

OverTheWire Bandit Level 0-20

Level 0: Initial Access


Open a terminal and run:

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

After executing the command, the terminal will prompt for a password. Enter:


bandit0

```
PS C:\Users\GALAXY> ssh bandit0@bandit.labs.overthewire.org -p 2220
```



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

```
bandit0@bandit.labs.overthewire.org's password:  
Permission denied, please try again.  
bandit0@bandit.labs.overthewire.org's password:
```



```
Welcome to OverTheWire!
```

```
If you find any problems, please report them to the #wargames channel on
```

Level 0 → 1

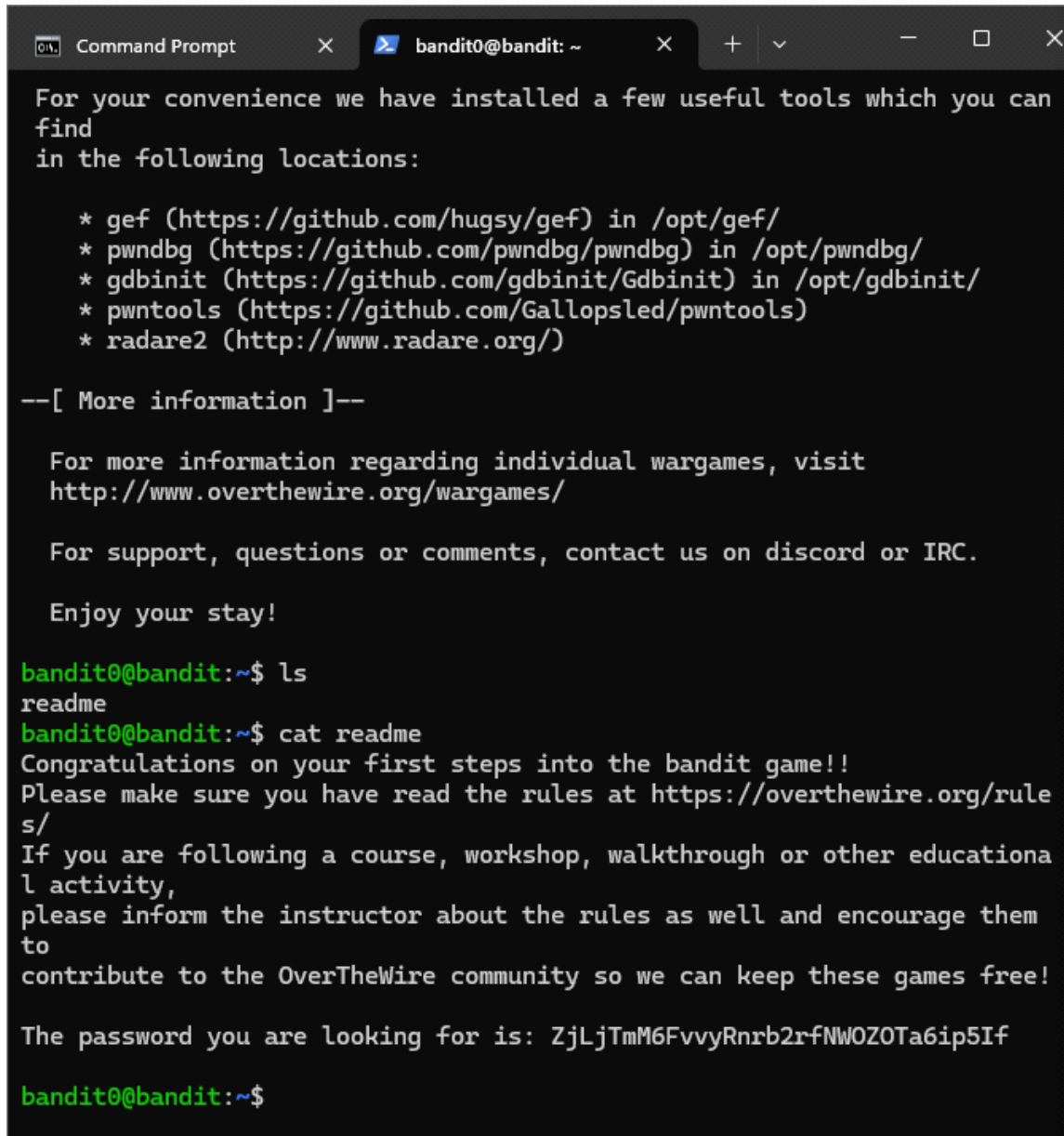
Once logged in, read the instructions for Level 1. You can use:

ls

Open and read the contents of the README file

cat readme

Note the password displayed

A screenshot of a terminal window titled 'bandit0@bandit: ~'. The terminal displays a welcome message for Level 0, listing various tools installed for convenience: gef, pwndbg, gdbinit, pwntools, and radare2, each with a link to its GitHub repository. It also provides information on where to find more details about wargames and how to get support. The user then runs 'ls', showing 'readme', and 'cat readme', which displays a congratulatory message and the password for the next level: 'ZjLjTmM6FvvyRnrb2rfNW0Z0Ta6ip5If'.

```
Command Prompt x bandit0@bandit: ~ x + v - □ x

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!

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/rule
s/
If you are following a course, workshop, walkthrough or other educationa
l 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

bandit0@bandit:~$
```

Bandit Level 1 → Level 2

1.Connect via SSH

ssh bandit1@bandit.labs.overthewire.org -p 2220

Password: (Use the password obtained from readme in Level 0 → 1.)

List files in the home directory:ls -la

Read the file using cat: cat ./-

```
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 ]--

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Enjoy your stay!

bandit1@bandit:~$ ls -la
total 24
-rw-r----- 1 bandit2 bandit1  33 Sep 19  2024 -
drwxr-xr-x  2 root    root    4096 Sep 19  2024 .
drwxr-xr-x 70 root    root    4096 Sep 19  2024 ..
-rw-r--r--  1 root    root    220 Mar 31  2024 .bash_logout
-rw-r--r--  1 root    root   3771 Mar 31  2024 .bashrc
-rw-r--r--  1 root    root    807 Mar 31  2024 .profile
bandit1@bandit:~$ cat ./-
263JGJPfgU6LtdEvgfWU1XP5yac29mFx
bandit1@bandit:~$
```

Bandit Level 2 → Level 3

Connect via SSH:

Password: (Use the password obtained from readme in Level 1 →2.)

ls -la

cat "spaces in this filename"

```
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--[ 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 ]--

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

Enjoy your stay!

bandit2@bandit:~$ ls ila
ls: cannot access 'ila': No such file or directory
bandit2@bandit:~$ ls -la
total 24
drwxr-xr-x  2 root    root    4096 Sep 19  2024 .
drwxr-xr-x 70 root    root    4096 Sep 19  2024 ..
-rw-r--r--  1 root    root     220 Mar 31  2024 .bash_logout
-rw-r--r--  1 root    root    3771 Mar 31  2024 .bashrc
-rw-r--r--  1 root    root     807 Mar 31  2024 .profile
-rw-r-----  1 bandit3 bandit2   33 Sep 19  2024 spaces in this filename
bandit2@bandit:~$ cat "spaces in this filename"
MNk8KNH3Usiio41PRUEoDFPqfxLPISmx
bandit2@bandit:~$
```

Bandit Level 3 → Level 4

Connect via SSH:

(Use the password obtained from Level 2 → 3.)

cd inhere

ls -la

cat ...Hiding-From-You

```
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 ]--

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Enjoy your stay!

bandit3@bandit:~$ cd inhere
bandit3@bandit:~/inhere$ ls -la
total 12
drwxr-xr-x 2 root  root  4096 Sep 19  2024 .
drwxr-xr-x 3 root  root  4096 Sep 19  2024 ..
-rw-r----- 1 bandit4 bandit3  33 Sep 19  2024 ...Hiding-From-You
bandit3@bandit:~/inhere$
bandit3@bandit:~/inhere$ cat .hidden
cat: .hidden: No such file or directory
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: command not found
bandit3@bandit:~/inhere$ cat ...Hiding-From-You
2WmrDFRmJIq3IPxneAaMGhap0pFhF3NJ
bandit3@bandit:~/inhere$ |
```

Bandit Level 4 → Level 5

Connect via SSH:

Use the password obtained from Level 3 → 4.)

cd inhere

cat ./-file07


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

Enjoy your stay!

bandit4@bandit:~$ cd inhere
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
4oQYVPkxZ00E005pTW81FB8j8LxXGUQw
bandit4@bandit:~/inhere$
```

Bandit Level 5 → Level 6

Connect via SSH:

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

```
cat inhere/maybehere07/.file2
```

```
bandit5@bandit:~$ find inhere -type f -size 1033c ! -executable
inhere/maybehere07/.file2
bandit5@bandit:~$ cat inhere/maybehere07/.file2
HWasnPhtq9AVKe0dmk45nxy20cvUa6EG

bandit5@
```

Bandit Level 6 → Level 7

Connect via SSH:

```
ssh bandit6@bandit.labs.overthewire.org -p 2220
```

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

```
cat /var/lib/dpkg/info/bandit7.password
```

```
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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 ]--

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

Enjoy your stay!

bandit6@bandit:~$ find / -type f -user bandit7 -group bandit6 -size 33c
2>/dev/null
/var/lib/dpkg/info/bandit7.password
bandit6@bandit:~$ cat /var/lib/dpkg/info/bandit7.password
morbNTDkSW6jILUc0ymOdMaLnOLFVAaj
bandit6@bandit:~$
```

Bandit Level 7 → Level 8

Connect via SSH:

```
ssh bandit7@bandit.labs.overthewire.org -p 2220
```

(Use the password obtained from Level 6 → 7.)

```
grep "millionth" data.txt
```



```
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:~$ grep "millionth" data.txt
millionth      dfwvzFQi4mU0wfNbFOe9RowSkMLg7eEc
bandit7@bandit:~$
```

Bandit Level 8 → Level 9

Connect via SSH

```
ssh bandit8@bandit.labs.overthewire.org -p 2220
```

(Use the password obtained from Level 7 → 8.)

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

```
Enjoy your stay!

bandit8@bandit:~$ sort data.txt | uniq -u
4CKMh1JI91bUIZZPXqGanal4xvAg0JM
bandit8@bandit:~$ |
```

Bandit Level 9 → Level 10

Connect via SSH:

```
ssh bandit9@bandit.labs.overthewire.org -p 2220
```

Use the password obtained from Level 8 → 9.)

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

```
Enjoy your stay!

bandit9@bandit:~$ strings data.txt | grep "===="
}===== the
3JprD===== passwordi
~fDV3===== is
D9===== FGUW5illVJrxX9kMYMmLn4MgbpfMiqey
bandit9@bandit:~$
```

Bandit Level 10 → Level 11

Connect via SSH:

```
ssh bandit10@bandit.labs.overthewire.org -p 2220
```

decode the base64-encoded file data.txt:

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

```
http://www.overthewire.org/wargames/
```

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

Enjoy your stay!

```
bandit10@bandit:~$ base64 -d data.txt
```

The password is dtR173fZKb0RRsDFSGsg2RWnpNVj3qRr

```
bandit10@bandit:~$
```

Bandit Level 11 → Level 12

Connect via SSH:

```
ssh bandit11@bandit.labs.overthewire.org -p 2220
```

Decode the ROT13-encoded file data.txt:

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

```
http://www.overthewire.org/wargames/
```

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

Enjoy your stay!

```
bandit11@bandit:~$ cat data.txt | tr 'A-Za-z' 'N-ZA-Mn-za-m'
```

The password is 7x16WNeHIi5YkIhWsFfIqoognUTyj9Q4

```
bandit11@bandit:~$
```

Bandit Level 12 → Level 13

Connect via SSH:

```
ssh bandit12@bandit.labs.overthewire.org -p 2220
```

1. Create temporary directory:

```
mkdir /tmp/kar
```

2. Copy and navigate:

```
cp data.txt /tmp/kar
```

```
cd /tmp/kar
```

3. Convert hex dump:

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

```
bandit12@bandit:~$ mkdir /tmp/kar
bandit12@bandit:~$ cp data.txt /tmp/kar
bandit12@bandit:~$ cd /tmp/kar
bandit12@bandit:/tmp/kar$ ls
data.txt
bandit12@bandit:/tmp/kar$ xxd -r data.txt > data
bandit12@bandit:/tmp/kar$ ls
data  data.txt
bandit12@bandit:/tmp/kar$ file data
data: gzip compressed data, was "data2.bin", last modified: Thu Sep 19 0
7:08:15 2024, max compression, from Unix, original size modulo 2^32 574
bandit12@bandit:/tmp/kar$ man gzip
bandit12@bandit:/tmp/kar$ mv data file.gz
bandit12@bandit:/tmp/kar$ gzip -d file.gz
bandit12@bandit:/tmp/kar$ ls
data.txt  file
bandit12@bandit:/tmp/kar$ file file
file: bzip2 compressed data, block size = 900k
bandit12@bandit:/tmp/kar$ mv file file.bz2
bandit12@bandit:/tmp/kar$ man bzip2
bandit12@bandit:/tmp/kar$ bzip2 -d file.bz2
bandit12@bandit:/tmp/kar$ ls
data.txt  file
bandit12@bandit:/tmp/kar$ file file
file: gzip compressed data, was "data4.bin", last modified: Thu Sep 19 0
7:08:15 2024, max compression, from Unix, original size modulo 2^32 2048
0
bandit12@bandit:/tmp/kar$ mv file file.gz
bandit12@bandit:/tmp/kar$ gzip -d file.gz
bandit12@bandit:/tmp/kar$ ls
data.txt  file
bandit12@bandit:/tmp/kar$ file file
file: POSIX tar archive (GNU)
bandit12@bandit:/tmp/kar$ mv file file.tar
```

```
bandit12@bandit:/tmp/kar$ bzip -d data.bz2
Command 'bzip' not found, but there are 21 similar ones.
bandit12@bandit:/tmp/kar$ bzip2 -d data.bz2
bzip2: Can't open input file data.bz2: No such file or directory.
bandit12@bandit:/tmp/kar$ mv data6.bin data.bz2
bandit12@bandit:/tmp/kar$ bzip2 -d data.bz2
bandit12@bandit:/tmp/kar$ ls
data  data.tar
bandit12@bandit:/tmp/kar$ file file
file: cannot open 'file' (No such file or directory)
bandit12@bandit:/tmp/kar$ file data
data: POSIX tar archive (GNU)
bandit12@bandit:/tmp/kar$ mv data data.tar
bandit12@bandit:/tmp/kar$ ls
data.tar
bandit12@bandit:/tmp/kar$ tar xf data.tar
bandit12@bandit:/tmp/kar$ ls
data8.bin  data.tar
bandit12@bandit:/tmp/kar$ file data8.bin
data8.bin: gzip compressed data, was "data9.bin", last modified: Thu Sep
19 07:08:15 2024, max compression, from Unix, original size modulo 2^32
49
bandit12@bandit:/tmp/kar$ mv data8.bin data.gz
bandit12@bandit:/tmp/kar$ gzip -d data gz
gzip: gz.gz: No such file or directory
bandit12@bandit:/tmp/kar$ gzip -d data.gz
gzip: data.gz: No such file or directory
bandit12@bandit:/tmp/kar$ ls
data  data.tar
bandit12@bandit:/tmp/kar$ file data
data: ASCII text
bandit12@bandit:/tmp/kar$ cat data
The password is F05dwFsc0cbaIiH0h8J2eUks2vdTDwAn
bandit12@bandit:/tmp/kar$
```

Bandit Level 13 → Level 14

Connect via SSH:

```
ssh bandit13@bandit.labs.overthewire.org -p 2220
```

```
find / -name "bandit14.key" 2>/dev/null
```

```
ssh -i bandit14.key bandit14@localhost -p 2220
```

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

```

!!! Connecting from localhost is blocked to conserve resources.
!!! Please log out and log in again.

bandit14@localhost: Permission denied (publickey).
bandit13@bandit:~$ chmod 600 bandit14.key
chmod: cannot access 'bandit14.key': No such file or directory
bandit13@bandit:~$ ssh -i sshkey.private bandit14@localhost -p 2220
bandit14@localhost:~$ cat /etc/bandit_pass/bandit14
MU4VWeTyJk8R0of1qqmcBPALh7LDCPvS
bandit14@bandit:~$

```

Bandit Level 14 → Level 15

cat /etc/bandit_pass/bandit14

nc localhost 30000

The password is found!

```

bandit14@bandit:~$ cat /etc/bandit_pass/bandit14
MU4VWeTyJk8R0of1qqmcBPALh7LDCPvS
bandit14@bandit:~$ netcat local host 30000
netcat: port number invalid: host
bandit14@bandit:~$ netcat localhost 30000
MU4VWeTyJk8R0of1qqmcBPALh7LDCPvS
Correct!
8xCjnmgoKbGLhHFAZLGE5Tmu4M2tKJQo

```

Bandit Level 15 → Level 16

Connect via SSH:

ssh bandit15@bandit.labs.overthewire.org -p 2220

openssl s_client -connect localhost:30001

enter password

```

read R BLOCK

Wrong! Please enter the correct current password.
closed
bandit15@bandit:~$ openssl s_client -connect localhost:30001
CONNECTED(00000003)
Can't use SSL_get_servername
depth=0 CN = SnakeOil

```

```
:Y...  
  
Start Time: 1742999647  
Timeout   : 7200 (sec)  
Verify return code: 18 (self-signed certificate)  
Extended master secret: no  
Max Early Data: 0  
  
---  
read R BLOCK  
8xCjnmgoKbGLhHFAZlGE5Tmu4M2tKJQo  
Correct!  
kSkvUpMQ7lBYyCM4GBPvCvT1BfWRy0Dx  
  
closed  
bandit15@bandit:~$
```

Bandit Level 16 → Level 17

nmap -p 31000-32000 localhost

Connect to correct SSL port:

openssl s_client -connect localhost:31790


```
Nmap done: 1 IP address (1 host up) scanned in 0.17 seconds
bandit16@bandit:~$ nc localhost 31790
kSkvUpMQ7lBYyCM4GBPvCvT1BfWRy0Dx
bandit16@bandit:~$ ncat --ssl localhost 31790
kSkvUpMQ7lBYyCM4GBPvCvT1BfWRy0Dx
Correct!
-----BEGIN RSA PRIVATE KEY-----
MIIEogIBAAKCAQEAvM0kuiFmMg6HL2YPI0jon6iWfbp7c3jx34YkYWqUH57SUdyJ
imZzeyGC0gtZPGujUSxiJSWI/oTqexh+cAMTSMlOJf7+BrJObArnxd9Y7YT2bRPQ
Ja6Lzb558YW3FZl870RiO+rW4LCDCNd2lUvLE/GL2GwyuKN0K5iCd5TbtJzEkQTu
DSt2mcNn4rhAL+JFr56o4T6z8WwAW18BR6yGrMq7Q/kALHYW30ekePQAzL0VUYbW
JGTi65CxbCnzc/w4+mqQyvmpzpwTMAzJTzAzQxNbkR2MBGySxDLrjg0LWN6sK7wNX
x0YVztz/zbIkPjfkU1jHS+9EbVNj+D1XF0JuaQIDAQABaoIBABagpxpM1aoLWfvD
KHcj10nqcoBc4oE11aFYQwik7xFW+24pRNUDE6SFthOar69jp5RlLwD1NhPx3iBl
J9nOM80J0VToum43UOS8YxF8WwhXriYGnc1sskbwpXOUDc9uX4+UESzH22P29ovd
d8WErY0gPxun8pbJLmxkAtWNhpMvfe0050vk9TL5wqbu9AlbssgTcCXkMQnPw9nC
YNN6DDP2lbcBrvgT9YCNL6C+ZKuFD52yOQ9q0kwFTEQpjtF4uNtJom+asvlpms8A
vLY9r60wYSvmZhNqBUrj7lyCtXMIu1kkd4w7F77k+DjHoAXyxcUp1DGL51sOmama
+TOWWgECgYEA8JtPxP0GRJ+IQkX262jM3dEIkza8ky5moIwUqYdsx0NxHgRRhORT
8c8hAuRBb2G82so8vUHK/fur850Efc9TncnCY2crpoqsgghifKLxrLgtT+qDpfZnx
SatLdt8GfQ85yA7hnWwJ2MxF3NaeSDm75Lsm+tBbAiyC9P2jGRNtMSkCgYEAypHd
HCctNi/FwjulhttFx/rHYKhLidZDFYeiE/v45bN4yFm8x7R/b0iE7KaszX+Exdvt
SghaTdcG0Knyw1bpJVyusavPzpaJMjdJ6tcFhVAbAjm7enCIvGCSx+X3l5SiWg0A
R57hJglezIiVjv3aGwHwvLZvtszK6zV6oXFAu0ECgYAbjo46T4hyP5tJi93V5Hdi
TtieK7xRVxUL+iU7rWkGAXFpMLFteQEsRr7PJ/lemmEY5eTDAFMLy9FL2m9oQWCg
R8VdwSk8r9FGLS+9aKcV5PI/WEKlwGXinB30hYimtiG2Cg5JCqIZFHxD6MjEG0iu
L8ktHMPvodBwNsSBULpG0QKBgBAPLTfC1H0nWiMGOU3KPwYwt006CdTkmJ0mL8Ni
bLh9elyZ9FsGxsgtRBXRsqXuz7wtsQAgLHxbdLq/ZJQ7Yfz0KU4ZxEnabvXnvWkU
YOdjHdS0oKvDQNWu6ucyLRAWFuISeXw9a/9p7ftpxm0TSgyvmfLF2MIAEwyzRqaM
77pBAoGAMmjmIJdjp+Ez8duyn3ieo36yrTtF5NSsJLABxFpdlc1gvtGCWW+9Cq0b
dxviW8+TFVEBl104f7HVm6EpTscdDxU+bCXWkfjuRb7Dy9G0tt9JP5X8MBTakzh3
vBgysi/sN3RqRBcGU40f0oZyfAMT8s1m/uYv5206IgeuZ/ujbjY=
-----END RSA PRIVATE KEY-----
```