

Simio Tips & Tricks

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Categories

- ▶ UI (User Interface)
- ▶ Submodels and Object building
- ▶ Tables
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- ▶ Drag the file to the bottom bar of Simio. Skip File<Open.
- ▶ Use Alt button when zooming in and out in the 3D window for more control.
- ▶ Move objects in 3D mode vertically with Shift-Drag.

User Interface

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- ▶ Right click on a step in a Process. Select *Open process spreadsheet for all items of this type.*
- Lots of processes and steps, faster than the Project Home ribbon Search option.

- ▶ Left double click on the word *Process Name* in Execute step properties and Add On Trigger to go to that Process in the Facility view.
- ▶ Type in the reference even if not in dropdown Expression Editor.
- ▶ Copy a Table using the Copy and Paste buttons (Project Home Ribbon)

Selection:

- ▶ Select an object/step/process/element and press F2 to rename.
- ▶ Select Multiple Objects in Facility Window by holding Ctrl and the left click and drag mouse over objects to select.

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- ▶ To pass table data from a parent to a submodel or an object, use repeating group properties in the submodel. – see SimBit *HierarchyWithTables.spfx*
- ▶ For custom objects, users can define their own version numbers to keep track of versions. (Not the same as internal version numbers that Simio uses for updating.)

- ▶ When initializing multiple objects, use Math.Epsilon delays in the objects' *OnRunInitialized* process to change initialization sequence (specifically for custom libraries).
- This helps organize the order in which objects are initialized to prevent errors if objects are dependent on each other.

Submodels and Object Building

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- ▶ Specify additional libraries to load (in addition to Standard and Flow) by defining the path to the custom library in:

File → Settings → Libraries → Additional Libraries to Load

- This loads the custom library every time a new project is created. Use this option if you use custom libraries frequently.

▶ Object in Tables:

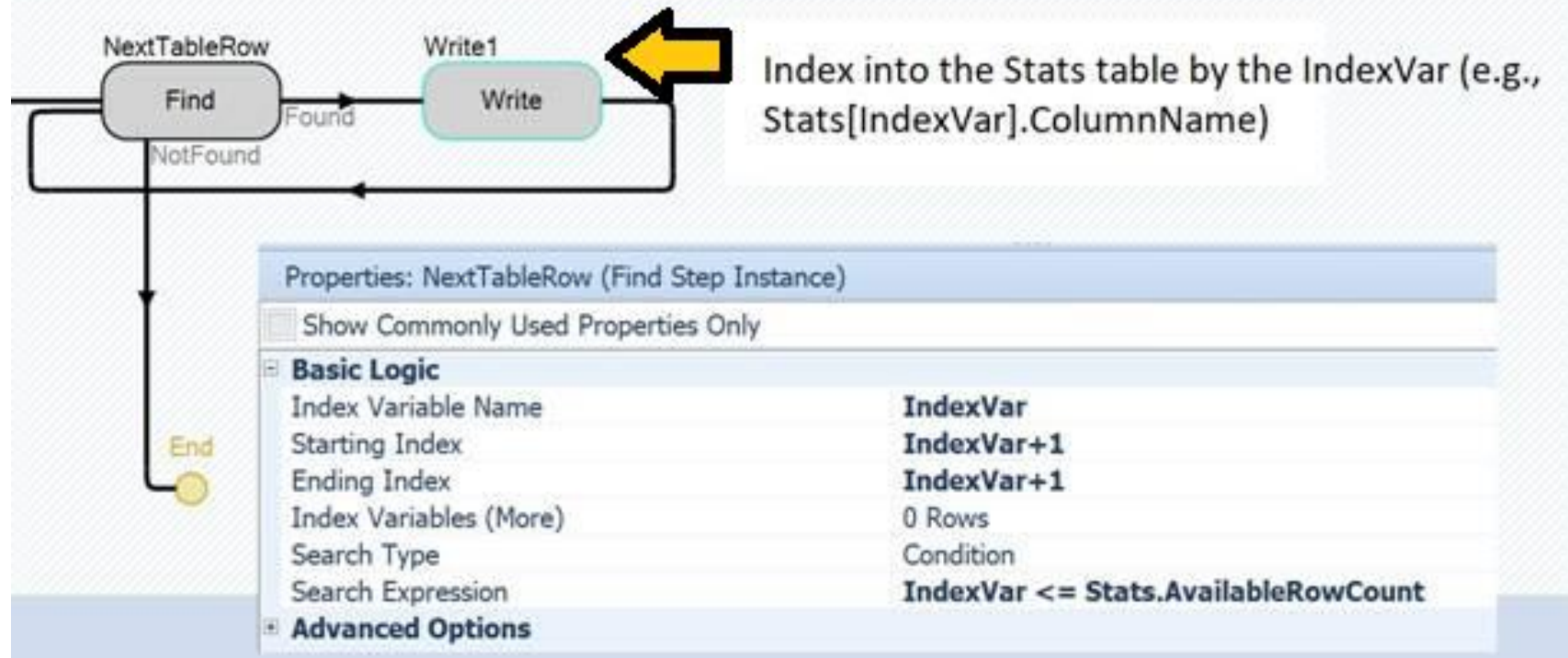
- When initializing 'dynamic' type objects from a table, set the Initial Number in System property to '0' and use the ***OnRunInitialized*** process to search the table information. Create the correct number of objects (worker/vehicle) and transfer them to a particular 'home node'.
- On any object type column set the *Auto-set Table Row Reference* property to *True* to create reference between the object and table row. Even if the object is not created using that table.

- ▶ Create a 'Model Inputs' table that has a single row and multiple columns of data that you are likely to change (not through experimentation) more frequently, such as batch sizes of combiners, capacities, etc. – easier to change or reference from a single place (table) instead of in multiple places.
- ▶ Right click on a Repeat Group and select a table. All properties that have the same General name as a column in the table automatically creates a table reference between that property and table column.

*This method only works if all the properties are in the same table.

- ▶ Use a Boolean state column in a table for entity orders stored in arrival tables or consecutive rows – Then set to *True* as entities/batches are created and easily see status during run. (Enterprise)
- ▶ You can use the Find step in conjunction with the write step table to cycle through a small table in lieu of a search step and write step to write out all the data. You can use ***Index+1*** to increment for both starting index and ending index.

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- ▶ To run the model until a certain point in time, add a breakpoint somewhere. Open the Breakpoints window and click onto the breakpoint and enter an Expression into the properties of the breakpoint, such as `Timenow >= 3`.
- ▶ Create a Timer element that fires each hour (or min, or day) and have a breakpoint each time the Timer fires. Or use a timer tied to a process with a notify step right before the time of the issue in lieu of a break point. Flow in particular.

- ▶ When using distributions if you are not sure what the distribution looks like (spread, etc.) use the Input Parameters table to get a visual feel of the data before using the distribution.

- ▶ When using routing groups to confirm in an add on process, use ***Token.ContextObject*** to get a reference to the executing Entity's assigned destination node (destination node is not yet actually assigned, it is just a token attribute that we can check). The entity's actual destination node is still the current node it is at.

- ▶ Scheduling/planning: When Logging set to True use the Advanced Options>Display Category to categorize objects, such as Servers, Resources, Workers, etc. into multiple categories makes Gantt charts much easier to read.
 - e.g. Use 'Workers And Tools\Workers' to separate workers into own section with tools (so not mixed in with servers, etc.) or 'Manufacturing\1_Mfg'... 'Manufacturing\2_Assy' ... 'Manufacturing\3_Test' will categorize servers into Manufacturing area of resources, then 1_\2_\3_ will put groupings into order based on flow order.

Labels:

- ▶ Create 3D Vertical labels by adding a Floor Label, change its height in Drawing ribbon, and move the green handle to change the length of the object.
- ▶ If you're unsure of the exact expression in a Floor Label, use the Expression Editor in an unused property (e.g. *TransferInTime* in a Server), create your expression, then copy and paste it into the floor label.

Labels:

- ▶ Test expressions for displaying entity information in the Gantt by trying it out first in the notify step or the Entity Dynamic Label Text.
- ▶ Use Dynamic Label Text on Entity to add a label that is always visible regardless of zoom level. You can add arguments and multiple lines using string formatting:
 - **"Create Time: " + String.Newline + String.FromReal(Entity.TimeCreated)**

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