CTVUE Application Note

Number:CTVUE-1002, Revision 1, 8/3//2007
Subject: Developing Job/Recipe Data

Introduction

The CTVUE does not have a “Recipe” Manager per se but does have the ability via array tags to setup recipe/job type functions. Standard Recipe Managers offered by many HMI vendors can be limited in scope due being focused more on process control than motion control. The CTVUE use of array integers along with actions and programs allows more flexibility for motion configurations.

There are three main steps to setting up Recipes per the below:

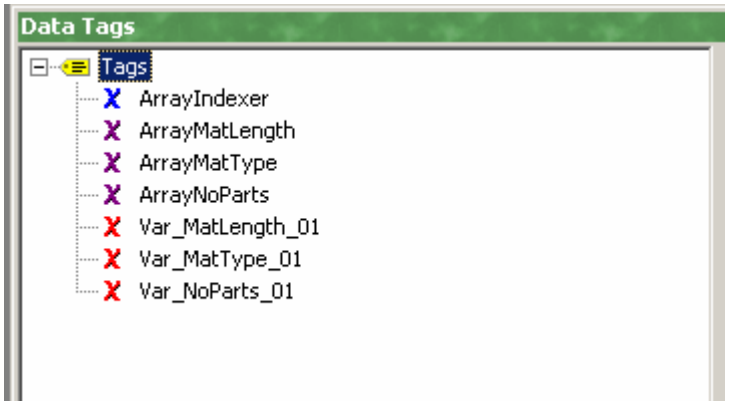
1) Define Tags
2) Create Job/Recipe Page
3) Send data to the drive

Below is an example for setting up a simple job that will define Type of Material, Material Length, and Number of Parts to run and send the data to the drive.

Step One Define Tags

1) First determine what type of elements or specifics are needed to be entered for a job. In this case the elements are Job number, Type of Material, Material Length, Number of Parts and tags to send data to the drive
    a. Job Number – Integer Value for indexing through menu
    b. Type of Material – Integer Array which holds material type data
    c. Material Length – Integer Array which holds length data
    d. Number of Parts – Integer Array Holds Parts to Run
    e. Var_MatLength_01, Var_MatType_01, Var_NoParts_01 – Drive variables link to drive modbus registers

2) Next create the tags in the tag editor for the various tags you need per the below.



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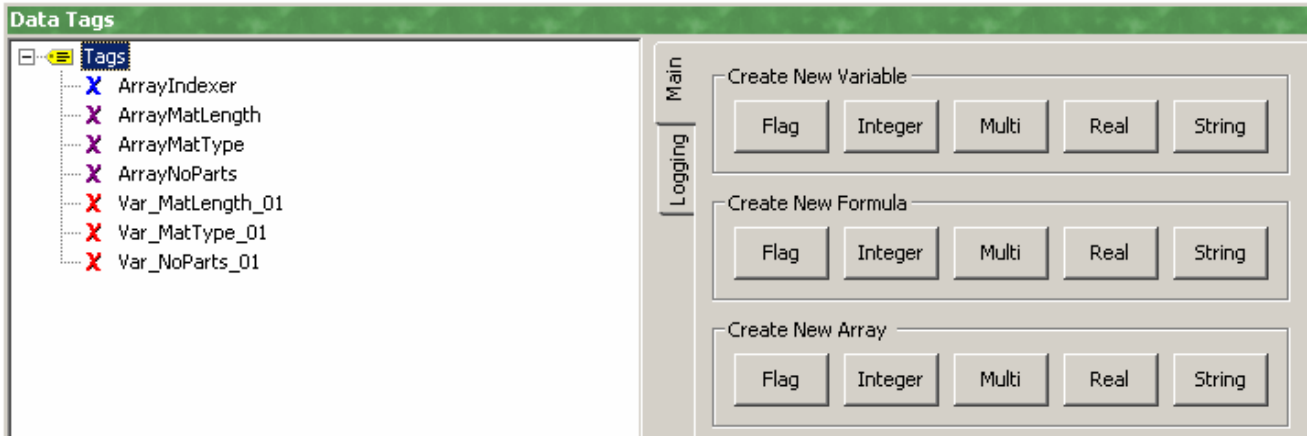
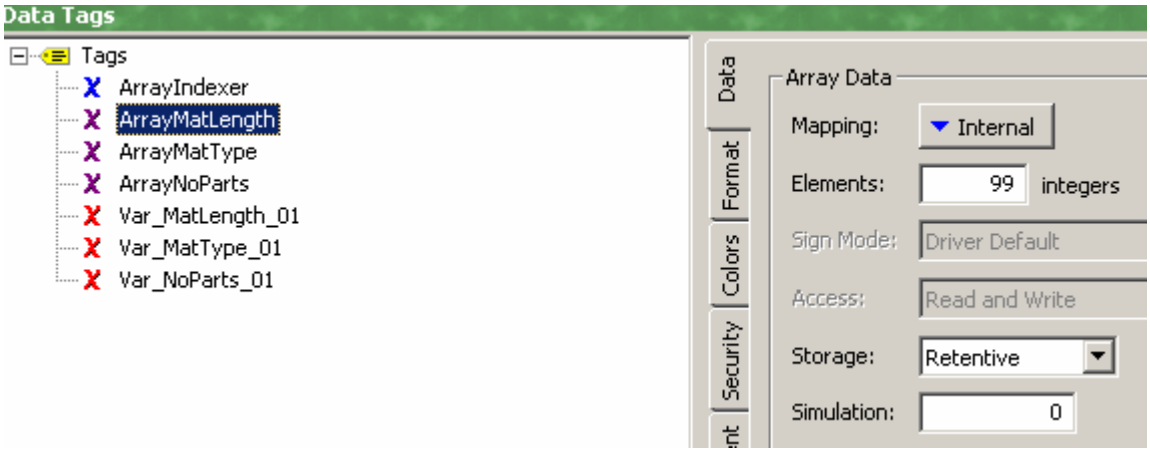
3) You create the above tags by clicking on tags and then selecting the type you want to create from the below selections.



a. The ArrayMatLength, ArrayMatType, and ArrayNoParts are all created by clicking on "Multi" under "Create New Array.
b. ArrayIndexer is created by clicking on Integer under "Create New Variable"
c. The Var_ variables are integer values that are linked to the drive modbus registers. These can be imported from the EP-P or you can use the modbus registers.

4) For the array tags enter the amount of entries (elements) you will need for each item of the array. For example you may have 100 job types and need 100 different Material Types, Material Lengths, Number of Parts to run so enter 99 for 0-99.



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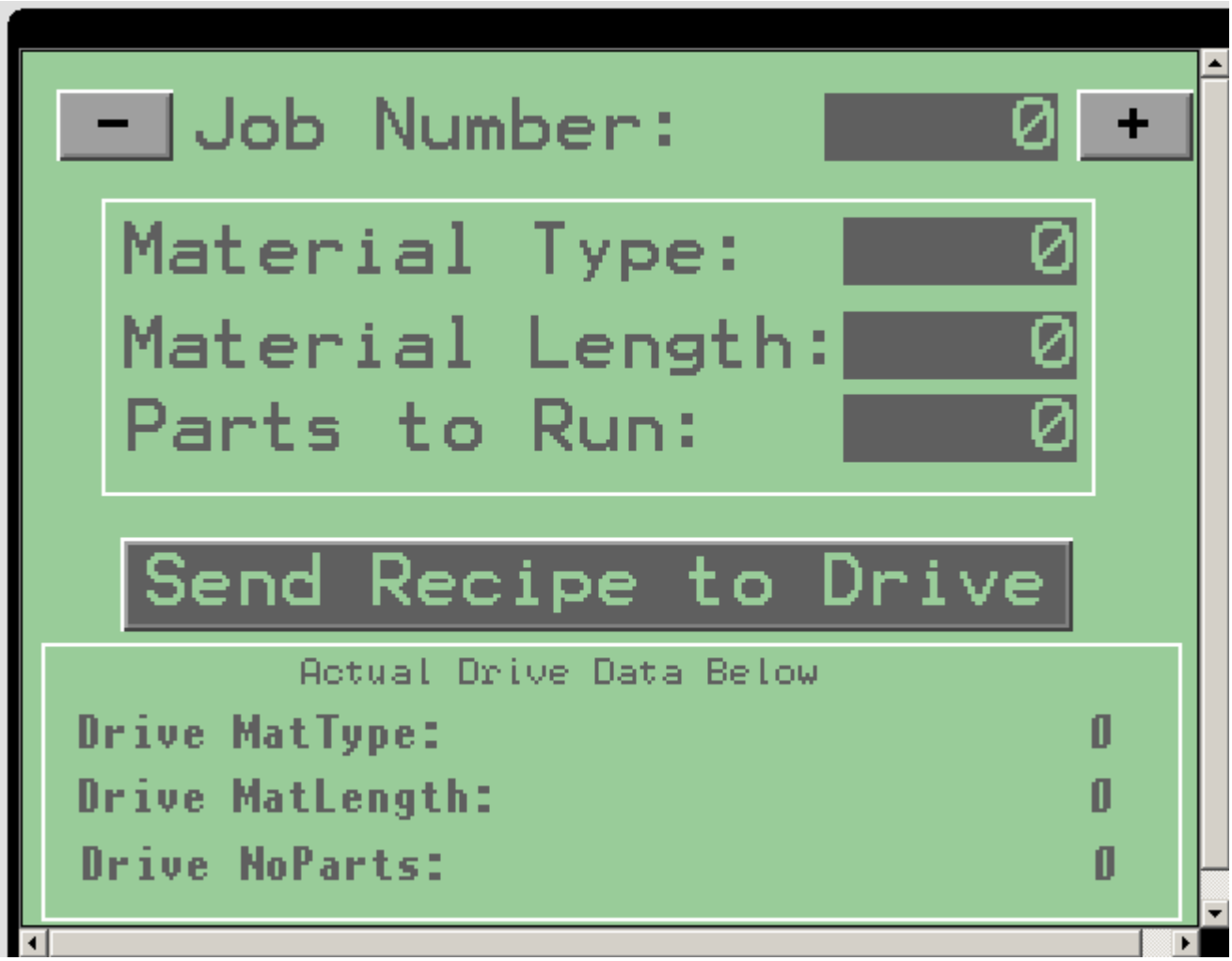
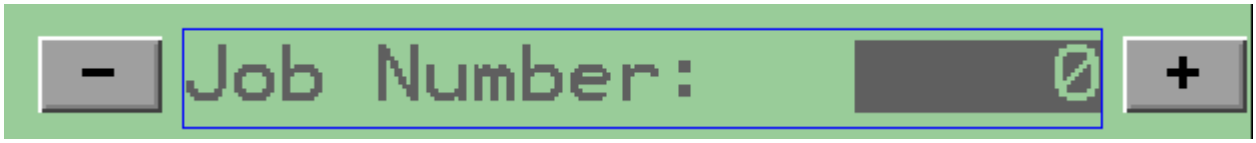
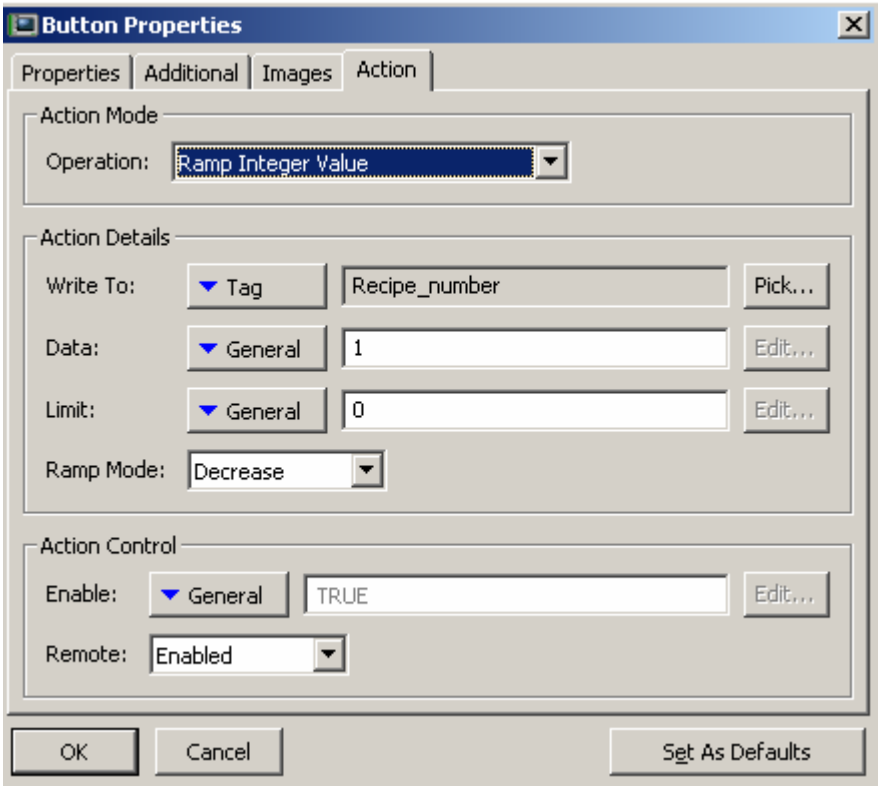
Step Two Make Recipe Page

1) Once the tags are complete you can create a page under User Interface to browse and enter Job data. An Example page is located below which has the Job number on top along with the ability enter a Job number or use the "+/-" keys to browse through Job data. Then each entry for a Job is listed below for Length, Material Type, Number of Parts.

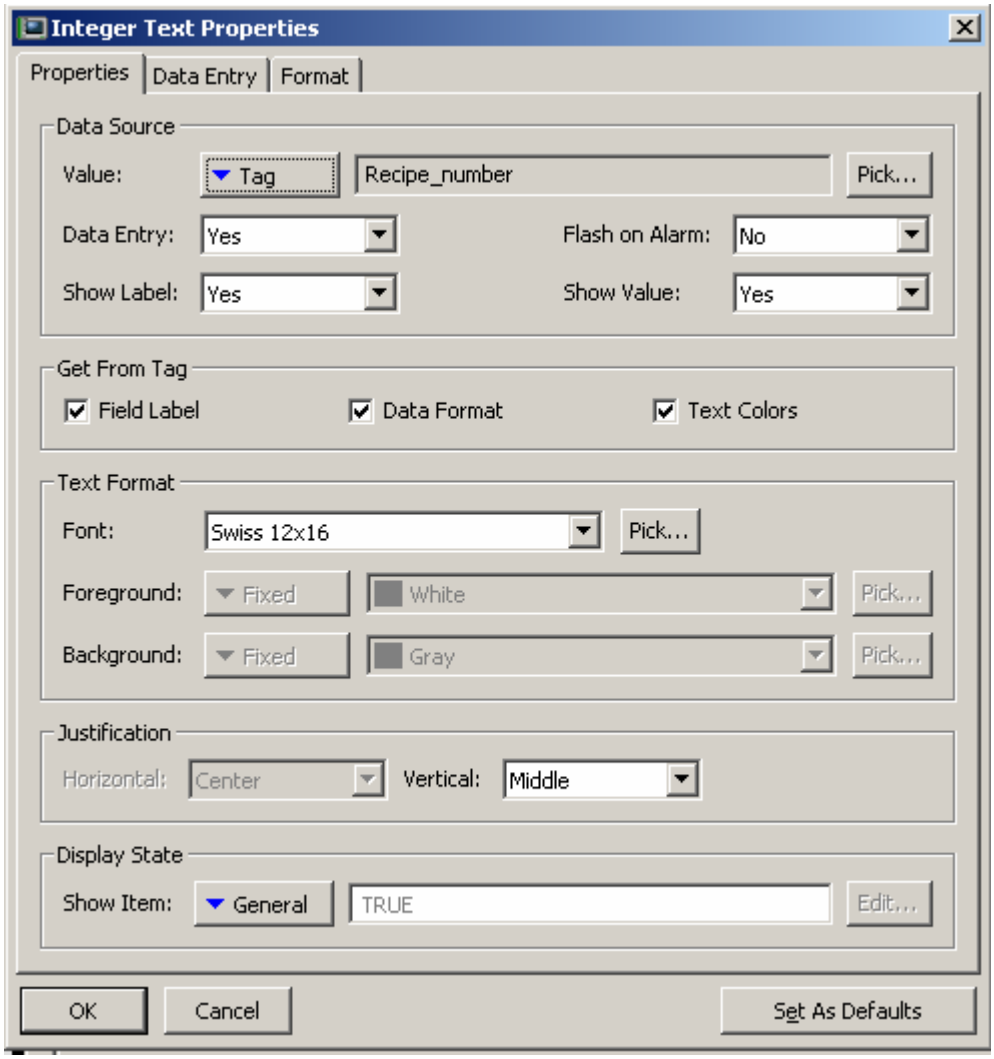


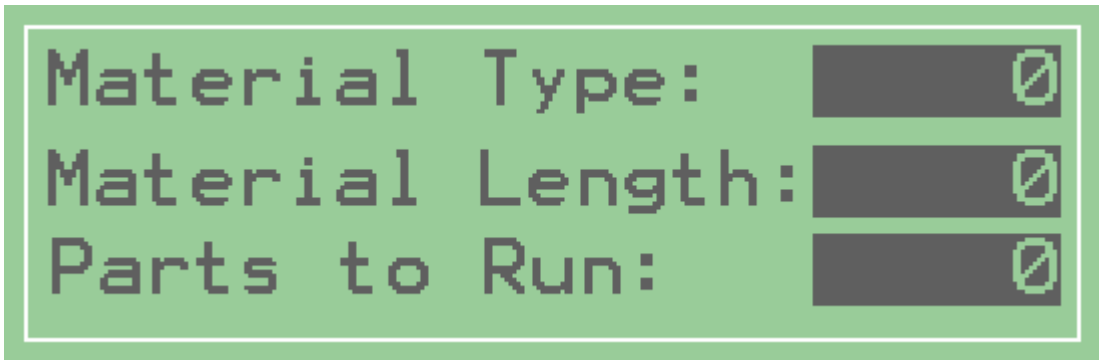


a. Increment/Decrement buttons are created with the below properties under the "Actions" properties: Also under the basic properties you need to put the Label as "-" or "plus" . The "+" button uses Ramp Mode as Increase while the minus button uses Ramp Mode as Decrease.

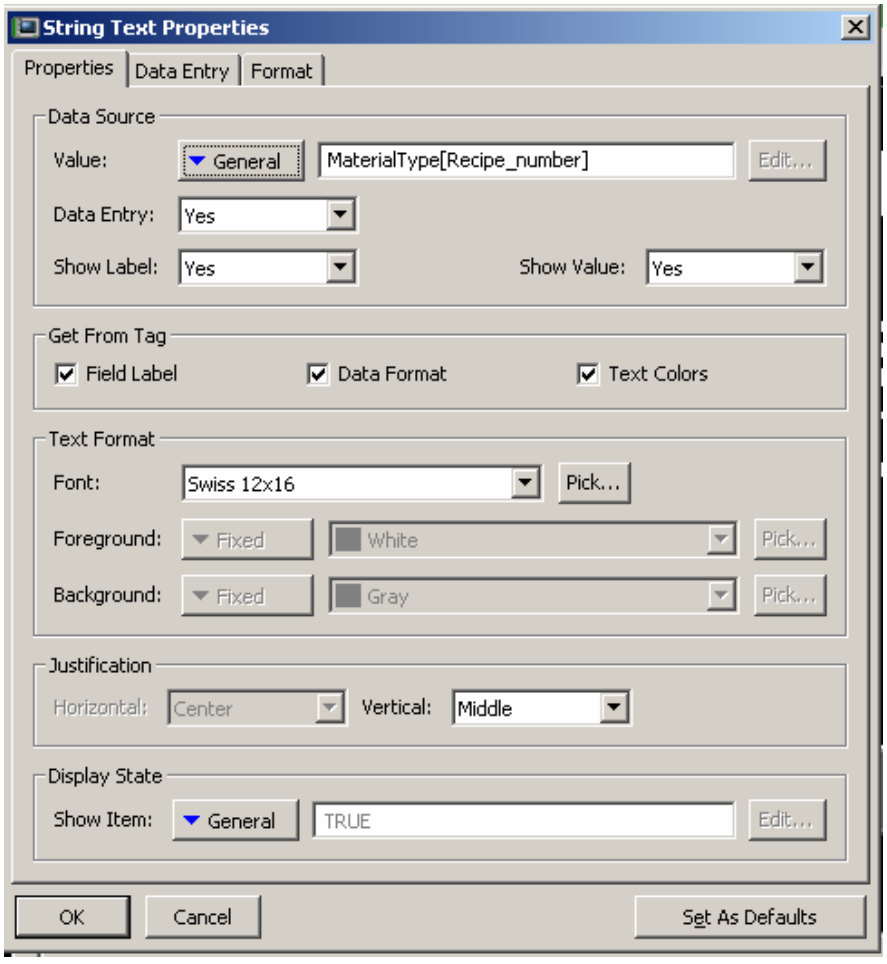


b. The top Recipe/Job data field has the following properties





c. The actual job data or integers have the following properties and the key is how the data is placed into each array element. Notice the command materialType[Recipe_number]. This indicates that the tag should be the material type which is an array integer and it should be the element at the recipe_number which is an integer tag.



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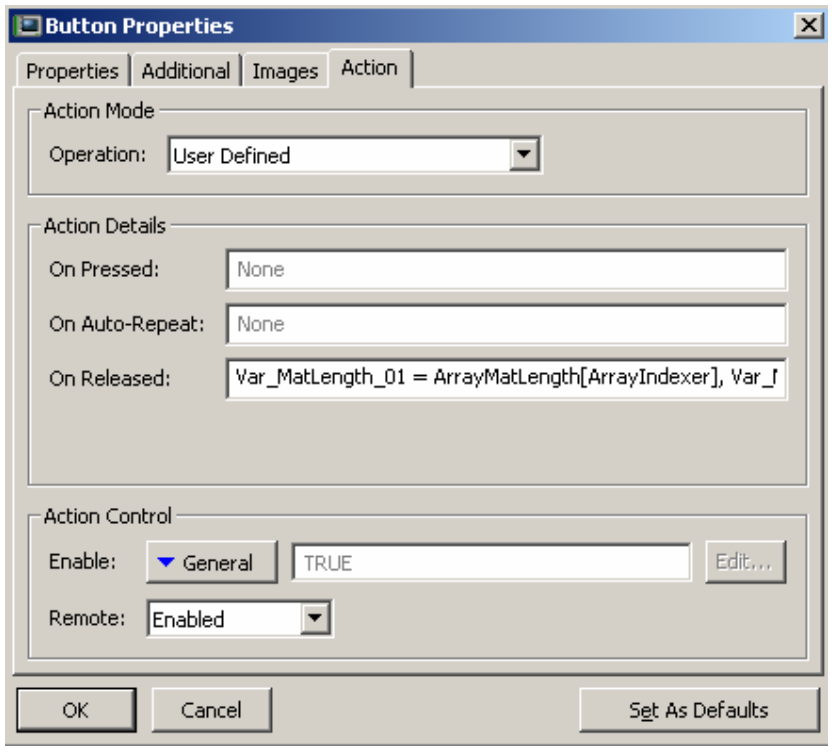
Step Three Send Data To Drive

Send Recipe Information to Drive button is used to send the job data to variables in the drive. This assumes you setup in your target drive or motion controller user variables, menu.parameters, or VR variables to write the date to.

In this example the data is written to drive tags Var_MatLength_01 Var_MatType_01, and Var_NoParts_01. The below command is entered in the “action” tab under properties of the button.

Var_MatLength_01 = ArrayMatLength[ArrayIndexer], Var_MatType_01 = ArrayMatType[ArrayIndexer], Var_NoParts_01 = ArrayNoParts[ArrayIndexer]



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The Recipe is finished and you can test by using the below part of the page to see if the values are being written to the drive. The above application was tested by setting up three user variables in an EP-P at modbus registers 40001, 40003, and 40005.

If the EP-P is connected and the tags are configured correctly then when you press the send drive button the data should display on the Actual Drive Data section.

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