

Level 0:

```
Activities  Terminal  Mar 5 12:05  bandit0@bandit: ~
```

```
nagacharan@helsenberg:~/Desktop$ ssh bandit0@bandit.labs.overthewire.org -p 2220
The authenticity of host '[bandit.labs.overthewire.org]:2220 ([176.9.9.172]:2220)' can't be established.
ECDSA key fingerprint is SHA256:98UL0ZMr85496EtCrkKl020X30PnyPSB5tB5RPbhczc.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '[bandit.labs.overthewire.org]:2220,[176.9.9.172]:2220' (ECDSA) to the list of known hosts.
This is a OverTheWire game server. More information on http://www.overthewire.org/wargames

bandit0@bandit.labs.overthewire.org's password:
Linux bandit.otw.local 5.4.8 x86_64 GNU/Linux

  OoM  04N
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, ...
* 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/ 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!
```

Level 0-1:

```
Activities Terminal ▾  
bandit0@bandit: ~  
bandit0@bandit:~$ ls  
readme  
bandit0@bandit:~$ cat readme  
boJ9jbbUNNfktd7800psq0ltutMc3MY1  
bandit0@bandit:~$
```

Level 1-2:

```
Activities Terminal Mar 5 12:18
bandit1@bandit: ~
bandit1@bandit:~$ ls -alps
total 24
4 -rw-r----- 1 bandit2 bandit1 33 May 7 2020 -
4 drwxr-xr-x 2 root root 4096 May 7 2020 ./
4 drwxr-xr-x 41 root root 4096 May 7 2020 ../
4 -rw-r--r-- 1 root root 220 May 15 2017 .bash_logout
4 -rw-r--r-- 1 root root 3526 May 15 2017 .bashrc
4 -rw-r--r-- 1 root root 675 May 15 2017 .profile
bandit1@bandit:~$ cat ./-
CV1DtqXWVFXTvM2F0k09SHz0YwRINYA9
bandit1@bandit:~$
```

Level 2-3:

```
Activities Terminal Mar 5 12:20
bandit2@bandit: ~
--[ 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/longld/peda.git) in /usr/local/peda/
* gdbinit (https://github.com/gdbinit/Gdbinit) in /usr/local/gdbinit/
* pwntools (https://github.com/Gallopsled/pwntools)
* radare2 (http://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!

bandit2@bandit:~$ ls
spaces in this filename
bandit2@bandit:~$ cat spaces\ in\ this\ filename
UmHadQcLWmgdLOKQ3YNgjWxGoRmb5LuK
bandit2@bandit:~$
```

Level 3-4:

```
Activities  Terminal ▾ Mar 5 12:22 ● bandit3@bandit: ~/inhere

compiler flags might be interesting:

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

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executable on ELF binaries.

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bandit3@bandit:~$ ls
inhere
bandit3@bandit:~$ cd inhere/
bandit3@bandit:~/inhere$ ls
bandit3@bandit:~/inhere$ find
.
./.hidden
bandit3@bandit:~/inhere$ cat ./hidden
pIwrPrtpN36QITSp3EQaw936yaFoFgAB
bandit3@bandit:~/inhere$
```

Level 5-6:

```
Activities Terminal Mar 5 12:34
bandit5@bandit: ~/inhere
bandit5@bandit:~$ ls
inhere
bandit5@bandit:~$ cd inhere/
bandit5@bandit:~/inhere$ ls
maybehere00 maybehere02 maybehere04 maybehere06 maybehere08 maybehere10 maybehere12 maybehere14 maybehere16 maybehere18
maybehere01 maybehere03 maybehere05 maybehere07 maybehere09 maybehere11 maybehere13 maybehere15 maybehere17 maybehere19
bandit5@bandit:~/inhere$ find . -type f -size 1033c ! -executable
./maybehere07/.file2
bandit5@bandit:~/inhere$ cat ./maybehere07/.file2
DXjZPULLxYr17uwoI01bNLQbtFemEgo7

bandit5@bandit:~/inhere$
```

Level 6-7:

```
Activities Terminal ▾ Mar 5 12:48 • bandit6@bandit: ~  
find: '/tmp': Permission denied  
find: '/run/lvm': Permission denied  
find: '/run/screen/S-bandit1': Permission denied  
find: '/run/screen/S-bandit10': Permission denied  
find: '/run/screen/S-bandit29': Permission denied  
find: '/run/screen/S-bandit25': Permission denied  
find: '/run/screen/S-bandit30': Permission denied  
find: '/run/screen/S-bandit9': Permission denied  
find: '/run/screen/S-bandit28': Permission denied  
find: '/run/screen/S-bandit18': Permission denied  
find: '/run/screen/S-bandit20': Permission denied  
find: '/run/screen/S-bandit12': Permission denied  
find: '/run/screen/S-bandit5': Permission denied  
find: '/run/screen/S-bandit7': Permission denied  
find: '/run/screen/S-bandit16': Permission denied  
find: '/run/screen/S-bandit26': Permission denied  
find: '/run/screen/S-bandit8': Permission denied  
find: '/run/screen/S-bandit15': Permission denied  
find: '/run/screen/S-bandit4': Permission denied  
find: '/run/screen/S-bandit3': Permission denied  
find: '/run/screen/S-bandit19': Permission denied  
find: '/run/screen/S-bandit31': Permission denied  
find: '/run/screen/S-bandit17': Permission denied  
find: '/run/screen/S-bandit2': Permission denied  
find: '/run/screen/S-bandit22': Permission denied  
find: '/run/screen/S-bandit21': Permission denied  
find: '/run/screen/S-bandit14': Permission denied  
find: '/run/screen/S-bandit13': Permission denied  
find: '/run/screen/S-bandit24': Permission denied  
find: '/run/screen/S-bandit23': Permission denied  
find: '/run/shm': Permission denied  
find: '/run/lock/lvm': Permission denied  
find: '/var/spool/bandit24': Permission denied  
find: '/var/spool/cron/crontabs': Permission denied  
find: '/var/spool/rsyslog': Permission denied  
find: '/var/tmp': Permission denied  
find: '/var/lib/apt/lists/partial': Permission denied  
find: '/var/lib/polkit-1': Permission denied  
/var/lib/dpkg/info/bandit7.password  
find: '/var/log': Permission denied  
find: '/var/cache/apt/archives/partial': Permission denied  
find: '/var/cache/ldconfig': Permission denied  
bandit6@bandit:~$ cat /var/lib/dpkg/info/bandit7.password  
HKBPTKQnIay4Fw76bEv8PVxKEDQRKTzs  
bandit6@bandit:~$
```

Level 7-8:



--[Tips]--

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- * gdbinit (<https://github.com/gdbinit/Gdbinit>) in /usr/local/gdbinit/
- * pwntools (<https://github.com/Gallopsled/pwntools>)
- * radare2 (<http://www.radare.org/>)
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Enjoy your stay!

bandit7@bandit:~\$ ls

data.txt

bandit7@bandit:~\$ sort data.txt | grep "millionth"

millionth cvX2JJJa4CFALtqS87jk27qwqGhBM9pLV

bandit7@bandit:~\$

Level 8-9:

```
Activities Terminal Mar 5 12:59
bandit8@bandit: ~
10 l1I3Red7uSH9n300yLHP2hQDb0U0qGaq
10 l2lECnJkQk8EB16IO3gHULnjoCTF1has
10 LfrBHFah0pP9bgGAZP4QrVkut3pysAYC
10 Lg4vWwvEY7s0bG6BR1A35AHzo2gM6LHg
10 mpgNGRH628hTQxajScbagkxaPKkLUhjn
10 mzOW32HQZl14kwrde1qu01LCbya0tbtT
10 nJRb4MlpHMDTnFyLfc1NLqmywgxDSDoI
10 NLWvtQvL7EaqBNx2x4eznRLQONULLCYZ
10 NODH1kFWlBx4XnNaJoLFmghBn7oIs5hb
10 oJGabNG5NJ9ppKUBXGr8LwMRR55GuIA5
10 OZ1wgx8bDI0vFOFXDQH32eMMcIPiIuPE
10 PfbMe4Xb3mw5nJmabIbKAXKCU7zynDHL
10 PQK0eIQwTw490Y8yobuxZAOL4cNmVo1D
10 PSdVQSeUUBPRZD58WWP00XLKxSgU3Rxx
10 ptb5ZW8TcgD3U6gOGCcN31xCDGIoQSEa
10 qawMA00quC3yHnfJI4zvPWzCBdfH08wa
10 RHISPoAvF7WhgIcOdSQR2r6Zx0DNSUW
10 s1603Q2r4RPKqyoA8cspIRk0VdgEmFC3
10 SA05uWMVCao2rzS8YRqUXh19SvnDpuOL
10 SHMAMUEzQe4mV7SJpETTZFsyNRJsZE2k
10 si952kS1y6pt4AFenmm0oIp8n7W5d3bd
10 sYSokIATVvFUKU4sAHTtMarfjLZWWj5i
10 SzwgS2ADSjP6yp0zp2bIvdqNyusRtrHj
10 TKUtQbeYnEzzYIne7BiNoBx2bHFLBXzG
10 TThRArdF2ZEXM047TIYkyPPLtvzzLcDf
10 tVw9iY1Ml0uHPK4usZnN8oZXbjRt2ATY
10 U0NVdD3wHZKpfEg9qGQOLJImAJy6qxhS
10 UASW6CQwD6MRzftu6FAfyXBK0cVvnBLP
10 UJlCNvDNfGb3fCcJ8PjjnAXHqUM63Uyj
10 UjsVbcqKeJqdCZQCDMKzv6A9X7hLbNE4
1 UsvVyFSfZzWbi6wgC7dAFyFuR6jQOUhR
10 UVnZvhiVQECraz5j18U14sMVZQhjuXia
10 V2d9umHiuPLYLIDsuHj0froEmreCZMaA
10 v9zaxkVA0dIOLITZY2uoCtB1fx2gmLy9
10 VkBAEWyI1bVkeURZV5mowiGg6l3m7Be0
10 w4zUWFGTUraAh8lNkS8gH3WK2zowBEkA
10 WBqr9xvf6mYTT5kLcTGC6G6jb3ex94xWr
10 wjNwumEXS8RUQTrofHMcIwz5Yx10GtTC
10 X1JH0Ukrb4KgugMXIzMMWIWvrkeZleTI
10 XyeJdbrUJyGtdGx8cXLQST0pws5cvpcA
10 yo0HbSe2GM0jJNhRQLxwoPp7ayYEmRKY
10 ySvsTwlMgnUF0n86Fgmn2TNjkS0LrV72
10 Z9OC6D0pppreChPhwRJ3V9YTTtrxNVc0
10 zdd2ctVveROGeIS2WE3TeLZMeL5jL7iM
bandit8@bandit:~$
```

Level 9-10:

```
Activities Terminal Mar 5 13:02
bandit9@bandit: ~
b2+x++++@ez`tlR+++[8M]eL.n.eRQ+++3p.p4Hv0SewBRN]te?:c++!eLi+AS+SX^+epeb+e8+++B5g++XPu++++-EeeHeeeR+&!`e2euCee#km+++2C++TM+++F+7q*+8W+eu
)++E+++}R+:
2+++F+>+g  +=<=ne+a#+++++0R@R_+Re+nH'+e+rf.eMke+"+++>e+l+UXy+++6+"C"}Jy+
++3Zne|+++g+0U++2|+me+j  R+WR尤sK
      +J+-++~KW?+++P+++]e@+++++b#Nzx$B+++H+_):++F"eK++BvZ+)&ek+R++!vX+u(+e+y+e+d++}.H+++RlG#t]Z}++++G+_++C#
      +Lt+++C+zKze790eg
we8+-+r+_GeP,.+++f#++l++++J)+++
+I+@+}6+E+ +
      ++.eXI`;++3+++B+A -+++hX7++Nwk+X+++G:K+S++++U+++
      :eh++:++o++|++++z+
3++ID+++RUy+++n+GeR++JzV10+keS+XeGp+{+++_3"ge+^+++&e'++4+S+++6M+
      狹^j+@
      0++++ā>+fHbs?}++G+++5k++++
      +<+T;+M"W+A+8++++6+Q+++@+lC+-+ei+2Q dez
      +@+XB'++
eZ+++
      a'b-++[0ÛjC+ebxBB\U$+++++U+LeE+++e!+:]â++^Q+-+Jw+++w(+ed++++`++'
aZ+}06R+p0+++++a++S+\+Ys+++++e+a5a+++++~!+}Wn+  jv+++6>f++  d+m+u/++++X+++++T0+
      ,++
      9++Z]++Dh++++BZpc $FOxF[+++@U4+N+)++++]++/++C++f+Y\Xf+++++K<+:+++++
++++++l'E++>+Bs
++Z++!%e^++t>+ 'a~+P++U+++++K}L
      +peL +!+y++A+
Ge%ed
      +?\++7++++}++'6 ,"+e0%+6+.++D7+X++Cv+U
++01++ANYwPcPk+Z+  b+++|Hu+?+-+eH++.[++A;m$W++y++fJ+++,++Xk]E+g)+++S+\+_/+o+cX\"'K+e'+++iN+@+T++WekS+obh}s+&+++++MDew@+?+}'eY+ZeY+71U+++S+J+e++Z+P'uP+C+4;b+
++++(+++++
      +  ++J++\ -A:bef2++5U+++++0;l++
?D}+J<+M++xj3+H++=eq+2++Z$`#em;++++i/a++  e/+P+++RS +t\++++[++++b*+++++  ++S+++F++@2+$+7+A+++++*zHR+B+-+@+p++}+++e++Z++A+:/p+T++ KA+S+CtY+++&++++Z/1
+33\+w++LnZ++wS+^++f}S+++++Fd+++:+?+R+++X+(l+2++E+n++@+
DeI+ie+lo+ '++k;Z++/++++h++1r+)<[+3XB(+e<@G++++I+{_.+v+v%+++G +em0+++ö++!'` ++L+++.W++>+o++W+++++v+e+++HD+1KOAN+++++KQ+f,++7+bandit9@bandit:--$
bandit9@bandit:~$ strings data.txt | grep "="
===== the*2l"4
=:G e
===== password
<I=zsGl
Z)===== is
A=|t&E
Zdb=
C^ LAh=3G
*SF=s
&===== truKLdjsbJ5q7yyJ2X2R0o3a5H0JFuLk
S=A.H&^
bandit9@bandit:~$
```

Level 10-11:


```
Activities Terminal ▾ Mar 5 13:05 ● bandit10@bandit: ~

by default, although ASLR has been switched off. The following
compiler flags might be interesting:

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In addition, the execstack tool can be used to flag the stack as
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Enjoy your stay!

bandit10@bandit:~$ ls
data.txt
bandit10@bandit:~$ base64 data.txt
VkdobELIQmhjM04zYjNKa0lhBHpJRwxHZFd0M1MwZHpSbGM0VFUSE0wbFNSbkZSUUVVeGFiaFVU
a1ZpVLZCU0NnPT0K
bandit10@bandit:~$ man base64
bandit10@bandit:~$ base64 -d data.txt
The password is IFukwKGsFW8MOq3IRFqrxE1hxTNEbUPR
bandit10@bandit:~$
```

Level 11-12:

```
Activities Terminal ▾ Mar 5 13:10 ● nagacharan@heisenberg: ~

bandit11@bandit:~$ ls
data.txt
bandit11@bandit:~$ cat data.txt
Gur cnffjbeq vf 5Gr8L4qetPESPk8htqjhRK8XSP6x2RHH
bandit11@bandit:~$ The password is 5Te8Y4drgCRfCx8ugdwuEX8KFC6k2EUu
-bash: The: command not found
bandit11@bandit:~$ exit
logout
Connection to bandit.labs.overthewire.org closed.
nagacharan@heisenberg:~$
```

Level 12-13:

```
bandit12@bandit:/tmp/Nagacharan$ mv file file.gz
bandit12@bandit:/tmp/Nagacharan$ gzip -d file.gz
bandit12@bandit:/tmp/Nagacharan$ mv file file.tar
bandit12@bandit:/tmp/Nagacharan$ tar xf file.tar
bandit12@bandit:/tmp/Nagacharan$ file file
file: cannot open 'file' (No such file or directory)
bandit12@bandit:/tmp/Nagacharan$ ls
data5.bin  data.txt  file.tar
bandit12@bandit:/tmp/Nagacharan$ file data
data: cannot open 'data' (No such file or directory)
bandit12@bandit:/tmp/Nagacharan$ file data5.bin
data5.bin: POSIX tar archive (GNU)
bandit12@bandit:/tmp/Nagacharan$ rm file.tar
bandit12@bandit:/tmp/Nagacharan$ rm data.txt
bandit12@bandit:/tmp/Nagacharan$ mv data5.bin data.tar
bandit12@bandit:/tmp/Nagacharan$ tar xf data.tar
bandit12@bandit:/tmp/Nagacharan$ file data6.bin
data6.bin: bzip2 compressed data, block size = 900k
bandit12@bandit:/tmp/Nagacharan$ ls
data6.bin  data.tar
bandit12@bandit:/tmp/Nagacharan$ mv data6.bin data.bz2
bandit12@bandit:/tmp/Nagacharan$ bzip2 -d data.bz2
bandit12@bandit:/tmp/Nagacharan$ ls
data  data.tar
bandit12@bandit:/tmp/Nagacharan$ file datat
datat: cannot open 'datat' (No such file or directory)
bandit12@bandit:/tmp/Nagacharan$ mv data data.tar
bandit12@bandit:/tmp/Nagacharan$ ls
data.tar
bandit12@bandit:/tmp/Nagacharan$ tar xf data.tar
bandit12@bandit:/tmp/Nagacharan$ ls
data8.bin  data.tar
bandit12@bandit:/tmp/Nagacharan$ 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/Nagacharan$ mv data8.bin data.gz
bandit12@bandit:/tmp/Nagacharan$ ls
data.gz  data.tar
bandit12@bandit:/tmp/Nagacharan$ gzip -d data.gz
bandit12@bandit:/tmp/Nagacharan$ ls
data  data.tar
bandit12@bandit:/tmp/Nagacharan$ file data
data: ASCII text
bandit12@bandit:/tmp/Nagacharan$ cat data
The password is 8ZiyCRiBWFYkneahHwxCv3wb2a10RpyL
bandit12@bandit:/tmp/Nagacharan$
```

Level 13-14:

```
Activities  Terminal  Mar 6 13:39  ●
bandit14@bandit: ~

* again, DONT POST SPOILERS!
  This includes writeups of your solution on your blog or website!

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bandit14@bandit:~$ cat /etc/bandit_pass/bandit14
4wcYUJFw0k0XLSHlDzztnTBHiqxU3b3e
bandit14@bandit:~$ S
```

Level 14-15:

```
Activities  Terminal  Mar 6 13:42  bandit14@bandit: ~

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/longld/peda.git) in /usr/local/peda/
* gdbinit (https://github.com/gdbinit/Gdbinit) in /usr/local/gdbinit/
* pwntools (https://github.com/Gallopsled/pwntools)
* radare2 (http://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
4wcYUJFw0k0XLSHlDzztnTBHlqxU3b3e
bandit14@bandit:~$ ls
bandit14@bandit:~$ nc localhost 30000
4wcYUJFw0k0XLSHlDzztnTBHlqxU3b3e
Correct!
BfMYroe26WYalil77FoDi9qh59eK5xNr

bandit14@bandit:~$
```

Level 15-16:

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/longld/peda.git>) in /usr/local/peda/
- * gdbinit (<https://github.com/gdbinit/Gdbinit>) in /usr/local/gdbinit/
- * pwntools (<https://github.com/Gallopsled/pwntools>)
- * radare2 (<http://www.radare.org/>)
- * checksec.sh (<http://www.trapkit.de/tools/checksec.html>) in /usr/local/bin/checksec.sh

--[More information]--

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

Enjoy your stay!

bandit15@bandit:~\$ cat /etc/bandit_pass/bandit15

BfMYroe26WYalil77FoDi9qh59eK5xNr

bandit15@bandit:~\$ ncat ssl localhost 30001

Ncat: Could not resolve hostname "ssl": No address associated with hostname. QUITTING.

bandit15@bandit:~\$ ncat --ssl localhost 30001

BfMYroe26WYalil77FoDi9qh59eK5xNr

Correct!

cluFn7wTiGryunymYOu4RcffSxQluehd