

Disassembling

Disassemble a function	disassemble vuln
Disassemble at address	disassemble 0x400566

Running

Run until termination or breakpoint	r
Run and pause at main()	start
Run and provide arguments	r arg1 arg2
If binary prompts for input once through stdin, pass input via file	r < in.txt
If binary prompts for input more than once through stdin	r <<(echo "input1"; echo "input2")

Stepping

Continue execution	c
Execute next instruction and step over a function	ni
Execute instruction and step into a function	si

Breakpoints

Set breakpoint at function	bp vuln
Set breakpoint at address	bp 0x4005b5
Set breakpoint at function + offset	bp vuln+47
List breakpoints	bl
Delete all breakpoints	d br
Disable breakpoint 2	bd 2
Enable breakpoint 2	be 2

Examining data

Examine two 8-byte values at RBP in hex	x/2gx \$rbp
Examine 10 instructions at main+25	x/10i *main+25
Examine 4-bytes of RAX in hex	x/wx \$rax
Print R10 in decimal	p/d \$r10
Print sum of 0x500 and 0x39 in decimal	p/d 0x500 + 0x39
Print the address of vuln()	p vuln

Using the **x** or **p** command followed by the **size** of the data to examine, and **format** letters

Sizes include **byte**, **word**, **halfword**, and **giant**.

Format letters include **o**ctal, **h**ex, **d**ecimal, **i**nstruction, **c**har, and **s**tring.

Modifying data

Set the RAX register to 5	set \$rax = 5
Set the value pointed to by an address to 5	set *0x7fffffff280 = 5
Set the value pointed to by RAX-8 to 5	set *(\$rax-8) = 5
Set the RIP register to another address	set \$rip = 0x4005b5

FLAGS register

View FLAGS register	regs eflags
Set the ZF flag (bit 6)	set \$eflags = (1 << 6)
Clear the ZF flag (bit 6)	set \$eflags &= ~(1 << 6)

Carry: CF=0
Parity: PF=2
Adjust: AF=4
Zero: ZF=6
Sign: SF=7
Interruption: IF=9
Direction: DF=10
Overflow: OF=11

Display state of the program

context

Get address of saved return pointer

Return address of current stack frame	x/gx \$rbp+8
Discovered return addresses on the stack	retaddr

Search for a string in memory

Look for "Hello" search Hello

Get distance between addresses

Using p	p/d 0x7fffffff278 - 0x7fffffff220
Using distance	distance 0x7fffffff220 0x7fffffff278

Print hexdump

Dump register	hexdump \$rsp
Dump memory address	hexdump 0x7fffffff248

Display stack

View the stack	stack
View 30 rows of the stack	stack 30

Print virtual memory map pages

Display stack	vmmap stack
Display program	vmmap vuln01
Display heap	vmmap heap

Check security settings

checksec