

# apache-camel-spring-boot-1.x (0.0.1)

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Travis CI status: [\[Build Status\]](#)

# Chapter 1. Introduction

[Reference documentation](#)

[See Travis CI integration tests for details](#)

links:

- [Camel getting started](#)
- [Camel Spring](#)
- [Camel tutorials](#)
- [Camel cookbook](#)
- [Walk through an example](#)
- [Integration patterns](#)

generated by [generator-jvm](#) yeoman generator (java-spring-boot\_1.x)

# Chapter 2. Implementation

## 2.1. camel spring configuration

*src/main/resources/application-camel.properties*

```
# spring boot keep running if you not using spring-boot-web for example...
camel.springboot.main-run-controller=true
# actuator support:
spring.profiles.active=camel
management.context-path=/actuator/
management.security.enabled=false
# we wanna also post to camel endpoints (curl -XPOST ...):
endpoints.camelroutes.read-only=false
```

## 2.2. move all files from directory

source directory: */tmp/camel-in/* destination directory: */tmp/camel-out/*

*src/main/java/daggerok/app/MoveFilesCamelConfig.java*

```
@Configuration
@RequiredArgsConstructor
public class MoveFilesCamelConfig {

    @Bean
    public RouteBuilder moveFilesRoute() {
        return new RouteBuilder() {
            @Override
            public void configure() throws Exception {
                from("file:///tmp/camel-in")
                    .routeId("dir-to-dir")
                    .to("file:///tmp/camel-out");
            }
        };
    }
}
```

## 2.3. move files via jms

source directory: */tmp/camel-jms-in/* process queue: *files* destination directory: */tmp/camel-jms-out/*

move files via jms queue `jms:queue:files`

```
@Slf4j
@Configuration
@RequiredArgsConstructor
public class MoveFilesViaJmsCamelConfig {

    @Bean
    public RouteBuilder moveFilesViaJmsRoute() {
        return new RouteBuilder() {
            @Override
            public void configure() throws Exception {

                from("file:///tmp/camel-jms-in")
                    .routeId("in-dir-to-jms")
                    .transform()
                    .body(GenericFile.class, genericFile -> {
                        final File file = File.class.cast(genericFile.getFile());
                        try (final FileInputStream inputStream = new FileInputStream(file)) {
                            final InputStreamReader streamReader = new InputStreamReader
(inputStream);
                            final BufferedReader in = new BufferedReader(streamReader);
                            return in.lines().collect(joining());
                        } catch (IOException e) {
                            log.error(e.getLocalizedMessage());
                            throw new RuntimeException(e);
                        }
                    })
                    .to("jms:queue:files")
                ;

                from("jms:queue:files")
                    .routeId("jms-to-out-dir")
                    .to("file:///tmp/camel-jms-out")
                ;
            }
        };
    }
}
```

```
@Component
@RequiredArgsConstructor
class MoveFilesViaJmsComponentCustomizer implements ComponentCustomizer<JmsComponent>
{

    final ConnectionFactory connectionFactory;

    @Override
    public void customize(JmsComponent component) {
        component.setConnectionFactory(connectionFactory);
    }
}
```

## 2.4. change filename by using camel header

source directory: `/tmp/camel-filename-in/` destination directory: `/tmp/camel-filename-out/`

setup camel header to change output filename in pattern: `uuid-changed.txt`

```
@Configuration
@RequiredArgsConstructor
public class ChangeFilenameHeaderCamelConfig {

    @Bean
    public RouteBuilder filenameHeaderRoute() {
        return new RouteBuilder() {
            @Override
            public void configure() throws Exception {
                from("file:///tmp/camel-filename-in")
                    .routeId("change-filename-header")
                    .setHeader("CamelFileName", () -> format("%s-changed.txt", UUID.
randomUUID().toString()))
                    .to("file:///tmp/camel-filename-out");
            }
        };
    }
}
```

## 2.5. process exchange

source directory: `/tmp/camel-exchange-in/` destination directory: `/tmp/camel-exchange-out/`

man in a middle: do additional stuff with message during camel pipeline (for instance, log message body):

```
@Configuration
@RequiredArgsConstructor
public class ExchangeProcessorCamelConfig {

    @Bean
    public RouteBuilder processExchangeRoute() {
        return new RouteBuilder() {
            @Override
            public void configure() throws Exception {
                from("file:///tmp/camel-exchange-in")
                    .routeId("exchange-processor")
                    .process().exchange(exchange -> {
                        final Message inputMessage = exchange.getIn();
                        final Object body = inputMessage.getBody(String.class);
                        log.info("handling message body in exchange consumer: {}", body);
                    })
                    .to("file:///tmp/camel-exchange-out");
            }
        };
    }
}
```

## 2.6. easier exchange

source directory: /tmp/camel-easier-exchange-in/ destination directory: /tmp/camel-easier-exchange-out/



same, but easier:

```
@Configuration
@RequiredArgsConstructor
public class EasierExchangeProcessorCamelConfig {

    @Bean
    public RouteBuilder easierExchangeRoute() {
        return new RouteBuilder() {
            @Override
            public void configure() throws Exception {
                from("file:///tmp/camel-easier-exchange-in")
                    .routeId("easier-exchange")
                    .process()
                    .message(message -> {
                        final String body = message.getBody(String.class);
                        final Map<String, Object> headers = message.getHeaders();
                        log.info("easy body: {}", body);
                        headers.entrySet().parallelStream()
                            .filter(e -> "CamelFileLength".contains(e.getKey()))
                            .forEach(e -> log.info("header({}): {}", e.getKey(), e.getValue()));
                    })
                /* // absolutely same, even more easier!
                .body(String.class, (body, headers) -> {
                    log.info("easiest: {}", body);
                    headers.entrySet().parallelStream()
                        .filter(e -> "CamelFileLength".contains(e.getKey()))
                        .forEach(e -> log.info("header({}): {}", e.getKey(), e.getValue()));
                })
                */
                .to("file:///tmp/camel-easier-exchange-out");
            }
        };
    }
}
```

## 2.7. choice

source directory: `/tmp/camel-choice-in/` error directory: `/tmp/camel-choice-error/` destination directory: `/tmp/camel-choice-out/`

*choice-when-<when-action>-otherwise-<otherwise-action>-endChoice*

```
@Configuration
@RequiredArgsConstructor
public class ChoiceCamelConfig {

    @Bean
    public RouteBuilder choiceRoute() {
        return new RouteBuilder() {
            @Override
            public void configure() throws Exception {
                from("file:///tmp/camel-choice-in")
                    .routeId("choice")
                    //@formatter:off
                    .choice()
                        .when(exchange -> !exchange.getMessage().getBody(String.class)
                            .toLowerCase().contains("err"))
                            .to("file:///tmp/camel-choice-out")
                            .otherwise()
                                .to("file:///tmp/camel-choice-error")
                        .endChoice()
                    //@formatter:on
            }
        };
    }
}
```

# Chapter 3. Actuator

get routes:

```
http get :8080/actuator/camel/routes
```

output:

```
[
  {
    "id": "change-filename-header",
    "status": "Started",
    "uptime": "2 minutes",
    "uptimeMillis": 142840
  },
  {
    "id": "choice",
    "status": "Started",
    "uptime": "2 minutes",
    "uptimeMillis": 142831
  },
  {
    "id": "easier-exchange",
    "status": "Started",
    "uptime": "2 minutes",
    "uptimeMillis": 142824
  },
  {
    "id": "exchange-processor",
    "status": "Started",
    "uptime": "2 minutes",
    "uptimeMillis": 142813
  },
  {
    "id": "dir-to-dir",
    "status": "Started",
    "uptime": "2 minutes",
    "uptimeMillis": 142798
  },
  {
    "id": "garbage-dir-to-dir",
    "status": "Started",
    "uptime": "2 minutes",
    "uptimeMillis": 142787
  },
  {
    "id": "in-dir-to-jms",
    "status": "Started",
    "uptime": "2 minutes",
    "uptimeMillis": 142774
  }
]
```

```
},
{
  "id": "jms-to-out-dir",
  "status": "Started",
  "uptime": "2 minutes",
  "uptimeMillis": 142003
}
]
```

now let's say some processing is working incorrectly, so we wanna stop `change-filename-header` route:

```
http post :8080/actuator/camel/routes/change-filename-header/stop
```

```
# output:
HTTP/1.1 200
Content-Length: 0
Date: Fri, 15 Jun 2018 00:10:07 GMT
X-Application-Context: application:spring-boot,camel
```

let's check if it was stopped:

```
http get :8080/actuator/camel/routes/change-filename-header/info
```

output:

```
{
  "id": "change-filename-header",
  "status": "Stopped",
  "uptimeMillis": 0
}
```

# Chapter 4. Spring Integration

We also can integration awesome Apache Camel modules with Spring Integration

input directory: `/tmp/camel-spring-integration-in/`

1. again, do not forget about required jms configuration

```
@Component
@RequiredArgsConstructor
class SpringIntegrationJmsComponentCustomizer implements ComponentCustomizer
<JmsComponent> {

    final ConnectionFactory connectionFactory;

    @Override
    public void customize(JmsComponent component) {
        component.setConnectionFactory(connectionFactory);
    }
}
```

2. if we wanna get file content form input directory `/tmp/camel-spring-integration-in` and send it to spring-integration for IntegrationFlow processing, then, camel configuration might looks like so:

```

@Configuration
@RequiredArgsConstructor
public class SpringIntegrationCamelConfig {

    @Bean
    public RouteBuilder springIntegrationRoute() {
        return new RouteBuilder() {
            @Override
            public void configure() throws Exception {

                from("file:///tmp/camel-spring-integration-in")
                    .routeId("to-spring-integration")
                    //@formatter:off
                    .transform()
                    .body(String.class, (s, headers) -> s)
                    //@formatter:on
                    .to("jms:queue:flow")
                ;

                from("jms:queue:flow")
                    .to("spring-integration:inputMessageChannel")
                ;
            }
        };
    }
}

```

### 3. finally, spring IntegrationFlow config:

```
/**
 * Requires camel spring-integration-starter
 */
@Slf4j
@Configuration
class SpringIntegrationFlowConfig {

    @Bean
    public MessageChannel inputMessageChannel() {
        return MessageChannels.direct().get();
    }

    @Bean
    public IntegrationFlow inputMessageFlow() {
        return IntegrationFlows
            .from(inputMessageChannel())
            .handle(message -> {
                log.info("integration flow: {}", message.getPayload());
            })
            .get();
    }
}
```

# Chapter 5. BOM

*maven*

```
<dependencyManagement>
  <dependencies>
    <!-- now we can easily use compatible apache camel components -->
    <dependency>
      <groupId>org.apache.camel</groupId>
      <artifactId>camel-spring-boot-dependencies</artifactId>
      <version>${apache.camel.version}</version>
      <type>pom</type>
      <scope>import</scope>
    </dependency>
  </dependencies>
</dependencyManagement>
```

*gradle*

```
dependencyManagement {
  imports {
    mavenBom "org.apache.camel:camel-spring-boot-dependencies:${apacheCamelVersion}"
  }
}
```



# Chapter 6. Links

[GitHub repo](#) [GitHub pages](#)

[spring.io blog post](#) [jlong youtube video](#)