

Using Expressions and Variables in Talend Maps

The Map -- tMap in Talend Open Studio -- is the workhorse of data conversion and ETL processing. Occasionally, you'll need to work with a variable or expression. There are several places in Talend where you can put an expression.

Maps are a productive way to transfer the fields of a source to a target using a graphical tool. When there's a one-to-one correspondence between source and target fields, the map can be created with a simple drag-and-drop. However, sometimes the map may require some logic or special processing in certain fields.

Examples of this special processing include

Null handling

```
(row1.State==null)?"":row1.State
```

Specifying a default value

```
(row2.New_Region==null)?row1.Region:row2.New_Region
```

In tMap, you can put these variables in three places:

1. In the target field Expression,
2. As a Var, or
3. In a tSetGlobalVar

The target field and Var panel locate the variable within the tMap component. tSetGlobalVar locates the variable and expression out of the tMap component.

IN THE TARGET FIELD

Writing expressions in the target field is a concise way to process a field. The target field Expression features an Expression Builder.

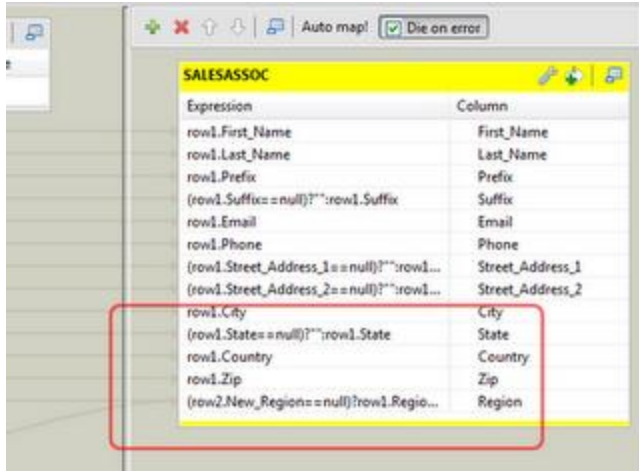


Figure 1 Expression Defined in Target field

AS A VAR

If your expression needs to be used throughout the map's fields, you can create a variable in the same window.

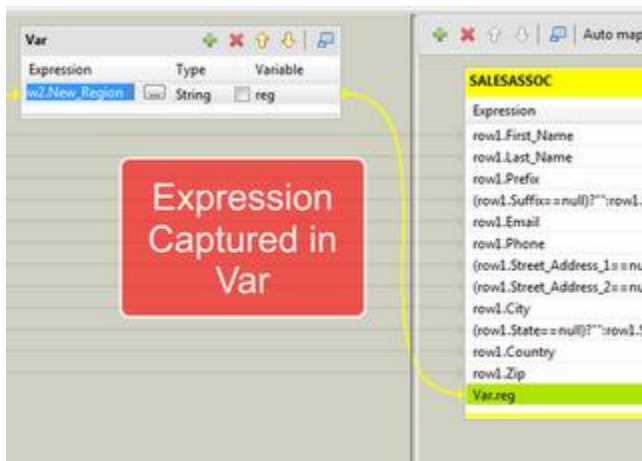


Figure 2 Using a Var

Notice that the variable is preceded with 'Var'.

USING TSETGLOBALVAR

This step involves adding another component to the canvas. In addition to tMap, add a tSetGlobalVar component. Rather than connecting the input Excel connection to the tMap, put the tSetGlobalVar in between. This will require re-mapping the source and target fields; use the row of the tSetGlobalVar rather than the Excel file.

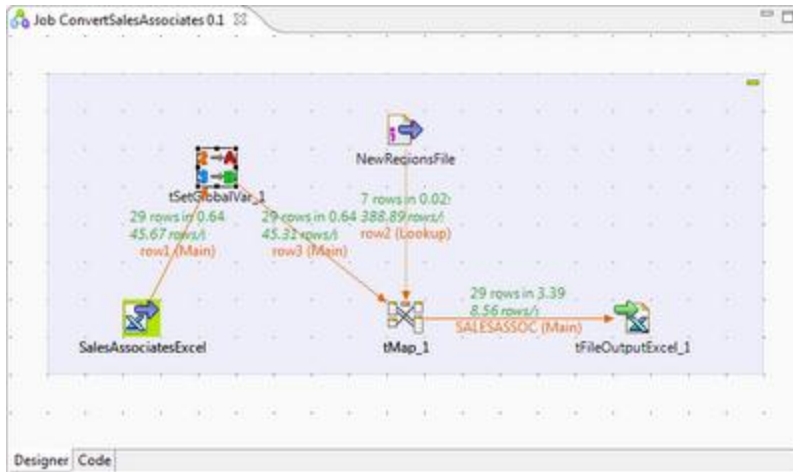


Figure 3 In a Global Var

Double-click on the tSetGlobalVar and add a variable. Make sure the variable is surrounded with quotes. My example uses "mystate" and it is set with an expression that handles the null. In the tMap, you'll use the following syntax in the target field. The variable is stored in a Java map. Don't forget the cast.

```
(String)globalMap.get("mystate")
```

Expression	Column
row3.First_Name	First_N...
row3.Last_Name	Last_Na...
row3.Prefix	Prefix
(row3.Suffix==null)?"":row3.Suffix	Suffix
row3.Email	Email
row3.Phone	Phone
(row3.Street_Address_1==null)?"":row3.Street_Address_1	Street_...
(row3.Street_Address_2==null)?"":row3.Street_Address_2	Street_...
row3.City	City
(String)globalMap.get("mystate")	State
row3.Country	Country
row3.Zip	Zip
(row2.New_Region==null)?row3.Region:row2.New_Region	Region

Figure 4 Applying a Global Var in a tMap

There is a lot of flexibility in setting variables in Talend Open Studio. Pick the most concise syntax that gives you access to the variable where you need it.