

# OverTheWire Bandit Level 0-20 Guide

## Level 0: Initial Access

Open your terminal

Connect using SSH

```
ssh bandit0@bandit.labs.overthewire.org -p 2220
```

Enter password:

## Level 0 → 1

Look for readme file:

```
ls
```

Read the file:

```
cat readme
```

Save the password shown

```
bandit0@bandit:~$ ls
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: ZjLjTmM6FvvyRnrb2rfNW0Z0Ta6ip5If
```

## Level 1 → 2

☐☐☐ The file is named "-", which requires special handling

☐☐☐ Read the file using:

```
cat ./-
```

☐☐☐ Save the password shown

```
bandit1@bandit:~$ ls
-
bandit1@bandit:~$ ls -a
- . . . .bash_logout .bashrc .profile
bandit1@bandit:~$ cat ./-
263JGJPfgU6LtdEvgfWU1XP5yac29mFx
bandit1@bandit:~$
```

## Level 2 → 3

☐☐☐ The filename contains spaces

☐☐☐ Read using quotes:

```
cat "spaces in this filename"
```

☐☐☐ Save the password shown

```
bandit2@bandit:~$ dir
spaces in this filename
bandit2@bandit:~$ cat spaces\in\this\filename
cat: spacesinthisfilename: No such file or directory
bandit2@bandit:~$ cat spaces\ in\ this\ filename
MNk8KNH3Usiio41PRUEoDFPqfxLPLSmx
bandit2@bandit:~$ |
```

## Level 3 → 4

=== Change to inhere directory:

```
cd inhere
```

=== List all files including hidden:

```
ls -la
```

=== Read the hidden file:

```
cat .hidden
```

=== Save the password shown

```

bandit3@bandit:~$ ls
inhere
bandit3@bandit:~$ cd inhere
bandit3@bandit:~/inhere$ ls -a
.  ..  ...Hiding-From-You
bandit3@bandit:~/inhere$ cat .Hiding-From-You
cat: .Hiding-From-You: No such file or directory
bandit3@bandit:~/inhere$ cat .Hiding
cat: .Hiding: No such file or directory
bandit3@bandit:~/inhere$ cat ...Hiding
cat: ...Hiding: No such file or directory
bandit3@bandit:~/inhere$ cat ...Hiding-From-You
2WmrDFRmJIq3IPxneAaMGhap0pFhF3NJ
bandit3@bandit:~/inhere$ |

```

## Level 4 → 5

Change to inhere directory

Check file types:

```
file ./*
```

Find and read the human-readable file:

```
cat ./-file07
```

Save the password shown

```

bandit4@bandit:~$ ls -a
.  ..  .bash_logout  .bashrc  inhere  .profile
bandit4@bandit:~$ cd inhere
bandit4@bandit:~/inhere$ ls -a
.  ..  -file00  -file01  -file02  -file03  -file04  -file05  -file06  -file07  -file08  -file09
bandit4@bandit:~/inhere$ cat ./-file07
4oQYVPkxZ00E005pTW81FB8j8lxXGUQw

```

## Level 5 → 6

📁 Navigate to inhere directory

📁 Find file with specific properties:

```
find . -type f -size 1033c ! -executable
```

📁 save the password shown

```
bandit5@bandit:~$ ls
inhere
bandit5@bandit:~$ cd inhere
bandit5@bandit:~/inhere$ ls -a
.  maybehere00  maybehere02  maybehere04  maybehere06  maybehere08  maybehere10  maybehere12  maybehere14  maybehere16  maybehere18
.. maybehere01  maybehere03  maybehere05  maybehere07  maybehere09  maybehere11  maybehere13  maybehere15  maybehere17  maybehere19
bandit5@bandit:~/inhere$ cat ./maybehere07
cat: ./maybehere07: Is a directory
bandit5@bandit:~/inhere$ cat ./maybehere07/.file2
HWasnPhtq9AVKe0dmk45nxy20cvUa6EG
```

## Level 6 → 7

📁 Search entire system with specific criteria:

```
find / -user bandit7 -group bandit6 -size 33c 2>/dev/null
```

📁 save the password shown

```
bandit6@bandit:~$ ls
bandit6@bandit:~$ find / -user bandit7 -group bandit6 -size 32c 2>/dev/null
bandit6@bandit:~$ find / -user bandit7 -group bandit6 -size 32c 2>/dev/null/var/lib/dpkg/info/bandit7.password
-bash: /dev/null/var/lib/dpkg/info/bandit7.password: Not a directory
bandit6@bandit:~$ cat /var/lib/dpkg/info/bandit7.password
morbNTDkSW6jILUc0ymOdMaLn0LFVAaj
bandit6@bandit:~$ |
```

## Level 7 → 8

📁 Search for "millionth" in data.txt:

```
cat data.txt | grep millionth
```

📁 Save the password shown

```
bandit7@bandit:~$ ls -a
.  ..  .bash_logout  .bashrc  data.txt  .profile
bandit7@bandit:~$ awk '/^millionth/ {print $2;}' data.txt
dfwvzFQi4mU0wfNbF0e9RoWskMLg7eEc
bandit7@bandit:~$ |
```

## Level 8 → 9

Find unique line:

```
sort data.txt | uniq -u
```

Save the password shown

```
bandit8@bandit:~$ ls -a
.  ..  .bash_logout  .bashrc  data.txt  .profile
bandit8@bandit:~$ cat data.txt | sort | uniq -u
4CKMh1JI91bUIZZPXDqGana14xvAg0JM
bandit8@bandit:~$ |
```

## Level 9 → 10

Search for human-readable strings with "=":

```
strings data.txt | grep "="
```

Save the password shown

```
bandit9@bandit:~$ ls -la
.  ..  .bash_logout  .bashrc  data.txt  .profile
bandit9@bandit:~$ strings data.txt | grep "="
}===== the
p\l=
;c<Q=.dEXU!
3JprD===== passwordi
qC(=
~fDV3===== is
7=oc
zP=
~de=
3k=fQ
~o=0
69}=
%=Y
=tZ~07
D9===== FGUW5iLLVJrxX9kMYMmLN4MgbpfMiqey
N=~[!N
zA=?0j
bandit9@bandit:~$ |
```

## Level 10 → 11

Decode base64 content:

```
base64 -d data.txt
```

Save the password shown

```
bandit10@bandit:~$ ls -la
.  ..  .bash_logout  .bashrc  data.txt  .profile
bandit10@bandit:~$ cat data.txt
VGhlIHBhc3N3b3JkIGlzIGR0UjE3M2ZaS2IwUlJzREZTR3NnMlJXbnBOVmozcVJyCg==
bandit10@bandit:~$ echo VGhlIHBhc3N3b3JkIGlzIGR0UjE3M2ZaS2IwUlJzREZTR3NnMlJXbnBOVmozcVJyCg==
VGhlIHBhc3N3b3JkIGlzIGR0UjE3M2ZaS2IwUlJzREZTR3NnMlJXbnBOVmozcVJyCg==
bandit10@bandit:~$ echo VGhlIHBhc3N3b3JkIGlzIGR0UjE3M2ZaS2IwUlJzREZTR3NnMlJXbnBOVmozcVJyCg== | base64 --decode
The password is dtR173fZKb0RRsDFSGsg2RWnpNVj3qRr
bandit10@bandit:~$ |
```

## Level 11 → 12

Decode ROT13

```
cat data.txt | tr 'A-Za-z' 'N-ZA-Mn-za-m'
```

Save the password shown

```
bandit11@bandit:~$ ls -a
. . . .bash_logout .bashrc data.txt .profile
bandit11@bandit:~$ cat data.txt
Gur cnffjbeq vf 7k16JARUVv5LxVuJfsSVdbbtaHGLw9D4
bandit11@bandit:~$ echo Gur cnffjbeq vf 7k16JARUVv5LxVuJfsSVdbbtaHGLw9D4 | tr [a-zA-Z] [n-za-mN-ZA-M]
The password is 7x16WNeHIi5YkIhWsFFIqoognUTyj9Q4
bandit11@bandit:~$
```

## Level 12 → 13

=== Create temporary directory:

```
mkdir /tmp/myname123
```

=== Copy and navigate:

```
cp data.txt /tmp/myname123
cd /tmp/myname123
```

=== Convert hex dump:

```
xxd -r data.txt > data
```

=== Save the password shown

```
bandit12@bandit:~$ ls -a
. . . .bash_logout .bashrc data.txt .profile
bandit12@bandit:~$ cd /tmp/jhalon
bandit12@bandit:/tmp/jhalon$ ls -a
. . file.bin
bandit12@bandit:/tmp/jhalon$ file file.bin
file.bin: 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/jhalon$ zcat file.bin | file -
/dev/stdin: bzip2 compressed data, block size = 900k
bandit12@bandit:/tmp/jhalon$ zcat file.bin | bzip2 | file -
/dev/stdin: gzip compressed data, was "data4.bin", last modified: Thu Sep 19 07:08:15 2024, max compression, from Unix
bandit12@bandit:/tmp/jhalon$ zcat file.bin | bzip2 | zcat | file -
/dev/stdin: POSIX tar archive (GNU)
bandit12@bandit:/tmp/jhalon$ zcat file.bin | bzip2 | zcat | tar x0 | file -
/dev/stdin: POSIX tar archive (GNU)
bandit12@bandit:/tmp/jhalon$ zcat file.bin | bzip2 | zcat | tar x0 | tar x0 | file -
/dev/stdin: bzip2 compressed data, block size = 900k
bandit12@bandit:/tmp/jhalon$ zcat file.bin | bzip2 | zcat | tar x0 | tar x0 | bzip2 | file -
/dev/stdin: POSIX tar archive (GNU)
bandit12@bandit:/tmp/jhalon$ zcat file.bin | bzip2 | zcat | tar x0 | tar x0 | bzip2 | tar x0 | file -
/dev/stdin: gzip compressed data, was "data9.bin", last modified: Thu Sep 19 07:08:15 2024, max compression, from Unix
bandit12@bandit:/tmp/jhalon$ zcat file.bin | bzip2 | zcat | tar x0 | tar x0 | bzip2 | tar x0 | zcat | file -
/dev/stdin: ASCII text
bandit12@bandit:/tmp/jhalon$ zcat file.bin | bzip2 | zcat | tar x0 | tar x0 | bzip2 | tar x0 | zcat
The password is F05dwFsc0cbaIiH0h8J2eUks2vdTDwAn
```

## Level 13 → 14

=== Use private key to login:



```
ssh -i sshkey.private bandit14@localhost
```

Read password from:

```
cat /etc/bandit_pass/bandit14
```

Save the password shown

```
bandit14@bandit:~$ ls
bandit14@bandit:~$ cd /etc
bandit14@bandit:/etc$ ls
acpi                                ethertypes                        krypton_pass                     nftables.conf                   skel
adduser.conf                       fonts                            landscape                        nsswitch.conf                   sos
alternatives                      formulaone_pass                  ldap                             opt                              ssh
apache2                           fstab                            ld.so.cache                     os-release                      ssl
apparmor                           fuse.conf                       ld.so.conf                      overlayroot.conf               stunnel
apparmor.d                         fwupd                           ld.so.conf.d                    overlayroot.local.conf         subgid
apport                             gai.conf                        legal                             PackageKit                     subuid
apt                                gdb                              libaudit.conf                   pam.conf                        subuid-
bandit_pass                        gitconfig                       libblockdev                     pam.d                           sudo.conf
bash.bashrc                       gnutls                          libibverbs.d                    passwd                          sudoers
bash_completion                   gprofng.rc                      libnl-3                         passwd-                         sudoers.d
bash_completion.d                 groff                            lighttpd                        perl                             sudo_logsrvd.conf
bindresvport.blacklist            group                           locale.alias                     pki                             supercat
binfmt.d                          group-                           locale.conf                      plymouth                       supervisor
byobu                             grub.d                          localtime                       polkit-1                       sysctl.conf
ca-certificates                   gshadow                         logcheck                        pollinate                      sysctl.d
ca-certificates.conf              gss                             login.defs                      ppp                             sysstat
chrony                            hdparm.conf                     logrotate.conf                  profile                         systemd
cloud                             hibagent-config.cfg             logrotate.d                     profile.d                       terminfo
console-setup                     hibinit-config.cfg              lsb-release                      protocols                       timezone
credstore                         host.conf                       ltrace.conf                     python3                         tmpfiles.d
credstore.encrypted               hostname                        lvm                              python3.12                     ubuntu-advantage
cron.d                            hosts                           machine-id                       rc0.d                          ucf.conf
cron.daily                        hosts.allow                     magic.mime                       rc1.d                          udev
cron.hourly                       hosts.deny                      manpath.config                  rc2.d                          udisks2
cron.monthly                      init.d                          mdadm                            rc3.d                          ufw
cron.weekly                       initramfs-tools                 mime.types                      rc4.d                          update-manager
cron.yearly                       iproute2                       mke2fs.conf                     rc5.d                          update-motd.d
cryptsetup-initramfs              iscsi                           ModemManager                     rc6.d                          update-notifier
crypttab                          iscsi                           ModemManager                     rcS.d                          usb_modeswitch.conf
```

## Level 14 → 15

Connect to port 30000

```
nc localhost 30000
```

Save the password shown

```
bandit14@bandit:~$ telnet localhost 30000
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^]'.
MU4VWeTyJk8R0of1qqmcBPALh7lDCPvS
Correct!
8xCjnmgoKbGLhHFAZlGE5Tmu4M2tKJQo

Connection closed by foreign host.
```

## Level 15 → 16

Connect using SSL

```
openssl s_client -connect localhost:30001
```

save the password shown

```
bandit15@bandit:~$ openssl s_client -ign_eof -connect localhost:30001
CONNECTED(00000003)
Can't use SSL_get_servername
depth=0 CN = SnakeOil
verify error:num=18:self-signed certificate
verify return:1
depth=0 CN = SnakeOil
verify return:1
---
Certificate chain
 0 s:CN = SnakeOil
  i:CN = SnakeOil
  a:PKEY: rsaEncryption, 4096 (bit); sigalg: RSA-SHA256
  v:NotBefore: Jun 10 03:59:50 2024 GMT; NotAfter: Jun  8 03:59:50 2034 GMT
---
```

## Level 16 → 17

Scan ports:

```
nmap -p 31000-32000 localhost
```

Connect to correct SSL port:

```
openssl s_client -connect localhost:31790
```

save the password shown

```
***
cluFn7wTiGryunymY0u4RcffSxQluehd
Correct!
-----BEGIN RSA PRIVATE KEY-----
MIIEogIBAAKCAQEAvM0kuiMg6HL2YPI0jon6iwfbp7c3jx34YkYwqUH57SudyJ
imZzeyGC0gtZPGuJUSxiJSWI/oTqexh+cAMTSMLOJf7+BrJ0bArnxd9Y7YT2bRPQ
Ja6Lzb558YW3FZl870Ri0+rw4LDCNd2lUvLE/GL2GwyuKN0K5icd5TbtJzEkQTu
DSt2mcNn4rhAL+JFr56o4T6z8WwAW18BR6yGrMq7Q/kALHYW30ekePQAzL0VUYbW
JGTi65CxbCnzc/w4+mqQyvmzpWtMAzJTzAzQxNbK2MBGySxdlrjg0LWN6sK7wNX
x0YVztz/zbIkPjfkU1jHS+9EbVnj+D1XF0JuaQIDAQABAoIBA8agpxpM1aolWfvD
KHcj10nqcoBc4oE1laFYQwik7xw+24pRNUDE6SFth0ar69jpsRLLw01NhpX3iBl
J9n0M80J0VToum43U0S8YxF8WwhXriYGnc1sskbwpX0UDc9uX4+UESzH2P29ovd
d8WErY0gPxun8pbJLmXkAtWNhpMvfe0050vk9TL5wqbu9AlbssgTcCXkMQnPw9nC
YNN60DP2lbcBrvgT9YCNL6C+ZKufD52y0Q9q0kwFTEQpjTf4uNtJom+asvlpM58A
vLY9r60wYSvmZhNqBURj7lyCtXMIu1kkd4w7F77k+DjHoAXyxcUp1DGL51sOmama
+T0WwGECgYEABJtpXp0GRJ+IQkX262jM3dEIkza8ky5moIwUqYdsx0NxBgRRh0RT
8c8hAuRBb2G82so8vUUhk/fur850Efc9TncnCY2crpoqsgihfKLxrlgtT+qDpfZnx
Satldt8GfQ85yA7hnWJ2Mx3NaeSDm75Lsm+t8bAiyC9P2jGRNtMSkCgYEAYpHd
HCctNi/FwJulhttFx/rHYKhLidZDFyeiE/v45bN4yFm8x7R/b0iE7KaszX+Exdvt
SghaTdcG0Knyw1bpJVusavPzpaJMjdJ6tcFhVAbAjm7enCIvGCSx+X3L5S1Wg0A
R57hJglezIiVjv3aGwHwvLZvtszK6zV6oXFAu0ECgYAbjo46T4hyP5tJi93V5HDi
TtieK7xRVxUL+iu7rWkGAXFpMLFteQEsRr7PJ/lemmEYSeTDAFmly9FL2m9oQWCg
R8VdWsk8r9FGLS+9aKcV5PI/WEKlwgXinB30hyimtiG2Cg5JCqIZFHxD6MjEG01u
L8ktHMPvodbWnsSBULpG0QK8gBaplTfC1H0nwiMG0U3KPwYmT006CdTkMj0mL8Ni
blh9elyZ9FsGxsgtRBRsQXuz7wtsQAgLHxbdlq/ZJQ7Yfz0KU4ZxEnabvXnvwKU
Y0djHdS0oKvDQNWu6ucyLRAWFuISeXw9a/9p7ftpxm0TSgyvmfLF2MIAEwyzRqam
77pBAoGAMmjmIJdp+Ez8duyn3ieo36yrttF5NSsJLAbxPpdlclgvtGCWw+9Cq0b
dxv1W8+TFVEBL104f7HVM6EpTscdXU+bCXWkfjuRb7Dy9G0tt9JPX8MBTakzh3
vBgsyi/sN3RqRBcGU40f0oZyFAMT8slm/uYv5206IgeuZ/ujbY=
-----END RSA PRIVATE KEY-----
```

## Level 17 → 18

Compare password files:

```
diff passwords.old passwords.new
```

save the password shown

```
--[ More information ]--
```

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

For questions or comments, contact us through IRC on  
[irc.overthewire.org](http://irc.overthewire.org).

```
ls
readme
cat readme
IueksS7Ubh8G3DCwVzrTd8rAV0wq3M5x
```

## Level 18 → 19

Execute command directly via SSH

```
ssh bandit18@localhost "cat readme"
```

save the password shown

## Level 19 → 20

Use setuid binary:

```
./bandit20-do cat /etc/bandit_pass/bandit20
```

```
./bandit20-do cat /etc/bandit_pass/bandit20
```

save the password shown

```
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 cat /etc/bandit_pass/bandit20
GbKksEFF4yrVs6il55v6gwY5aVje5f0j
bandit19@bandit:~$
```