AtlasMap User Guide

The AtlasMap Team

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AtlasMap is a data mapping solution with an interactive web based user interface. It simplifies configuration of an integration that handles different types of data represented by XML schema or instance files, JSON schema or instance files or Java class files. You design your data mapping and transformations in the AtlasMap Data Mapper UI canvas, and then execute that mapping by means of the AtlasMap runtime engine. We provide standard transformations or we support custom, user-defined transformations. We also have a camel-atlasmap component which consumes an AtlasMap mapping definition which can process data mappings as a part of a Camel route.

Chapter 1. Quickstart

1.1. Running AtlasMap Data Mapper UI standalone

Here is the shortest path to run standalone AtlasMap.

1. Download the AtlasMap standalone jar

```
wget http://central.maven.org/maven2/io/atlasmap/atlasmap-
standalone/${VERSION}/atlasmap-standalone-${VERSION}.jar
```

2. Run AtlasMap standalone

```
$ java [ -Datlasmap.adm.path=/path/to/example.adm ] -jar atlasmap-standalone-
${VERSION}.jar
```

   Now AtlasMap Data Mapper UI is available at http://127.0.0.1:8585/ The .adm file can be created with the export icon on the main toolbar.

1.2. Running AtlasMap data mapping with Apache Camel

TODO

camel-atlasmap endpoint use IN body as a default source document of mappings. If IN body is a `java.util.Map`, key is used as a Document ID and corresponding value is used as a Document payload.

```
...
from("direct:start")
   .to("atlas:atlas-mapping.adm")
   .log("${body}")
...
```

Chapter 2. Import Files in UI

2.1. Import XML/JSON schema or instance or Java class files

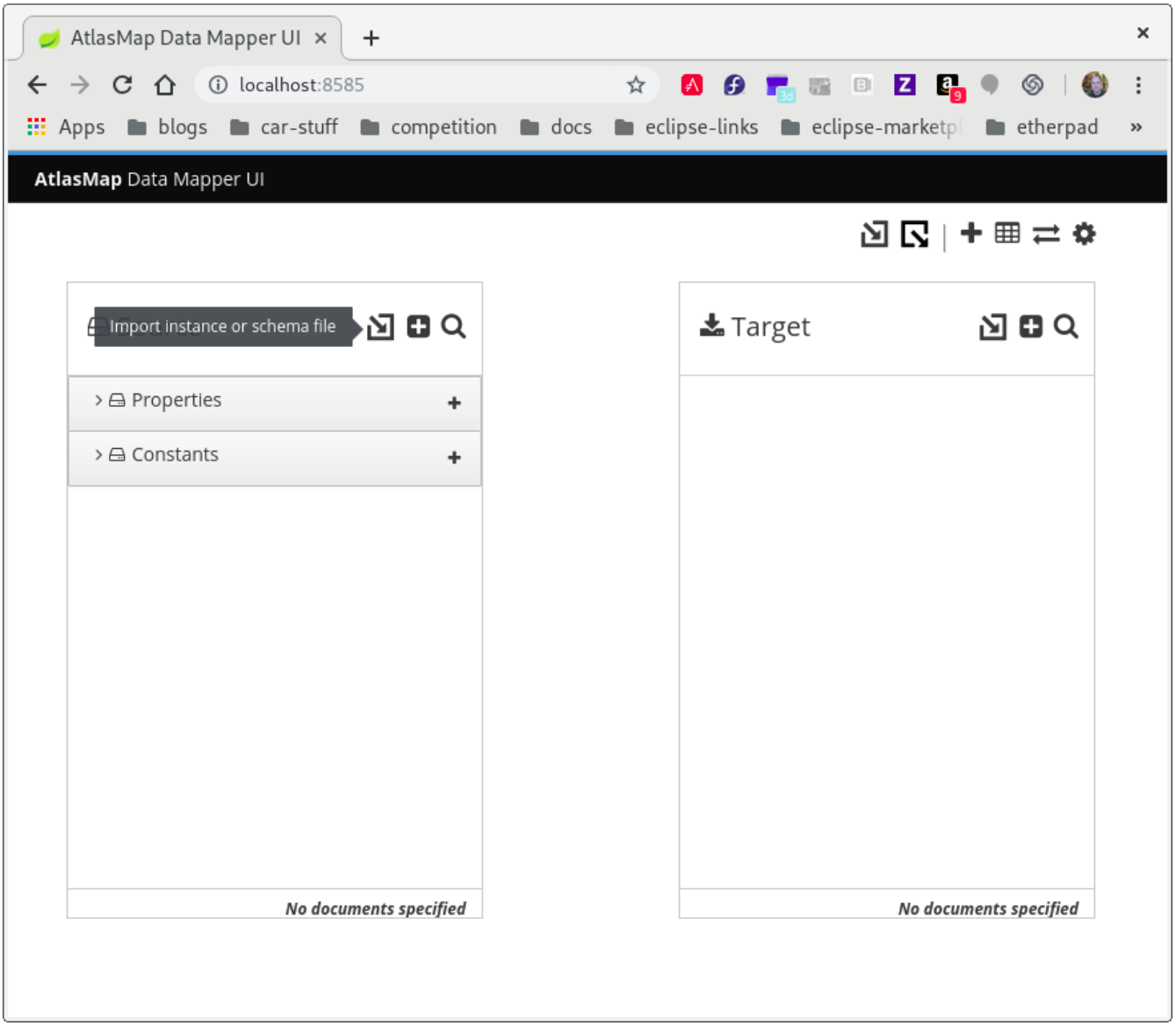
Data mapping fundamentally involes morphing one data shape into another. A user defines these shapes using XML schemas, JSON notation or by establishing a simple Java class. The following sections examine each file type independently.

- JSON Schema File: **JSONSchema.json**

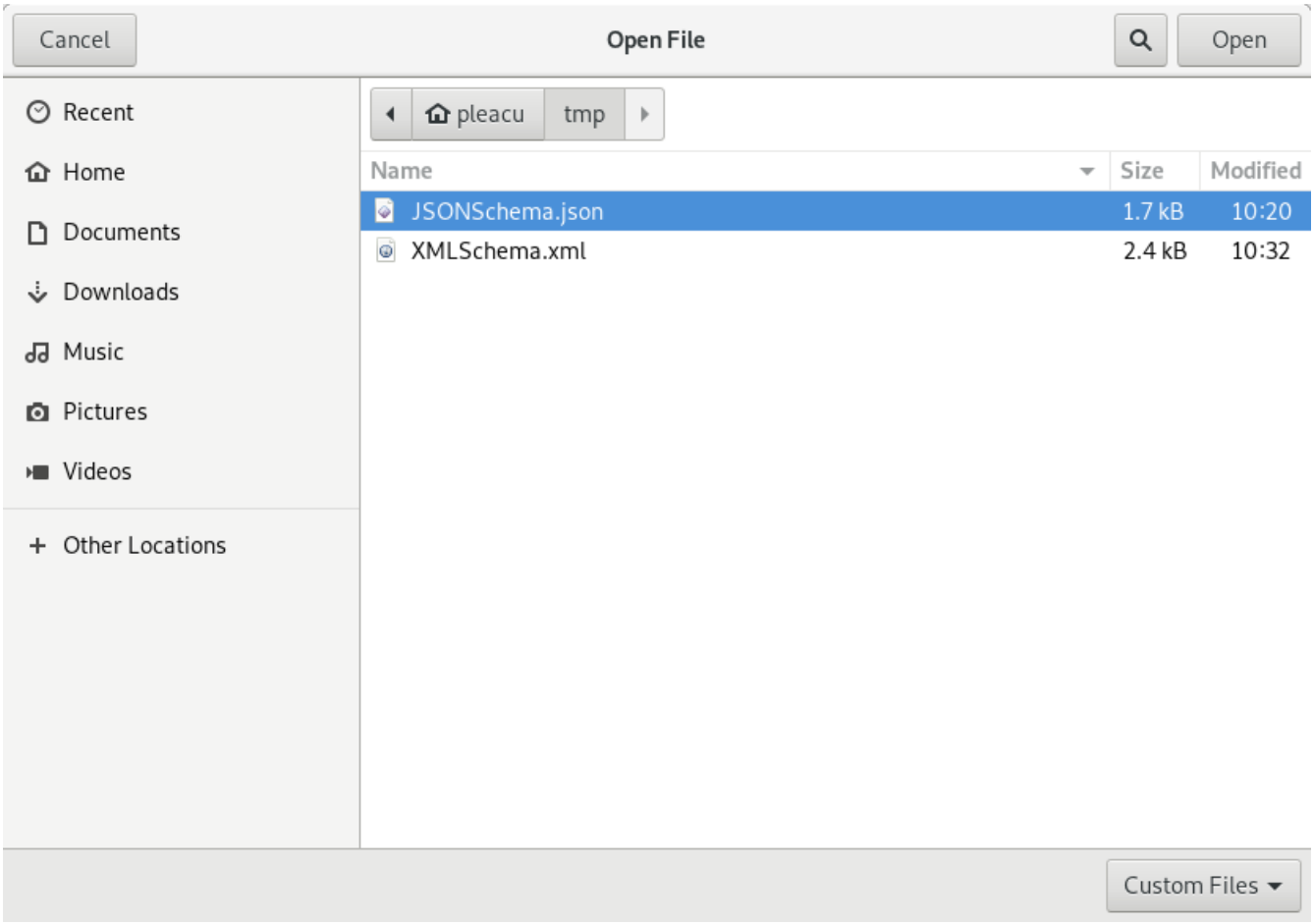
```
{
  "$schema": "http://json-schema.org/schema#",
  "description": "Order",
  "type": "object",
  "properties": {
    "order": {
      "type": "object",
      "properties": {
        "address": {
        "type": "object",
        "properties": {
          "street": { "type": "string" },
          "city": { "type": "string" },
          "state": { "type": "string" },
          "zip": { "type": "string" }
        }
      },
      "contact": {
        "type": "object",
        "properties": {
          "firstName": { "type": "string" },
          "lastName": { "type": "string" },
          "phone": { "type": "string" }
        }
      },
      "orderId": { "type": "string" }
    }
  },
  "primitives": {
    "type": "object",
    "properties": {
      "stringPrimitive": { "type": "string" },
      "booleanPrimitive": { "type": "boolean" },
      "numberPrimitive": { "type": "number" }
    }
  },
  "primitiveArrays": {
```

```
      "type": "object",
      "properties": {
        "stringArray": {
          "type": "array",
          "items": { "type": "string" }
        },
        "booleanArray": {
          "type": "array",
          "items": { "type": "boolean" }
        },
        "numberArray": {
          "type": "array",
          "items": { "type": "number" }
        }
      }
    },
    "addressList": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "street": { "type": "string" },
          "city": { "type": "string" },
          "state": { "type": "string" },
          "zip": { "type": "string" }
        }
      }
    }
    }
  }
```

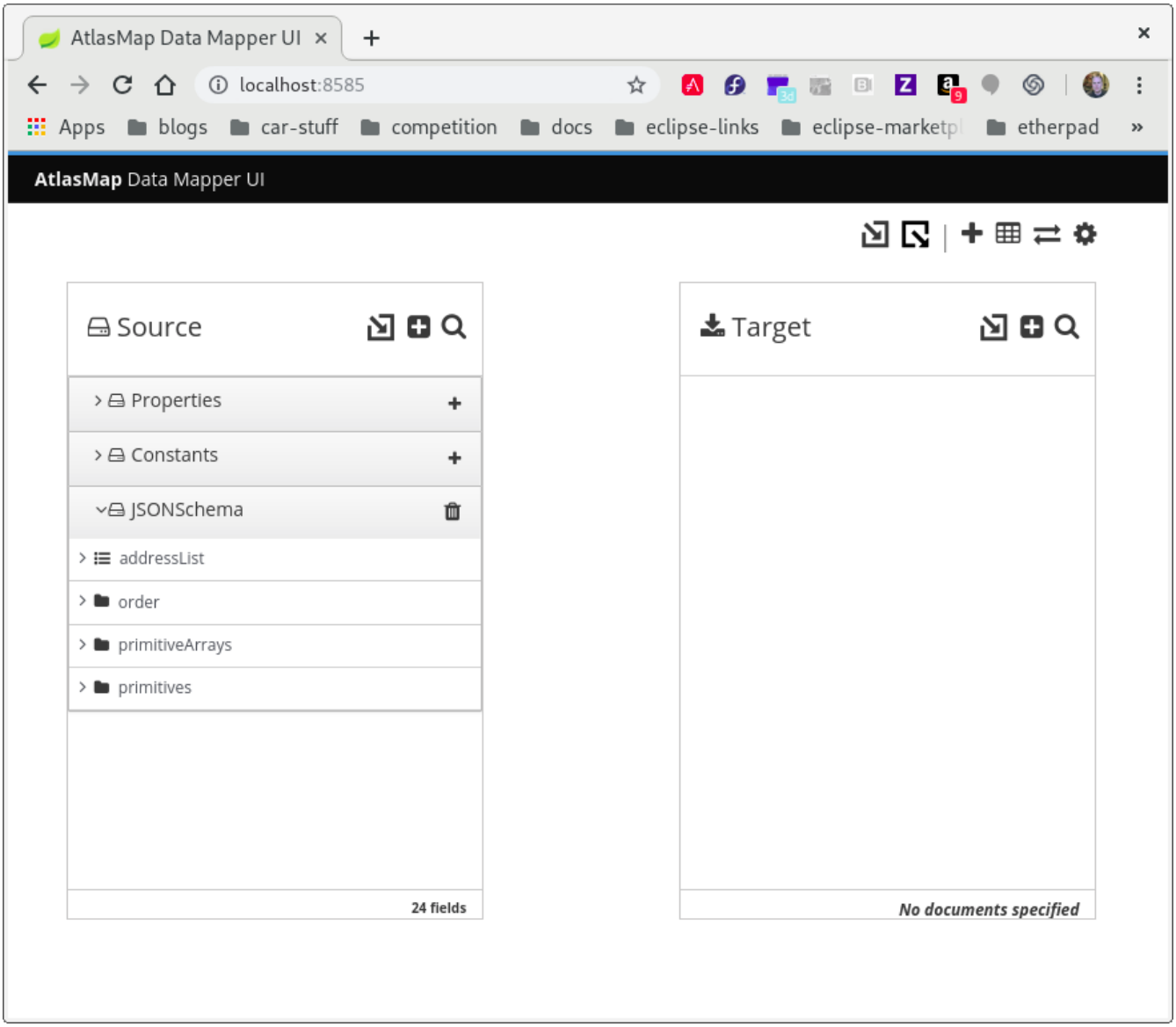
To import this file into the AtlasMap Source panel, select the import icon at the top of the panel.



An **Open File** dialog appears. Select the location for the JSONSchema.json file.



The fields now appear in the Source panel as you defined them in the imported JSON schema.



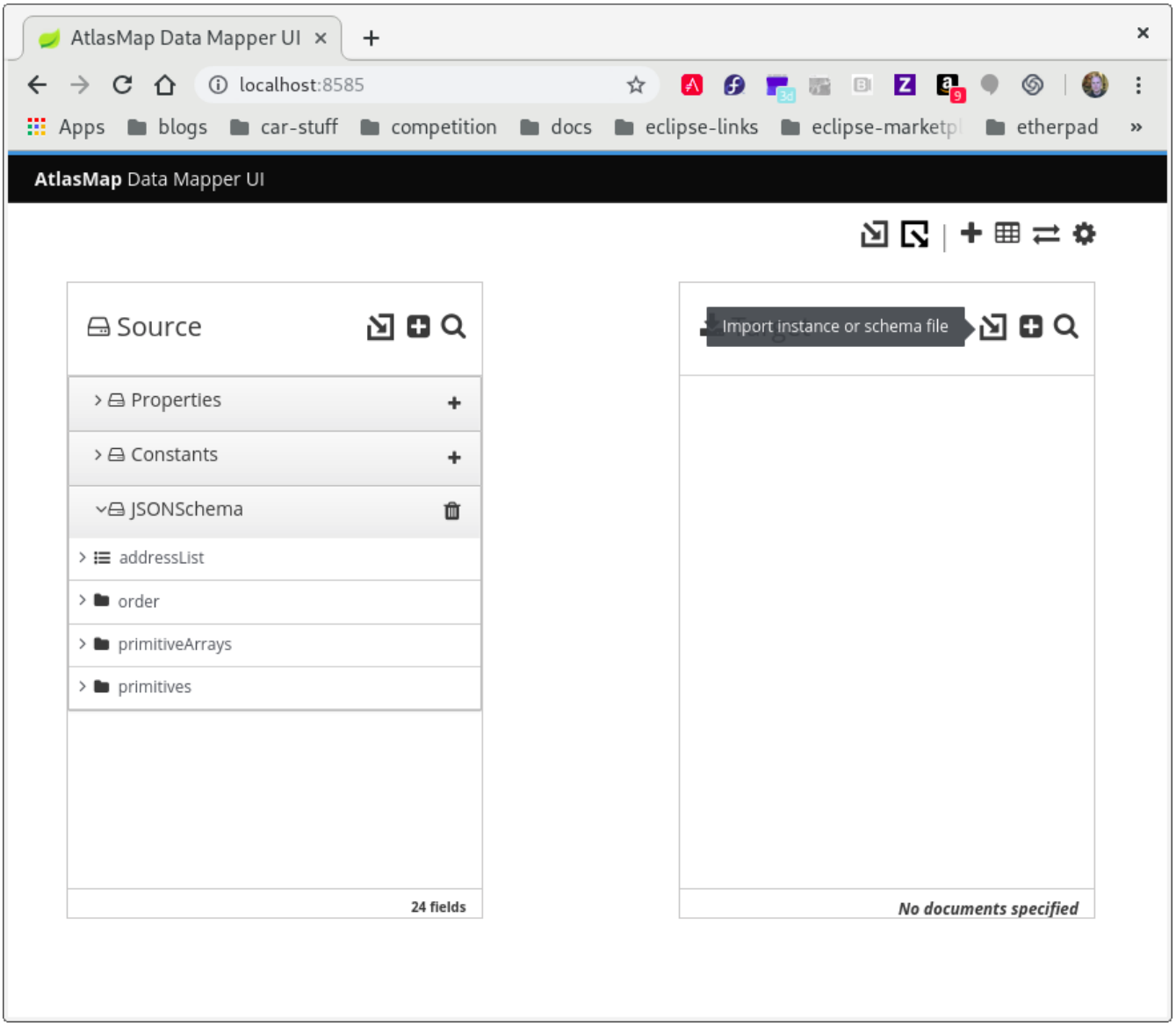
Now consider the import an XML schema into the Target panel.

- XML Schema File: **XMLSchema.xml**

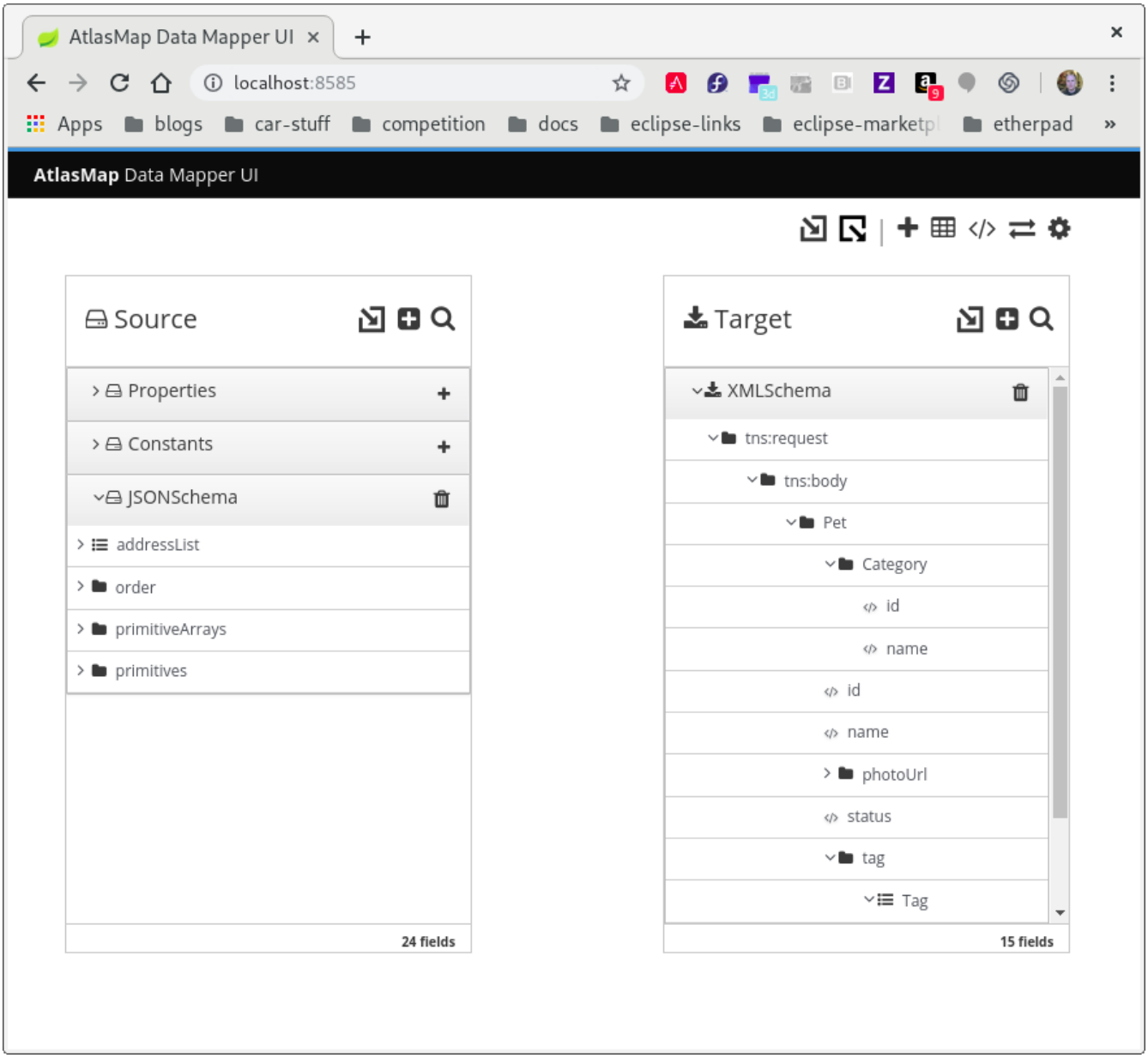
```
<d:SchemaSet xmlns:d="http://atlasmap.io/xml/schemaset/v2"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <xsd:schema targetNamespace="http://syndesis.io/v1/swagger-connector-
template/request" elementFormDefault="qualified">
      <xsd:element name="request">
        <xsd:complexType>
          <xsd:sequence>
            <xsd:element name="body">
              <xsd:complexType>
                <xsd:sequence>
                  <xsd:element ref="Pet" />
                </xsd:sequence>
              </xsd:complexType>
            </xsd:element>
          </xsd:sequence>
        </xsd:complexType>
```

```
      </xsd:element>
    </xsd:schema>
    <d:AdditionalSchemas>
      <xsd:schema>
        <xsd:element name="Pet">
          <xsd:complexType>
            <xsd:sequence>
              <xsd:element name="id" type="xsd:decimal" />
              <xsd:element name="Category">
                <xsd:complexType>
                  <xsd:sequence>
                    <xsd:element name="id" type="xsd:decimal" />
                    <xsd:element name="name" type="xsd:string" />
                  </xsd:sequence>
                </xsd:complexType>
              </xsd:element>
              <xsd:element name="name" type="xsd:string" />
              <xsd:element name="photoUrl">
                <xsd:complexType>
                  <xsd:sequence>
                    <xsd:element name="photoUrl" type="xsd:string"
maxOccurs="unbounded" minOccurs="0" />
                  </xsd:sequence>
                </xsd:complexType>
              </xsd:element>
              <xsd:element name="tag">
                <xsd:complexType>
                  <xsd:sequence>
                    <xsd:element name="Tag" maxOccurs="unbounded" minOccurs="0">
                      <xsd:complexType>
                        <xsd:sequence>
                          <xsd:element name="id" type="xsd:decimal" />
                          <xsd:element name="name" type="xsd:string" />
                        </xsd:sequence>
                      </xsd:complexType>
                    </xsd:element>
                  </xsd:sequence>
                </xsd:complexType>
              </xsd:element>
              <xsd:element name="status" type="xsd:string" />
            </xsd:sequence>
          </xsd:complexType>
        </xsd:element>
      </xsd:schema>
    </d:AdditionalSchemas>
  </d:SchemaSet>
```

In the data mapper, click the import icon at the top of the Target panel.



An **Open File** dialog appears. Navigate to the XMLSchema.xml file and select it. The fields now appear in the Target panel as you defined them in the imported XML schema. The fields are expanded to show more detail.



You import instance files in the same way. Instance files define a separate namespace, which also defines a few special attributes. For example:

- JSON Schema Instance File: **JSONSchemaInst.json**

```
   {
        "order": {
            "address": {
                "street": "123 any st",
                "city": "Austin",
                "state": "TX",
                "zip": "78626"
            },
            "contact": {
                "firstName": "james",
                "lastName": "smith",
                "phone": "512-123-1234"
            },
            "orderId": "123"
        },
        "primitives": {
            "stringPrimitive": "some value",
            "booleanPrimitive": true,
            "numberPrimitive": 24
        },
        "addressList": [
            { "street": "123 any st", "city": "Austin", "state": "TX", "zip": "78626"
},
            { "street": "123 any st", "city": "Austin", "state": "TX", "zip": "78626"
},
            { "street": "123 any st", "city": "Austin", "state": "TX", "zip": "78626"
},
            { "street": "123 any st", "city": "Austin", "state": "TX", "zip": "78626"
}
        ]
    }
```

- XML Schema Instance File: **XMLSchemaInst.xml**

```
 <ns:XmlOE xmlns:ns="http://atlasmap.io/xml/test/v2"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://atlasmap.io/xml/test/v2 atlas-xml-test-model-v2.xsd ">
    <ns:orderId>ns:orderId</ns:orderId>
    <ns:Address>
      <ns:addressLine1>ns:addressLine1</ns:addressLine1>
      <ns:addressLine2>ns:addressLine2</ns:addressLine2>
      <ns:city>ns:city</ns:city>
      <ns:state>ns:state</ns:state>
      <ns:zipCode>ns:zipCode</ns:zipCode>
    </ns:Address>
    <ns:Contact>
      <ns:firstName>ns:firstName</ns:firstName>
      <ns:lastName>ns:lastName</ns:lastName>
      <ns:phoneNumber>ns:phoneNumber</ns:phoneNumber>
      <ns:zipCode>ns:zipCode</ns:zipCode>
    </ns:Contact>
  </ns:XmlOE>
```

Using the same procedure as before, import instance files into either the Source or Target panel.

There does exist one other method for establishing mappable fields within the AtlasMap data mapper. A Java class can be established where each field is represented as a class-wide public entity. Arrays and data types are more discretely defined. For example:

- Java File: **Bicycle.java**

```
package io.paul;
import io.paul.GeoLocation;

public class Bicycle {
    public int cadence;
    public int gear;
    public int speed;
    public float[] seatHeight;
    public String[] color;
    public GeoLocation geoLocation;
}
```

- Java File: **GeoLocation.java**

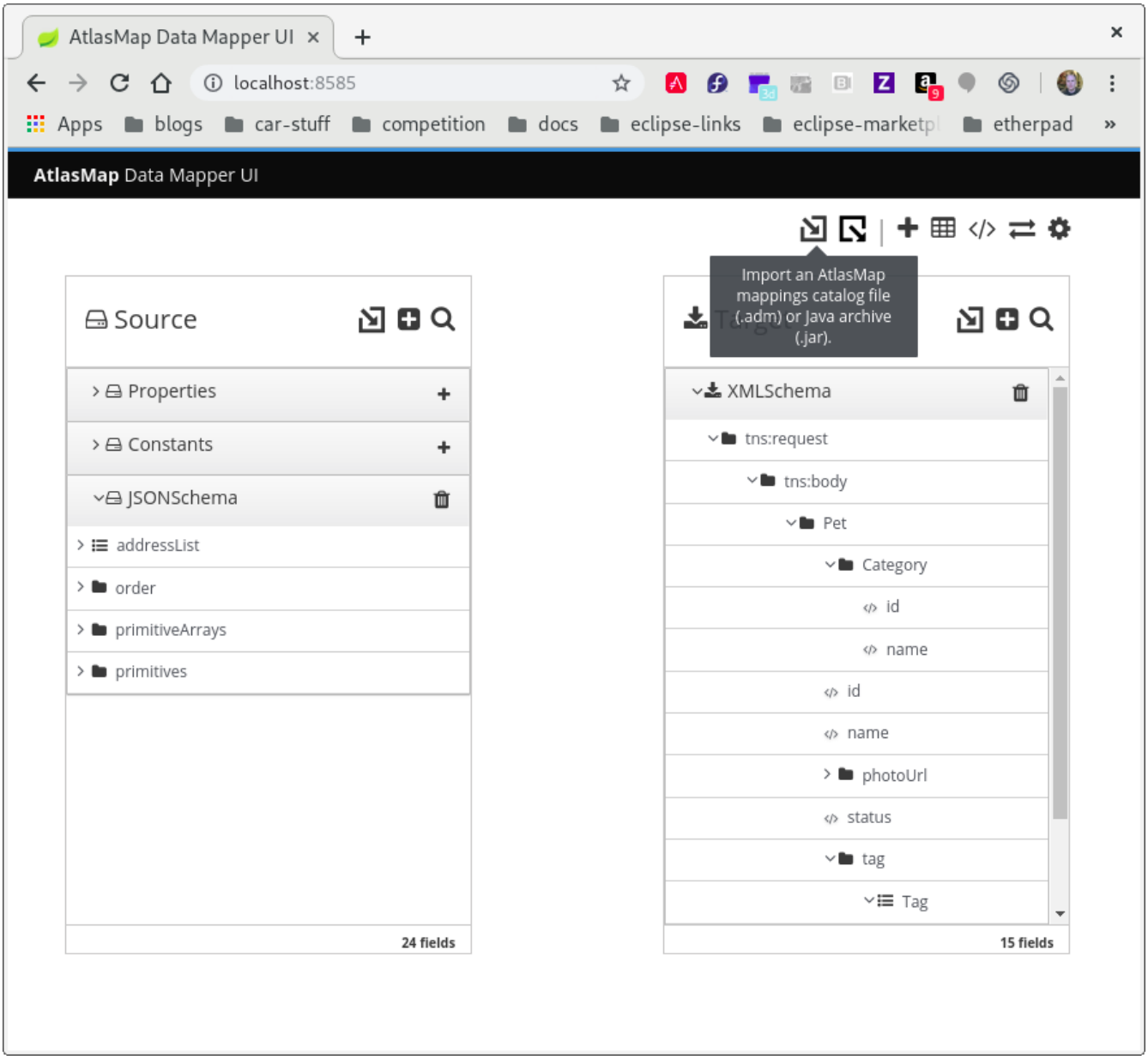
```
package io.paul;

public class GeoLocation {
    double lattitude;
    double longitude;
}
```

Compile the Java files and assemble the results into a Java archive file, for example, `Bicycle.jar` in the following lines:

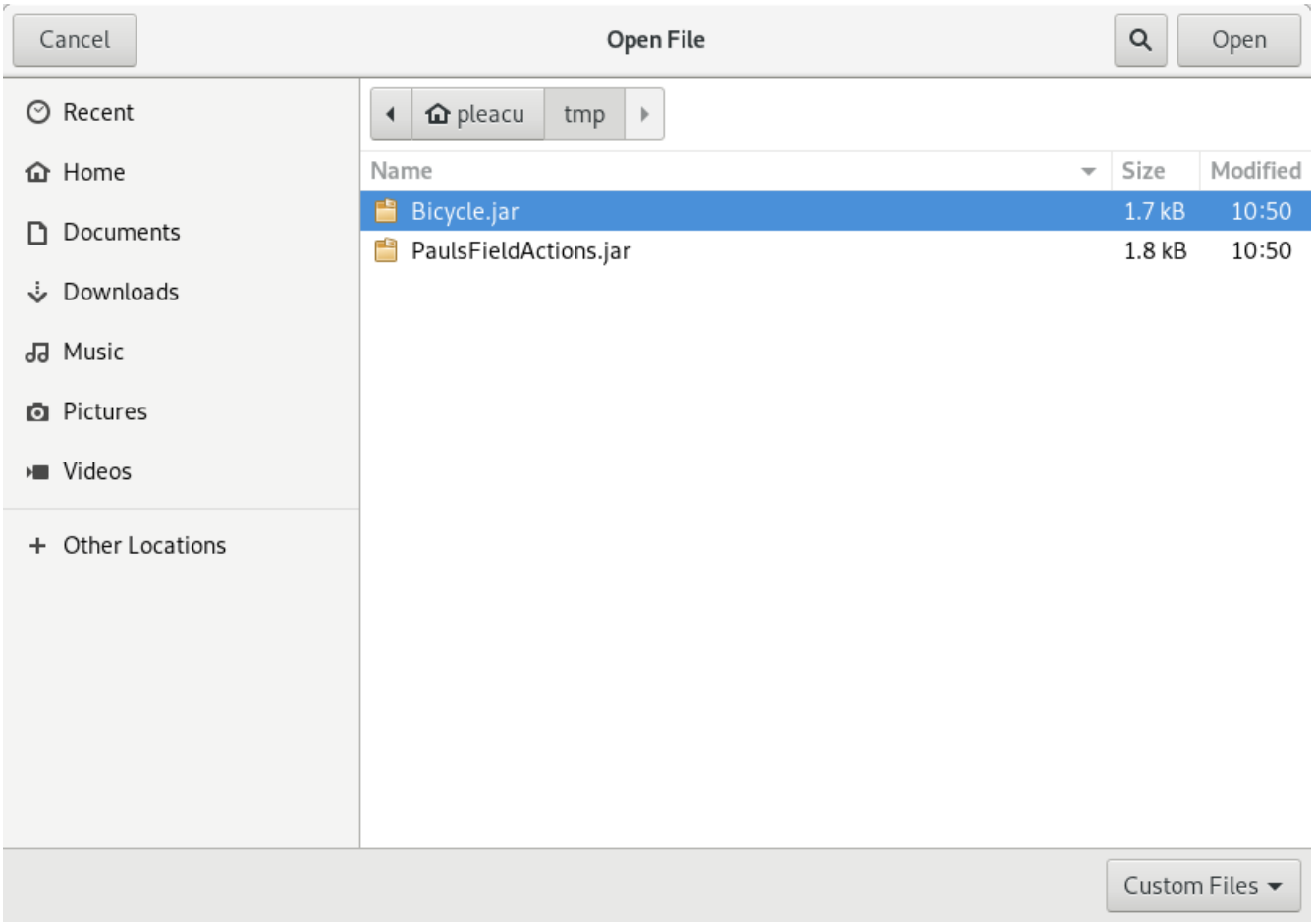
```
javac -cp io.paul:. -d . GeoLocation.java Bicycle.java
jar cvf ../Bicycle.jar *
```

Now you can import the `Bicycle.jar` archive into AtlasMap. The import procedure is slightly different for Java class archives. You must:

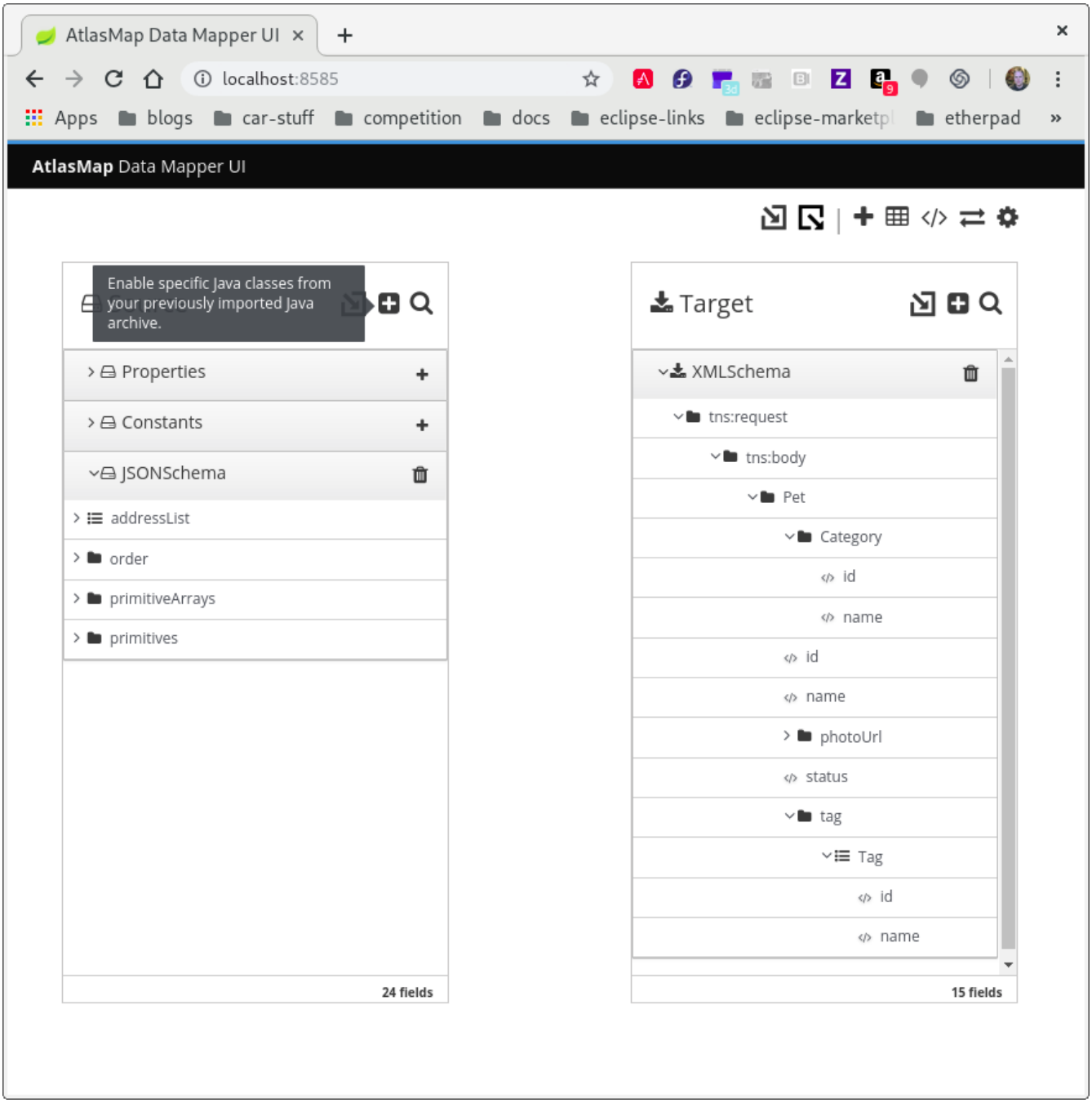
Import the file into AtlasMap. Select the import icon **on the main tool bar**, not on the panel.



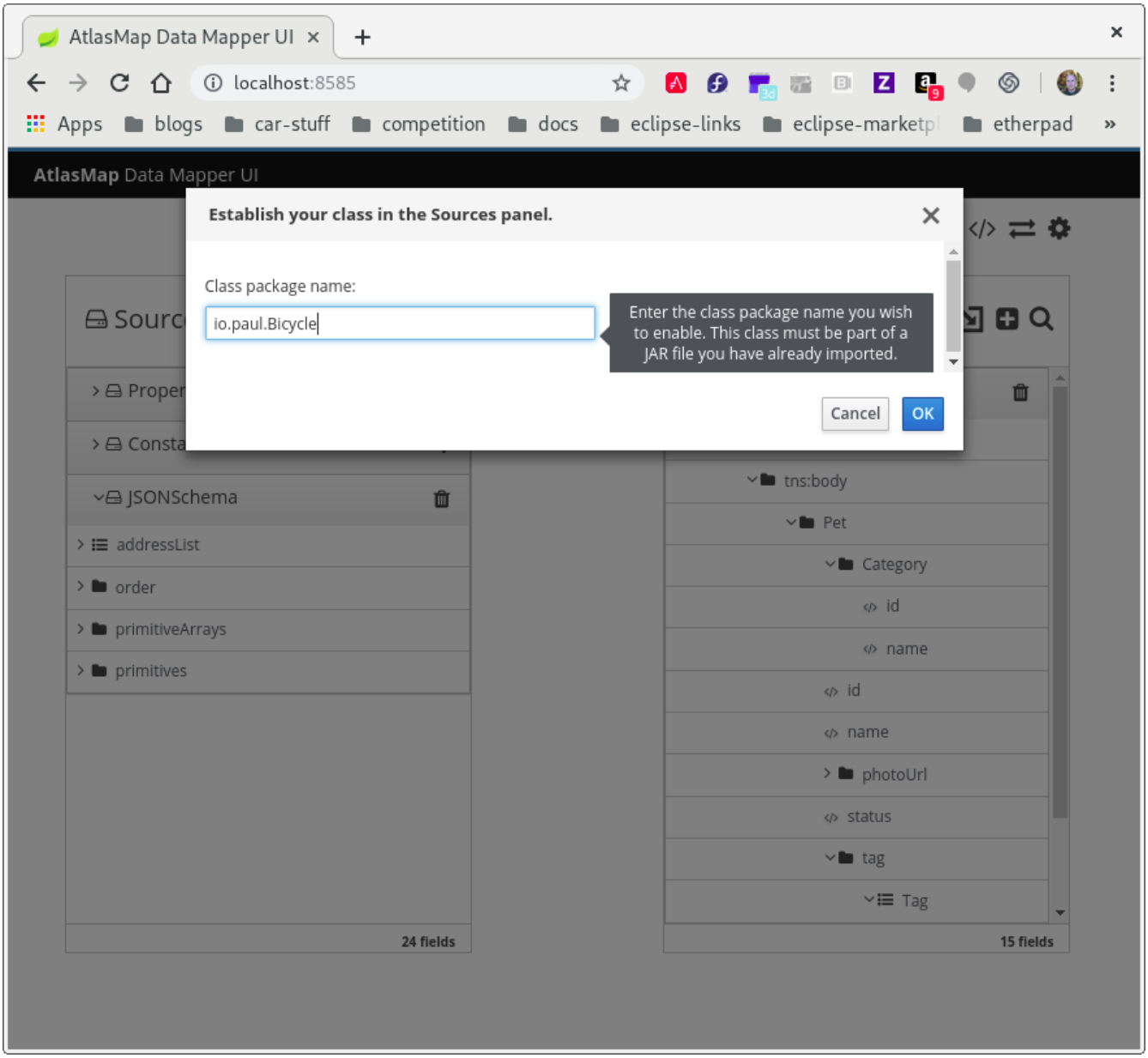
An **Open File** dialog appears. Navigate to the `Bicycle.jar` file and select it.



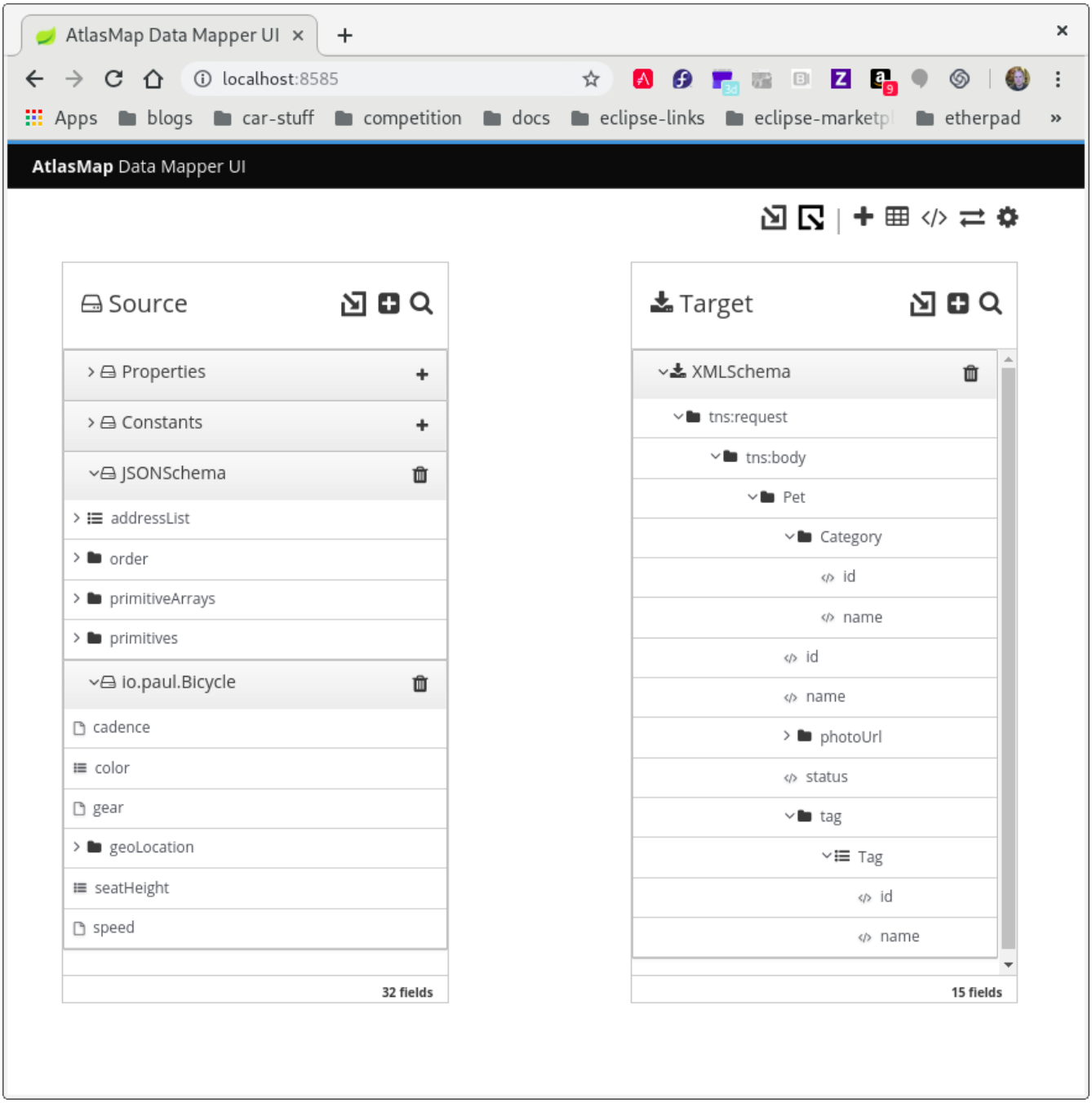
Select the plus icon (+) on the Source or Target panel.



A dialog appears "Establish your class in the Sources panel." In the **Class package name:** input field, enter the class package name of the Java class you have defined. In the `Bicycle.jar` example, the class package name is `io.paul.Bicycle`.



You will now see the fields you created in your Java class file appear in the selected panel.



You have now defined the source and target data shapes.

Chapter 3. Design Mappings in UI

3.1. Find the data field that you want to map

In a relatively simple integration, mapping data fields is easy and intuitive. In more complex integrations or in integrations that handle large sets of data fields, mapping from source to target is easier when you have some background about how to use the data mapper.

The data mapper displays two columns of data fields:

- **Sources** is a list of the data fields that you can map to target fields.
- **Target** is a list of the data fields that you can map source fields to.

To quickly find the data field that you want to map, you can do any of the following:

- Search for it.

  The **Sources** panel and the **Target** panel each have a search field at the top. If the search field is not visible, click at the top right of the **Sources** or **Target** panel.

- Enter the names of the fields that you want to map.

  To do this, in the upper right of the **Configure Mapper** page, click the plus sign to display the **Mapping Details** panel. In the **Sources** section, enter the name of the source field. In the **Action** section, accept the default **Map**, which maps one field to one other field. Or, select **Combine** or **Separate**. In the **Target** section, enter the name of the field that you want to map to.

- Expand and collapse folders to limit the visible fields.

3.2. Map one source field to one target field

The default mapping behavior maps one source field to one target field. For example, map the `Name` field to the `CustomerName` field.

Procedure

1. In the **Sources** panel, click the data field that you want to map from.

   You might need to expand a folder to see the data fields that it provides.

   When there are many source fields, you can search for the field of interest by clicking the and entering the name of the data field in the search field.

2. In the **Target** panel, click the data field that you want to map to.

   The data mapper displays a line that connects the two fields that you just selected.

3. Optionally, preview the data mapping result. This is useful when you add a transformation to the mapping or when the mapping requires a type conversion.

   a. In the upper right of the data mapper, click and select **Show Mapping Preview** to

display a text input field on the source field and a read-only result field on the target field.

b. In the source field's data input field, enter text. Click somewhere outside this text box to display the mapping result in the read-only field on the target field.

c. Optionally, to see the result of a transformation, add a transformation in the **Mapping Details** panel.

d. Hide the preview fields by clicking [Editor settings] again and selecting **Show Mapping Preview**.

4. Optionally, to confirm that the mapping is defined, in the upper right, click to display the defined mappings.

   You can also preview data mapping results in this view. If preview fields are not visible, click and select **Show Mapping Preview**. Enter data as described in the previous step. In the table of defined mappings, preview fields appear for only the selected mapping. To see preview fields for another mapping, select it.

   Click again to display the data field panels.

5. In the upper right, click **Done** to save the mapping.

Alternative procedure

Here is another way to map a single source field to a single target field:

1. In the **Configure Mapper** page, in the upper right, click the plus sign to display the **Mapping Details** panel.
2. In the **Sources** section, enter the name of the source field.
3. In the **Action** section, accept the default **Map** action.
4. In the **Target** section, enter the name of the field that you want to map to and click **Enter**.

3.3. Example of missing or unwanted data when combining or separating fields

In a data mapping, you might need to identify missing or unwanted data when a source or target field contains compound data. For example, consider a `long_address` field that has this format:

number street apartment city state zip zip+4 country

Suppose that you want to separate the `long_address` field into discrete fields for `number`, `street`, `city`, `state`, and `zip`. To do this, you select `long_address` as the source field and then select the target fields. You then add padding fields at the locations for the parts of the source field that you do not want. In this example, the unwanted parts are *apartment*, *zip+4*, and *country*.

To identify the unwanted parts, you need to know the order of the parts. The order indicates an index for each part of the content in the compound field. For example, the `long_address` field has 8 ordered parts. Starting at 1, the index of each part is:

1	*number*

2	*street*
3	*apartment*
4	*city*
5	*state*
6	*zip*
7	*zip+4*
8	*country*

In the data mapper, to identify *apartment*, *zip+4*, and *country* as missing, you add padding fields at indexes 3, 7, and 8. See Separate one source field into multiple target fields.

Now suppose that you want to combine source fields for `number`, `street`, `city`, `state`, and `zip` into a `long_address` target field. Further suppose that there are no source fields to provide content for *apartment*, *zip+4*, and *country*. In the data mapper, you need to identify these fields as missing. Again, you add padding fields at indexes 3, 7, and 8. See Combine multiple source fields into one target field.

3.4. Combine multiple source fields into one target field

In a data mapping, you can combine multiple source fields into one compound target field. For example, you can map the `FirstName` and `LastName` fields to the `CustomerName` field.

Prerequisite

For the target field, you must know what type of content is in each part of this compound field, the order and index of each part of the content, and the separator between parts, such as a space or comma. See Example of missing or unwanted data when combining or separating fields.

Procedure

1. In the **Target** panel, click the field into which you want to map more than one source field.
2. In the **Sources** panel, if there is a field that contains the fields that you want to map to the target field, then click that container field to map all contained fields to the target field.

   To individually select each source field, click the first field that you want to combine into the target field. For each of the other fields that you want to combine into the target field, hover over that field, and press **CTRL-Mouse1** (**CMD-Mouse1** on MacOS).

   The data mapper automatically changes the field action from **Map** to **Combine**.

   When you are done you should see a line from each of the source fields to the target field.
3. In the **Mapping Details** panel, in the **Separator** field, accept or select the character that the data mapper inserts in the target field between the content from different source fields. The default is a space.
4. In the **Mapping Details** panel, under **Sources**, ensure that the source fields are in the same

order as the corresponding content in the compound target field.

If necessary, drag and drop source fields to achieve the same order. The data mapper automatically updates the index numbers to reflect the new order.

5. If you mapped a source field to each part of the compound target field, then skip to the next step.

   If the target field expects data that is not available to be mapped, then in the **Mapping Details** panel, edit the index of each source field so that it is the same as the index of the corresponding data in the compound target field. The data mapper automatically adds padding fields as needed to indicate missing data.

   If you accidentally create too many padding fields, click the trash icon on each extra padding field to delete it.

6. Optionally, preview the data mapping result:

   a. In the upper right of the data mapper, click and select **Show Mapping Preview** to display a text input field on each source field for the currently selected mapping and a read-only result field on the target field of the currently selected mapping.

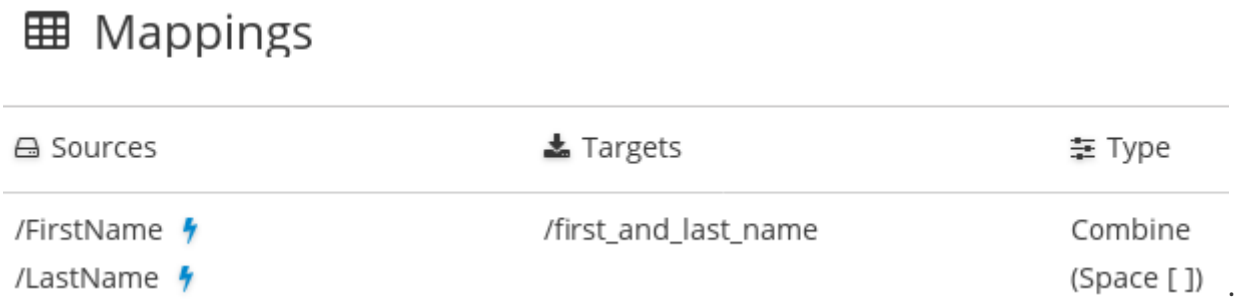
   b. In the source data input fields, enter text. Click outside the text box to display the mapping result in the read-only field on the target field.

      If you reorder the source fields or add a transformation to the mapping then the result field on the target field reflects this. If the data mapper detects any errors, it displays informative messages at the top of the **Mapping Details** panel.

   c. Hide the preview fields by clicking again and selecting **Show Mapping Preview**.

      If you redisplay the preview fields, any data that you entered in them is still there and it remains there until you exit the data mapper.

7. To confirm that the mapping is correctly defined, in the upper right, click to display the defined mappings. A mapping that combines the values of more than one source field into one target field looks like this:



You can also preview mapping results in this view. Click , select **Show Mapping Preview**, and enter text as described in the previous step. Preview fields appear for only the selected mapping. Click another mapping in the table to view preview fields for it.

3.5. Separate one source field into multiple target fields

In a data mapping, you can separate a compound source field into multiple target fields. For example, map the `Name` field to the `FirstName` and `LastName` fields.

Prerequisite

For the source field, you must know what type of content is in each part of this compound field, the order and index of each part of the content, and the separator between parts, such as a space or comma. See Example of missing or unwanted data when combining or separating fields.

Procedure

1. In the **Sources** panel, click the field whose content you want to separate.
2. In the **Target** panel, click the first field that you want to separate the source field data into.
3. In the **Target** panel, for each additional target field that you want to contain some of the data from the source field, hover over the field and press **CTRL-Mouse1** (**CMD-Mouse1** on MacOS) to select it.

   The data mapper automatically changes the field action to **Separate**.

   When you are done selecting target fields, you should see lines from the source field to each of the target fields.
4. In the **Mapping Details** panel, in the **Separator** field, accept or select the character in the source field that indicates where to separate the source field values. The default is a space.
5. In the **Mapping Details** panel, under **Targets**, ensure that the target fields are in the same order as the corresponding content in the compound source field.

   If necessary, drag and drop target fields to achieve the same order. The data mapper automatically updates the index numbers to reflect the new order.
6. If you mapped each part of the compound source field to a target field, then skip to the next step.

   If the source field contains data that you do not need, then in the **Mapping Details** panel, edit the index of each target field so that it is the same as the index of the corresponding data in the compound source field. The data mapper automatically adds padding fields as needed to indicate unwanted data.
7. Optionally, preview the data mapping result:
   a. In the upper right of the data mapper, click and select **Show Mapping Preview** to display a text input field on the source field and read-only result fields on each target field.
   b. In the source field's data input field, enter text. Be sure to enter the separator character between the parts of the field. Click outside the text box to display the mapping result in the read-only fields on the target fields.

      If you reorder the target fields or add a transformation to a target field then the result fields

on the target fields reflect this. If the data mapper detects any errors, it displays informative messages at the top of the **Mapping Details** panel.

c. Hide the preview fields by clicking again and selecting **Show Mapping Preview**.

If you redisplay the preview fields, any data that you entered in them is still there and it remains there until you exit the data mapper.

8. To confirm that the mapping is correctly defined, click to display defined mappings. A mapping that separates the value of a source field into multiple target fields looks like this: [Separate Fields Mapping].

You can also preview mapping results in this view. Click , select **Show Mapping Preview**, and enter text as described in the previous step. Preview fields appear for only the selected mapping. Click another mapping in the table to view preview fields for it.

3.6. Transform source or target data

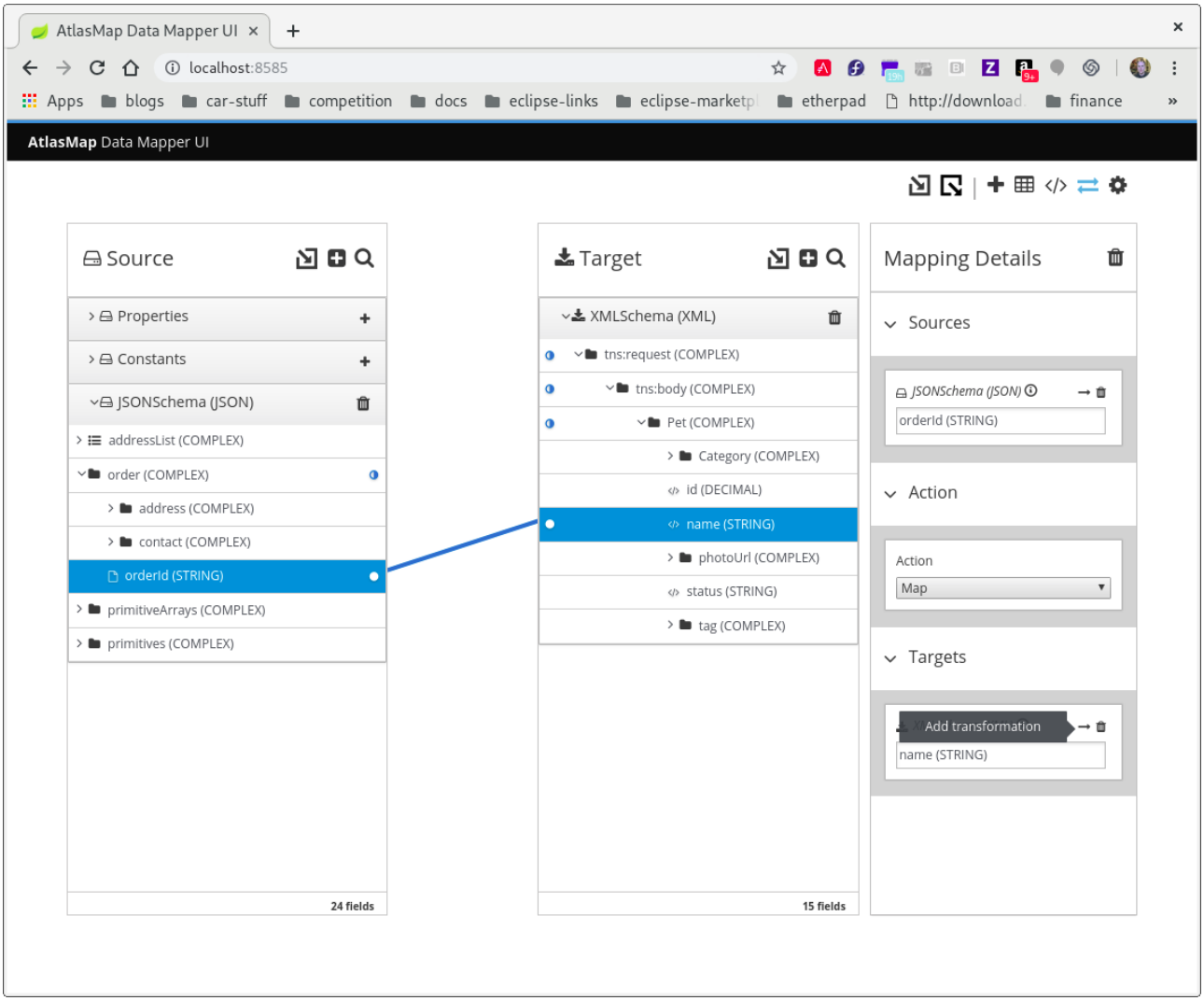
In the data mapper, after you define a mapping, you can transform any field in the mapping. Transforming a data field defines how you want to store the data. For example, you could specify the **Capitalize** transformation to ensure that the first letter of a data value is uppercase.

Procedure

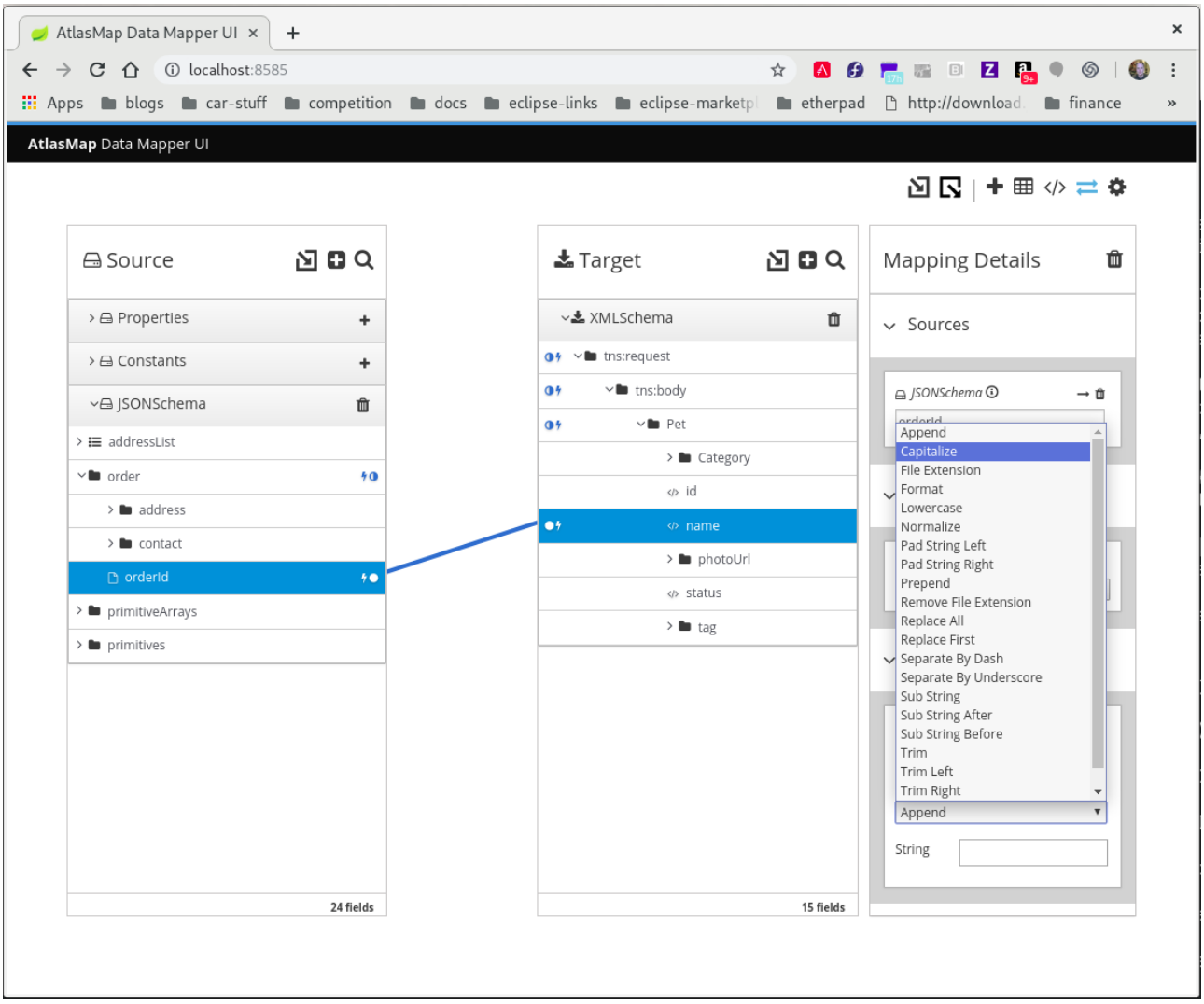
Map the fields. This can be a one-to-one mapping, a combination mapping, or a separation mapping.

1. **Select the transformation icon.**

In the **Mapping Details** panel, under **Sources** or under **Targets**, in the box for the field that you want to transform, click the arrow to the left of the trash can icon.



This displays a pull-down where you can select the transformation that you want the data mapper to perform. Note that the set of available transformations is type specific.



2. **Select the transformation.**

   Click the transformation that you want to perform.

3. **Specify arguments.**

   If the transformation requires any input parameters, specify them in the appropriate input fields.

4. **Repeat.**

   To add another compound transformation, click the arrow to the left of the trash can icon again.

Additional resource

Descriptions of available transformations

In addition to the list of fixed transformations, users may define their own custom field action transformations. These custom field actions are written in Java and are then imported into the AtlasMap data mapper. Once established in a panel the transformation will appear in the standard list of transformations. For example:

Procedure

1. **Create a transformation.**

This example custom transformation is applicable to `String` arguments. It takes the argument specified in the Source panel transformation and prints it out on the Target side. Implement the `AtlasFieldAction` class as follows:

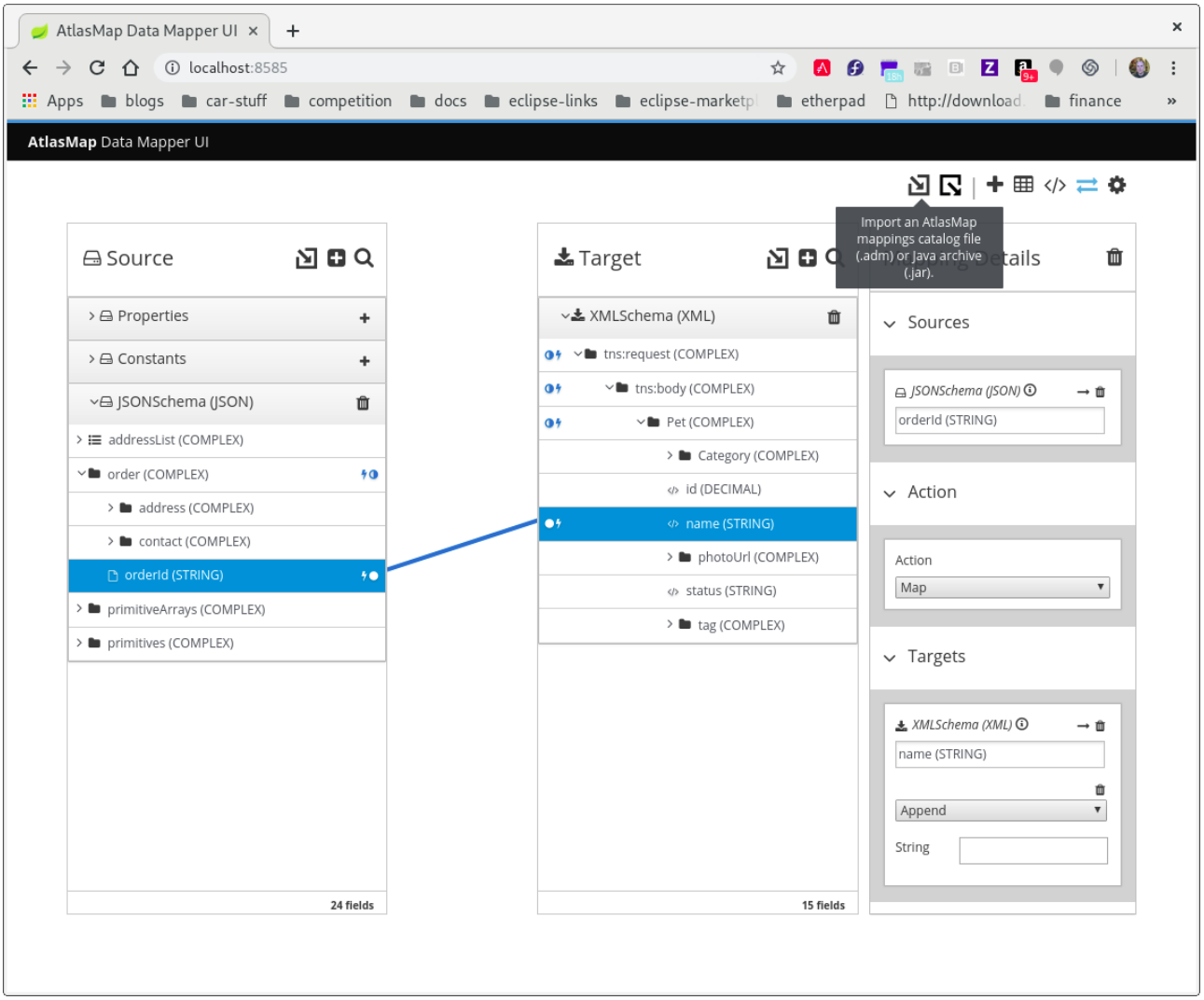
```
package io.atlasmap.service.my;

import io.atlasmap.v2.*;
import io.atlasmap.api.AtlasFieldAction;
import io.atlasmap.spi.AtlasFieldActionInfo;

public class PaulsFieldActions implements AtlasFieldAction {

    @AtlasFieldActionInfo(name = "MyCustomFieldActionPaul", sourceType =
FieldType.STRING,
        targetType = FieldType.STRING, sourceCollectionType = CollectionType.NONE,
        targetCollectionType = CollectionType.NONE)
    public static String myCustomFieldAction(String input) {
        return "Paul's custom field action: " + input;
    }

}
```

2. **Build your Java archive file.**

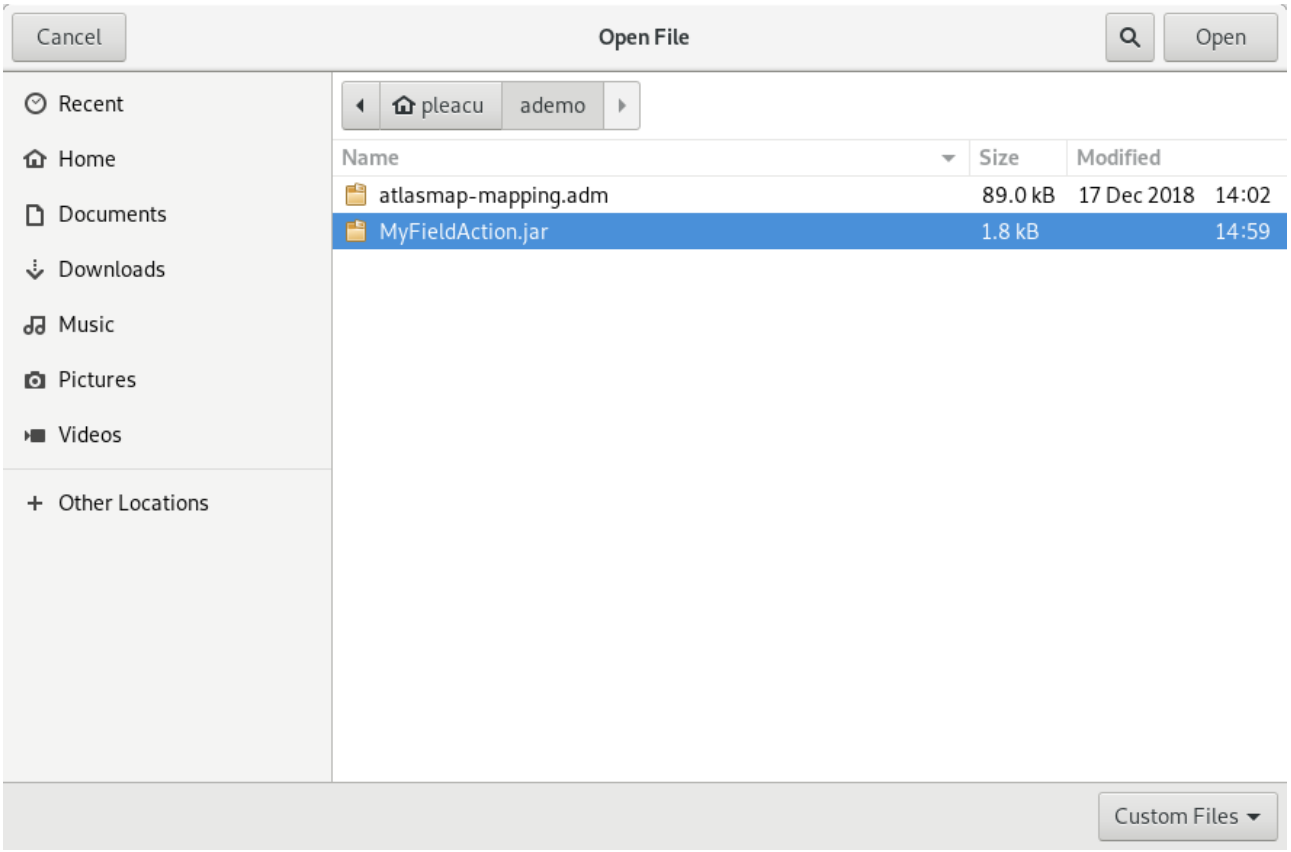
   The `io.atlasmap.v2`, `io.atlasmap.api` and `io.atlasmap.spi` target dependencies are most easily resolved through the use of a maven `pom.xml` file. Use the same version number as the AtlasMap standalone JAR that you previously downloaded.

3. **Import your Java archive file.**

   Click the import icon at the top of the AtlasMap main tool bar.

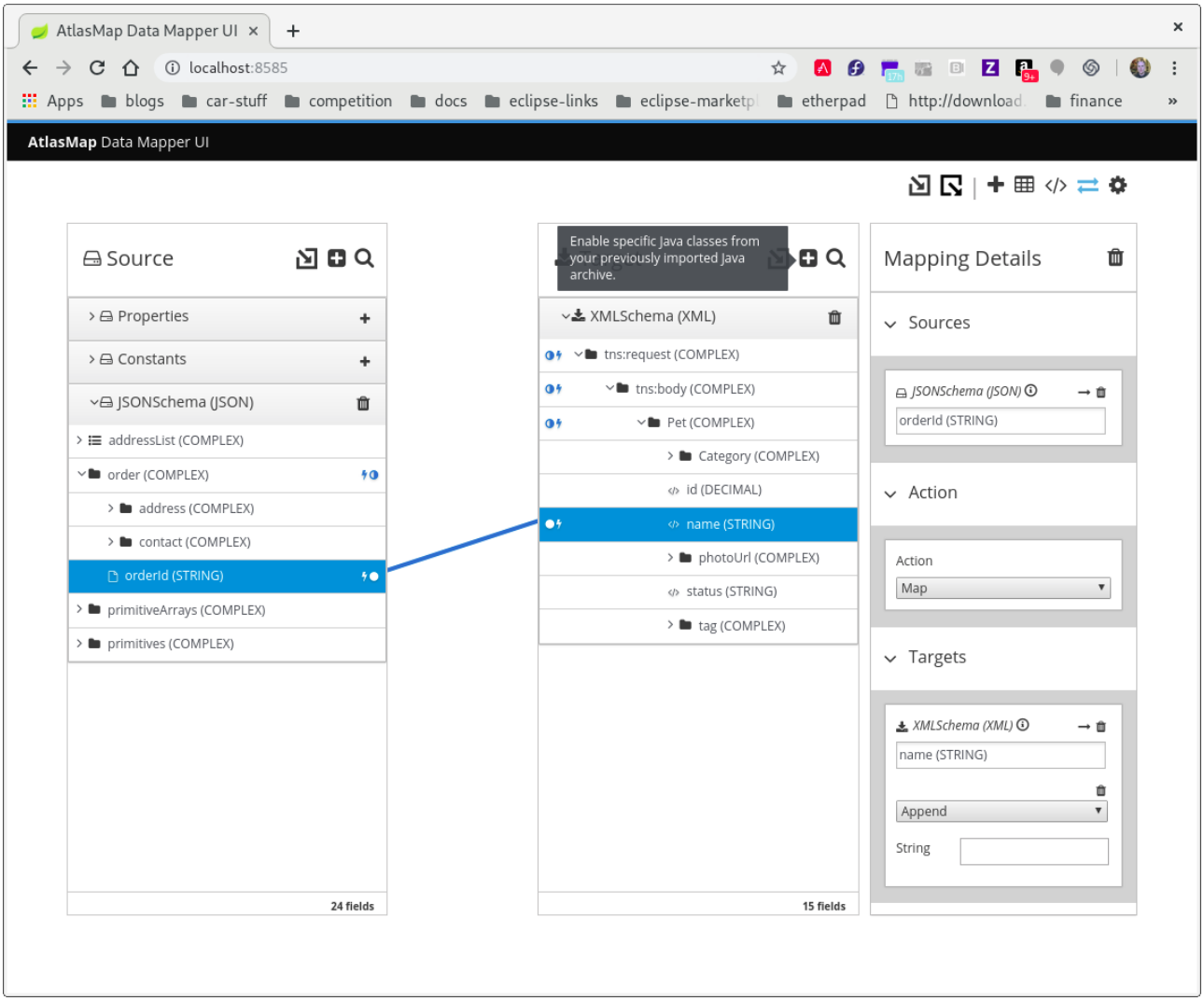


Navigate to the JAR file containing your custom field action and select it.

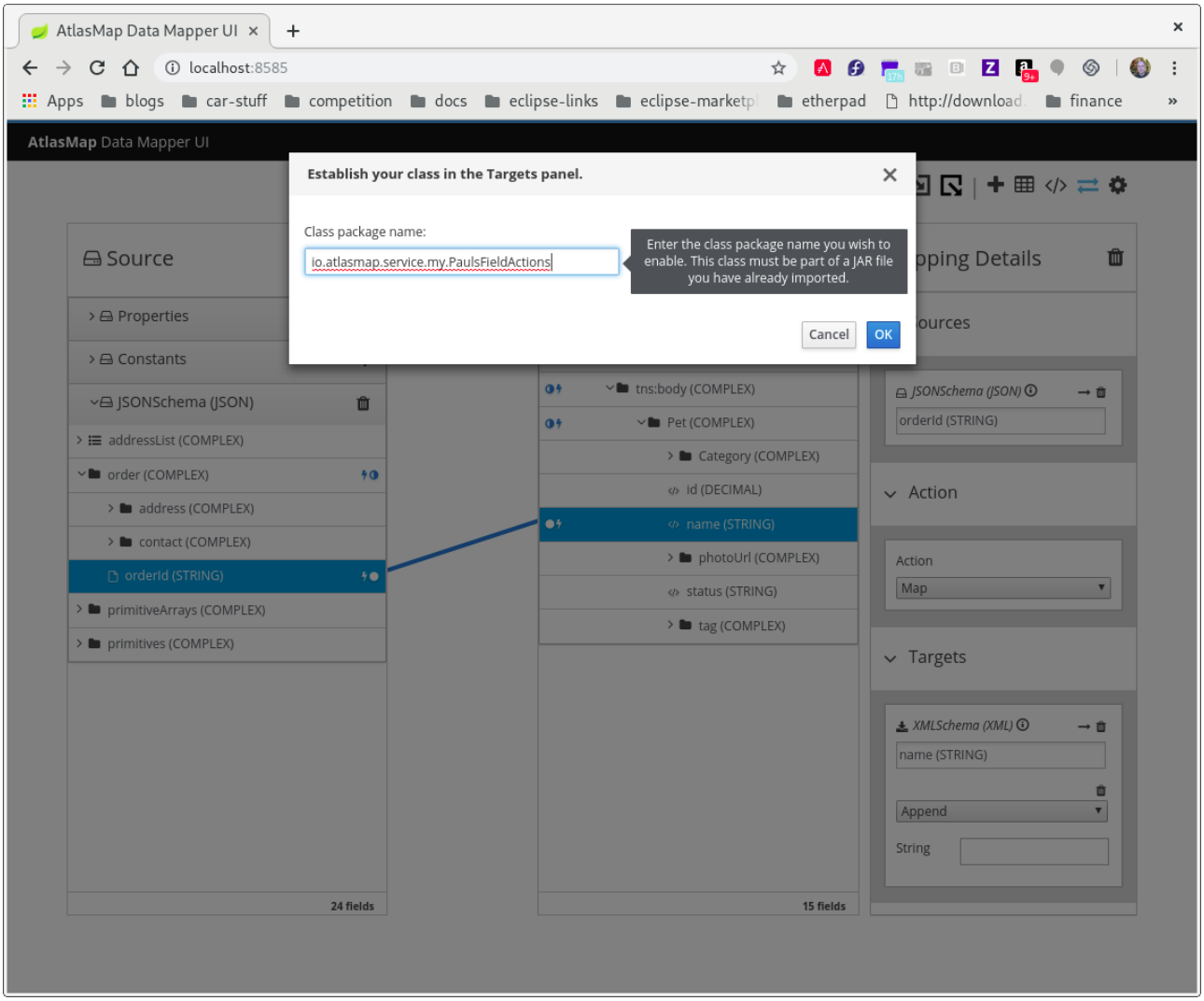


4. **Enable your class**

   Select the plus icon (+) to enable the class within your field action JAR file.

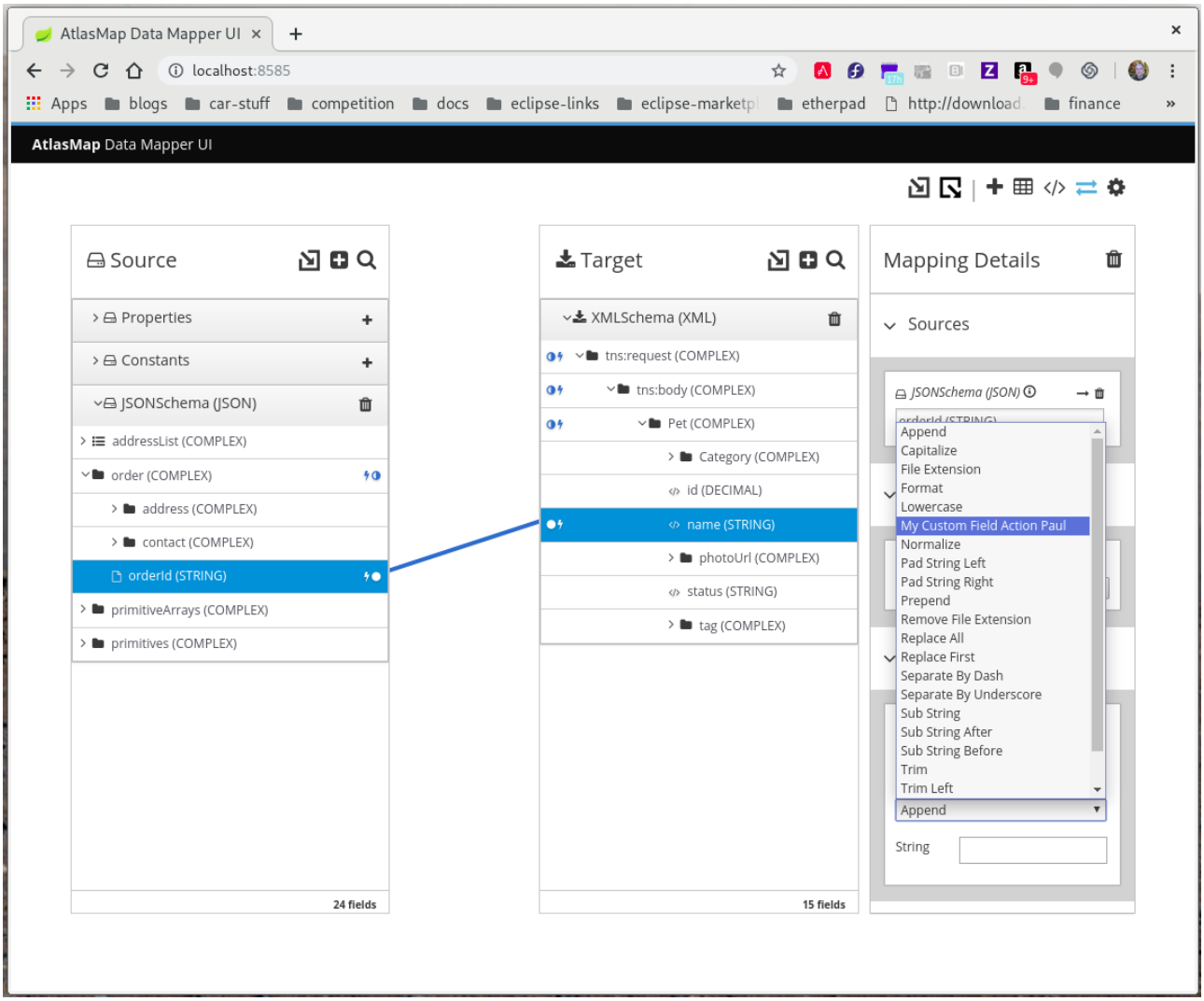


A dialog appears "Establish your class in the Sources panel." In the **Class package name:** input field, enter the class package name of the Java class you have defined for your custom field action. In the `MyFieldAction.jar` example, the class package name is `io.atlasmap.service.my.PaulsFieldActions`.



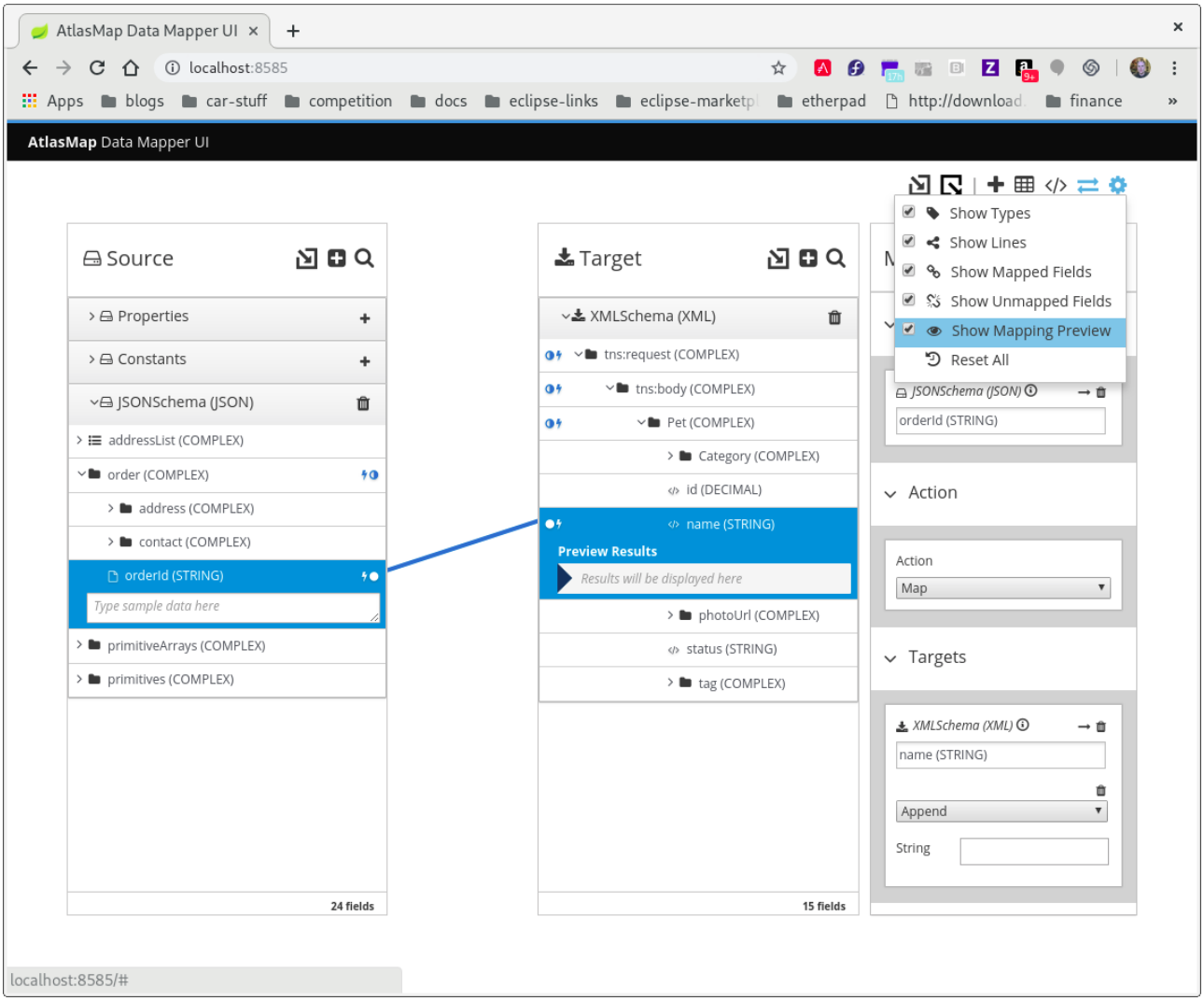
5. **Select your custom transformation.**

   Select the pull-down menu in the **Targets** window within the **Mapping Details** section. You will notice that your custom field action now appears as a selectable field action transformation. Select it.

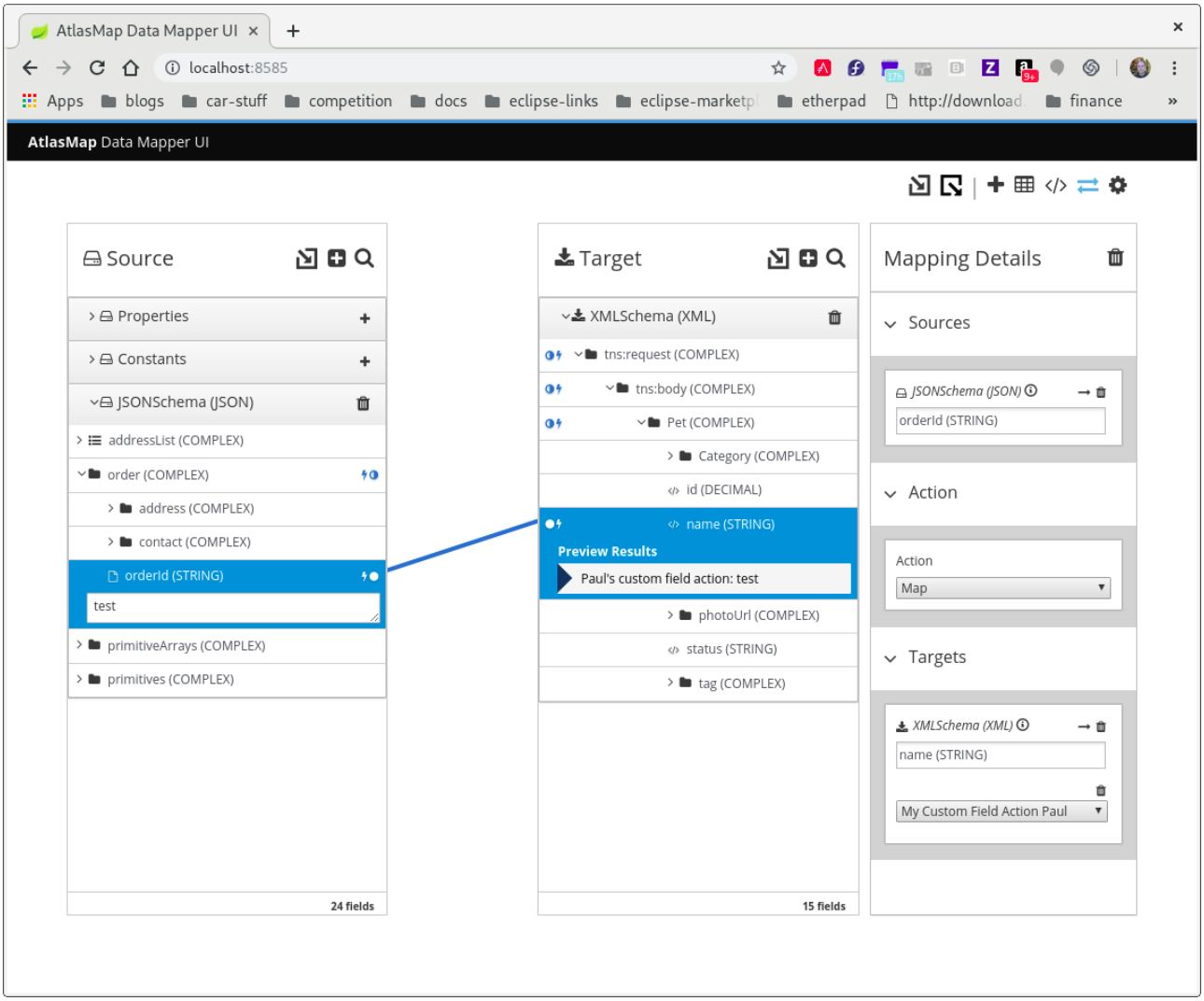


6. **Test your custom field action.**

   Select the icon on the AtlasMap main tool bar. Check the checkbox for `Show Mapping Preview`.



In the Source panel there will exist an input field. Type a string into it (for example `test`). Now focus your cursor in the **Preview Results** field in the Target panel. You will see the same string.



3.7. View the mappings

While you are using the data mapper UI, you can view the mappings that are already defined. This lets you check whether the correct mappings are in place.

Prerequisites

The data mapper canvas is visible.

Procedure

1. In the upper right, click to display a list of the defined mappings.
2. To dismiss the list of mappings and redisplay the source and target fields, click again.

3.8. Descriptions of available transformations

TODO Generate this list automatically from annotation - https://github.com/atlasmap/atlasmap/issues/173

The following table describes the available transformations. The date and number types refer generically to any of the various forms of these concepts. That is, number includes, for example, `integer`, `long`, `double`. Date includes, for example, `date`, `Time`, `ZonedDateTime`.

Transformation	Input Type	Output Type	Parameter (* = required)	Description
`AbsoluteValue`	number	number	None	Return the absolute value of a number.
`AddDays`	date	date	`days`	Add days to a date. The default is 0 days.
`AddSeconds`	date	date	`seconds`	Add seconds to a date. The default is 0 seconds.
`Append`	string	string	string	Append a string to the end of a string. The default is to append nothing.
`Camelize`	string	string	None	Convert a phrase to a camelized string by removing whitespace, making the first word lowercase, and capitalizing the first letter of each subsequent word.
`Capitalize`	string	string	None	Capitalize the first character in a string.
`Ceiling`	number	number	None	Return the whole number ceiling of a number.
`Contains`	any	Boolean	`value`	Return true if a field contains the specified value.

Transformation	Input Type	Output Type	Parameter (* = required)	Description
`ConvertAreaUnit`	number	number	`fromUnit`* `toUnit` *	Convert a number that represents an area to another unit. For the `fromUnit` and `toUnit` parameters, select the appropriate unit from the **From Unit** and **To Unit** menus. The choices are: `Square Foot`, `Square Meter`, or `Square Mile`.
`ConvertDistanceUnit`	number	number	`fromUnit` * `toUnit` *	Convert a number that represents a distance to another unit. For the `fromUnit` and `toUnit` parameters, select the appropriate unit from the **From Unit** and **To Unit** menus. The choices are: `Foot`, `Inch`, `Meter`, `Mile`, or `Yard`.
`ConvertMassUnit`	number	number	`fromUnit` * `toUnit` *	Convert a number that represents mass to another unit. For the `fromUnit` and `toUnit` parameters, select the appropriate unit from the **From Unit** and **To Unit** menus. The choices are: `Kilogram` or `Pound`.

Transformation	Input Type	Output Type	Parameter (* = required)	Description
`ConvertVolumeUnit`	number	number	`fromUnit` * `toUnit` *	Convert a number that represents volume to another unit. For the `fromUnit` and `toUnit` parameters, select the appropriate unit from the **From Unit** and **To Unit** menus. The choices are: `Cubic Foot`, `Cubic Meter`, `Gallon US Fluid`, or `Liter`.
`CurrentDate`	None	date	Note	Return the current date.
`CurrentDateTime`	None	date	None	Return the current date and time.
`CurrentTime`	None	date	None	Return the current time.
`DayOfWeek`	date	number	None	Return the day of the week (1 through 7) that corresponds to the date.
`DayOfYear`	date	number	None	Return the day of the year (1 through 366) that corresponds to the date.
`EndsWith`	string	Boolean	`string`	Return true if a string ends with the specified `string`, including case.
`Equals`	any	Boolean	`value`	Return true if a field is equal to the specified `value`, including case.
`FileExtension`	string	string	None	From a string that represents a file name, return the file extension without the dot.

Transformation	Input Type	Output Type	Parameter (* = required)	Description
`Floor`	number	number	None	Return the whole number floor of a number.
`Format`	any	string	`template` *	In `template`, replace each placeholder (such as `%s`) with the value of the input field and return a string that contains the result. This is similar to mechanisms that are available in programming languages such as Java and C.
`GenerateUUID`	None	string	None	Create a string that represents a random UUID.
`IndexOf`	string	number	`string`	In a string, starting at 0, return the first index of the specified `string`. Return `-1` if it is not found.
`IsNull`	any	Boolean	None	Return true if a field is null.
`LastIndexOf`	string	number	`string`	In a string, starting at 0, return the last index of the specified `string`. Return `-1` if it is not found.
`Length`	any	number	None	Return the length of the field, or `-1` if the field is null.
`Lowercase`	string	string	None	Convert a string to lowercase.

Transformation	Input Type	Output Type	Parameter (* = required)	Description
`Normalize`	string	string	None	Replace consecutive whitespace characters with a single space and trim leading and trailing whitespace from a string.
`PadStringLeft`	string	string	`padCharacter` * `padCount` *	Insert the character supplied in `padCharacter` at the beginning of a string. Do this the number of times specified in `padCount`.
`PadStringRight`	string	string	`padCharacter` * `padCount` *	Insert the character supplied in `padCharacter` at the end of a string. Do this the number of times specified in `padCount`.
`Prepend`	string	string	`string`	Prefix `string` to the beginning of a string. the default is to prepend nothing.
`ReplaceAll`	string	string	`match` * `newString`	In a string, replace all occurrences of the supplied matching string with the supplied `newString`. The default `newString` is an empty string.
`ReplaceFirst`	string	string	`match` * `newString` *	In a string, replace the first occurrence of the specified `match` string with the specified `newString`. The default `newString` is an empty string.

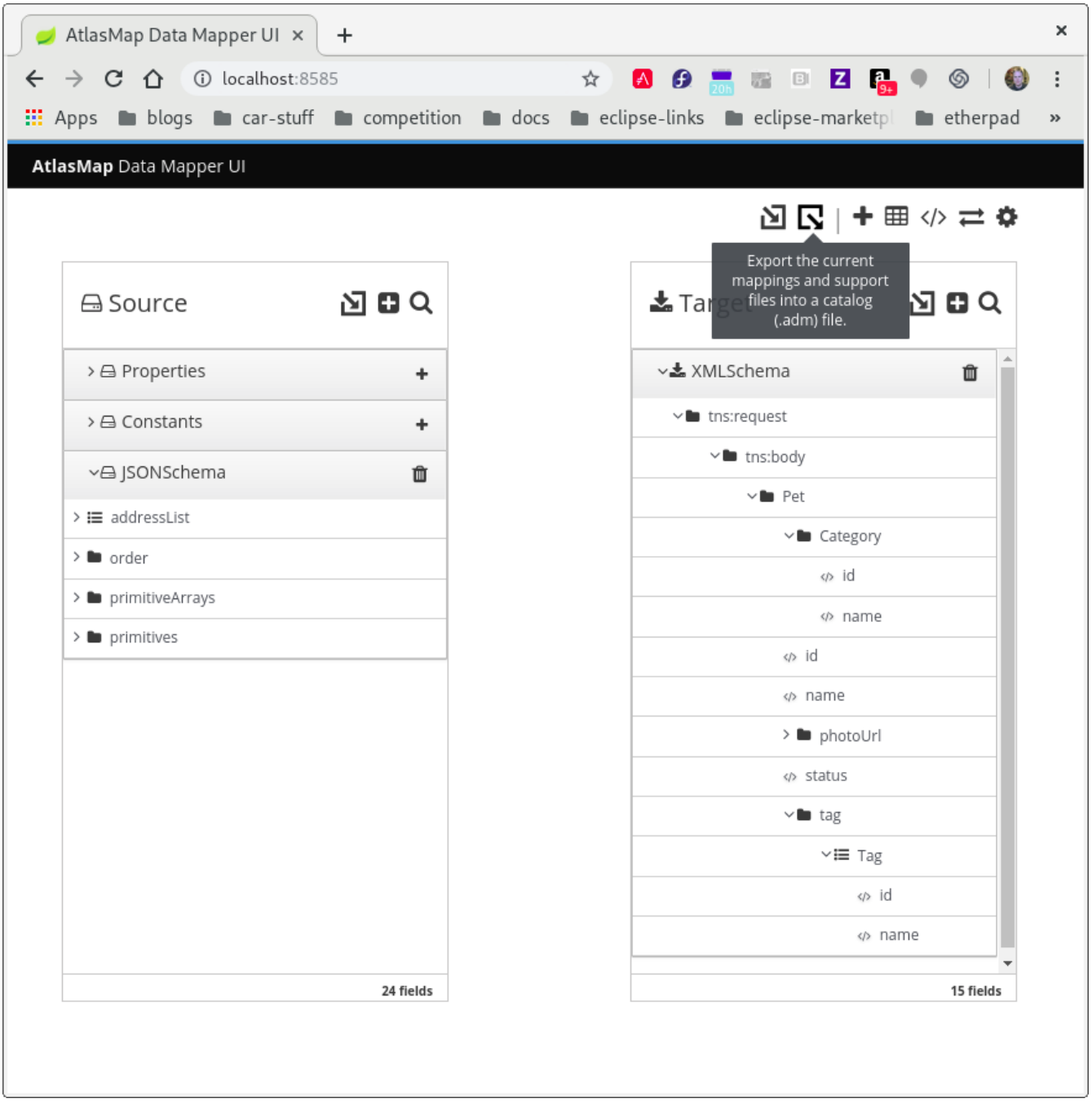
Transformation	Input Type	Output Type	Parameter (* = required)	Description
`Round`	number	number	None	Return the rounded whole number of a number.
`SeparateByDash`	string	string	None	Replace each occurrence of whitespace, colon (:), underscore (_), plus (+), and equals (=) with a hyphen (-).
`SeparateByUnderscore`	string	string	None	Replace each occurrence of whitespace, colon (:), hyphen (-), plus (+), and equals (=) with an underscore (_).
`StartsWith`	string	Boolean	`string`	Return true if a string starts with the specified string (including case).
`Substring`	string	string	`startIndex` * `endIndex`	Retrieve a segment of a string from the specified inclusive `startIndex` to the specified exclusive `endIndex`. Both indexes start at zero. `startIndex` is inclusive. `endIndex` is exclusive. The default value of `endIndex` is the length of the string.

Transformation	Input Type	Output Type	Parameter (* = required)	Description
`SubstringAfter`	string	string	`startIndex` * `endIndex` `match` *	Retrieve the segment of a string after the specified `match` string from the specified inclusive `startIndex` to the specified exclusive `endIndex`. Both indexes start at zero. The default value of `endIndex` is the length of the string after the supplied `match` string.
`SubstringBefore`	string	string	`startIndex` * `endIndex` `match` *	Retrieve a segment of a string before the supplied `match` string from the supplied inclusive `startIndex` to the supplied exclusive `endIndex`. Both indexes start at zero. The default value of `endIndex` is the length of the string before the supplied `match` string.
`Trim`	string	string	None	Trim leading and trailing whitespace from a string.
`TrimLeft`	string	string	None	Trim leading whitespace from a string.
`TrimRight`	string	string	None	Trim trailing whitespace from a string.
`Uppercase`	string	string	None	Convert a string to uppercase.

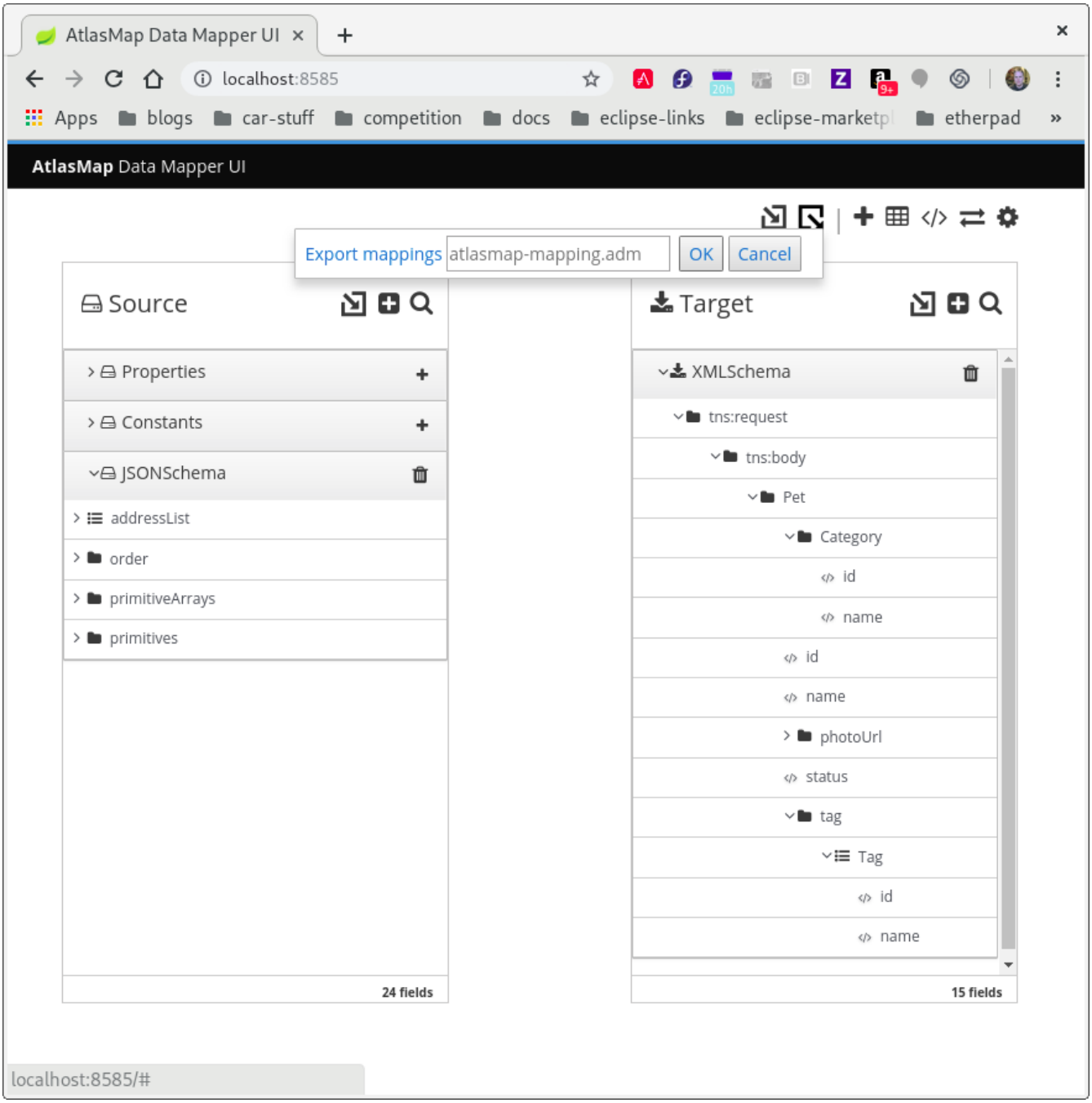
Chapter 4. Export Files in UI

4.1. Export AtlasMap Data Mapper Catalog File

Once all required schema files and JARs have been imported and all mappings have been defined you can save your work using the **export** button. The export button captures all of your workspace into an ADM (`.adm`) catalog file. This file may be used with the **import** button to reinitialize AtlasMap to the state at which the export button was clicked. The export button can be found on the main toolbar:



Once it is clicked, an **Export mappings** dialog appears. A standard default name for the ADM file appears as a placeholder (`atlasmap-mapping.adm`). You may override that file name as desired.

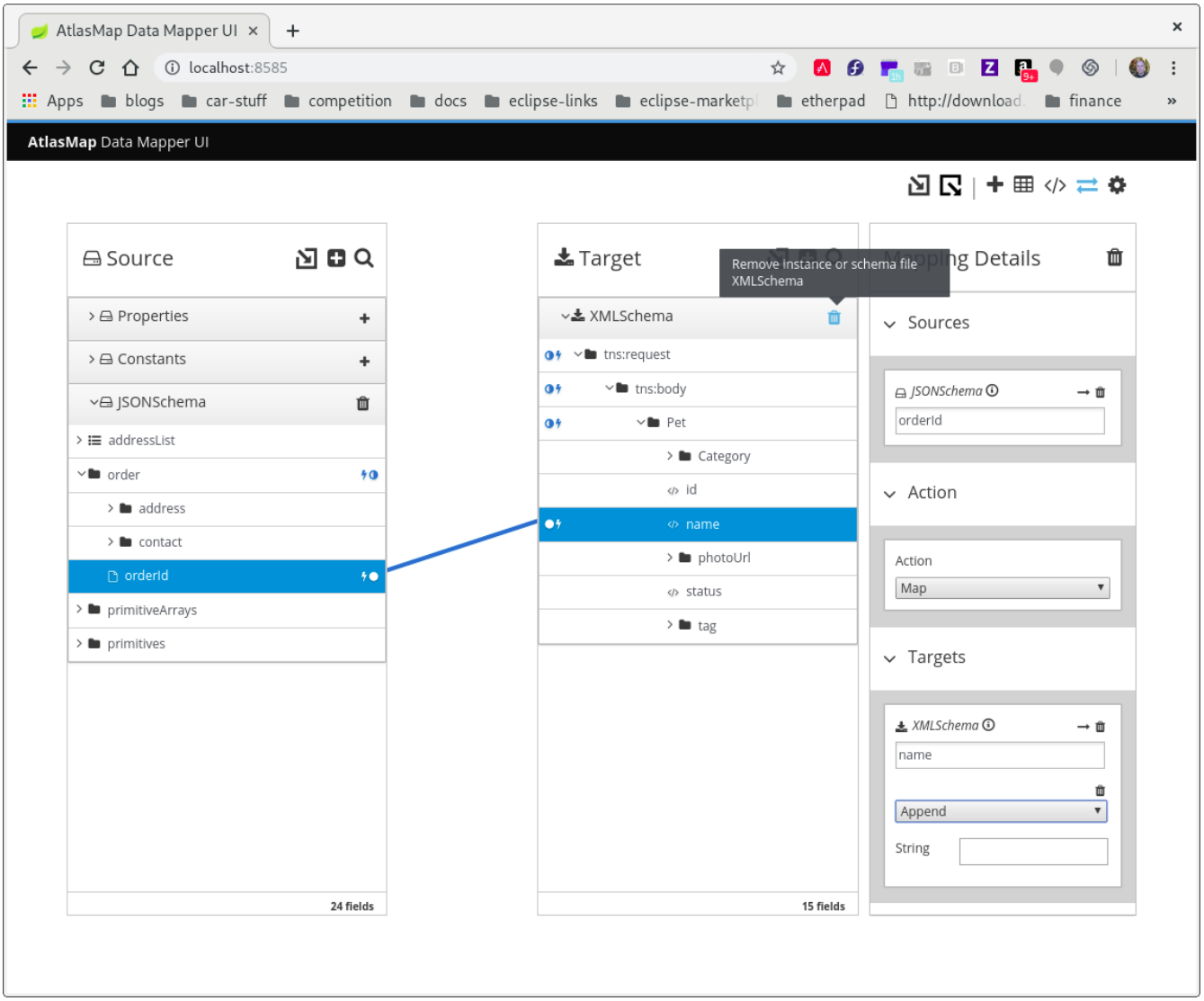


Once you click the `OK` button the catalog file will be written with the specified name to the local `Downloads` directory.

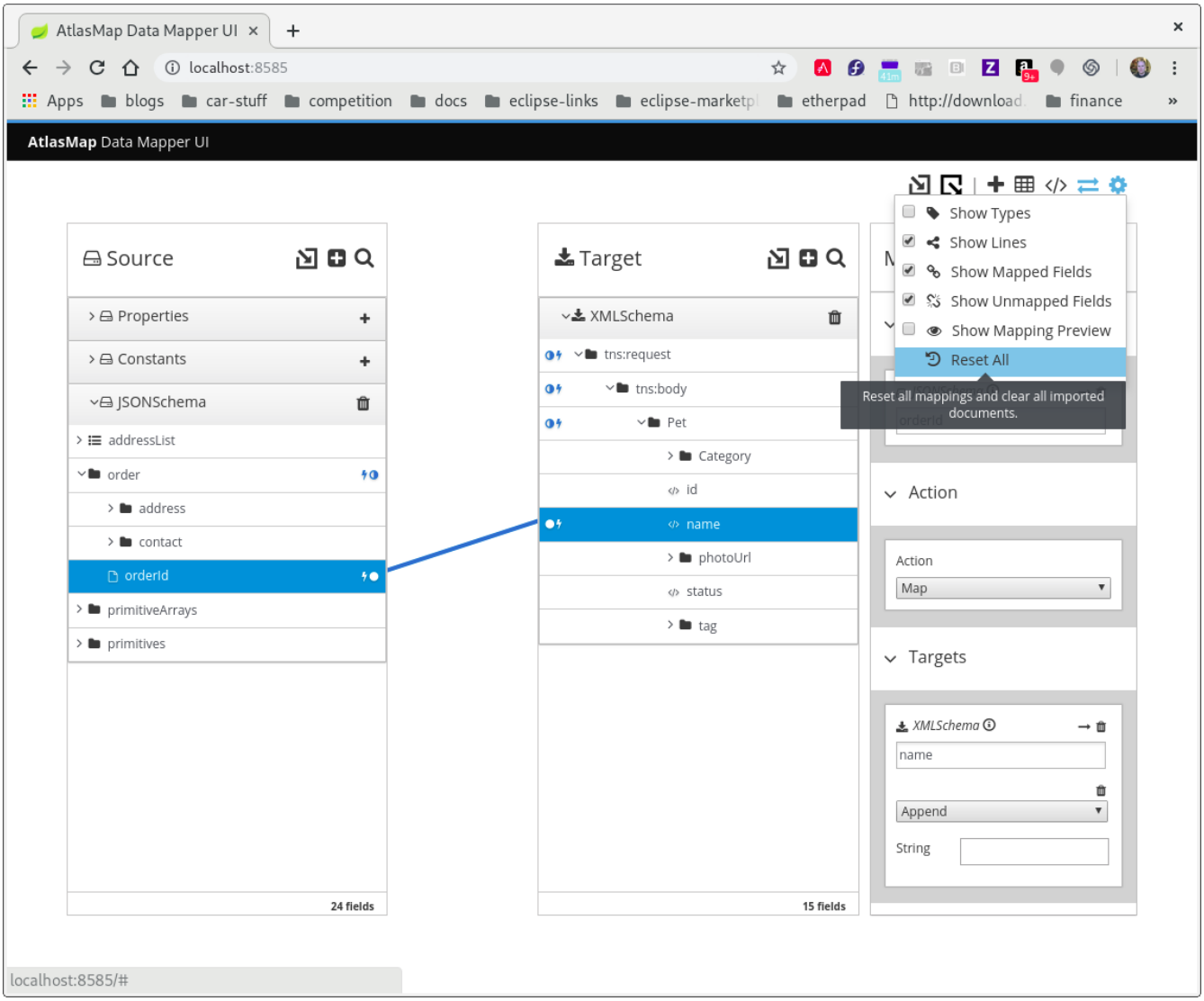
Chapter 5. Reset Files in UI

5.1. Reset the AtlasMap Data Mapper

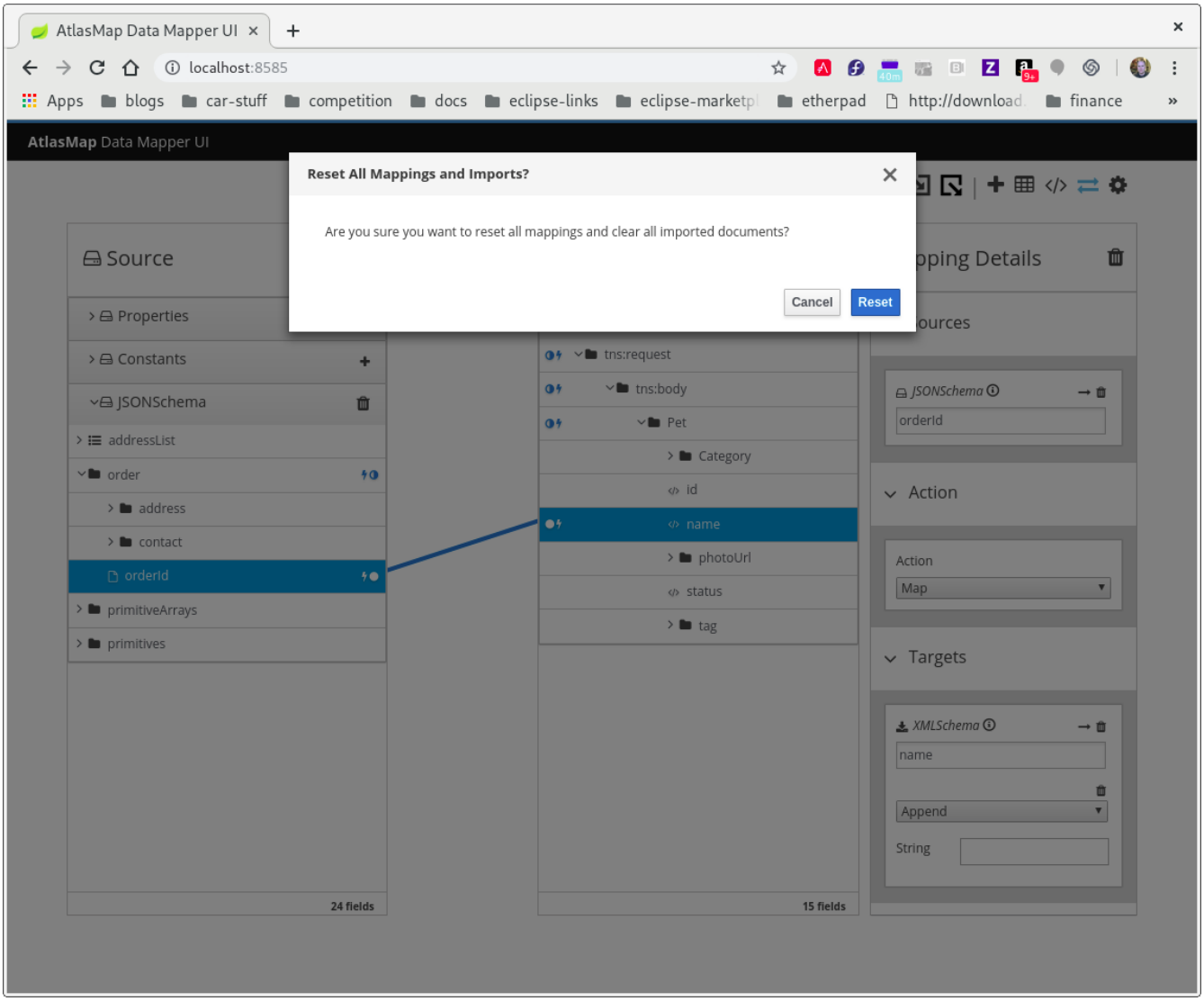
Upon initial installation of AtlasMap the user is presented with a blank canvas. No mappings are possible until the user imports files into the Source and Target panels. Once imported, users may remove imported files using the trash can icon:



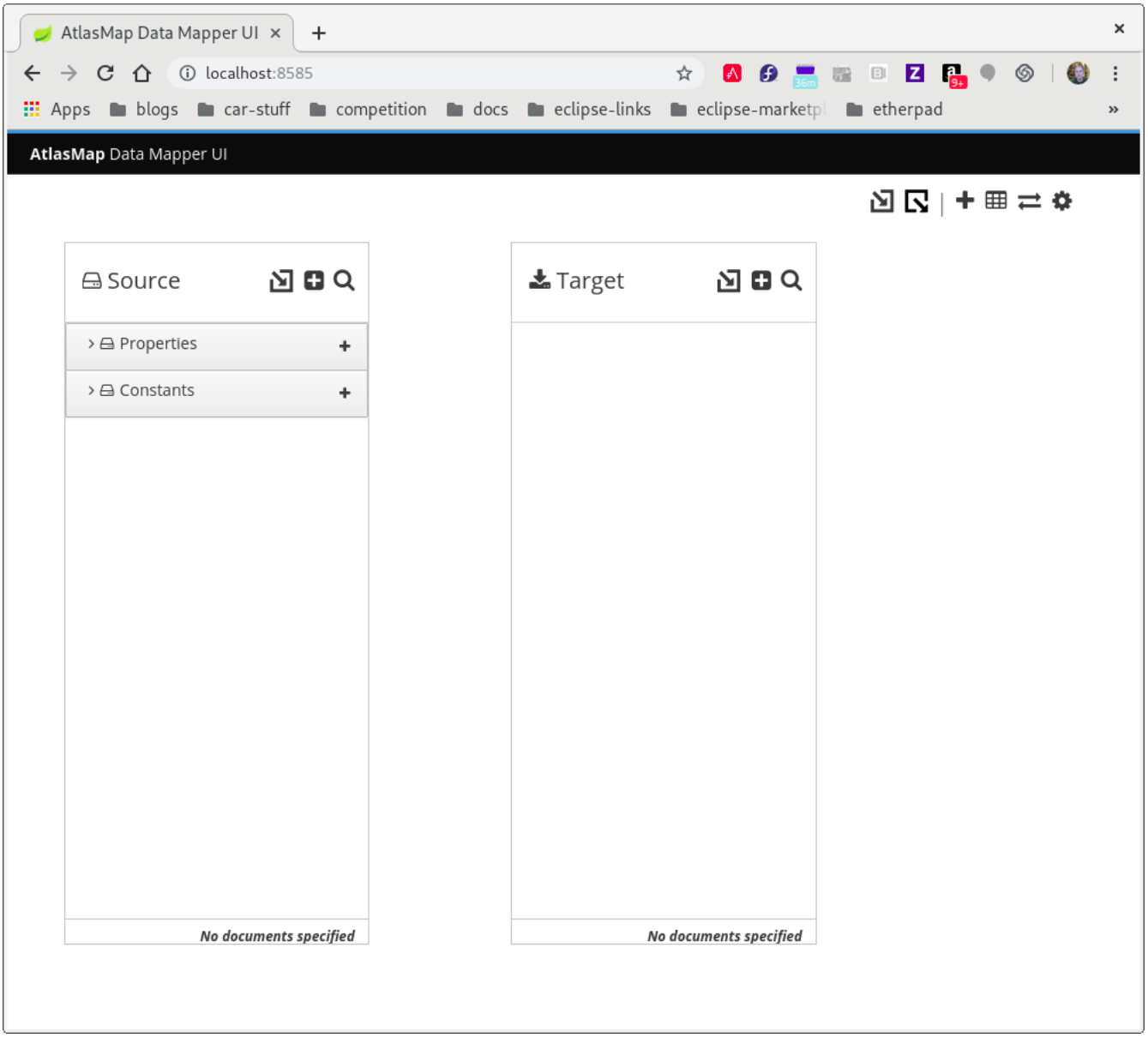
If a user wishes to remove **all** imported files as well as all mappings then select the icon on the AtlasMap main tool bar and select `Reset All` from the pull down menu.



A challenge dialog will appear to verify that the user wants to remove all files.



Once the `Reset` button is clicked AtlasMap is reset and the user is presented with a fresh blank canvas.


AtlasMap Data Mapper UI
localhost:8585
Apps
blogs
car-stuff
competition
docs
eclipse-links
etherpad
AtlasMap Data Mapper UI
Source
Properties
Constants
No documents specified
Target
No documents specified