Java Parallel Streams Internals:

Introduction

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Learning Objectives in this Part of the Lesson

- Understand parallel stream internals

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- Understand parallel stream internals, e.g.
- Know what can change & what can’t

Grant me the Serenity to accept the things I cannot change.

Grant me the Courage to change the things I can.

Grant me the Wisdom to know the difference.

See en.wikipedia.org/wiki/Serenity_Prayer
Why Knowledge of Parallel Streams Matters
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- Converting a Java sequential stream to a parallel stream is usually quite straightforward

```
List<List<SearchResults>>
processStream() {
    return getInput()
        .stream()
        .map(this::processInput)
        .collect(toList());
}
```

VS

```
List<List<SearchResults>>
processStream() {
    return getInput()
        .parallelStream()
        .map(this::processInput)
        .collect(toList());
}
```

*Changing stream() calls to parallelStream() calls involves minuscule effort!!*

See "Java SearchWithParallelStreams Example"
Why Knowledge of Parallel Streams Matters

- However, knowledge of parallel streams internals will make you a better Java streams programmer!

When performance is critical, it’s important to understand how streams work internally!

See www.ibm.com/developerworks/library/j-java-streams-3-brian-goetz
Why Knowledge of Parallel Streams Matters

• Recall the 3 phases of a Java parallel stream

See docs.oracle.com/javase/tutorial/collectionsSTREAMS/parallelism.html
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GOD, grant me **Serenity** to ACCEPT the things I cannot change,
**Courage** to CHANGE the things I can, and **Wisdom** to know the difference.

It’s important to which of these phases you can control & which you can’t!
End of Java Parallel Stream Internals: Introduction