Walkthrough of the Java ShutdownOnSuccess Code

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

Professor of Computer Science

Institute for Software
Integrated Systems

Vanderbilt University
Nashville, Tennessee, USA

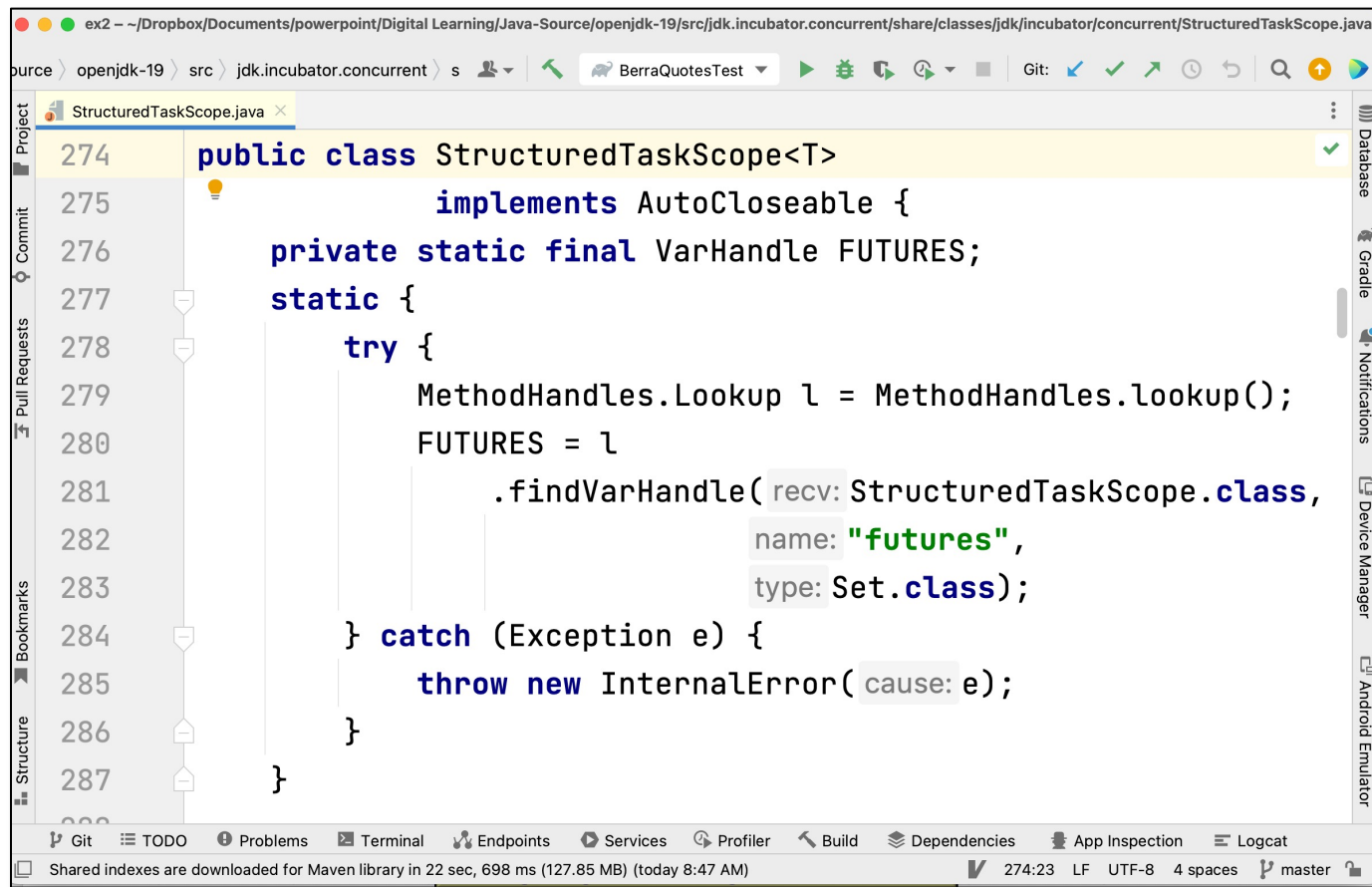# Learning Objectives in this Part of the Lesson

- Understand Java's structured concurrency model

- Recognize the classes used to program Java's structure concurrency model

- Evaluate the design & performance of various Java concurrency models

- Learn how StructuredTaskScope is implemented

  - Focus on ShutdownOnSuccess

```java
public class StructuredTaskScope<T>
            implements AutoCloseable {
    private static final VarHandle FUTURES;
    static {
        try {
            MethodHandles.Lookup l = MethodHandles.lookup();
            FUTURES = l
                .findVarHandle( recv: StructuredTaskScope.class,
                                name: "futures",
                                type: Set.class);
        } catch (Exception e) {
            throw new InternalError( cause: e);
        }
    }


    private final ThreadFactory factory;
    private final ThreadFlock flock;
    private final ReentrantLock shutdownLock =
        new ReentrantLock();
```

Walkthrough of the Java ShutdownOnSuccess Code

Walkthrough of the Java StructuredTaskScope Code


```java
public class StructuredTaskScope<T>
                implements AutoCloseable {
    private static final VarHandle FUTURES;
    static {
        try {
            MethodHandles.Lookup l = MethodHandles.lookup();
            FUTURES = l
                .findVarHandle(recv: StructuredTaskScope.class,
                               name: "futures",
                               type: Set.class);
        } catch (Exception e) {
            throw new InternalError(cause: e);
        }
    }
}
```

See jdk.java.net/java-se-ri/19

End of Walkthrough of Java ShutdownOnSuccess Code