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Simio API Note: Assorted Custom Steps

May 2020 (Dhouck)

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Overview

This API Note describes a User Extension that illustrates different flavors of using the Custom Calculation Step to do the following:

1. Get data from a Table
2. Get data from SQL Server using EF (Entity Framework)
3.

For testing, sample models are provided.

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Some Background Information on Assorted Custom Steps.

(Information about Simio Tables)

(Information about Entity Framework)

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Simio Table Interface Step

Although there are several ways to interface with a Simio Table, this demonstrates the preferred way if you are reading and writing to a State variable (and potentially reading Properties) from a Simio Table.

There trickiest part of this is to realize that a Repeating Group can be mapped to a Simio table, and then – using the GetRow() method of the RG reader, you can successively "map" the Repeating Group to whatever row of the table you desire.

So, the workflow is this:

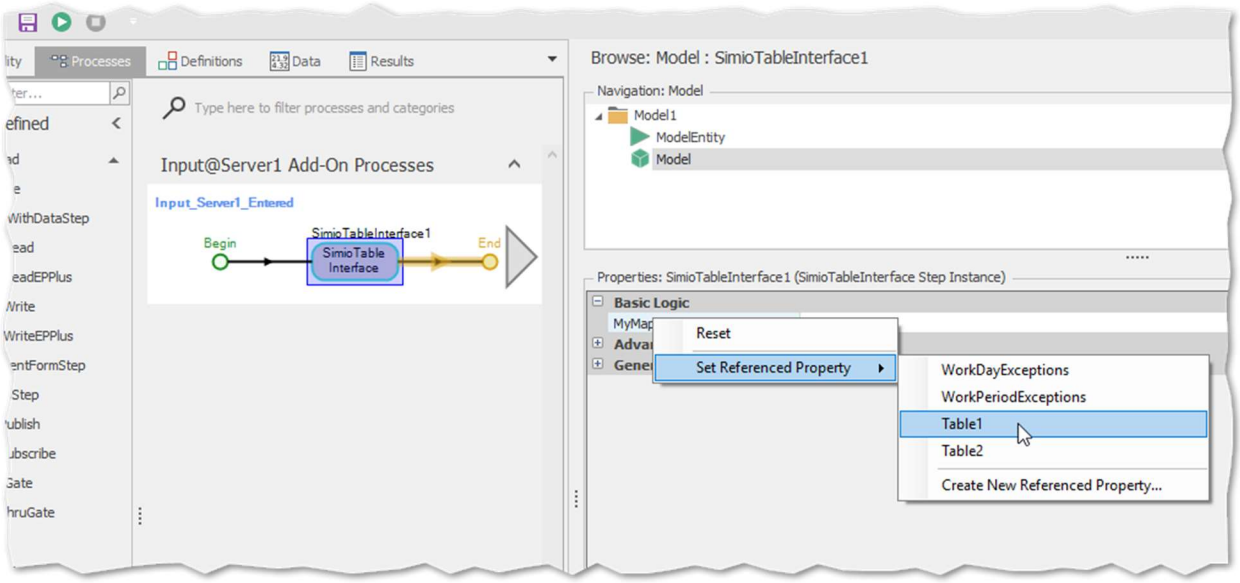
In the Code:

In the DefineSchema method, create properties that you will use to map to the Simio table. Remember that you can only write to the Simio Tables' state columns.

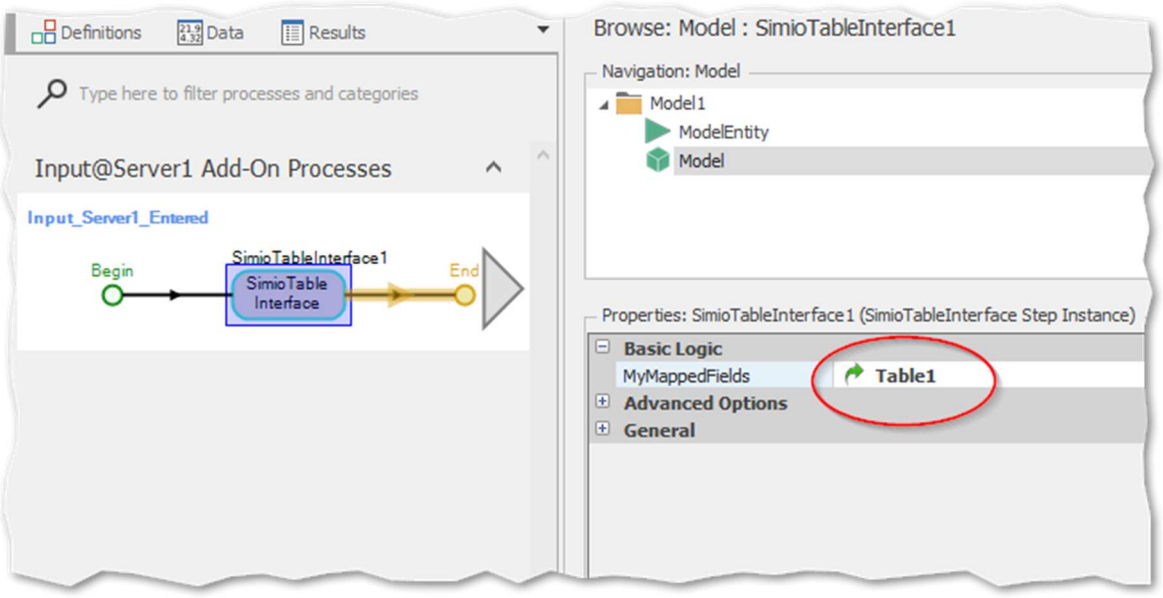
The names don't have to match the table's column names since we will "map" these properties to the table columns in the Simio Project.

In the Simio Project:

Insert your Step into a Process. When you select it make sure you right click on the MyMappedFields, RightMouseClick and set the Referenced Property to Table1:

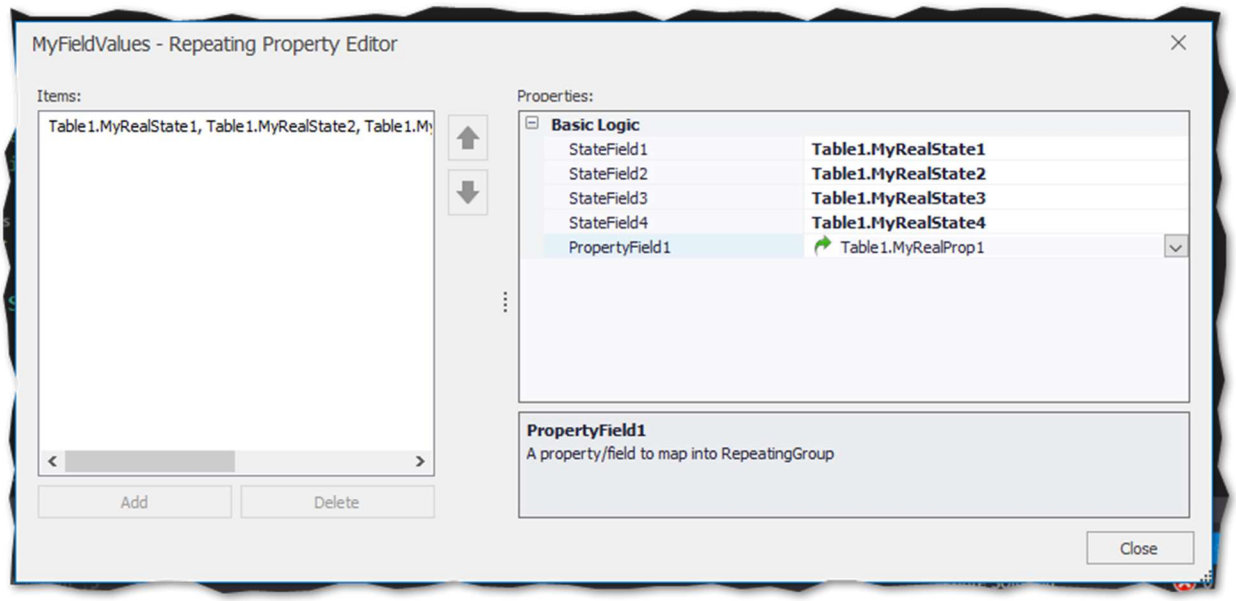


Note: If you don't see the curved green "reference" arrow, then this project won't work correctly!

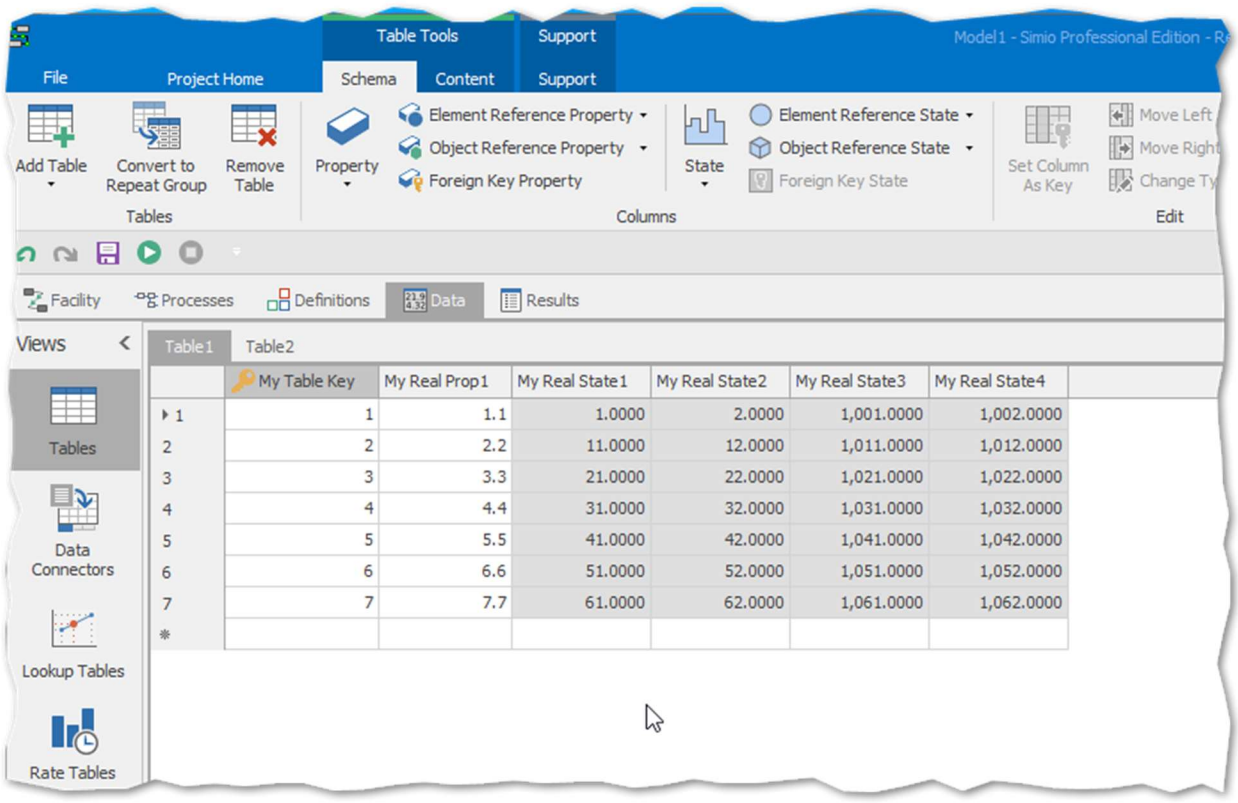


Then select the ellipses on the right to bring up the Repeating Property Editor and then enter the field mappings.

Note that here we are using the Simio generated field names (e.g. “StateField1”). In the code we will be using these names to access our data.



When you run the model, this is what you should see:



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Simio Table Interface Step Code Overview

The code for the Process Step is in the

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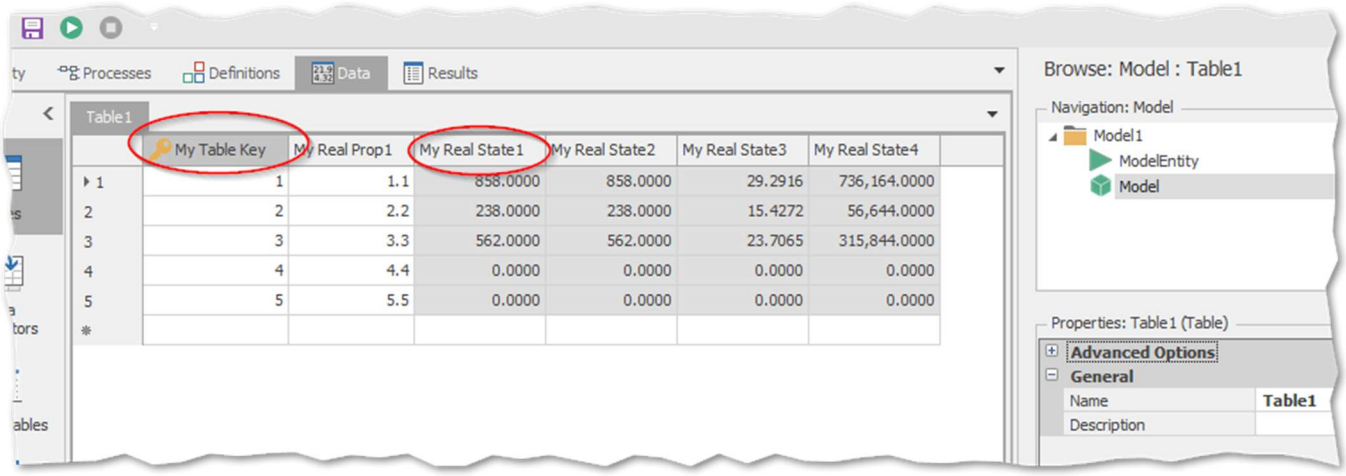
Running the Model

Open the Simio project.

Now do the following:

The Table is named Table1 and has the following characteristics



Note that it has 5 rows.

The Step has a RG named MyFieldValues, which have properties MyRealState1 through MyRealState4

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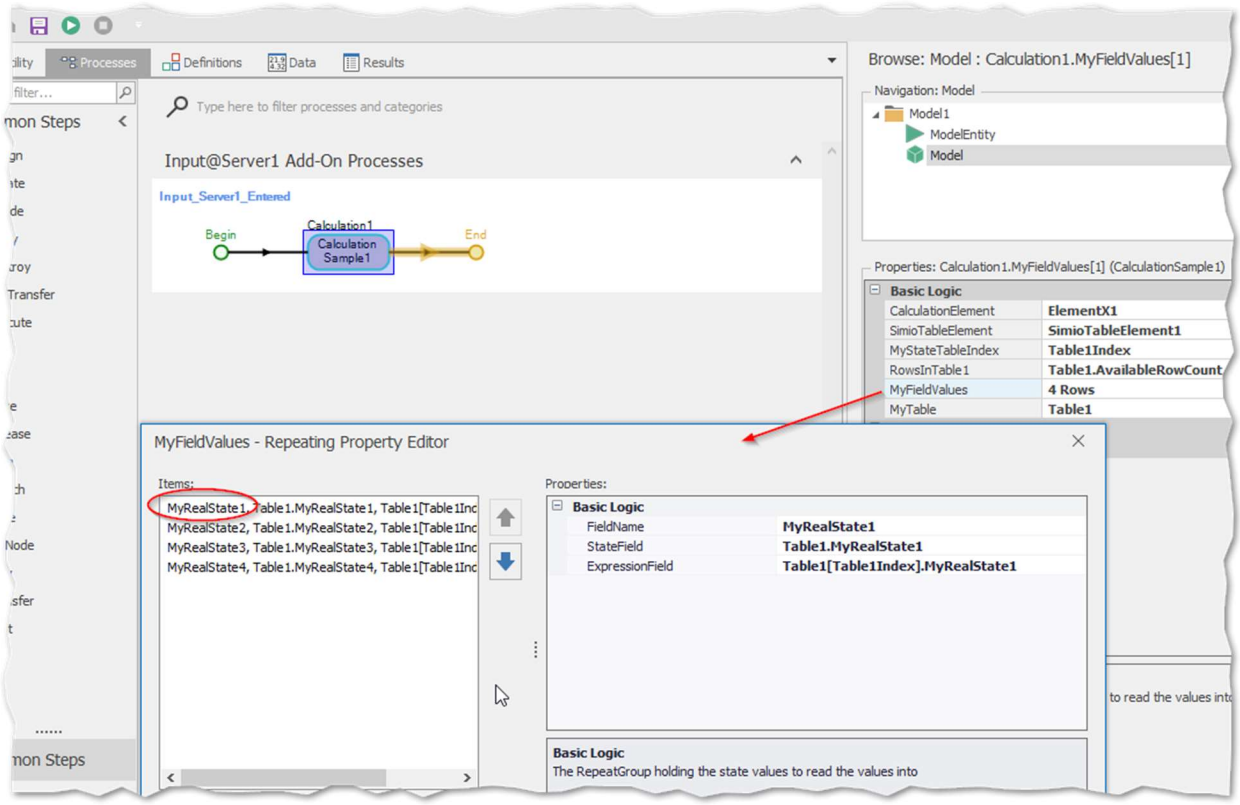

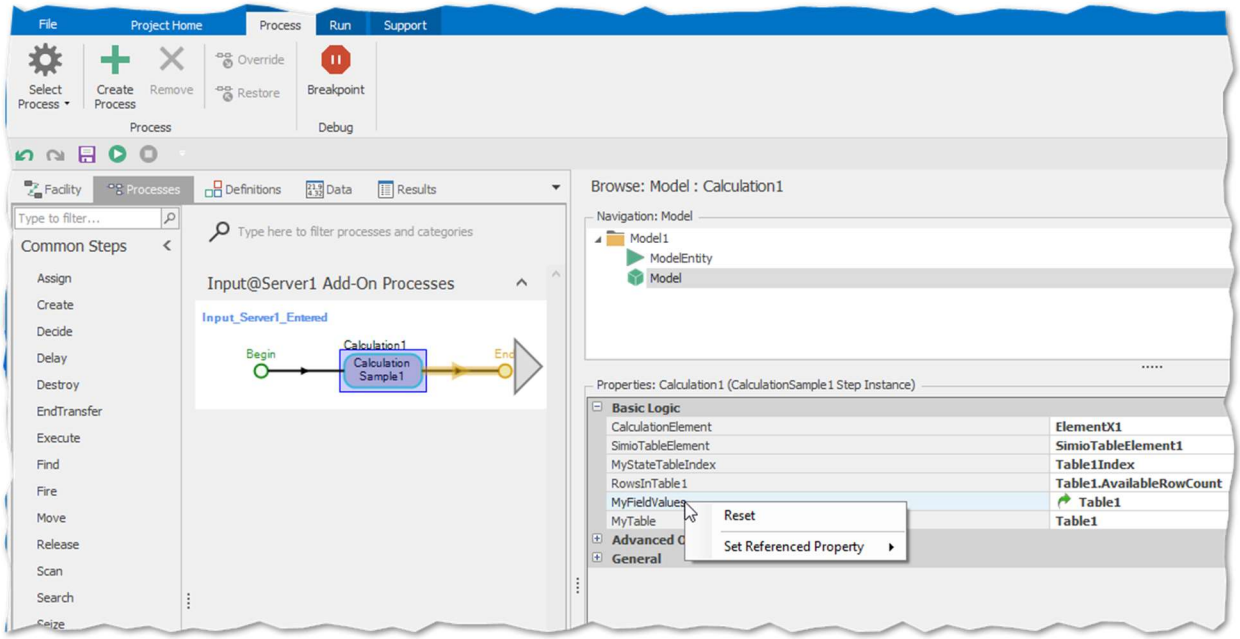

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Notes on Use

Adding Logic

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TroubleShooting