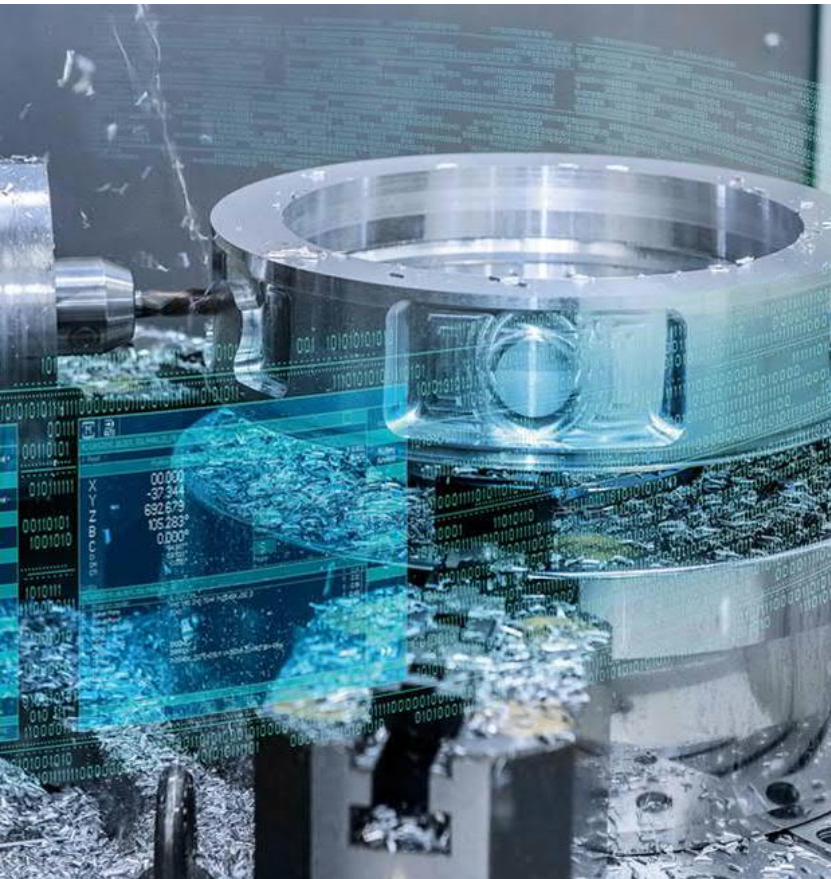


NX Post Configurator

004 – Inspect, DEF, Tcl and UDE editor I

Content

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- **Inspect Tool Introduction**
- **Tcl editor**
- **Definition file editor**
- **UDE editor**

Inspect Tool Overview

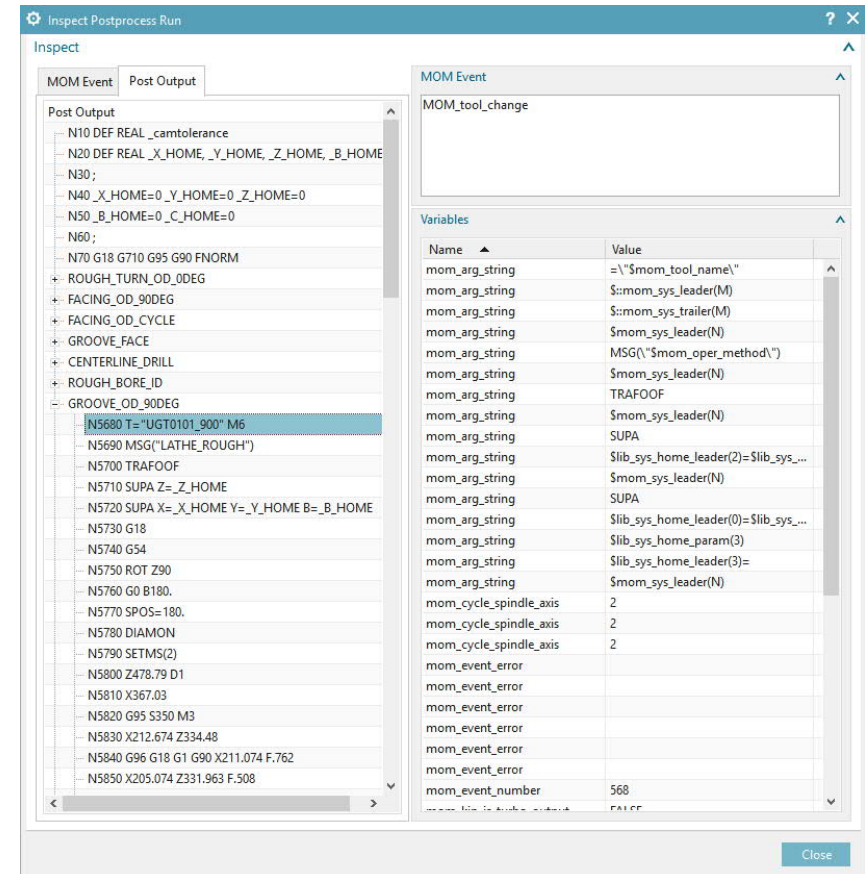


Capabilities

- Integrated debugging and inspect tool to understand the post processing run
- Listing of all relevant information, such as MOM events and variables and corresponding NC line
- Very fast loading times compared to old review tool

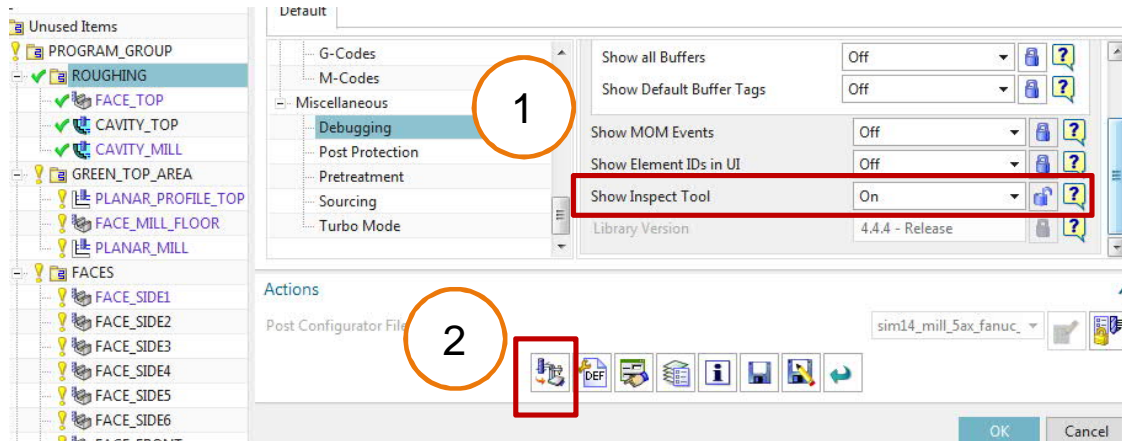
Customer Benefits

- Easy way to inspect and understand the data used by the post processor
- Make modifications on the post processor faster



Working with the Inspect Tool – NC Output View

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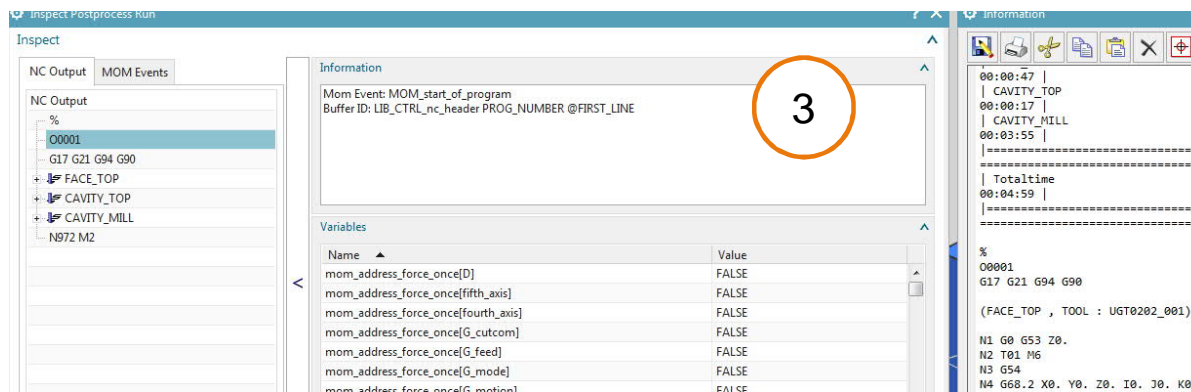


1. Activate Inspect Tool and select operation
2. Press Postprocess button
3. Inspect Tool is now visible. NC output will be done normally in the listing window.

Additional background:

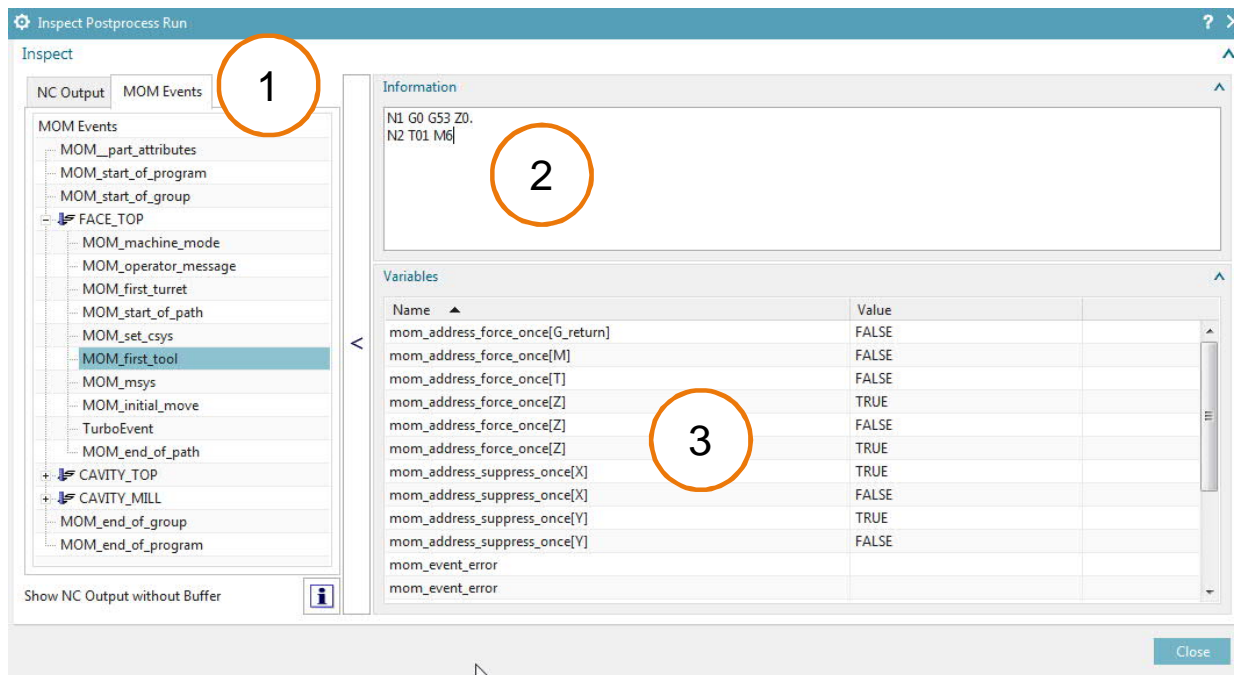
List contains all NC code items

Selecting an item will bring more information like mom-variables from the event and information about the buffer



Working with the Inspect Tool – MOM Events View

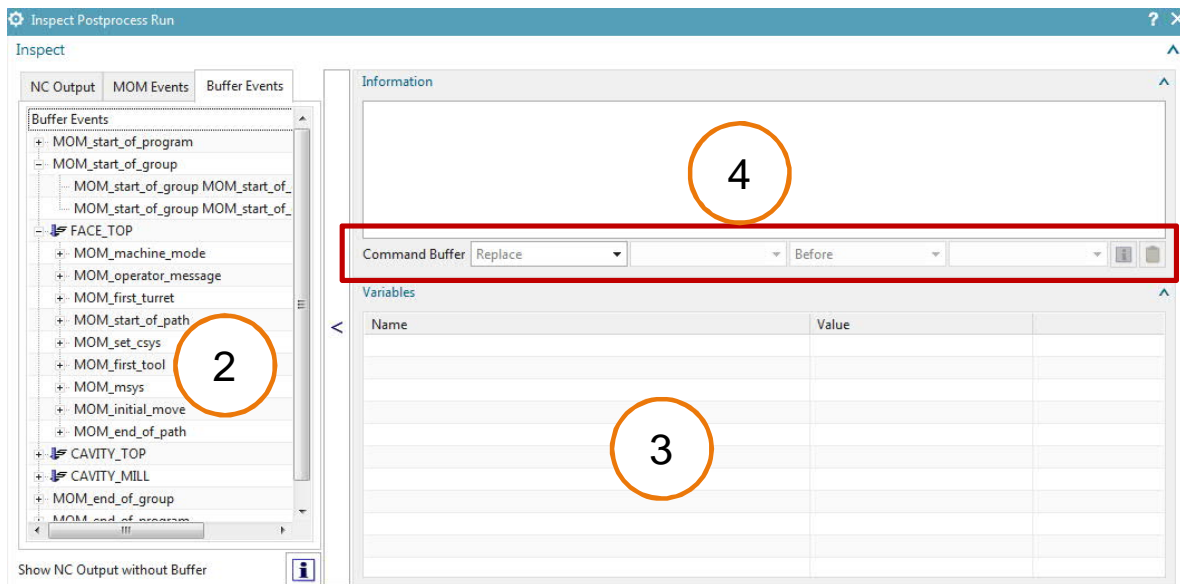
1. MOM events view is a visualization of the post structure
2. Selecting a MOM event will show the NC code which was generated in the Information
3. Similar to NC Output view all mom-variables will be shown which are used/available in the MOM event



Working with the Inspect Tool – Buffer View (ENV)

1

set UGII_CAM_POST_CONFIGURATOR_INSPECT_TOOL_PREVIEW=1



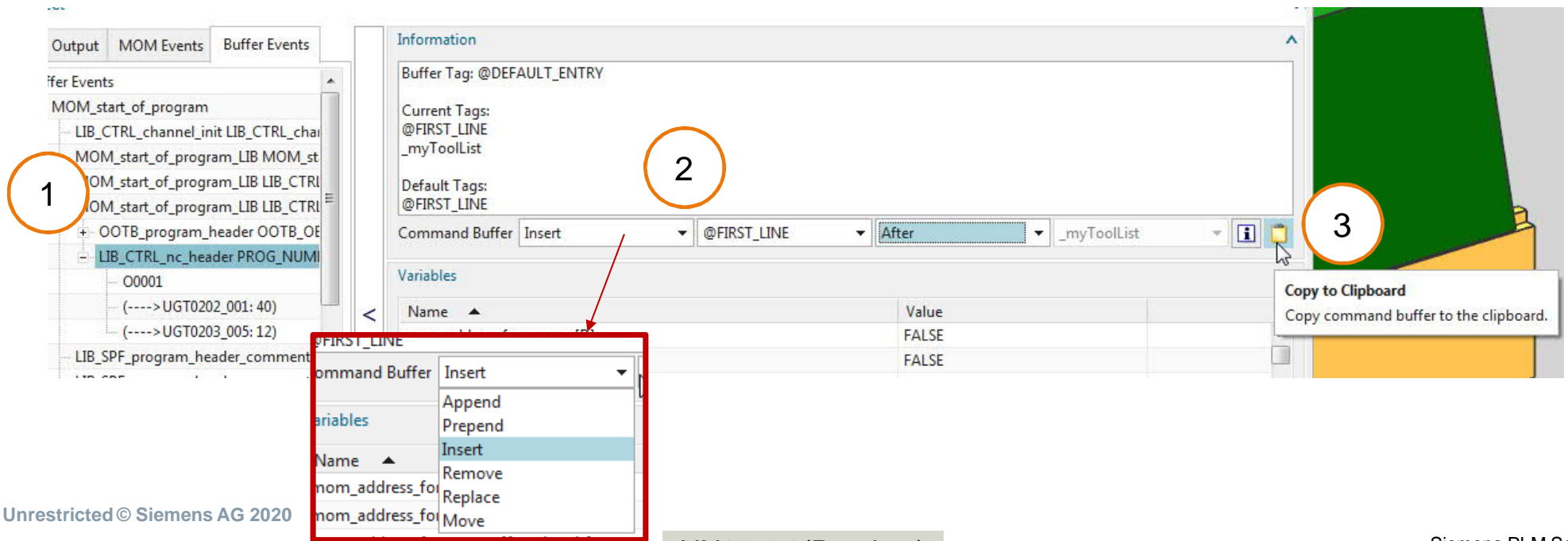
1. To use the new Buffer view use environment variable to activate
2. Buffer view contains all buffers which are called in MOM events
3. Similar to NC Output view all mom-variables will be shown which are used/available in the Buffer event
4. Snippet code functionality

Customer Benefits:

- **Modify easily buffers**
- **Visualization of commands in Post Configurator**

Working with the Inspect Tool – Buffer View (ENV)

1. Select a Buffer to add/ modify/ replace additional functionality
2. Select Buffer action, e.g. insert, point to position and select the Tag
3. Copy the created command to clipboard or show in listing window



Working with the Inspect Tool – Buffer View (ENV)

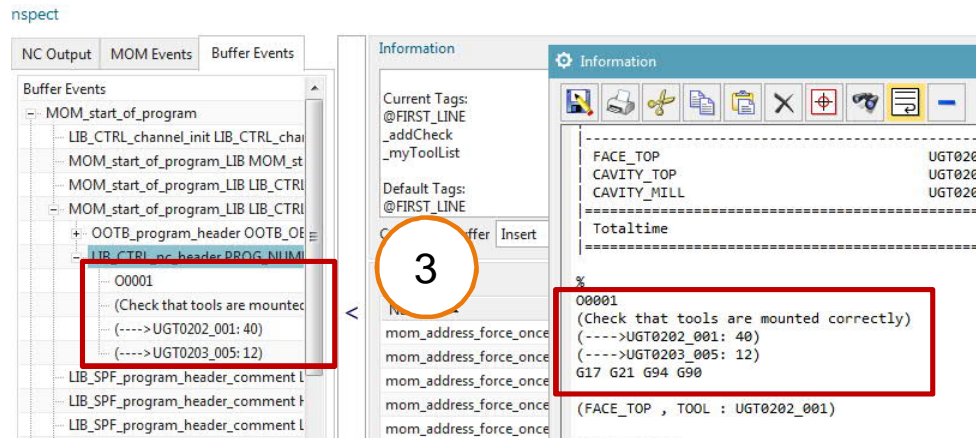
1

```
59
60 LIB_GE_command_buffer_edit_insert LIB_CTRL_nc_header PROG_NUMBER <code> <tag> after @FIRST_LINE
61
```

LIB_GE_command_buffer_edit_insert LIB_CTRL_nc_header PROG_NUMBER additional_output _addCheck after @FIRST_LINE

```
#-----
proc additional_output { } {
#-----
MOM_output_literal "(Check that tools are mounted correctly)"
}
```

2



3

1. Paste the command from Clipboard in the layer
2. Create procedure and call it, assign a unique Tag
3. Postprocess and get the changed output

Additional Background:

A Buffer can be changed in different layers. It's possible to change them dynamically, dependent of the use case.

Summary

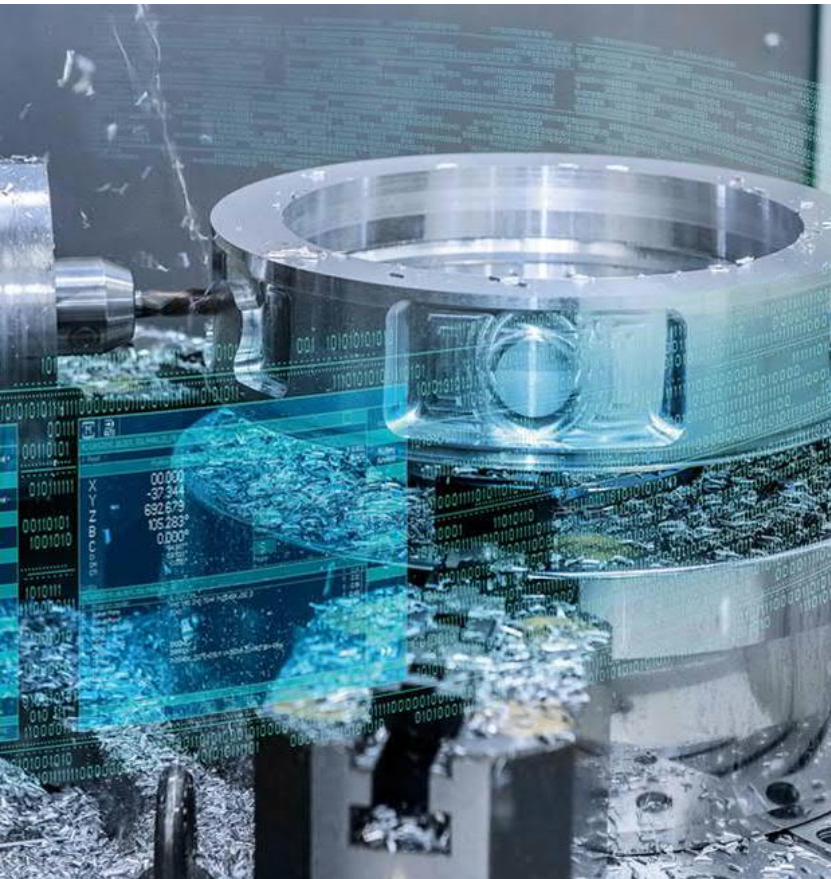


Customer Benefits

- Easy way to inspect and understand the data used by the post processor
- Make modifications on the post processor faster
- Visualization of Postprocessor events
- Everything can change if necessary
- Output from Turbo Events will be shown

Content

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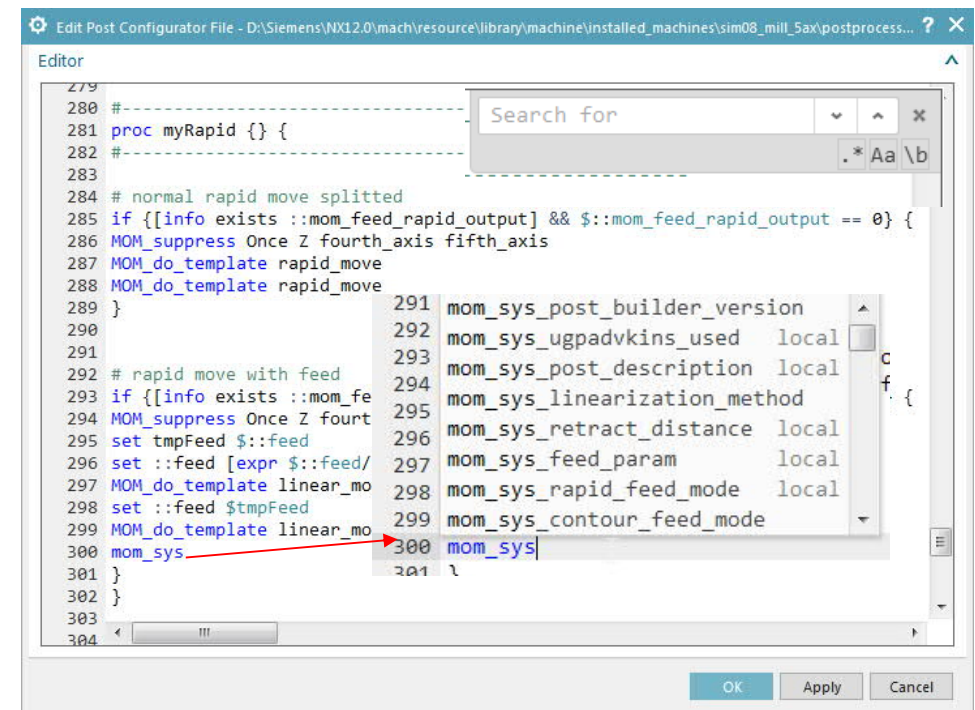
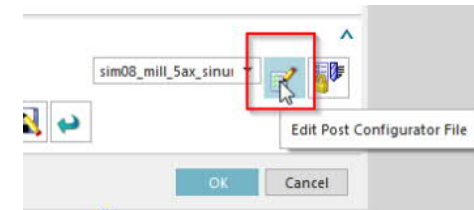
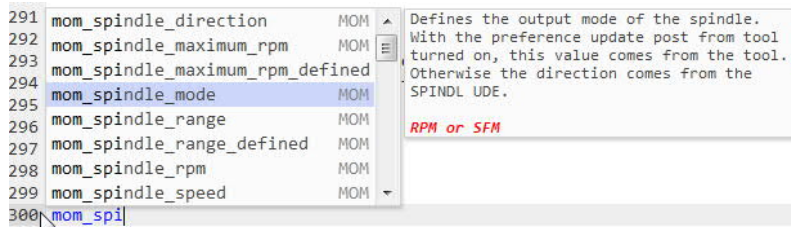
- **Inspect Tool Introduction**
- **Tcl editor**
- **Definition file editor**
- **UDE editor**

Overview

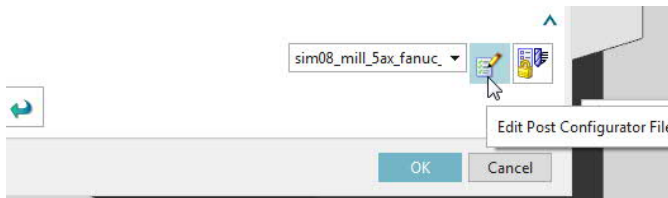


Capabilities

- Integrated Tcl editor with syntax checking
- Snippet and Auto complete functionality
- Search for Tcl code/ highlight all matched items (CTRL+F)
- Can be extended with new snippets
- Integrated help and documentation for commands/ variables



General information



- Integrated Tcl editor is only available with FULL license
- Make your life easier thru:
 - Search functionality
 - Intellisense
 - Documentation of mom-variables/ MOM commands
 - Snippet functionality
 - Syntax highlighting
 - Customization allowed
- Based on Javascript and ACE Texteditor

```
201 # set mom_kin_output_unit "MM"
202 # set mom_kin_pivot_gauge_offset "0.0"
203 # set mom_kin_pivot_gauge_offset ""
204 # set mom_kin_post_data_unit "MM"
205 # set mom_kin_rapid_feed_rate "10000"
206 # set mom_kin_retract_distance "500"
207 # set mom_kin_rotary_axis_method "PREVIOUS"
208 # set mom_kin_spindle_axis(0) "0.0"
209 # set mom_kin_spindle_axis(1) "0.0"
210 # set mom_kin_spindle_axis(2) "1.0"
211 # set mom_kin_tool_change_time "12.0"
212 # set mom_kin_x_axis_limit "1000"
213 # set mom_kin_y_axis_limit "1000"
214 # set mom_kin_z_axis_limit "1000"
215 }
216 }
217 postcon_initialize_sys_service
218 ##### PART UNIT #####
219 LIB_GE_CREATE_obj CONF_OOTB_output_unit {} {
220   LIB_GE_property_ui_name "Output Unit overwrite"
221   LIB_GE_property_ui_tooltip "This option will overwrite mom_kin_output_unit with mom_part_units"
222 }
223
224 set id output_unit
225 set $id "part"
226 set options($id) {Part Unit|Metric|Inch}
227 set options_ids($id) {part|MM|IN}
228 set access($id) 222
229 set datatype($id) STRING ;#INT DOUBLE STRING MULTISTRING
230 set dialog($id) {{default output unit}}
231 set descr($id) {{Defines the units }}
232 set ui_parent($id) @CUI_MachKinGeneral
233 set ui_sequence($id) -1
234 }
235
236 LIB_GE_CONF_set_property_access KinContainer_MTB "mom_kin_output_unit" "BASIC ADVANCED FULL" HIDE
237
238 #-----
239 proc OOTB_output_unit {} {
240   #The proc is used to switch post output unit in CSE internal simulation based on part unit
241   global mom_output_unit
242   global mom_part_units
243   global mom_kin_output_unit
244   "
```


Search functionality

- Search activation thru Ctrl+F



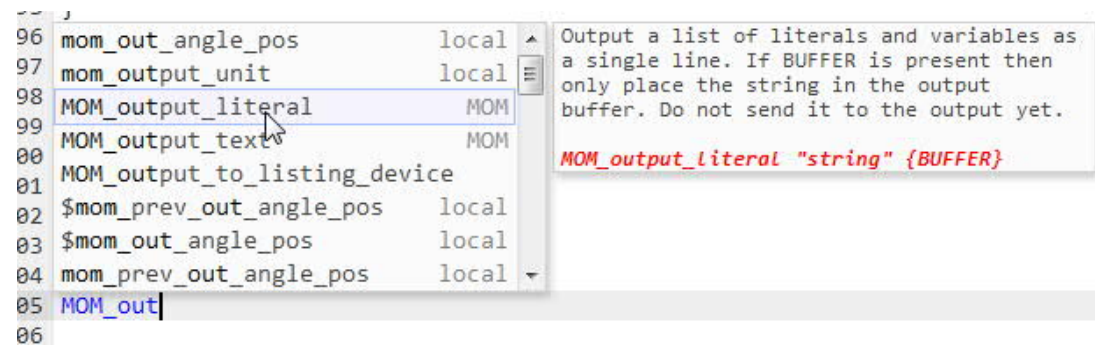
```
Edit Post Configurator File - D:\Siemens\NX12.0\mach\resource\library\machine\installed_machines\sim08_mill_5ax\postprocessor\fanuc_PostConfigurator\...
Editor
1 ndecrypted 1
2 ostcon_initialize_sys_service {} {
3 1 #0 {
4 ##### SYSTEM VARIABLE DECLARATIONS #####
5 mom_sys_rapid_code "0"
6 mom_sys_linear_code "1"
7 mom_sys_circle_code(CLW) "2"
8 mom_sys_circle_code(CCLW) "3"
9 mom_sys_delay_code(SECONDS) "4"
10 mom_sys_delay_code(REVOLUTIONS) "4"
11 mom_sys_cutcom_plane_code(XY) "17"
```

- Highlighting of first occurrence
- With arrow up/ down you can switch the result if there are more than one search result

Caveat NX12.0: Backspace is not available, to remove select with mouse and use DEL

Intellisense

- Tcl editor delivered with integrated documentation
- Intellisense make life easier to customize fast files
- Can be easily extended due javascript (refer to advanced modifications)



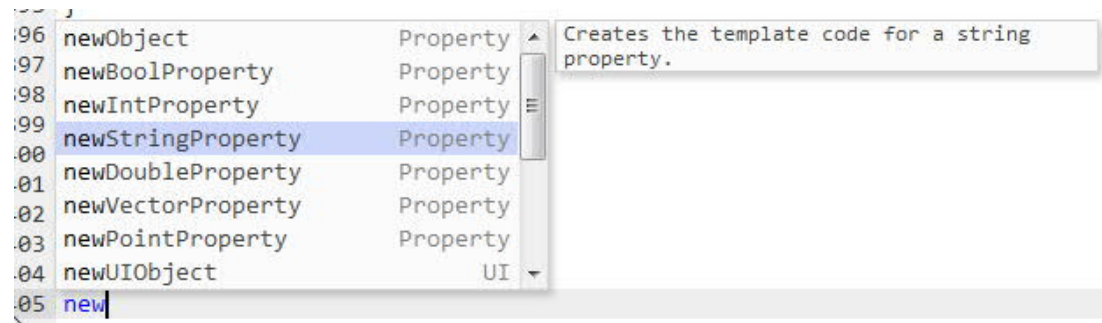
```
96 mom_out_angle_pos      local
97 mom_output_unit         local
98 MOM_output_literal      MOM
99 MOM_output_text         MOM
00 MOM_output_to_listing_device
01 $mom_prev_out_angle_pos local
02 $mom_out_angle_pos      local
03 mom_prev_out_angle_pos  local
04
05 MOM_out|
06
```

Output a list of literals and variables as a single line. If BUFFER is present then only place the string in the output buffer. Do not send it to the output yet.

MOM_output_literal "string" {BUFFER}

Snippet functionality

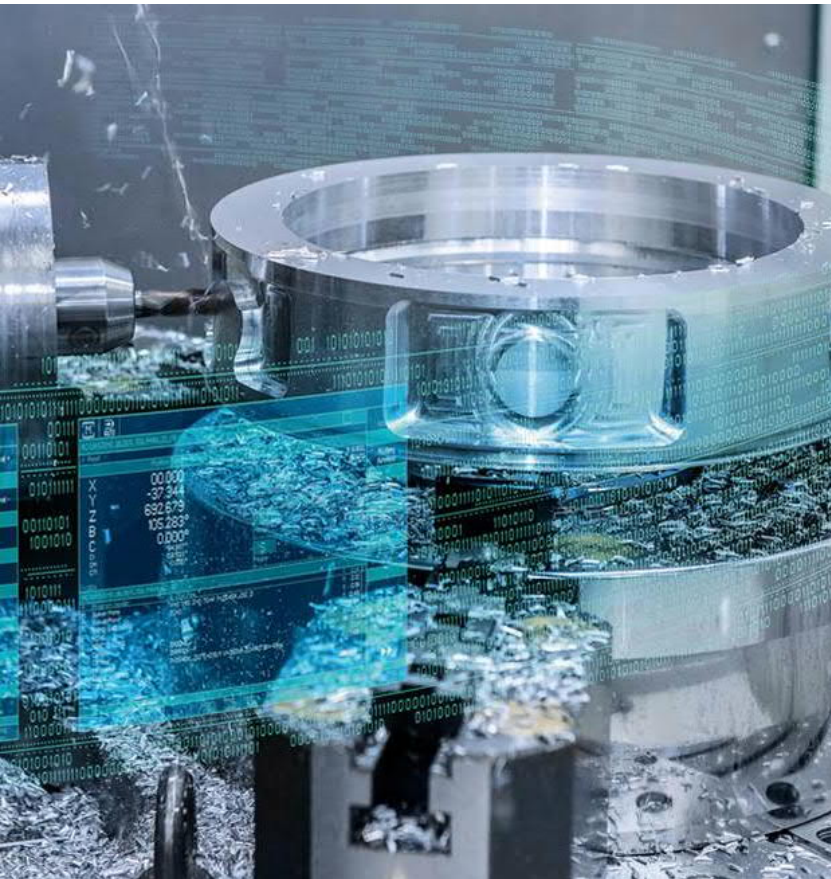
- Tcl editor delivers OOTB lot of standard snippet functionality (especially Properties)
- Snippets can be extended (refer to Advanced modifications)



```
.05 set id "StringProperty"
.06     set $id "Value"
.07     set options($id)      {*VALUE*}
.08     set options_ids($id)  {*VALUE*}
.09     set datatype($id)     "STRING"
.10     set access($id)       222
.11     set dialog($id)       {{String Property}}
.12     set descr($id)        {{An alphanumeric Property}}
.13     set ui_parent($id)     "GroupObjectName"
.14     set ui_sequence($id)   -1
.15
```

Content

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- **Inspect Tool Introduction**
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- **UDE editor**

Overview

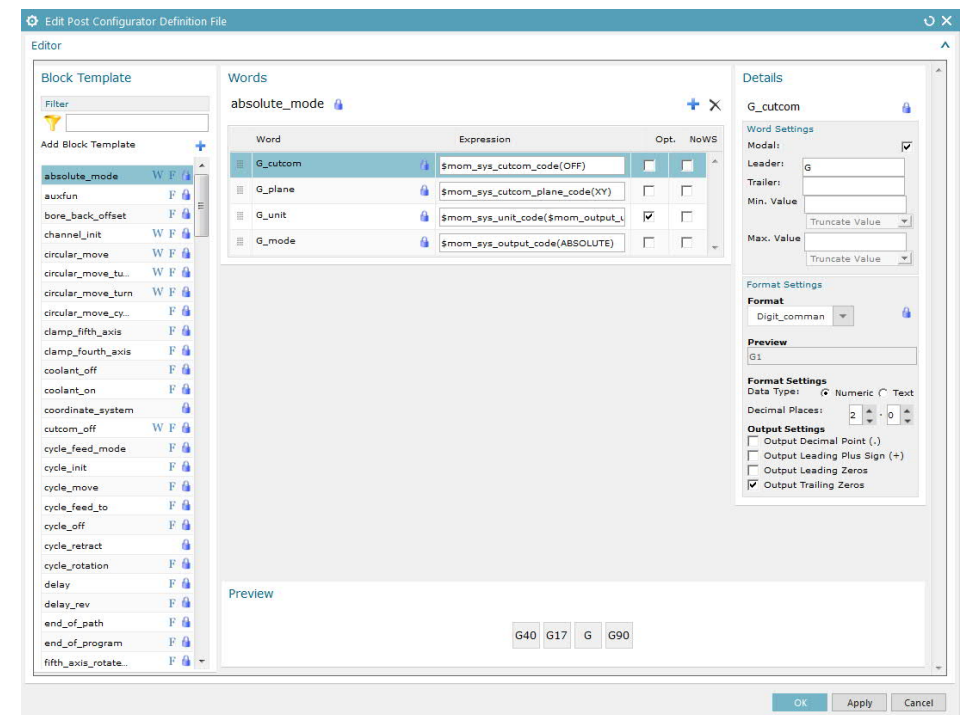
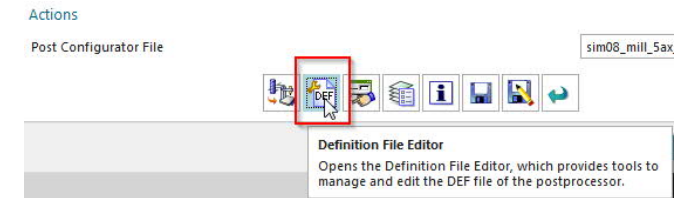


Capabilities

- Easily add, remove or modify DEF elements such as templates, blocks, words, formats, etc. through an integrated UI
- List all available DEF elements from layers
- Fully integrated in Post Configurator, no need to edit files by hand
- Auto complete functionality

Customer Benefits

- Easy and **integrated editor for DEF elements**
- Saves time extending the post processor events.



Overview Details

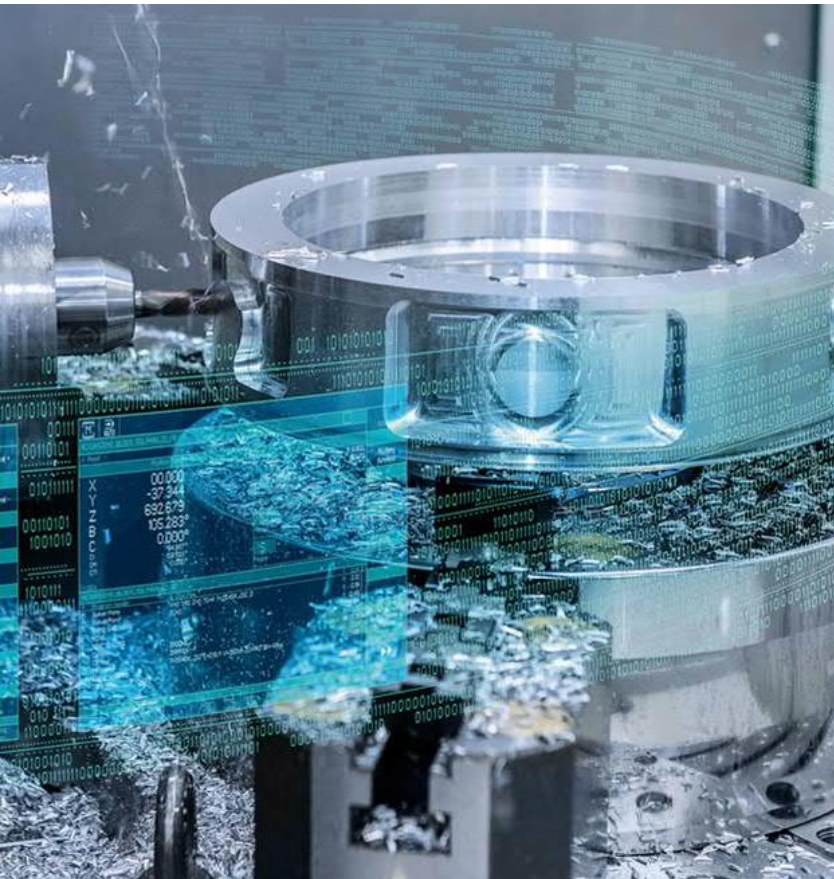
The screenshot shows the 'Edit Post Configurator Definition File' window. It contains several panels:

- Block Template (1):** A list of predefined block templates on the left, including 'cycle_feed_to', 'cycle_off', 'cycle_retract', etc. The 'linear_move' template is selected.
- Words (2):** A table listing words and their corresponding expressions. The 'linear_move' word is selected.
- Details (3):** A panel showing settings for the selected word, including 'Word Settings' (Modal, Leader, Trailer, Min. Value, Max. Value) and 'Format Settings' (Format, Data Type, Decimal Places, Output Settings).
- Preview (5):** A preview of the generated code, showing a sequence of G and M codes: G, G, G94, G1, G, X, Y, Z, fo..., B3=, C3=, A5=, B5=, C5=, S, D, M..., M, F0.0.

1. List of defined Blocktemplates and Filter settings
2. Details from selected Blocktemplate
3. Word Details, e.g. set Leader, Trailer
4. Add/ modify/ remove Format settings for selected Word
5. Preview of Blocktemplate

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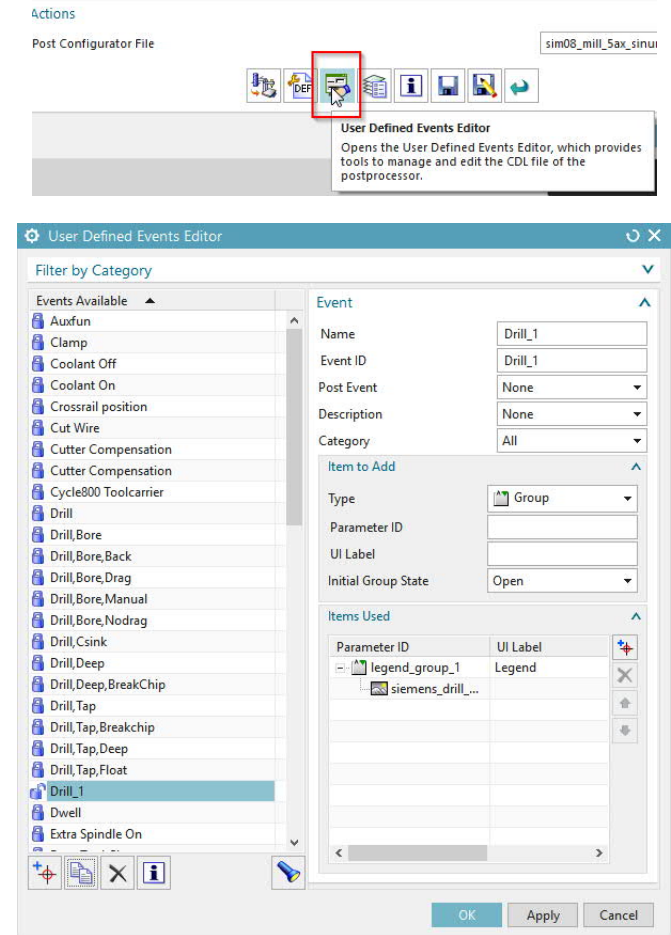
Overview

Capabilities

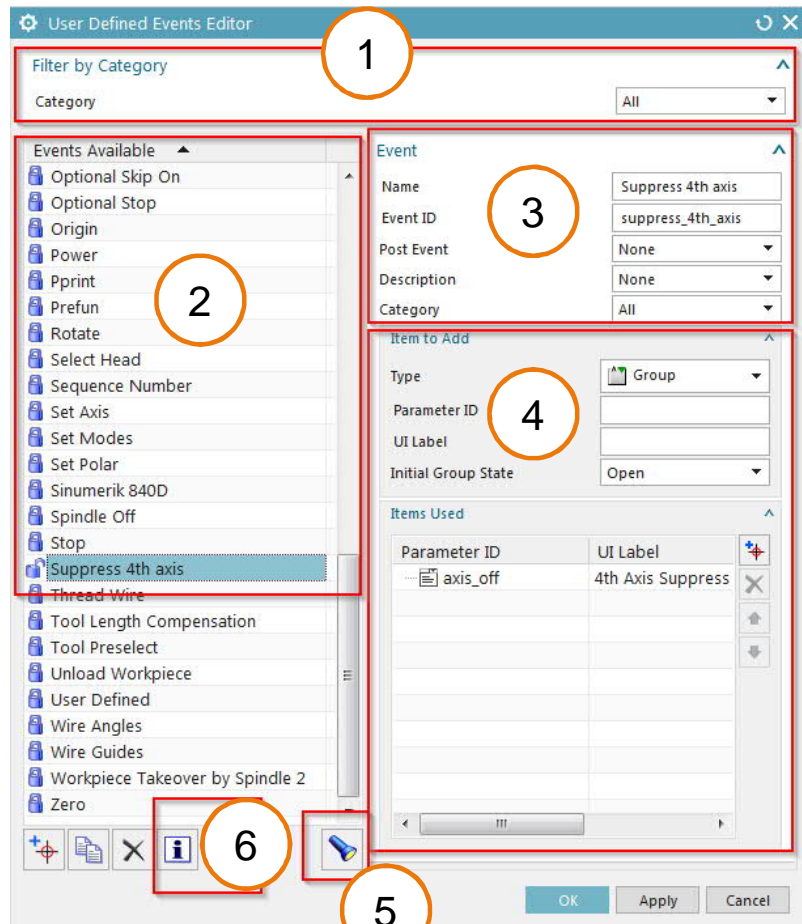
- Easily add, remove or modify UDE through an integrated UI
- List all available UDE elements from layers
- Preview new user interface of custom event
- List available variables and prototype Tcl handler
- Fully integrated in Post Configurator, no need to edit files by hand

Customer Benefits

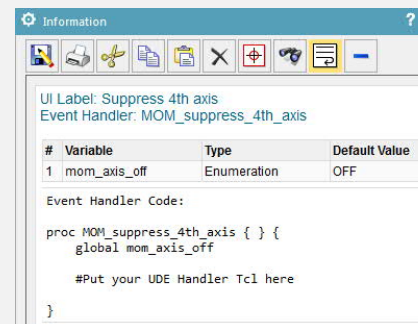
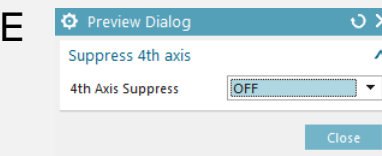
- Easy and **integrated editor for User Defined Events**
- Saves time extending the post processor events.



Overview Details



1. Filter UDE's by category
2. List of available UDE's from layers
3. General settings for created/ modified UDE such as category
4. Add/ modify/ remove UDE items such as double, integer, bitmap, options, groups
5. Preview of UDE
6. Information listing of UDE with auto generated Event handler code



Q&A

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