[REVERSE]

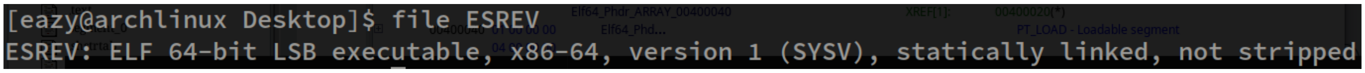
ESREV Writeup

1 ère façon PRO

Binaire :

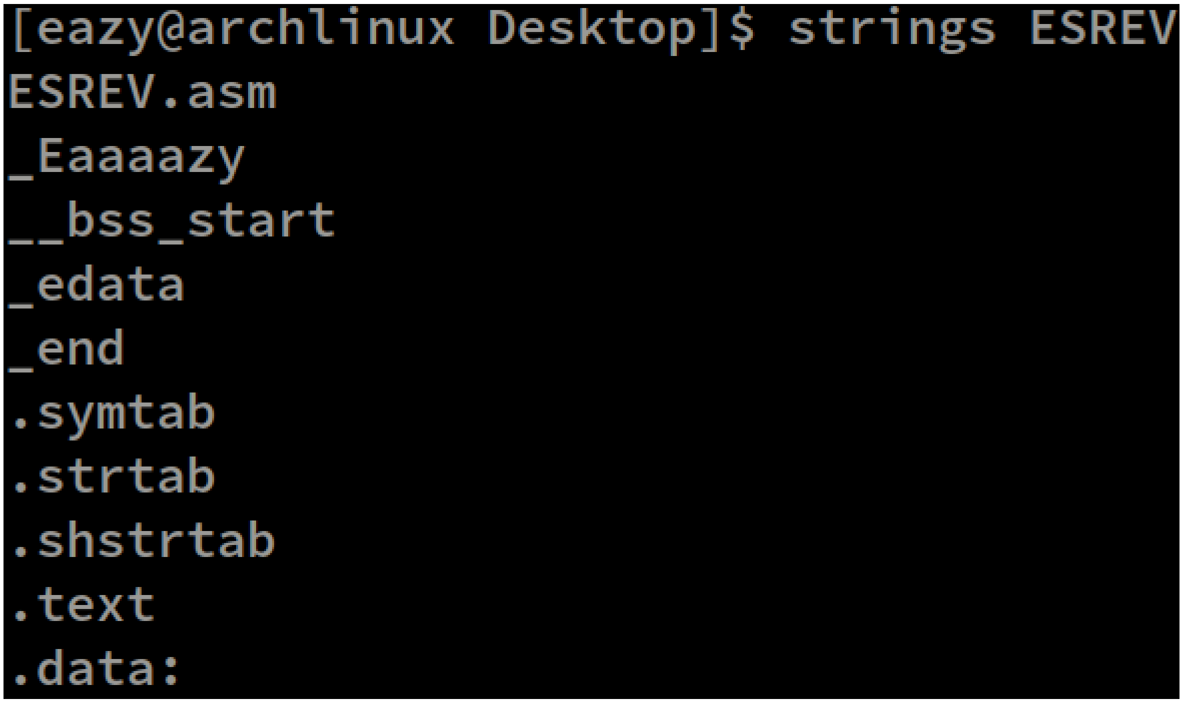
ESREV

```
file ESREV
```



```
[eazy@archlinux Desktop]$ file ESREV
ESREV: ELF 64-bit LSB executable, x86-64, version 1 (SYSV), statically linked, not stripped
```

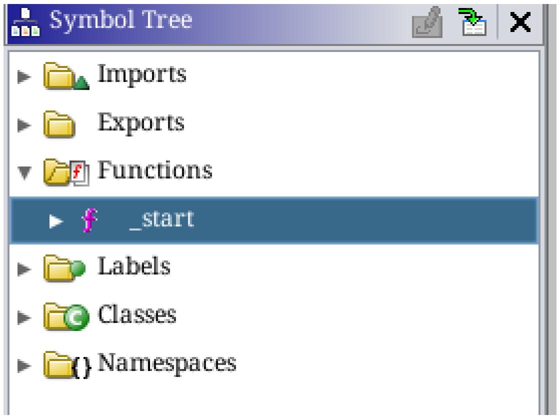
```
strings ESREV
```



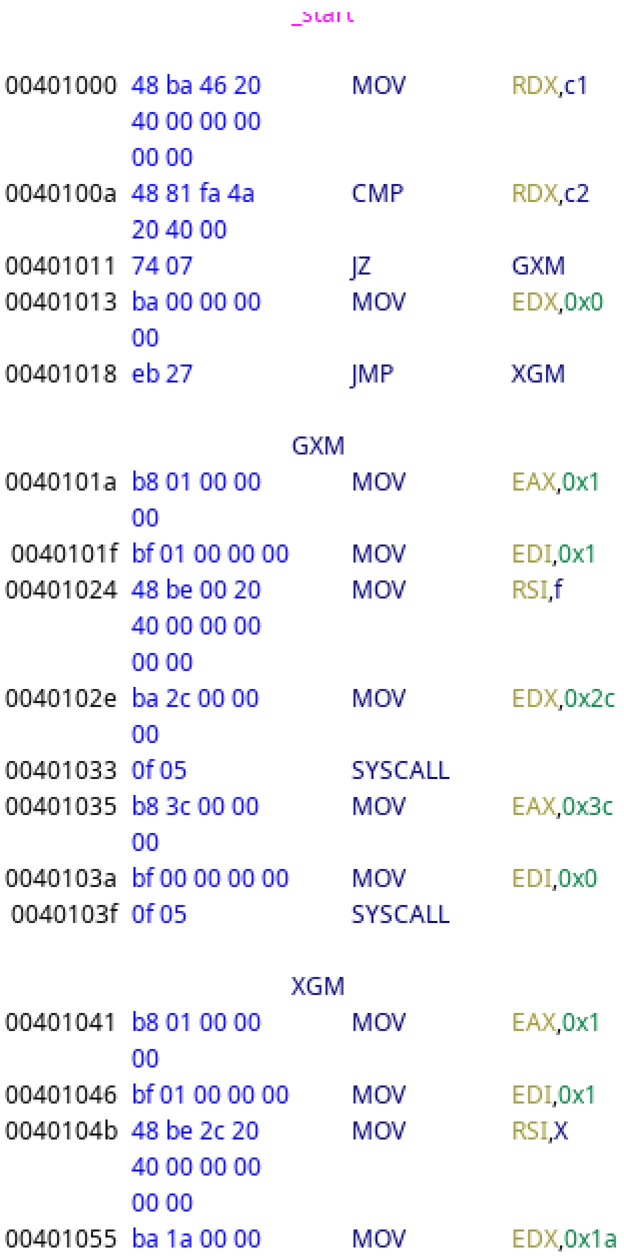
```
[eazy@archlinux Desktop]$ strings ESREV
ESREV.asm
_Eaaaazy
__bss_start
_edata
_end
.symtab
.strtab
.shstrtab
.text
.data:
```

```
ghidra
```

Selectionner le point de lancement du programme :

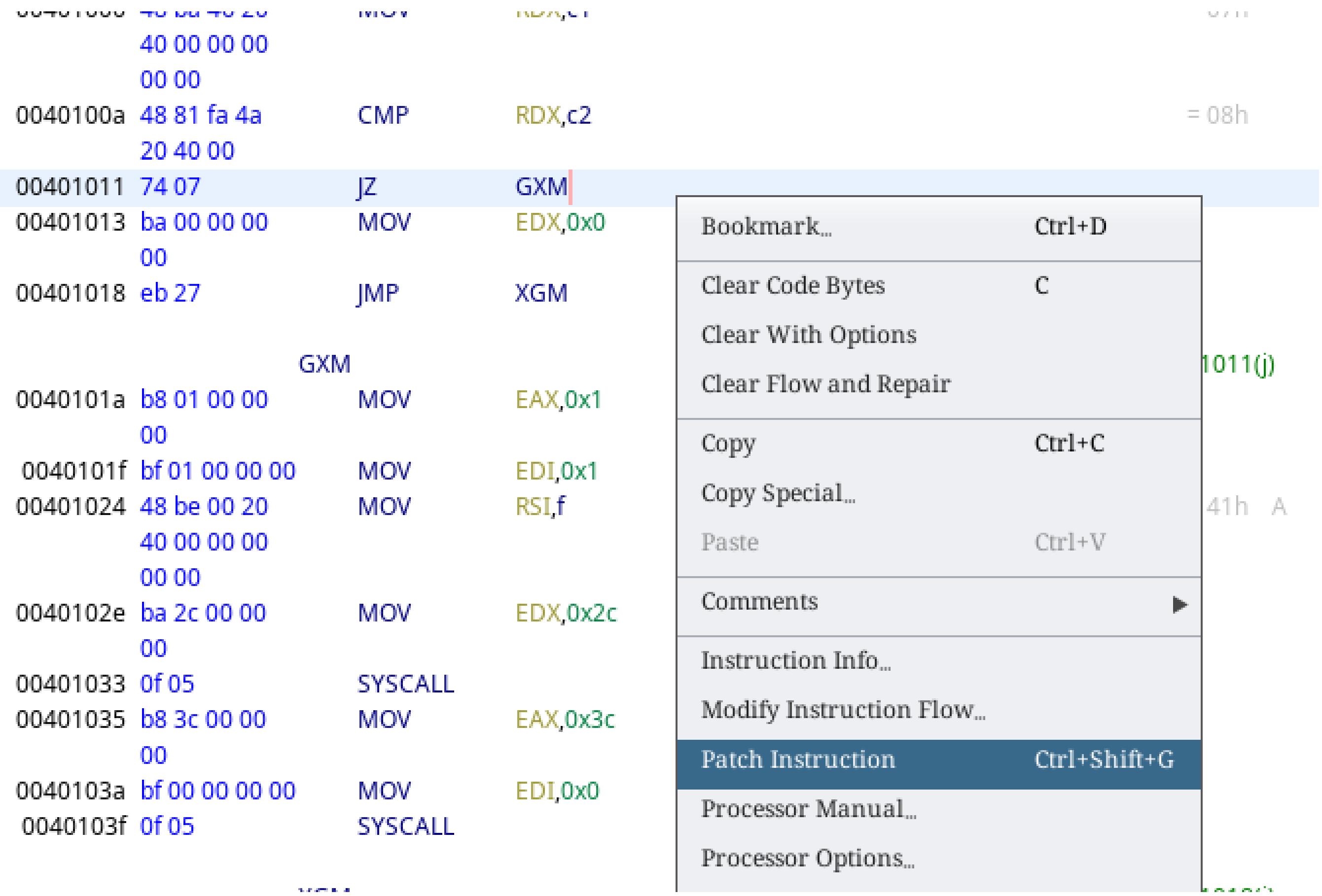


Code :



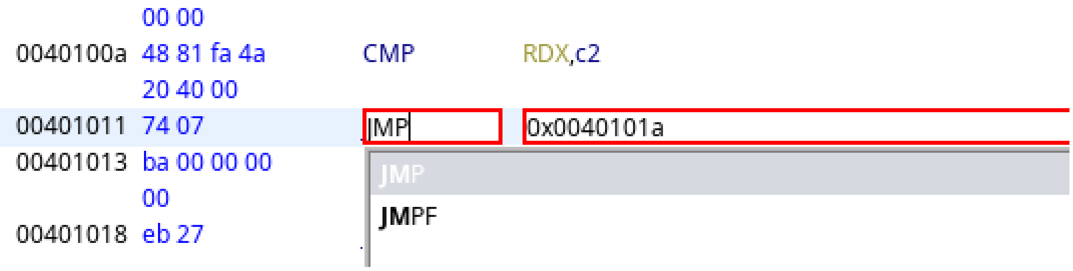
```
                        _start

00401000 48 ba 46 20       MOV      RDX,c1
         40 00 00 00
         00 00
0040100a 48 81 fa 4a       CMP      RDX,c2
         20 40 00
00401011 74 07             JZ       GXM
00401013 ba 00 00 00       MOV      EDX,0x0
         00
00401018 eb 27             JMP      XGM

                        GXM
0040101a b8 01 00 00       MOV      EAX,0x1
         00
0040101f bf 01 00 00 00    MOV      EDI,0x1
00401024 48 be 00 20       MOV      RSI,f
         40 00 00 00
         00 00
0040102e ba 2c 00 00       MOV      EDX,0x2c
         00
00401033 0f 05             SYSCALL
00401035 b8 3c 00 00       MOV      EAX,0x3c
         00
0040103a bf 00 00 00 00    MOV      EDI,0x0
0040103f 0f 05             SYSCALL

                        XGM
00401041 b8 01 00 00       MOV      EAX,0x1
         00
00401046 bf 01 00 00 00    MOV      EDI,0x1
0040104b 48 be 2c 20       MOV      RSI,X
         40 00 00 00
         00 00
00401055 ba 1a 00 00       MOV      EDX,0x1a
```

PATCH l'instruction JZ :



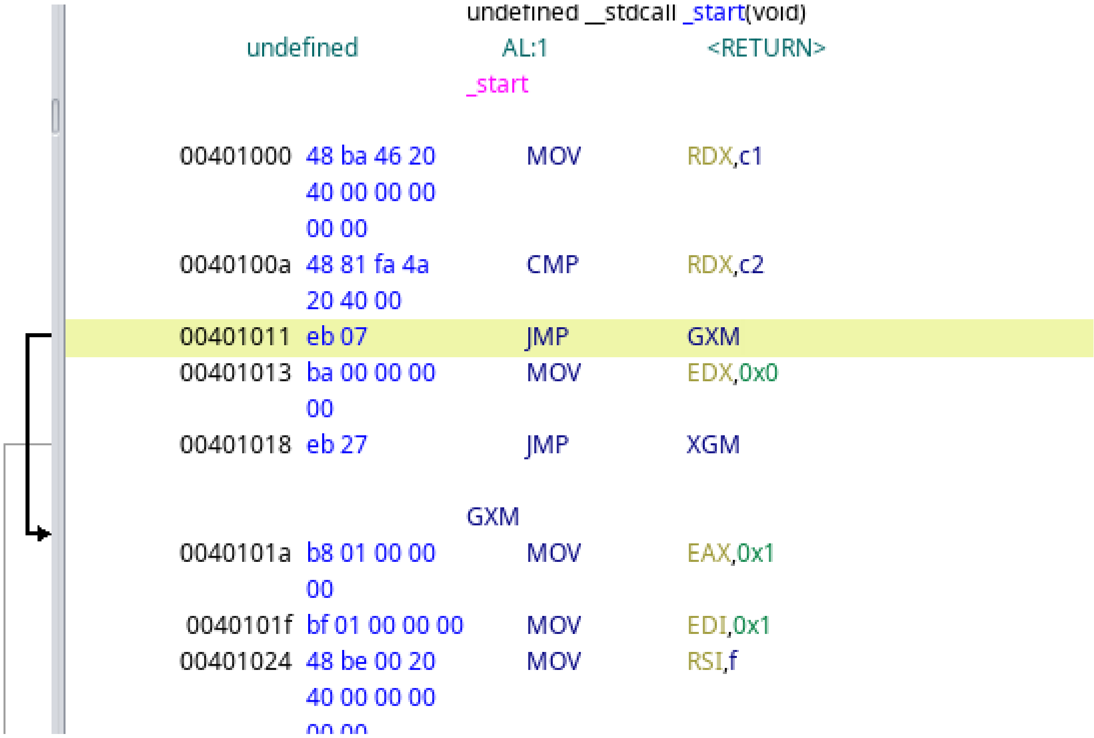
```
          40 00 00 00
          00 00
0040100a  48 81 fa 4a     CMP      RDX,c2                          = 08h
          20 40 00
00401011  74 07           JZ       GXM
00401013  ba 00 00 00     MOV      EDX,0x0
          00
00401018  eb 27           JMP      XGM

                   GXM                                             1011(j)
0040101a  b8 01 00 00     MOV      EAX,0x1
          00
 0040101f bf 01 00 00 00  MOV      EDI,0x1
00401024  48 be 00 20     MOV      RSI,f                           41h   A
          40 00 00 00
          00 00
0040102e  ba 2c 00 00     MOV      EDX,0x2c
          00
00401033  0f 05           SYSCALL
00401035  b8 3c 00 00     MOV      EAX,0x3c
          00
0040103a  bf 00 00 00 00  MOV      EDI,0x0
 0040103f 0f 05           SYSCALL
```

Changer l'instruction JZ (JUMP SI EGALE) par l'instruction JMP (JUMP) :



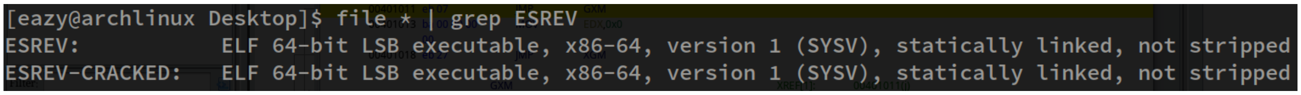
```
          00 00
0040100a  48 81 fa 4a     CMP      RDX,c2
          20 40 00
00401011  74 07           JMP      0x0040101a
00401013  ba 00 00 00
          00
00401018  eb 27
```

Patch sur l'adresse 00401011 avec l'instruction JMP pour accéder à la partie de la mémoire réserver à GXM car par défaut le programme accède à XGM :



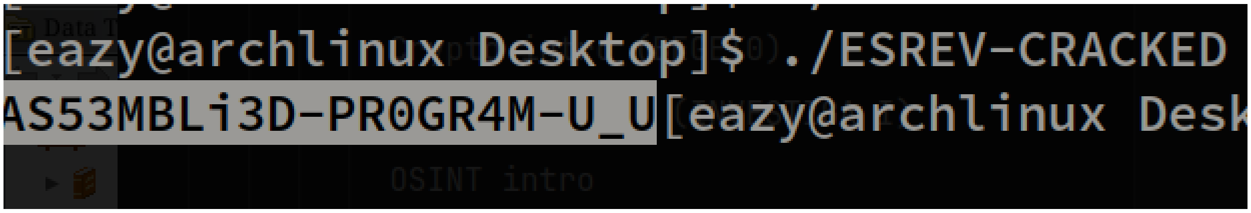
```
                         undefined __stdcall _start(void)
        undefined              AL:1              <RETURN>
                         _start

00401000  48 ba 46 20        MOV        RDX,c1
          40 00 00 00
          00 00
0040100a  48 81 fa 4a        CMP        RDX,c2
          20 40 00
00401011  eb 07              JMP        GXM
00401013  ba 00 00 00        MOV        EDX,0x0
          00
00401018  eb 27              JMP        XGM

                         GXM
0040101a  b8 01 00 00        MOV        EAX,0x1
          00
0040101f  bf 01 00 00 00     MOV        EDI,0x1
00401024  48 be 00 20        MOV        RSI,f
          40 00 00 00
          00 00
```

- Exporter le fichier patché en format ELF



```
[eazy@archlinux Desktop]$ file * | grep ESREV
ESREV:          ELF 64-bit LSB executable, x86-64, version 1 (SYSV), statically linked, not stripped
ESREV-CRACKED:  ELF 64-bit LSB executable, x86-64, version 1 (SYSV), statically linked, not stripped
```

- Executer la version crack :



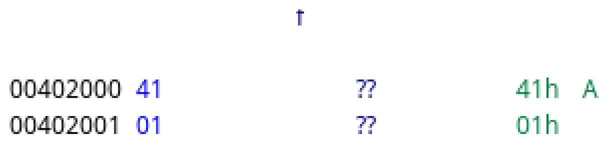
```
[eazy@archlinux Desktop]$ ./ESREV-CRACKED
AS53MBLi3D-PR0GR4M-U_U[eazy@archlinux Desk
```

flag :

```
AS53MBLi3D-PR0GR4M-U_U
```

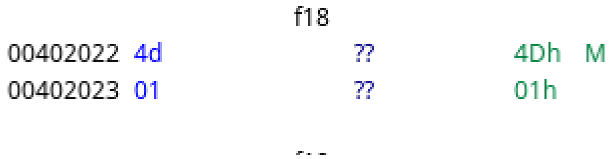
2 ème façon

Ghidra :



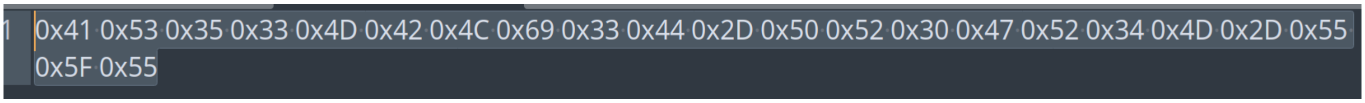
```
                        t
00402000 41          ??        41h   A
00402001 01          ??        01h
```

|
|
v

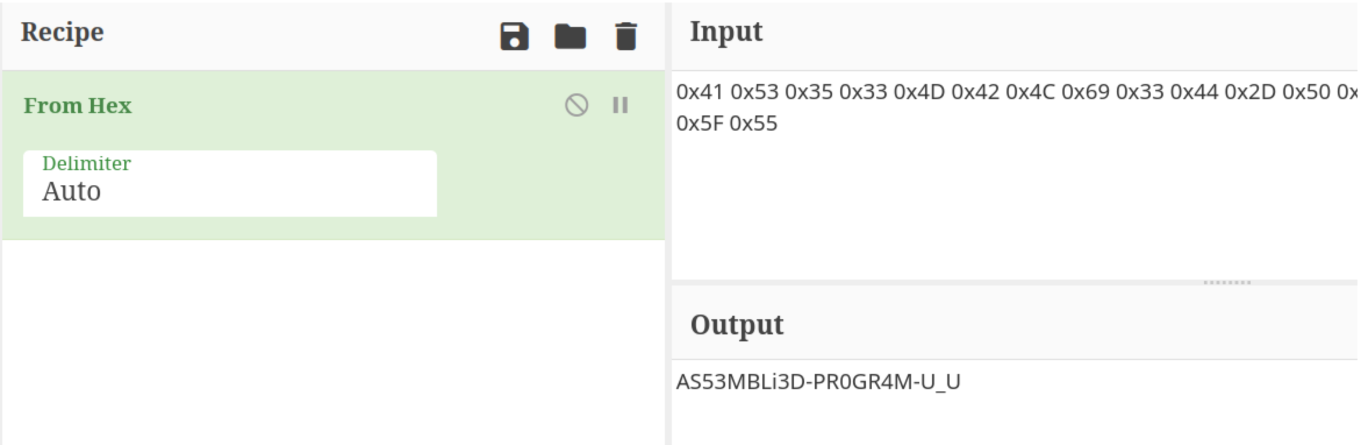


```
                        f18
00402022 4d          ??        4Dh   M
00402023 01          ??        01h
```

hexa flag = 0x41, 0x53, 0x35, 0x33, 0x4D, 0x42, 0x4C, 0x69, 0x33, 0x44, 0x2D, 0x50, 0x52, 0x30, 0x47, 0x52, 0x34, 0x4D, 0x2D, 0x55, 0x5F, 0x55



```
0x41 0x53 0x35 0x33 0x4D 0x42 0x4C 0x69 0x33 0x44 0x2D 0x50 0x52 0x30 0x47 0x52 0x34 0x4D 0x2D 0x55
0x5F 0x55
```



From Hex

Delimiter
Auto

```
0x41 0x53 0x35 0x33 0x4D 0x42 0x4C 0x69 0x33 0x44 0x2D 0x50 0x
0x5F 0x55
```

```
AS53MBLi3D-PR0GR4M-U_U
```

flag :

```
AS53MBLi3D-PR0GR4M-U_U
```