

Understanding Synchronization

- Synchronization in java controls multiple threads from accessing **the same shared resource** in order to prevent an inconsistent state.
- Java Synchronization is done when we want to allow only one thread to access the shared resource.
- In other words Synchronization is a process of making only one thread access a resource, where multiple threads are trying to access the same resource, and moving all the remaining threads in to waiting state.

Advantage:- Resolves Thread Interference & Memory Consistency problems

Disadvantage:- Increases Thread waiting time.

- We can use Synchronization in two ways, a method can be synchronized and a block can be synchronized.
- We can't synchronize a complete class.

Understanding Deadlocks

- Deadlock describes a situation where two or more threads are blocked forever, & waiting for each other.
- In other words it is a condition which occurs when two or more threads get blocked, waiting for each other for an infinite period of time to release the resources they hold.