ]--
For your convenience we have installed a few usefull tools which you can find
in the following locations:
* gef (https://github.com/hugsy/gef) in /usr/local/gef/
* pwncat (https://github.com/pwndbg/pwncat) in /usr/local/pwndbg/
* peda (https://github.com/l0ngd/peda.git) in /usr/local/peda/
* gdbinit (https://github.com/gdbinit/gdbinit) in /usr/local/gdbinit/
* pwnTools (https://github.com/Gallopsled/pwntools)
* radare2 (https://www.radare.org)
* checksec.sh (http://www.trapkit.de/tools/checksec.html) in /usr/local/bin/checksec.sh

--[ More information ]--
For more information regarding individual wargames, visit
http://www.overthewire.org/wargames/
For support, questions or comments, contact us through IRC on
irc.overthewire.org #wargames.
Enjoy your stay!

bandit13@bandit:~$ cat /etc/bandit_pass/bandit15
BfMYroe26MYalil77FoDi9qh59eK5xNr
bandit13@bandit:~$ man nc | grep ssl
bandit13@bandit:~$ man nc
bandit13@bandit:~$ man ncat
bandit13@bandit:~$ man ncat | grep ssl
--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 (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
list of trusted certificates; these will also be used if available. Use --ssl-trustfile to give a custom list. Use -v
--ssl-cert certfile.pem (Specify SSL certificate)
the client (in connect mode). Use it in combination with --ssl-key.
--ssl-key keyfile.pem (Specify SSL private key)
--ssl-cert.
--ssl-trustfile cert.pem (List trusted certificates)
unless combined with --ssl-verify. The argument to this option is the name of a PEM file containing trusted
--ssl-ciphers cipherlist (Specify SSL ciphers)
http://www.openssl.org
bandit13@bandit:~$ ncat --ssl localhost 30001
nc
bandit13@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
shanmukh@shanmukh-Dell:~$
```

The passwords for the given levels of bandit war game is :

- 1)level 0-1: bandit0
- 2)level 1-2: boJ9jbbUNNfktd78OOpsqOltutMc3MY1
- 3)level 2-3: CV1DtqXWVFXTvM2F0k09SHz0YwRINYA9
- 4)level 3-4: UmHadQclWmgdLOKQ3YNgjWxGoRMb5luK
- 5)level 4-5: pIwrPrtPN36QITSp3EQaw936yaFoFgAB
- 6)level 5-6: DXjZPULLxYr17uwoI01bNLQbtFemEgo7
- 7)level 6-7: HKBPTKQnIay4Fw76bEy8PVxKEDQRKTzs
- 8)level 7-8: cvX2JJa4CFALtqS87jk27qwqGhBM9plV
- 9)level 8-9: UsvVyFSfZZWbi6wgC7dAFyFuR6jQQUhR
- 10)level 9-10: truKLDjsbJ5g7yyJ2X2R0o3a5HQJFuLk
- 11)level 10-11: IFukwKGsFW8MOq3IRFqrxE1hxTNEbUPR
- 12)level 11-12: 5Te8Y4drgCRfCx8ugdwuEX8KFC6k2EUu
- 13)level 12-13: 8ZjyCRiBWFYkneahHwxCv3wb2a1ORpYL
- 14)level 13-14: 4wcYUJFw0k0XLShlDzztnTBHiqxU3b3e
- 15)level 14-15: BfMYroe26WYalil77FoDi9qh59eK5xNr

