Loading and Saving a Data Table to a Model 5300 Controller

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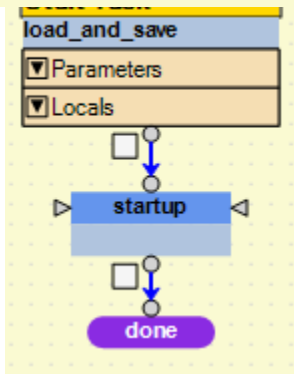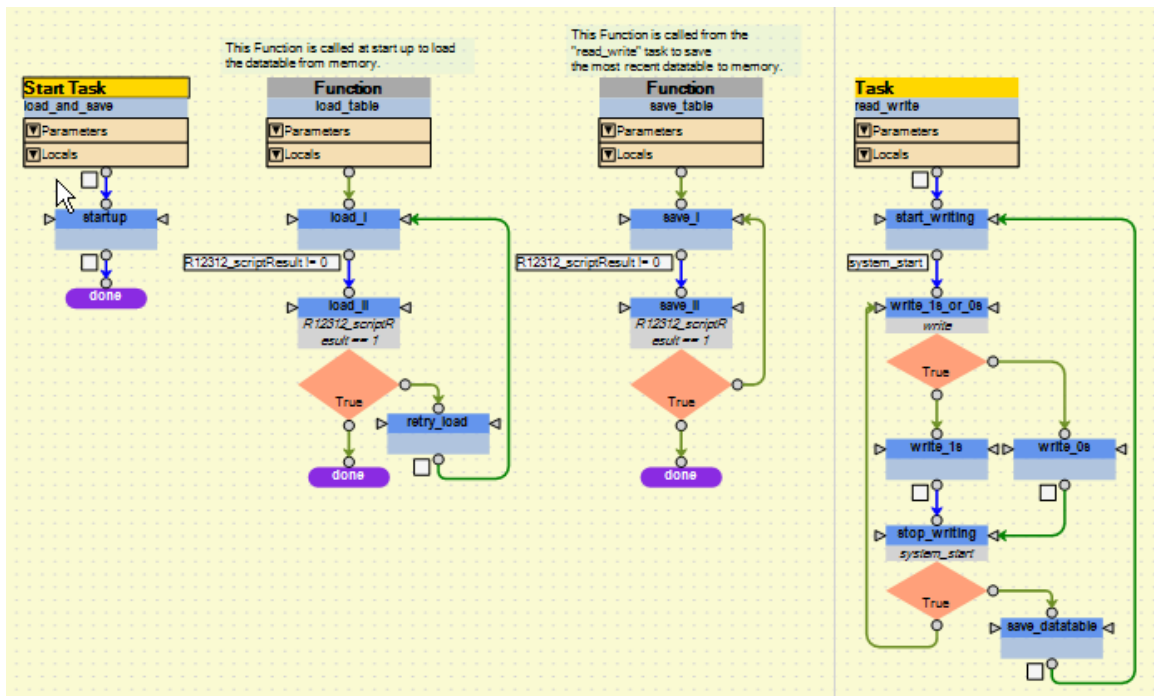
This program example will accomplish the following:

1) On start-up data from a previously saved data table file will load from the 5300 controller memory to the active data table memory location.

2) Upon the activation of digital input 1 ("system_start") the "read_write" task will advance and data will be written to the data table.

3) Depending on the state of digital input 2 ("write"), either zeros or ones will be written to a single row, eighty columns wide.

4) Upon the deactivation of digital input 1 ("system_start") the last data written to the data table will be saved to the 5300 controller's memory to be re-loaded on start-up after a program reset or a system power loss.

5) Two scripts are used in the above example. They are:

Script001-
```
# This Script File is executed on power up or
# reset to load the Variant Array Table with
# information from the Variant Storage File.
load datatable 36101 /_system/Datatables/datatable001.tab
```
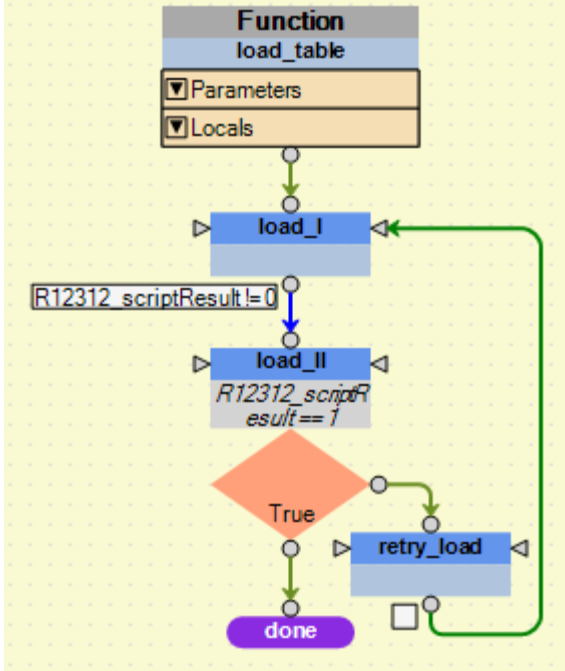
Script002-
```
# This script file is used to save changes in the Table
# to the permenant Variant Storage File.
save datatable 36101 /_system/Datatables/datatable001.tab
```

This Function is called at start up to load the datatable from memory.

This Function is called from the "read_write" task to save the most recent datatable to memory.

Start Task
load_and_save
▼ Parameters
▼ Locals

startup

done

Function
load_table
▼ Parameters
▼ Locals

load_l

R12312_scriptResult l= 0

load_ll
R12312_scriptResult == 1

True

retry_load

done

Function
save_table
▼ Parameters
▼ Locals

save_l

R12312_scriptResult l= 0

save_ll
R12312_scriptResult == 1

True

done

Task
read_write
▼ Parameters
▼ Locals

start_writing

system_start

write_1s_or_0s
write

True

write_1s   write_0s

stop_writing
system_start

True

save_datatable

load_and_save
▼ Parameters
▼ Locals

startup

done

/* startup- Launch Task to Initialize Machine:
Load the datatable from the saved file.
Begin the read_write task.
Then be one*/
call load_table;
begin read_write;

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This Function is called at start up to load the datatable from memory.

Function
load_table

▼ Parameters

▼ Locals

load_I

R12312_scriptResult != 0

load_II
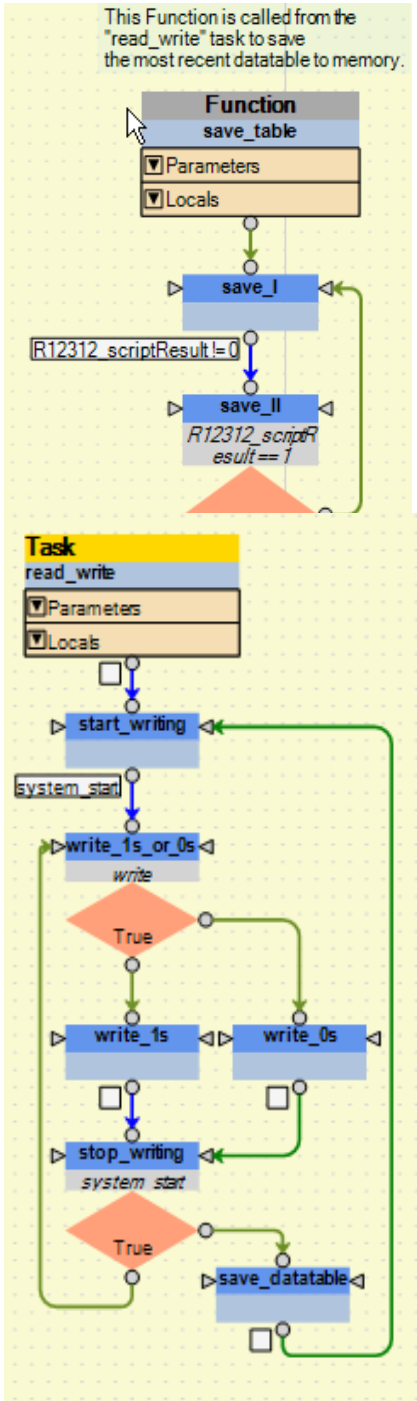*R12312_scriptResult == 1*

True

retry_load

done

/*load_I- call the script stored in the Scripts Folder of the 5300
controller to load the variant table R36101 from permanent
memory. This is done once on power up only and after resets.*/

R12311_launchScript = 1001; /*Run File Access Script #1 to Fetch and load the log file*/

delay 1000 ms;
/*Check of R12312 for Result where 0 = busy, 1 = success */

/*retry_load- File Access Error,
retry after 1 second delay*/
delay 1000 ms;

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This Function is called from the "read_write" task to save the most recent datatable to memory.

Function
save_table
▼ Parameters
▼ Locals

▷ save_I ◁

R12312_scriptResult != 0

▷ save_II ◁
R12312_scriptR esult == 1

Task
read_write
▼ Parameters
▼ Locals

▷ start_writing ◁

system_start

▷ write_1s_or_0s ◁
write

True

▷ write_1s ◁   ▷ write_0s ◁

▷ stop_writing ◁
system_start

True

▷ save_datatable ◁

/* save_I- This step calls the script to save the Variant to a Data Table File.*/

R12311_launchScript = 2;
/* Run File Access Script #2 to Save Data Table file*/

delay 1000 ms;   /* Check of R12312 for Result where 0 = busy, 1 = success */

/*start_writing- No writing is done until we give the "system_start" input. This will ensure our last written data was saved when we remove power from the controller, then power the controller back up again. Once the controller starts to run, check the table in the Watch Window and the data in the datatable that was last saved should be re-loaded.*/

//write_1s-
store ms_timer **to** array[0][0];
store 1 **to** array[0][1];
store 1 **to** array[0][2];
store 1 **to** array[0][3];
store 1 **to** array[0][4];
store 1 **to** array[0][5];

//write_0s-
store ms_timer **to** array[0][0];
store 0 **to** array[0][1];
store 0 **to** array[0][2];
store 0 **to** array[0][3];
store 0 **to** array[0][4];
store 0 **to** array[0][5];

/*save_datatable- Here is where we call the "save_table" Function to save the last known contents of our datatable*/
call save_table;

References –
[Model 5300 Enhancements Overview CTC Document #951-530001](#)
[Model 5300 Quick Reference Register Guide CTC Document #951-530006](#)
[Model 5200 Script Language Guide CTC Document #951-520003](#)
[Tech-Tip 16 Data Logging](#)

If there are questions regarding the functionality of this example or
data logging email customersupport@ctc-control.com phone 800.282.5008

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