

Picker II



Medium Reverse Engineering picoGym Exclusive Python

AUTHOR: LT 'SYREAL' JONES

Description

Can you figure out how this program works to get the flag?

Additional details will be available after launching your challenge instance.

This challenge launches an instance on demand.

Its current status is: NOT_RUNNING

[Launch Instance](#)

Hints ?

1

Can you do what `win` does with your input to the program?

Solusi :

The terminal window shows the following steps:

- File listing: `ls` shows files like `picker-II.py`, `tempCodeRunnerFile.py`, and `flag.txt`.
- File removal: `rm flag.txt` removes the `flag.txt` file.
- HTTP download: `wget https://artifacts.picoctf.net/c/522/picker-II.py` downloads the file `picker-II.py` from the specified URL.
- File transfer: `nc saturn.picoctf.net 54006` establishes a connection to the challenge server.
- File reading: `print(open('flag.txt', 'r').read())` reads the contents of the `flag.txt` file.
- Output: The final output is the flag: `picoCTF{f1f73r5_f411_c0d3_r3fc70r_m1gh7_5ucc33d_0b5f1131}`.

The right side of the terminal window shows the source code of `picker-II.py`:

```
return -1;

/* Redo the installation check as the 32-bit connect;
 * some BIOSes return different flags this way... */
ireg.al = 0x00;
intcall(0x15, &ireg, &oreg);

if ((oreg.eflags & X86_EFLAGS_CF) || oreg.bx != 0x504d) {
    /* Failure with 32-bit connect, try to disconnect and ignore */
    ireg.al = 0x04;
    intcall(0x15, &ireg, NULL);
    return -1;
}

boot_params.apm_bios_info.version = oreg.ax;
boot_params.apm_bios_info.flags = oreg.cx;
return 0;
}

print(esoteric)

def win():
    # This line will not work locally unless you create your own 'flag.txt' in
    # the same directory as this script
    flag = open('flag.txt', 'r').read()
    #flag = flag[-1]
    flag = flag.strip()
    str_flag = ''
    for c in flag:
        str_flag += str(hex(ord(c))) + ' '
    print(str_flag)

def esoteric2():
    esoteric = \
    ...
#include "boot.h"

#define MAX_8042_LOOPS 100000
#define MAX_8042_FF 32

static int empty_8042(void)
{
    u8 status;
    int loops = MAX_8042_LOOPS;
    int ffs = MAX_8042_FF;

    while (loops--) {
        io_delay();

        status = inb(0x64);
        if (status == 0xff) {
            /* FF is a plausible, but very unlikely status */

```