Advanced Java CompletableFuture Features: Introducing Completion Stage Methods (Part 2)

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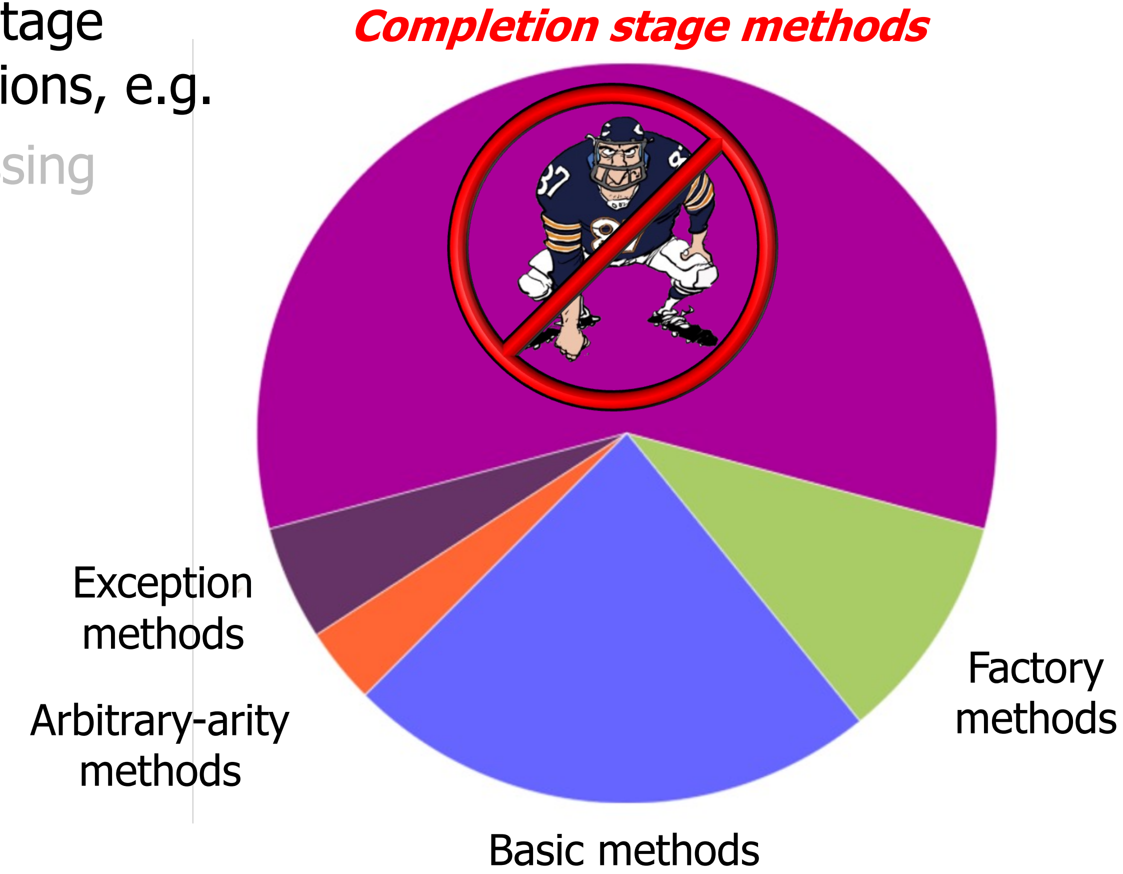
Learning Objectives in this Part of the Lesson

- Understand how completion stage methods chain dependent actions, e.g.
  - Perform async result processing & composition
  - These methods also avoid blocking



Avoiding Blocking with Completion Stage Methods

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See en.wikipedia.org/wiki/Responsiveness

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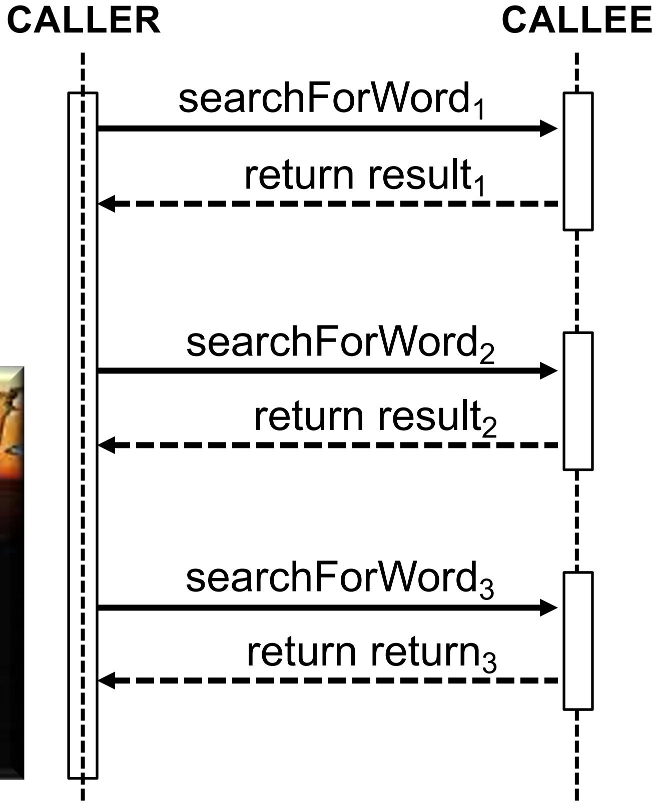
    - Blocking impedes inherent parallelism, underutilizes cores, & complicates program structure



See www.nastel.com/10-reasons-your-java-apps-are-slow

Avoiding Blocking with Completion Stage Methods

- Completion stages are used to minimize and/or avoid blocking calling thread
  - Improves responsiveness by not blocking the caller thread
    - Blocking impedes inherent parallelism, underutilizes cores, & complicates program structure
    - Avoid calling join() or get() until absolutely necessary

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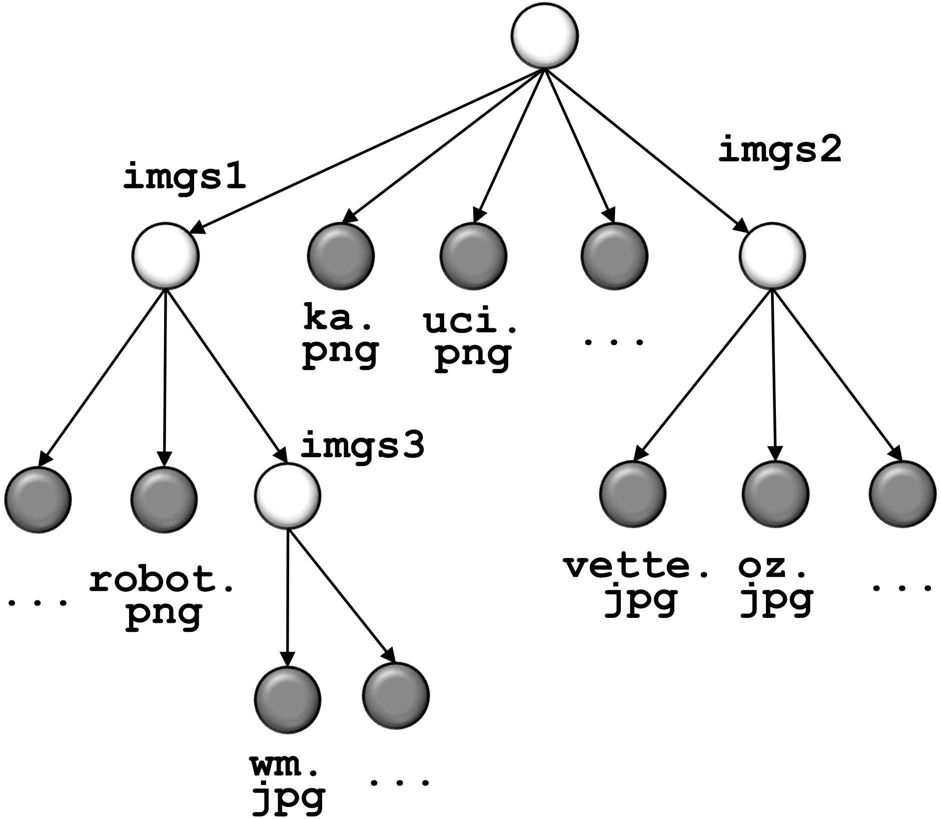
  - Clients can often avoid blocking until a result *must* be obtained



See github.com/douglascraigschmidt/LiveLessons/tree/master/ImageCounter

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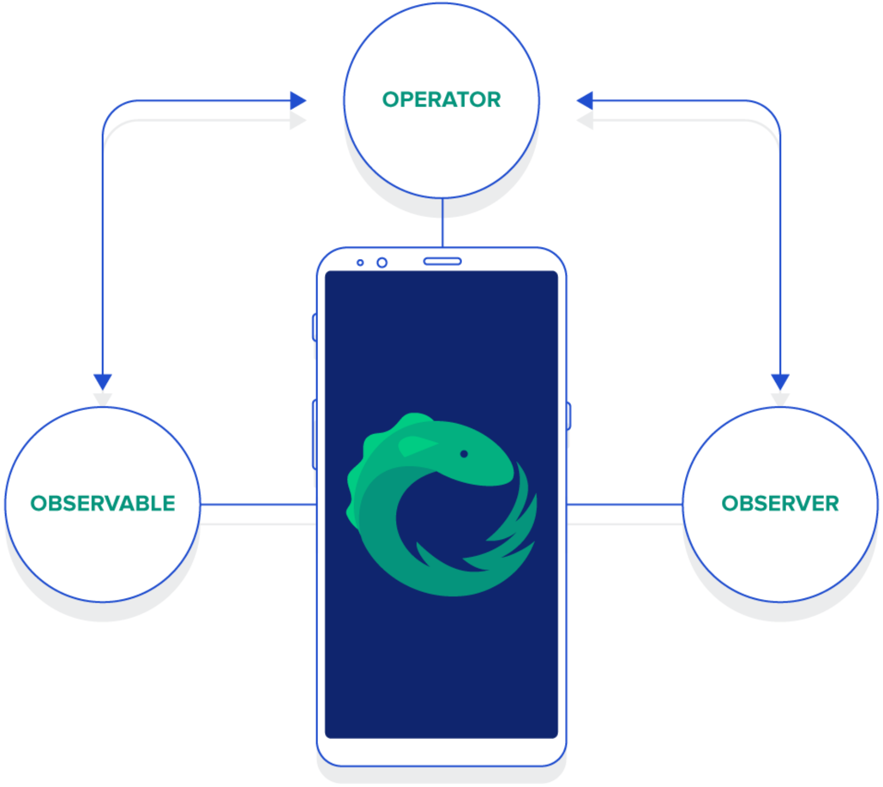
    - e.g., GUIs needn’t/shouldn’t block to ensure responsiveness



See github.com/ReactiveX/RxAndroid

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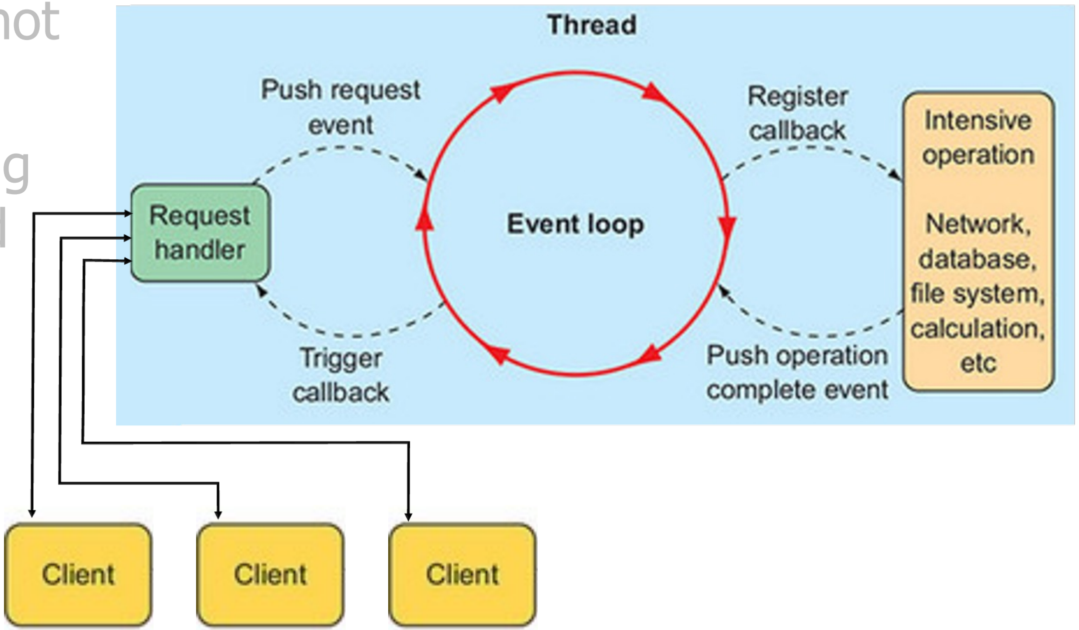

See livebook.manning.com/book/spring-in-action-fifth-edition/chapter-11/10

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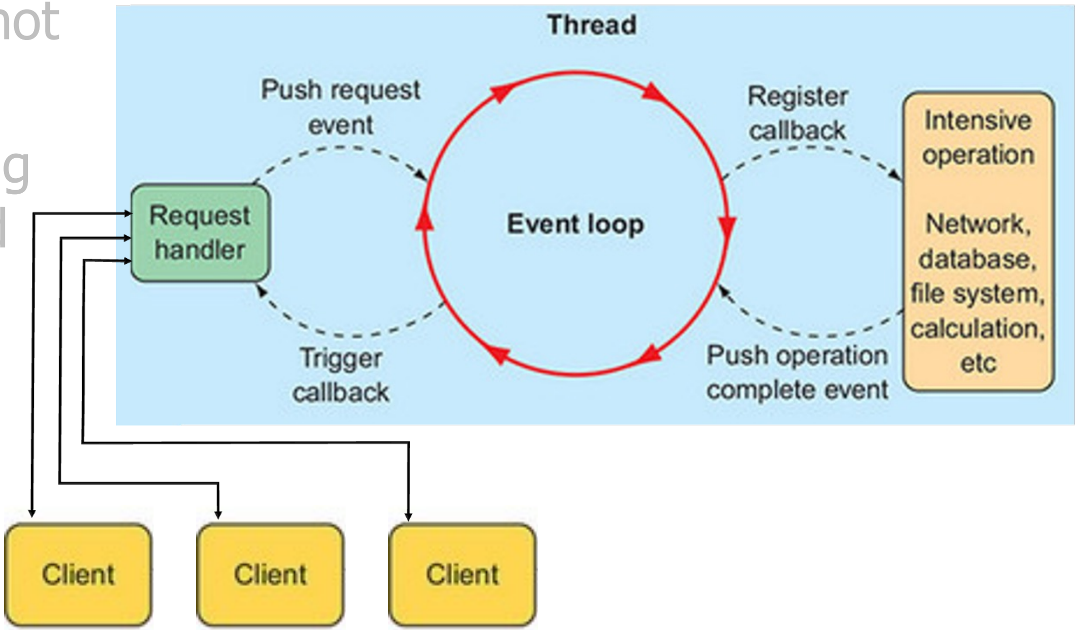
    - e.g., decouple request reception, processing, & response



End of Advanced Java CompletableFuture Features: Introducing Completion Stage Methods (Part 2)