Overview of Java 8 CompletetableFutures

(Part 2)

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Learning Objectives in this Part of the Lesson

- Know how the Java 8 completable futures framework provides an async concurrent programming model
- Recognize Java 8 completable futures overcome limitations with Java futures
- Be able to group methods in the Java 8 completable future API
Grouping the Java 8 Completable Future API
The entire completable future framework resides in one class with 60+ methods!!!
• The entire completable future framework resides in one class with 60+ methods!!!
• It therefore helps to have a “birds-eye” view of this class.
Some completable future features are basic.
Grouping the Java 8 Completable Future API

- Some completable future features are basic
- e.g., the Java Future API + some simple enhancements

Only slightly better than the conventional Future interface
Other completable future features are more advanced.
Grouping the Java 8 Completable Future API

- Other completable future features are more advanced
- Factory methods
Grouping the Java 8 Completable Future API

- Other completable future features are more advanced
  - Factory methods
    - Initiate async two-way or one-way computations
Grouping the Java 8 Completable Future API

- Other completable future features are more advanced
  - Factory methods
  - Completion stage methods

See docs.oracle.com/javase/8/docs/api/java/util/concurrent/CompletionStage.html
Other completable future features are more advanced
- Factory methods
- Completion stage methods
  - Chain together actions that perform async result processing & composition

See docs.oracle.com/javase/8/docs/api/java/util/concurrent/CompletionStage.html
Other completable future features are more advanced:
- Factory methods
- Completion stage methods
- “Arbitrary-arity” methods that process futures in bulk

See en.wikipedia.org/wiki/Arity
Grouping the Java 8 Completable Future API

- Other completable future features are more advanced
  - Factory methods
  - Completion stage methods
  - “Arbitrary-arity” methods that process futures in bulk
  - Combine multiple futures into a single future