

Aspect	Process	Thread
Definition	An independent program with its own memory space.	A “lightweight” process that shares its memory space with other threads in the same process.
Memory Space	Each process has its own separate memory space.	Threads within the same process share the same memory space.
Resource Sharing	Resources are not shared between processes.	Threads share resources such as code, data, and open files.
Creation Time	Creating a new process is relatively slow.	Creating a new thread is faster.
Context Switching	Context switching between processes is slower.	Context switching between threads is faster.
Communication	Inter-process communication (IPC) is complex and slower.	Inter-thread communication is simpler and faster.
Overhead	Higher overhead due to separate memory spaces and resource allocation.	Lower overhead due to shared memory and resources.
Crash Impact	If one process crashes, it does not affect other processes.	If one thread crashes, it can affect the entire process.
Synchronization	Synchronization between processes requires IPC mechanisms.	Synchronization between threads can be achieved using simpler mechanisms like mutexes and semaphores.
Use Cases	Suitable for tasks that require isolation and separate memory spaces.	Suitable for tasks that require frequent communication and resource sharing.