**Daemon thread in Java**

Daemon thread is a low priority thread that runs in background to perform tasks such as garbage collection.   
  
They can not prevent the JVM from exiting when all the user threads finish their execution.

* JVM terminates itself when all user threads finish their execution
* If JVM finds running daemon thread, it terminates the thread and after that shutdown itself. JVM does not care whether Daemon thread is running or not.
* It is an utmost low priority thread.

**Functions 1:**

**void setDaemon(boolean status):** This method is used to mark the current thread as daemon thread or user thread. For example if I have a user thread tU then tU.setDaemon(true) would make it Daemon thread. On the other hand if I have a Daemon thread tD then by calling tD.setDaemon(false) would make it user thread.  
  
**Syntax:**  
public final void setDaemon(boolean on)  
**parameters:**on : if true, marks this thread as a daemon thread.  
**exceptions:**IllegalThreadStateException: if only this thread is active.  
SecurityException: if the current thread cannot modify this thread.

**boolean isDaemon():**This method is used to check that current is daemon. It returns true if the thread is Daemon else it returns false.  
**When does a thread throws IllegalStateException when it is tried to make as daemon?**  
class TestDaemonThread2 extends Thread  
{   
 public void run()  
 {   
 System.out.println("Name: "+Thread.currentThread().getName());   
 System.out.println("Daemon: "+Thread.currentThread().isDaemon());   
 }  
 public static void main(String[] args)  
 {   
 TestDaemonThread2 t1=new TestDaemonThread2();   
 TestDaemonThread2 t2=new TestDaemonThread2();   
 t1.start();   
 t1.setDaemon(true);//will throw exception here   
 t2.start();   
 }   
}

Here, we cannot set t1 as daemon thread because we call the start method already.

**Application Of Daemon Thread in Java:**

* We can have timer thread as daemon thread. Because when all other threads exit, there is no use of timer thread, hence, it can be a daemon thread
* The java garbage collector used by JVM is a daemon thread.