Overview of the RSocket ZippyQuotes App

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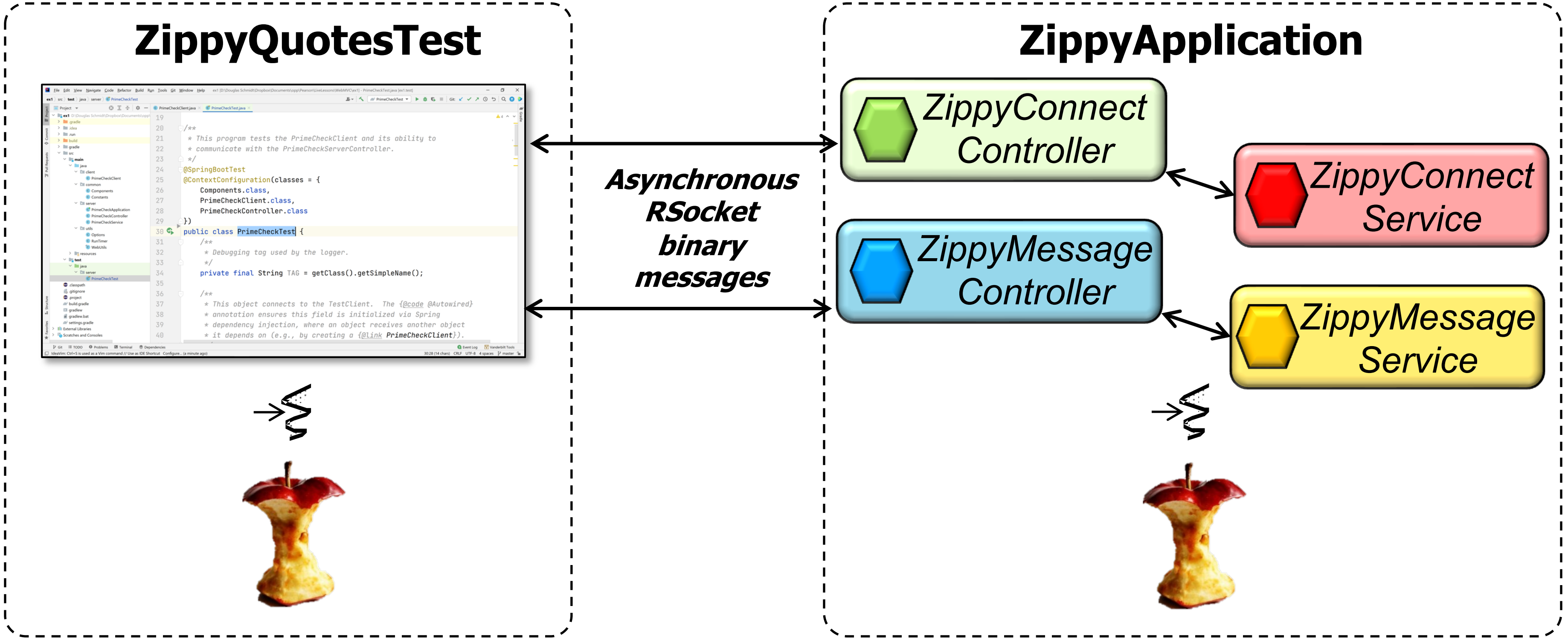
Learning Objectives in this Lesson

- Understand how RSocket can exchange binary messages asynchronously to/from a Spring microservice using Project Reactor reactive types



```
/**
 * This program tests the PrimeCheckClient and its ability to
 * communicate with the PrimeCheckServerController.
 */
@SpringBootTest
@ContextConfiguration(classes = {
    Components.class,
    PrimeCheckClient.class,
    PrimeCheckController.class
})
public class PrimeCheckTest {
    /**
     * Debugging tag used by the logger.
     */
    private final String TAG = getClass().getSimpleName();

    /**
     * This object connects to the TestClient.  The {@code @Autowired}
     * annotation ensures this field is initialized via Spring
     * dependency injection, where an object receives another object
     * it depends on (e.g., by creating a {@link PrimeCheckClient}).
```

See github.com/douglascraigschmidt/LiveLessons/tree/master/RSocket/ex1

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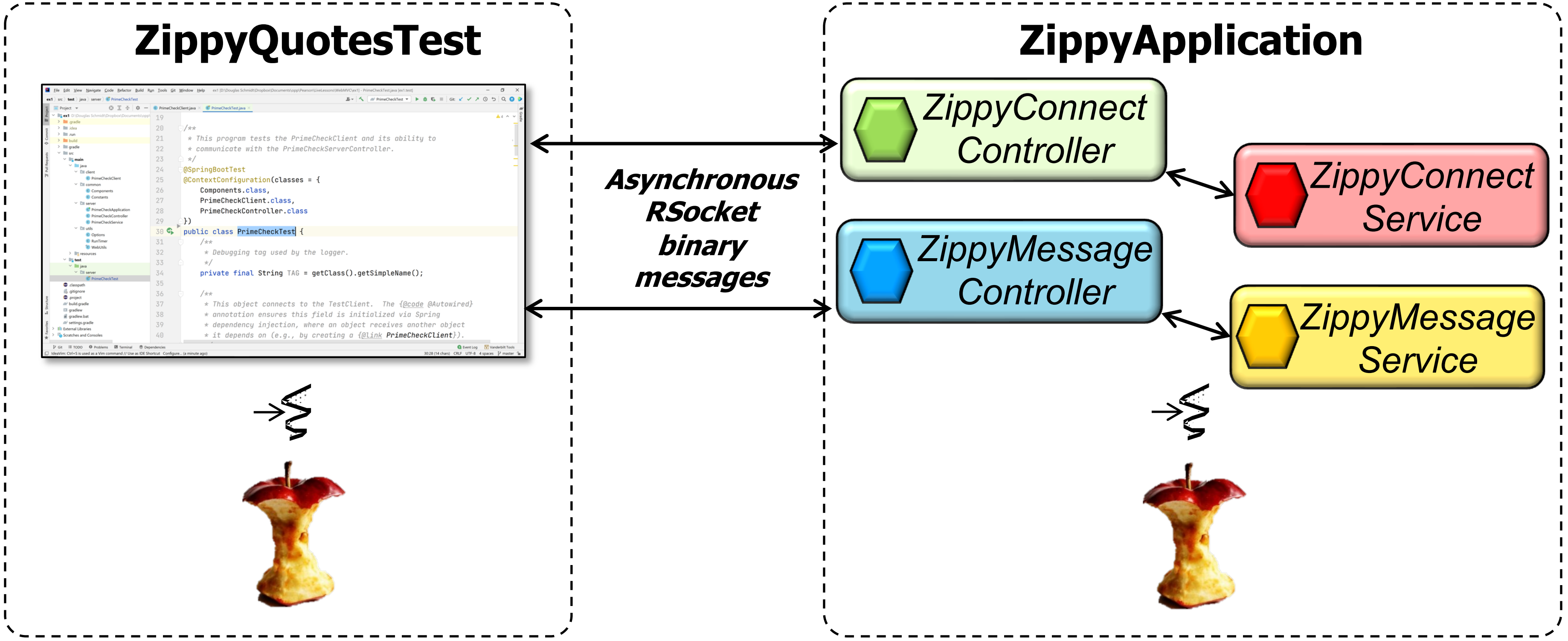

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This example also shows how to use RSocket security & authentication features

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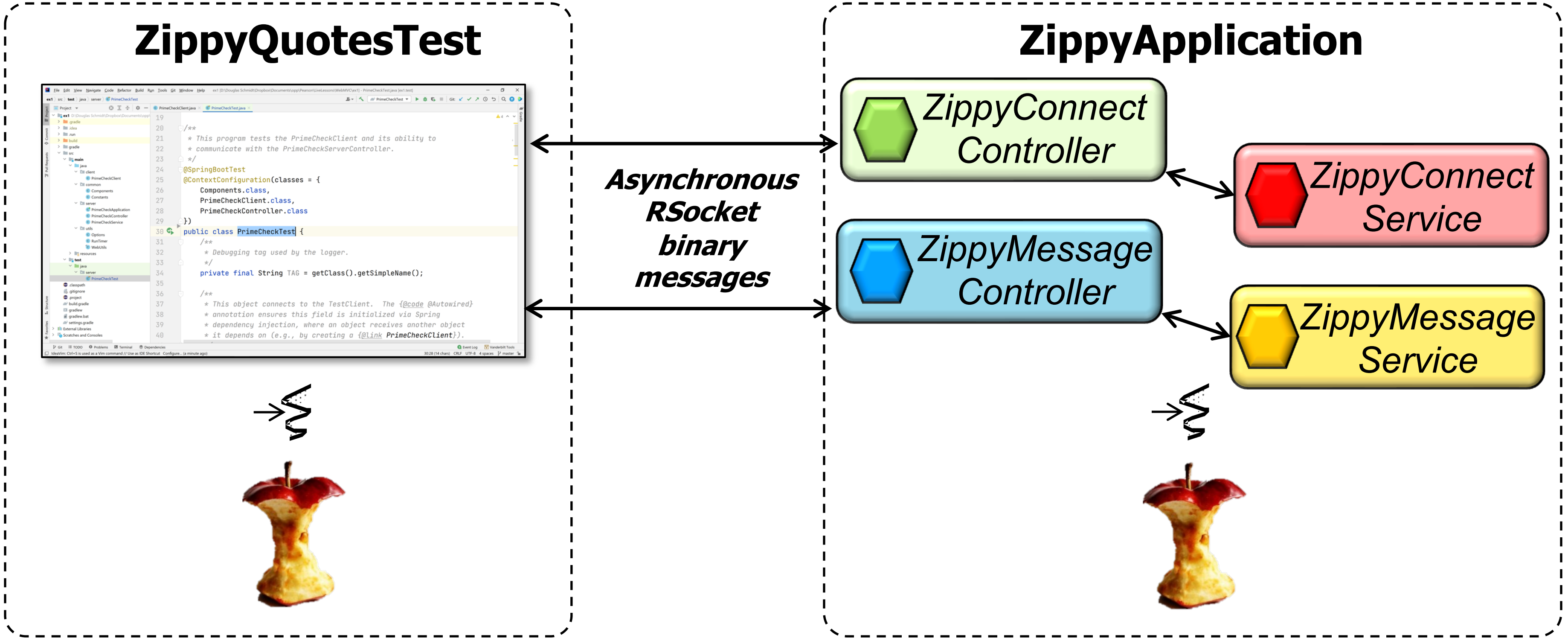
- This case study shows how an RSocket client can exchange binary messages asynchronously with the ZippyApplication microservice



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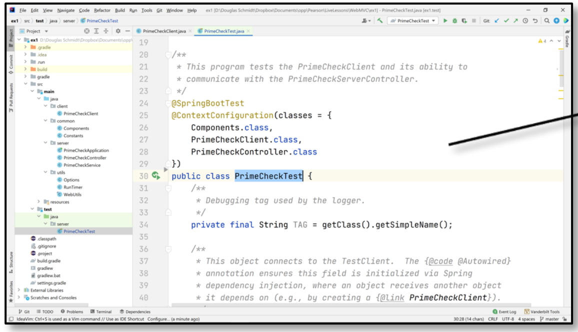
ZippyQuotesTest



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The client can asynchronously connect to the server & send/receive binary messages via the Spring RSocket APIs

The client also authenticates itself to the server

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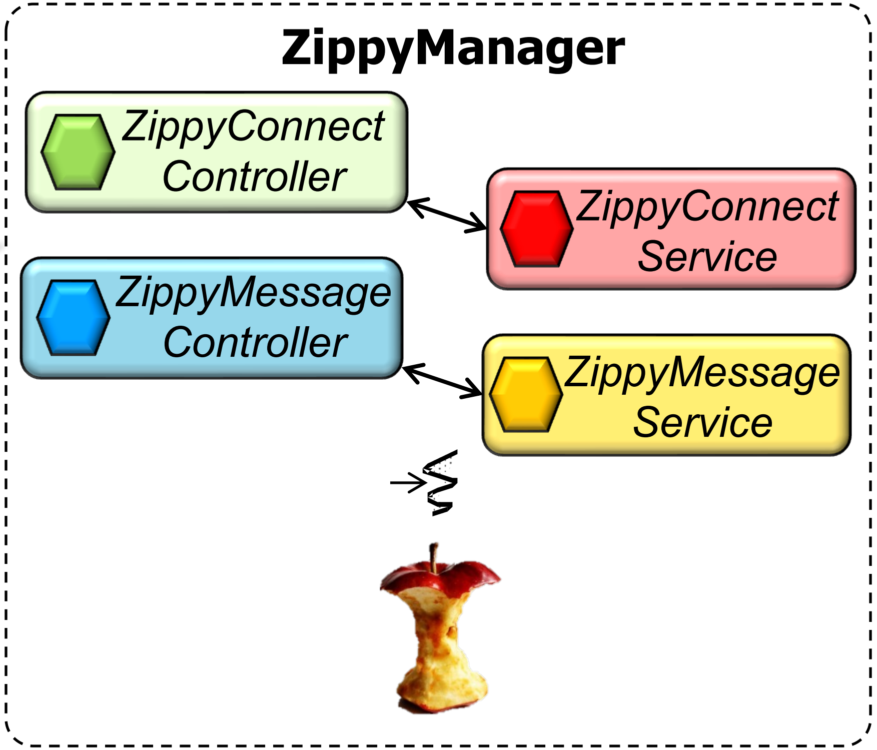
- This case study shows how an RSocket client can exchange binary messages asynchronously with the ZippyApplication microservice



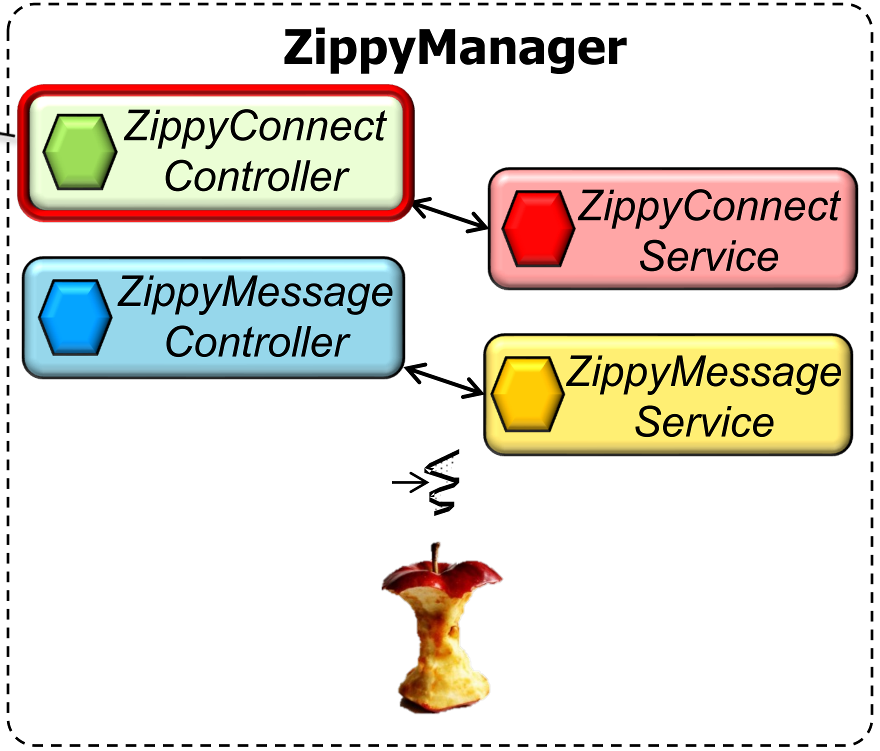
The server (microservice) can receive & reply to connections & binary messages asynchronously

The server also requires the client to authentic itself before finalizing the connection

Overview of the RSocket ZippyQuotes App

- This case study shows how an RSocket client can exchange binary messages asynchronously with the ZippyApplication microservice

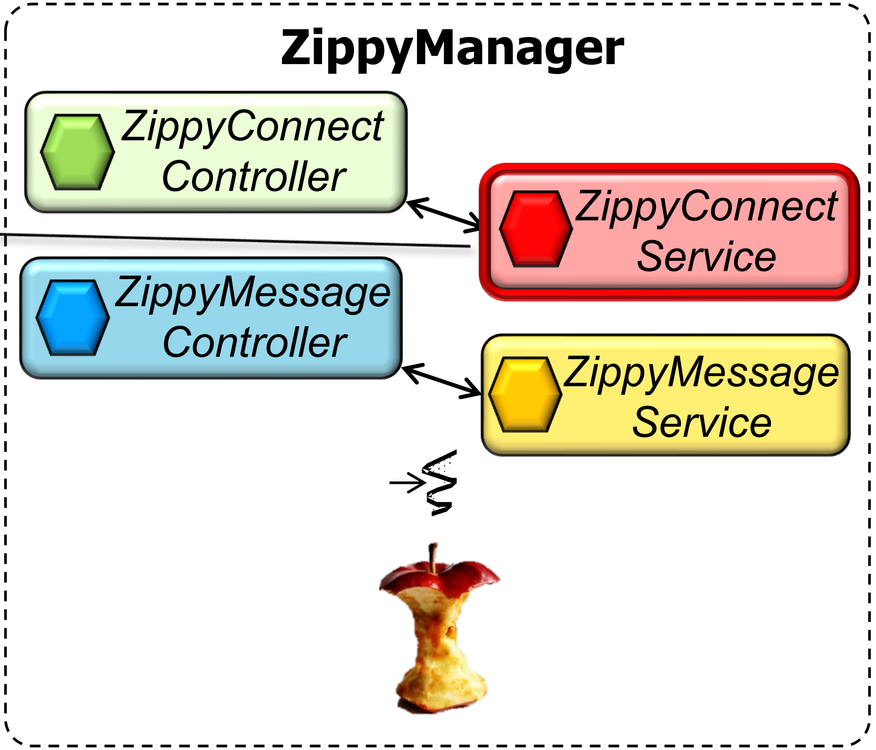
ZippyConnectController receives client connection requests & forwards them to the ZippyConnectService



Overview of the RSocket ZippyQuotes App

- This case study shows how an RSocket client can exchange binary messages asynchronously with the ZippyApplication microservice

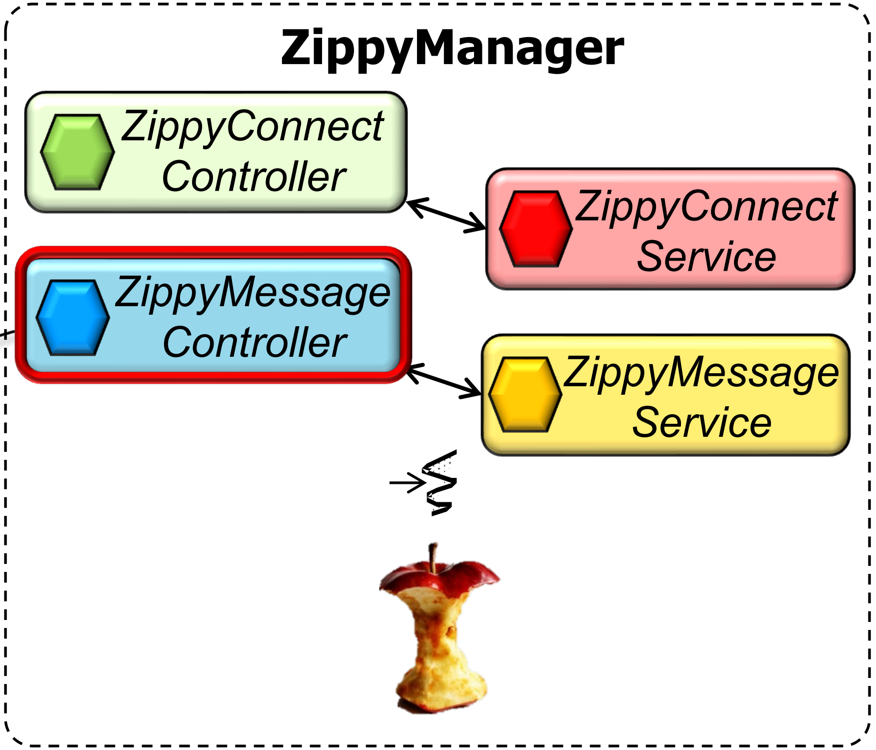
ZippyConnectService performs authentication of client credentials



Overview of the RSocket ZippyQuotes App

- This case study shows how an RSocket client can exchange binary messages asynchronously with the ZippyApplication microservice

ZippyMessageController converts CBOR-encoded messages into Java types & forwards them to ZippyMessageService



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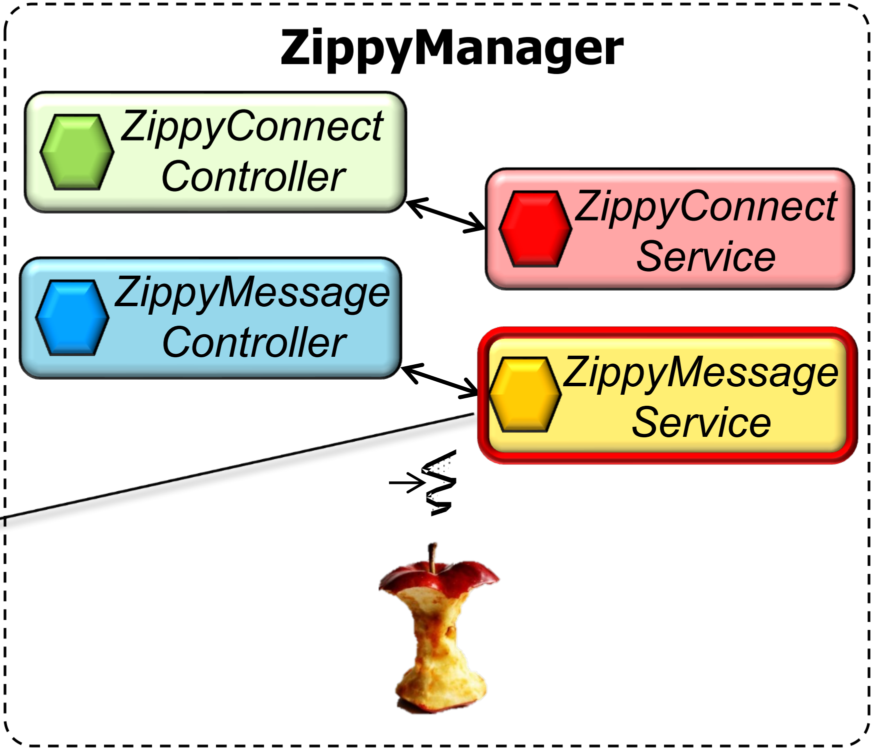
- This case study shows how an RSocket client can exchange binary messages asynchronously with the ZippyApplication microservice



ZippyMessageService implements the methods that process client message requests & return the associated subscriptions & Zippy quotes

Structure & Functionality of the RSocket ZippyQuotes App

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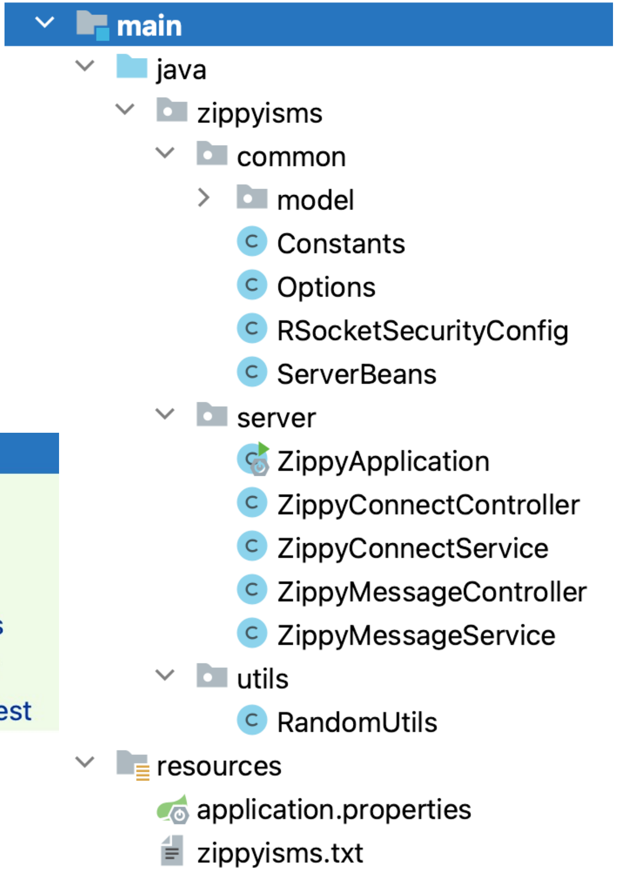
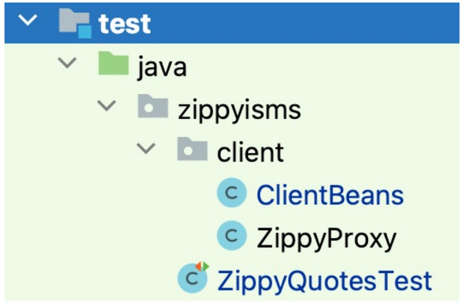
- The RSocket ZippyQuotes App project source code is organized into several packages



```
main
  java
    zippyisms
      common
        model
        Constants
        Options
        RSocketSecurityConfig
        ServerBeans
      server
        ZippyApplication
        ZippyConnectController
        ZippyConnectService
        ZippyMessageController
        ZippyMessageService
      utils
        RandomUtils
  resources
    application.properties
    zippyisms.txt
```

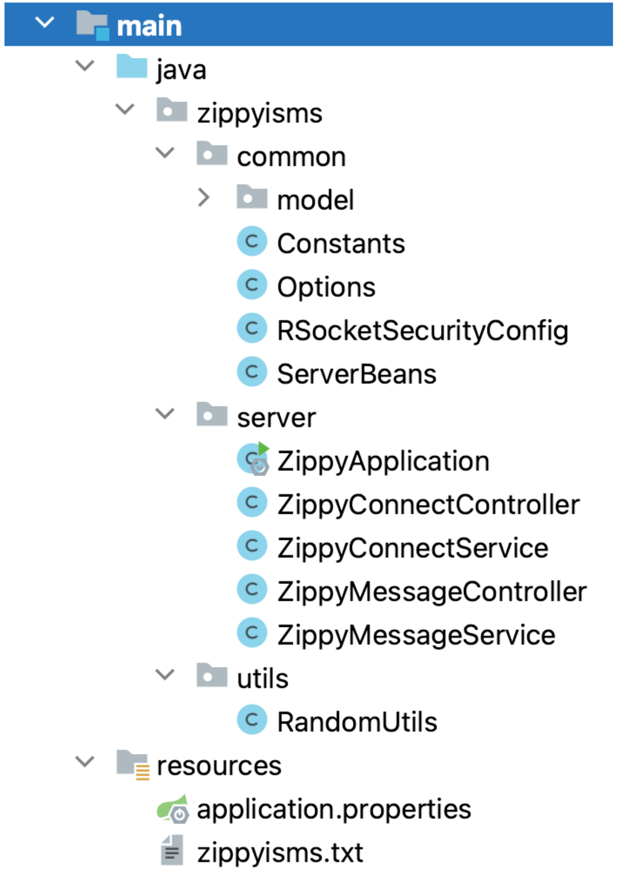


```
test
  java
    zippyisms
      client
        ClientBeans
        ZippyProxy
      ZippyQuotesTest
```

See github.com/douglascraigschmidt/LiveLessons/tree/master/RSocket/ex1

Structure & Functionality of the RSocket ZippyQuotes App

- The RSocket ZippyQuotes App project source code is organized into several packages
  - The src folder contains the server-side classes



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    application.properties
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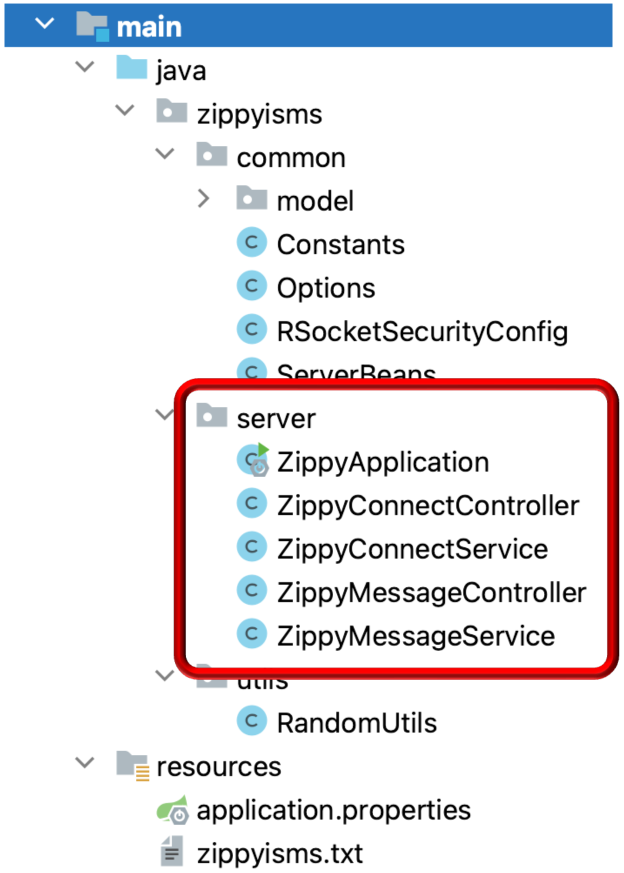
```

Structure & Functionality of the RSocket ZippyQuotes App

- The RSocket ZippyQuotes App project source code is organized into several packages
  - The src folder contains the server-side classes
    - server
      - The Application, Controller, & Service classes that enable message reception & responses



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```
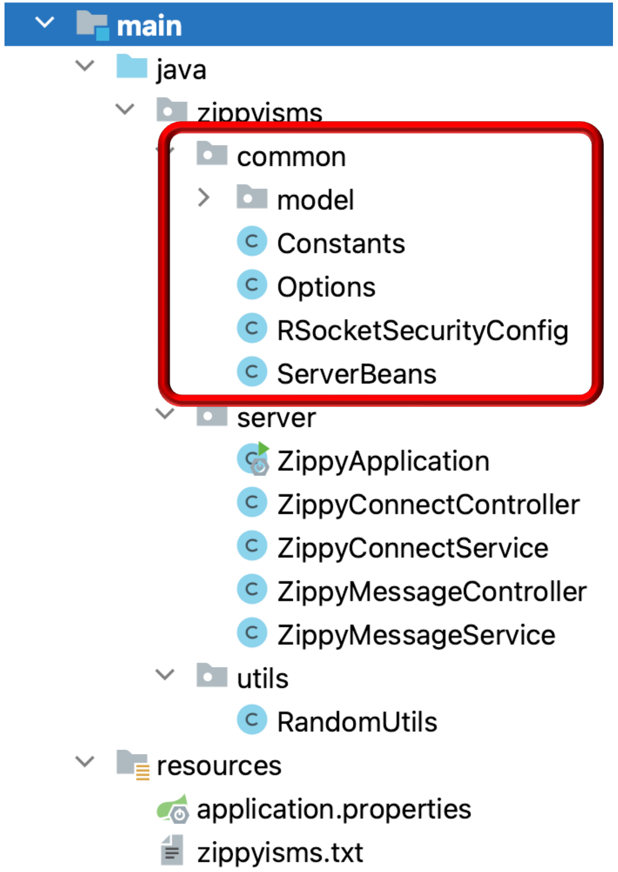
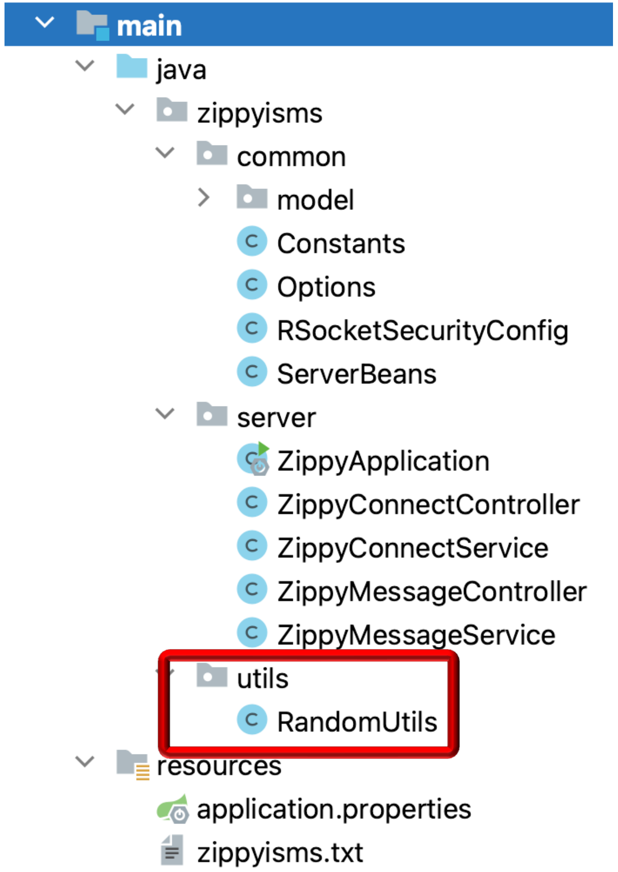

Structure & Functionality of the RSocket ZippyQuotes App

- The RSocket ZippyQuotes App project source code is organized into several packages
  - The src folder contains the server-side classes
    - server
    - common
      - The project-specific reusable classes, including a security module



Structure & Functionality of the RSocket ZippyQuotes App

- The RSocket ZippyQuotes App project source code is organized into several packages
  - The src folder contains the server-side classes
    - server
    - common
    - utils
      - The project-independent reusable classes



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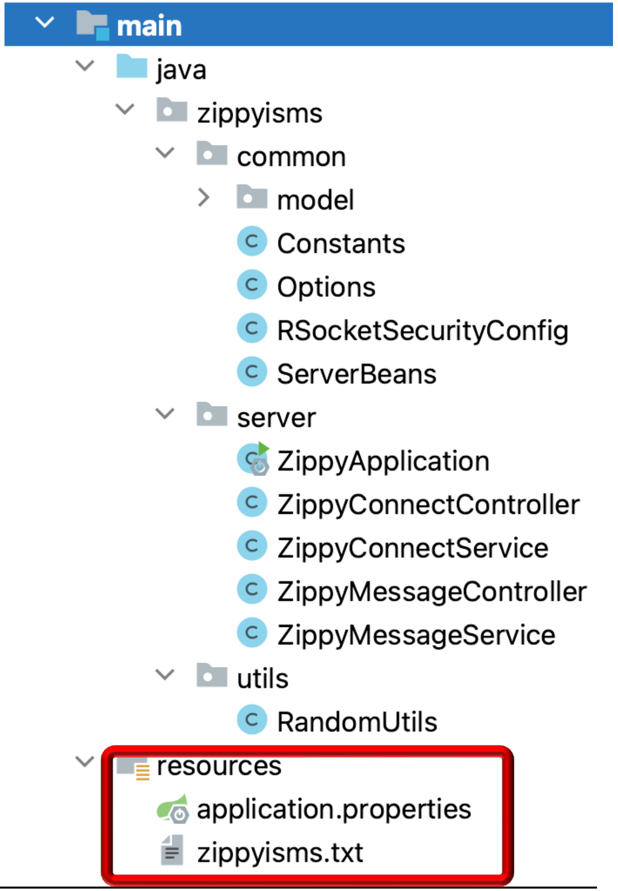
```

Structure & Functionality of the RSocket ZippyQuotes App

- The RSocket ZippyQuotes App project source code is organized into several packages
  - The src folder contains the server-side classes
    - server
    - common
    - utils
    - resources
      - The server name, port number, & Zippy quotes



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```

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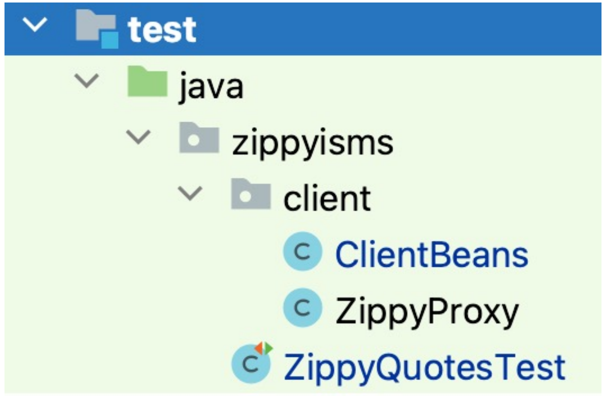
  - The src folder contains the server-side classes
  - The test folder contains the client-side classes



Structure & Functionality of the RSocket ZippyQuotes App

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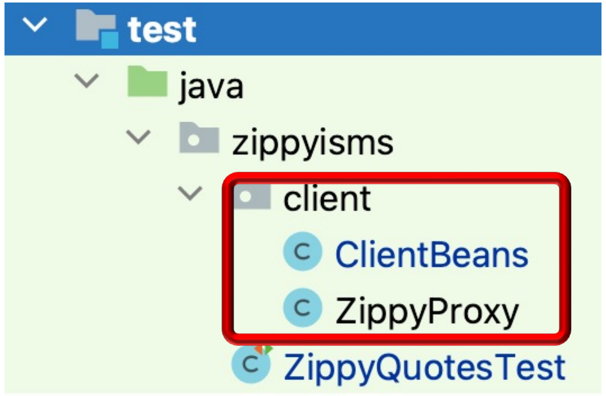
  - The src folder contains the server-side classes
  - The test folder contains the client-side classes
    - client
      - The proxies & client bean that establishes a secure connection with the server



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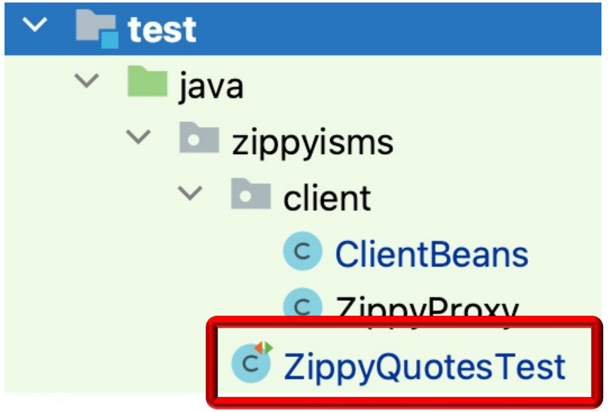
  - The src folder contains the server-side classes
  - The test folder contains the client-side classes
    - client
      - The proxies & client beans
      - The test driver that connects with the server & exchanges messages



End of Overview of the RSocket ZippyQuotes App