Shared Memory Segment

- Linux systems provide various methods for inter process communication (IPC). One of the methods to achieve this is shared memory segments.

- Shared Memory segments are temporary files which are a part of **tempfs** of the system. There is a process which is the owner or the creator of this shared segment. Rest of the processes sharing this segment are the clients.

- Each shared memory segment can be accessed by any number of processes which have the **ID** corresponding to it.

- After allocating the shared memory segment each process needs to attach this temporary file to its virtual address space.

- Shared memory segments are inherited across fork which implies that if a shared memory segment is allocated by a parent process and then a fork is called then the parent and the child can easily communicate through this segment.

- The issue now comes down to the fact that we need some directional communication for our use case i.e. we can have a condition when we only want either the parent process or the child process to have write access to the shared memory segment.

- This becomes difficult when we use the **shm** implementation that is already provided.