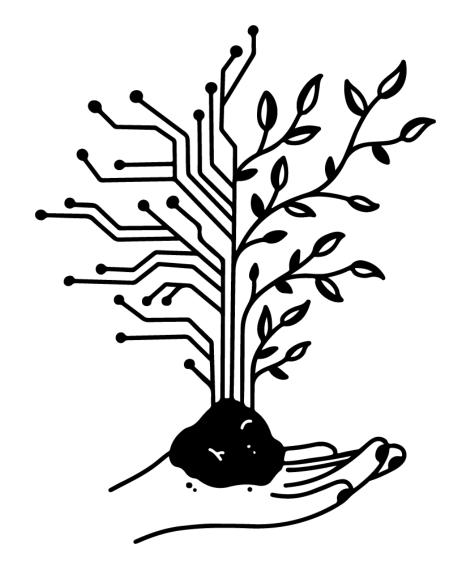
CodeBuzz 2025

Follow-Along Guide

05.06.2025

Steffen Börner





stockprice-monitor > StockPriceMonitorApplication





StockPriceMonitor starten

```
@SpringBootApplication
    @EnableScheduling
    public class StockpriceMonitorApplication {
        public static void main(String[] args) {
            SpringApplication.run(StockpriceMonitorApplication.class, args);
        }
10
11
```



trading-platform > TradingPlatformApplication





CodeBuzz 2025

TradingPlatform **starten**

```
@SpringBootApplication
// @EnableRetry
public class TradingPlatformApplication {

public static void main(String[] args) {
    SpringApplication.run(TradingPlatformApplication.class, args);
}

}
```



stockprice-monitor > StockPriceUpdateEvent





```
record StockPriceUpdateEvent(String symbol, double priceInCents) {
}

// record StockPriceUpdateEvent(String symbol, double priceInCents, String name) {
// // }
```



stockprice-monitor > StockPriceMonitor





```
@Scheduled(fixedRate = 5000)

void monitorStockPrice() throws UnknownHostException, JsonProcessingException, NumberFormatException {

String stockPrice = restTemplate.getForObject(url, String.class);

LOG.info("Stock price received: " + stockPrice);

StockPriceUpdateEvent event = new StockPriceUpdateEvent("A0DJ5J",

Double.parseDouble(stockPrice));

rabbitTemplate.convertAndSend("stockPriceUpdate", "",

event);

LOG.info("Event published: {}", event);
```





```
5
```

```
39  // @Bean
40  // FanoutExchange fanoutV2() {
41   // return new FanoutExchange("stockPriceUpdateV2");
42  // }
```



```
@Bean
40 FanoutExchange fanoutV2() {
41    return new FanoutExchange("stockPriceUpdateV2");
42 }
```



stockprice-monitor > StockPriceMonitor



```
6
```

```
StockPriceUpdateEvent event = new StockPriceUpdateEvent("A0DJ5J",
Double.parseDouble(stockPrice), "Some stock");
rabbitTemplate.convertAndSend("stockPriceUpdate", "",
event);
LOG.info("Event published: {}", event);

// StockPriceUpdateEventV2 eventV2 = new StockPriceUpdateEventV2(new
// Symbol(UUID.randomUUID().toString(), "A0DJ5J"),
// Double.parseDouble(stockPrice), "Some stock");
// rabbitTemplate.convertAndSend("stockPriceUpdateV2", "",
// eventV2);
// LOG.info("Event V2 published: {}", eventV2);
```



```
StockPriceUpdateEvent event = new StockPriceUpdateEvent("A0DJ5J",
Double.parseDouble(stockPrice), "Some stock");
rabbitTemplate.convertAndSend("stockPriceUpdate", "",
event);
LOG.info("Event published: {}", event);

StockPriceUpdateEventV2 eventV2 = new StockPriceUpdateEventV2(
new Symbol(UUID.randomUUID().toString(), "A0DJ5J"),
Double.parseDouble(stockPrice), "Some stock");
rabbitTemplate.convertAndSend("stockPriceUpdateV2", "",
eventV2);
LOG.info("Event V2 published: {}", eventV2);
```

trading-platform > RabbitMQConfig





```
19 @Bean
20 public FanoutExchange fanoutExchange() {
        return new FanoutExchange("stockPriceUpdate");
24 @Bean
25  public Queue stockPriceQueue() {
        return new Queue("tradingPlattformStockPriceUpdate", false);
29 // @Bean
31 // return new FanoutExchange("stockPriceUpdateV2");
36 // return new Queue("tradingPlattformStockPriceUpdateV2", false);
```



```
19 // @Bean
20  // public FanoutExchange fanoutExchange() {
21 // return new FanoutExchange("stockPriceUpdate");
25  // public Queue stockPriceQueue() {
26 // return new Queue("tradingPlattformStockPriceUpdate", false);
    @Bean
    public FanoutExchange fanoutExchange() {
        return new FanoutExchange("stockPriceUpdateV2");
    @Bean
    public Queue stockPriceQueue() {
        return new Queue("tradingPlattformStockPriceUpdateV2", false);
```



```
@RabbitListener(queues = "tradingPlattformStockPriceUpdate")
public void handleStockPriceUpdate(StockPriceUpdateEvent message) {
    // Process the stock price update message
    LOG.info("Received stock price update: {}", message);
}

// @RabbitListener(queues = "tradingPlattformStockPriceUpdateV2")
// public void handleStockPriceUpdate(StockPriceUpdateEventV2 message) {
// LOG.info("Received stock price update v2: {}", message);
// }
```



```
// @RabbitListener(queues = "tradingPlattformStockPriceUpdate")
// public void handleStockPriceUpdate(StockPriceUpdateEvent message) {
// / Process the stock price update message
// LOG.info("Received stock price update: {}", message);
// }

@RabbitListener(queues = "tradingPlattformStockPriceUpdateV2")
public void handleStockPriceUpdate(StockPriceUpdateEventV2 message) {
LOG.info("Received stock price update v2: {}", message);
}
```





```
@Bean
RabbitTemplate rabbitTemplate(final CachingConnectionFactory connectionFactory) {
    RabbitTemplate rabbitTemplate = new RabbitTemplate(connectionFactory);
    rabbitTemplate.setMessageConverter(messageConverter());
    return rabbitTemplate;
}

@Bean

assistance fanoutVz() {
    return new FanoutExchange fanoutVz() {
    return new FanoutExchange("stockPriceUpdateV2");
}

### // @Bean

### // @Bean

### // @Bean

### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### // ### /
```

```
/* @Bean
/* RabbitTemplate rabbitTemplates = new RabbitTemplate(connectionFactory) {
/* RabbitTemplate rabbitTemplate = new RabbitTemplate(connectionFactory);
/* rabbitTemplate.setMessageConverter(messageConverter());
/* return rabbitTemplate;
/* return new FanoutExchange fanoutV2() {
return new FanoutExchange("stockPriceUpdateV2");
}

/* Bean
/* RabbitTemplate rabbitTemplate(final CachingConnectionFactory connectionFactory) {
RabbitTemplate rabbitTemplate = new RabbitTemplate(connectionFactory);
rabbitTemplate rabbitTemplate = new RabbitTemplate(connectionFactory);
rabbitTemplate rabbitTemplate rabbitTemplate(connectionFactory);
rabbitTemplate.setMessageConverter());
connectionFactory.setPublisherConfirmType.CORRELATED);
rabbitTemplate.setConfirmCallback((correlationData, ack, cause) -> {
if (ack) {
System.out.println("Message published successfully: " + (correlationData != null ? correlationData.getId(): "null"));
} else {
System.err.println("Message publish failed: " + (correlationData != null ? correlationData.getId(): "null") + ", cause: " + cause);
}
/* return rabbitTemplate;
}
```





```
10
```



stockprice-monitor > StockPriceMonitor





```
11
```







```
12
```





```
13
```

```
@RabbitListener(queues = "tradingPlattformStockPriceUpdateV2")

public void handleStockPriceUpdate(StockPriceUpdateEventV2 message) {

LOG.info("Received stock price update v2: {}", message);

}

// @RabbitListener(queues = "tradingPlattformStockPriceUpdateV2")

// @Retryable(maxAttempts = 3, backoff =

// @org.springframework.retry.annotation.Backoff(delay = 4000))

// public void handleStockPriceUpdateWithRetry(StockPriceUpdateEventV2 message)

// {

// LOG.info("Received stock price update v2: {}", message);

// // Simulate processing logic that might fail

// // For demonstration, we throw an exception to trigger the retry mechanism

// throw new RuntimeException("Simulated error in StockUpdateEventListener");

// //
```



```
// @RabbitListener(queues = "tradingPlattformStockPriceUpdateV2")
// public void handleStockPriceUpdate(StockPriceUpdateEventV2 message) {
// LOG.info("Received stock price update v2: {}", message);
// }

@RabbitListener(queues = "tradingPlattformStockPriceUpdateV2")
public void handleStockPriceUpdateWithRetry(StockPriceUpdateEventV2 message) {
    LOG.info("Received stock price update v2: {}", message);
// Simulate processing logic that might fail
// For demonstration, we throw an exception to trigger the retry mechanism throw new RuntimeException("Simulated error in StockUpdateEventListener");
}
```



```
@RabbitListener(queues = "tradingPlattformStockPriceUpdateV2")
23    // public void handleStockPriceUpdate(StockPriceUpdateEventV2 message) {
24    // LOG.info("Received stock price update v2: {}", message);
25    // }
26
27  @RabbitListener(queues = "tradingPlattformStockPriceUpdateV2")
28  public void handleStockPriceUpdateWithRetry(StockPriceUpdateEventV2 message) {
29    LOG.info("Received stock price update v2: {}", message);
30    // Simulate processing logic that might fail
31    // For demonstration, we throw an exception to trigger the retry mechanism
32    throw new RuntimeException("Simulated error in StockUpdateEventListener");
33 }
```



```
@RabbitListener(queues = "tradingPlattformStockPriceUpdateV2")
public void handleStockPriceUpdateWithRetry(StockPriceUpdateEventV2 message) {
    LOG.info("Received stock price update v2: {}", message);
    // Simulate processing logic that might fail
    // For demonstration, we throw an exception to trigger the retry mechanism
    throw new AmqpRejectAndDontRequeueException("Simulated error in StockUpdateEventListener");
}
```







```
@SpringBootApplication
@EnableRetry
public class TradingPlatformApplication {

public static void main(String[] args) {
    SpringApplication.run(TradingPlatformApplication.class, args);
}

}

14
15 }
```



```
@RabbitListener(queues = "tradingPlattformStockPriceUpdateV2")

public void handleStockPriceUpdateWithRetry(StockPriceUpdateEventV2 message) {

LOG.info("Received stock price update v2: {}", message);

// Simulate processing logic that might fail

// For demonstration, we throw an exception to trigger the retry mechanism

throw new AmqpRejectAndDontRequeueException("Simulated error in StockUpdateEventListener");

// @RabbitListener(queues = "tradingPlattformStockPriceUpdateV2")

// @Retryable(maxAttempts = 3, backoff =

// @org.springframework.retry.annotation.Backoff(delay = 4000))

// public void handleStockPriceUpdateWithRetry(StockPriceUpdateEventV2 message)

// {

// LOG.info("Received stock price update v2: {}", message);

// // Simulate processing logic that might fail

// // For demonstration, we throw an exception to trigger the retry mechanism

// throw new RuntimeException("Simulated error in StockUpdateEventListener");

// // }
```



```
// @RabbitListener(queues = "tradingPlattformStockPriceUpdateV2")

// public void handleStockPriceUpdateWithRetry(StockPriceUpdateEventV2 message) {

// LOG.info("Received stock price update v2: {}", message);

// // Simulate processing logic that might fail

// // For demonstration, we throw an exception to trigger the retry mechanism

// throw new AmqpRejectAndDontRequeueException("Simulated error in StockUpdateEventListener");

// }

@RabbitListener(queues = "tradingPlattformStockPriceUpdateV2")

@Retryable(maxAttempts = 3, backoff = @org.springframework.retry.annotation.Backoff(delay = 4000))

public void handleStockPriceUpdateWithRetry(StockPriceUpdateEventV2 message) {

LOG.info("Received stock price update v2: {}", message);

// Simulate processing logic that might fail

// For demonstration, we throw an exception to trigger the retry mechanism

throw new RuntimeException("Simulated error in StockUpdateEventListener");

}
```



trading-platform > StockUpdateEventListener



```
decover
36  // @Recover
37  // public void recover(RuntimeException e, StockPriceUpdateEventV2 message) {
38    // LOG.error("Failed to process stock price update after retries: {}", message,
39    // e);
40    // // default: ack
41    // // with the following, the message will not be requeued:
42    // throw new AmqpRejectAndDontRequeueException("Failed to process stock price
43    // update", e);
44    // }
```



trading-platform > "Terminal"



18

STRG+C



```
at org.springframework.amgp.rabbit.listener.SimpleMessageListenerContainer.doReceiveAndExecute(SimpleMessageListenerContainer.java:1085) ~[spring-rabbit-3.2.5.jar:3.2.
         at org.springframework.amgp.rabbit.listener.SimpleMessageListenerContainer.receiveAndExecute(SimpleMessageListenerContainer.java:1021) ~[spring-rabbit-3.2.5.jar:3.2.5]
         at org.springframework.amgp.rabbit.listener.SimpleMessageListenerContainer$AsyncMessageProcessingConsumer.mainLoop(SimpleMessageListenerContainer.java:1423) ~[spring-r
abbit-3.2.5.jar:3.2.5]
         at org.springframework.amgp.rabbit.listener.SimpleMessageListenerContainer$AsyncMessageProcessingConsumer.run(SimpleMessageListenerContainer.java:1324) ~[spring-rabbit
         at java.base/java.lang.Thread.run(Thread.java:1447) ~[na:na]
2025-06-02T06:30:15.171Z WARN 4014 --- [trading-platform] [ntContainer#0-1] o.s.a.r.l.SimpleMessageListenerContainer : Rejecting received message(s) because the listener cont
ainer has been stopped: (Body: B@63ca41ad(byte[125])' MessageProperties [headers={spring_returned_message_correlation=StockPriceUpdateEventV2[symbol=Symbol[id=32496366-0a15-4
9d1-a42d-ae4289daa718, name=A0DJ5J], priceInCents=903.2784843672245, name=Some stock], __TypeId__=com.exxeta.codebuzz.stockpricemonitor.StockPriceUpdateEventV2}, contentType=application/json, contentEncoding=UTF-8, contentLength=0, receivedDeliveryMode=PERSISTENT, priority=0, redelivered=true, receivedExchange=stockPriceUpdateV2, receivedRoutingKey
−, deliveryTag=3, consumerTag=amg.ctag−1QXwno7y6LKJajWJRdBNhQ, consumerQueue=tradingPlattformStockPriceUpdateV2])
2025-06-02T06:30:15.172Z INFO 4014 --- [trading-platform] [ntContainer#0-2] o.s.a.r.l.SimpleMessageListenerContainer : Successfully waited for workers to finish.
2025-06-02T06:30:15.175Z INFO 4014 --- [trading-platform] [ionShutdownHook] o.s.b.w.e.tomcat.GracefulShutdown
                                                                                                                                 : Commencing graceful shutdown. Waiting for active reques
ts to complete
 2025-06-02T06:30:15.177Z INFO 4014 --- [trading-platform] [tomcat-shutdown] o.s.b.w.e.tomcat.GracefulShutdown
                                                                                                                                 : Graceful shutdown complete
 vscode → /workspaces/eventdriven-spring (main)
```

Rabbitmq (15672) > RabbitMQ Management UI













Overview	Connecti	ons Ch	annels	Exchanges	Queues and Strea	ams	Admin	
Properties:	?			=				
Paylo	ad:							
Payload encodi	ng: String	g (default) 🗸						d.
Publish message								
▼ Get message	s							
Warning: getting r	nessages fr	rom a queue	is a destru	ctive action. ?				
Ack Mode: Nac	k message	requeue true	~					
Encoding: Auto	string / ba	se64 🗸 ?						
Messages: 1								
Get Message(s)								
Move message	ges							
▼ Delete								
Delete Queue	\leftarrow	1						
▼ Purge								
Purge Messages								
▼ Runtime Met	rics (Adva	nced)						



trading-platform > RabbitMQConfig



```
20
```

```
57  // public Queue deadLetterQueue() {
58 // return new Queue("tradingPlattformStockPriceUpdateV2.dlq", false);
61 // @Bean
62 // public Binding deadLetterBinding(Queue deadLetterQueue) {
70 // DirectExchange dlx() {
71 // return new DirectExchange("tradingPlatformStockPriceUpdate.dlx");
75  // public Queue stockPriceQueue() {
76 // return QueueBuilder
77 // .nonDurable("tradingPlattformStockPriceUpdateV2")
79 // "tradingPlatformStockPriceUpdate.dlx")
80 // .withArgument("x-dead-letter-routing-key", "")
```



```
34 // @Bean
35 // public Queue stockPriceQueue() {
36 // return new Queue("tradingPlattformStockPriceUpdateV2", false);
37 // }
```

```
57  public Queue deadLetterQueue() {
        return new Queue("tradingPlattformStockPriceUpdateV2.dlq", false);
59 }
62 public Binding deadLetterBinding(Queue deadLetterQueue) {
        return BindingBuilder
                .bind(deadLetterQueue)
                .to(dlx())
                .with("");
69 @Bean
70 DirectExchange dlx() {
        return new DirectExchange("tradingPlatformStockPriceUpdate.dlx");
75  public Queue stockPriceQueue() {
        return QueueBuilder
                .nonDurable("tradingPlattformStockPriceUpdateV2")
                .withArgument("x-dead-letter-exchange",
                        "tradingPlatformStockPriceUpdate.dlx")
                .withArgument("x-dead-letter-routing-key", "")
                .build();
```







TradingPlatformApplication **starten**

```
@SpringBootApplication
@EnableRetry
public class TradingPlatformApplication {

public static void main(String[] args) {
    SpringApplication.run(TradingPlatformApplication.class, args);
}

}

}
```

stockprice-monitor > "Terminal"







StockPriceMonitor **beenden**

STRG+C



```
Message published successfully: StockPriceUpdateEventV2[symbol=Symbol[id=873b8722-8ef6-459b-8dd9-2351cb361cd0, name=A0DJ5J], priceInCents=734.6355940345718, name=Some stock]
2025-06-02T06:34:49.754Z INFO 5864 --- [stockprice-monitor] [ scheduling-1] c.e.c.s.StockPriceMonitor 2025-06-02T06:34:49.755Z INFO 5864 --- [stockprice-monitor] [ scheduling-1] c.e.c.s.StockPriceMonitor
                                                                                                                                              : Stock price received: 430.41967412221595
                                                                                                                                             : Event published: StockPriceUpdateEvent[symbol=A0DJ5J, priceInCents=430.419674122215
95, name=Some stock]
Message published successfully: StockPriceUpdateEventV2[symbol=Symbol[id=67c5b85c-ba5f-47da-88cf-a2e920f1d0f7, name=A0DJ5J], priceInCents=430.41967412221595, name=Some stock]
Message published successfully: null
2025-06-02T06:34:54.755Z INFO 5864 --- [stockprice-monitor] [ scheduling-1] c.e.c.s.StockPriceMonitor 2025-06-02T06:34:54.756Z INFO 5864 --- [stockprice-monitor] [ scheduling-1] c.e.c.s.StockPriceMonitor
                                                                                                                                              : Stock price received: 992.5940971285239
                                                                                                                                             Event published: StockPriceUpdateEvent[symbol=A0DJ5J, priceInCents=992.594097128523
9, name=Some stock]
Message published successfully: null
Message published successfully: StockPriceUpdateEventV2[symbol=Symbol[id=238f4444-4f7f-4e8c-b3e6-0b1fe28c0dce, name=A0DJ5J], priceInCents=992.5940971285239, name=Some stock]
2025-06-02T06:34:59.754Z INFO 5864 --- [stockprice-monitor] [ scheduling-1] c.e.c.s.StockPriceMonitor : Stock price received: 849.8983124683871
2025-06-02T06:34:59.755Z INFO 5864 --- [stockprice-monitor] [ scheduling-1] c.e.c.s.StockPriceMonitor
                                                                                                                                             Event published: StockPriceUpdateEvent[symbol=A0DJ5J, priceInCents=849.898312468387
1, name=Some stock]
Message published successfully: null
Message published successfully: StockPriceUpdateEventV2[symbol=Symbol[id=c49f78ff-2f45-4a0a-9738-8713832c5aad, name=A0DJ5J], priceInCents=849.8983124683871, name=Some stock]
^C2025-06-02T06:35:04.643Z INFO 5864 --- [stockprice-monitor] [ionShutdownHook] o.s.b.w.e.tomcat.GracefulShutdown
                                                                                                                                                  Commencing graceful shutdown. Waiting for active requests to complete
2025-06-02T06:35:04.645Z INFO 5864 --- [stockprice-monitor] [tomcat-shutdown] o.s.b.w.e.tomcat.GracefulShutdown
                                                                                                                                              : Graceful shutdown complete
vscode → /workspaces/eventdriven-spring (main) $ [
```

CodeBuzz 2025





RabbitMQ 15672

Nachrichten liegen in der DLQ

