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NX Post Configurator
009 – Properties

Configuration Objects / Properties

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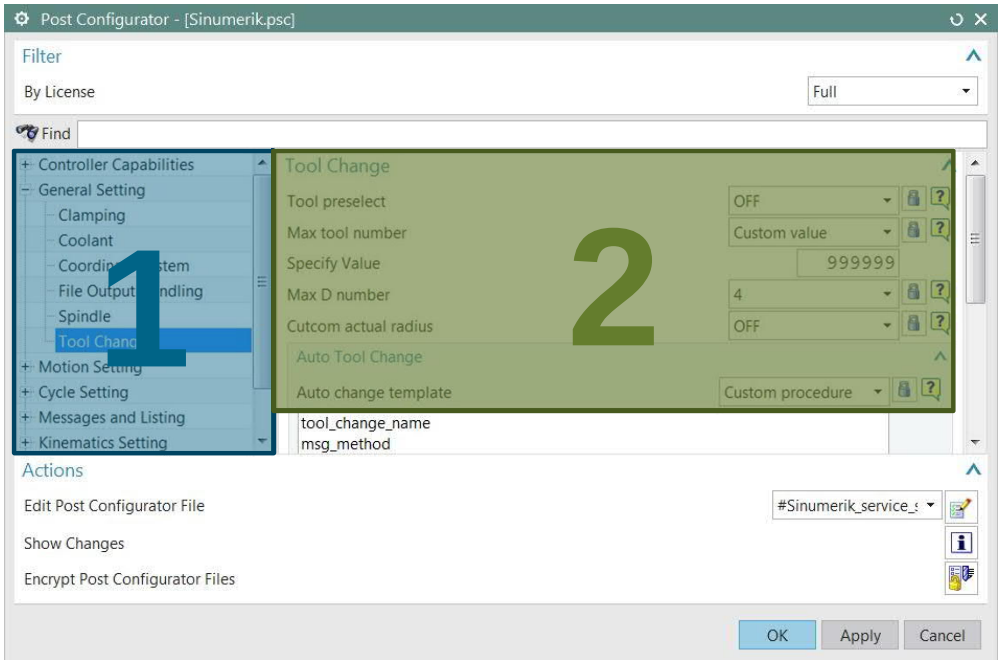
1. Configuration Objects (Property groups)

2. Configuration Property



Define a Configuration Object

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➢use Intellisense from Tcl-Editor for fast creating of new objects

➢rename the object and the UI-name/ tooltip

```
LIB_GE_CREATE_obj CONF_CUSTOM_tool_dimension {} {
    LIB_GE_property_ui_name        "Define Tool Dimension output"
    LIB_GE_property_ui_tooltip     "Define if and how Tool Dimension should be output"

}
```

Define a Property within an Object 1/4

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- Create a new INT- property within the Tcl-editor

```
26
27 new
28 newObject                Property
29 newBoolProperty          Property
30 newIntProperty           Property
31 newStringProperty        Property
32 newDoubleProperty        Property
33 newVectorProperty        Property
34 newPointProperty         Property
35 newUIObject                   UI
36
37
38
```

Creates the template code for an integ... property.


```
27 set id "IntProperty"
28     set $id 0
29     set options($id)        {*VALUE*}
30     set datatype($id)       "INT"
31     set access($id)         222
32     set dialog($id)         {{Int Property}}
33     set descr($id)          {{A numeric Property}}
34     set ui_parent($id)      "GroupObjectName"
35
36 }
```

- define, rename and set access level
- optional define a DropDown menu for the UI

```
27 set id "output_tool_dimension"
28     set $id 0
29     set options($id)        {NO|YES}
30     set options_ids($id)    {0|1}
31     set datatype($id)       "INT"
32     set access($id)         222
33     set dialog($id)         {{Output Tool Dimension}}
34     set descr($id)          {{Turn the output of the tool dimension on or off}}
35     set ui_parent($id)      "???"
36
37 }
```

Define a Property within an Object 2/4

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TCL Code	Description
`set id "output_tool_dimension"`	Unique identifyier of property
`set $id 0`	Default value
`set options($id) {NO|YES}`	Option list to display in DropDown menu
`set option_ids($id) {0|1}`	Return values assigned to menu options
`set datatype($id) INT`	Datatype of the property
`set access($id) 222`	Define access rights for property
`set dialog($id) {{Output Tool Dimension}}`	Property name shown in UI
`set descr($id) {{Turn the output of the tool dimension on or off}}`	ToolTip for UI
`set ui_parent($id)`	Define in which group this property will be shown

Optional, Only needed for DropDown menu

Define a Property within an Object 3/4

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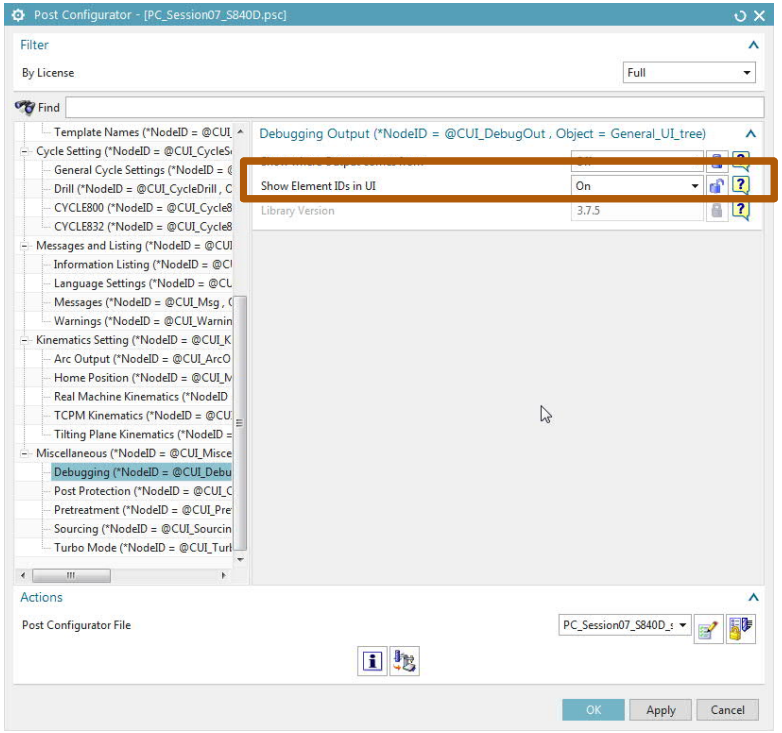
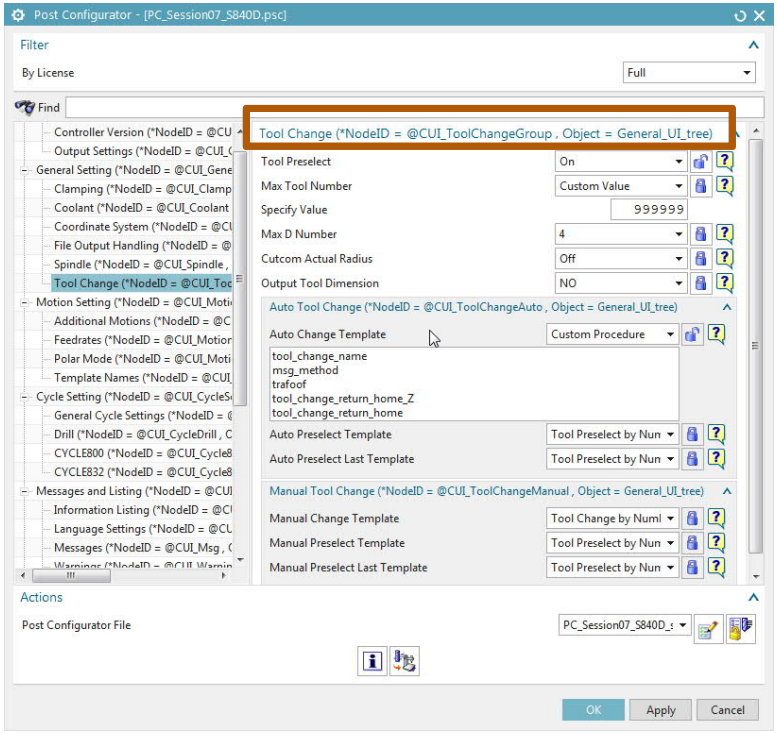
- to put the property in an existing group turn the Show element ID‘s ON
- all Node-ID‘s and Group-ID‘s are shown in the UI





Define a Property within an Object 4/4

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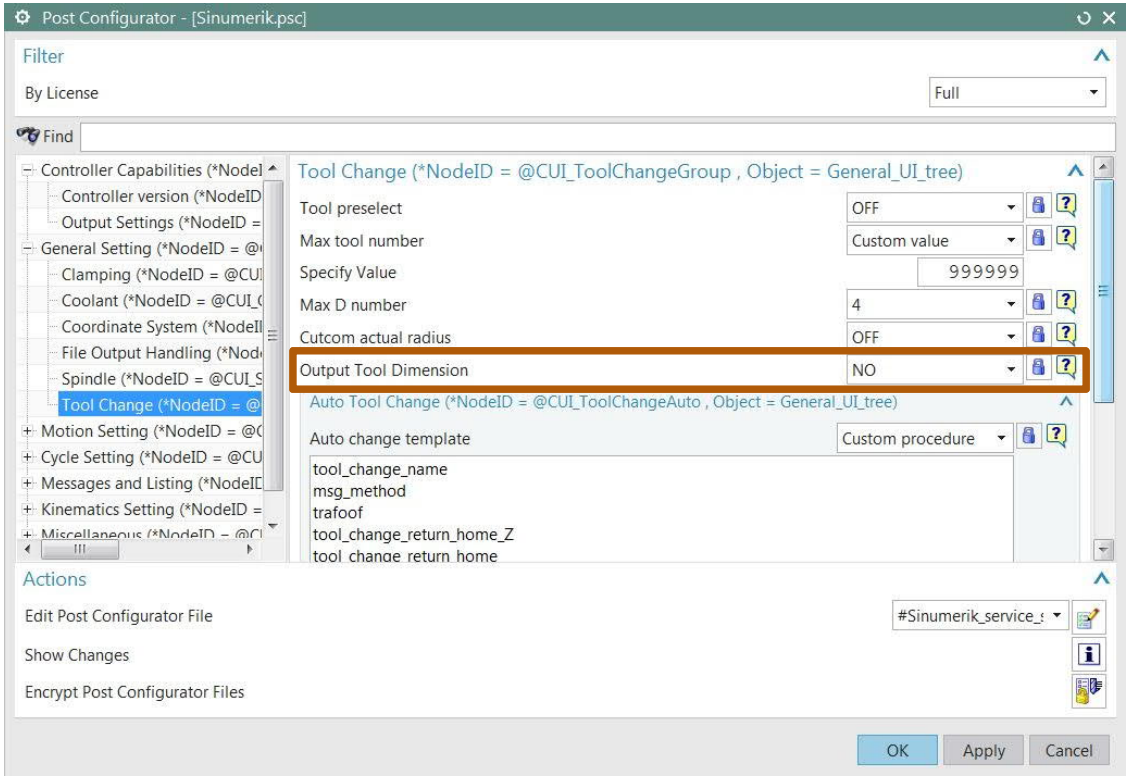
- Set the ui_parent for the property to get it in the group




```
27 set id "output_tool_dimension"
28     set $id 0
29     set options($id)        {NO|YES}
30     set options_ids($id)    {0|1}
31     set datatype($id)       "INT"
32     set access($id)         222
33     set dialog($id)         {{Output Tool Dimension}}
34     set descr($id)          {{Turn the output of the tool dimension on or off}}
35     set ui_parent($id)      "@CUI_ToolChangeGroup"
36
37 }
38
```

Fully defined Configuration Object

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```
LIB_GE_CREATE_obj CONF_CUSTOM_tool_dimension{} {
        LIB_GE_property_ui_name "Define Tool Dimension Output"
        LIB_GE_property_ui_tooltip "Define if and how Tool Dimension should be output"
```

ConfigurationObject

```
    set id "output_tool_dimension"
    set $id 0
    set options($id)     {NO|YES}
    set options_ids($id) {0|1}
    set datatype($id) INT
    set access($id) 222
    set dialog($id) {{Output Tool Dimension}}
    set descr($id)   {{Turns the output of the tool dimension on or off}}
    Set ui_parent($id) "@CUI_ToolChangeGroup"
```

ConfigurationProperty

```
}
```

How to deal with properties in TCL

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Getting the current value of a property

```
*object_name* *property_name*
```

e.g.

```
set current_value [CONF_CUSTOM_tool_dimension output_tool_dimension]
```

Changing the value of a property in TCL

```
*object_name* set *property_name* value
```

e.g.

```
CONF_CUSTOM_tool_dimension set output_tool_dimension 1
```

Output the Tooldiameter depend on Property setting

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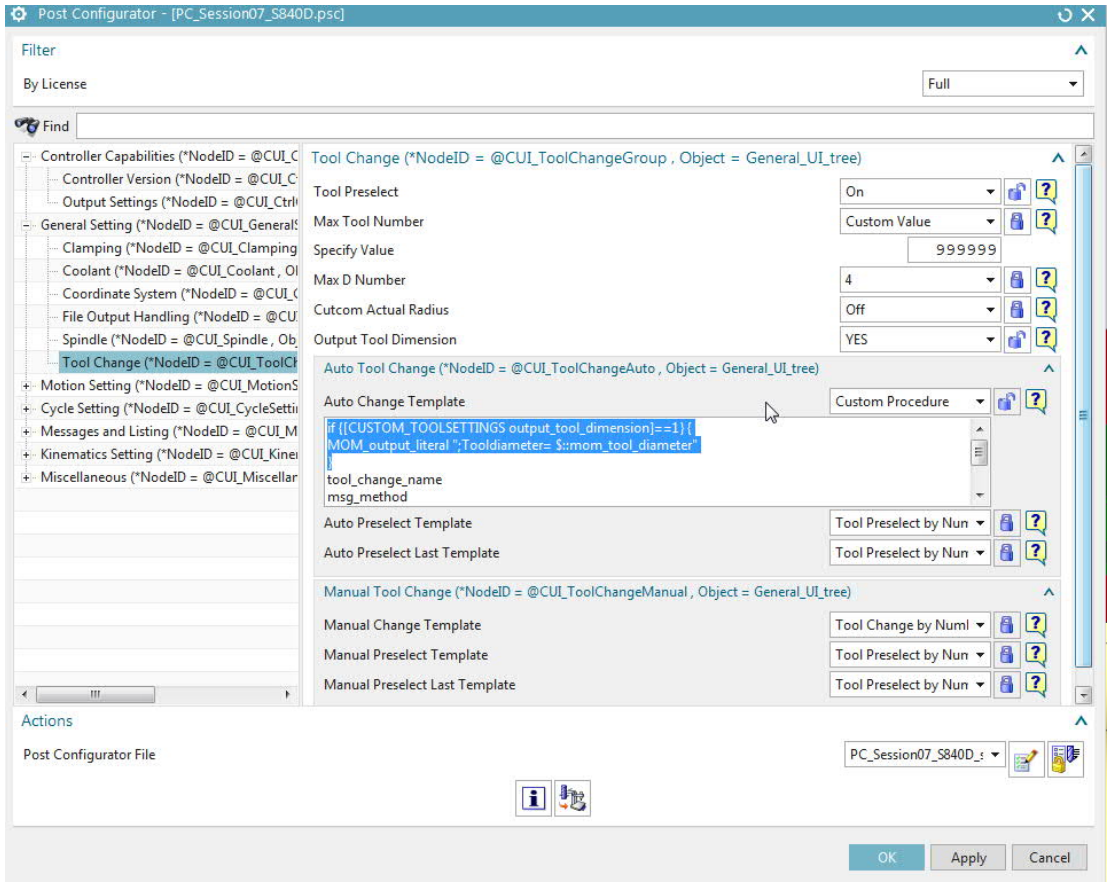

Customize Grouping 1/3

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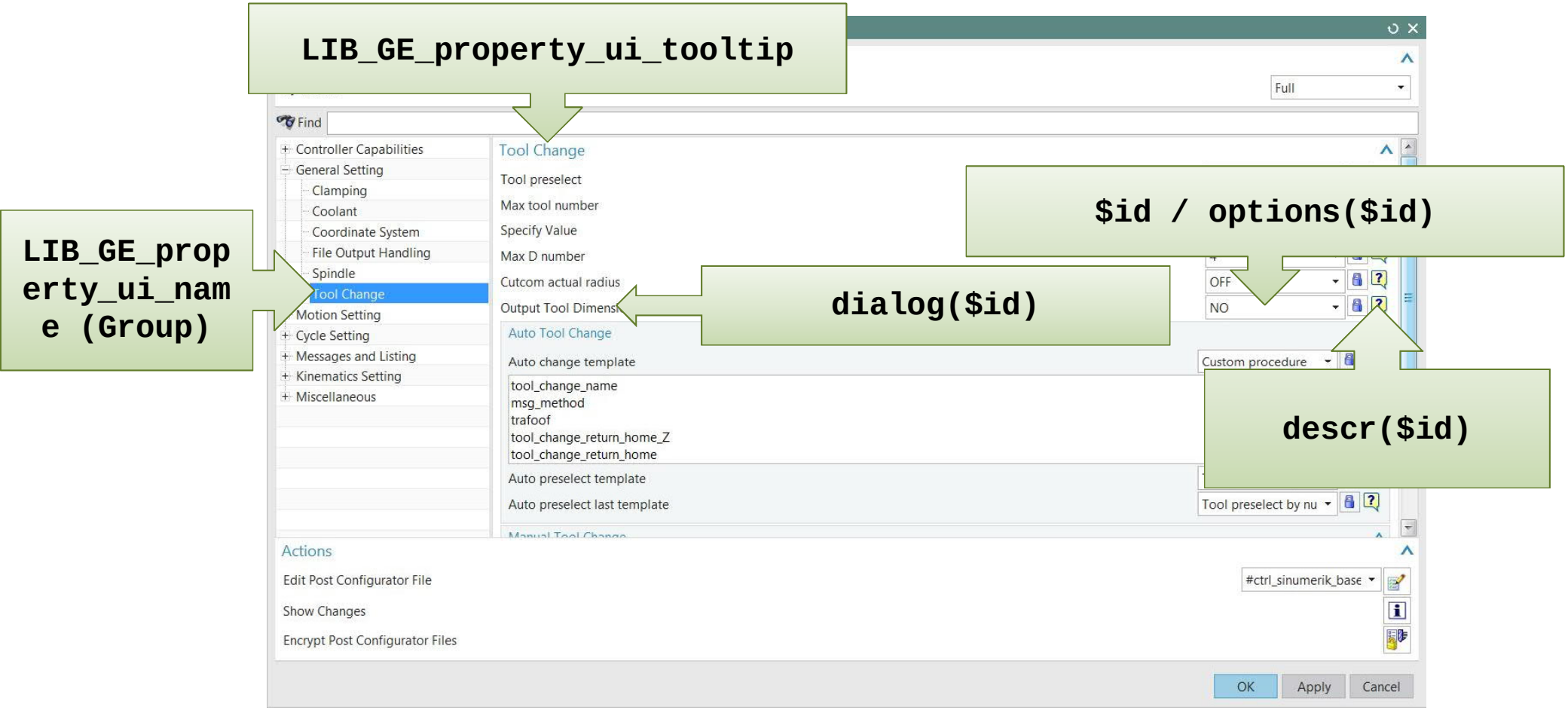

Customize Grouping –Create a new group 2/3

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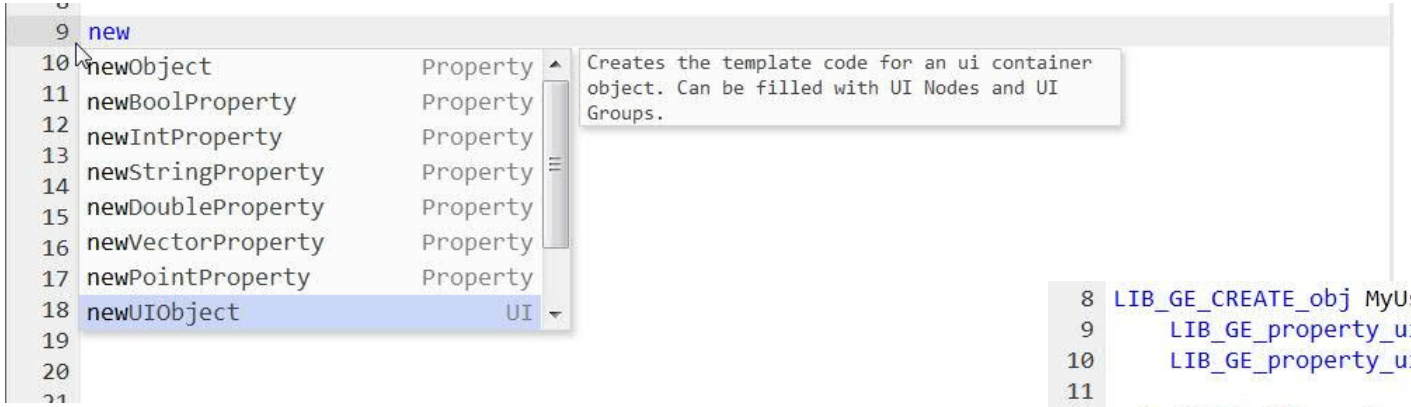
- for the UI there are templates, e.g. for Nodes, Groups
- there is a special datatype for groups




```
8  LIB_GE_CREATE_obj MyUser_tree {UI_TREE} {
9      LIB_GE_property_ui_name        "MyCustomTree"
10     LIB_GE_property_ui_tooltip     "Define MyCustomTree"
11
12 set id "Tooldimension_Group"
13     set $id "0"
14     set datatype($id)        "GROUP"
15     set access($id)          222
16     set dialog($id)          {{Tooldimension}}
17     set descr($id)           {{Setting for tool output}}
18     set group_status($id)    1
19     set ui_parent($id)       "@CUI_ToolChange"
20     set ui_sequence($id)     -1
21 }
```

- the ui_parent can set to existing nodes or groups
- for create a new Main group use „root“

Customize Grouping – add the property to a new group 3/3

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- groups only visible if they contain a property
- propertys must be created in an own object
- id of the group is the ui_parent for the property

```
LIB_GE_CREATE_obj MyUser_tree {UI_TREE} {
    LIB_GE_property_ui_name         "MyCustomTree"
    LIB_GE_property_ui_tooltip      "Define MyCustomTree"

set id "Tooldimension_Group"
    set $id "0"
    set datatype($id)           "GROUP"
    set access($id)             222
    set dialog($id)             {{Tooldimension}}
    set descr($id)              {{Setting for tool output}}
    set group_status($id)       1
    set ui_parent($id)          "@CUI_ToolChange"
    set ui_sequence($id)        -1
}
```

```
LIB_GE_CREATE_obj CONF_CUSTOM_tool_group {} {
    LIB_GE_property_ui_name         "Define Tool Dimension output"
    LIB_GE_property_ui_tooltip      "Define if and how Tool Dimension should be output"

set id "output_tool_dimension"
    set $id 0
    set options($id)            {NO|YES}
    set options_ids($id)        {0|1}
    set datatype($id)           "INT"
    set access($id)             222
    set dialog($id)             {{Output Tool Dimension}}
    set descr($id)              {{Turn the output of the tool dimension on or off}}
    set ui_parent($id)          "Tooldimension_Group"

}
```

Property Datatypes

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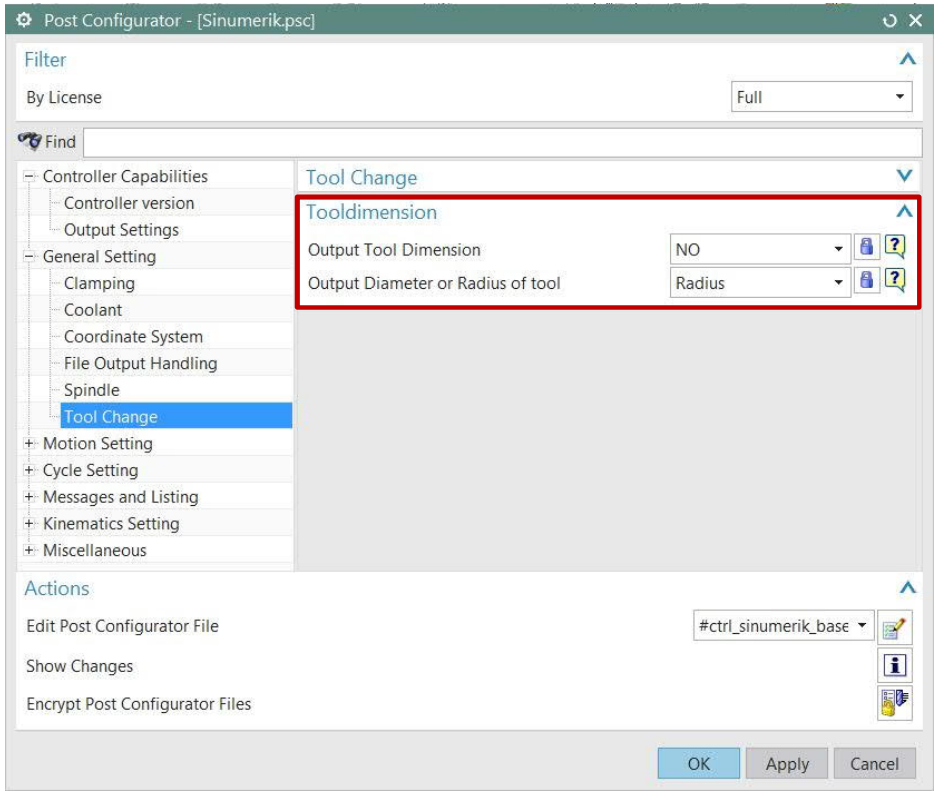
```
set datatype($id) INT
set datatype($id) DOUBLE / REAL
set datatype($id) STRING
set datatype($id) Vector            (Vector of 3 doubles)
set datatype($id) Point
set datatype($id) GROUP             (for propertys)
set datatype($id) NODE              (need for own groups in the tree)
Set datatype($id) COMMANDBLOCK      (for tcl Code or Block templates)
```

Example – Create 2nd property




```
LIB_GE_CREATE_obj CONF_CUSTOM_tool_dimension{} {

    LIB_GE_property_ui_name "Define Tool Dimension Output"
    LIB_GE_property_ui_tooltip "Define if and how Tool Dimension should be output"

    set id "output_tool_dimension"
    set $id 0
    set options($id)    {NO|YES}
    set options_ids($id) {0|1}
    set datatype($id) INT
    set access($id) 222
    set dialog($id) {{Output Tool Dimension}}
    set descr($id) {{Turns the output of the tool dimension on or off}}

    set id "output_mode_tool_dimension"
    set $id 1
    set options($id)    {Radius|Diameter}
    set options_ids($id) {2|1}
    set datatype($id) INT
    set access($id) 222
    set dialog($id) {{Output as}}
    set descr($id) {{Define whether dimension should be output as diameter or radius}}

}
```

Option 1: Outputting it with the tool change

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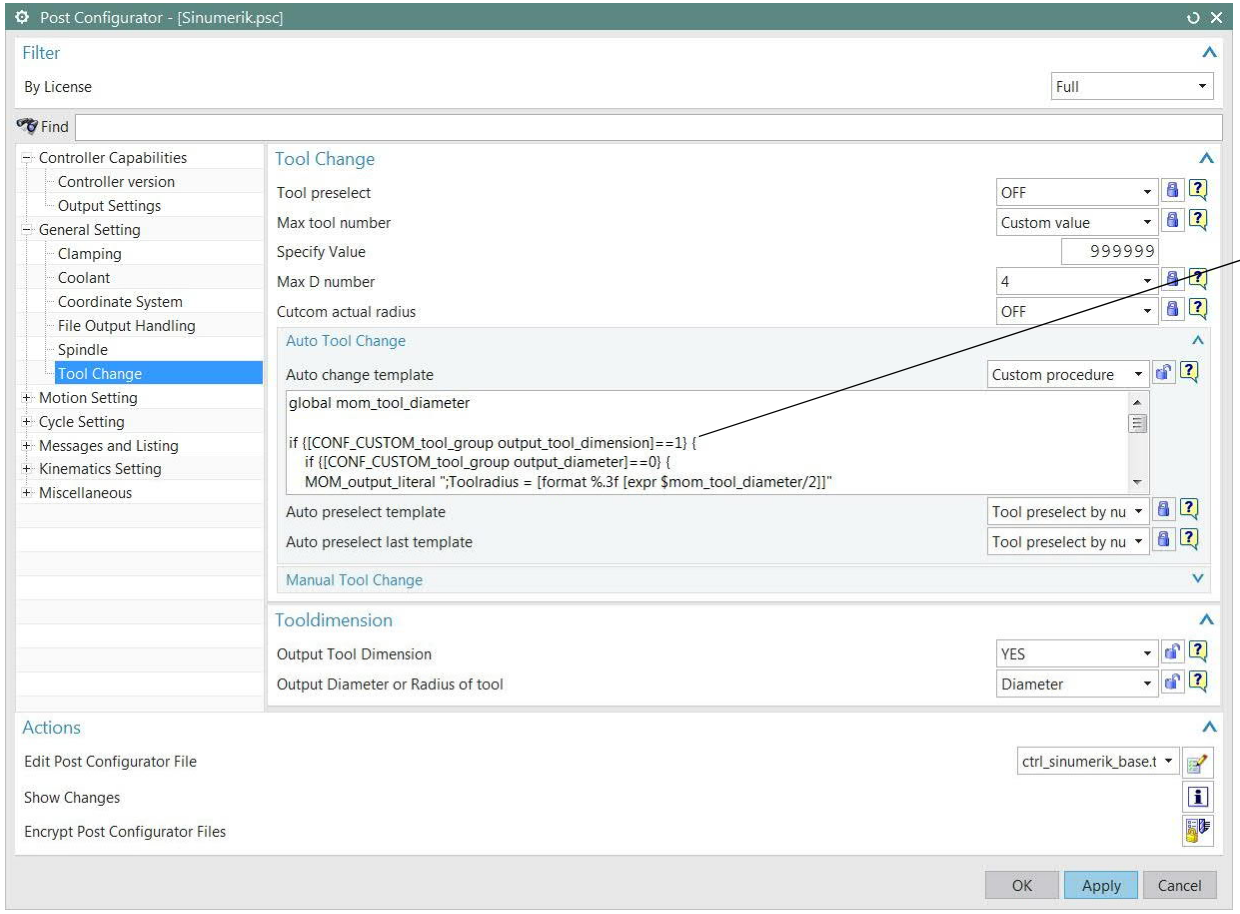


```
LIB_GE_CREATE_obj CONF_CUSTOM_tool_group {} {
    LIB_GE_property_ui_name       "Define Tool Dimension output"
    LIB_GE_property_ui_tooltip    "Define if and how Tool Dimension should be output"

    set id "output_tool_dimension"
    set $id 0
    set options($id)          {NO|YES}
    set options_ids($id)      {0|1}
    set datatype($id)         "INT"
    set access($id)           222
    set dialog($id)           {{Output Tool Dimension}}
    set descr($id)            {{Turn the output of the tool dimension on or off}}
    set ui_parent($id)        "Tooldimension_Group"

    set id "output_diameter"
        set $id 0
        set options($id)          {Radius|Diameter}
        set options_ids($id)      {0|1}
        set datatype($id)         "INT"
        set access($id)           222
        set dialog($id)           {{Output Diameter or Radius of tool}}
        set descr($id)            {{Define whether dimension should be output as diameter or radius.}}
        set ui_parent($id)        "Tooldimension_Group"
```

```
N14 G153 X0. Y0.
N16 ; ToolDiameter = 40.000
N18 T1 M6
N20 G54
```

Setting the access level

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- Access level is coded by number:

0
Hidden

1
Read Access

2
Read & Write

Access Code	Basic License	Advanced License	Full License
222	Read / Write	Read / Write	Read / Write
122	Read	Read / Write	Read / Write
022	Hidden	Read / Write	Read / Write
012	Hidden	Read	Read / Write
002	Hidden	Hidden	Read / Write
001	Hidden	Hidden	Read
000	Hidden	Hidden	Hidden


```
set access($id)
```

2 **2** **2**

Q&A

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