

Platform

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Concurrency: It is a mechanism supported by a platform which enables a program to simultaneously execute multiple code-blocks. It is used for

1. **Asynchrony** - in which the caller of a procedure is allowed to resume execution before that procedure returns to increase responsiveness of the program.
2. **Parallelism** - in which different iterations of a long running loop are executed on separate processors (or cores) available on the hardware to increase the performance of the program.

Thread: It is the basic unit of concurrency with following characteristics.

1. A thread executes a method assigned to it concurrently with other threads of its program including the main thread which is executed when the program is started.
2. A thread shares the values of non-local variables defined in its program with other threads of that program.

Persistence: It is a mechanism supported by the platform which enables a program to retain the state of its data across its multiple execution cycles. A program commonly uses files for directly persisting the data or it may use database systems to manage persistence.

Object Serialization: It is a process of converting the entire state of an object (including the state of objects this object refers to) into a stream (series) of bytes from which it can be reconstructed (deserialized). Java runtime library supports serialization of any object with following characteristics

1. Its class must inherit from *java.io.Serializable* type which is an empty interface.
2. It must not contain a reference to a non-serializable object through an instance field defined in its class without the *transient* modifier.
3. Its class should define a static final long serialVersionUID field and assign it a different value whenever it makes a change to the set of non-transient instance field definitions.

