The Reactive QuoteServices App Case Study: Overview

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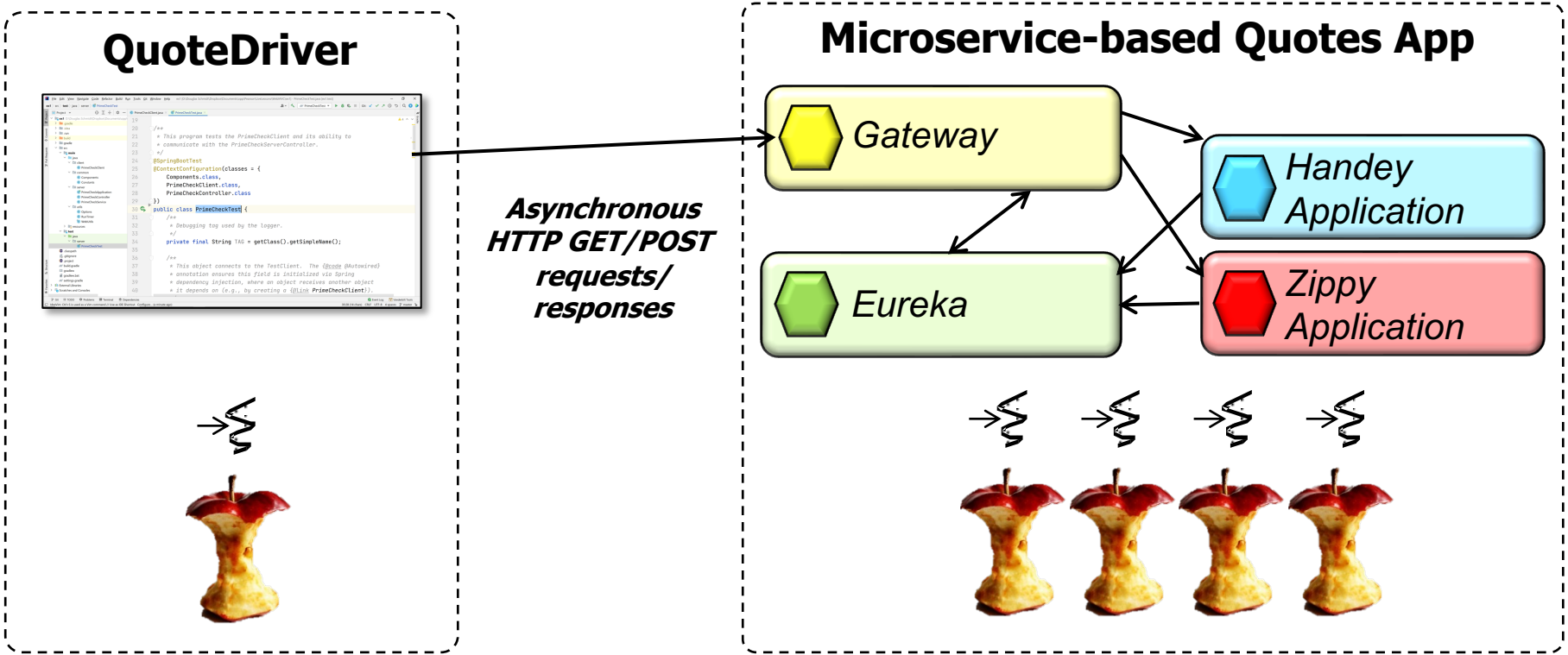
Learning Objectives in this Part of the Lesson

- Understand how various concurrency & persistency frameworks are applied in a case study using Spring WebFlux to provide two different quote services



See github.com/douglascraigschmidt/LiveLessons/tree/master/WebFlux/ex3

Overview of the Reactive Quote Services App Case Study

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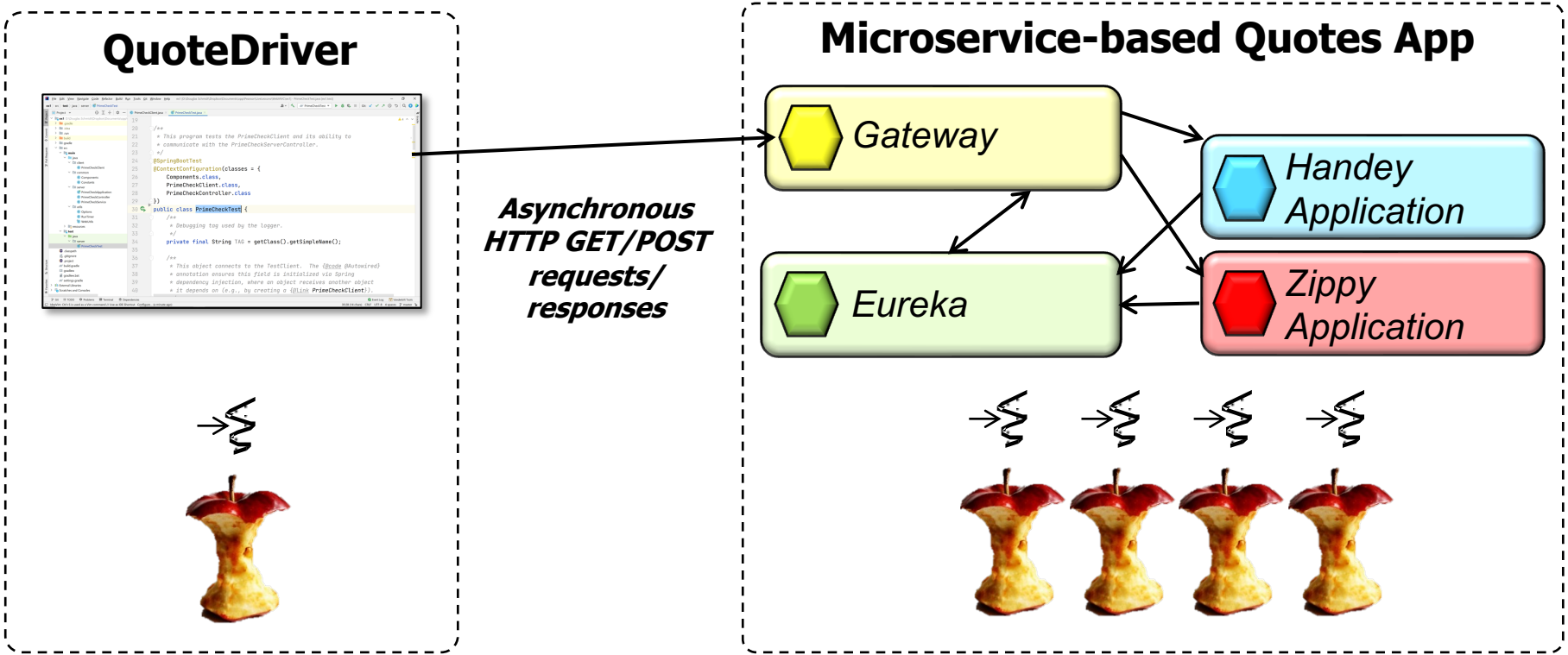
- This case study shows how Spring WebFlux can send/receive HTTP GET/POST requests asynchronously to/from an API gateway & multiple microservices



Also shows how to use the Eureka discovery service

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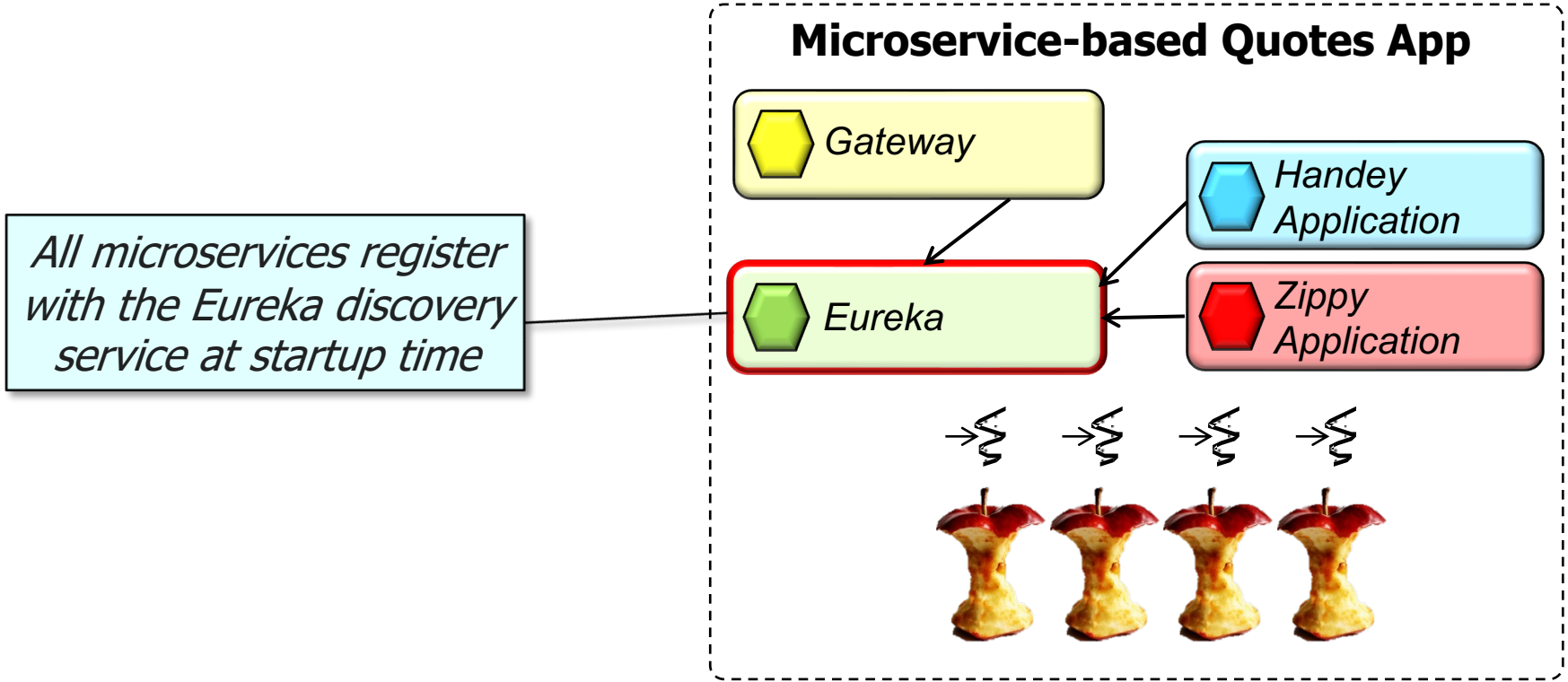

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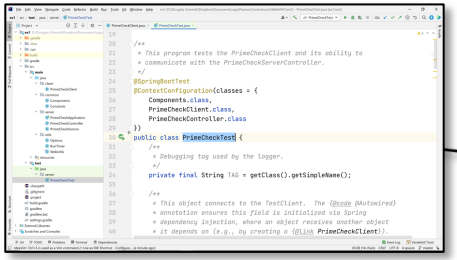
QuoteDriver



The client sends requests to the API gateway (& only the API gateway)

See github.com/douglascraigschmidt/LiveLessons/tree/master/WebFlux/ex3/client

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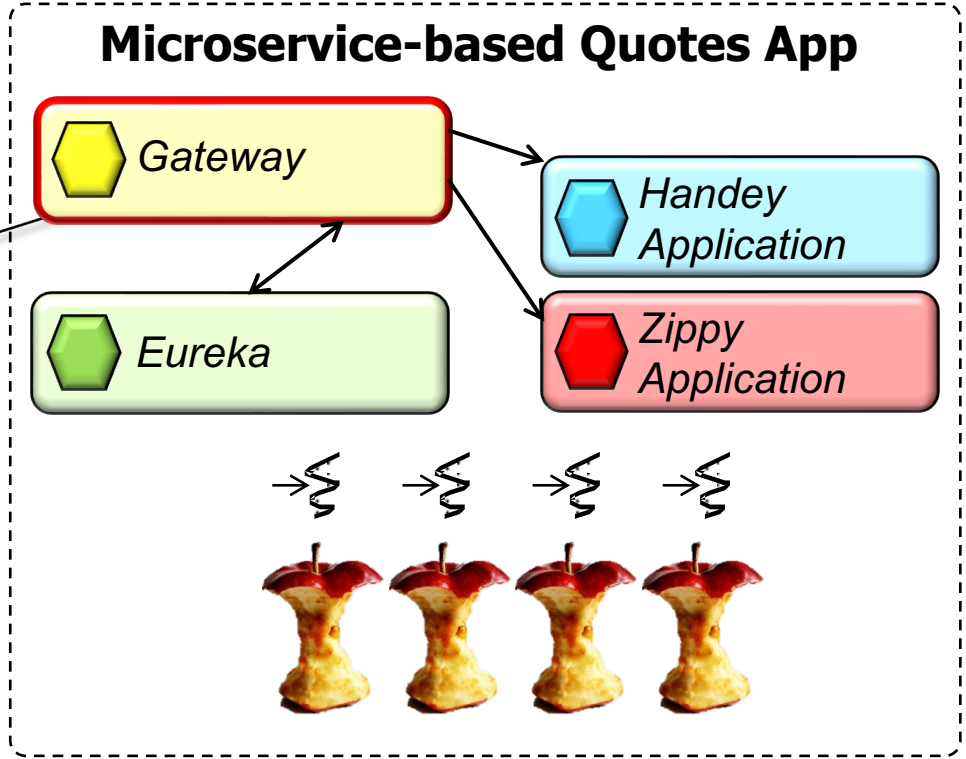

The API gateway receives client HTTP requests & uses the Eureka discovery service to route them to the designated microservice

See github.com/douglascraigschmidt/LiveLessons/tree/master/WebFlux/ex3/gateway

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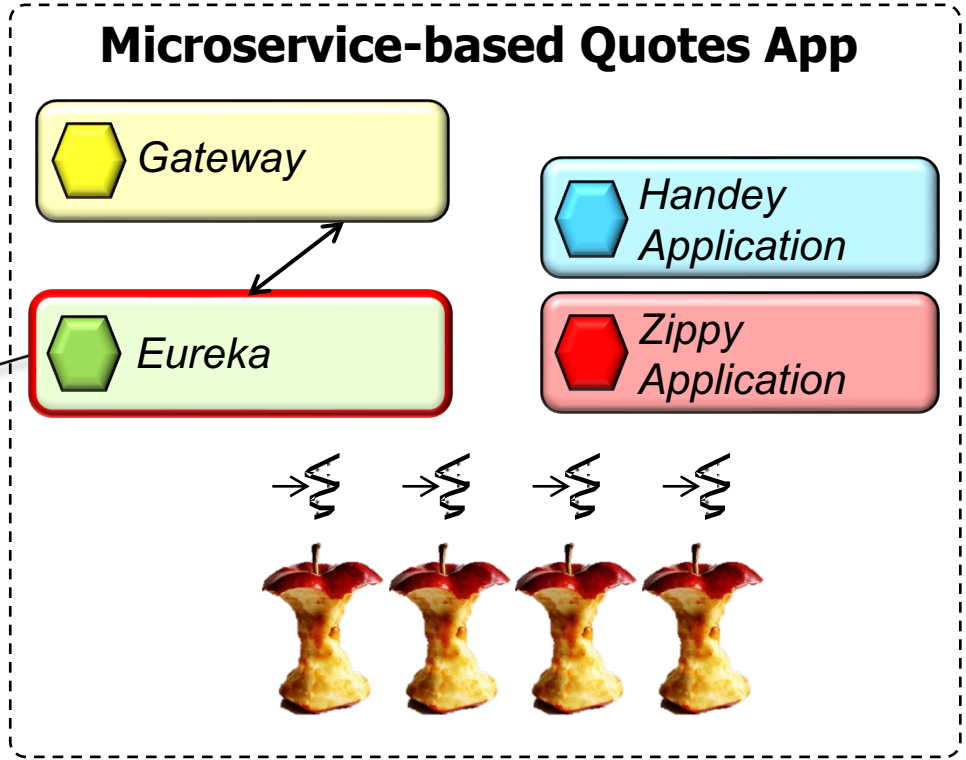

The Eureka discovery service enables the API gateway to find & communicate with the back-end microservices without hard-coding ports & hostnames

See github.com/douglascraigschmidt/LiveLessons/tree/master/WebFlux/ex3/eureka

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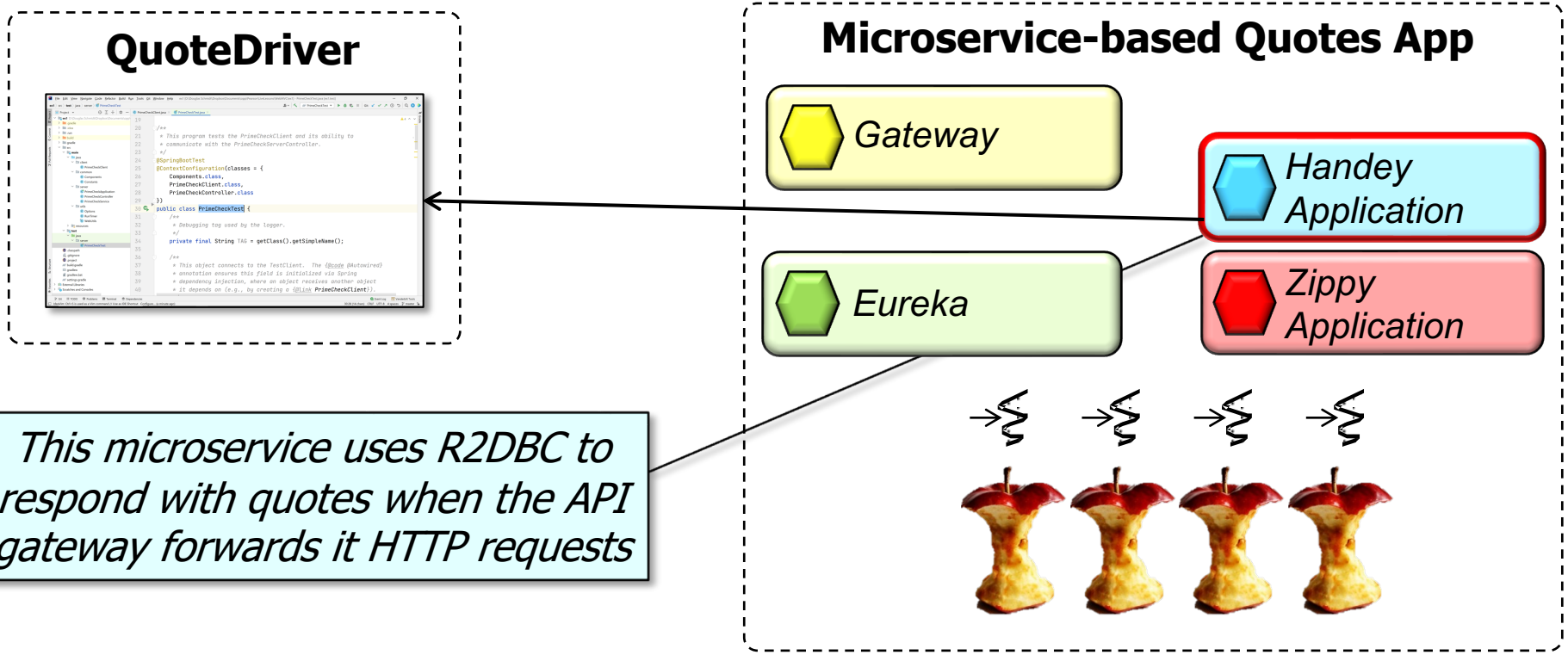

See github.com/douglascraigschmidt/LiveLessons/tree/master/WebFlux/ex3/handeymicroservice

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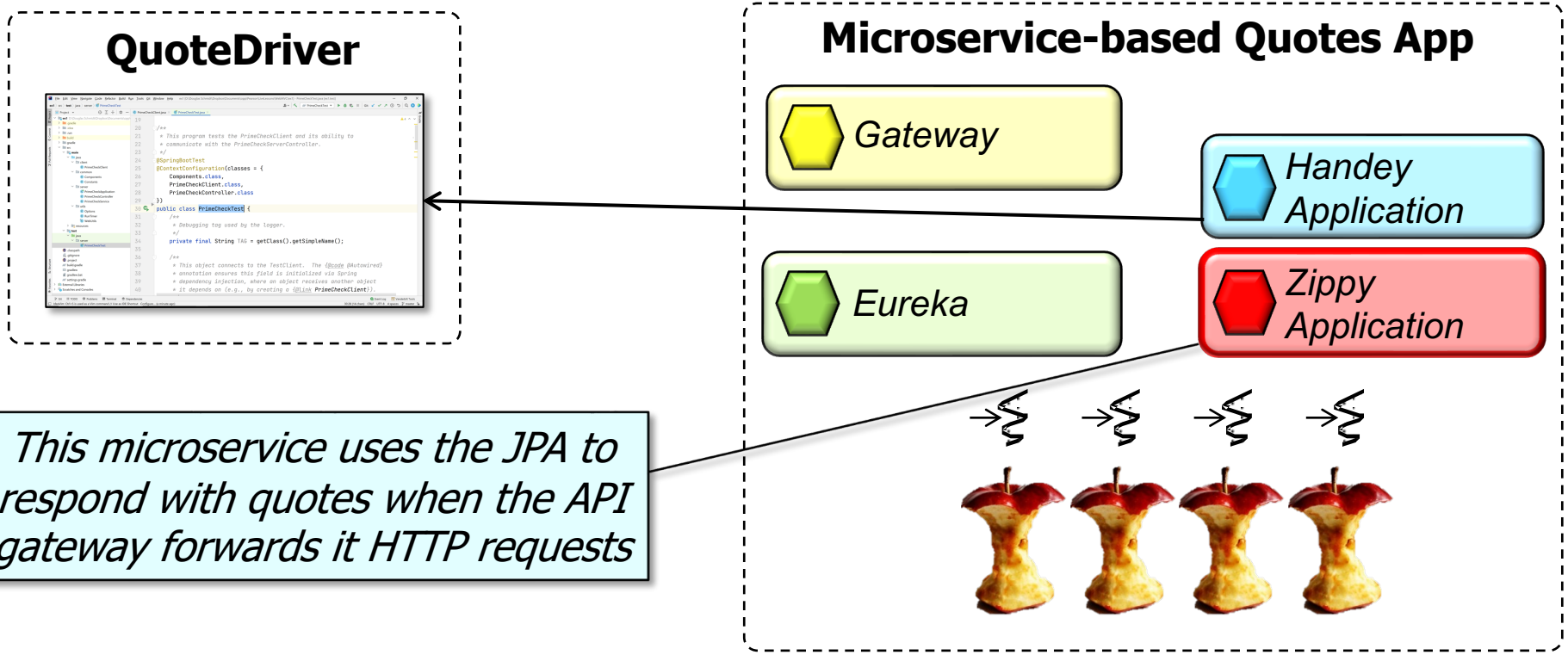

See github.com/douglascraigschmidt/LiveLessons/tree/master/WebFlux/ex3/zippymicroservice

Structure of the Reactive Quote Services App Project

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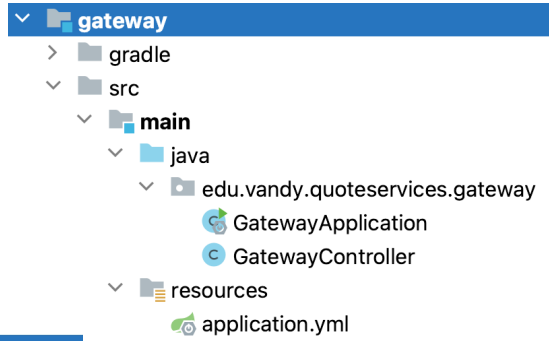
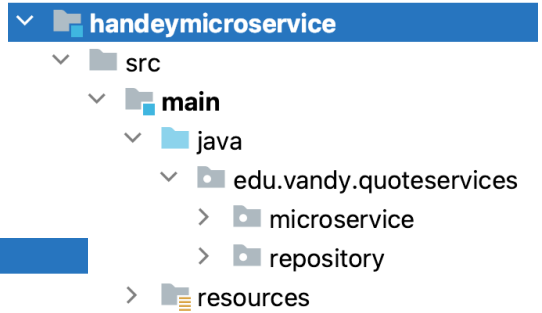
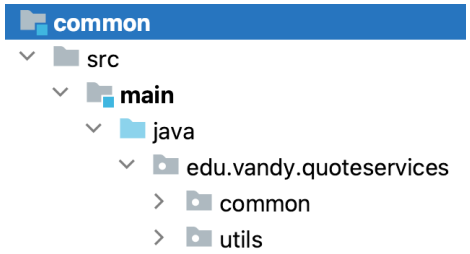
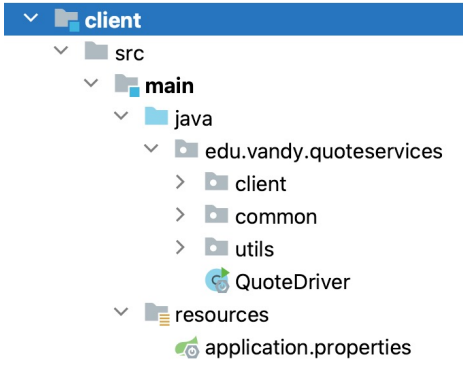
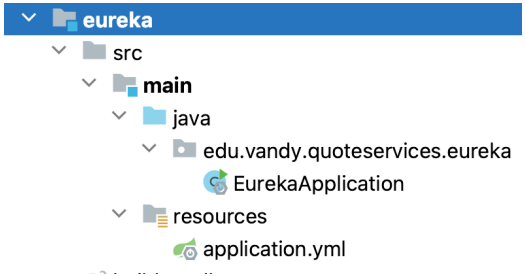
- The QuoteServices App project source code is organized into several modules & packages

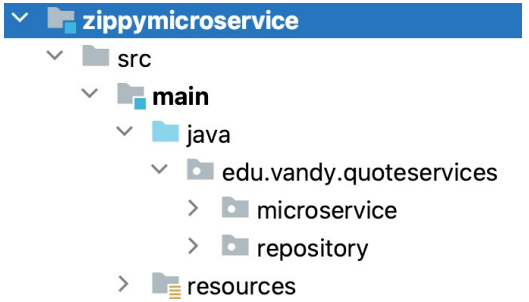












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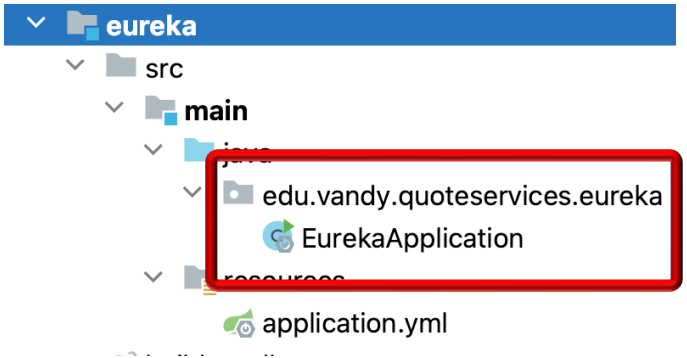
Structure of the Reactive QuoteServices App Project

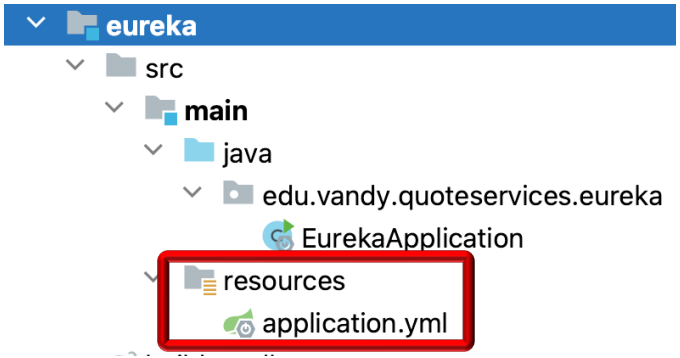
- The QuoteServices App project source code is organized into several modules & packages
  - eureka
    - eureka
      - Contains the "app" entry point for the Eureka discovery service



See github.com/douglascraigschmidt/LiveLessons/tree/master/WebFlux/ex3/eureka

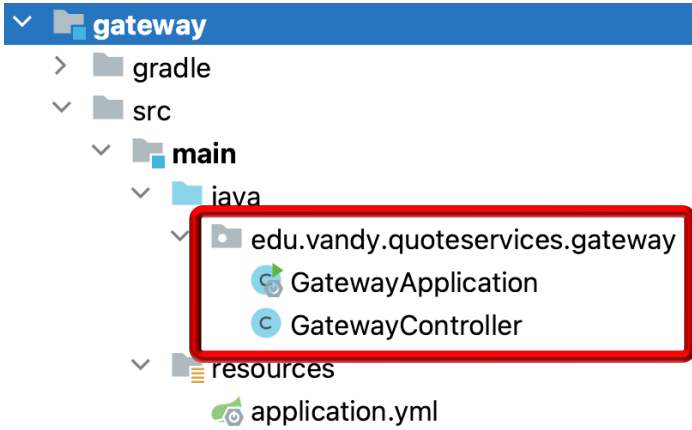
Structure of the Reactive QuoteServices App Project

- The QuoteServices App project source code is organized into several modules & packages
  - eureka
    - eureka
    - resources
      - Define the port number listened on by the Eureka discovery service & other properties



Structure of the Reactive QuoteServices App Project

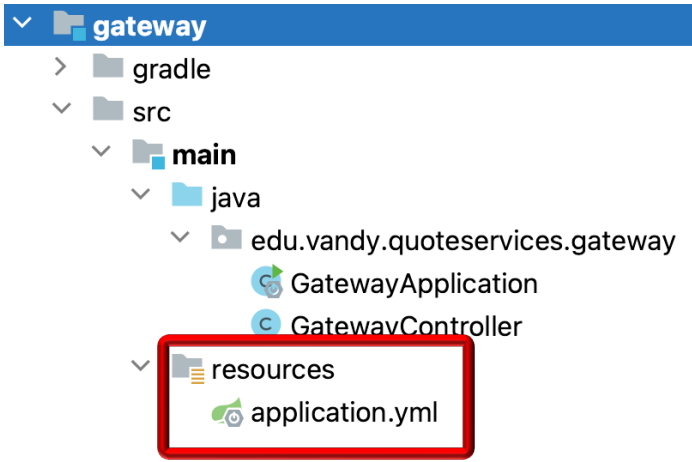
- The QuoteServices App project source code is organized into several modules & packages
  - gateway
    - gateway
      - Contains the "app" entry points & the controller
        - The gateway is largely programmed declaratively



See github.com/douglascraigschmidt/LiveLessons/tree/master/WebFlux/ex3/gateway

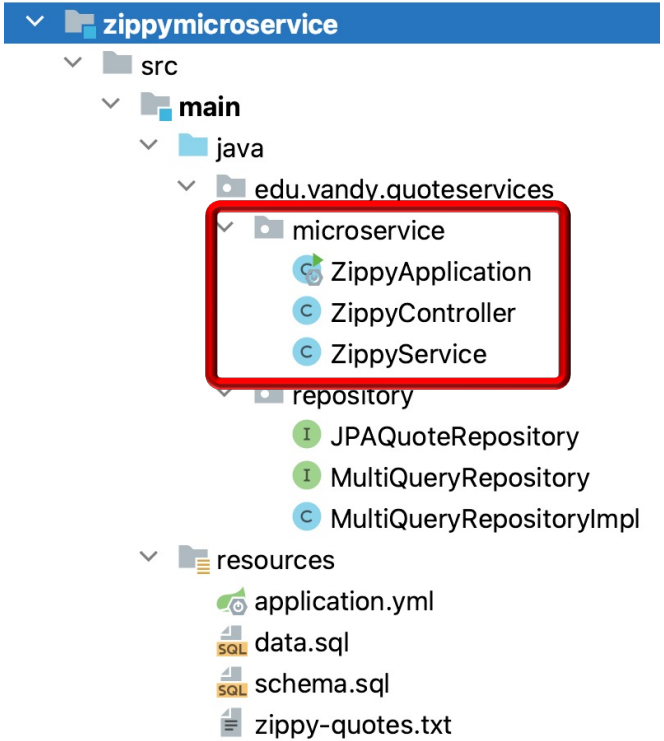
Structure of the Reactive QuoteServices App Project

- The QuoteServices App project source code is organized into several modules & packages
  - gateway
    - gateway
    - resources
      - Specifies the port number exposed by the API gateway &
      - Configures the gateway to use the Eureka discovery service



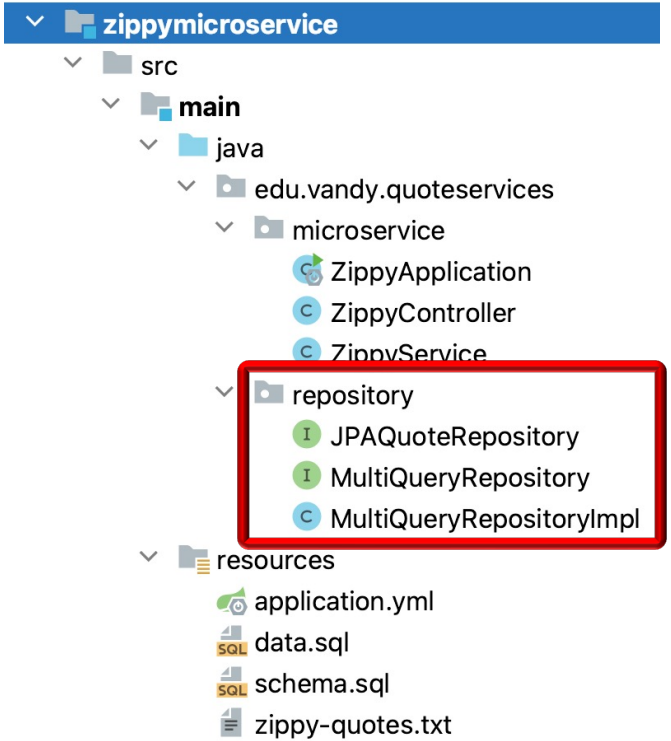
Structure of the Reactive QuoteServices App Project

- The QuoteServices App project source code is organized into several modules & packages
  - zippymicroservice
    - microservice
      - Contains the "app" entry points & the controller for a JPA database
        - Returns reactive types, however



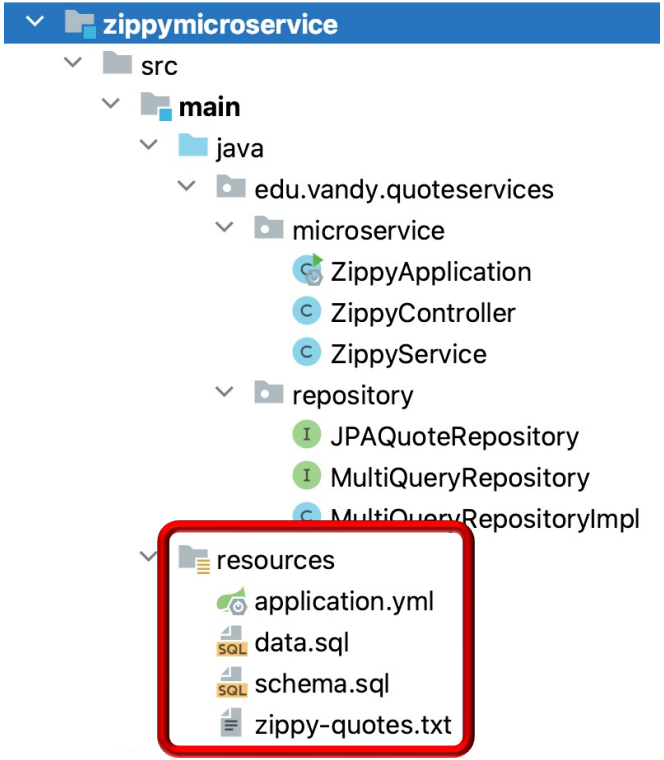
Structure of the Reactive QuoteServices App Project

- The QuoteServices App project source code is organized into several modules & packages
  - zippymicroservice
    - microservice
    - repository
      - Implements the JPA database repository
        - Does not return reactive types



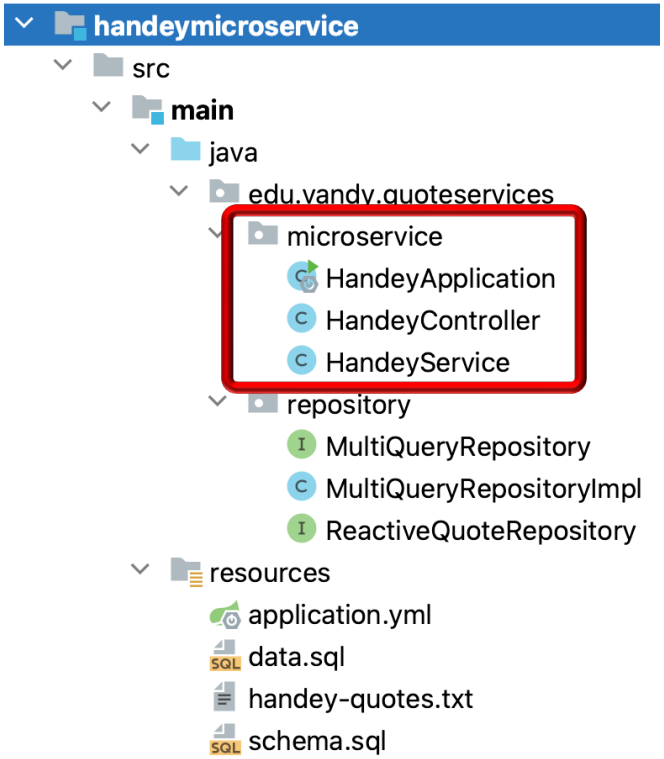
Structure of the Reactive QuoteServices App Project

- The QuoteServices App project source code is organized into several modules & packages
  - zippymicroservice
    - microservice
    - repository
    - resources
      - Defines various application properties
        - e.g., microservice name, Eureka client configuration, schema definitions & data for Zippy quotes



Structure of the Reactive QuoteServices App Project

- The QuoteServices App project source code is organized into several modules & packages
  - handeymicroservice
    - microservice
      - Contains the "app" entry points & the controller for an R2DBC database
        - Returns reactive types



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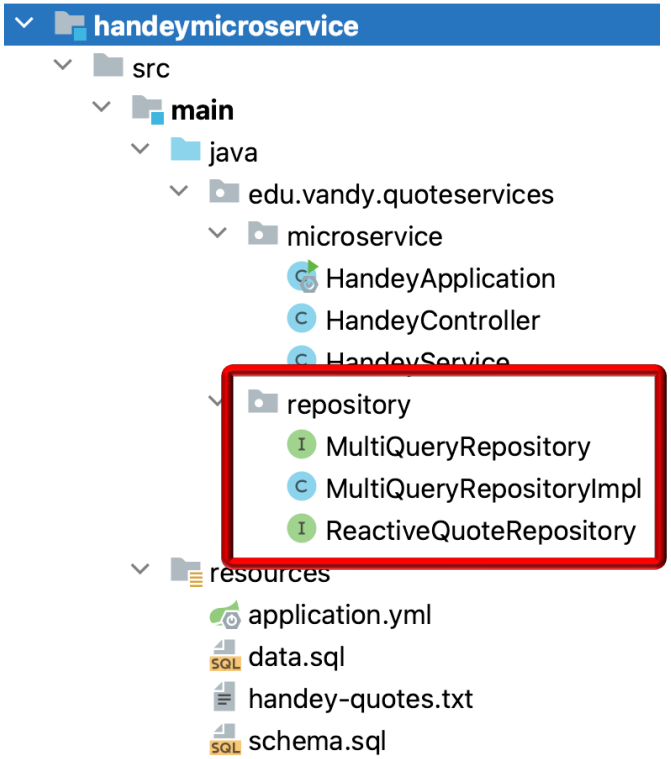
  - handeymicroservice
    - microservice
    - repository
      - Implements the R2DBC database repository
        - Returns reactive types



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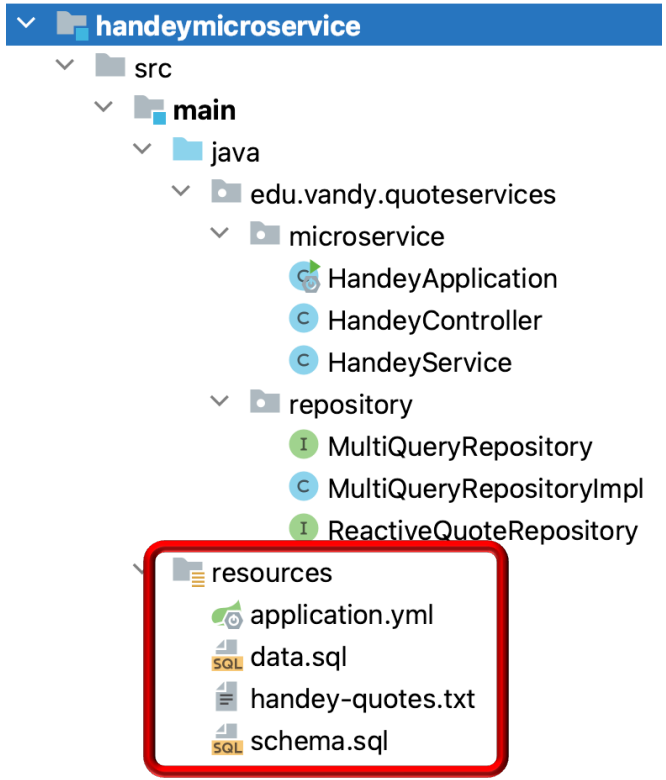
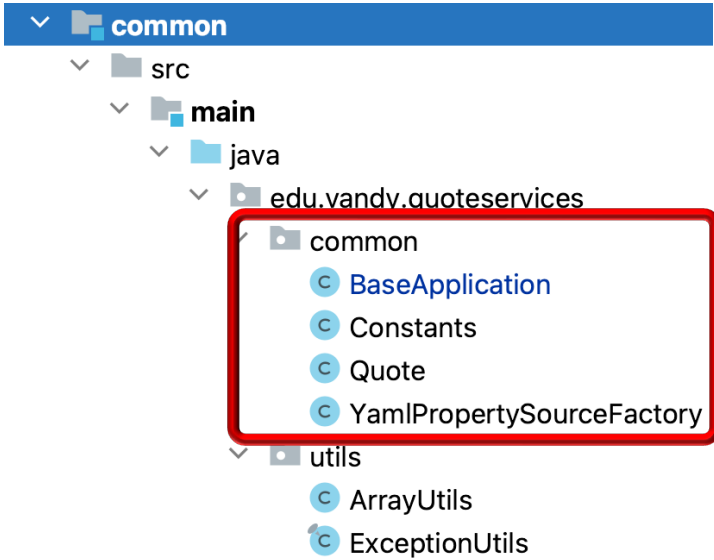


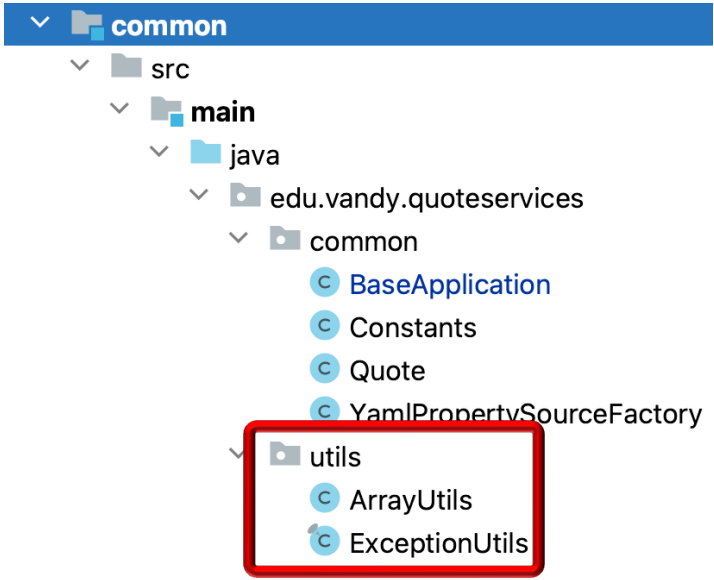
Structure of the Reactive QuoteServices App Project

- The QuoteServices App project source code is organized into several modules & packages
  - common
    - common
      - Classes shared by the zippy & handey microservices



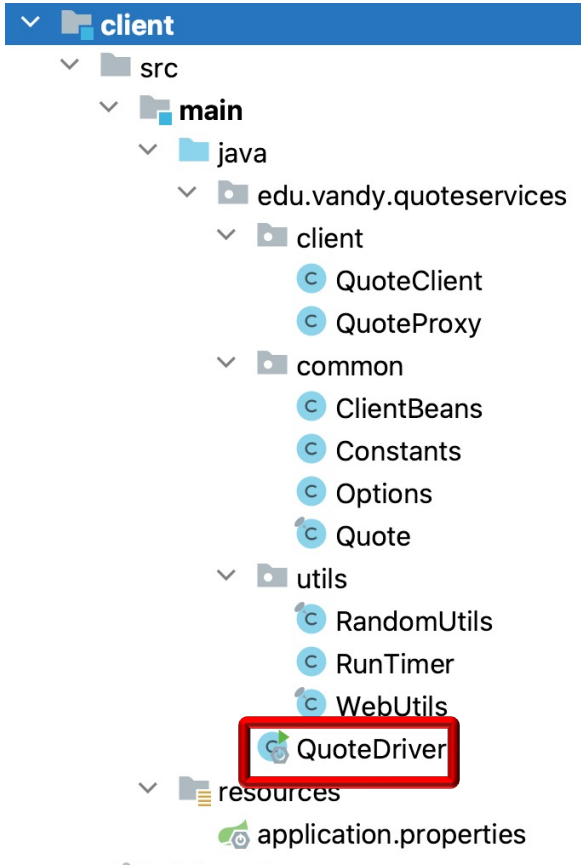
Structure of the Reactive QuoteServices App Project

- The QuoteServices App project source code is organized into several modules & packages
  - common
    - common
    - utils
      - Helper classes that are reused by other projects



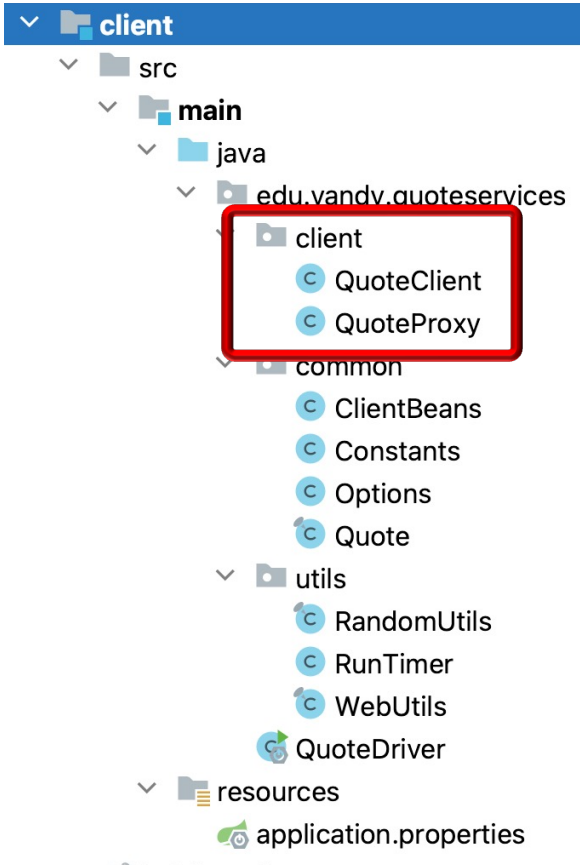
Structure of the Reactive QuoteServices App Project

- The QuoteServices App project source code is organized into several modules & packages
  - client
    - QuoteDriver
      - This test driver causes the client to asynchronously send/receive requests/ responses to/from the microservices running on the server & displays results



Structure of the Reactive QuoteServices App Project

- The QuoteServices App project source code is organized into several modules & packages
  - client
    - QuoteDriver
    - client
      - Sends HTTP GET/POST requests to the microservices using reactive types



Structure of the Reactive QuoteServices App Project

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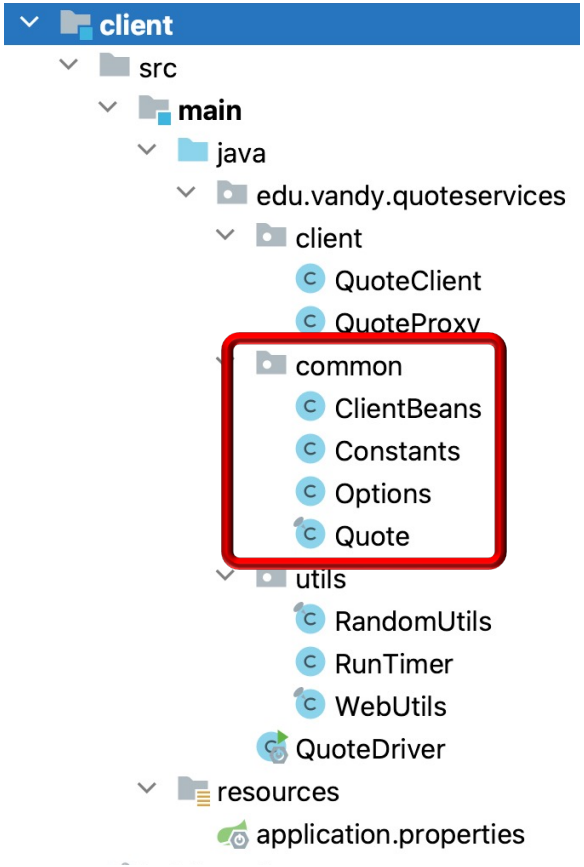
  - client
    - QuoteDriver
    - client
    - common
      - Helper classes that are specific to this client driver



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    - QuoteDriver
    - client
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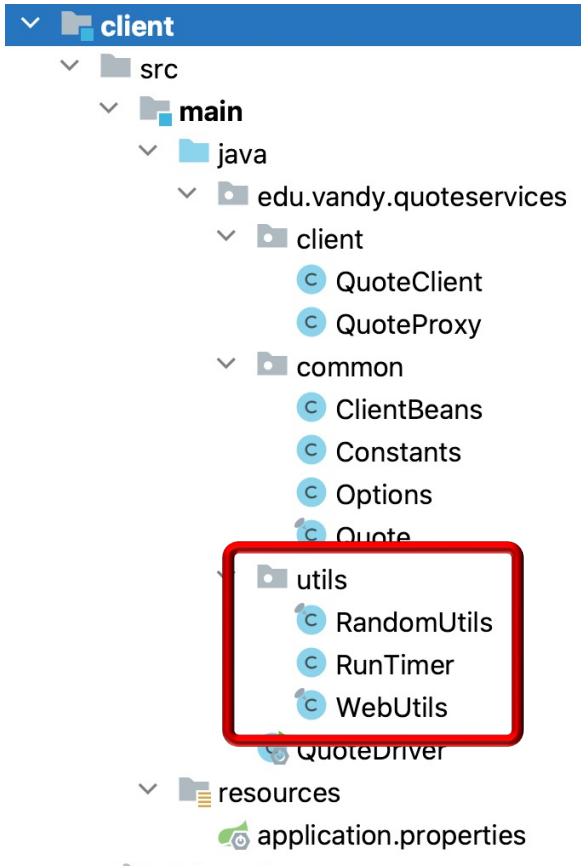

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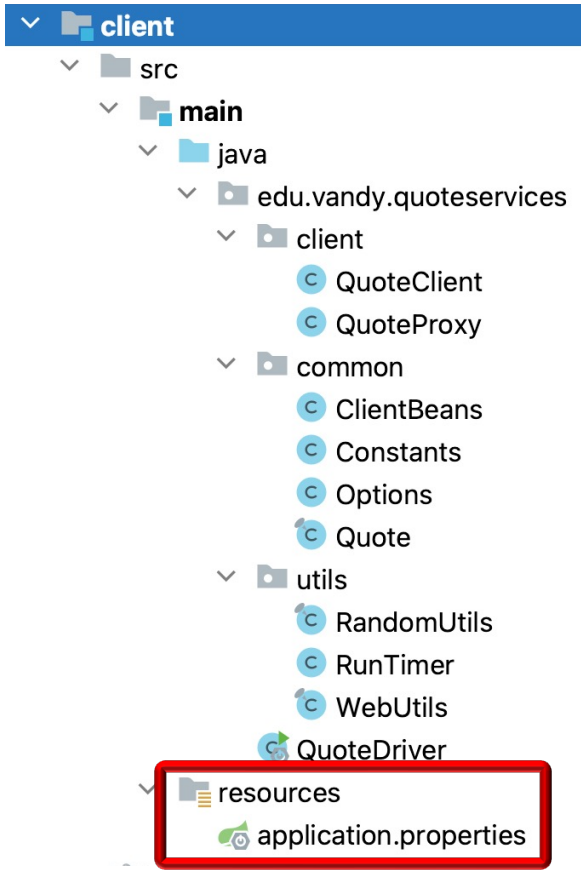
- The QuoteServices App project source code is organized into several modules & packages
  - client
    - QuoteDriver
    - client
    - common
    - utils
    - resources
      - Defines various application properties
        - e.g., disable/enable logging & sets the client driver name & port number



End of the Reactive QuoteServices App Case Study: Overview