Custom Datatype Mappings Lab

Goals

- Import and modify a Fuse project to add a mapping activity that converts between a type that is not built-in (CSV) and an XML document
- Build and test the mapping

1. Open the Lab

1. Click the **Project Explorer** tab and expand the `xml-to-json` project node.
2. Navigate to `camel-context.xml` by clicking **src/main/java** → **META_INF** → **spring**.

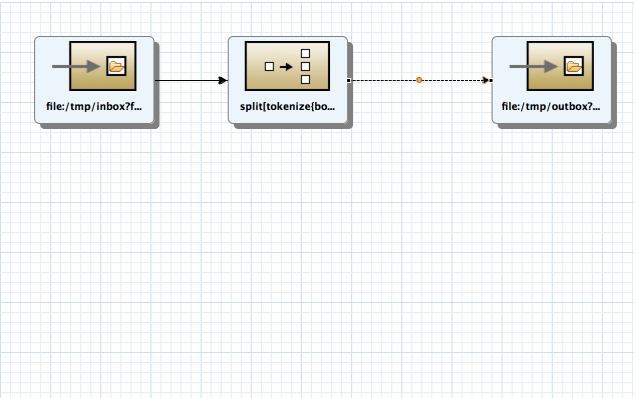

Figure 1. Camel route

2. Create a Custom Mapping for CSV to XML

Here you add a Data Transformation tool activity to this route to map between the input and output objects.

1. Click the **Palette** tab on the right side of the canvas.
2. Click **Transformation**.

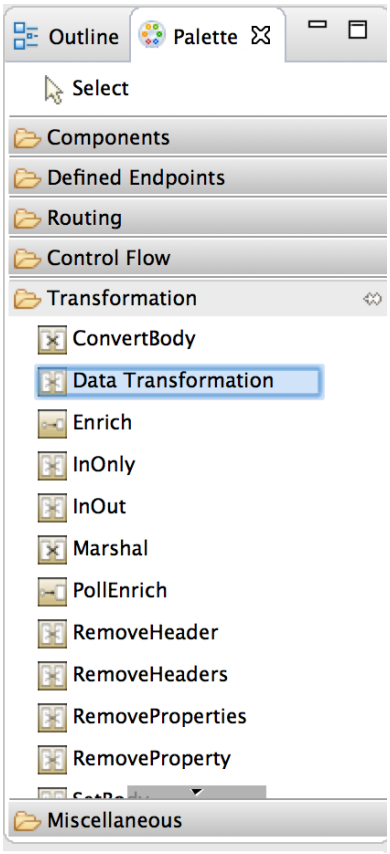

Figure 2. Transformation drawer

3. Select **Data Transformation** and drag it onto the canvas.
4. The **New Transformation** screen appears. Enter or select the following:

Use **Other** as the type for both the input and output schemas.

   - **Transformation ID**: `csv2xml`
   - **Source type**: `Other`
   - **Target type**: `Other`

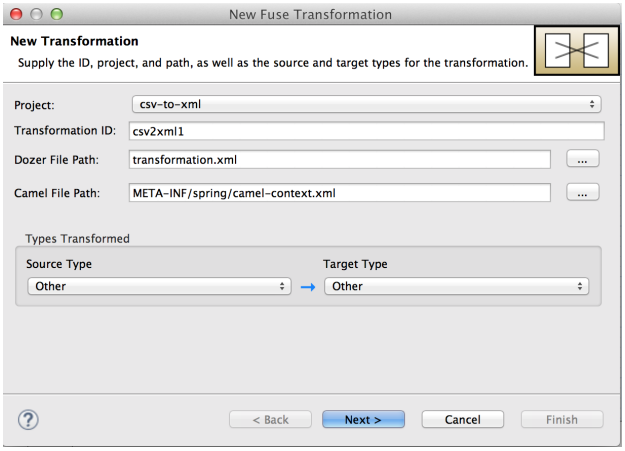

Figure 3. New Transformation screen

5. On the **Source Type (Other)** screen, enter the following:
   - **Source Class**: `org.acme.AcmeCustomer`

- **Data Format ID**: `csv`

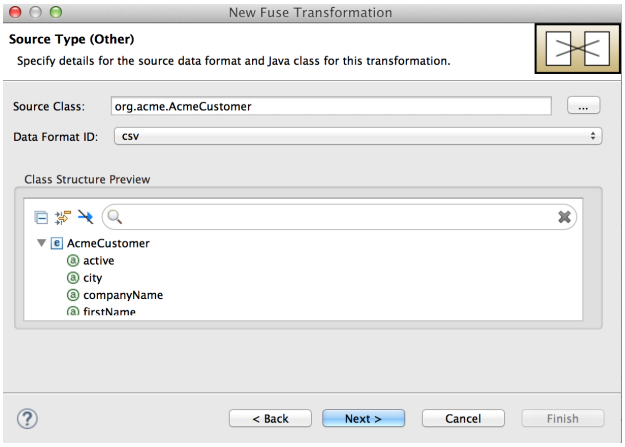

Figure 4. Source Type (Other) screen

  - Note that the `AcmeCustomer` class is displayed under **Class Structure Preview**.

6. Click **Next**.
7. On the **Target Type (Other)** screen, enter the following:
   - **Target Class**: `org.xyz.Account`
   - **Data Format ID**: `Account`

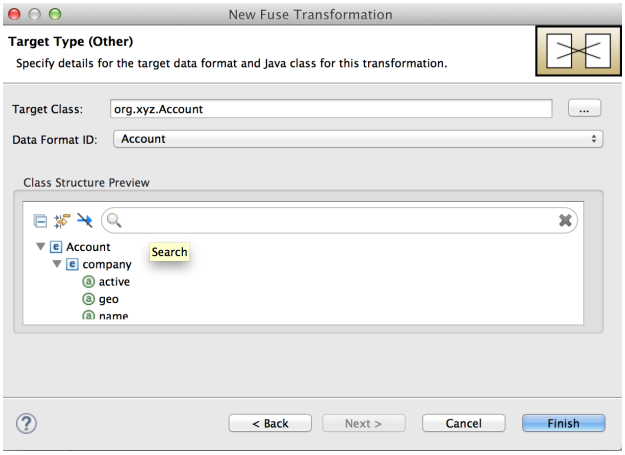

Figure 5. Target Type (Other) screen

8. Click **Finish**. The canvas shows the input and output schemas:

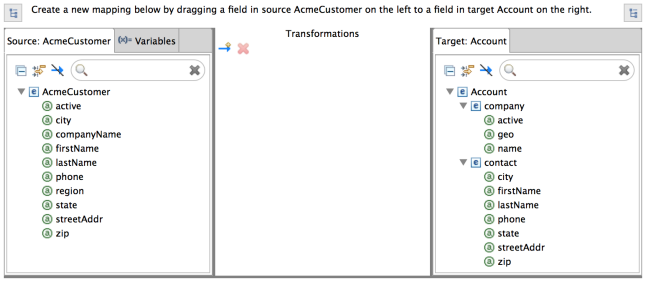

Figure 6. Input and output schemas

9. Double-click `camel-context.xml` to reveal the route.
10. Connect the data mapper node with the preceding and succeeding activities to complete

the route. Click **Save**. The final route looks like this:

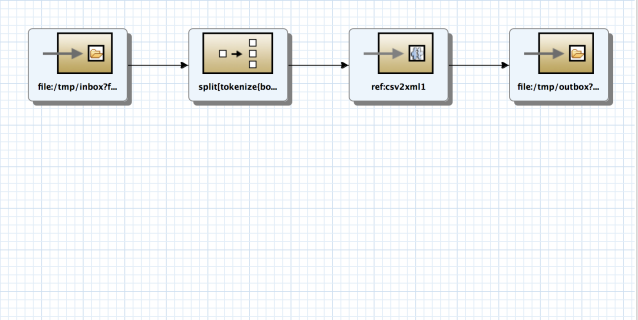

Figure 7. Final Camel route

11. Double-click the mapping task to open the Data Transformation tool canvas. Map the fields as follows:

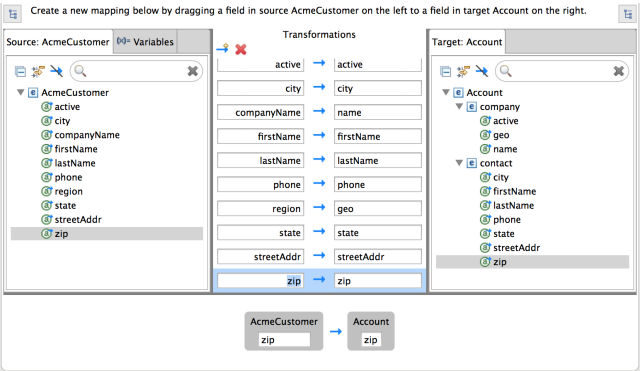

Figure 8. Map fields

12. Go back to `camel-context.xml` and click the **Source** tab.
13. Move the following line of code outside the **Split** function in the XML DSL. The output will be written after all the split tokens are mapped.

```
<to uri="file:/tmp/outbox?fileName=accounts.xml"/>
```

3. Build the `csv-to-xml` Project

1. Go to the command line and run `mvn camel:run`.
   - After Maven downloads the Camel libraries it needs, the following output indicates Camel is running:

```
[INFO] Starting Camel ...
[pache.camel.spring.Main.main()] MainSupport                    INFO  Apache
Camel 2.15.1 starting
[pache.camel.spring.Main.main()] SpringCamelContext             INFO  Apache
Camel 2.15.1 (CamelContext: camel-1) is starting
[pache.camel.spring.Main.main()] ManagedManagementStrategy      INFO  JMX is
enabled
[pache.camel.spring.Main.main()] DefaultTypeConverter           INFO  Loaded 183
type converters
```

```
[pache.camel.spring.Main.main()] GlobalSettings                INFO  Trying to
find Dozer configuration file: dozer.properties
[pache.camel.spring.Main.main()] GlobalSettings                WARN  Dozer
configuration file not found: dozer.properties.  Using defaults for all Dozer
global properties.
[pache.camel.spring.Main.main()] DozerComponent                INFO
Configuring GlobalSettings to enable EL
[pache.camel.spring.Main.main()] DozerInitializer              INFO
Initializing Dozer. Version: 5.5.0, Thread Name:
org.apache.camel.spring.Main.main()
[pache.camel.spring.Main.main()] JMXPlatformImpl               INFO  Dozer JMX
MBean [org.dozer.jmx:type=DozerStatisticsController] auto registered with the
Platform MBean Server
[pache.camel.spring.Main.main()] JMXPlatformImpl               INFO  Dozer JMX
MBean [org.dozer.jmx:type=DozerAdminController] auto registered with the
Platform MBean Server
[pache.camel.spring.Main.main()] DozerBeanMapper               INFO
Initializing a new instance of dozer bean mapper.
[pache.camel.spring.Main.main()] DozerEndpoint                 INFO  Loading
Dozer mapping file transformation.xml.
[pache.camel.spring.Main.main()] SpringCamelContext            INFO
AllowUseOriginalMessage is enabled. If access to the original message is not
needed, then its recommended to turn this option off as it may improve
performance.
[pache.camel.spring.Main.main()] SpringCamelContext            INFO
StreamCaching is not in use. If using streams then its recommended to enable
stream caching. See more details at http://camel.apache.org/stream-caching.html
[pache.camel.spring.Main.main()] SpringCamelContext            INFO  Route:
route1 started and consuming from: Endpoint[file:///tmp/inbox?fileName=acme-
cust.csv]
[pache.camel.spring.Main.main()] SpringCamelContext            INFO  Total 1
routes, of which 1 is started.
[pache.camel.spring.Main.main()] SpringCamelContext            INFO  Apache
Camel 2.15.1 (CamelContext: camel-1) started in 0.398 seconds
```

2. Once Camel is running, copy the input CSV file to the **`/tmp/inbox`** directory and verify the output:

```
$ cp src/data/acme-cust.csv /tmp/inbox/
$ cat /tmp/outbox/accounts.xml
<accounts><org.xyz.Account><company><name>Rotobots</name><geo>NA</geo>
<active>true</active></company><contact><firstName>Bill</firstName>
<lastName>Smith</lastName><streetAddr>100 N Park Ave.</streetAddr>
<city>Phoenix</city><state>AZ</state><zip>85017</zip><phone>602-555-1100</phone>
</contact></org.xyz.Account><org.xyz.Account><company><name>BikesBikesBikes</name>
<geo>NA</geo><active>true</active></company><contact><firstName>George</firstName>
<lastName>Jungle</lastName><streetAddr>1101 Smith St.</streetAddr>
<city>Raleigh</city><state>NC</state><zip>27519</zip><phone>919-555-0800</phone>
</contact></org.xyz.Account><org.xyz.Account><company><name>CloudyCloud</name>
<geo>EU</geo><active>true</active></company><contact><firstName>Fred</firstName>
<lastName>Quicksand</lastName><streetAddr>202 Barney Blvd.</streetAddr><city>Rock
City</city><state>MI</state><zip>19728</zip><phone>313-555-1234</phone></contact>
```

```
  </org.xyz.Account></accounts>
```

Last updated 2015-10-05 15:09:58 EDT