Managing the Java Thread Lifecycle: Introduction

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Learning Objectives in this Part of the Lesson

- Be aware of the Java thread lifecycle

The primarily focus of this overall lesson is on starting & stopping Java threads
Overview of the States in the Java Thread Lifecycle
Overview of the Java Thread Lifecycle

• A Java thread is a highly complex entity

See docs.oracle.com/javase/8/docs/api/java/lang/Thread.html
Overview of the Java Thread Lifecycle

• A Java thread is a highly complex entity
• A thread interacts with many other entities

See docs.oracle.com/javase/8/docs/api/java/lang/Thread.html
Overview of the Java Thread Lifecycle

• The lifecycle of a thread must therefore be managed carefully

- New
- Runnable
- Blocked
- Waiting
- Terminated

- New MyThread()
- myThread.start()
- resource obtained
- attempt to access guarded resource
- cond.notify(), cond.notifyAll()
- cond.wait()
- run()
- run() method returns

- Runnable
- Scheduler
- Running
- Timed Waiting
- Waiting
- New

- wait-time elapsed
- myThread.sleep()
- wait(timeout)
- join(timeout)
- new MyThread()
Overview of the Java Thread Lifecycle

• The lifecycle of a thread must therefore be managed carefully

A thread transitions through various “states” based on program operations
Overview of the Java Thread Lifecycle

- The lifecycle of a thread must therefore be managed carefully

Two key parts of a Java thread’s lifecycle involve starting & stopping it
Overview of the Java Thread Lifecycle

• You needn’t understand all the details of Java thread internals to program them effectively
Overview of the Java Thread Lifecycle

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• However, your reputation (& value) as a “full stack” developer will increase if you learn how threads work internally

See www.laurencegellert.com/2012/08/what-is-a-full-stack-developer
Overview of the Java Thread Lifecycle

• You needn’t understand all the details of Java thread internals to program them effectively
• However, your reputation (& value) as a “full stack” developer will increase if you learn how threads work internally
• This type of “systems” knowledge may help you avoid “commoditization”!!

See softwareengineeringdaily.com/2016/08/07/you-are-not-a-commodity
End of Managing the Java Thread Lifecycle: Introduction