THE EASE OF THE CAMEL REST DSL

USING REST WITH JBOSS EAP AND APACHE KARAF

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May 3, 2017

WHAT IS APACHE CAMEL?

WHAT IS CAMEL?

- An open source integration framework

- Integration components for smart routing, transformation, mediation, monitoring, etc

- A java based implementation of the Enterprise Integration Patterns

ENDPOINT URI

component://specific-part?key=value&key=value

- ftp://john@localhost?password=doe

- jms:queue:MyQueue

- file:input?move=processed&moveFailed=failed

redhat.

JAVA DSL

- Defines a timer which runs every 2 seconds
- Logs at INFO Level the string "Hello World" under the package specified
- Logs the body itself at INFO level

```java
public class ExampleRoute extends RouteBuilder {
    @Override
    public void configure() throws Exception {
        from("timer://myTimer?fixedRate=true&period=2000")
            .log(LoggingLevel.INFO, "com.redhat.quickstarts.karaf.route", "Hello World")
            .to("log:HelloWorldLog?level=INFO");
    }
}
```

XML Route

- Defines a timer which runs every 2 seconds
- Logs at INFO Level the string "Hello World" under the package specified
- Logs the body itself at INFO level

```xml
<route>
  <from uri="timer://myTimer?fixedRate=true&amp;period=2000"/>
  <log message="Hello World" loggingLevel="INFO" loggerRef="com.redhat.quickstarts.karaf.route"/>
  <to uri="log:HelloWorldLog?level=INFO"/>
</route>
```

APACHE KARAF WITH THE REST DSL

KARAF CAMEL CONTEXT

```xml
<?xml version="1.0" encoding="UTF-8"?>
<blueprint xmlns="http://www.osgi.org/xmlns/blueprint/v1.0.0"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:cm="http://aries.apache.org/blueprint/xmlns/blueprint-cm/v1.0.0"
    xmlns:jaxws="http://cxf.apache.org/blueprint/jaxws"
    xmlns:camel="http://camel.apache.org/schema/blueprint"
    xsi:schemaLocation="http://www.osgi.org/xmlns/blueprint/v1.0.0 http://www.osgi.org/xmlns/blueprint/v1.0.0/
    blueprint.xsd http://cxf.apache.org/blueprint/jaxws http://cxf.apache.org/schemas/blueprint/jaxws.xsd
    http://cxf.apache.org/blueprint/core http://cxf.apache.org/schemas/blueprint/core.xsd">
    <!-- The camel context which registers the route -->
    <camel:camelContext id="fusequickstart-restdsl-camel" xmlns="http://camel.apache.org/schema/blueprint">
        <!-- Package Scanning finds the Routes -->
        <packageScan>
            <package>com.redhat.consulting.fusequickstarts.karaf.rest.dsl.route</package>
        </packageScan>
    </camel:camelContext>
</blueprint>
```

KARAF CAMEL ROUTE

```java
public void configure() throws Exception {
    Note sampleMessage = new Note();
    sampleMessage.setTo("User");
    sampleMessage.setMessage("REST is Awesome");

    restConfiguration().component("restlet").host("localhost").port(8182).bindingMode(RestBindingMode.auto);

    rest("/rest").consumes("application/json").produces("application/json")
        .get("/message").outType(Note.class).to("direct:get")
        .post("/message").type(Note.class).to("direct:post");

    from("direct:get")
        .process(new Processor() {
            public void process(Exchange exchange) throws Exception {
                exchange.getOut().setBody(sampleMessage);}
            }
         )
        .log("Successful GET Request: ${body}");

    from("direct:post")
        .log("Successful POST Request: ${body}")
        .setHeader(Exchange.HTTP_RESPONSE_CODE,simple("201"));
}
```

JBOSS EAP WITH THE REST DSL

EAP WEB.XML

```xml
<?xml version="1.0" encoding="ISO-8859-1"?>
<web-app version="2.4" xmlns="http://java.sun.com/xml/ns/j2ee"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://java.sun.com/xml/ns/j2ee
                        http://java.sun.com/xml/ns/j2ee/web-app_2_4.xsd">
    <listener>
        <listener-class>org.jboss.weld.environment.servlet.Listener</listener-class>
    </listener>
    <!-- Camel Servlet -->
    <servlet>
        <servlet-name>CamelServlet</servlet-name>
        <servlet-class>org.apache.camel.component.servlet.CamelHttpTransportServlet</servlet-class>
        <load-on-startup>1</load-on-startup>
    </servlet>
    <!-- Camel Servlet Mapping -->
    <servlet-mapping>
        <servlet-name>CamelServlet</servlet-name>
        <url-pattern>/rest/*</url-pattern>
    </servlet-mapping>
</web-app>
```

EAP CAMEL ROUTE

```java
@ContextName("rest-dsl")
public class RestRoutes extends RouteBuilder {

    @Override
    public void configure() throws Exception {
        restConfiguration().component("servlet").bindingMode(RestBindingMode.json);

        rest("/user")
                .get("/{id}").produces("application/json").to("direct:getUser")
                .post().consumes("application/json").type(User.class).to("direct:createUser");

        from("direct:getUser")
                .log("GET /user/${header.id} request received!")
                .setBody(simple("${header.id}"))
                .to("bean:usersBean?method=getUser");

        from("direct:createUser")
                .log("POST /user/ request received!")
                .to("bean:usersBean?method=createUser");
    }
}
```