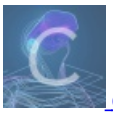
[SUCTF2018]babyre [ACTF新生赛2020]fungame

原创

寻梦&之璐 于 2021-06-02 16:32:43 发布 282 收藏

分类专栏： ctf

本文链接：https://blog.csdn.net/CSNN2019/article/details/117443216



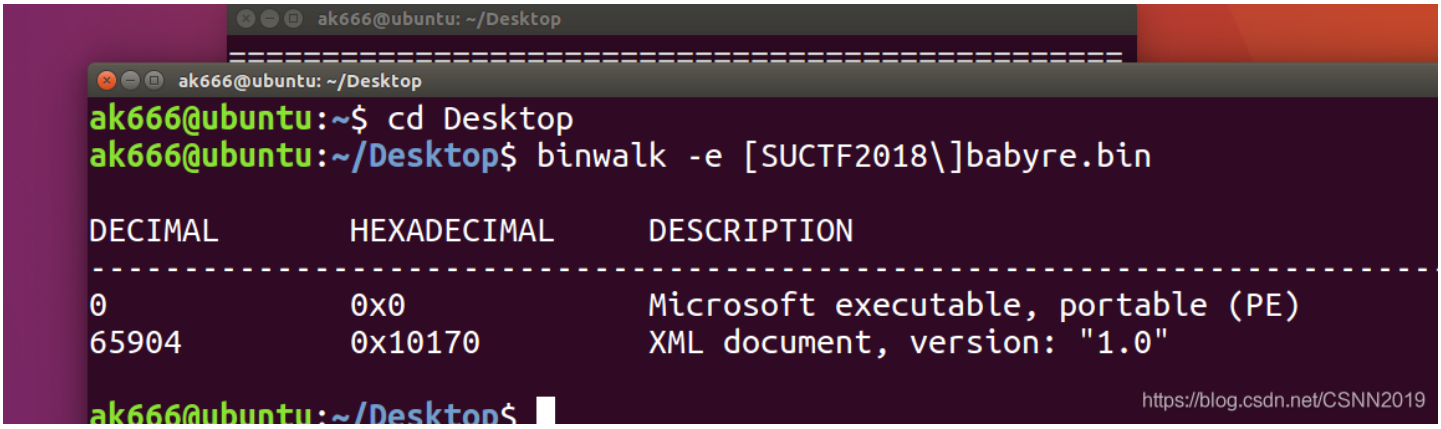
文章目录

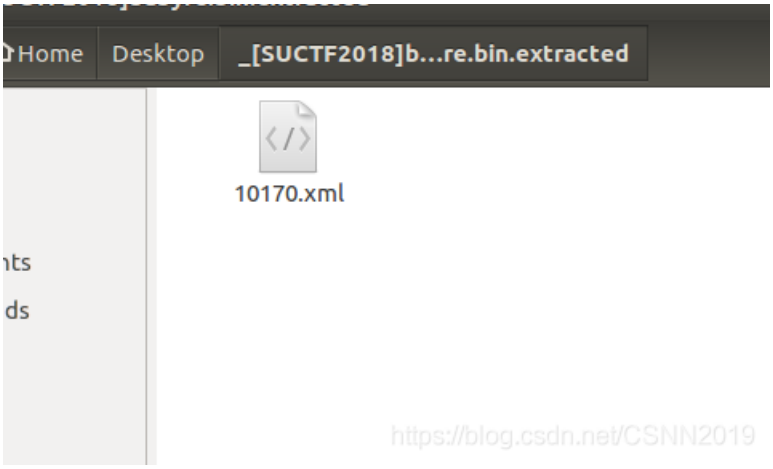
[SUCTF2018]babyre

惯用思维

首先呢，是个bin文件，需要用binwalk把文件提取出来。

```
binwalk -e [SUCTF2018\]babyre.bin
```

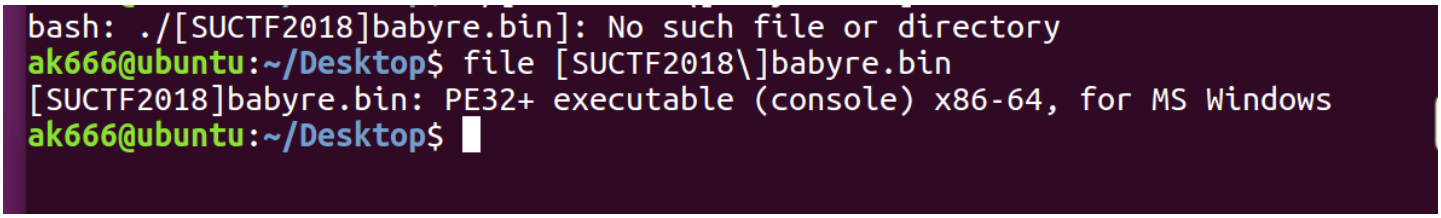




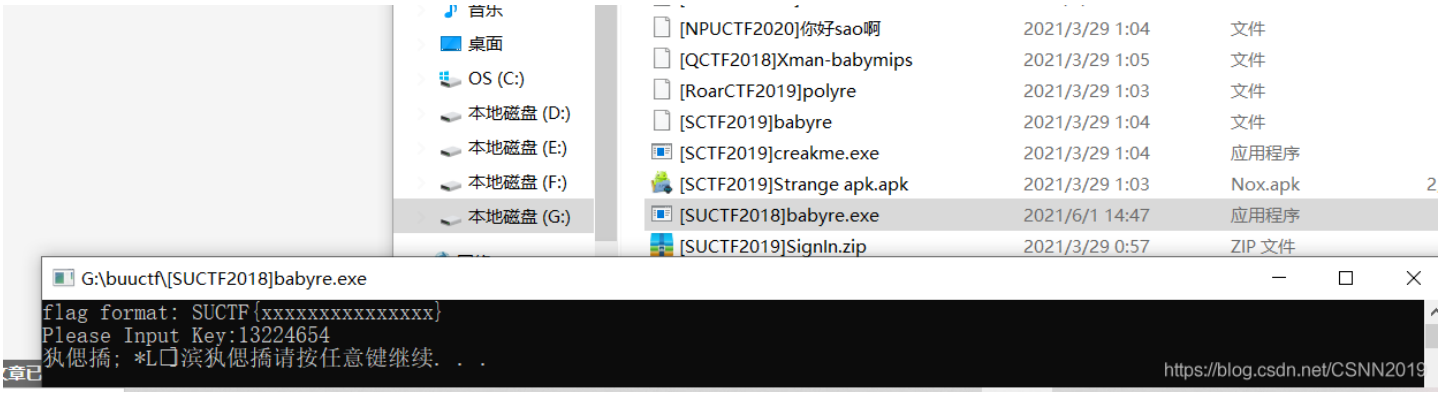
是一个`xml`文件，我打开后除了正常结构就是乱码。。。

然后就没法分析了。。。xml不能放在ida里面分析。。

常人思维



查看一下文件类型，居然是64位的exe程序，任何东西都**保持怀疑的态度**。。笑死人。。。。



如下就是数据库，可以利用这些字符进行运算得到一些其它的字符进行输出

```
v7[0] = 2;
 v7[1] = 3;
 v7[2] = 2;
 v7[3] = 1;
 v7[4] = 4;
 v7[5] = 7;
 v7[6] = 4;
 v7[7] = 5;
 v7[8] = 10;
 v7[9] = 11;
 v7[10] = 10;
 v7[11] = 9;
 v7[12] = 14;
 v7[13] = 15;
 v7[14] = 12;
 v7[15] = 13;
 v7[16] = 16;
 v7[17] = 19;
 v7[18] = 16;
 v7[19] = 17;
 v7[20] = 20;
 v7[21] = 23;
 v7[22] = 22;
 v7[23] = 19;
 v7[24] = 28;
 v7[25] = 25;
 v7[26] = 30;
 v7[27] = 31;
 v7[28] = 28;
 v7[29] = 25;
 v7[30] = 26;
 v7[31] = 31;
 qmemcpy(v8, "$!\"'$!\"#().+$-&/81:;4=>7092;<567HIBBDDFGHIJJMMONPPRSUTVWYYZ[\\]^^``ccdeggiikklmnnpprstuwwxy{{}}
", 94);
 v8[94] = 127;
 v8[95] = 127;
 v8[96] = -127;
 v8[97] = -127;
 v8[98] = -125;
 v8[99] = -125;
 v8[100] = -116;
 v8[101] = -115;
 v8[102] = -114;
```

```
v8[103] = -113;
v8[104] = -120;
v8[105] = -119;
v8[106] = -118;
v8[107] = -117;
v8[108] = -116;
v8[109] = -115;
v8[110] = -114;
v8[111] = -121;
v8[112] = -104;
v8[113] = -111;
v8[114] = -110;
v8[115] = -109;
v8[116] = -108;
v8[117] = -107;
v8[118] = -106;
v8[119] = -105;
v8[120] = -104;
v8[121] = -103;
v8[122] = -102;
v8[123] = -102;
v8[124] = -100;
v8[125] = -100;
v8[126] = -98;
v8[127] = -98;
v8[128] = -96;
v8[129] = -96;
v8[130] = -94;
v8[131] = -94;
v8[132] = -92;
v8[133] = -92;
v8[134] = -90;
v8[135] = -90;
v8[136] = -88;
v8[137] = -88;
v8[138] = -86;
v8[139] = -86;
v8[140] = -84;
v8[141] = -84;
v8[142] = -82;
v8[143] = -82;
v8[144] = -80;
v8[145] = -79;
v8[146] = -78;
v8[147] = -77;
```

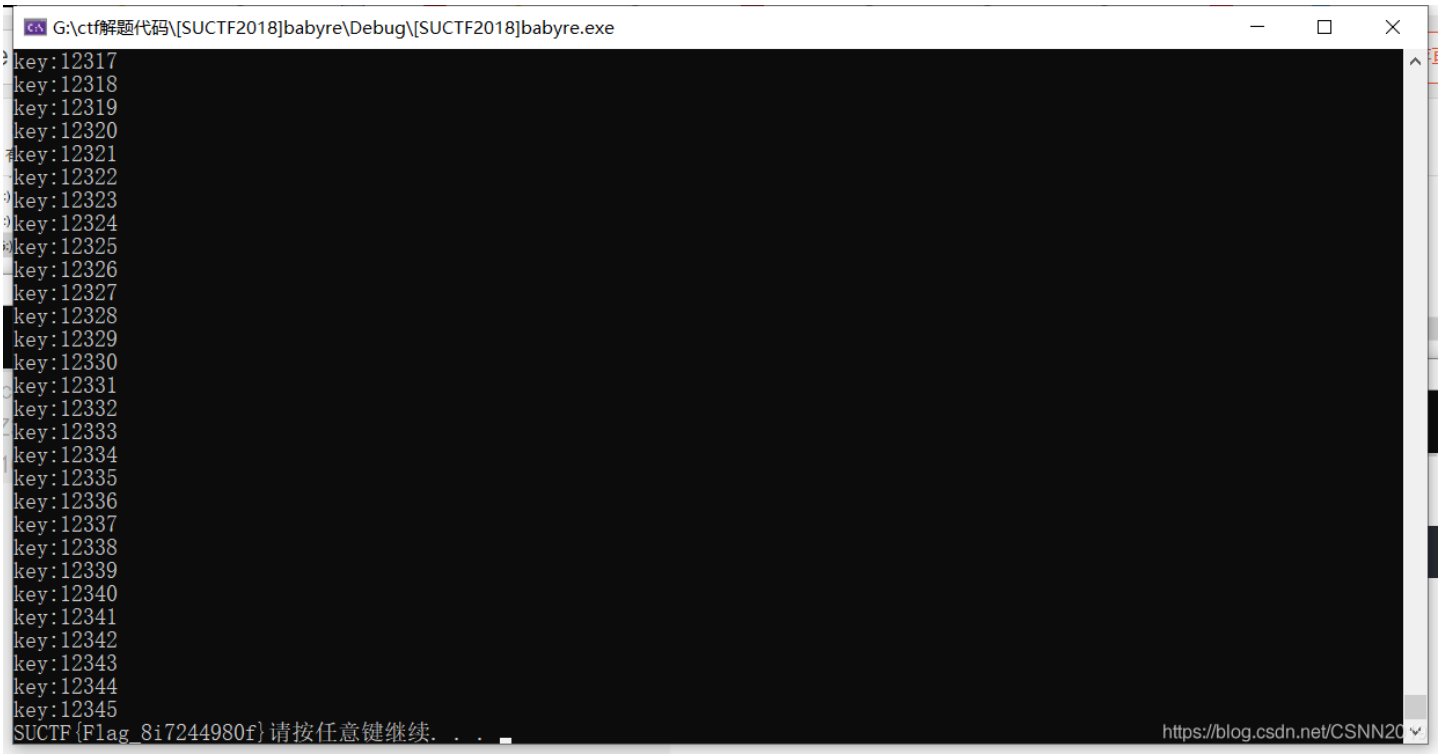
这里的话就是利用数据区的字符进行一系列运算，然后进行flag的赋值，然后接着一个函数进行字符输出。

```
while ( v9[30] )
 {
   --v9[30];
   for ( j = 22; j; v9[j] |= v13 << v9[30] )
   {
     v12 = v7[22 * v9[30] + --j];
     v13 = (v12 >> ((v10[0] >> (2 * v9[30])) & 3)) & 1;
   }
 }
```

输入不同的key然后就会有不同的字符输出，我们需要找到输出flag的key，而flag字符的特征就是`SUCTF`，如果就这种特征，那么就进行输出

```
if (flag[0] == 'S' && flag[1] == 'U' && flag[2] == 'C' && flag[3] == 'T' && flag[4] == 'F')
{
 for (int i = 0; i < 22; i++)
  printf("%c", flag[i]);
 system("pause");
}
```

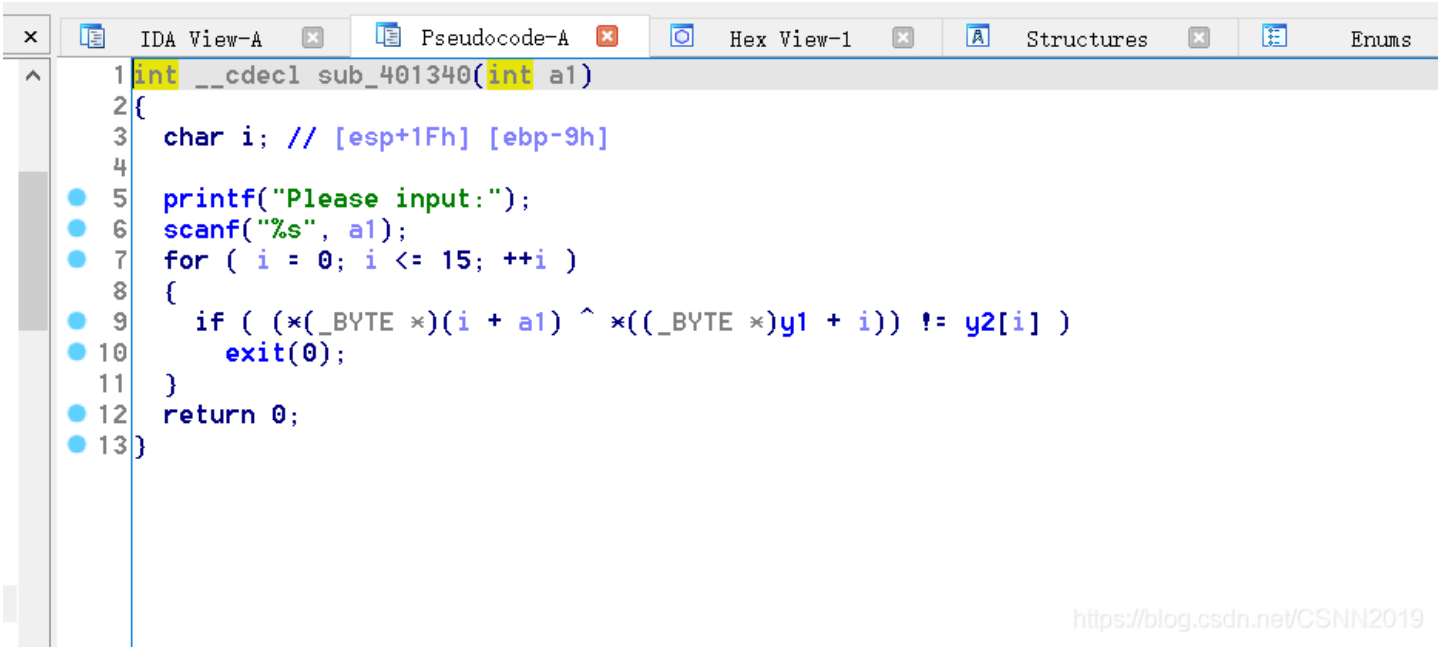
GAMEOVER




```
SUCTF{Flag_8i7244980f}
```

[ACTF新生赛2020]fungame

int __cdecl sub_401340(int a1)




```
flag=[None]*16
b=""
y1=[
  0x23, 0x61, 0x3E, 0x69, 0x54, 0x41, 0x18, 0x4D, 0x6E, 0x3B,
  0x65, 0x53, 0x30, 0x79, 0x45, 0x5B
]
y2=[
  0x71, 0x04, 0x61, 0x58, 0x27, 0x1E, 0x4B, 0x22, 0x5E, 0x64,
  0x03, 0x26, 0x5E, 0x17, 0x3C, 0x7A
]
for i in  range(len(y1)):
    a=hex(y2[i]^y1[i])
    b+=chr(y2[i]^y1[i])
    flag[i]=a
print(b)
```

```
Re_1s_So0_funny!
```

然而却是错误，看第二个函数

int __cdecl sub_4013BA(char *Source)

```
int __cdecl sub_4013BA(char *Source)
{
  char Destination[12]; // [esp+1Ch] [ebp-Ch] BYREF

  strcpy(Destination, Source);
  strcpy(x, Source);
  return 0;
}
```

```
  strcpy(Destination, Source);
```

这行代码导致栈溢出，然后导致返回地址被覆盖，紧接着返回的时候就没法正确返回，以至于程序过了第一个函数，第二个函数结束时，就自动gg。

我一直好奇和其它博主输入一样，然后栈溢出导致返回地址覆盖时，改变后却不一样，嗯哼？？？？出题人强行整活。。

```
strcpy(x, Source);
```

这里有个全局变量x，要找这个线索，固定了前16字节字符，后面覆盖值需要自己算，然后跳入`_sub_40233D`这个函数。说白了就是一个pwn题，跟re无关。

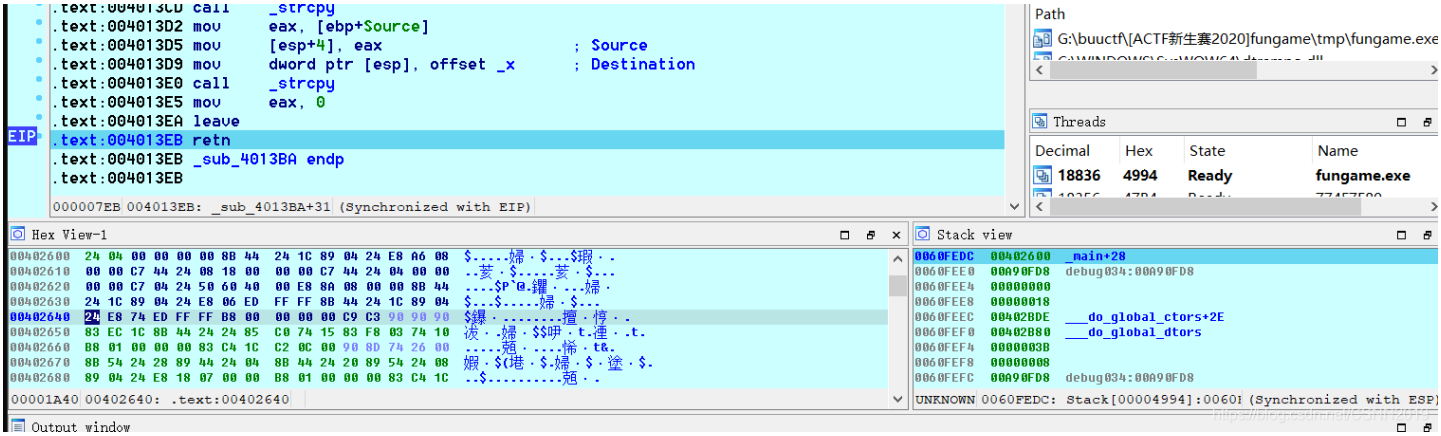
```
.bss:00406050                 align 10h
.bss:00406050                 public _x
.bss:00406050 ; char x[36]
.bss:00406050 _x              db 24h dup(?)           ; DATA XREF: _sub_4013BA+1F↑o
.bss:00406050                                         ; _sub_40233D+B8↑o ...
.bss:00406074                 public __bss_end__
```

`_sub_40233D`这个函数是出题人自己搞的，它也不会自动覆盖跳，需要玩家手动算。欧了，base64，这题目对于re玩家毫无价值，对于pwn玩家有太简单。搞不懂re库为啥会有这种？？？

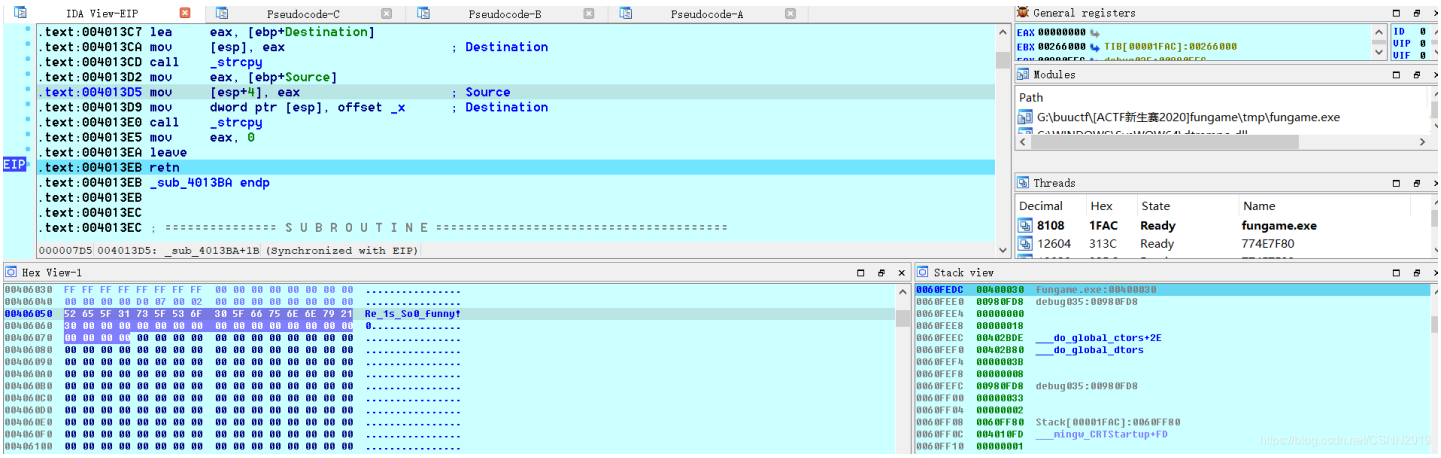
IDA Vi… | Pseudoco… | Pseudoco… | Pseudoco… | Hex Vi…

```
1  void __noreturn sub_40233D()
2  {
3    char Str2[13]; // [esp+13h] [ebp-35h] BYREF
4    char Str1[16]; // [esp+20h] [ebp-28h] BYREF
5    char Str[12]; // [esp+30h] [ebp-18h] BYREF
6    size_t v3; // [esp+3Ch] [ebp-Ch]
7
8    printf("Please input again:");
9    strcpy(Str2, "YTFzMF9wV24=");
10   memset(Str, 0, sizeof(Str));
11   memset(Str1, 0, sizeof(Str1));
12   scanf("%s", Str);
13   v3 = strlen(Str);
14   sub_402421(Str, v3, Str1);
15   if ( !strcmp(Str1, Str2) )
16   {
17     printf("%s%s", x, Str);
18     exit(0);
19   }
20   exit(0);
21 }
```


输入：Re_1s_So0_funny!，返回地址如下：



输入：Re_1s_So0_funny!0，返回地址如下：



这个题完全没有必要继续研究，就是出题人强行整活，作为re题的话，直接没法做；作为pwn题的话，又太无聊，总结————————凑数题（跳转不固定，flag固定，这咋做？脑洞？）