Applying Java Structured Concurrency: Case Study ex4 (Part 2b)

Douglas C. Schmidt <u>d.schmidt@vanderbilt.edu</u> www.dre.vanderbilt.edu/~schmidt



Professor of Computer Science

Institute for Software Integrated Systems

Vanderbilt University Nashville, Tennessee, USA



Learning Objectives in this Part of the Lesson

- Understand Java's structured concurrency model
- Recognize the classes used to program Java's structure concurrency model
- Case study ex4 evaluates the design & performance results of various Java concurrency models
 - Part 2b of this case study focuses on modern Java implementations that use the completable futures framework

```
Options.instance()
.getUrlList()
.parallelStream()
.map(...::downloadImageAsync)
.flatMap(...::applyTransforms)
.map(...::storeImageAsync)
.collect(toFuture())
.join();
```

Learning Objectives in this Part of the Lesson

- Understand Java's structured concurrency model
- Recognize the classes used to program Java's structure concurrency model
- Case study ex4 evaluates the design & performance results of various Java concurrency models
 - Part 2b of this case study focuses on modern Java implementations that use the completable futures framework

```
Options.instance()
.getUrlList()
.parallelStream()
.map(...::downloadImageAsync)
.flatMap(...::applyTransforms)
.map(...::storeImageAsync)
.collect(toFuture())
.join();
```

The tasks in this case study are largely I/O-bound

Applying Modern Java Concurrency to Case Study ex4

Applying Modern Java Concurrency to Case Study ex4



See github.com/douglascraigschmidt/LiveLessons/tree/master/Loom/ex4

End of Applying Java Structured Concurrency: Case Study ex4 (Part 2b)