Operating System Memory (Kernel)	4GB (Max)
Stack	
↓	
Unused Space	
↑	
Heap	
Uninitialized Data (.bss)	
Initialized Data (.data)	
Program Code (.text)	
	0x08048000
Operating System memory (for book-keeping purposes related to this particular process)	0x0

Address Increases

A 32-bit processor can address 2 ^ 32 different memory locations. So the virtual memory can have 2 ^ 32 ~ 4 billion addresses.

And the address space is byte-addressable i.e. each address can hold one byte. So the VM at maximum can hold 4 billion bytes ~ 4 Gigabytes.

Note: Initially only a small amount of space is allocated for a process. The address space grows based on demand.

Address Space of a Process