The virtual address space for a process is the set of virtual memory addresses that it can use. The address space for each process is private and cannot be accessed by other processes unless it is shared.

A virtual address does not represent the actual physical location of an object in memory; instead, the system maintains a *page table* for each process, which is an internal data structure used to translate virtual addresses into their corresponding physical addresses. Each time a thread references an address, the system translates the virtual address to a physical address.