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KELAS: B

Bochs for Windows - Console

Langkah – Langkah

1. Pindah Ke dir OS dan setpath kemudian ketik perintah 's', kemudian ketik perintah 'r'

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```
Microsoft Windows [Version 10.0.17134.1006]
c) 2018 Microsoft Corporation. All rights reserved.
::\Users\ASUS>cd ../..
C:\>cd os
  \O5>Path=C:\O5\Dev-Cpp\bin;C:\O5\Bochs-2.3.5;c:\O5\Perl;C:\Windows;C:\Windows\5ystem32
 \OS>cd lab/lab3
 :\OS\LAB\LAB3>s
::\OS\LAB\LAB3>..\..\bochs-2.3.5\bochsdbg -q -f bochsrc.bxrc
0000000000i[APIC?] local apic in initializing
                       Bochs x86 Emulator 2.3.5
            Build from CVS snapshot, on September 16, 2007
                    reading configuration from bochsrc.bxrc installing win32 module as the Bochs GUI
0000000000001
aaaaaaaaaaaaa
                   ] using log file bochs.log
000000000000i[
Next at t=0
(0) [0xfffffff0] f000:fff0 (unk. ctxt): jmp far f000:e05b
                                                                      ; ea5be000f0
<bochs:1> r
ax: 0x00000000:00000000 rcx: 0x00000000:00000000
rdx: 0x000000000:00000f20 rbx: 0x00000000:00000000
rsp: 0x00000000:00000000 rbp: 0x00000000:00000000
rsi: 0x00000000:00000000 rdi: 0x00000000:00000000
r8 : 0x000000000:000000000 r9 : 0x00000000:00000000
r10: 0x00000000:00000000 r11: 0x00000000:00000000
12: 0x00000000:00000000 r13: 0x00000000:00000000
r14: 0x00000000:00000000 r15: 0x00000000:00000000
rip: 0x000000000:0000fff0
eflags 0x00000002
IOPL=0 id vip vif ac vm rf nt of df if tf sf zf af pf cf
<bochs:2>
```

2. Lakukan lagi perintah 's' dan 'r'

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Bochs for Windows - Console
IOPL-0 id vip vif ac vm rf nt of df if tf sf zf af pf cf
<books:2> s
Next at t-1
(0) [0x000fe05b] f000:e05b (unk. ctxt): xor ax, ax
                                                                   ; 31c0
<bochs:3> r
rax: 0x00000000:00000000 rcx: 0x00000000:00000000
rdx: 0x00000000:00000f20 rbx: 0x00000000:00000000
rsp: 0x00000000:00000000 rbp: 0x00000000:00000000
rsi: 0x00000000:00000000 rdi: 0x00000000:00000000
r8 : 0x00000000:00000000 r9 : 0x000000000:00000000
r10: 0x00000000:00000000 r11: 0x00000000:00000000
r12: 0x00000000:00000000 r13: 0x00000000:00000000
r14: 0x00000000:00000000 r15: 0x00000000:00000000
rip: 0x000000000:0000e05b
eflags 0x000000002
IOPL=0 id vip vif ac vm rf nt of df if tf sf zf af pf cf
```

3. Buat break point dengan perintah 'vb 0:0x7C00'

```
□ Bochsfor Windows - Console

IOPL-0 id vip vif ac vm rf nt of df if tf sf zf af pf cf

⟨bochs:4> vb 0:0x7C00

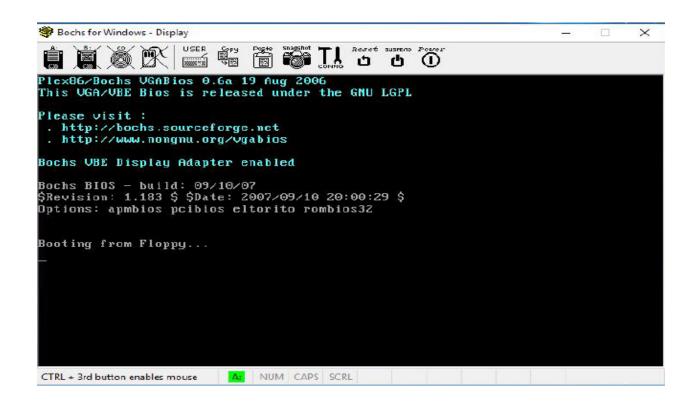
⟨bochs:5> c

(10254512) Breakpoint 10285624, in 0000:7c00 (0x00007c00)

Next at t=2082128

(0) [0x00007c00] 0000:7c00 (unk. ctxt): jmp .+0x003b (0x00007c3e); e93b00

⟨bochs:6> ■
```



4. Lakukan debugging sebanyak 10x dengan ketik perintah 's' dan enter

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Bochs for Windows - Console
(10264512) Breakpoint 10285624, in 0000:7c00 (0x00007c00)
 ext at t=2082128
 0) [0x00007c00] 0000:7c00 (unk. ctxt): jmp .+0x003b (0x00007c3e) ; e93b00
 bochs:6> s
lext at t=2082129
 0) [0x000007c3e] 0000:7c3e (unk. ctxt): cli
                                                                                                ; fa
 bochs:7> s
lext at t=2082130
 0) [0x00007c3f] 0000:7c3f (unk. ctxt): mov ax, 0x07c0
                                                                                                ; b8c007
 0) [0xx000751] 0cc0-7c2 (umk.
bochs:8> s
lext at t=2082131
0) [0x00007c42] 0000:7c42 (unk. ctxt): mov ds, ax
                                                                                                ; 8ed8
 0) [0x00007c44] 0000:7c42 (unk. ctxt). mov us, ux
blext at t=2082132
0) [0x00007c44] 0000:7c44 (unk. ctxt): mov es, ax
Redichs:10> s

Next at t=2082133

(0) [0x00007c46] 0000:7c46 (unk. ctxt): mov fs, ax bochs:11> s

Next at t=2082134

(0) [0x00007c48] 0000:7c48 (unk. ctxt): mov gs, ax bochs:12> s

Next at t=2082435
 bochs:10> s
                                                                                                : 8ee0
                                                                                                ; 8ee8
lext at t=2082135

(0) [0x00007c4a] 0000:7c4a (unk. ctxt): mov ax, 0x0000

(bochs:13> s
                                                                                                : b86696
 lext at t-2082136
 0) [0x00007c4d] 0000:7c4d (unk. ctxt): mov ss, ax
                                                                                                ; 8ed0
 bochs:14> s
lext at t=2082137
0) [0x00007c4f] 0000:7c4f (unk. ctxt): mov sp, 0xffff
                                                                                                 ; bcffff
 lext at t-2082138
 0) [0x00007c52] 0000:7c52 (unk. ctxt): sti
```