Multithreading

Process is an instance of program that is being executed whereas, Threads are light weight sub-processes within a process. Threads are smallest units of programming which is used to make application faster by running processes in parallel.

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Banking appln

Threads are classified into:

* Single Thread: A single thread is basically a lightweight and the smallest unit of processing.
* Multi-Thread: While multithreading can be defined as the execution of two or more threads concurrently.

Multithreading is a Java feature in java is a process of executing multiple threads simultaneously. Multiprocessing and multithreading, both are used to achieve multitasking. Multithreading is a Java feature that allows concurrent execution of 2 or more parts of a program for maximum utilization of CPU.

Advantages of using Threads

* It doesn't block the user because threads are independent and you can perform multiple operations at same time.
* You can perform many operations together so it saves time.
* Threads are independent so it doesn't affect other threads if exception occur in a single thread.

Threads can be created by:

1. Extending Thread Class

2.Implementing Runnable Interface.

**Extending Thread Class**

Java.lang.Threadclass

Thread begins it life inside run() method. We create an object of the class and creates start() method to start execution of thread.

Start() invokes run() method on thread object. Thread execution starts by calling run() method.

**Implementing Runnable Interface**

Why we are using Runnable Interface

If we extend Thread class, our class cannot extend any other class, because Java does not support multiple inheritance. But if we implement Runnable Interface, our class can still extend Base class.

Runnable Interface does not have a method called start().So we pass to thread class object.

**Synchronized**

There are some methods which cannot be accessed in parallel by threads. Other threads can access methods with keyword synchronized, only after current thread has stopped execution.Synchronized is used in multithreaded environment, where a particular method needs to be executed only by one thread at a time**.**