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GENIUS TOOLS®

GENIUS TOOLS for Creo

Release 6.0.1.0

User Manual

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1 Product Overview



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GENIUS TOOLS for Creo are a collection of extension modules for Creo Parametric. They are developed together with the INNEO Startup TOOLS.

The modules of GENIUS TOOLS for Creo are organized in several GENIUS TOOLS products and cover different application scenarios optimally.

Take a look at the following overview of the different GENIUS TOOLS products.

Module	Startup TOOLS	GENIUS TOOLS Parameter	GENIUS TOOLS Library
Parameter Management	X	X	
Bill of Materials Creation in Assembly Mode	X	X	
Editing Assembly Parameters	X	X	
Library Management	X		X
Form Controlled Models	X		X
Form Controlled UDFs (Design TOOLS)	X		X
Multiple Dimension Editing	X	X	X
Material Selection	X	X	X
Name Generator	X	X	X
3D Note Forms	X	X	X
Open/Create Drawings	X	X	X
Transfer of Drawing Tables to Excel	X	X	X
Tolerance Table on Drawings	X	X	X
Quick Access	X	X	X
Search and Replace Parameters/ Dimensions	X	X	X
Test Criteria	X	X	X
Configuration Tool	X	X	X

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2 Assembly Report

GENIUS TOOLS Assembly Report supports you in creating reports - such as parts lists - in assembly mode. The reports are defined using a graphical editor. Any number of report definitions can be created and applied to individual assemblies.
GENIUS TOOLS Assembly Report is available in assembly mode and for drawings of assemblies with the following features:

- Table display with different display modes
  - modular parts list
  - quantity bill of material
  - multi-level bill
  - multiline Cells
  - multiple parameters per cell
- Usable column values
  - assembly and part parameters
  - assembly component parameters
  - report parameters (file name, assembly level, model type, quantity, mass, ...)
  - item number (as assembly component parameter)
- Item number assignment (if used in the BOM)
  - general start and increment value
  - several number ranges in one report, definable with criteria (e.g. standard parts start at 500, foundation parts at 800)
  - manually editable
- Multiple filtering according to all parameters
- Multiple sorting according to all parameters
- Export reports
  - to Microsoft Excel (with template and cell/column assignment)
  - to CSV files

2.1 Fundamentals

This section contains a glossary of terms and information on the standard behavior of GENIUS TOOLS Assembly Report.

2.1.1 Glossary

Index parameter
The index parameter is created in assemblies and parts and contains a sequential number (position number).

Head parameter
Head parameters are various information displayed above the report table in Assembly Report. Both Creo model parameters and general information such as number, file extension or level can be used as head parameters.

Model parameter
Model parameters are parameters taken directly from the current Creo assembly.

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Number range
Are defined number ranges for elements to be assigned to groups. Depending on the filters defined in report definitions, position numbers are assigned to assembly components from the number ranges.

Report
A report in GENIUS TOOLS Assembly Report is a BOM displayed in the report table. Reports can be exported to various file formats.

Report definition
A report definition contains all information for numbering items and generating a report in GENIUS TOOLS Assembly Report. The information is stored in an XML structure.

2.1.2 Standard behavior

GENIUS TOOLS Assembly Report supports you in creating various reports in Creo's assembly mode. The report definitions can be stored both internally (in the assembly data structure) and externally as XML files (e.g. in the resource directory of GENIUS TOOLS for Creo).
Whether internal or external report definitions are used depends on the configuration. External report definitions can be used for exchange and transfer to other assemblies.

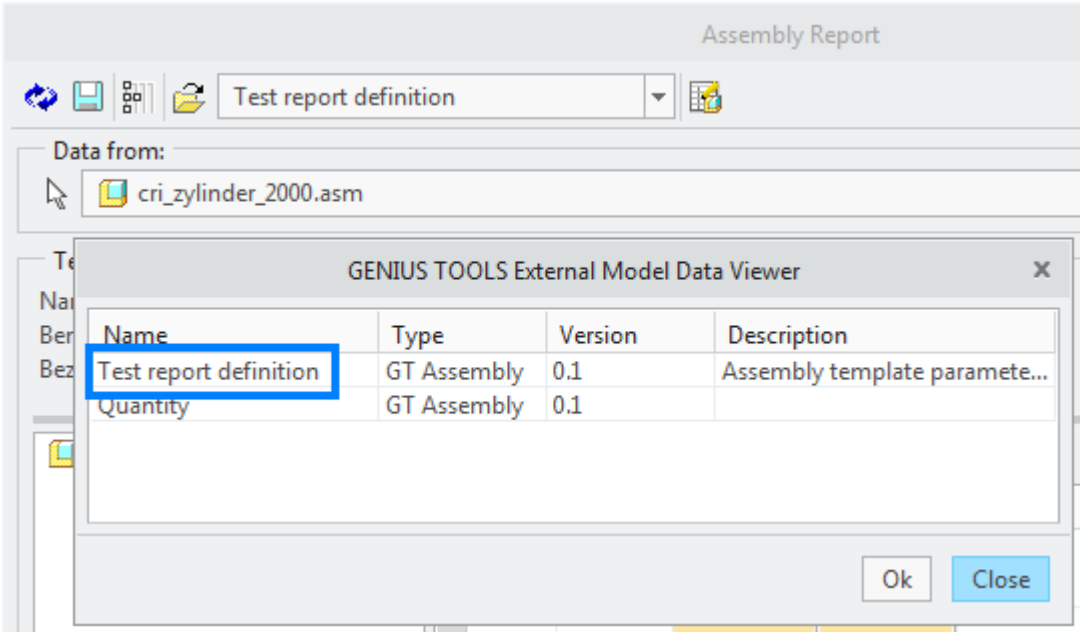
First use in an assembly

After starting GENIUS TOOLS Assembly Report the external standard report definition is used (defined in the configuration option `gta_default_file`). The same report definition is used for each assembly.
When saving a report, the report definition is saved in the assembly. Each time Assembly Report is opened with this assembly, the report definition saved in the model is used.

Subsequent use in an assembly

Each time Assembly Report is opend, the assembly is searched for internally stored report definitions. If an assembly contains such definitions, the standard definition is used.

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Standard Definition in an Assembly

If no internal definition is found, the external standard report definition is used.

Changing the Report Definition

External usage

External report definitions are automatically saved in an assembly as soon as a report based on them is saved. Internal definitions of the same name are overwritten.

> **Warning**: The defined name in the XML file is used, not the file name.

Internal usage

As soon as an internal report definition is applied, the display changes. If several internal report definitions exist, you can define a definition as the internal standard using GENIUS TOOLS Assembly Report .

Copy mechanism

If an external report definition is applied to an assembly, it is automatically copied into the model.

The configuration option `gta_save_xml_in_mdl` defines the behavior. If the configuration option is set to 0, no report definitions are saved in models.

> **Warning**: The configuration option has no effect on report definitions already contained in the model.

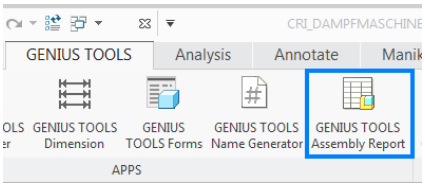
2.2 Usage

In this section you will find information about the use of GENIUS TOOLS Assembly Report. The general structure of the program is explained.

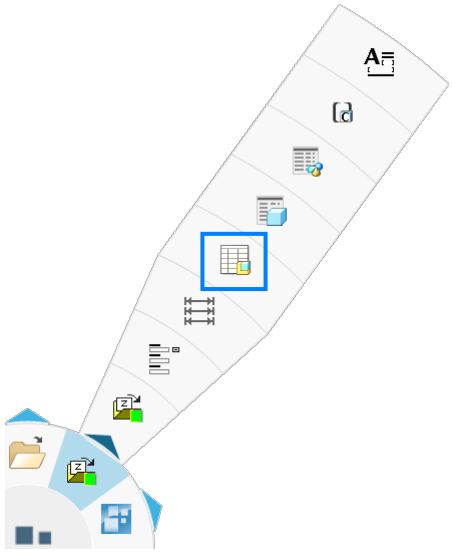
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Starting the program

Start GENIUS TOOLS Assembly Report from the ribbon menu in the tab GENIUS TOOLS or by using GENIUS TOOLS Quick Access (key [<]).
Assembly Report is available in assembly mode and for drawings of assemblies.



Starting from the ribbon menu



Starting via Quick Access

Please note: The external standard report definition is always used first in an assembly. (Configurable in the configuration option `gta_default_file`. Default: `%GT_RESOURCE_FOLDER%\assembly\gt_assembly.xml`)

Warning: Changes to report definitions must be applied explicitly to already opened assemblies!
Report definitions are stored in assemblies (depending on the configuration option `gta_save_xml_in_mdl`). Each time Assembly Report is started, the Assembly Report checks whether the current assembly contains a report definition. They are preferred for report generation.

Report definitions in the model

If a model contains a report definition, the corresponding icon is displayed in the Creo Parametric main window. Click on the icon to open Assembly Report.

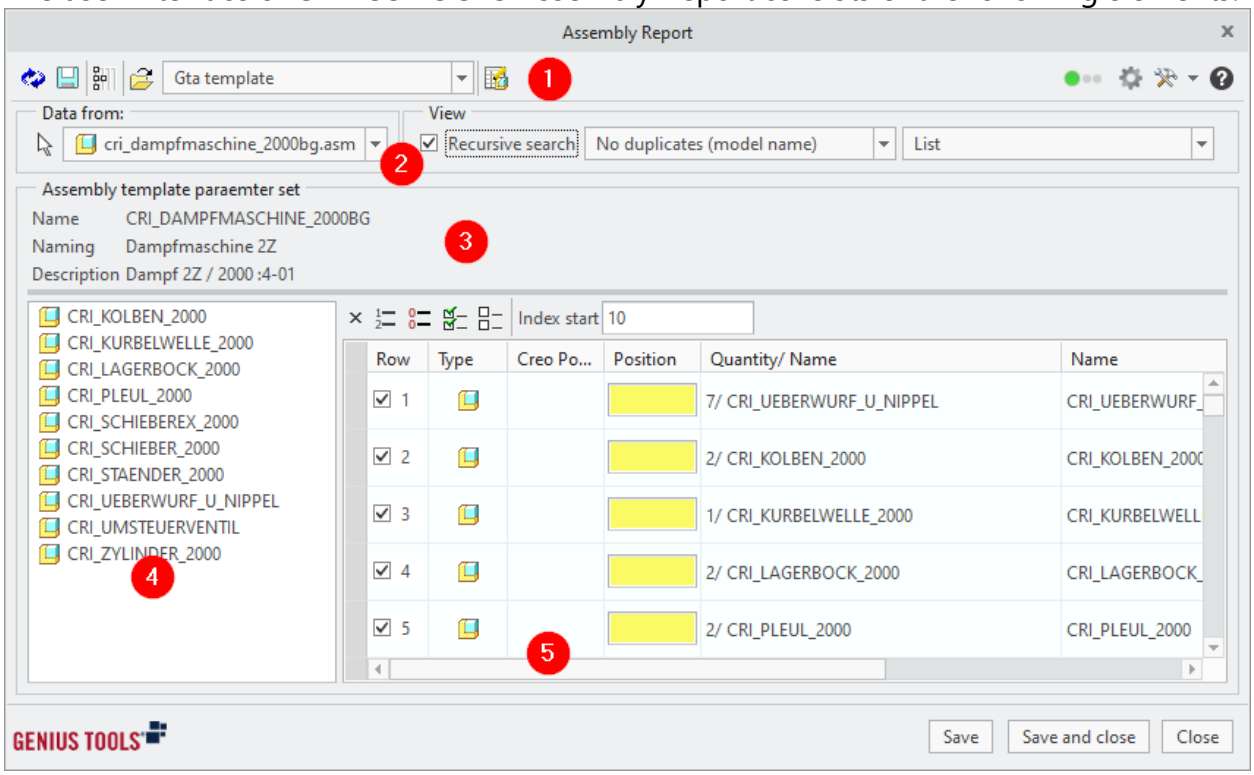


Warning: If the Creo configuration option `web_browser_in_separate_window=yes` is set, no icon can be displayed.

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2.2.1 User interface

The user interface of GENIUS TOOLS Assembly Report consists of the following elements:



1. Command bar
2. Model selection
3. Head parameters
4. Model list
5. Report table

2.2.2 Command bar

The following buttons are included in the command bar:

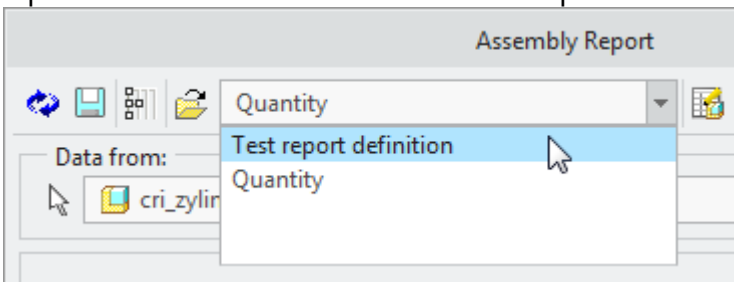
Icon	Name	Description
	Discard changes and update	Discards all unsaved changes and reapplies the report definition.
	Save parameters	Saves changes and the report definition to the current assembly.
	Create and display model tree	Regenerates the model tree and displays it in Creo Parametric. Parameters marked for the model tree in the editor are also displayed in the model tree.
	Open definition from file	Opens an external report definition and applies it to the current assembly.
	Open Editor	Opens the Assembly Report Editor with the current report definition.

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	Options	Displays options for the current report definition.
	Tools menu	The tools menu contains various supporting functions.
	Help	Opens the help.

Definition selection

The definition selection in the command bar displays the used report definition in the assembly.
Open the list and choose between the report definitions.



Use the definition selection in the command bar to switch between report definitions.

Options

Here, the settings for the current report definition are displayed. In addition, export settings can be temporarily changed here:

Line number, model type, Index in Creo, Export index value
These four options define whether the line number, model type, Creo index or index parameter (POS) is included when exporting a CSV file or an 1-to-1 Excel spreadsheet. The default value for the four options is defined by configuration options.

Open CSV file after export
Determines whether CSV files are opened after an export (default program: Excel).

Tools Menu

Read parameter values from model
Parameters are read out again.

Open definition from model
Opens and applies an internal report definition from the current assembly.

Set current XML as default in model
Defines the current report definition as the default of the current assembly and saves it there (if not present).

Delete XML from model
Deletes a selectable report definition from the current assembly.

> **Please note**: Report definitions are reapplied to an assembly when Assembly Report is reopened!

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Export to CSV
Exports the current report to a CSV file.

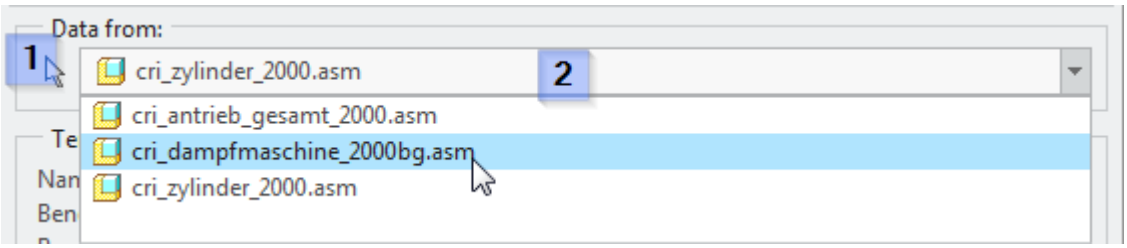
Please note: An export to CSV always uses all displayed rows.

Export to Excel
Exports the current report to an Excel file.
You can export to the file formats XLS, XLSX or XLSM. If you want to use an Excel file with macros (XSLM), take care to also adapt the security settings in Excel so that macros can be executed.
To adapt the file format, check the following settings:
– `gta_export_file` defines the file name of the export file. Verify that the correct file name extension is set. If you want to export to multiple formats (e.g., CSV and XLSX), do not specify an extension in the configuration setting.
– `gta_export_template` defines the Excel template file to be used for the export. Create a template in the desired file format and also specify the correct extension in `gta_export_template`.

Warning: For Excel output an Excel version 2010 or higher must be installed!
Make sure that no Excel instance is running when exporting a report!

2.2.3 Model selection and view

The model selection displays all models that were selected using the object selection. The model selection consists of two elements:



Model selection with object selection (1) and dropdown list (2)

Select models using the object selection (**1**). Their information is displayed in the report table.
The dropdown list (**2**) shows the current selection. Open the list and choose between the last selected models.

Tip: Assemblies selected in the model list are ignored. Only assemblies selected by object selection are displayed in the dropdown list.

View

The view settings order the contents of the report table by five different criteria and determine the way position numbers are assigned:
– No duplicates (model name): Models with the same name are displayed in one row, one row is displayed per model name.
– No duplicates (model name and index): Models with the same name but different position numbers (index) are displayed in one row per position number.

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– No duplicates (row): Only rows that have the same values in all columns are considered as duplicates and combined into one row.
– Duplicates: Always shows separate rows, regardless of whether rows share values.

Recursive
The report tables shows nested sub-assemblies and parts.

Table structure
The report table can be displayed using different types of layout:
– List: flat list of all models
– Assemblies: Sort by assembly. The name of each assembly is displayed as a heading for the contained sub-assemblies and parts.
– Structure: Contained sub-assemblies and parts are displayed in indented groups under their parent assembly. The depth of the indentation per level is defined in the configuration option `gta_struct_insert_space` and can be from 0 to 10 space characters.

Please note: Changing the view settings may force the report table to be recreated. Unsaved changes will be lost.

2.2.4 Head parameter

In the **Head parameter** area, various information of the current Creo model and the description of the report definition are displayed.
The displayed information depends on the configuration of the report definition.

2.2.5 Model list

The model list displays subassemblies of the current assembly. If no subassemblies exist, it is hidden.
Click on an entry in the list to open a subassembly with the current report definition.

Context menu

The model list has a context menu. Right-click on an assembly in the model list to open the context menu. A new window opens for the selected assembly.
Use the context menu to open a subassembly with a contained report definition in a new window.

2.2.6 Report table

The report table displays the report definitions applied to an assembly.
The following buttons are displayed above the report table:

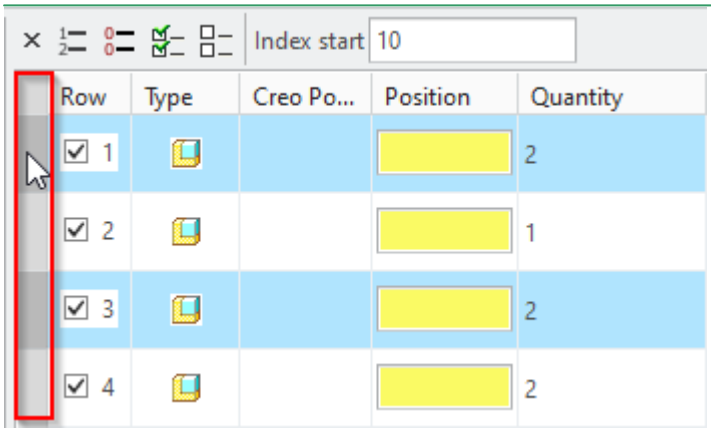
Symbol	Name	Description
✕	Deselect all lines	Deselects all models in the report table.
1 2	Transfer position values from Windchill	Adopts existing position numbers from WTParts of the same name in the connected windchill.

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		Attention: Only usable after activating the option in the editor and with connected windchill.
	Set position	Sets the index parameter according to the rules of the report definition for each model contained in the assembly. Only selected models are considered.
	Set position values to zero	Resets the index parameter for the models contained in the assembly. Only selected models are considered.
	Select All Components	Activates all rows in the report table.
	Deselect all components	Deactivates all rows in the report table.
	Starting index	Defines the initial value for numbering. This value is used when numbering the selected rows. It is not included in the definition.

The report table displays a report on the current assembly of the model selection. This report is always dependent on the current report definition and varies in view.
Select the checkboxes in the Row column to select models for a report and automatic numbering.

Tip: Click in the grey area in front of the row number to select multiple rows while holding down the Shift or CTRL key. This allows values to be changed for several rows at the same time and the model activation can be changed too.



Use the Shift and Ctrl keys to select multiple lines.

Component parameters not contained in the model are displayed in a bright orange. These can be filled in either manually or automatically using the *Set Position* button.

Please note: If a partial numbering already exists, missing numbers are filled according to the rules of the report definition.

The coloring of the report table columns depends on the configuration.

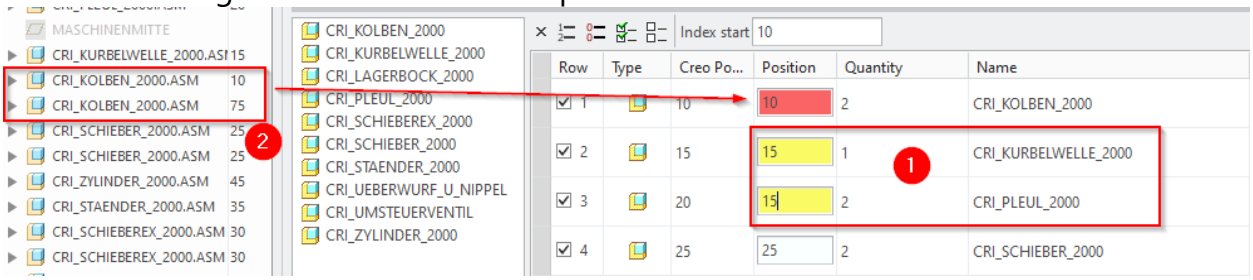
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Edit parameters

Depending on the configuration of a report definition, parameters of the type assembly component can be edited by checkboxes, prefabricated lists or free input.

Conflicts

If conflicts occur in a report, they are highlighted in color.
Yellow input fields represent duplicate item numbers for different components in the report.
Red input fields represent different values for components shown in the same row, e.g., different item numbers, or different parameter values for flexible parts.
The color coding is removed when multiple lines are selected.



(1) Yellow input fields contain position numbers assigned several times for different components,

(2) Red input fields contain different position numbers of the same components.

If a parameter has a different data type than the one specified in the report definition, a message is written to the status dialog. In some cases, the parameter value cannot be written to the model, e.g., if Assembly Report tries to write the item number to a string parameter.

Sorting the report table

Click on a column name to sort the report table in descending lexical order (1, 10, 11, 12, ..., a-z) by column. Another click sorts the table in ascending lexical order. A third click restores the original sorting.

Please note: If you want to use a different sort order, it must be configured in the editor.

Use Drag-and-Drop to rearrange individual lines. Click in the grey area left of the row number and drag the row to the desired position. Click the grey area left of the row number and press Shift or CTRL to select multiple rows and drag them to the desired position. You have to keep Shift or CTRL pressed when dragging.
Click on the column name to sort the table by one column (1). Alternatively, drag and drop individual rows to the desired position (2).

Tip: Sort by row number to drag and drop reordered report tables to their initial state.

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2.3 Configuration

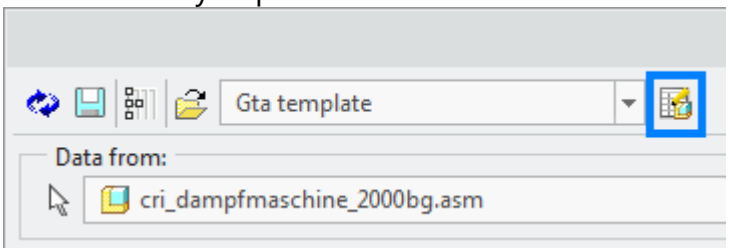
In this section you will find further information on the structure of Assembly Report Editor. Under Use cases, you can find information on creating report definitions.

2.3.1 Assembly Report Editor

Use Assembly Report Editor to create and manage report definitions for GENIUS TOOLS Assembly Report.

Starting the program

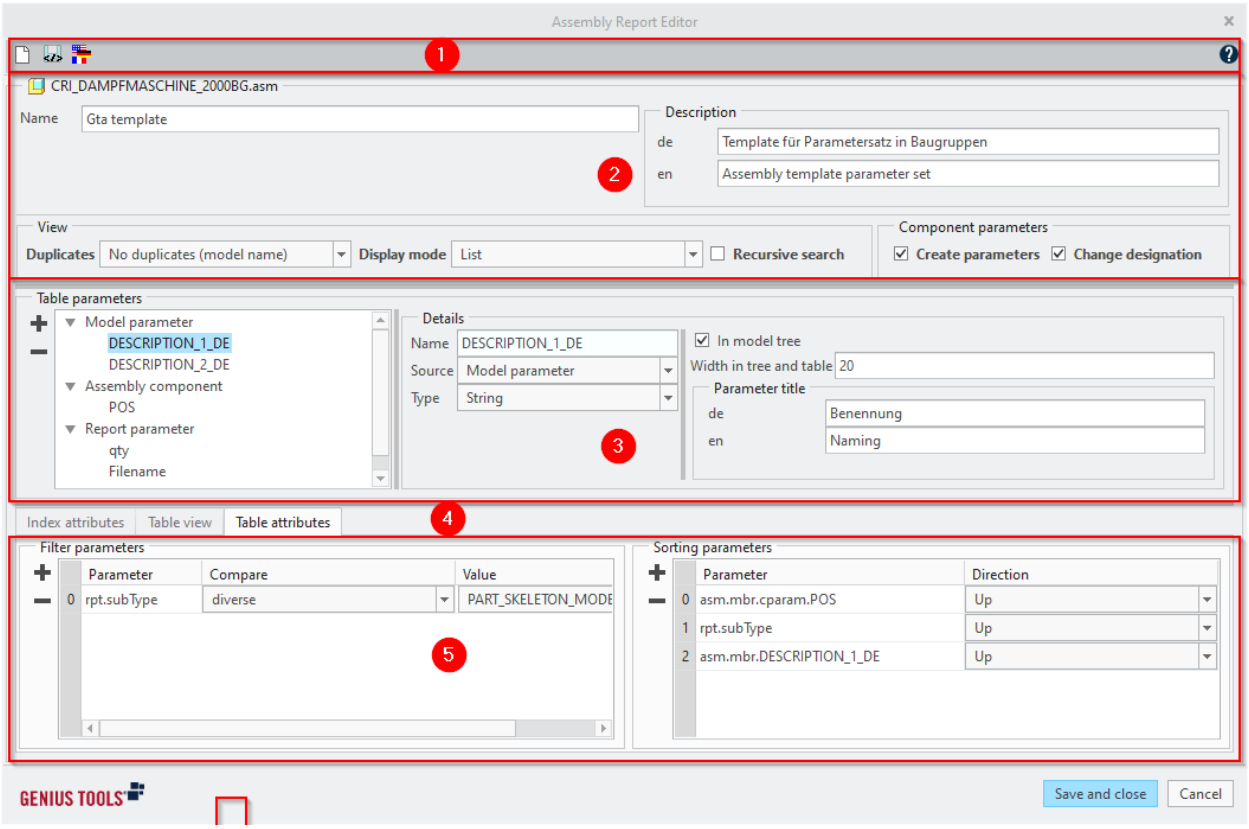
Start Assembly Report Editor in the command bar of GENIUS TOOLS Assembly Report.



Start via GENIUS TOOLS Assembly Report

2.3.1.1 User interface

The user interface of GENIUS TOOLS Assembly Report Editor consists of the following elements:



1. Command bar
2. General Information

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3. Table parameters
4. Tabs **Table view**, **Table attributes** and **Index attributes**
5. Tab details

Warning: Be careful to not open any more dialogs in Creo Parametric (Creo dialogs and GENIUS TOOLS dialogs) if Assembly Report Editor is open. It will be closed automatically.

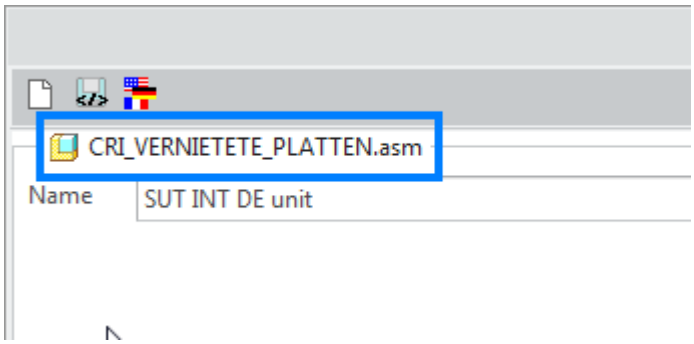
2.3.1.2 Command bar

The following buttons are included in the command bar:

Symbol	Name	Description
	Create a new empty report	Discards all entries and creates an empty report definition.
	Export report under a new name	Saves a report definition as an XML file under any name.
	Change used languages	Manages the available languages of a report definition.
	Help	Opens the help.

2.3.1.3 General information

In this section, you edit the name and description of a report definition.
The origin of the report definition currently to be edited is displayed directly above the name.



The origin of the report definition is displayed above the name. In this example: the assembly

Name
Specifies the name of the report definition as it will later be saved in assemblies.

Description
Specifies a description of the report definition in different languages. By default, a description is available in German and English.
The localized descriptions are managed via the localization button in the command bar.

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2.3.1.4 Table parameters

In the Table Parameters section, you configure the parameters displayed in the report table.

Types of table parameters

A distinction is made between three different types of table parameters:

Model parameters
Existing parameters that are read from assemblies and contained models.

Assembly components
Parameters that are filled via manual input or predefined rules.

Report parameters
Properties of individual models such as number of installations or file name.
The type of report parameter is defined under **Key**. The following types of report parameters are available:

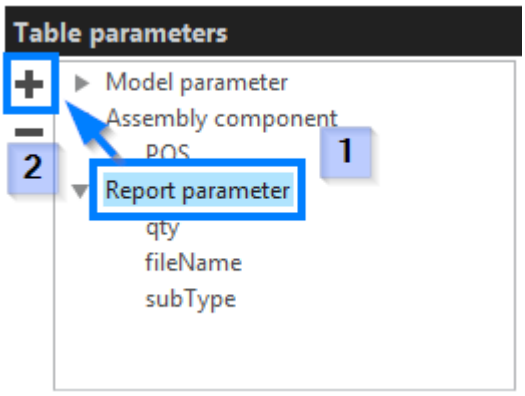
- Quantity: number of installations of the model
- Filename:
- Extension
- Subtype
- Mass
- Total mass: mass of all components for the same model, as calculated by Creo
- Total: This parameter type for calculating values has been replaced by the type **Relation**. It is only maintained to ensure compatibility with existing report definitions.
- Level: installation level
- ASM skeleton: skeleton yes/no
- Relation: Calculation of the value to be displayed. The calculation rule is given in one line using JavaScript syntax. You can use arithmetic operations, the conditional operator (?) and logical operators. You can also define whether the return value of the rule is a string, integer, number (Double) or Boolean value.
  Conditional operator: `(rpt.qty > 2.0) ? 1.0 : 0.0` If the value for the quantity is larger than 2, the return value is 1, otherwise it is 0 (Boolean value).
  `asm.mbr.PTC_MATERIAL_NAME.indexOf("STEEL_COMMON")>=0?"yes":"no"` If the material **Steel common** is used, the rule returns **yes**, otherwise **no** (string value).
- Generic: name of the generic part

Warning: All parameters to be used in the Table View and Table Attributes sections must be added in the **Table parameters** section.

In the Table View, required parameters are added to the configuration.
Click on one of the three table parameter types and use the (+/-) buttons or the context menu to add or remove parameters.

Please note: To add a parameter of a certain type, the type must be selected first!

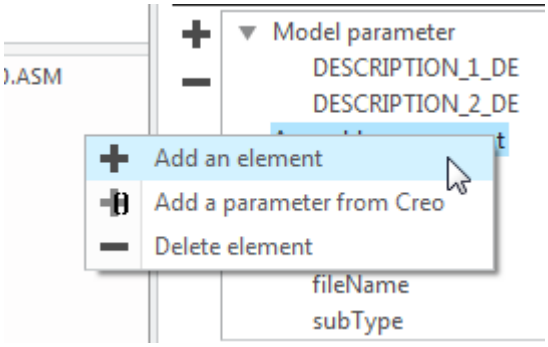
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First select the parameter type (1) then add a parameter (2)

Context menu

The table view has its own context menu. Right-click on an item to open the context menu.



Add an element: Adds a parameter of any name of the selected type. Parameters can be renamed arbitrarily.
Add parameters from Creo: Adds a parameter of the selected species via the parameter selection of Creo Parametric.
Delete element: Deletes the selected parameter from the list.

> **Please note**: Be careful not to assign parameter names twice. Parameter names can be freely assigned in the table view.

Detail area

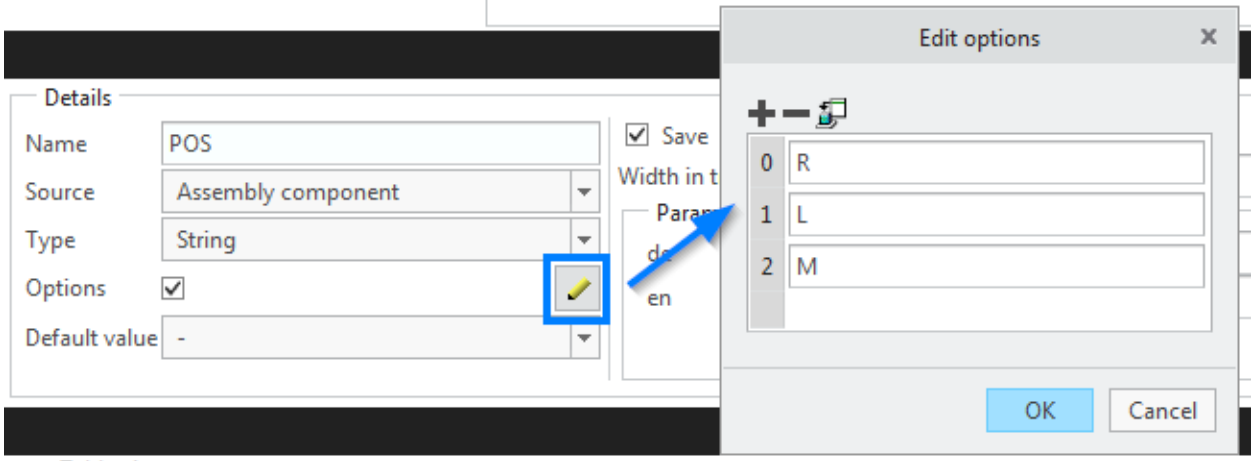
The selected parameter is configured in the detail area.
Name: The name of the parameter.
Source: Defines the type of parameter (model, assembly component or report parameter).
Key (report parameters only): Defines a property that is later displayed in Assembly Report in the parameter.
Type: Defines the parameter type for model and assembly component parameters.
Options: Defines a selection list. The list can also be read from a text file.
Default value: Defines a value with which a parameter is created in models. If the default value is empty, the parameter is also created empty (only for parameters of the type assembly component).

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Width in model tree and table: Defines the width of the parameter column in characters. Affects the Creo model tree and the column in the report table.
Parameter Title: Defines the localized name of a parameter for the report table.

Configuring Parameters for Assembly Components

Parameters of type Assembly component can be filled manually via the report table.
Set the parameter type to Boolean to display checkboxes.
Set the type to Double or Integer for number entries or use String for free text entries.
Click on the Options checkbox and, after clicking on the Edit button, enter a list of possible parameter values to restrict user input to these.



Add any entries either manually or from a text file

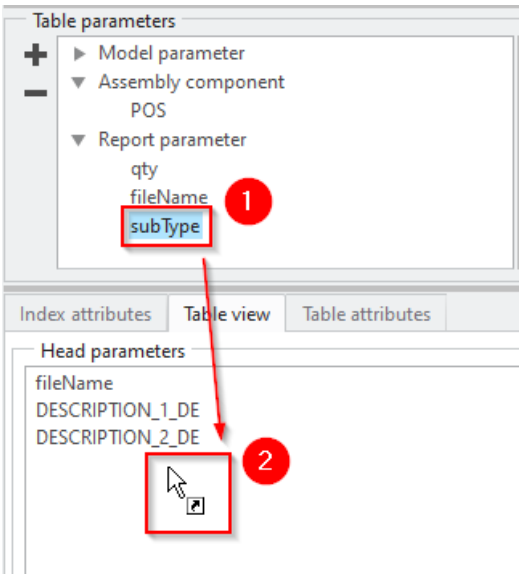
2.3.1.5 Table view

Head parameters and report table are configured in the table view.

Head parameters

Parameters defined under Head parameters are displayed in the Head Parameter Area of Assembly Report.
Drag and drop table parameters into the list of header parameters. You can also use drag and drop to rearrange the section.
You can also use the context menu to manage the parameters.

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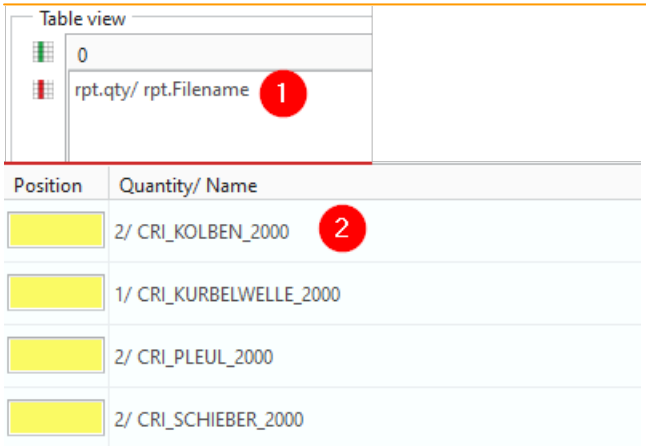


Click on a table parameter (1) and drag it into the header parameters (2).

Table View

The report table is configured to the right of the header parameters.
Configure the columns of the report table using the two buttons Add Column and Delete Column.
Click **Add Column** and drag and drop a table parameter into the column field. Alternatively, use the context menu to manage the parameters.
You can also display several parameters and static texts in a column. Drag several parameters one after the other into a column field or store static texts. Make sure that there is at least one space between parameters and texts!

> **Please note**: As soon as a column for assembly components contains static text, a space or several parameters, no changes can be made in the column.



Specify several parameters per column in the editor (1). They are evaluated in the Assembly Report table displayed (2).

Select a column header and click **Remove column** to remove unneeded parameters.

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The check box **Add totals row** under the column configuration adds a row below the table that shows the sum of all values for each column that contains number parameters (Integer or Double). Each column for which you want to create a sum may contain only one Integer or Double parameter.

Please note: All displayed values in each column will be added up. In a structured list that can contain, for example, sub-assemblies and the parts used in them, parts may contribute multiple times to the value given in the totals row.

2.3.1.6 Table attributes

The Table Attributes section defines general report properties and filter and sort parameters.

General Options

Duplicates: Defines whether each installed model is assigned its own position number or whether identical models are assigned the same position numbers. This option can be defined generally, or per mounting level.
Generate parameters: Defines whether non-existing parameters are generated in models.
Recursive Search: Defines whether to search for filter parameters in lower plane models. The default view only displays parameters from first-level models.
Change designation: Defines whether designations are performed automatically when using PDM systems such as Windchill.

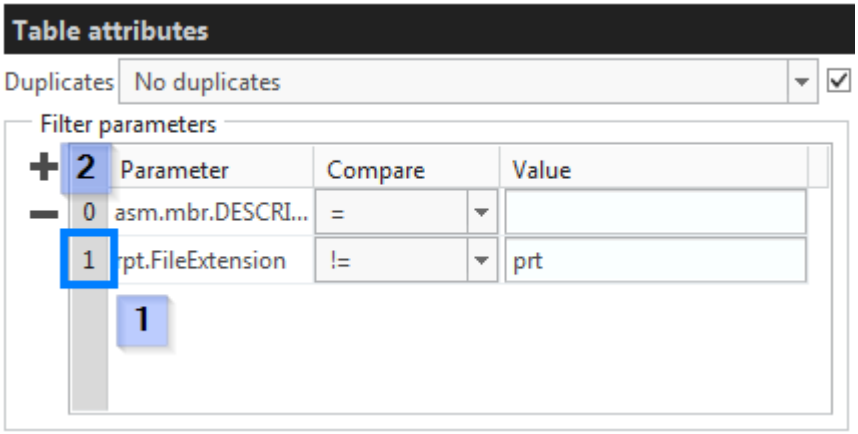
Filter Parameters

The filter conditions of the report table are defined under Filter parameters. Only those parts and assemblies are displayed that fulfill these filter conditions.
Use the plus button to add a row. Then select a parameter from the drop-down list and configure the filter condition.
Comparison: Select the comparison here (equal to, not equal to, greater than, less than).
Value: Defines the value with which the parameter value is to be compared.

Tip: Use Regular Expressions in the value column!

To remove a row, click on the row number and press the minus button.

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Click on the line number (1) and delete it by clicking on the minus button (2).

Sorting Parameters

The table of sort parameters defines the parameter values according to which the displayed models in the report table are sorted.
The order of the parameters in this table determines the sort order. The above parameters are preferred.
Use the plus button to add a row. Then select a parameter from the drop-down list and select the sorting direction.
To remove a row, click on the row number and press the minus button.

2.3.1.7 Index attributes

Define rules for assigning position numbers in the section *Index Attributes*. The item number is assigned as a value to the index parameter in individual assemblies and parts.
In the Index Parameters dropdown list, select a parameter as the index parameter.

> **Please note**: Only parameters of type Assembly component are available as index parameters.

Use position numbers from Windchill: Shows an additional button for the transfer of position numbers from WTParts of the same name directly from Windchill.

Increment

Index start: Defines the start of the position numbers.
Index increment: Position numbers are incremented by the index increment.
Use of number ranges: Defines whether the rules defined under number ranges are to be used for item number assignment.

Number ranges

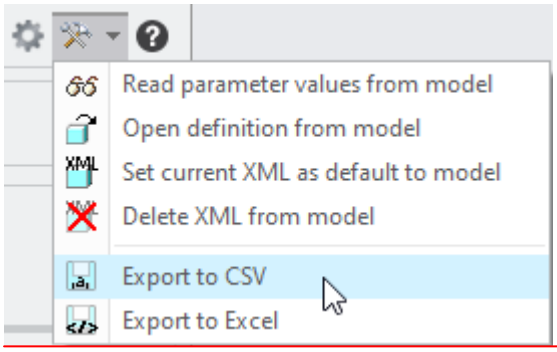
Rules for exceptions to item number assignment are defined under *Number Ranges*. If the condition of a number range in a model is fulfilled, an item number is assigned according to the number range.
Each line of the table corresponds to a number range.

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Use the plus button to add a row. Then select a parameter from the drop-down list and configure the number range.
Comparison: Select the comparison here (greater than, less than, equal to, not equal to).
Value: Defines the value with which the parameter is to be compared.
Start: Defines the start of the item numbers in the number range.
Increment: Position numbers are incremented by the increment.
End: Defines the highest item number to be assigned.
To remove a line, click on the line number and press the minus button.

2.3.2 Report generation and Excel templates

The export of reports is possible as CSV- or Excel-file. The output as CSV file and the One-to-One (1-to-1) function output contents as displayed in the user interface. The function "Excel document from template" requires a previously configured Excel template.
Open the Tools menu of GENIUS TOOLS Assembly Report and select the desired export method.



Warning: For Excel output, an Excel version 2010 or higher must be installed on the executing computer!

Configuration of an Excel template

Please note: Use a separate Excel template for each report template.

1. Create a new Excel file.
2. Create a template for a report table with arbitrary texts and formatting.

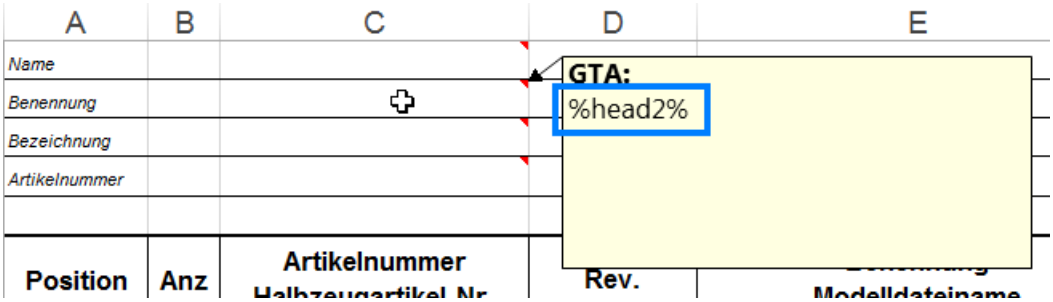


Create a template in Excel. Enter the required texts and format them as required.

3. Create comments and enter the following elements in the comments. Then save the template.

Head parameters
Head parameters are written into a single field.
For head parameters, *%head*%* is stored in a comment. Replace * with the position of the head parameter in the editor. The first head parameter is %head1%, the second %head2%, and so on.

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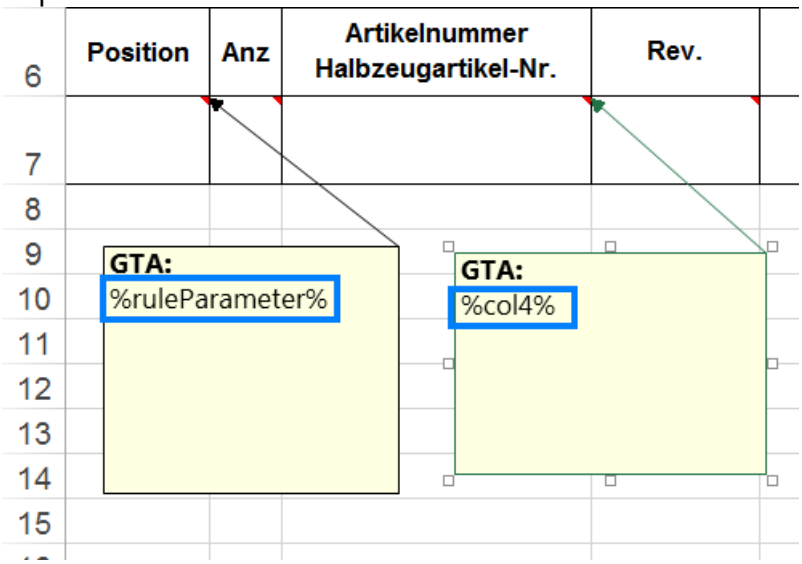


Enter header parameters with the numbering that matches the report in the template.

Parameters of the Report Table

These parameters are defined column by column. The length of the Excel report depends on the number of rows displayed.

Use *%ruleParameter%* to output the index parameter. Enter %col*% to output a column. Replace * with the column number.



Enter the table parameters column by column. Use %ruleParameter% for the position parameter and %col% for the remaining columns.*

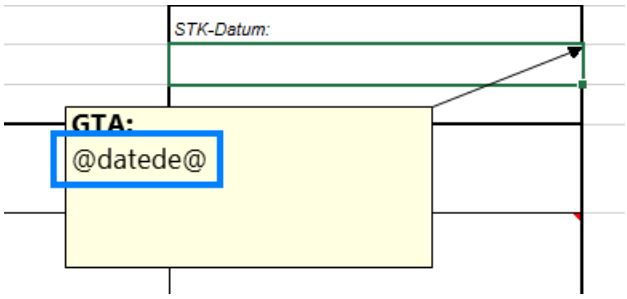
Variables

In Excel templates the variables of GENIUS TOOLS for Creo can also be used. Variables are written into a single field.

Date and time information as well as Creo object information can be used.

> **Please note**: The variables **@feat_id@**, **@selmdln@** and **@selmdlpath@** are not supported!

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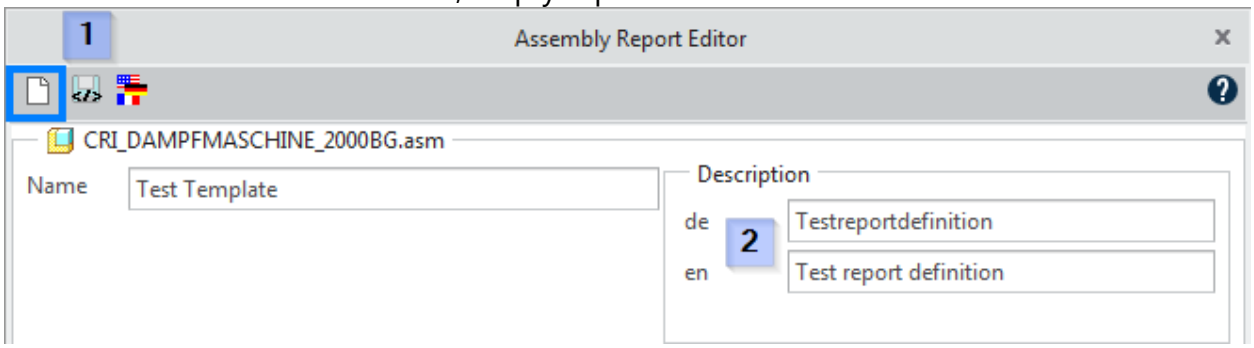
Use the variables of the GENIUS TOOLS for Creo!

2.3.3 Use cases

This section presents use cases for GENIUS TOOLS Assembly Report Editor. The use cases are presented in a progressing sequence.
Reports from GENIUS TOOLS Assembly Report can be customized for each individual company. Report definitions delivered with GENIUS TOOLS for Creo can be adapted, or custom report definitions created.
The use cases in this section demonstrate how to create a custom report definition.

Creating a new report definition

Proceed as follows to create a new report definition:
1. Open an assembly.
2. Start Assembly Report and open the editor.
3. Use the editor to create a new, empty report definition.



Create a new report definition (1). Enter a name and a localized description (2).

4. Enter a name for the report definition and add localized descriptions.
5. Save the report definition.

Creating table parameters

Add all model, assembly, and report parameters you need for the report definition in the *Table parameters* section.
In this example, the following parameters are created:
Model parameters:
– DESCRIPTION_1_EN
– DESCRIPTION_1_EN
– DESCRIPTION_2_EN

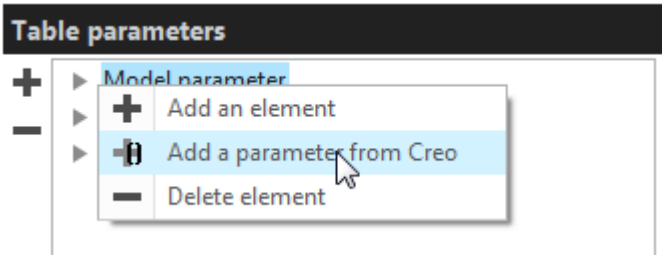
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– DESCRIPTION_2_EN
Assembly parameters:
– POS
Report parameters:
– qty
– fileName
– subType

Please note: Any parameter to be used in other sections of the editor must be created in this section.

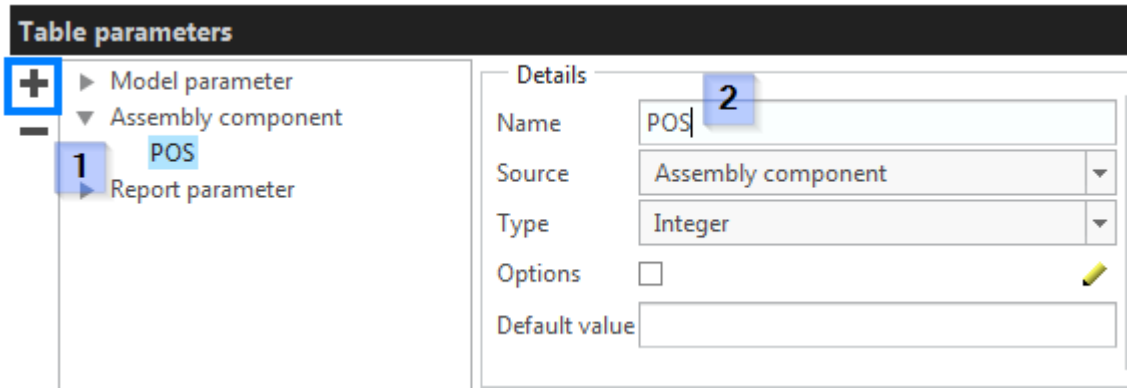
Steps

1. Right-click Model Parameters in the *Table parameters* section.
2. Click on *Add parameters from Creo* in the context menu. Select "DESCRIPTION_1_DE" in the parameter selection.



Add new model parameters with the context menu

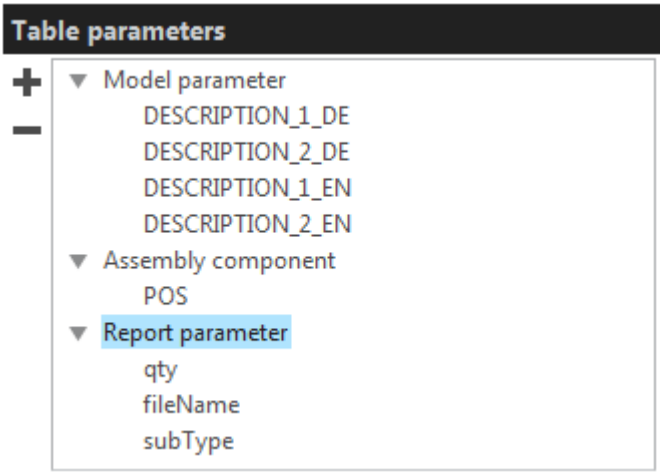
3. Enter the localized parameter titles under *Details*.
4. Repeat this with the other three model parameters.
5. Click *Assembly Parameters* in the Table Parameters section.
6. Use the plus button to add a new parameter and rename it to "POS".



Add a parameter of type "Assembly component" (1) and rename it to "POS" (2)

7. Click Report Parameters in the Table Parameters section. Use the plus button to add a new parameter and rename it to "Quantity".
8. Enter the localized parameter titles under Details and enter "Number" as the key.

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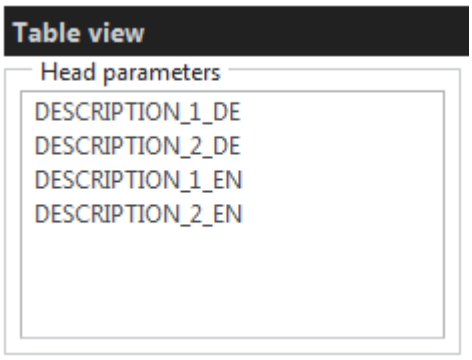


9. Repeat this with the parameters "fileName" and "subType".

Defining head parameters

Parameters in this list are displayed in the header of reports later.

1. Select the model parameter "DESCRIPTION_1_DE" under Table parameters.
2. Drag and drop it into the head parameters.
3. Repeat the procedure with all model parameters!



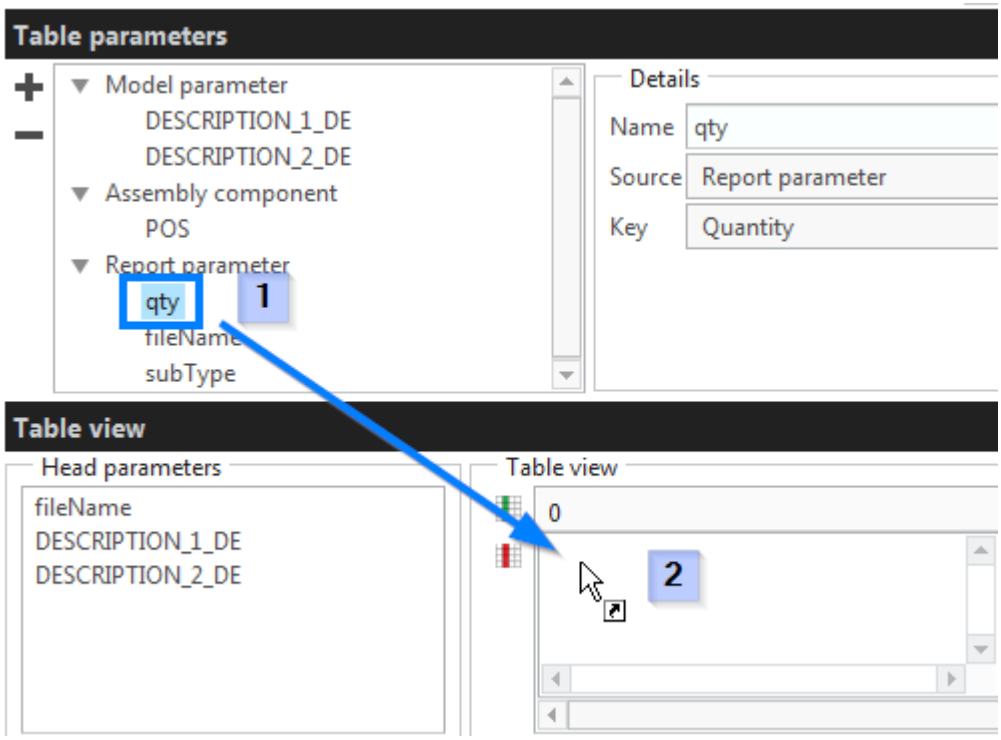
Tip: Parameters can also be re-sorted with drag and drop.

Configuring the table view

In the next step, configure the table view of the report table.
Use the two buttons on the left side of the *Table View* section to specify the number of columns displayed.

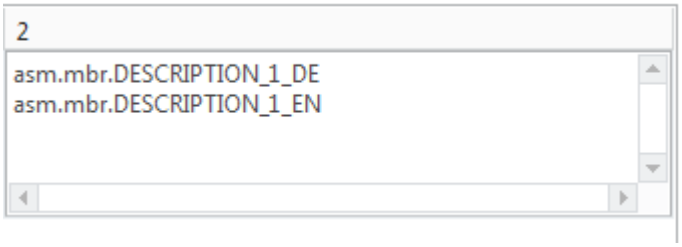
1. Create three columns. The first column is always counted as column 0.
2. Use the mouse to select the "Quantity" (qty) report parameter under Table parameters. Drag and drop the parameter into column 0.

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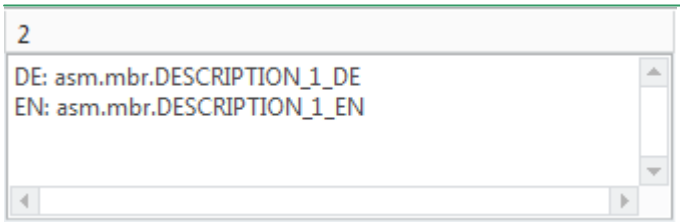
Select the parameter (1) and drag and drop it into the table column (2)

3. Repeat with the parameters "fileName"/column 1 and "DESCRIPTION_1_DE"/column 2. To make the name in reports bilingual, column 2 is now configured to display two parameters.
4. Drag and drop the parameter "DESCRIPTION_1_EN" into column 2. Separate the two parameters with a linebreak (Enter key).



Separate parameters in a column with a linebreak (Enter key).

Tip: You can add normal text to parameters also. Use a space between text and parameter!



Separate parameters from static text with a space character.

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Defining table attributes

Now, configure the table attributes. Table attributes determine which models are displayed in the report table.

1. Select the option "No duplicates" under Duplicates. This option ensures that position numbers of multiple built-in models differ.
2. Activate the options "Create parameters" and "Recursive search". These settings ensure that the position parameter is created in each model and that models of deeper planes are filtered.
3. Add a filter parameter: Click on the Plus button and select the parameter "subType" from the dropdown list.
4. Select "!=" (not equal) under Compare and "PART_SKELETON_MODEL" under Value. This setting filters out skeleton models.
5. Click on the plus button in the sort parameters and select the "POS" parameter from the drop-down list. Select "Up" as the direction. Repeat this step with the parameter "subType".

Configuring index attributes

Configure the index attributes:

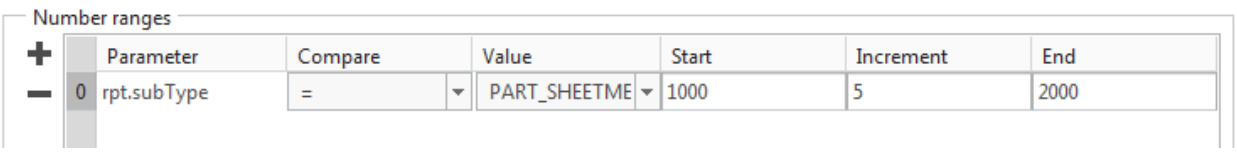
1. Select the parameter "POS" as index parameter.
2. Enter a start index of "100" and an index increment of "10" under Increment. Elements in the report table are now numbered consecutively in steps of ten starting at 100 (100, 110, ...).

Warning: Make sure that the correct index parameter is set! Index parameters must be of the type *Assembly component*. Saving must be activated for the parameter.

Defining number ranges

Create number ranges for exceptions to normal numbering:

1. Activate the option "Use number ranges" under Index attributes. Use the plus button to add a new number range.
2. Select the table parameter that can be used to determine the exception under "Parameters".
3. Configure a comparison (in this example: subType = PART_SHEETMETAL).
4. Enter an alternative start index, an increment and an end.
5. Save the report definition.



In this configuration, all sheet metal parts are numbered in steps of five from 1000 to 2000.

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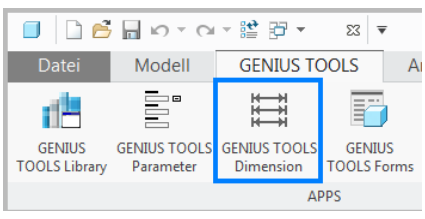
3 Dimension

With GENIUS TOOLS Dimension you can quickly, clearly and comfortably edit dimension values and names of parts and assemblies, features, feature groups and variable UDF dimensions.
GENIUS TOOLS Dimension is available in assembly, part, sheetmetal and drawing mode, providing the following features:

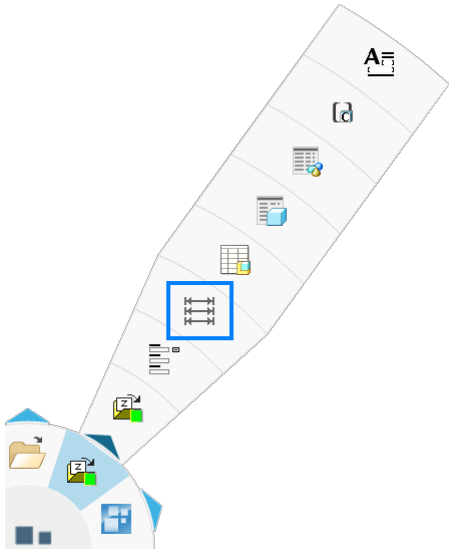
- Display dimensions with following properties:
  - Dimension type (linear, angle, diameter, radius),
  - Dimension name,
  - Dimension value,
  - Tolerance type,
  - Dimension status (in relations, family tables,...);
- Filter displayed dimensions by name, dimension type and tolerance type,
- Dynamic search for dimensions,
- Highlighting dimensions in the graphics window when selecting a value in the GENIUS TOOLS Dimension window,
- Easy renaming of dimensions,
- Assigning new dimension values (including mathematical expressions),
- Quickly display the original Creo dialog “Dimension properties”,
- Quick call-up of the relations dialog (for relation driven dimensions),
- Quickly assign dimensions to family tables.

3.1 Starting the program

Start GENIUS TOOLS Dimension from the ribbon menu in the GENIUS TOOLS tab or via GENIUS TOOLS Quick Access ([<] key).



Starting via the ribbon menu



Starting via GENIUS TOOLSQuick Access

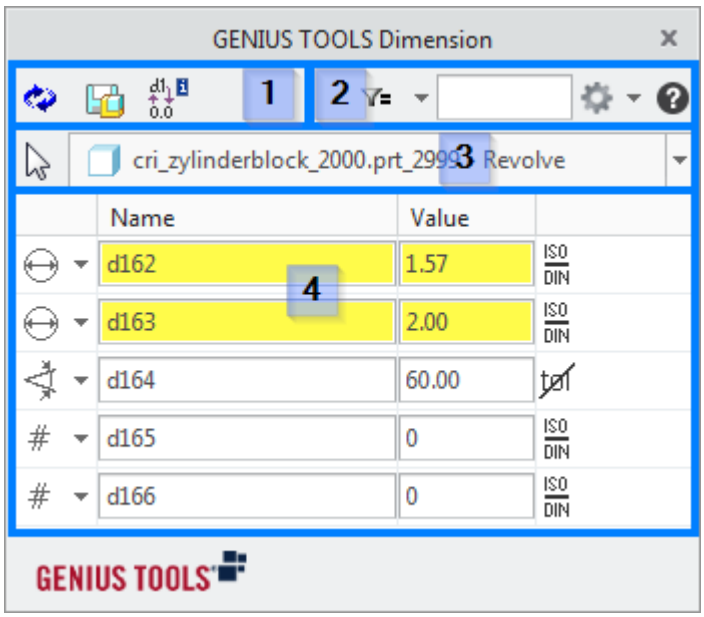
GENIUS TOOLS Dimension starts only after selecting an element in the Creo main window or in the model tree. Alternatively, an element can be selected previously.

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Please note: When exiting Dimension, only changes with valid inputs will be saved.

3.2 User interface

The user interface of GENIUS TOOLS Dimension consists of the following elements:



1. Command bar
2. Filter
3. Model selection
4. Dimensions table

The user interface height is calculated by the amount of shown dimensions. Maximum 1/2 of screen size. Minimum 4 lines. The width is calculated by the combined width of the shown columns.

3.2.1 Command bar

The command bar consists of general control elements and the filter area with search field.

The following buttons are available in the command bar:

Icon	Name	Description
	Reload	Reloads the currently selected model or feature. Unsaved changes will be discarded.
	Save and regenerate	Saves all changes made and regenerates the whole model. **Note**: It is not possible to save with invalid (highlighted red) input fields or not performed calculations.
	Change dimensioning	Changes the display style of dimensions in Creo Parametric between *dimension value* and

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Icon	Name	Description
	display	*dimension name*.
/	Filter inactive/active	Opens the list of available filter options. If filter options are already active, the icon is displayed green.
	Open Help	Opens the Help.

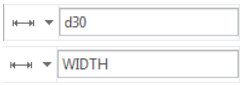
In addition, the search field is located in the command bar.

3.2.2 Filter and search

The filter controls the display of dimensions with predefined options. Click on the filter icon and select the appropriate filter options.

Filter options

Named dimensions
Shows all dimensions with modified names.



Unchanged name of a dimension
Modified name of a dimension, a named dimension

Tolerance
Hides dimensions whose tolerances do not comply with the active option.

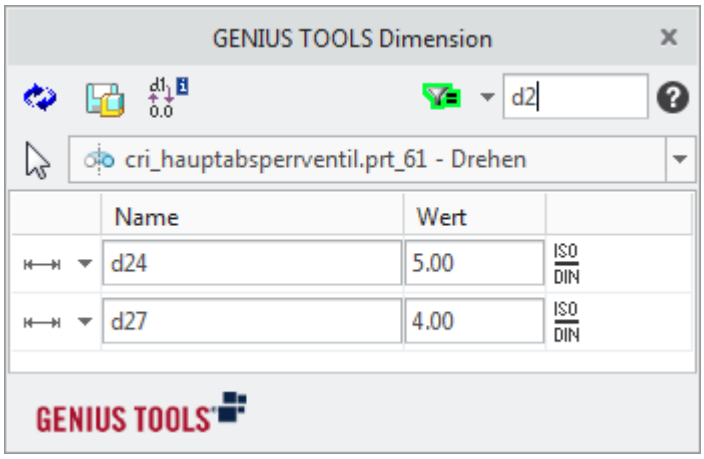
Dimension type
Hides dimensions whose type do not comply with the active option.

> **Please note**: If multiple filters are active, dimensions are displayed that fulfill at least one filter criterion.
> The filter display is affected by the configuration option `gtd_filter`.

Search field

Use the search field to search alphanumerically for names and values of dimensions. Only the currently displayed dimensions will be searched.

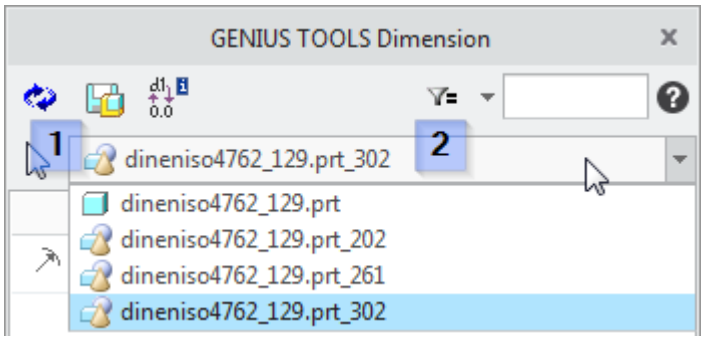
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Simultaneous searching and filtering in GENIUS TOOLS Dimension

3.2.3 Model selection

The model selection consists of the two elements object selection and drop-down list.



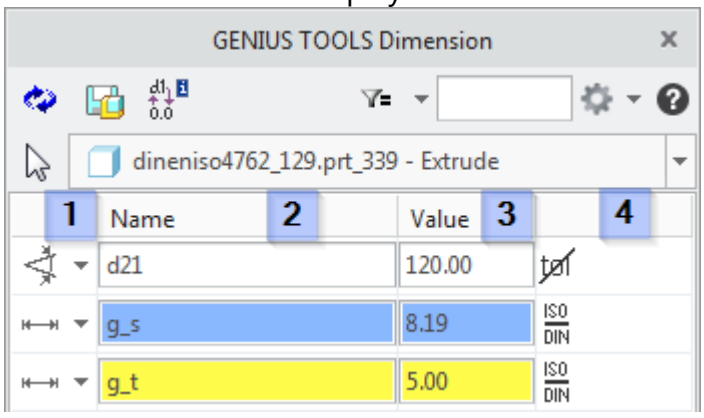
The model selection with object selection (1) and drop-down list (2).

Select models, features, groups and UDFs in the model or in the model tree using the object selection (1).

The drop-down list (2) shows the current selection. Open the list and select from the recently selected objects.

3.3 Dimensions table

The dimensions table displays each dimension in a separate row:



Dimensions table with various dimensions

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1. Dimension symbol with context menu
2. Dimension name
3. Dimension value
4. Tolerance type

Before each dimension, the symbol corresponding to the dimension type is displayed (1). Click on the symbol to open the context menu for the dimension. The menu shows suitable options for each dimension type.
Click into input fields (columns *Name* (2) and *Value* (3)) to highlight the selected dimension in the Creo model.

Please note: In Drawing mode only displayed dimensions will be highlighted.

Behind each dimension, the tolerance type (4) is displayed. Click on the icon to open the Creo dialog Dimension properties (Creo Parametric 3.0) or the Dimension ribbon (Creo Parametric 4.0 and 5.0) for the dimension.

3.3.1 Dimension symbols and context menu

The following symbols are displayed before dimensions:

Icon	Description
	Linear dimensioning
	Radial dimensioning
	Diameter dimensioning
	Angular dimensioning
	Pattern count
	Thread

Click on a dimension symbol to open the context menu for the dimension.

Context menu

The following options are available in the context menu:

Copy dimension value
Adopts the value of a dimension that has to be selected in the model into the current dimension.

Open relations manager
Opens the Creo relations dialog.

Dimension properties
Opens the Creo dimensions dialog.

Add to current family table
The selected dimension will be added to the family table of the current model.

Add to parent family table
The selected dimension will be added to the family table of the generic part.

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Warning: The two commands **Add to current family table** and **Add to parent family table** will be executed immediately; no saving or regenerating is required.

Specific filter options depending on the dimension type can be found below the general options.

3.3.2 Input fields

In input fields, dimensions are displayed with names and associated values. They are sorted alphabetically by name.
Click into an input field to modify the name or the value of a dimension. Dimensions are highlighted in the Creo main window when you click in an input field.

Warning: Do not rename dimensions according to the scheme ad[Number] (e.g. ad34)! ad dimensions are used internally by Creo Parametric and are filtered out automatically.

Changes can be made in white input fields. The meaning of colored input fields can be found in the table in section Colors in input fields 41.
Dimensions without a specific dimension type are treated as count and will be automatically rounded to integers.
The width of the table columns **Name** and **Value** are controlled with the configuration options `gtd_label_col_size` and `gtd_value_col_size`. The number of decimal places in the **Value** column is controlled with the configuration option `gtd_dec_places`.

Warning: Check the Creo configuration option `show_dim_sign`, as GENIUS TOOLS Dimension respects it.
`show_dim_sign=no`: Entering a negative value changes the direction vector of a dimension. The value will be positive.
`show_dim_sign=yes`: When a negative value is entered, the value remains negative.

Calculations

Input fields for values allow calculations as in Creo. Input up to 250 characters is supported.
Enter a mathematical function into a value field and press Enter. The result is copied into the field. After saving and regenerating, the result will be applied to the model.

Please note: When calculations create unusable values (e.g. -1 in a count field), the last valid value will reentered. An information will be prompted in the Creo Parametric message area.

Also use more complex mathematical operations such as root, powers, or rounding in value fields.

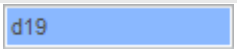
Examples:

sqrt(d27)	square root of the dimension d27
pow(d23,3)	third power of the dimension d23

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3.3.3 Colors in input fields

Input fields in the dimensions table have a color coding to show how the dimension is controlled. Move the mouse over an input field, a tooltip shows the meaning.

Field color	Description
 White	Unchanged name or value.
 Red	Invalid content or the dimension name already exists in the model; it is not possible to save.
 Green	Modified content, the dimensions table needs to be saved.
 Yellow	Locked dimension, e.g. by a relation. Value and Name cannot be modified. **Hint:** The dimension can be edited in the Creo relations dialog/ribbon (accessible via the Dimension context menu).
 Blue	The dimension is determined by the family table of the current model.
 Cyan	The dimension is determined by the family table of the parent model. Value and name cannot be modified using the dimension table.
 Magenta	The dimension is determined by a pattern table. Value and name cannot be modified using the dimension table.

3.3.4 Tolerance types

The tolerance type is displayed behind dimensions. Click the icon to open the Creo dimension properties dialog (Creo Parametric 3.0) or the Dimension ribbon (Creo Parametric 4.0 and 5.0).

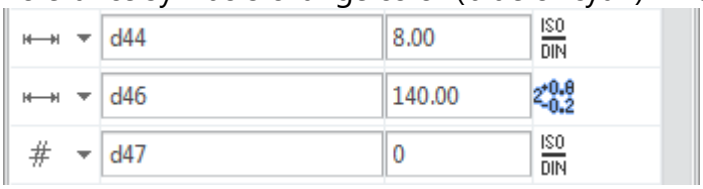
Icon	Description
	No tolerance table.
	Tolerance table “General according to DIN/ISO”.
	Tolerance table “Shaft with tolerance class”.
	Tolerance table “Hole with tolerance class”.
	Tolerance table “Breaking edge”.
	Tolerance mode: “Plus-Minus” (The symbol does not display the values.) No tolerance table, but free values.

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Icon	Description
1.98 2.02	Tolerance mode: “Limits”. (The symbol does not display the values.) No tolerance table, but free values.
2±1.8	Tolerance mode: “+-symmetrical” (The symbol does not display the values.) No tolerance table, but free values.
$2^{\pm 1.8}$	Tolerance mode: “+- symmetrical (superscript)” (The symbol does not display the values.) No tolerance table, but free values.

Please note: Tolerances are not displayed for threads. The entire dimension text is displayed instead.

Tolerance symbols change color (blue or cyan) when tolerances come from a family table.



Tolerance symbols change colors, if they come from a family table

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4 Forms

With GENIUS TOOLS Forms you can systematically observe and manipulate individual model properties. You can select and edit dimensions and parameters of parts, features and assemblies, suppress features or components via a corresponding Forms element, and replace components with other components.
All these functions can also be combined with elements in family tables so you can quickly switch between different configurations. Also, custom Mapkeys can be deposited in Forms elements which can be executed by clicking the corresponding button in GENIUS TOOLS Forms.
GENIUS TOOLS Forms is available in assembly mode, part mode, sheetmetal mode, skeleton mode, and drawing mode providing the following features:

- Systematically observe and manipulate model properties in form dialogs of:
  - Dimension values
  - Parameter values
  - Features
  - Replace components
  - Variant dimensions tables
- Executing saved Mapkeys
- The forms are generated via the graphical editor.
- Forms are saved directly in the models.

4.1 Fundamentals

With GENIUS TOOLS Forms you can use forms to manipulate properties and metadata of Creo parts and assemblies. Use Forms to call up different variants of a model or to configure frequently used start objects.
GENIUS TOOLS Forms is also integrated into GENIUS TOOLS Library. If a library model contains a Form, it will be displayed directly in the Library details window and can be used for editing the model.

Glossary

Form
A Form is a compilation of properties of parts or assemblies. A Form is either saved directly in the model (default) or as an XML definition outside the model.

Forms definition
A forms definition contains the configuration of a Form in an XML structure. This XML structure is either saved as a file or in Creo models.

Webcode
The webcode is a linking property between model and Form. For instance, it is needed in GENIUS TOOLS Library to establish a connection between an external Form and a model via a library object.

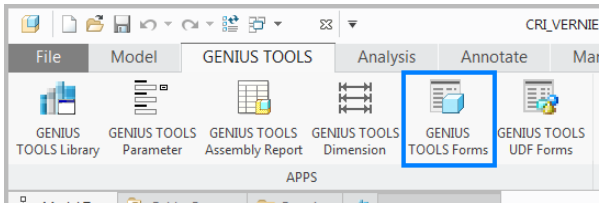
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4.2 Usage

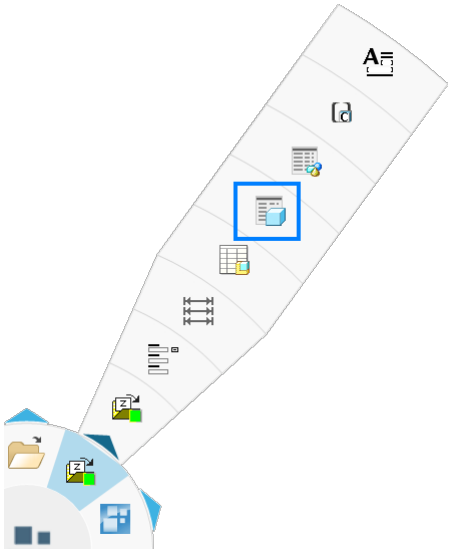
This section contains information on using GENIUS TOOLS Forms. It describes the general structure of the program.

Starting the program

Start GENIUS TOOLS Forms from the ribbon menu in the GENIUS TOOLS tab or via GENIUS TOOLS Quick Access ([<] key).



Starting from the ribbon menu



Starting via Quick Access

Forms and UDF Forms in the model

If a model contains a Form or UDF Form, a suitable Forms icon is displayed in the Creo Parametric main window. Click on the icon to open the form.

 Form in the model

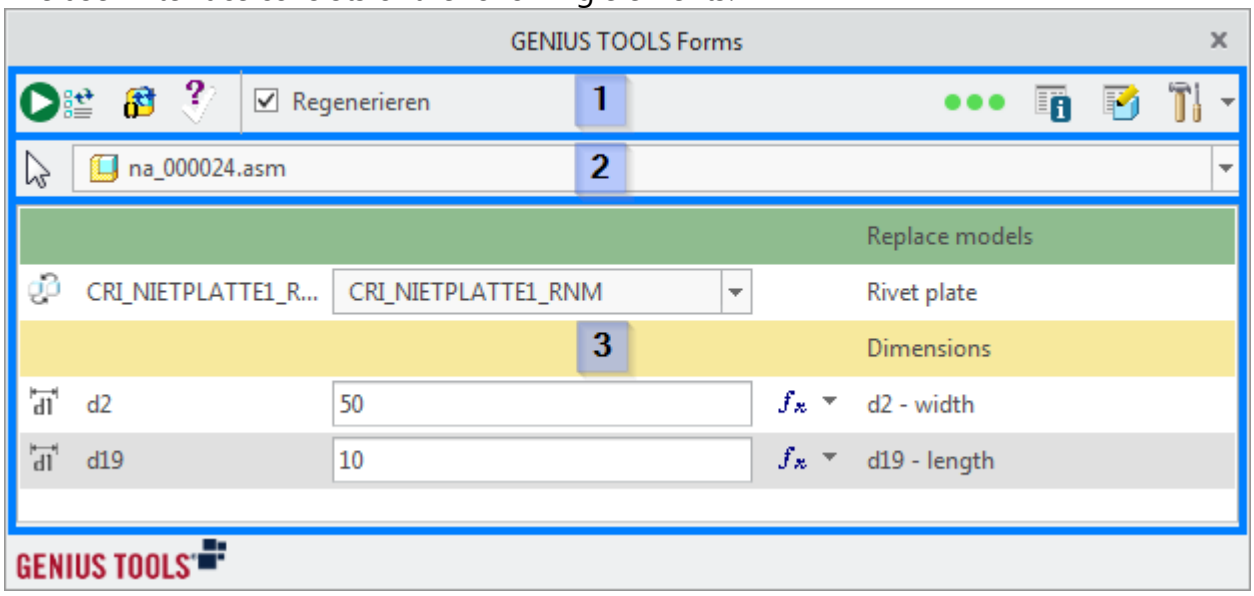
 UDF Form in the model

Warning: If the Creo configuration option `web_browser_in_separate_window=yes` is set, no icon can be displayed.

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4.2.1 User interface

The user interface consists of the following elements:



1. Command bar
2. Model selection
3. Form section

4.2.2 Command bar

The Command bar displays general crontrols. The following controls are available:

Icon	Name	Description
	Apply changes and regenerate	Applies changes in the Form to the model and regenerates it. If the form includes a JavaScript **PreSave** function, this function is run before the values are applied. If there is an error, you will be asked whether you want to save anyway. Click **No** to open the status dialog with the error message.
	Open GT Value Transfer	Opens GENIUS TOOLS Value Transfer. **Note**: The function is only available in Assembly mode!
	Execute Check function	Starts the JavaScript function CheckUI. **Note**: The function must be saved in the Form!
	Regeneration	If the check mark is set, the model will be regenerated after transferring the values into the model. The gtf_show_regen_btn switch controls whether the checkbox is visible.

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	Forms information	Displays the Forms information. This depends on the configuration of the Form in the editor.
	Open GENIUS TOOLS Forms Editor	Opens the Forms Editor to edit a Form.
	Tools	The Tools menu contains various supporting functions.

Warning: To apply changes, use the *Apply changes and regenerate* button! Modifications in a Form will not be adopted by models on closing.

Tools menu

Supporting functions are started via the Tools menu.
The default folder for CSV and XML imports and exports is defined in the configuration option `gtf_default_folder`.

Load values from CSV/XML file
Reads values from a CSV or XML file and applies them to the Form.
When you read an XML file, the values from the file are matched to the form elements using IDs. If the XML file does not contain IDs, the values are matched using the names of the form elements.
When you read a CSV file the values from the file are always matched using the names of the form elements.

Please note: Make sure that all form elements have unique names.

Values of dimensions or parameters that cannot be found in the current Form are ignored on loading.
Loading values from a CSV or XML file does not trigger any JavaScript OnChange functions.

Save values to CSV/XML file
Saves the current values in the Form as CSV or XML file.
If you want to export a CSV file, make sure that all form elements have unique names. If multiple form elements have identical names, only the first one will be written to the CSV file.
Units for real parameters are written into the file.

Compare to CSV file
Compares the current values in the Form to the values in a CSV file.
Select the CSV file. The values from the current Form and from the CSV files are displayed in a compare dialog. Changes are marked with a colored background.

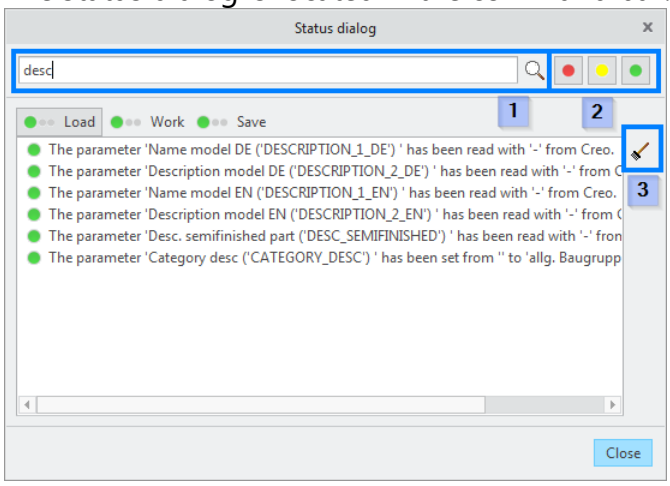
Open Help
Opens the Help.

Delete Form
Deletes the Form from the current model.

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4.2.3 Status indicator

The status dialog is located in the command bar.



The open status dialog (status light) with warnings after loading. Use the reset function (broom button) to delete all status messages.

Use the Search (1) to search for specific content. Alternatively, you can use the three traffic light color buttons (2) to show or hide messages. Use the Reset function (3) to delete status messages.

This dialog shows the current status in different phases as well as JavaScript output with traffic light colors:

Load: Information about loading forms and validating form elements. For selection fields and radio buttons, a warning is displayed if the value from the model is not part of the pre-defined values.

Work: Information on the current processing status of the form.

Save: Information about the saving status in the model.

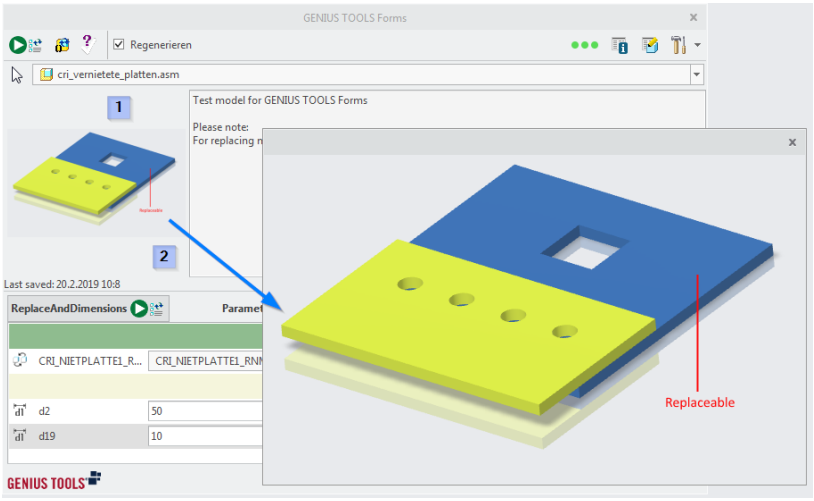
Use the reset function (broom button) to delete status messages.

4.2.4 Forms information

The button *Forms information* displays an info area. Localized texts and images are displayed depending on the configuration in the editor.

Click on the preview image to display its enlarged version.

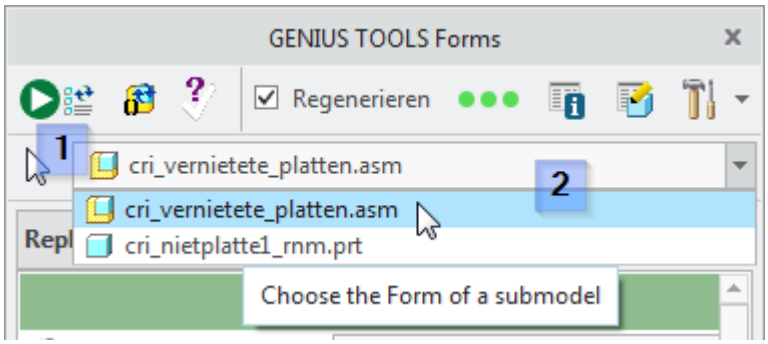
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Forms information is displayed above the form section. The info panel displays localized descriptions and, optionally, a preview image (1). Click on the preview image to display an enlarged version (2)

4.2.5 Model selection

Use the model selection to switch between forms of different assemblies and parts in the current assembly.
The model selection consists of two elements.



The model selection with object selection (1) and drop-down list (2).

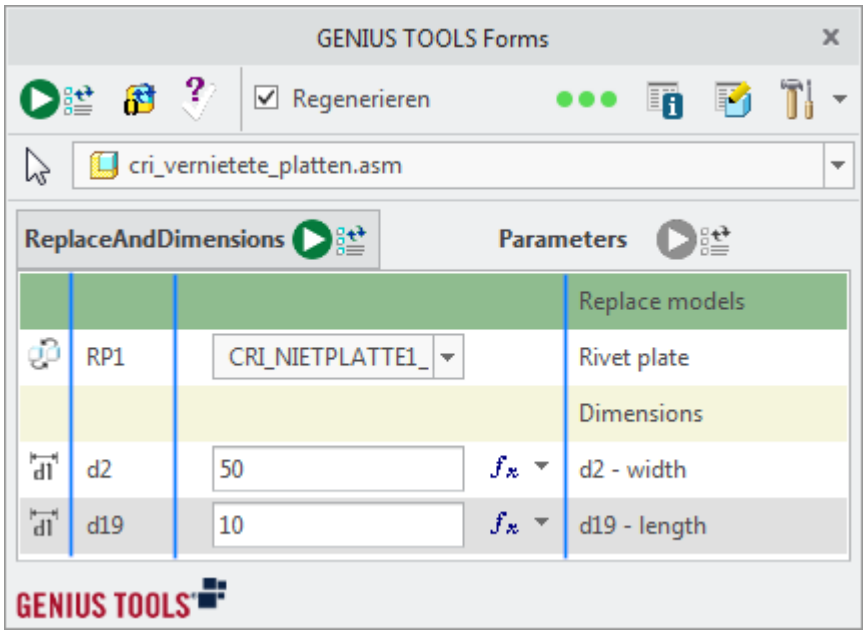
Select the models in an assembly using the object selection (1) directly in Creo or in the model tree. The drop-down list (2) shows the current selection. Open the list and select from the models. Models are only displayed in the model selection if they contain a Form or have already been selected with the object selection.

Tip: The model selection is only displayed in assembly mode.

4.2.6 Form section

The form section displays the Form of the selected model.
Above the form area tabs are displayed. The tabs (groups in the editor) are used to split larger forms logically. Click on a tab to open this part of the form.
The Form elements are displayed in a table with four columns:

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Form section with four columns

The type of a Forms element is displayed as icon in the first column. Click on an icon to highlight the corresponding model element in Creo.

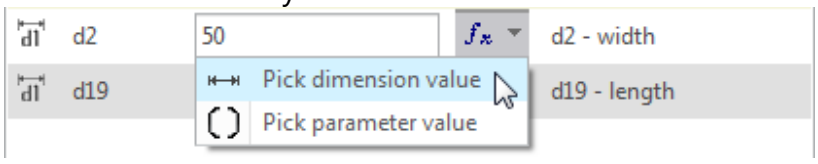
Column icons

	Valid change to element value
	The current model value is not intended as an element value
	The element addresses a non-existent model property

The name of Forms elements is displayed in the second column, followed by the value column with input fields at the third position. An additional button is behind input fields. It enables a direct transfer of dimension values or parameter values.

Transfer of dimension and parameter values

Use the *Dimension value transfer* to transfer a value from any dimension into the field. Use the *Parameter value transfer* for transfering values from a parameter with the same name to the field. If no parameter with the same name exists, the system searches for a dimension with the same name and uses its value. The *Parameter value transfer* is only available in assembly mode.



Transfer values from dimensions and parameters into a Form

The fourth column displays a localized description of the Forms elements.

Please note: Displayed columns and localized descriptions depend on the configuration.

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4.2.7 Field types

The form section displays the fields defined in a form for entering values.

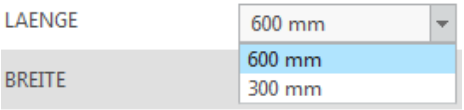
Warning: Check the Creo configuration option `show_dim_sign`, as GENIUS TOOLS Forms respects it.
`show_dim_sign=no`: Entering a negative value changes the direction vector of a dimension. The value becomes positive.
`show_dim_sign=yes`: When a negative value is entered, the value remains negative.

Input field



Input fields accept any string for input. Restrictions (e.g. numbers only) are possible through configuration.

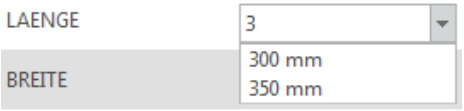
Selection field



Selection fields (drop-down lists) contain a selection of possible inputs. They are predefined through the configuration.

Tip: After opening Forms, the selection that corresponds to the current model is displayed. If none of the selection options meet the condition, the element icon turns yellow. The first selection option will be displayed.

Advanced selection field



Advanced selection fields accept free input of values as well as to select from a list. Each input filters the displayed list items. The list items are predefined through the configuration.

Tip: An advanced selection field behaves the same as a regular selection field on opening.

Radio button



Radio buttons display predefined selectable values. Only one of the values can be selected.

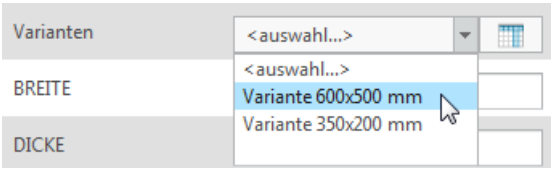
Binary checkbox



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Checkboxes allow to choose from two options. This can be Yes/No decisions, for example. Always two values are deposited in the configuration for checkboxes. With the checkmark set, the first value is used. Checkmark not set applies the second value.

Variant table



Variant tables display preconfigured variants of a model. In most cases, individual variants affect multiple properties of a model at the same time.
Select them directly from the list or filter the variants using the table icon.

Please note: A variant table icon turns yellow when the model property cannot be modified by a variant.

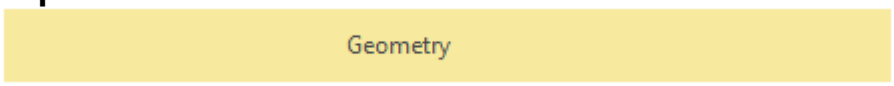
Warning: Variant tables can affect each other!

Mapkey



Mapkey elements are buttons executing a deposited Mapkey.

Separator



Separators are used to logically structure Forms elements.

Warning: When using GENIUS TOOLS for Creo together with Startup TOOLS at the same time: When replacing with an interchange assembly (instead of using a family table), a new feature ID is assigned to the part. Check the Creo configuration option `remember_replaced_components`. This option is set in Creo Parametric, but is disabled by Startup TOOLS.

4.2.8 Element control

The different field types allows for manipulating different model properties. The first column in the form section displays the model property to be manipulated as icon.

Edit dimensions

Dimensions are edited using different input fields. Click on the dimension icon in the first column to highlight the dimension in Creo Parametric.

Edit parameters

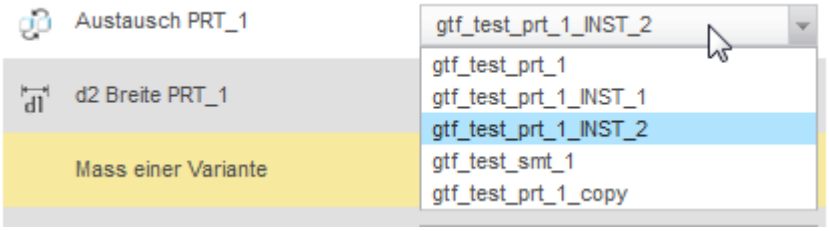
GENIUS TOOLS Forms supports editing four different parameter types with different field types.

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Icon	Name	Editable via
	Boolean parameter (Yes/No parameter)	• Checkboxes
	Integer parameter This parameter type accepts only integer input. All inputs following a decimal point will be ignored.	• Checkboxes, • Input fields, • Selection fields and • Advanced selection fields
	Real parameters Real parameters accept integer input as well as point-separated values.	• Checkboxes, • Input fields, • Selection fields and • Advanced selection fields
	String parameters String parameters accept any character string.	• Checkboxes, • Input fields, • Selection fields and • Advanced selection fields

Replace components

Replace components using selection fields.



Replacements are selected via lists

Click into the field and select a model which should replace a component.
Click on the icon in the first column to highlight the component that should be replaced in Creo.

Please note: The replace operation will fail if assemblies are missing components.

Warning: If you are using GENIUS TOOLS for Creo together with Startup TOOLS and you want to do a replacement using an interchange assembly (instead of using a family table), a new feature ID will be assigned to the respective part. If the old feature ID should be reassigned during re-replacement (so that the old ID paths are correct again), the Creo configuration option `remember_replaced_components` must be set. Usually, this option is set in Creo Parametric but is deactivated by Startup TOOLS.

If new feature IDs are created by an interchange assembly, the new IDs are automatically written to the model.

Suppress components/features

Components and features are suppressed via checkboxes.

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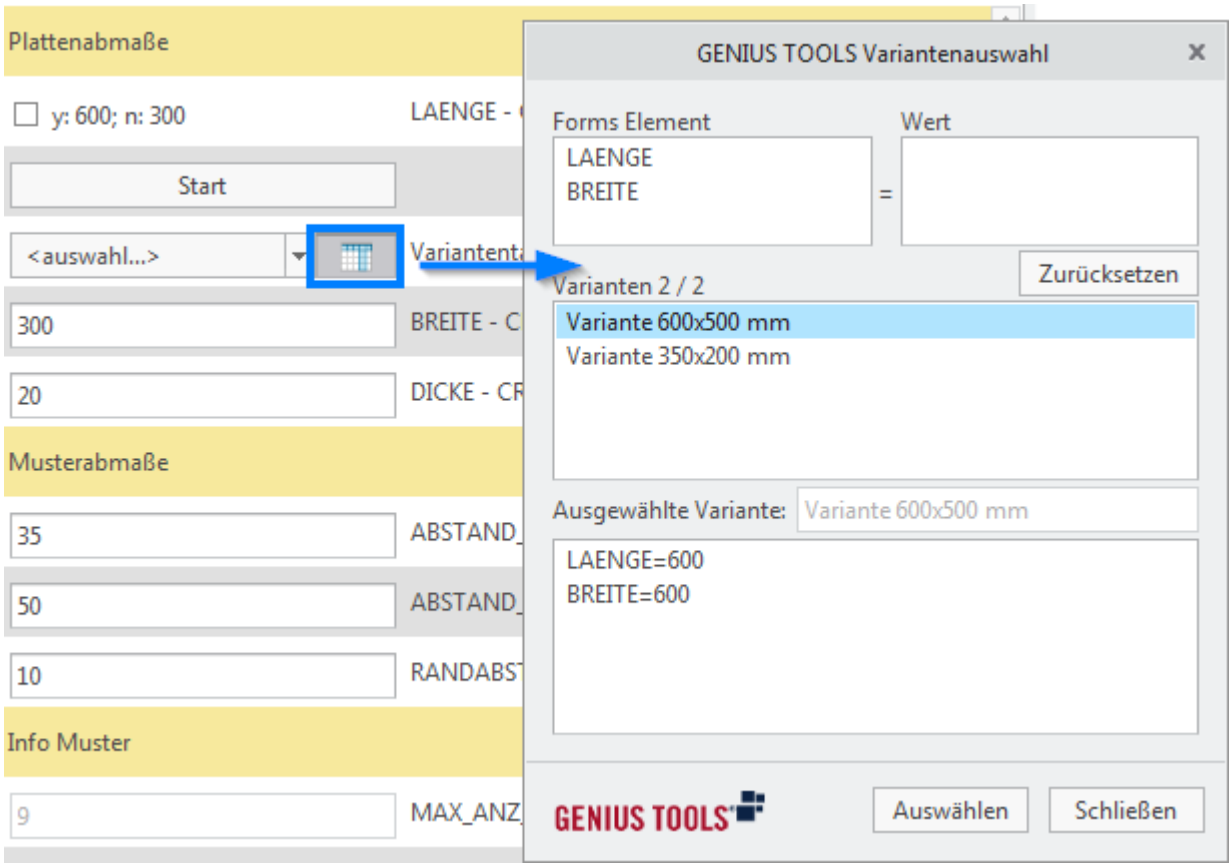
If a checkbox is active (checkmark is set), the component/feature is displayed. With a deactivated checkbox, the component/feature will be suppressed after regenerating.

Please note: On resuming, dependent suppressed elements are not resumed.

Click on the icon of the suppression to highlight the component/feature that should be suppressed in Creo.

Variant tables

Variant tables affect multiple properties of a model at the same time. Select the variants via the list or use the button *Variant selection* as an alternative to filter variants.



Existing variants can be filtered by individual properties via the variant selection

Execute mapkeys

Mapkeys deposited in the Form are started by clicking on the associated button.



The label depends on the configuration

4.3 Configuration

This section contains further information on Forms Editor. In the Use cases subsection, you can find suggestions for creating and configuring Forms

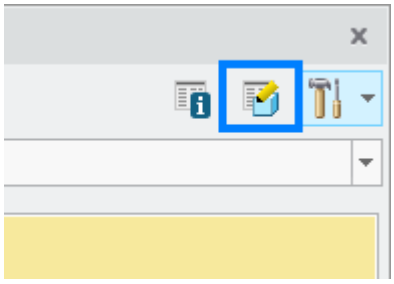
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4.3.1 Forms Editor

With the editor, forms are created for GENIUS TOOLS Forms.

Starting the program

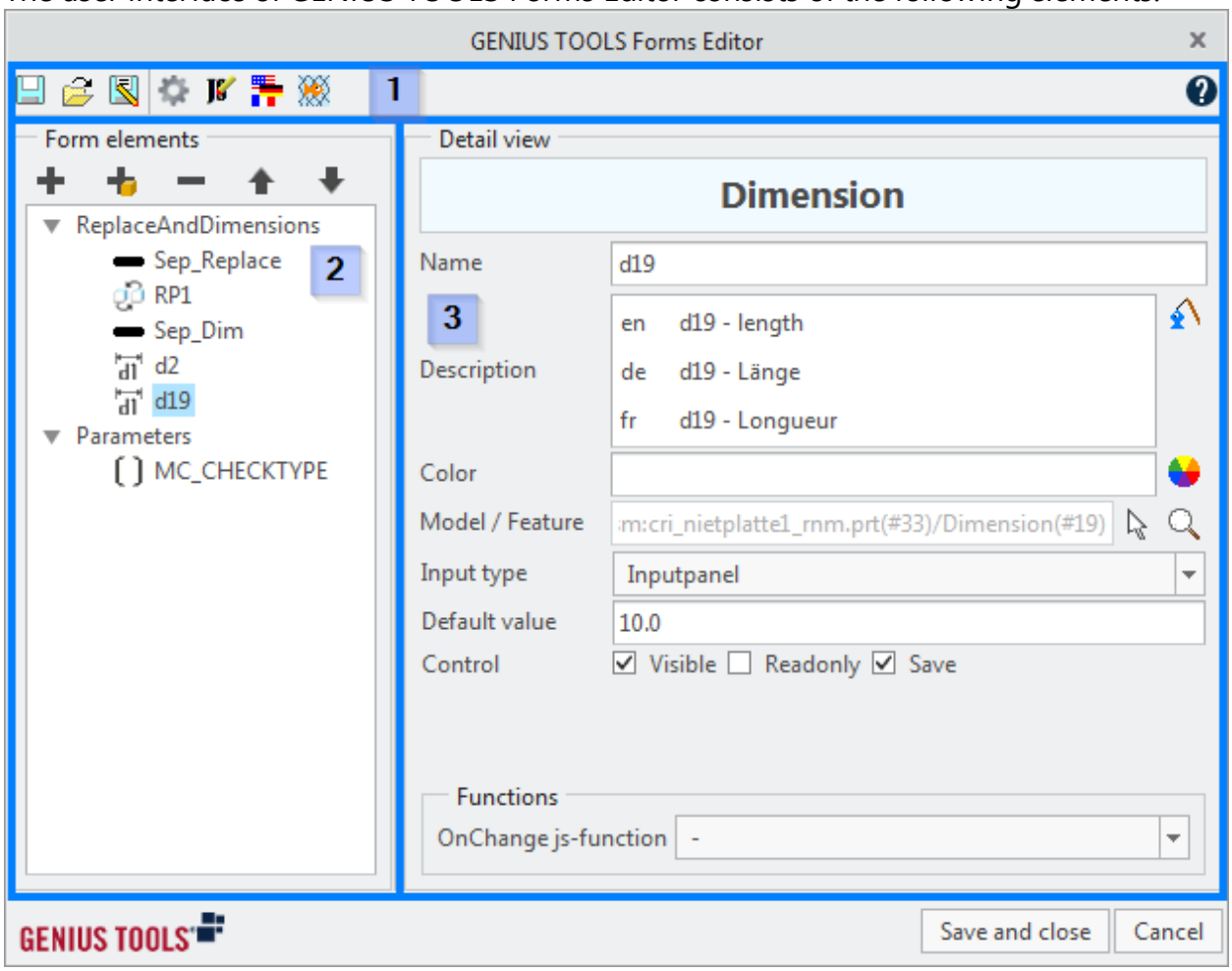
Start GENIUS TOOLS Forms Editor from the command bar in the Forms window.



Starting from the GENIUS TOOLS Forms window

4.3.1.1 User interface

The user interface of GENIUS TOOLS Forms Editor consists of the following elements:



Forms Editor after call-up

1. Command bar
2. Form elements list

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3. Detailed view

4.3.1.2 Command bar

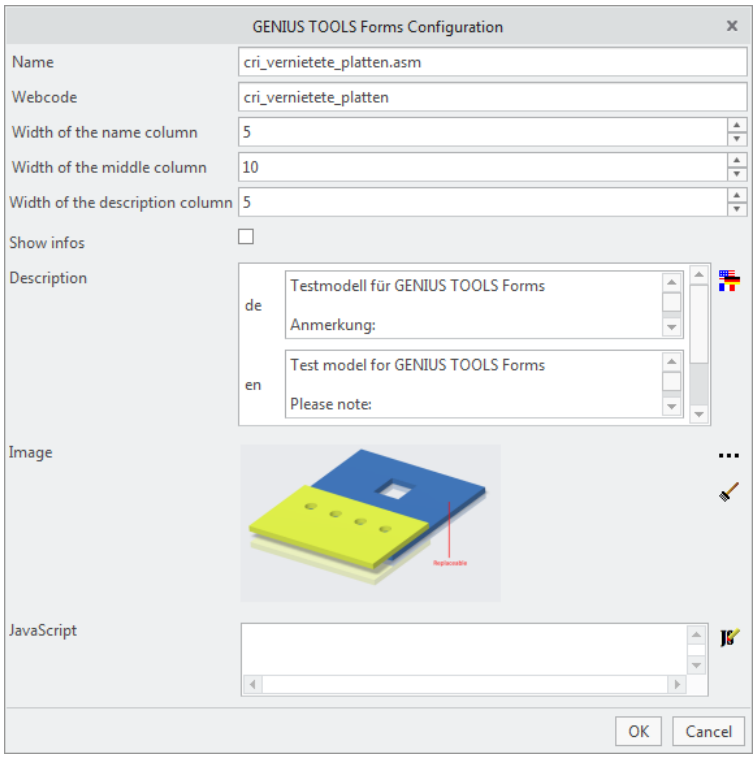
The following buttons are contained in the command bar:

Icon	Name	Description
	Save	Saves the current Form and closes the editor.
	Open	Opens the Forms definition.
	Save as	Saves the current Form as a Forms definition (XML file)
	Edit Forms configuration	Opens the dialog for advanced configuration.
	Start JavaScript Editor	Opens the JavaScript Editor.
	Manage languages	Opens the dialog to manage the languages of a Forms definition.
	Automatic standard texts	Opens the dialog for automatically setting standard texts for all form elements used. The groups serve as separators in the table. The names of the form elements are used as keys for the translation. See Set standard texts for multiple elements 293
	Help	Opens the Help.

4.3.1.3 Forms configuration

The Forms configuration specifies
– the column width of a Form
– description and sample image
– JavaScript to be used in the Form

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Different information is deposited in the Forms configuration

Name: The displayed name of a form.
Webcode: The Webcode of a form. The Webcode establishes the connection between Forms and GENIUS TOOLS Library.
Name and Webcode are automatically filled with the file name when a form is created.
Width of the name/value/description column: Specifies the width of the respective column in characters. To hide a column enter the value "0". Use the value "-1" to apply the configuration default values to the columns.

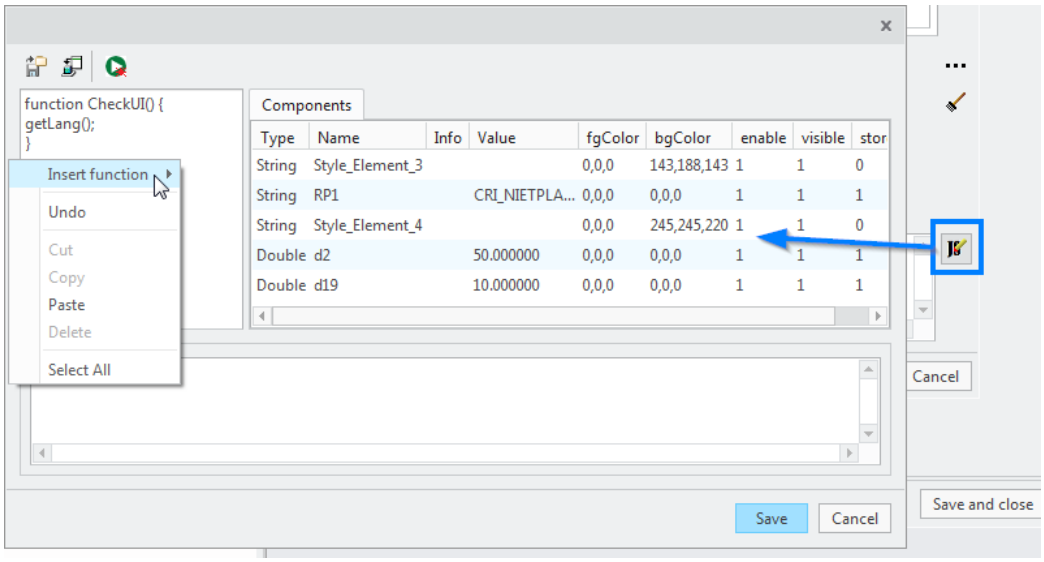
Please note: Do not hide the value column if you want users to fill out the form.

Display information: Automatically displays the information area when a form is opened.
Description: Enter a descriptive text for the form in the fields. Use the Localization button to manage the languages.
Preview image: Enter any image here. Images are saved directly in the Forms definition. The size of the saved image depends on the configuration options `gt_image_width` and `gt_image_height`.

4.3.1.4 JavaScript in Forms

The field JavaScript contains executable JavaScript code. Enter JavaScript directly into the input field or use the JavaScript Editor 305. Click on the JavaScript symbol to open the editor. Go here 307 for an explanation of the JavaScript functions and short examples.

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Use the JavaScript editor to write functions for Forms

JavaScript can be executed at four different times:

– After loading the Form (function: PostLoad)
– Before saving the Form values (function: PreSave)
– After clicking the button **Check values** in the Forms dialog (function: CheckUI)
– After changing a Form value (function: OnChange). Loading values from a CSV or XML file does not trigger any JavaScript OnChange functions.

The names of PostLoad, PreSave and CheckUI are fixed. Functions of the type OnChange can have any name. You can add as many as required to your JavaScript code.

Warning: Avoid loops when programming.

4.3.1.5 List control

The list control is used to manage Form elements. The following buttons are contained in the list control:

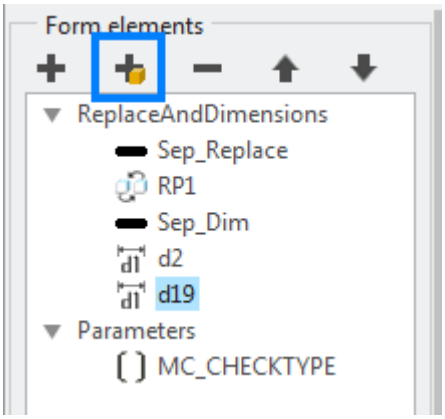
Icon	Name	Description
✚	Add form element	Creates a new Form element.
✚	Add group	Creates a new group, displayed as tab in GENIUS TOOLS Forms
▬	Remove form element	Deletes the selected Form element or group. **Warning**: Groups are deleted with their content. Move any form elements you still need before deleting a group.
▲/▼	Move form elements in list	Moves the selected Form element up or down in the list.

To move a group or an element into another group, right-click to open the context menu and select **Move to new group** or **Move to group** (to select an existing group).
You can also select multiple elements and move them using the move buttons, or via drag and drop.

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Elements list

Below the list control is the elements list. All form elements are displayed in the same order as in the form section of Forms.



The elements list. Use the second Plus button to add Groups (Tabs in Forms)

Select an element to display the detail view and to make changes.

4.3.1.6 Adding form elements

Use the plus button from the list control elements ✚ to add a new form element.
The following types of form elements are available:

- Dimension. Dimension elements can be configured as an input fields, radio buttons, selection fields or advancec selection fields. For information on field types, see Field types 61.
- Renamed dimensions. Select a model or feature. All dimensions whose name has been edited are automatically added to the current form definition as dimension elements.
- Model parameter. Model parameters can be configured to use different types of form fields according to their type. For information on field types, see Field types 61.
- Component parameter. Component parameters can be configured to use different types of form fields according to their type. For information on field types, see Field types 61.
- Feature parameter. Feature parameters can be configured to use different types of form fields according to their type. For information on field types, see Field types 61.
- Feature/component suppression. Form elements for suppressing features or components have dedicated configuration options, see Suppressions 59.
- Component replace. Form elements for replacing components have dedicated configuration options, see Replacements 59.
- Separator. Separators for structuring forms have dedicated configuration options, see Separators 59.
- Value table. Value tables define groups of values for multiple existing form elements. For information on how to configure value tables, see Value tables 62.
- Mapkey. Mapkey elements are displayed as buttons in the form. For information on how to configure Mapkey elements, see Mapkeys 59.

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– Material. For information on how to configure material selection fields, see Material selection 60.

Mapkeys

Mapkey elements are displayed in the form as buttons and require special configuration.
Define the label for the button under **Mapkey Name** and the Mapkey code to be executed under **Mapkey**.
Use the **Shorten Mapkey** button to display long Mapkeys in a more compact format.

Replacements

Forms elements for replacements are used to replace models or features by other models or features. Component replacements can be managed using any type of input field, but using drop-down lists is recommended.
Use the selection button to define the model or feature to be replaced using the model tree or a model. Under **Scope**, define whether the selected model instance or all component models of the same name should be replaced.
To designate instances, use the following format: `Instance<Generic>.prt`.

Warning: Take care to use the correct spelling for instances.

You can use models or features from the current work directory, from the directory of the assembly or from family tables.

Please note:Forms are processed from the top down. Everything that comes before a replacement action is applied to the old model. Everything that comes after a replacement action is applied to the new model.
Replacement actions are only supported for interchange assemblies and instances from family tables.
Replacing all models of the same name only works within the same assembly.

Suppress actions

Forms elements for suppress actions define the suppress state of a model or feature.
Use the selection button to define the model or feature to be suppressed using the model tree or a model. Under **Scope**, define whether the selected model instance or all component models of the same name should be replaced.
Suppress actions are displayed as a check box in the Form. Select the default state of the check box under **View**.

Please note: Suppressing all models of the same name only works within the same assembly.

Separators

Separators are used to organize a Form and group its elements.
To configure a separator, enter a name and localized descriptions for it.
Use the **Hidden** option in order to use a separator in the Editor only.

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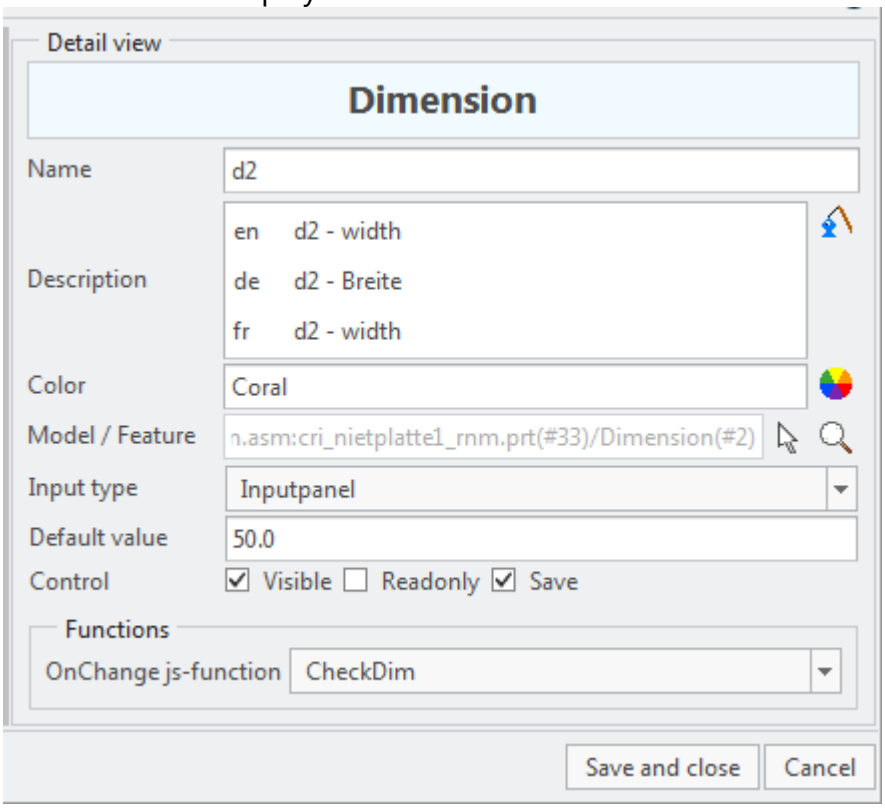
Tip: The name of a separator can be manipulated using JavaScript.

Material selection

Material Form elements are used to assign materials to models.
To configure a material field, enter a name and localized descriptions for it.
Enter a default value. The default value is descriptive only. An appropriate material still has to be selected by the user.

4.3.1.7 Detail view

Single Forms elements are configured in the detail view. Click on an element in the elements list to display its detail view.



Detail view of a dimension element

General Options

All form elements have general options:

Name
Specifies the displayed name of a form element (second column in the Form).

Title
For groups only: The title is used as a label for the tab for the selected group. It can be entered in multiple languages. If a group does not have a title, its name is used to label the corresponding tab.

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Description
Specifies a localized description of a Forms element (fourth column in the form section). The displayed description depends on the configuration options `gtf_lang` and `gtf_def_lang`. Standard texts can be added via the button (Description of the standard text selection dialog 292).
Use the languages dialog (flag icon in the Command bar) to enter descriptions in multiple languages.

Please note: Description texts are limited to 80 characters.

Color
The color of the row of the Forms element. Enter a color directly from the RGB color space (comma separated) or click on the color circle to select a color (Description of the color dialog 341). Depending on the brightness of the background color, it is determined whether the foreground color of the element is white or black.

Display settings

Default value
Specifies the preset default value of an element.

Set hidden
Specifies whether an element will be hidden in the form section (e.g. with elements affected by variant tables).

Set read only
Prevents write access to a field.

Save
Prevents saving the element value to the model.

Tip: Use the *Set read only* option for input fields in combination with variant tables. This way, changes through variants become visible without enabling users to modify individual values.

Functions

An OnChange function is specified at Functions. This function must be deposited in the Form via the JavaScript editor.
OnChange functions are executed when the value of a form element is changed automatedly (e.g. through variant tables) or manually (when exiting a field).

Please note: Avoid creating infinite loops with your functions.

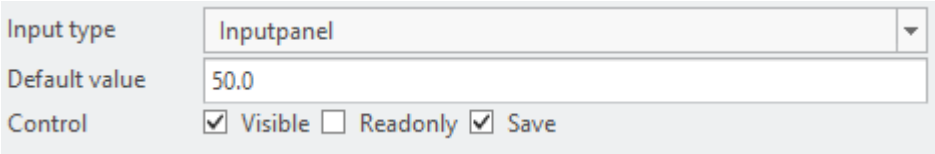
4.3.1.8 Field types

GENIUS TOOLS Forms uses different types of fields.

Input fields

Input fields accept different entries.

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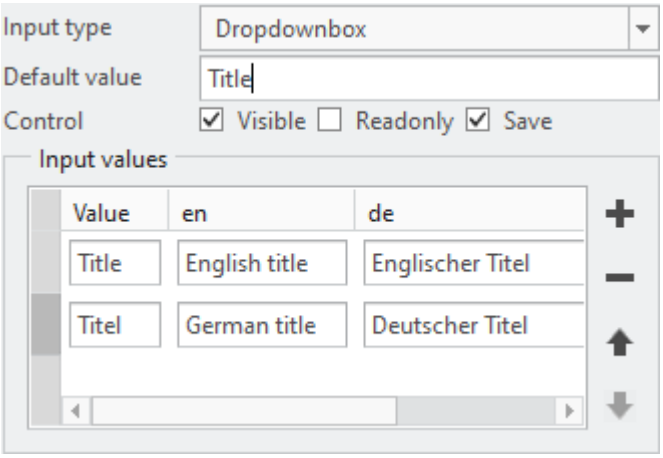


Enter a default value for text fields. The default value is the prefilled value in the form.

Please note: The default value is only displayed if it constitutes valid input. If not, the current value from the model is displayed.

Selection fields, advanced selection fields and radio buttons

Selection fields, advanced selection fields and radio buttons are configured using a table of values and labels.



Use the plus button to add a row. Select a row and click the minus button to remove a row.
Use the arrow buttons to move rows up and down.
The table contains pairs of values and labels. The label is displayed in the field instead of the value in the Form section of the Forms interface. Labels are language-dependent.

Binary check boxes

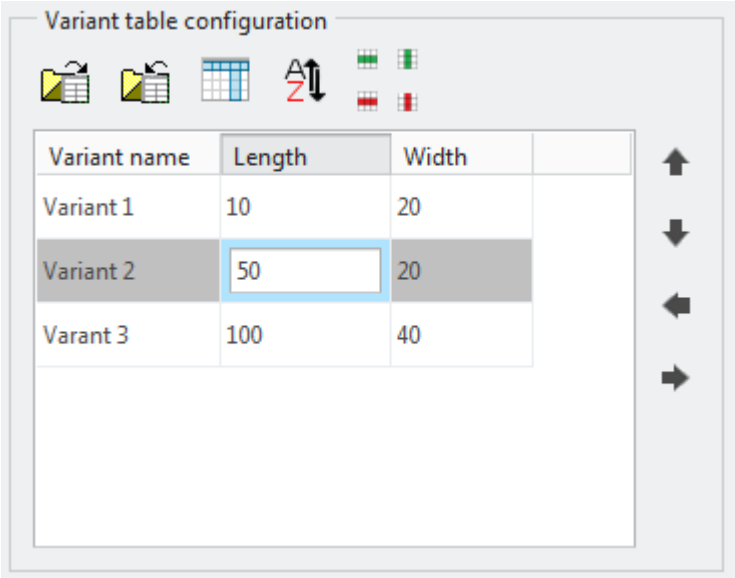
Binary check boxes require a value for their set state and a value for their unset state. Enter values for both states into the two input fields and define which state is set by default when the Form is opened via GENIUS TOOLS Library.

Value tables

Value tables define pre-set groups of values for existing Forms elements such as dimensions, parameters, replacements and suppress actions. Each table row in the configuration represents one variant.

Tip: If a Forms element is not used in a certain variant, just leave its cell for that variant empty.

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Use the arrow buttons to move rows and columns in the table

The following functionality is available for editing value tables:

Icon	Name	Description
	Import value table from file	Imports a value table from the following file formats: – xls (Excel 97-2003) – xslx (Excel 2003-2016) – csv (Comma-separated values) – txt (text files with UTF-16LE/Unicode formatting)
	Export value table to file	Exports a value table to the formats: – xls (Excel 97-2003) – xslx (Excel 2003-2016) – csv (Comma-separated values)
	Edit value table in spreadsheet software	The value table is opened in a spreadsheet program (depending on the client computer) and can be edited. Then it is reimported.
	Sort selected column	Sorts the rows by the active column. Three sorting orders are available: – 0-Z – Z-0 – initial
/	Add/Remove row	Adds a new line under the current cursor position. To remove, select a row and click *Remove row*.
/	Add/Remove column	Adds a new column to the right of the current cursor position. To remove,

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		select a column and click *Remove column*.

Use the arrow buttons an the right side to move rows or columns.

> **Please note**: Any changes to a value table made in a spredsheet program (deleting, moving or editing rows or columns) are adopted as-is in GENIUS TOOLS UDF Forms.

4.3.2 Use cases

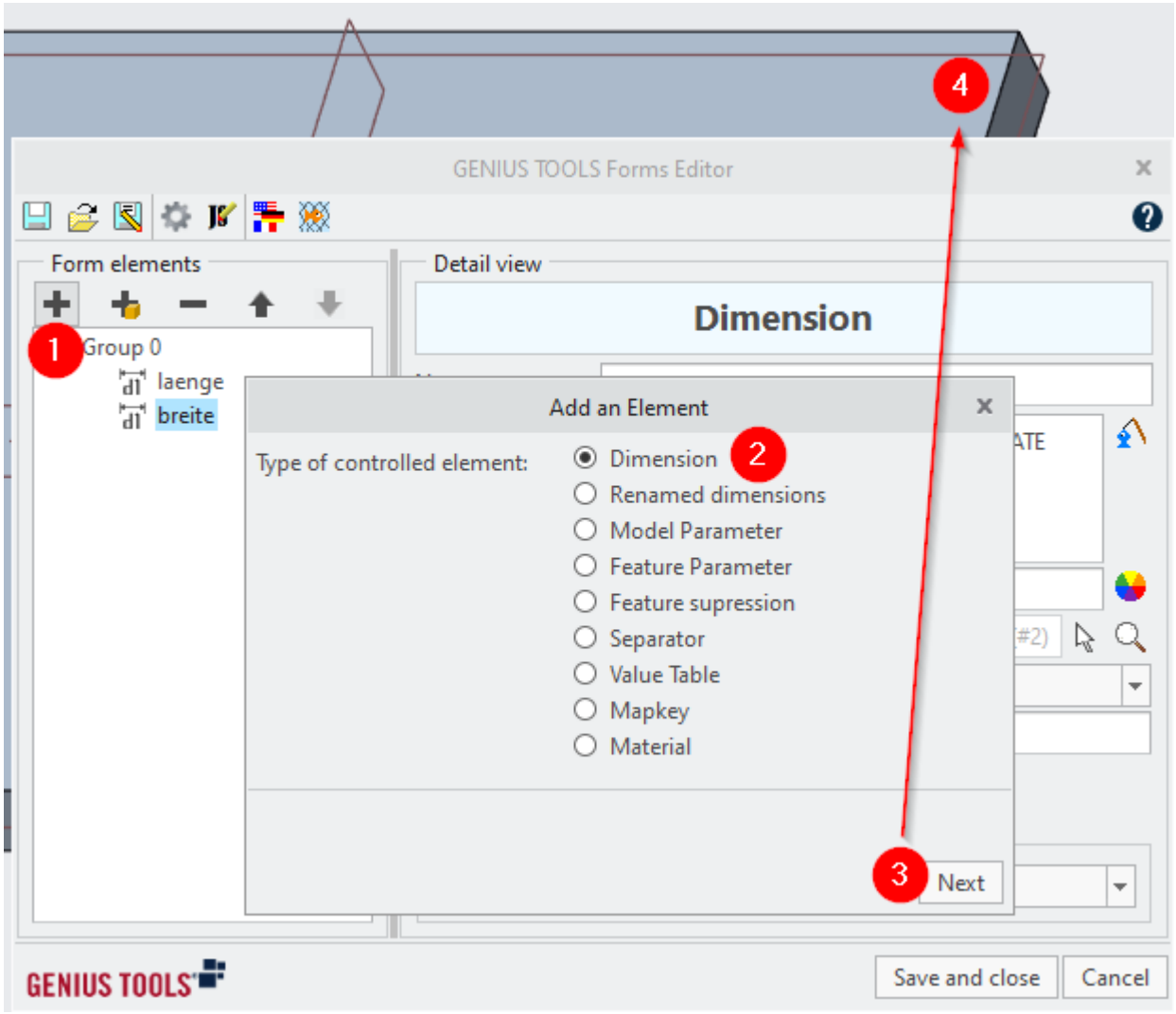
In this section, you will find short instructions on tasks relating to Forms Editor.

Creating separators and read-only input fields

In this example, a separator and three input field are created in a Form for the start plate. The input fields display the values of the dimensions *Length*, *Width* and *Thickness* as read-only fields.

1. Open and copy the start plate via GENIUS TOOLS Library (database: GT-Library example data).
2. Open GENIUS TOOLS Forms Editor. Delete form elements not needed using the minus button.
3. Click the plus button and add an element of type *Dimension*.
4. In the opened part select the required dimension (*Length*).

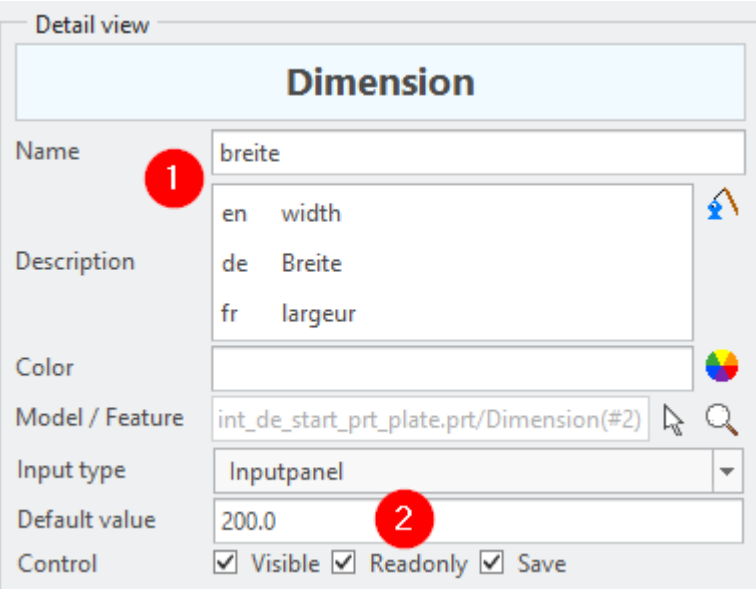
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Click on the Plus button (1). Select the type Dimension (2), confirm the dialog (3) and select the dimension in the model (4).

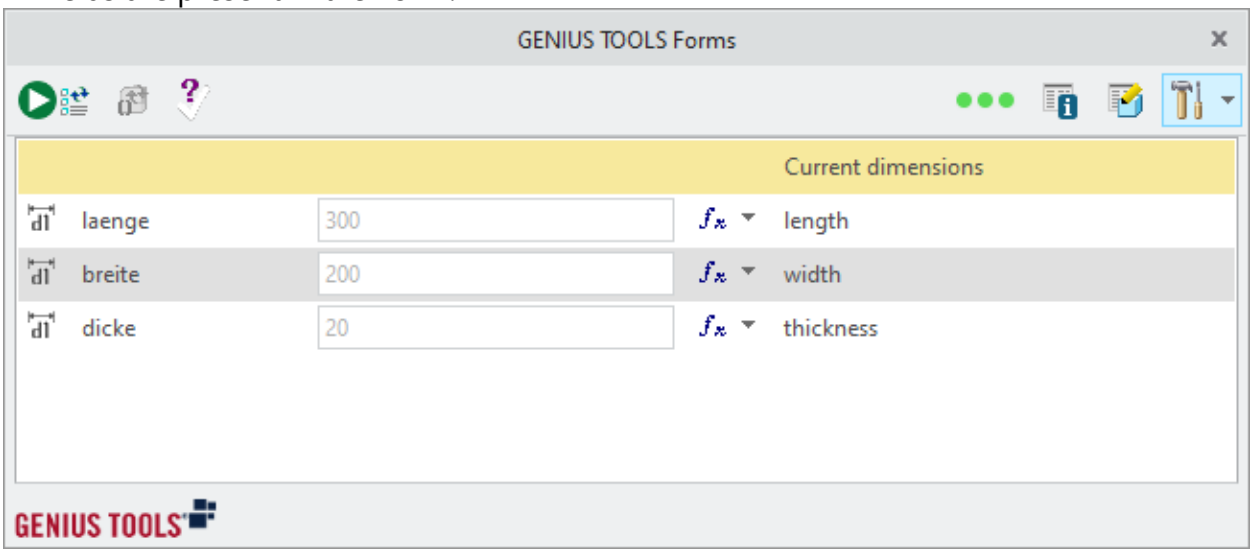
5. Enter a name and a description in the required languages.
6. Set the input field to read-only.

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Enter a name and a description (1) and set the field to read-only (2).

7. Repeat the steps 3-6 with the two other dimensions (*Width* and *Thickness*).
8. Add an element of type *Separator*, enter a name and a meaningful description in the required languages and place the separator above the three input fields.
9. Save the Form in the model and save the model. The separator and the read-only input fields are present in the Form.



Separator and read-only input fields are displayed in the Form.

Creating a variant table

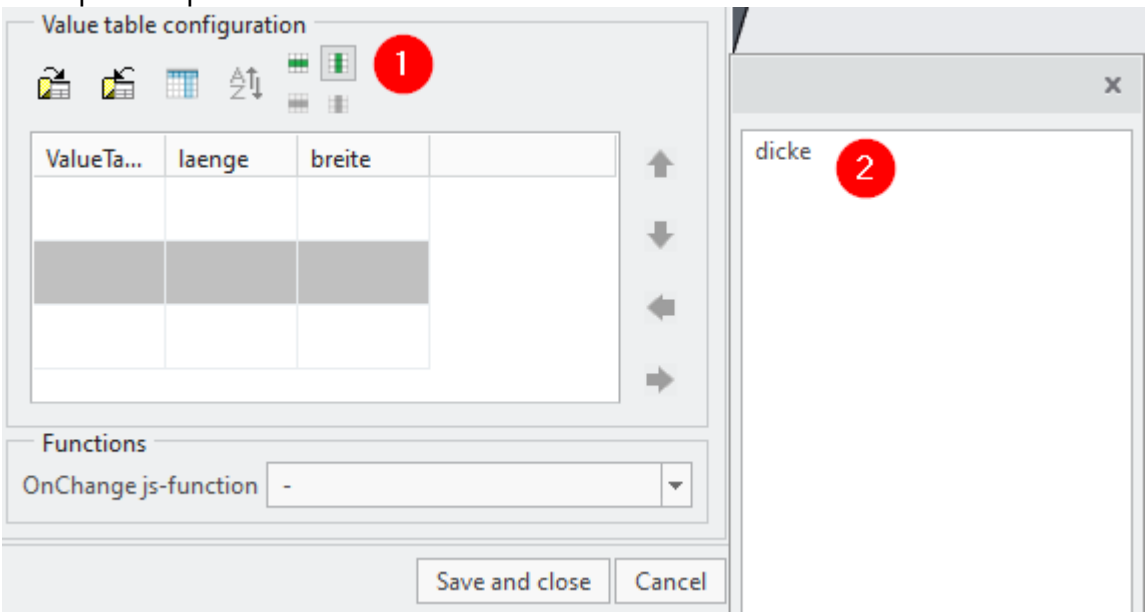
In this example, a variant table for the start plate is created. The variant table controls the three dimensions: *Width*, *Length* and *Thickness*.

Please note: Variant tables can only be created for existing Forms elements.

1. Open the part from the example **Creating separators and read-only input fields**.
2. Open GENIUS TOOLS Forms Editor.
3. Click the plus button and add an element of type **Value table**.

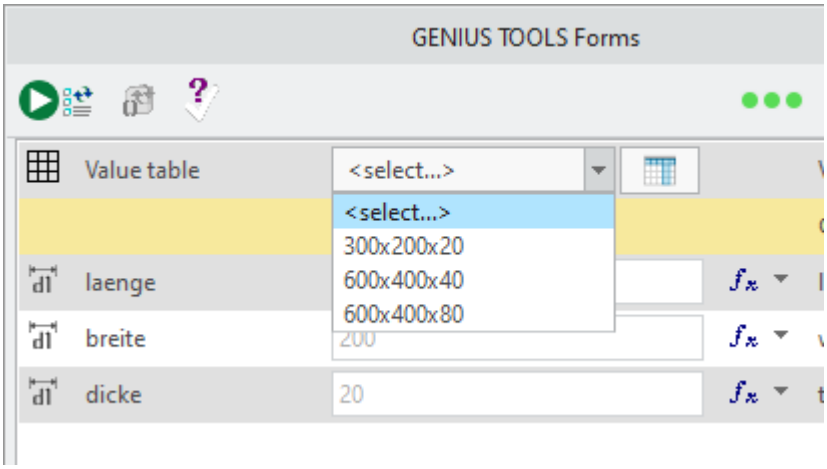
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4. Enter a name and a meaningful description in the required languages.
5. In the value table configuration, click **Add row**. Add three rows altogether.
6. Enter a descriptive name for the variants.
7. In the value table configuration, click **Add column**. In the dialog, select the dimension that defines the length of the part.
8. Repeat step 7 for the dimensions width and thickness.



Add a column (1), then select the Forms element (2) to be controlled.

9. Enter the values for the different variants.
10. Move the variant table to the beginning of the elements list using the arrow buttons.
11. Save the Form in the model and save the model. Exit the editor.



Completed value table in the Form

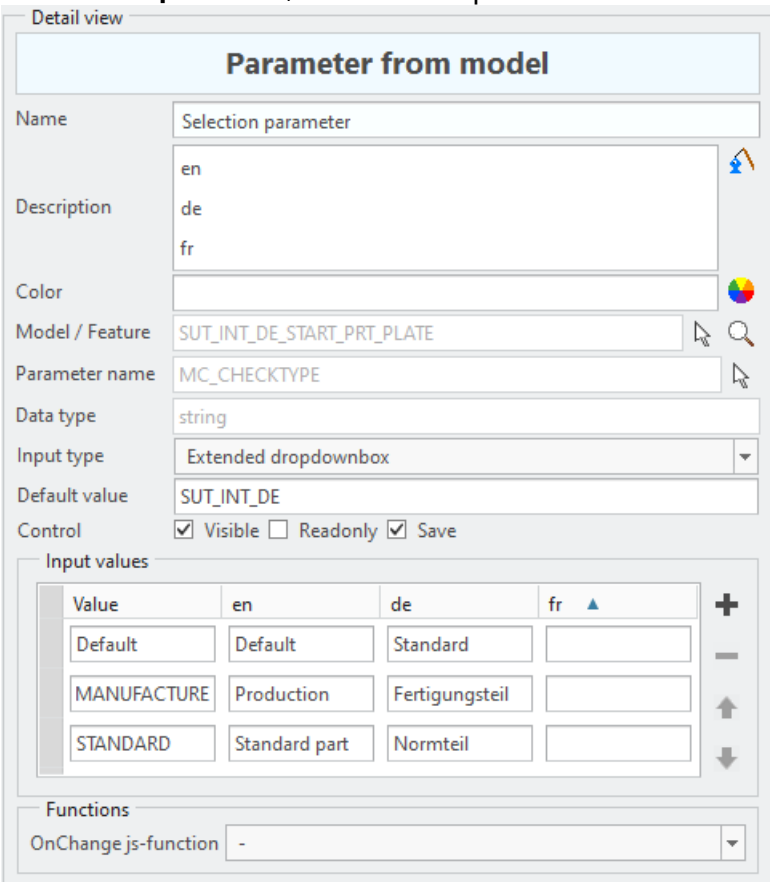
Creating an advanced selection field for a parameter

In this example, an advanced selection field for a parameter is created. The parameter (MC_CHECKTYPE) used in this example affects the parameter definition selection in GENIUS TOOLS Parameter.

1. Open the part from the previous example.
2. Open GENIUS TOOLS Forms Editor.

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3. Add a new element of type **Model Parameter**.
4. Select the element containing the desired parameter in the model tree, and select the parameter in the Creo parameter selection.
5. Enter a name and a description.
6. Set the input type to **Extended dropdownbox.**
7. Under **Input values**, enter the required values and a label for the values.



Enter value-label pairs in the input values section.

8. Save the Form and close the editor. The advanced selection field is available in the Form.

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5 Inspect

Insert inspection symbols and inspection symbol tables on drawings in Creo Parametric with GENIUS TOOLS Inspect.
Inspection symbols are numbered symbols marking characteristics that have to be considered in quality control because they are critical to the quality of function of the finished part or product. Inspection symbol tables contain an overview of all inspection symbols used in a drawing.
Inspect is available in drawing mode with the following features.

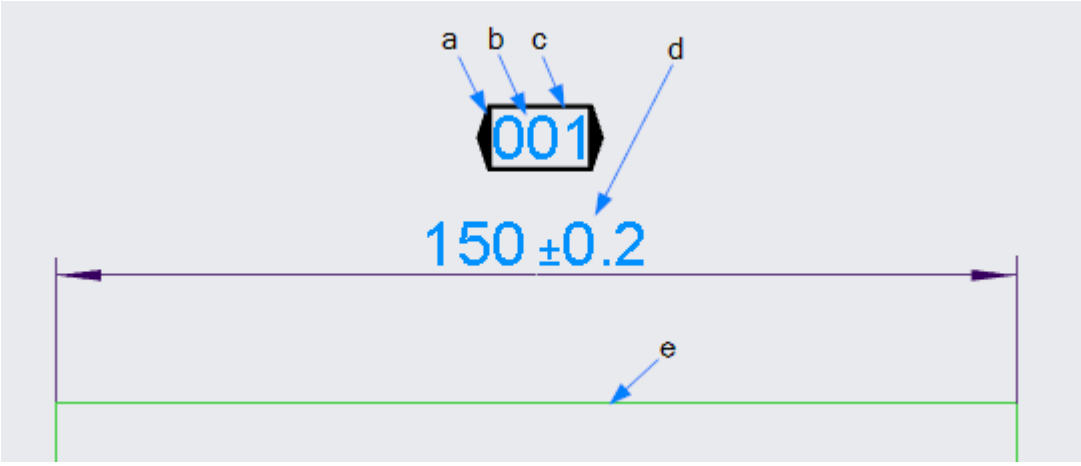
- free placement of inspection symbols
- placement of inspection symbols linked to
  - dimensions
  - shape and position tolerances
  - surface quality symbols
  - notes
  - symbols
- free placement of inspection symbol tables
  - numbering table (overview of types of inspection symbols with the numbers used)
  - report table (overview of all properties of inspection symbols)
- numbering of inspection symbols
  - by height
  - by symbol type
  - similar to DIN 6770 (numbers are not assigned anew)
- data export to Excel

5.1 Fundamentals

The figure below shows an inspection symbol generated with GENIUS TOOLS Inspect with its individual components.
Each inspection symbol (numbered symbol) marks a characteristic in a technical drawing.

a) symbol
b) number of the characteristic
c) inspection symbol, consisting of the symbol (a) and the number of the characteristic (b)
d) value of the characteristic
e) characteristic in the drawing, e.g., length of a geometry element

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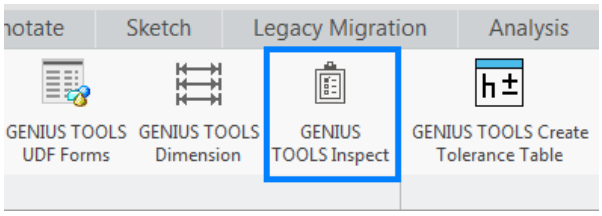


5.2 Usage

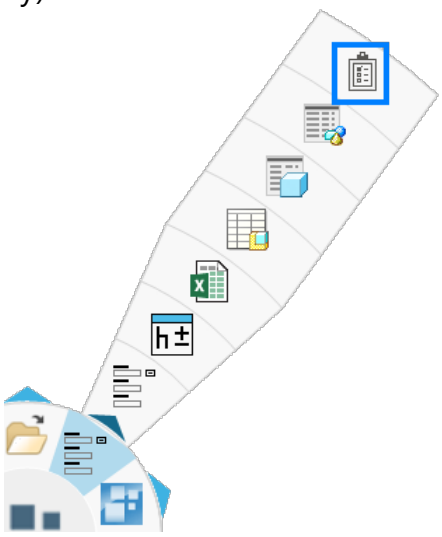
This section contains information on using GENIUS TOOLS Inspect. It describes the general structure of the program.

Starting the program

Start GENIUS TOOLS Inspect in drawing mode from the ribbon menu in the GENIUS TOOLS tab or via GENIUS TOOLS Quick Access ([<] key).



Starting via the ribbon menu

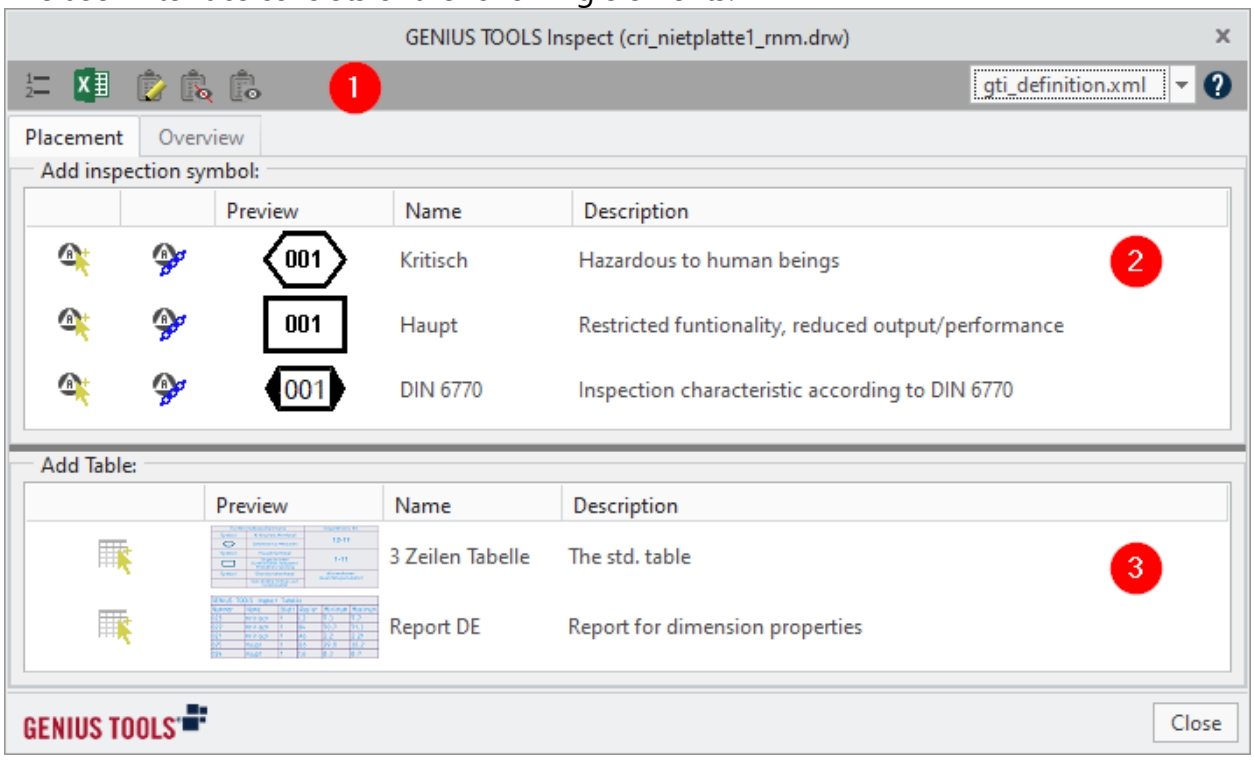


Starting via Quick Access

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5.2.1 User interface

The user interface consists of the following elements:



1. Command bar
2. Symbol overview
3. Table overview

5.2.2 Command bar

The command bar displays general control elements. The following buttons are included:

Icon	Name	Description
	Number symbols	Numbers all placed symbols. The numbering is determined by configuration options.
	Export to Excel	Opens the export dialog for the symbol table.
	Hide Inspect Elements	Hide all Inspect elements. **WARNING**: Linked symbols are unlinked from their targets.
	Unhide Inspect Elements	Unhide all Inspect elements. **WARNING**: Linked symbols are re-linked to their targets. If the target for a symbol cannot be found in the drawing, the symbol is deleted.
	Open Inspect Editor	Opens the editor.
gti_definition.xml	Configuration selection	Switches between multiple Inspect configurations that can contain different

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		symbol and table definitions as well as view settings.
	Open Help	Opens the help.

Always place all symbols before numbering them.
The numbering of symbols is influenced by the configuration options 352 `gti_number_sort_at_height`, `gti_number_sort_at_type`, `gti_start_number` and `gti_din_compliant`. For more information, please refer to Numbering 75.

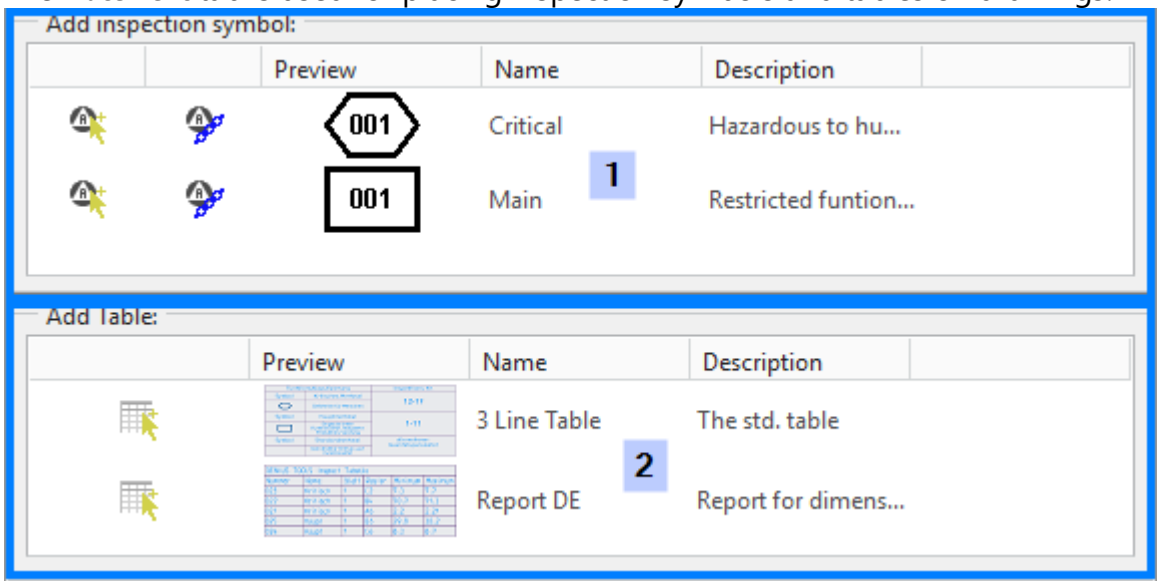
Warning: Do not use the same symbol in different Inspect configurations if you are using numbering similar to DIN 6770. Otherwise, you may experience numbering conflicts.

5.2.3 Positioning and Overview tabs

The user interface is divided into two tabs: **Placement** and **Overview**.

Placement

The **Placement** tab is used for placing inspection symbols and tables on drawings.



Available inspection symbols are displayed under **Add inspection symbol**. Each inspection symbol can be added to a drawing as an independent element or linked to an object. Click on the respective icon to add inspection symbols to a drawing.

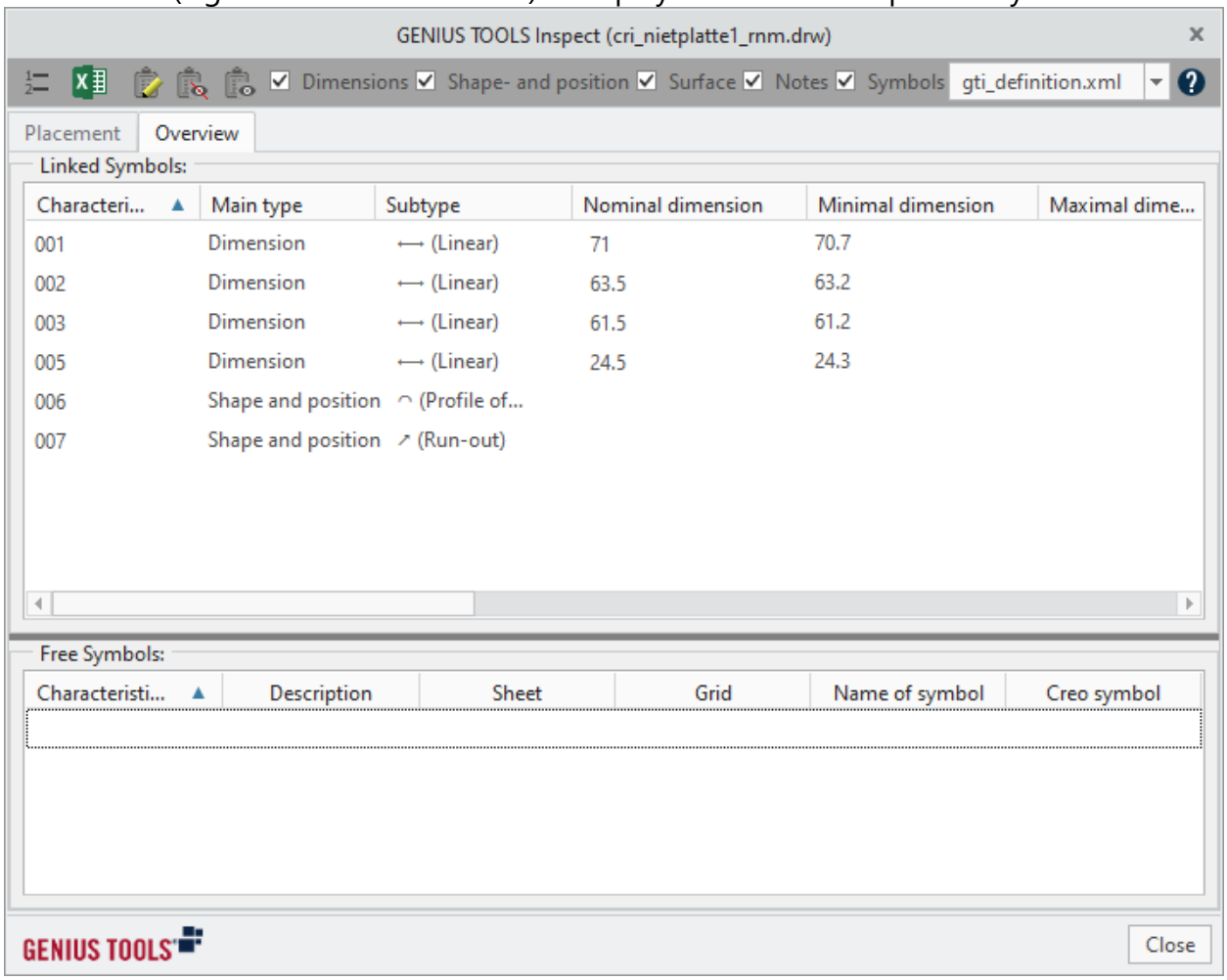
Inspection characteristics
Free insertion: Use the left mouse button to place inspection symbols on the drawing as independent elements. Use the middle mouse button to cancel the placement.
Linked insertion: Place inspection symbols in two steps. First, select a drawing element with the left mouse button. Second, place an inspection symbol on the drawing using the left mouse button. Use the middle mouse button to cancel the placement. If you select a range before clicking the button, inspection symbols are placed in the selection with the distance to all dimensions defined in the configuration option `gti_size_wchar`.
Inspection symbols can be linked to dimensions, shape and position tolerance symbols, surface quality symbols, notes and drawing symbols displayed on drawings.

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Tables
Available symbol tables are displayed under **Add table**. Click on the placement icon and place the table freely on the drawing.

Overview

The *Overview* tab shows all inspection symbols that have already been placed. Additional information (e.g. tolerance information) is displayed for linked inspection symbols.



The overview is controlled by the editor.

Use the filter in the upper right corner to show or hide inspection symbols linked to dimensions, shape and position tolerances, surface qualities, notes or symbols.
The out-of-the-box inspection symbols include a description parameter. Its content is displayed in the **Description** column and can be changed.

Linking independently-placed inspection symbols

Right-click on an independently-placed inspection symbol. Then select the context menu item **Link element** and select a drawing element to link to.

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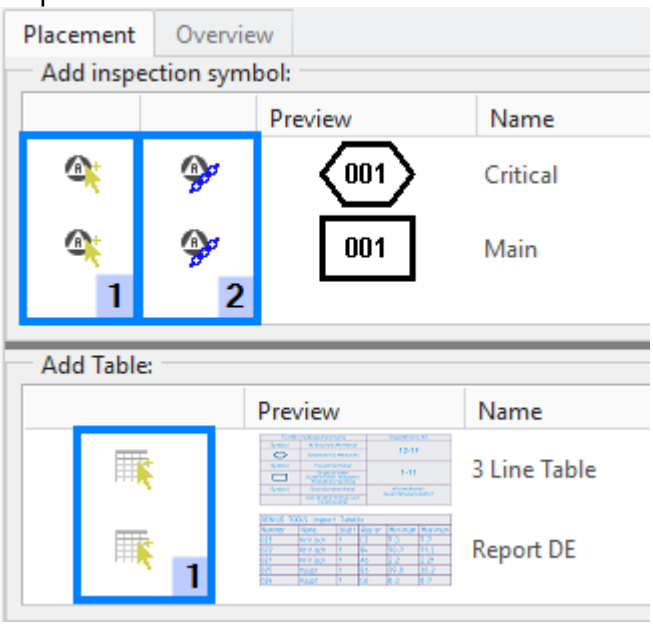
5.2.4 Usage examples

In this section, the usage of GENIUS TOOLS Inspect is explained using examples.

1. Positioning 74: Ways to place and link inspection symbols and tables on a drawing.
2. Numbering 75: Numbering options and their effect on numbering.
3. Overview 77: **Overview** tab functionality.
4. Hide and unhide 79: Showing and hiding inspection symbols and tables.
5. Export 80: Excel export of inspection symbol tables.

5.2.4.1 Positioning

In addition to the free placement of elements, there are additional options for attaching inspection features to elements.



User interface for placing inspections symbols and tables. Free placement (1), linked placement (2).

Free placement of inspection symbols and tables

Click the free placement button, then select the position of the inspection symbol or table on the drawing with the left mouse button.
You can position several inspection symbols, then stop the process by clicking the middle mouse button.

Linked placement of inspection symbols

Simple linked placement
Click the button for linked placement, then select a drawing element using the left mouse button.
Now place the inspection symbol on the drawing using the left mouse button. You can position several symbols, then stop the process by clicking the middle mouse button.

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Linked placement by previous selection (individual elements)
Select one or more elements in the drawing.
You can then automatically insert inspection symbols by clicking the linked placement button.

Linked placement by previous selection (area)
Select an area in the drawing. You can now automatically insert inspection symbols by clicking the linked placment button.
Inspection symbols will be linked to all dimensions in the selection.

> **Please note**: When you use automatic placement, the spacing of the inspection symbols depends on the length of the text of the drawing element and on the configuration option `gti_size_wchar`.
> Also, the placement is always made to the right of the drawing element.

5.2.4.2 Numbering

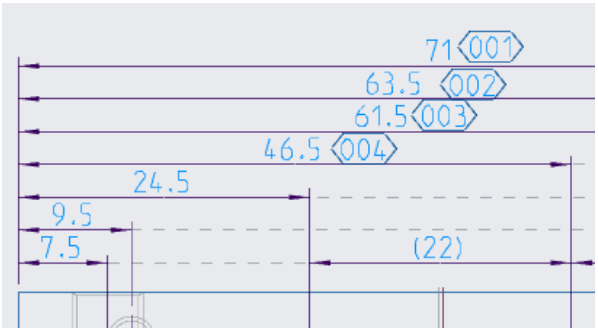
The numbering of the inspection symbols is influenced by the following configuration options: `gti_number_sort_at_height`, `gti_number_sort_at_type`, `gti_start_number`, `gti_din_compliant`.

Numbering similar to DIN 6770

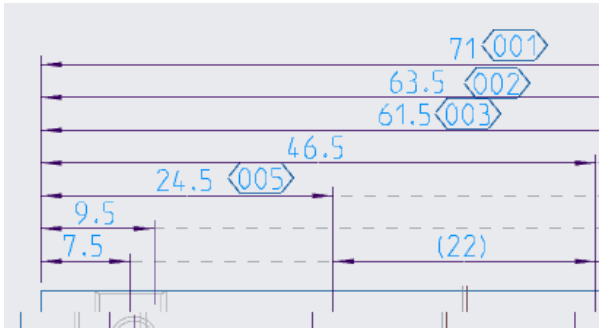
The configuration option `gti_din_compliant` determines whether numbering is similar to DIN 6770.
This means that numbers which have once been assigned to an inspection symbol will not be assigned again. To determine the next number, the highest number previously assigned is saved in the parameter `GTI_LAST_SYMBOL`
Only inspection features with the number 000 are re-numbered. 000 is the default value for newly placed inspection symbols.
The configuration `gti_numbering_all_sheets` is ignored when using DIN 6770 numbering.

Example
In the left figure, four new inspection symbols have been placed and numbered consecutively. If the inspection symbol with the number 004 is deleted, the number 004 remains stored in the parameter `GTI_LAST_SYMBOL`. In the right figure, a new inspection symbol has been placed. When the inspection symbols are re-numbered, the new symbol is numbered 005, not 004.

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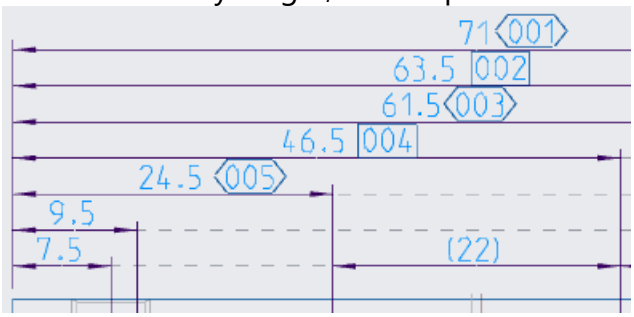
Placement of the inspection features and subsequent numbering with 001 - 004.



Placement of a new inspection feature and subsequent numbering with 005.

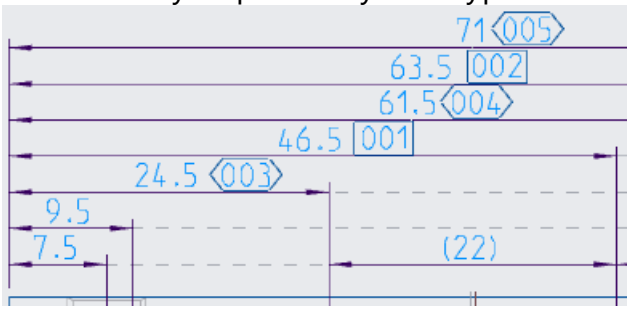
Numbering order

Numbering order is determined by the configuration options `gti_number_sort_at_height` and `gti_number_sort_at_type`.
The option `gti_number_sort_at_height` specifies whether the inspection symbols should be numbered by height, from top to bottom.



Numbering by height.

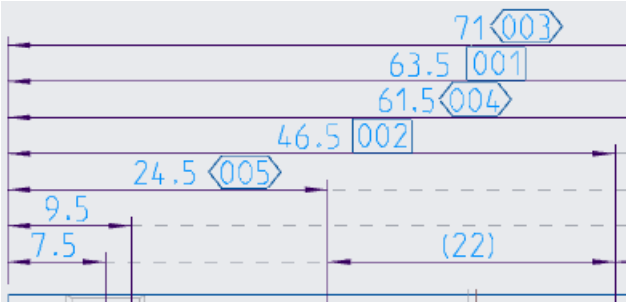
The option `gti_number_sort_at_type` specifies whether the inspections symbols are to be numbered by inspection symbol type. No sort rule is specified within each type.



Numbering by type.

If both numbering options are active at the same time, numbering is first by inspection symbol type and then by height within a type.

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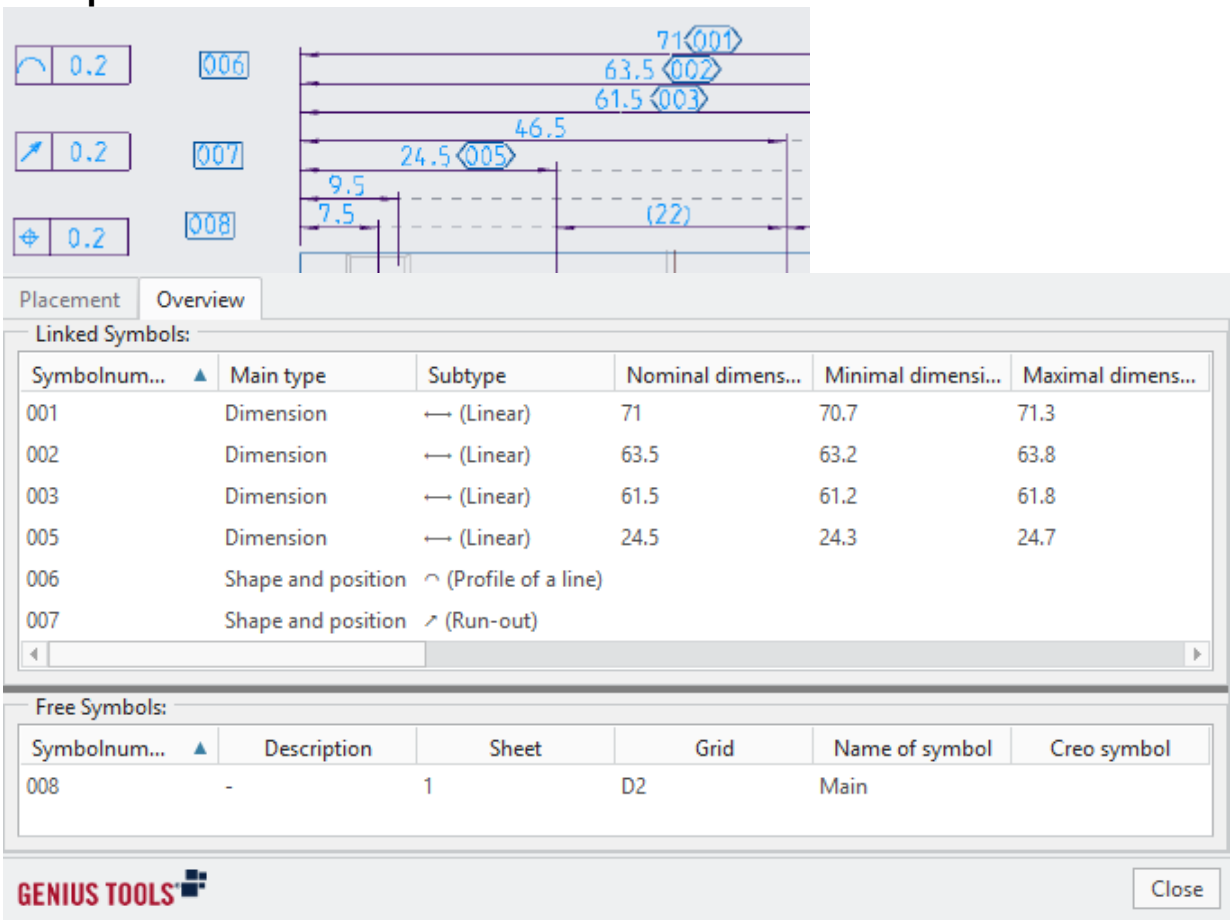


Numbering by type and height.

5.2.4.3 Overview

In the **Overview** tab, all relevant data on the inspection symbols is displayed in a table. Use the Editor to define the displayed columns and the column order.

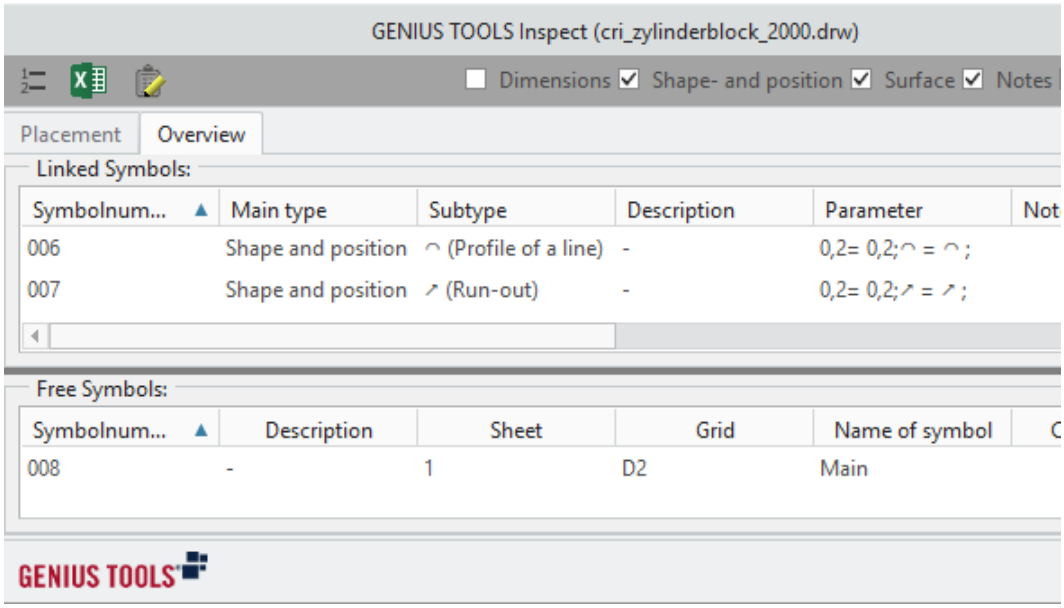
Example



Filtering

If you hide inspections symbols that are linked to a defined type of drawing element (e.g., dimensions or tolerances), columns that are only relevant for this type will also be hidden. Which columns are relevant to which type is defined in the Editor.

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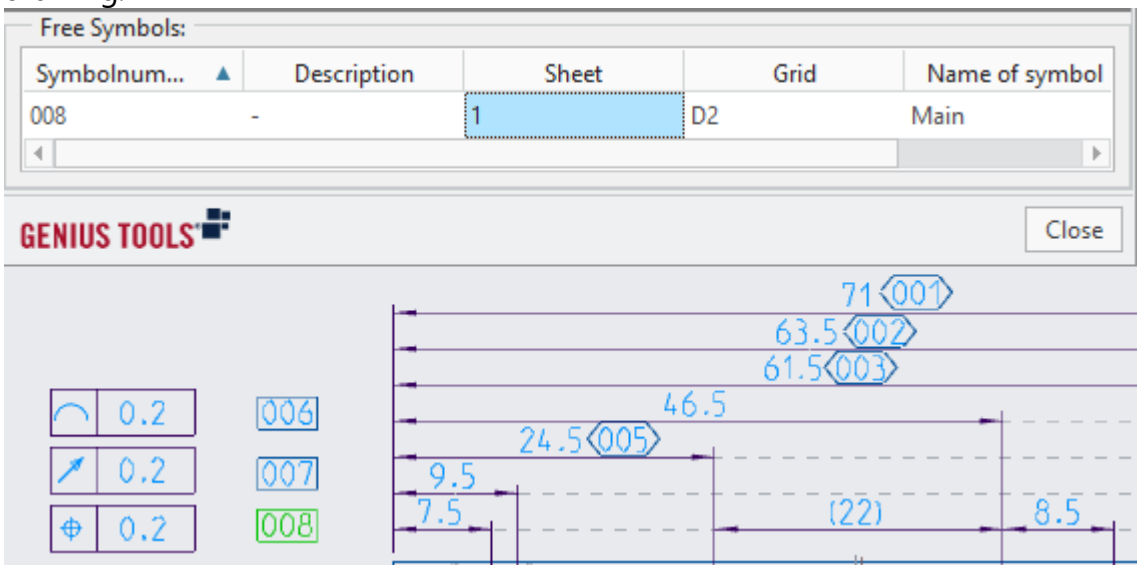


Sorting

By clicking on a column header, the inspection symbols are sorted according to this column. By default, the symbols are sorted by inspection symbol number (ascending).

Highlighting

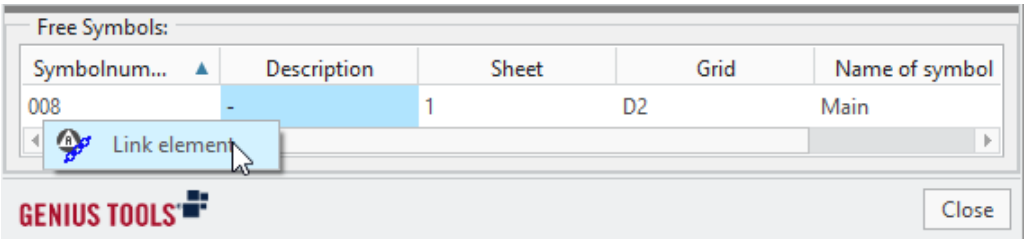
A click on any cell in an inspection symbol's row highlights the inspection symbol in the drawing.



Linking free symbols

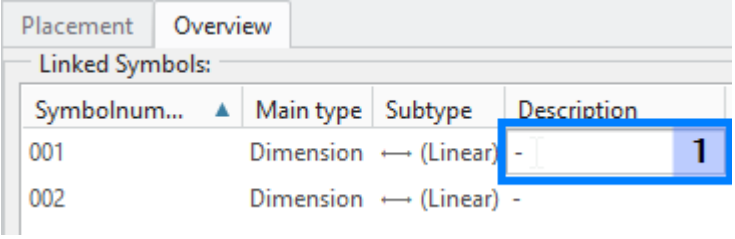
You can link free inspection symbols to drawing elements at a later date. To do so, right-click the inspection symbol to be linked in the **Free symbols** table. Now click **Link element** and select the corresponding drawing element by left-clicking.

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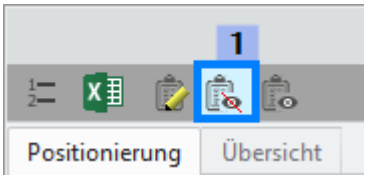
Insert description

A left click in the description column opens an input dialog for entering a description. This description is saved in the inspection symbol and will be available the next time Inspect is started.



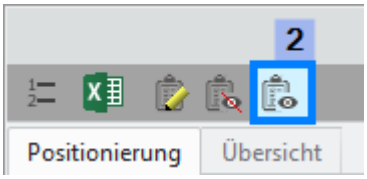
5.2.4.4 Hide and unhide

Hiding Inspect elements



To hide all Inspect elements, click the button shown above **(1)**.
All Inspect tables and Inspect inspection symbols that contain the variable text `LinkedTo` are hidden.
Symbols without the variable text `LinkedTo` are not hidden. This can be the case for inspection symbols created with version of Inspect prior to 6.0. The variable text has to be added to these symbols if you want to use the hide functionality.
When hiding Inspect elements, linked inspection symbols are unlinked from their target elements. The attributes of the target element are saved to the variable text `LinkedTo` to be able to re-link the inspections symbols when they are unhidden.

Unhiding Inspect elements



To unhide all Inspect elements, click the button shown above **(2)**.
All inspection symbols which were linked before hiding are re-linked to their target elements.

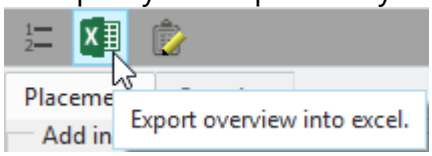
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Warning: Inspection symbols whose target elements have been deleted are deleted on unhiding!

5.2.4.5 Export

Exporting inspection symbols to Excel

To export your inspection symbols to Excel, click the button shown below.

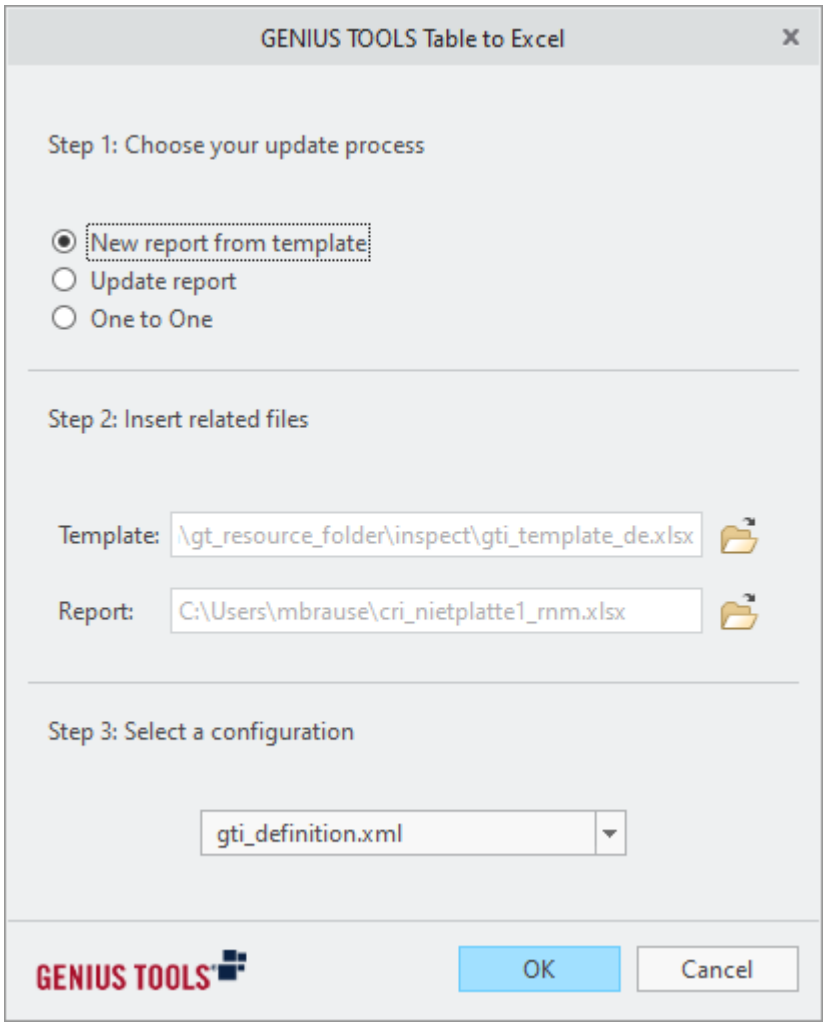


Starting the Excel export can take some time because the Excel template has to be checked.

Export dialog

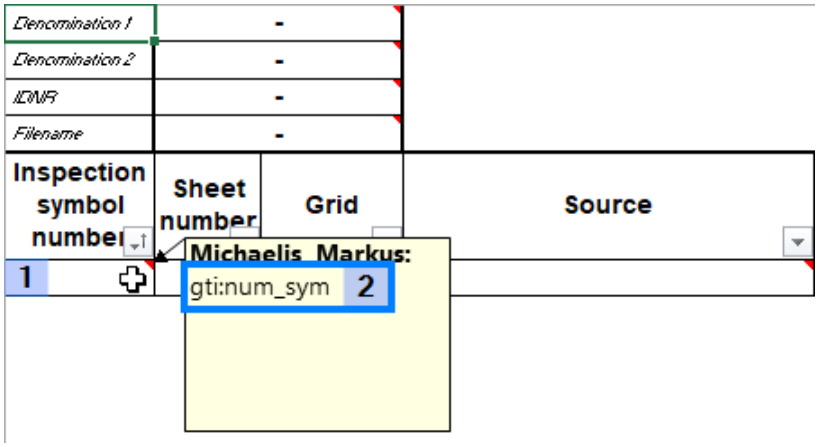
In this dialog, select the Excel template, export file and configuration. By default, the out-of-the-box template is selected and a file name is generated from the name of the drawing.
The selected configuration determines which inspection symbols should be exported. Inspection symbols will be exported if the selected configuration refers to their symbol file, i.e., if the configuration contains their inspection symbol type.

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Customizing the Excel template

If you want to create your own template, you can use the supplied template `gti_template_en.xlsx` as a basis.
As shown in the picture below, add a comment (2) to the first value cell (1) of the desired column. The comment text defines which values are to be written into the column.



Comment used for column assignment.

Column code	Column name
gti:num_sym	Symbol number

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gti:tpe_main	Main type
gti:tpe_sub	Subtype
gti:cls_tol	Tolerance class
gti:bse_dim	Nominal dimension
gti:min_dim	Minimal dimension
gti:max_dim	Maximal dimension
gti:val_tol	Tolerance
gti:descr	Description
gti:gti_param	Parameter
gti:gti_note	Note
gti:tpe_tol	Tolerance standard
gti:num_sheet	Sheet
gti:grd	Grid
gti:src	Source
gti:mod	Tolerance table
gti:nme_sym	Name of symbol
gti:tpe_sym	Creo symbol

5.3 Configuration

This section provides further information on the configuration and structure of the Inspect Editor.

5.3.1 Inspect Editor

The Inspect Editor is used to create and manage settings for GENIUS TOOLS Inspect. You can define several sets of settings, consisting of inspection symbols, tables and view settings. Each configuration is stored as an XML file in the `gti_folder`.
Users can switch between the different configurations in the UI.

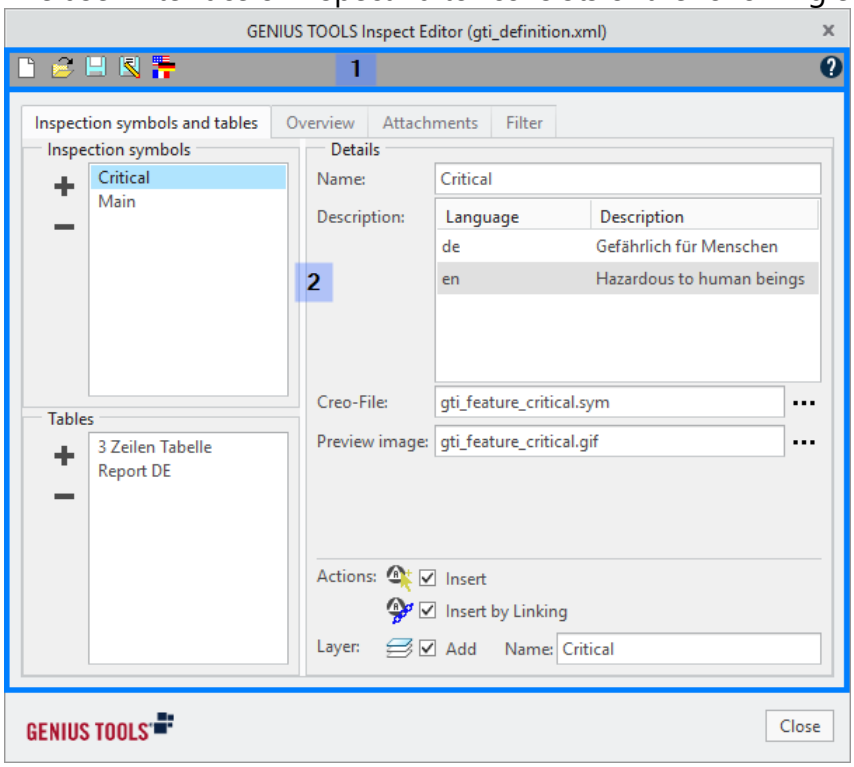
Starting the program

Start GENIUS TOOLS Inspect Editor from the command bar of Inspect. 

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5.3.1.1 User interface

The user interface of Inspect Editor consists of the following elements:



1. Command bar
2. Detail view of the tabs

The editor is divided into four tabs: *Inspection symbols and tables*, *Overview*, *Attachments* and *Filter*.

5.3.1.2 Command bar

In der Befehlsleiste sind die folgenden Schaltflächen enthalten:

Symbol	Name	Beschreibung
	New configuration	Creates a new Inspect configuration (XML). Each configuration can contain different symbol and table definitions as well as view settings.
	Open configuration	Opens an existing configuration from an XML file.
	Save	Saves the current configuration to an XML file.
	Save as	Saves the current configuration under a new name.
	Edit localization	Adds or deletes a language from a configuration.
	Open help	Opens the help.

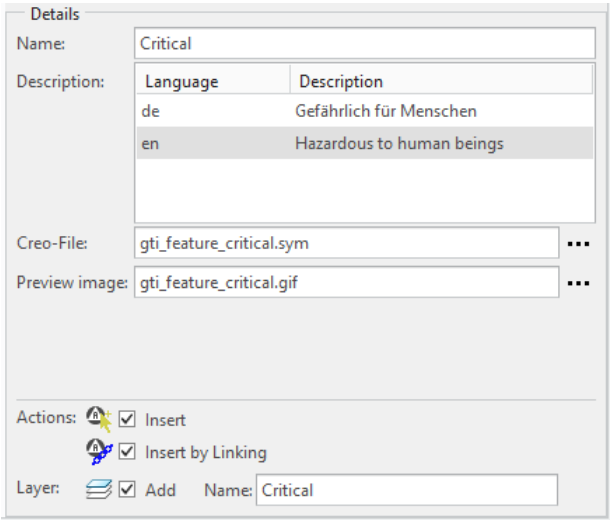
5.3.1.3 Symbols and tables tab

In the tab **Inspection symbols and Tables**, the different sets of settings for inspection symbols and tables are configured. Use the (+/-) buttons to add or remove elements.

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Click an inspection symbol or table in the element selection to view the details.

Inspection symbols



Name: Specifies the displayed name of the inspection symbol.
Description: A localized description of the inspection symbol. Use the localization button in the command bar to manage the languages.
Creo-File: Specifies the path to a SYM file. The default path is the `gt resource folder`.

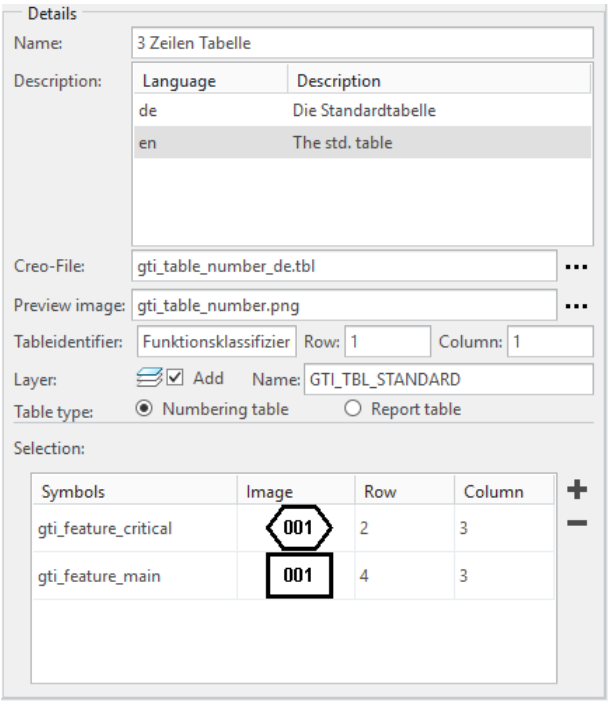
> **Warning:** Do not use the same symbol in different Inspect configurations if you are using numbering similar to DIN 6770. Otherwise, you may experience numbering conflicts.

Preview image: Specifies the path to a preview file of an inspection symbol.
Actions: Defines the actions that can be used on an inspection symbol.
Layer: Defines the layer on which the symbols are placed. Enter the layer under *Name*.

> **Please note**: When you hide the layer, only inspection symbols that have been freely placed will be hidden with it. Linked inspection symbols can only be hidden using the Inspect hide and unhide functionality, see Hide and unhide 79.

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Tables



GENIUS TOOLS Inspect comes with two out-of-the-box tables, one numbering table and one report table. The configuration for the settings **Table identifier**, **Table type** and **Selection** differs according to the table type. The Creo table used also has some different characteristics.

A numbering table lists inspection symbols with the symbol image, a description and a list of numbers. For information on configuration settings specific to numbering tables, please refer to Configuration for numbering tables 85.

A report table displays detailed information on individual inspection symbols. For information on configuration settings specific to report tables, please refer to Configuration for report tables 86.

For both table types, you can adapt the out-of-the-box template or create your own table templates.

Name: Specifies the displayed name of the table.

Description: A localized description of the table. Use the localization button in the command bar to manage the languages.

Preview image: Specifies the path to a preview file of a table.

Layer: Defines the layer on which the table is placed. Enter the layer under **Name**.

Table type: The table type is either **Numbering table** or **Report table**.

Configuration for numbering tables

Creo-File: Specifies the path to a TBL file. The default path is the `gt_resource_folder`. The Creo table has to contain the unique ID of the table in the cell specified under **Table identifier**, by default in the first cell of the first row. The table identifier is **Function related classification** for the example numbering table. If you want to define your own tables, use an arbitrary unique table identifier.

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In the TBL file for a numbering table, symbols and descriptions are given line by line. For each symbol, one cell is used for listing the symbol numbers. The table cell that should contain the list of numbers is specified under **Selection** by **Row** and **Column**.

Function related classification		Inspection No.
Symbol	Critical Feature	! numbering !
	Hazardous to humans	
Symbol	Main feature	! numbering !
	Restricted functionality, reduced output/performance	

Creo table for numbering table

Table identifier/Row/Column: The table identifier is a unique ID for a table. The table identifier is **Function related classification** for the example numbering table. If you want to define your own tables, use an arbitrary unique table identifier.
Enter a row and column to specify where the table identifier is located in the table. By default, the table identifier is located in the first cell of the first row.
Selection: This section is only displayed for the numbering table.
The settings under **Selection** define the position of the inspection symbols. Click on the displayed name of an inspection symbol to display a drop-down list showing symbols that have not yet been added. Use the (+/-) buttons to add or remove rows.
Use the **Row** and **Column** settings to specify the cell which should contain the list of symbol numbers. For merged cells, enter the number of the first row.

Configuration for report tables

Creo-File: Specifies the path to a TBL file. The default path is the `gt_resource_folder`. The Creo table has to contain the unique ID of the table in the cell specified under **Table identifier**, by default in the first cell of the first row. The table identifier is **gt_tbl_gti** for the example report table. If you want to define your own tables, use an arbitrary unique table identifier.
For report tables, the second row of the table specifies which data is to be written into each column. Enter the column code for the desired column into each cell of the second row. The available column codes are listed in the section on adapting the Excel export template under Export 80.
The first cell of the area to be filled with data is marked by the text **Wertezeile**.
If you insert a report table with Inspect, the table is filled automatically and the first two rows are hidden, making the table identifier and column types invisible.

Please note: There is no way to display the top two rows of the table once you have inserted it using Inspect. If you want to make changes to the TBL template, you have to edit it in Creo without using Inspect.

gt_tbl_gti			
num_sym	tpe_main	tpe_sub	t
GENIUS TOOLS Inspect Tabelle			
Number	Main type	Subtype	
Wertezeile			

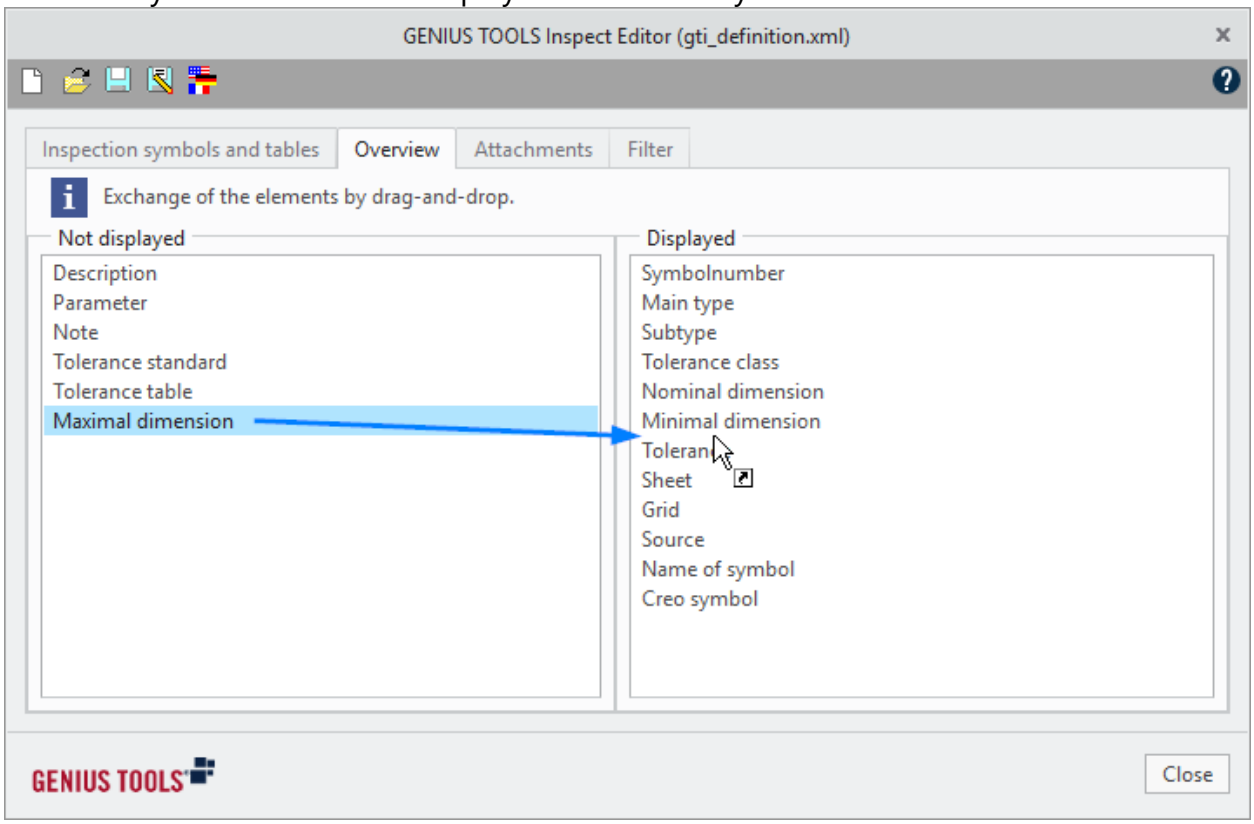
Creo table for report table

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Table identifier/Row/Column: The table identifier is a unique ID for a table. The table identifier is **gt_tbl_gti** for the example report table. If you want to define your own tables, use an arbitrary unique table identifier.
Enter a row and column to specify where the table identifier is located in the table. By default, the table identifier is located in the first cell of the first row. If you insert a report table with Inspect, the table is filled automatically and the first two rows are hidden, making the table identifier and column types invisible.

5.3.1.4 Overview tab

The **Overview** tab is used to manage the display of the **Linked Symbols** table.
Drag and drop elements to be displayed in the table into the desired position. Remove items that you do not want to display in the same way.

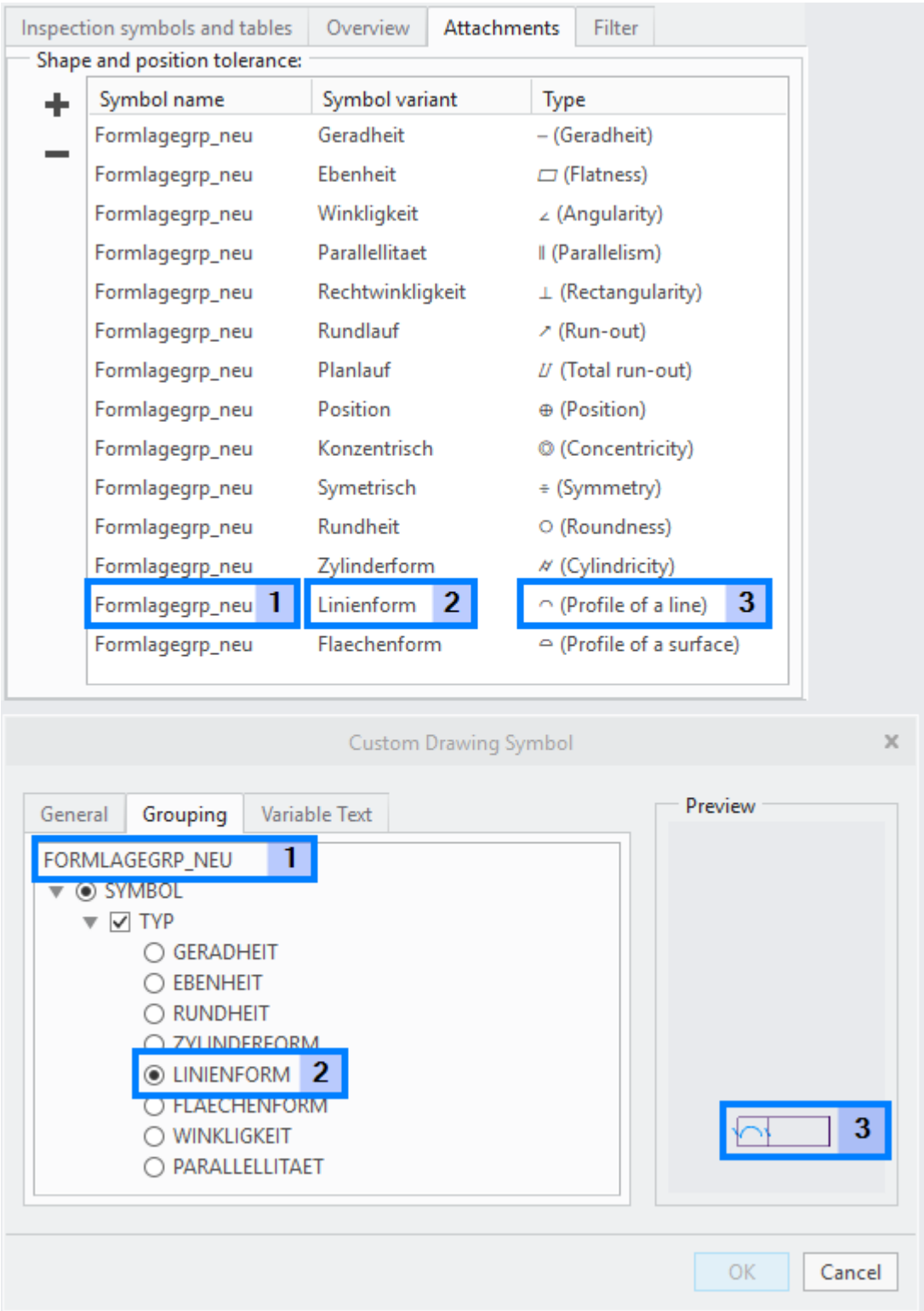


Use Drag and Drop to put the overview table together

5.3.1.5 Attachments tab

The **Attachments** tab manages the assignment of various shape and position tolerances or surface quality symbols to user-defined drawing symbols.
This makes it possible to filter for inspection symbols linked to defined types of drawing elements.

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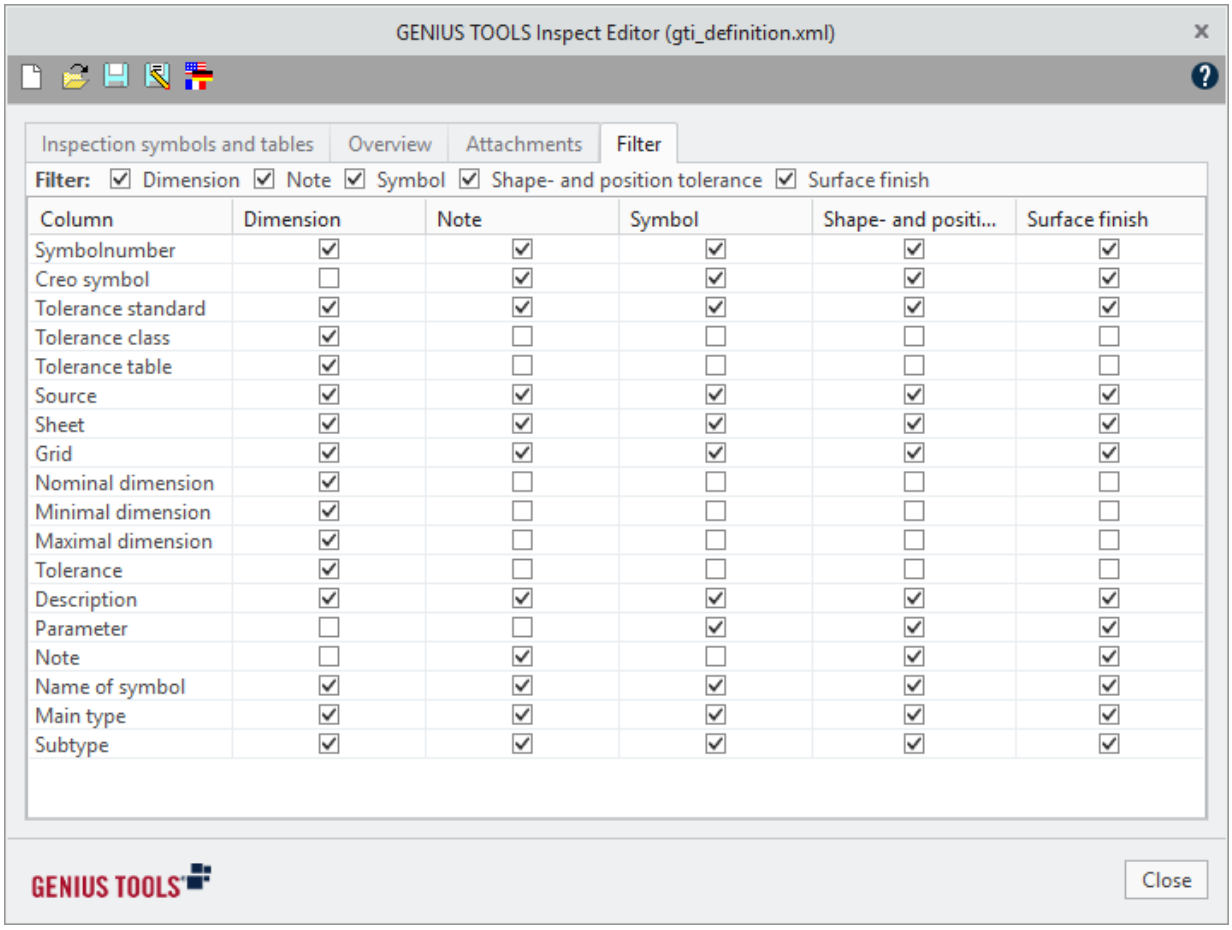
Entries in the shape and position tolerance table or surface quality table are used to assign symbols from the symbol library.

Enter the file names of the custom drawing symbol in the corresponding tables to assign them to the correct main types. In the case of shape and position tolerances, the main type (1) and subtype (2 and 3) can be determined.

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5.3.1.6 Filter tab

The **Filter** tab defines the view of the three usable filters for the **Linked Symbols** overview. The configuration is stored per definition.
First, specify which filters (dimension, note, symbol, shape and position, surface) are to be activated by default.
In the second step, configure the columns to be displayed. Then save the configuration.
The overview table **Linked Symbols** will always use the filters configured here when using the definition.



In this example, the Tolerance class column will only be displayed, if the Dimension filter is active, i..e., if inspection symbols linked to dimensions are displayed.

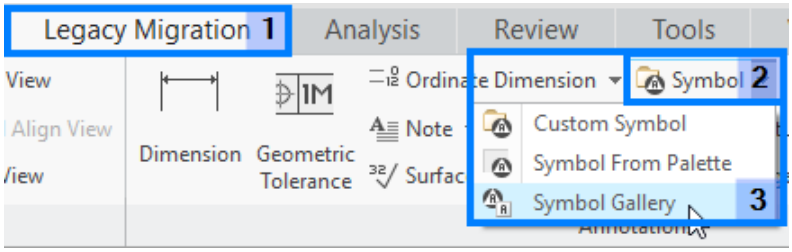
5.3.2 Creating a Creo symbol for Inspect

This section explains how to create a new symbol for use as an inspection symbol.

Sketching the symbol

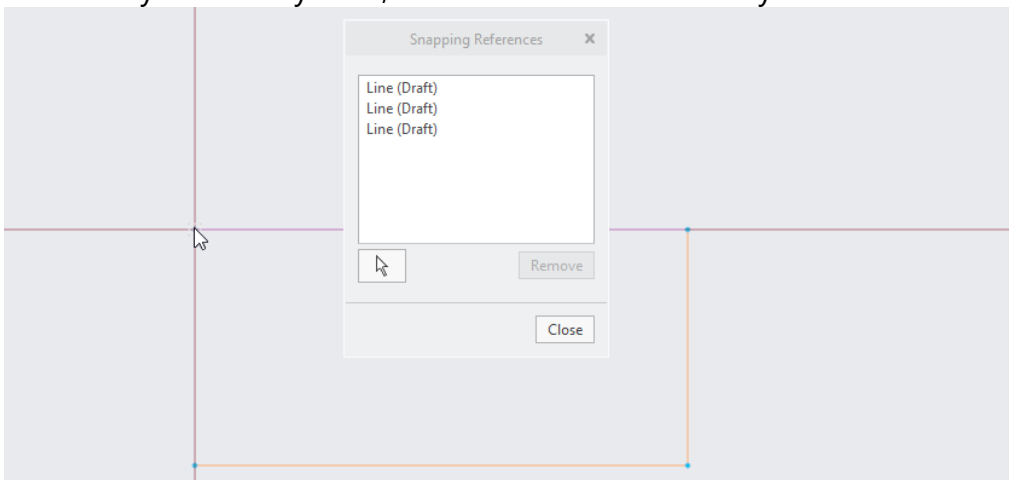
You can start the editor for symbols by clicking **Define** in the **Symbol Gallery**.

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Opening the symbol gallery.

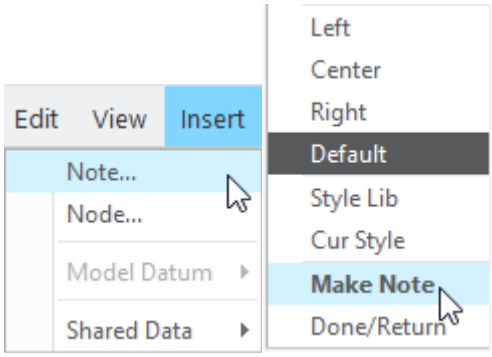
To define your own symbol, create a Creo Parametric symbol in the sketcher.



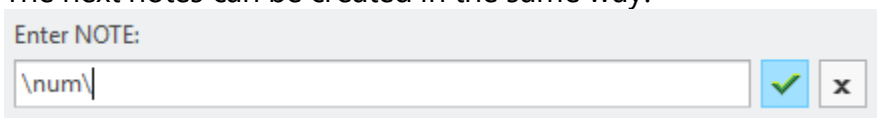
Sketching a symbol by lines.

Creating variable texts

To ensure compatibility with Inspect, you have to create the following notes.
– \num\ to save the number of the inspection symbol
– \descr\ to save the description
– \LinkedTo\ to save the linked drawing element for the symbol
Click **Insert -> Note -> Make Note** to create and place a new note.



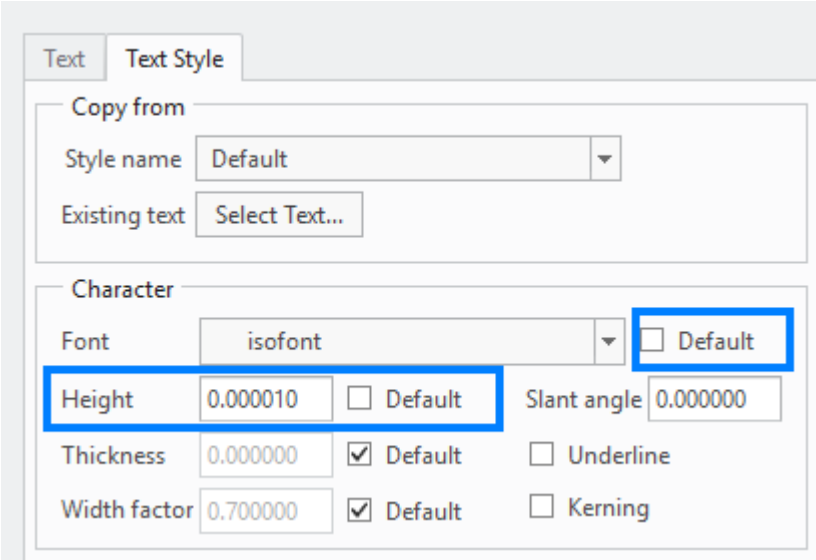
Next you will be asked for the note name. Enter the note name, confirm by clicking on the green arrow, then exit the input dialog by clicking on the X button.
The next notes can be created in the same way.



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Changing the note size

To hide the notes \descr\ and \LinkedTo\ when the drawing is printed, the character size for the notes has to be adapted.
You can change it via the context menu of the note. Select **Properties -> Text Style** to change the font and size.

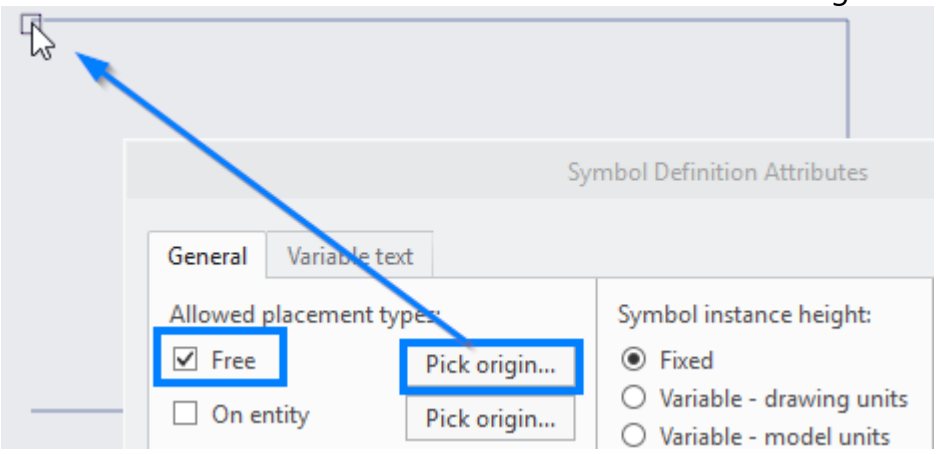


Text style of a note.

In the properties for the height, remove the check box and set a very small value. To be sure that the note will not be displayed in print, you also need to remove the check box for the font.

Defining attributes for the symbol

To finish creating the symbol, you need to define the placement, symbol origin and predefined values of the variable texts. The dialog for these settings opens when you click **Done** in the **Menu manager**.
You need to check **Free** and select the lower left corner as origin.



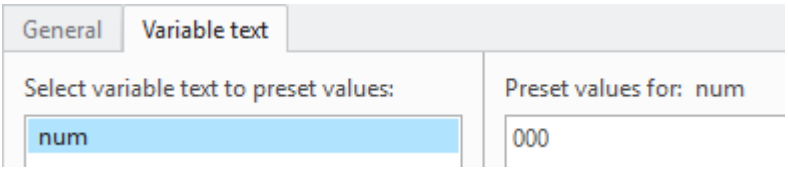
Choosing the placement and origin

The predefined values for the variable texts are:

Name	Value
num	000

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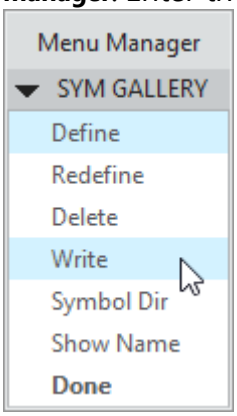
descr	-
LinkedTo	-1,-,-1,-



Predefined value for /num/.

Saving the symbol

As the last step, the symbol has to be saved. You can do this by clicking **Write** in the **Menu manager**. Enter the path, or leave it empty to use the current symbol directory for saving.



Saving the symbol.

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6 Library

GENIUS TOOLS Library provides a convenient way to open, copy and insert objects and configured insert. Available actions depend on object type:
– Part, assembly, drawing and sketch
– UDF (user-defined feature)
– Drawing table, drawing frame, drawing symbol, drawing text
The library objects can be loaded from hard drive or Windchill.
GENIUS TOOLS Library is available in all Creo modes with adapted functionality.
– Management of Creo objects (PRT, ASM, DRW, UDF, SYM, TBL, TXT, FRM…)
– Virtual library structure
– Visibility control
– Independent from object storage
  – File system / Windchill
  – (Other PDM systems on request)
– Search across all
  – "Google-like"
  – Extended search (type, parameter…)
– Configurable selection tables
– Configured object creation with GENIUS TOOLS Forms
– Object usage options
  – Open, copy, assemble…
– Multilingual
– Graphical editor

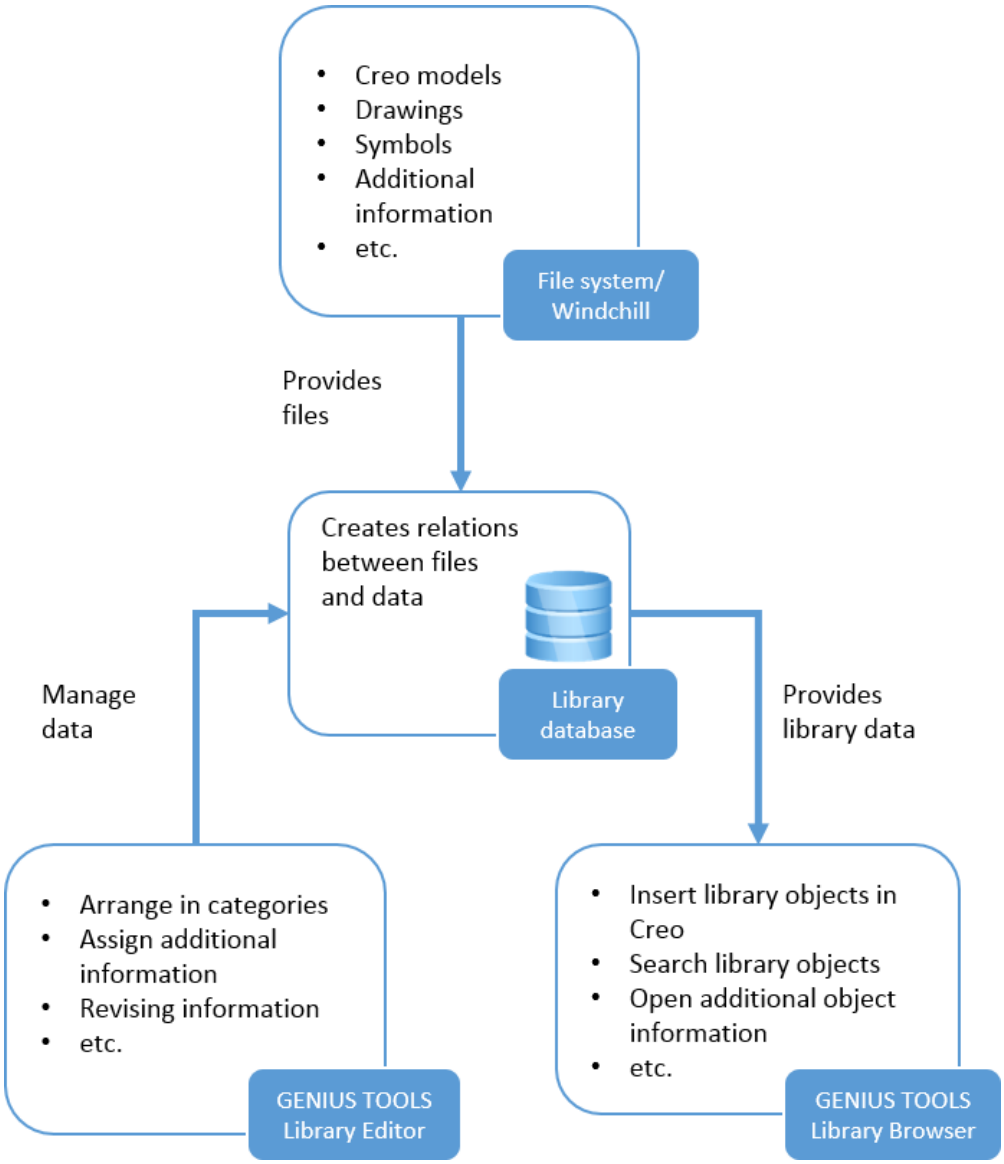
6.1 Fundamentals

This introductory section gives you an insight into the operating principles of GENIUS TOOLS Library and deals with possible use cases. In addition, you will find a glossary of important terms here for a better understanding.

Summary

Libraries play an important role for the efficiency of a complex application like Creo Parametric. GENIUS TOOLS Library provides you with database-supported library management systems.

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GENIUS TOOLS Library consists of the editor (Library Editor) for library database management and Library Browser for productive use in Creo Parametric

Library databases
contain additional information on the managed Creo models, and being centrally available, enable all users to work on the same data state.
The actual Creo models are not stored in the databases. When importing Creo model information or manually entering library objects, only the required information such as type or location of the models is captured.

Library objects
can be enhanced with metadata (additional information). This could be descriptional parameters of a Creo model, the object type (prt, asm, sym, etc.), or the current status of a library object, for instance. This metadata allows easy finding of library objects in the Library Browser via search or a status filter.
But also other additional information such as selection tables, locations of info documents, a list of models to be copied as well, or how a model should be opened or assembled, can

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be deposited for library objects. This way, error-prone operations can be automated or handled more easily through easy retrievability of required information.

Library categories
are available in a library database. Categories can be used for a simple logical structure of the library objects. Categories can also be expanded with additional metadata. As an example, library categories will allow the adding of a path name. This way it represent real directories and can be used to quickly switch the working directory.

6.1.1 Glossary

Category tree
The category tree in the editor and in the library area of GENIUS TOOLS Library contains all categories and library objects included in a library database. The visibility of the library objects in Library depends on the status set.

Library actions
Library actions are actions that can be executed on library objects e.g. “Open” or “Insert into assembly”. The availability of actions in GENIUS TOOLS Library depends on the object type and the configuration in the Library Editor.

Library browser
The Library browser is the user interface of GENIUS TOOLS Library.

Library categories
Library categories are virtual organizational elements in the libraries of GENIUS TOOLS Library. Categories can be named as desired and can contain any objects. They are used to structure a library logically. Library categories can also represent real directories and can be used to quickly switch the working directory.

Library objects
Library objects are virtual representations of Creo files (e.g. parts, assemblies, drawings) or structural ideas (e.g. selection tables) in a library of GENIUS TOOLS Library. They are differentiated by their type and can be linked in categories.

Object types
Each library object has a type. It specifies possible properties and actions of the object.

Object links
Library objects can be linked within a library. This way, no copy of the object will be created in the database. Any changes to the object will affect all links of the object. This way, the same object can be available via different paths of the category tree at the same time.

Selection table
A selection table is a table that consists of several library objects. In a selection table, these objects can be grouped by parameters and dimensions. A quick selection can be made on the basis of the defined criteria via the detailed view in GENIUS TOOLS Library.

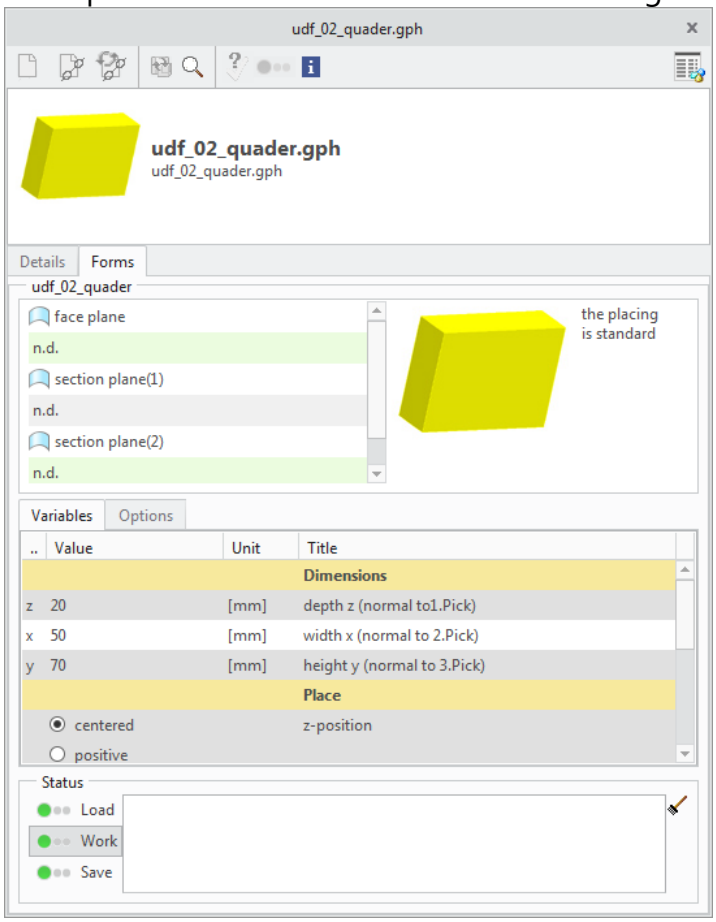
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6.1.2 Use cases

– Find your library objects via the Google-like search
– Call up library objects any time, independent of their type
– Call up detail information for any object
– Use single parts and assemblies as templates

Part modeling – sheetmetal and design part mode

Create new parts from existing library objects with GENIUS TOOLS Library. Use Forms for this. These objects can be assembled with Creo standard capabilities.
Alternatively, define UDF Forms. Assembling user defined features are easier with UDF Forms. The assembly operation can be made easier with additional information and descriptions. UDF Forms also allow later editing of the UDFs after assembly.



A UDF Form in the details window

Use library objects like sketches to create elements in Creo Parametric using the sketch mode.

Completing assemblies – design assembly

Complete your assemblies with parts and subassemblies stored in your libraries. There are two methods for this:

1. Assemble models such as standard or purchased parts without changes
2. Assemble other models using the template method

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3. Create new models and drawings, with new rule-based filenames, with minimal clicks

Completing drawings – drawing mode

Use library objects such as drawing frames, symbols, tables and notes to complete drawings with little effort.

Using templates

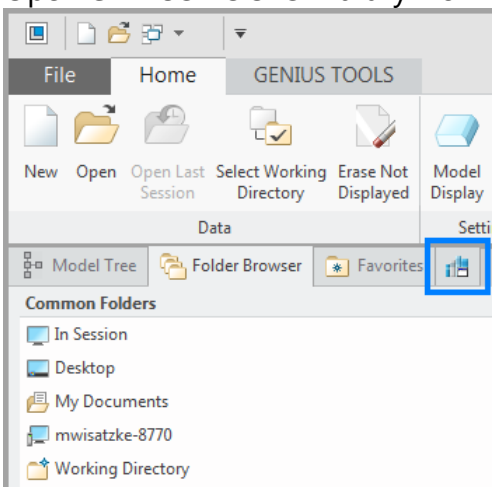
When utilizing single parts and assemblies with copy rules, you will be able to specify which component, drawings and additional object should be copied. In addition, you can define name rules that are applied automatically to copied objects. This way, assembly templates can be set up faster, ready for use in new projects, including the required manufacturing documents.

6.2 Usage

This section contains information on using GENIUS TOOLS Library. It describes the general structure of the program. In the example below (Use cases 107) you can find short step-by-step instructions to speed up your everyday work with GENIUS TOOLS Library.

Starting the program

Open GENIUS TOOLS Library from the navigation area of Creo Parametric.



The library browser is integrated into the Creo navigation tabs.

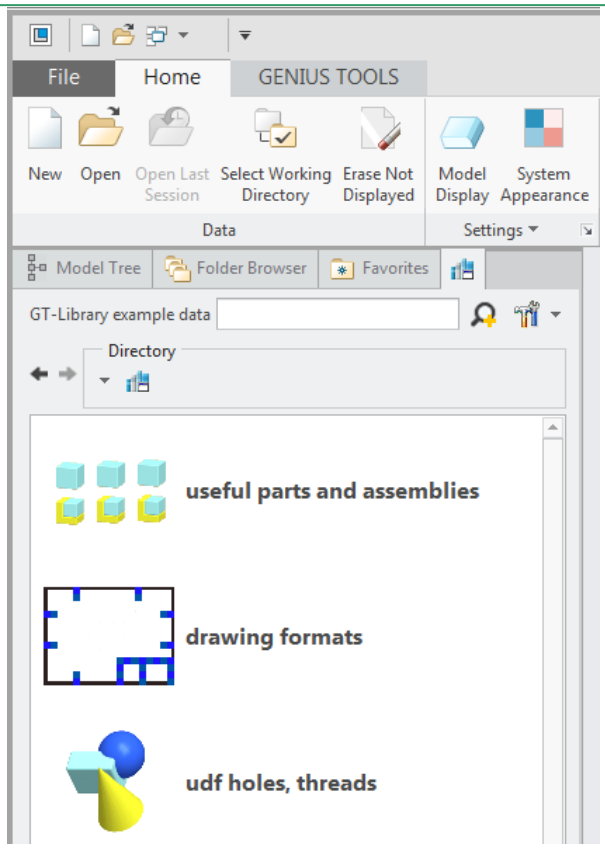
Please note: GENIUS TOOLS Library can be configured to be displayed in an extra window. In this case, GENIUS TOOLS Library opens in a Creo window that cannot be closed.

The display of the Library browser depends on the configuration option `gtl_run_mode`. This option determines whether the library browser is displayed in the Creo navigation area or as separate window.
If the Library browser is displayed in the Creo navigation area, each opened Creo window has its own library browser.

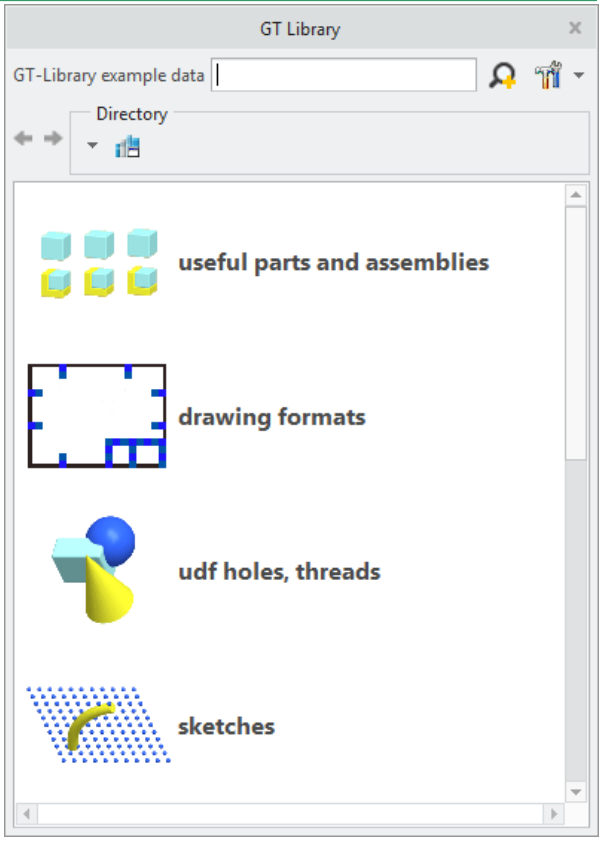
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If the Creo model tree is detached and the Library browser is not configured to display in an extra window, the Library browser is displayed in the same window as the model tree. The library browser as an independent Creo window is a library for all Creo windows and can be positioned freely. This setting is a useful choice for multi-monitor setups.

Tip: Use the pin button to attach the standalone window to its position.



GENIUS TOOLS Library in the Creo navigation area

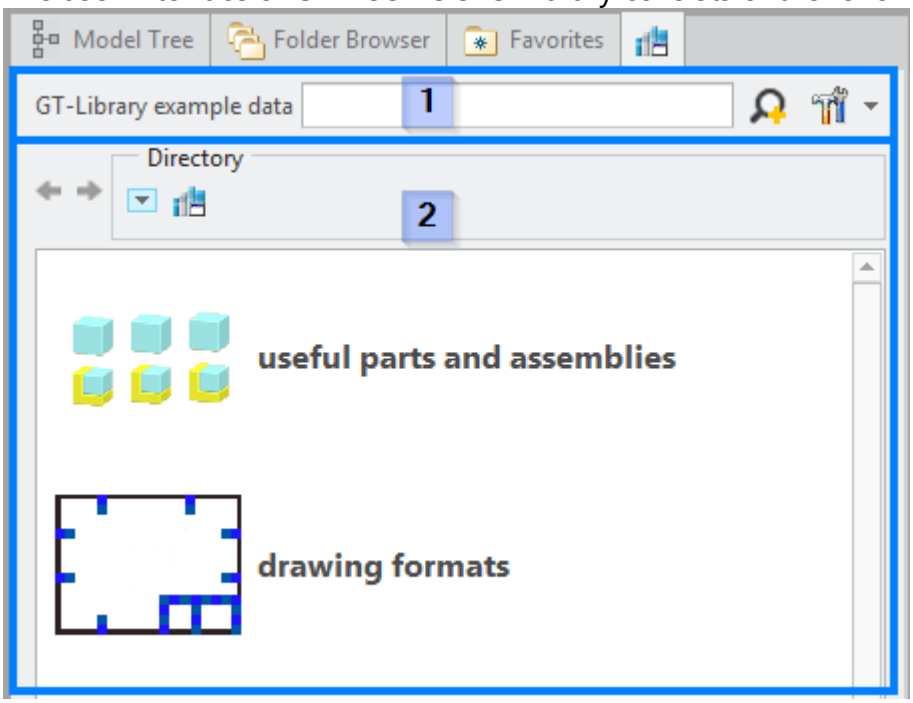


GENIUS TOOLS Library as individual Creo window

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6.2.1 User interface

The user interface of GENIUS TOOLS Library consists of the following elements:



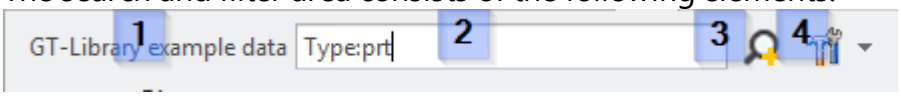
1. Search and filter
2. Navigation bar and object display

Click on a library object to open the detail window with information about and actions on the library object.

6.2.1.1 Search and filter

The results shown in the object display area is controlled by the search and filter area. Search the current library by keywords or use additional search criteria in the advanced search.

The search and filter area consists of the following elements:



1. Current database
2. Search
3. Advanced search
4. Tools menu with object filter

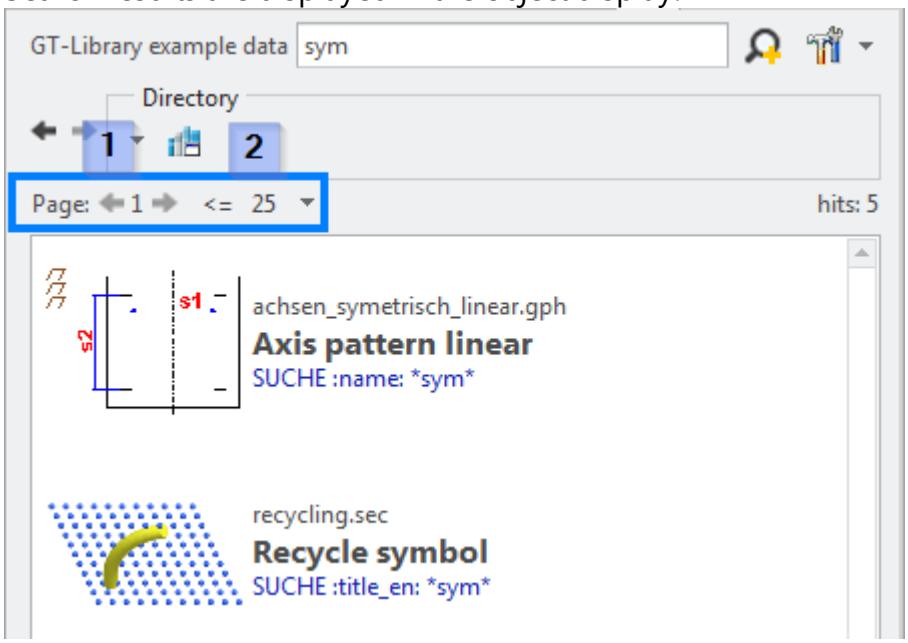
Tip: Use the tools menu to open the Library Editor to work directly with the current library.
Change the displayed language of library objects in the tool menu.

Search

Enter any search terms in the search field. Confirm your input by pressing enter. The current library is searched for the search term.

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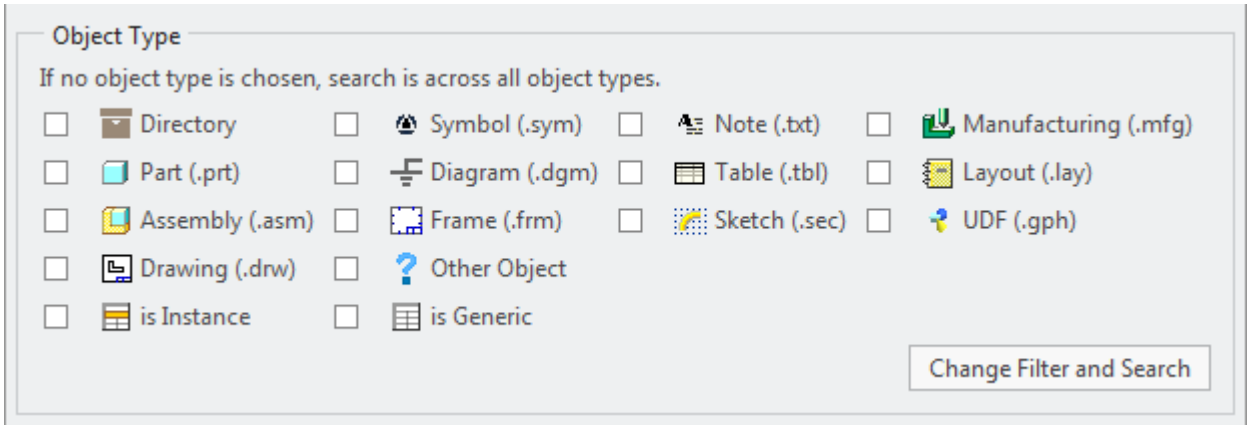
Search results are displayed in the object display.



Use the paging (1) and number of matches per page (2) buttons for navigating through the search results.

Advanced search

The magnifying glass button opens the advanced search dialog. With the advanced search, search results can be restricted by object types, parameters and dimensions.
The search string generated by the advanced search can be changed later in the search by direct input.
Further search operations are presented in the area **Information** of the Dialog.
Use the *Clear filter* button in this area to reset already created filters and entered search terms in the search and filter area. Otherwise, the old and new searches will be combined.
In the **Object Type** area, filters are created based on the object type.
Activate the checkbox in front of the object types for your search. Then click *Change Filter and Search*. The filter is immediately transferred to the search field and the search is executed.



Filter by object types using the advanced search

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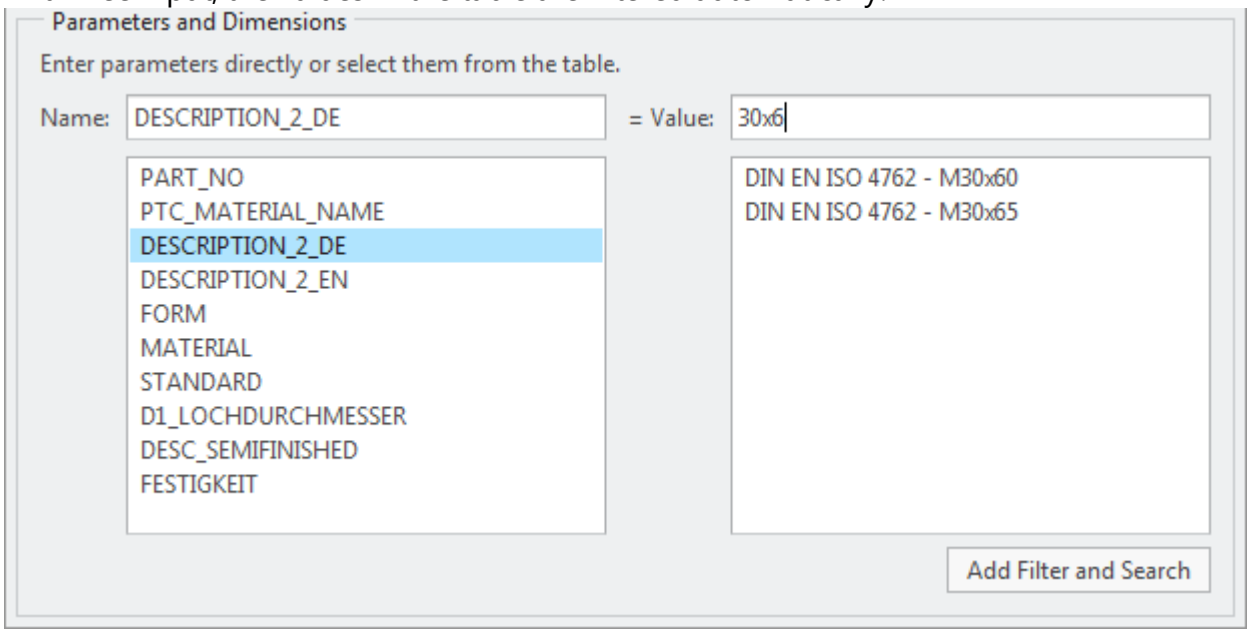
Object types are combined with OR. Exceptions are the object types **is Instance** and **is Generic**: they are combined with AND.

Examples

– **Part** and **Assembly** are active in the filter: A library object must be a part **or** an assembly.
– **Part** and **is Instance** are active in the filter: A library object must be a part **and** an instance.

Tip: Reset old searches before creating a new filter! Otherwise, search and filter will be combined.

In the **Parameters and Dimensions** area, filters are created based on parameter and dimension values.
Select a parameter or dimension from the list. Then select a value from the value list or enter a value freely. Refresh the search using the *Add Filter and Search* button.
With free input, the values in the table are filtered automatically.

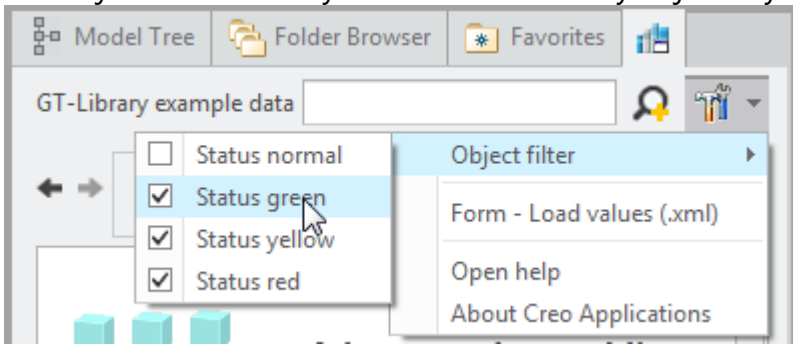


"Parameters and Dimensions" area in the advanced search

Please note: Parameters and dimensions must be included in a library database to be searchable.

Object filter

The object filter allows you to filter the library objects by status.



Filter library objects according to their status

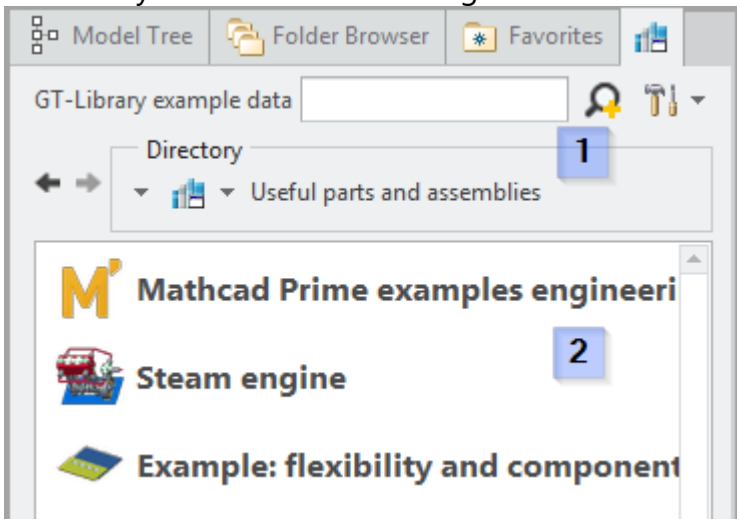
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Open the tool menu and select the statuses to be displayed in the *Object filter*. All library elements with the selected status are displayed in the object display after a category change.
The status of a library element is assigned in the Library Editor.

Please note: Refer to your working instructions for the exact definition of the status **normal**, **green**, **yellow** and **red**.

6.2.1.2 Navigation and object display

The library browser with the navigation area is located below the search and filter area:



1. Navigation area
2. Object display

Navigation area

The navigation area shows the path within the currently loaded library. Individual path elements (categories) are selected directly by clicking on them and their contents is displayed in the object display.
Use the Back and Next buttons to navigate through your history (navigation and search history). Click on the library icon to return to the first level of a library.
To switch libraries, click the arrow icon in front of the library icon. Then select the new library from the list.
Use the home database (house symbol next to the Back and Next buttons) to jump directly to your home database (depending on the configuration option `gtl_home_db`).

Please note: The home button is only displayed if a home database has been specified.

Library browser

The object display shows library objects and categories with preview and description. The status is indicated by the text color. Library objects differ from categories by the additionally displayed filename.
The exact display of information in the object view depends on the configuration.

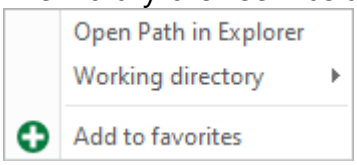
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Click entries in the Library browser to navigate through the category tree. The detail window is displayed as soon as the selected object is a library object.

Tip: The size of displayed preview images (40 or 100 pixels) is influenced by the configuration option `gtl_img_size`.

Context menu

The Library browser has an context menu. Right-click on an object to open it.



Context menu for a category

Context menu for categories

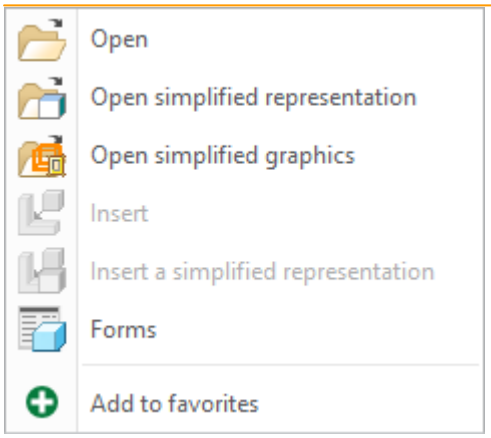
Info: Opens a linked information document. The function is only displayed when a document has been linked to a category.

Open Path in Explorer: Opens a deposited path in Windows Explorer.

Change working directory to selected folder: Sets the Creo working directory to the deposited path.

The context menu for categories depends on the category's configuration.

Please note: *Open Path in Explorer* and *Change working directory to selected folder* are displayed only when library categories correspond to a folder path. Usually, there is no object source specified when using library categories only for logical structuring, and the functions cannot be used.



Context menu for a library object

Context menu for library objects

The context menu for library objects depends on the object type and configured actions. Also refer to Actions on library objects 129!

6.2.1.3 Favorites

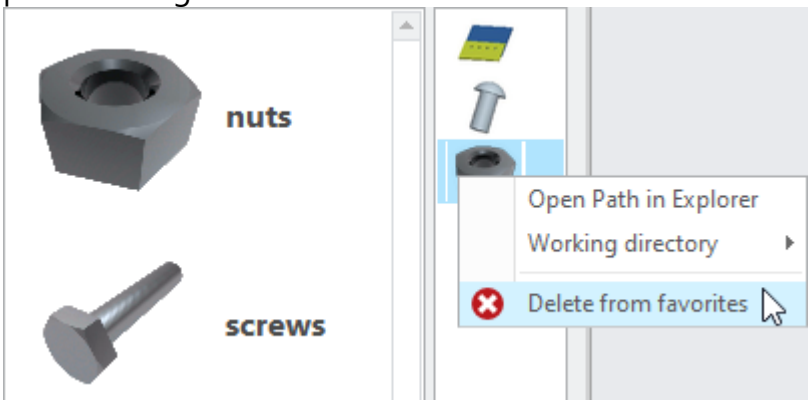
You can display library objects that you frequently need in a favorites bar in the library browser. You can mark both individual library objects and categories as favorites.

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The favorites bar is displayed to the right of the object display of the library browser and provides the same actions to use on library objects.
The favorites bar can be shown or hidden to match your current view requirements.

Adding and removing favorites

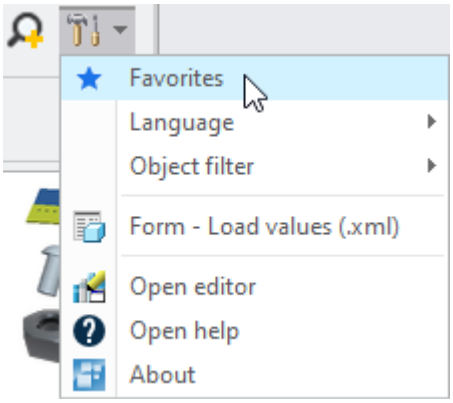
To add an object to the favorites bar, find the object in the library browser and right-click to open the context menu.
Select **Add to Favorites**. The selected object is displayed in the favorites bar with a small preview image.



To remove an object from the favorites bar, select the object in the favorites bar, then open the context menu and select **Delete from favorites**.

Showing and hiding the favorites bar

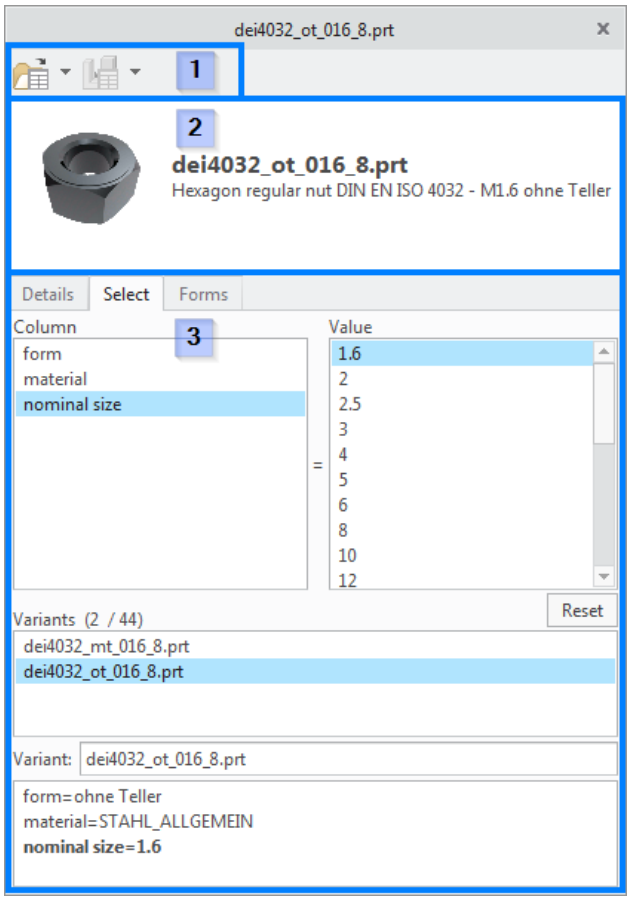
To show or hide the favorites bar, go to the tools menu and select **Favorites**.



6.2.1.4 Details window

The details window displays information about the currently selected library object. It is displayed as soon as an library object can be opened is selected.

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1. Command bar
2. Information area
3. Tabs depending on the library object

The command bar displays possible actions on a library object. Also, refer to Actions on library objects 129!

Use the buttons in the command bar to execute actions on library objects.

The buttons (actions) in the command bar depend on object type, configuration of a library object, and on the current Creo mode. The active tab (*Details*, *Select* and *Forms*) also affects displayed actions.

The information area displays information such as preview and description. The displayed information depends on the configuration. Also, objects selected in the Select tab affect the information that is displayed here.

Tabs in the Details window

Up to three tabs are displayed below the Information area. The displayed tabs depend on the selected library object.

Details: Displays general information on the library object. This tab is always displayed. If there are no other tabs in the Details window, this tab covers the entire area.

Select: Displays a selection table of the library object. The content depends on the configuration in the Library Editor.

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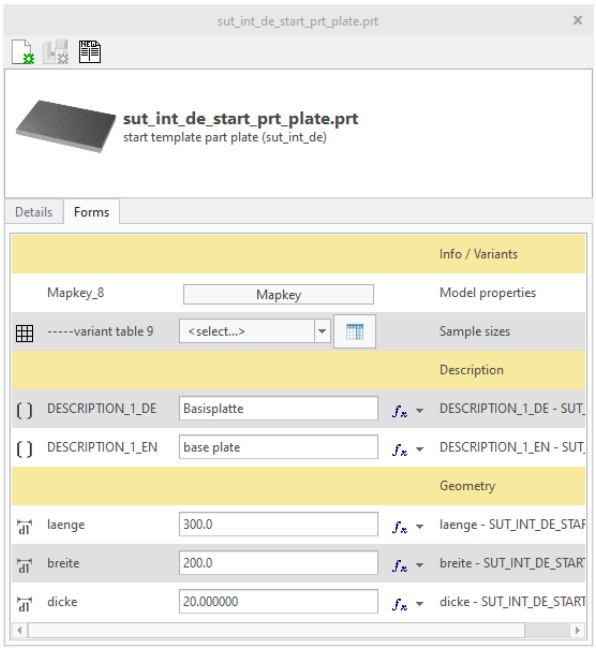
Forms: Displays a Form or UDF Form (created with GENIUS TOOLS Forms or UDF Forms) from the library database matching the library object. If a selection table exists for a library object, the Forms tab is always displayed; individual variants can contain Forms.

6.2.1.5 Forms and UDF Forms in the details window

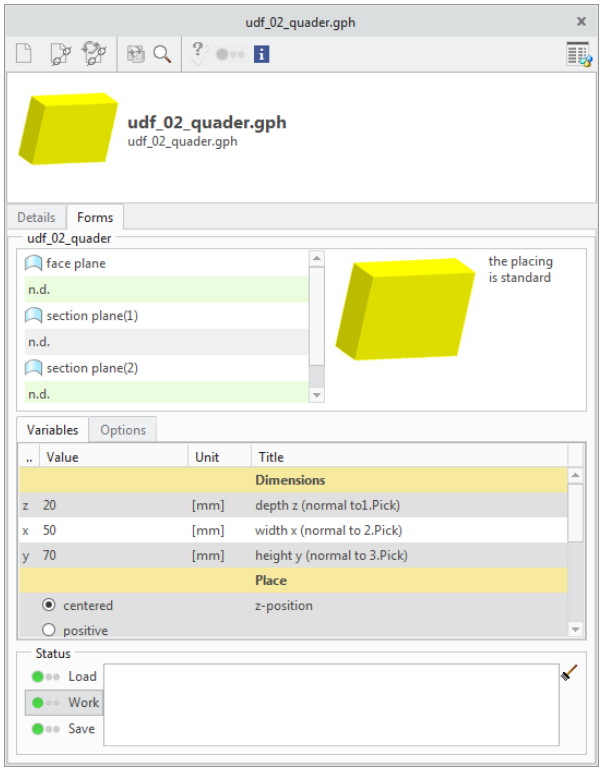
The Forms tab in the Details window displays Forms and UDF Forms for library objects.

Tip: Use GENIUS TOOLS Forms and UDF Forms for later editing of models already created and placed UDFs.

Use the tools menu to acces the function **Form - Load values (.xml)** if your company uses the XML interface for filling in Forms automatically. For information on how to work with the XML interface, see Load Form values from XML 107.



Form in the Library Details window



UDF Form in the Library Details window

Forms

Models such as assemblies or parts can contain a Form. If the Form has also been imported into a library, it is displayed in the Forms tab in the Details window.
Use Forms to customize dimensions and parameters prior to assembling or opening a model, or to control it via value tables.
Using Forms in the Library Details window is similar to operating GENIUS TOOLS Forms 43.

UDF Forms

If UDFs have been included in a library, they can contain a UDF Form. If the UDF Form has also been included in a library, it is displayed in the Forms tab in the Details window.

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Use the UDF Form to define placement references and to customize properties prior to assembly.
Using UDF Forms in the Library Details window is similar to operating GENIUS TOOLS UDF Forms 255.

6.2.1.6 Load Form values from XML

GENIUS TOOLS Library comes with an XML interface for importing pre-calculated values for Forms. You company has to define whether this interface is used and for which Forms to create XML files.
To load Form values from an XML file, proceed as follows.

1. Navigate to the Library tab in the navigation area or switch to the Library window.
2. In the tools menu , select **Form -Load values (.xml)**. A file selection dialog is displayed.
3. Select the XML file that contains the required values and click **Open**. The list in the library browser is filtered to the object or objects that contain the Form specified in the XML file. The Form is filled in the background.
4. Click the library object with the Form to open the detail window. The values from the XML file have been set in the Form.
5. Verify the Form values. You can copy the library object now or verify the names for the file copies . The names for the file copies are specified in the XML file together with the Form values.

6.2.2 Use cases

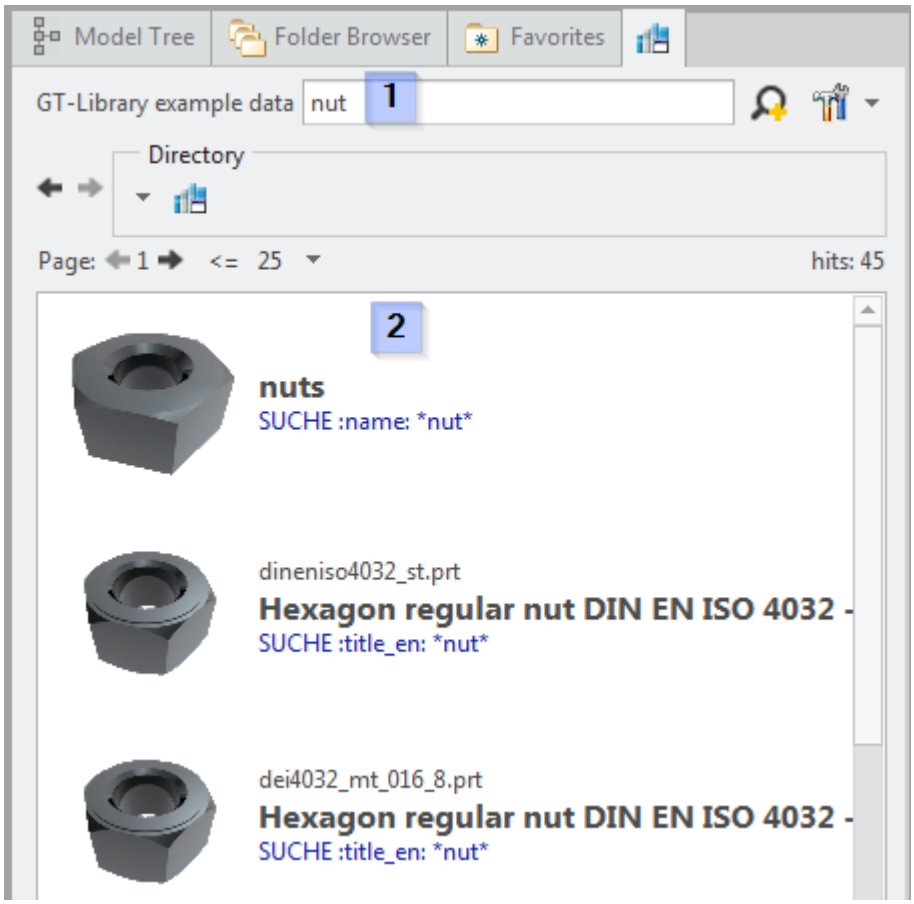
This section contains step-by-step examples for using GENIUS TOOLS Library.

6.2.2.1 Searching for library objects

Finding library objects and categories using the Search input field

1. Navigate to the Library tab in the navigation area or switch to the Library window. Click into the Search input field.
2. Enter the keyword in the input field. Different properties (Name, Title, Path, Parameters and Dimensions) of the library objects are searched. You can also enter multiple keywords separated by blanks.
3. Confirm with Enter. The search results are displayed in the Library browser. The relevant metadata of the library element containing the keyword is displayed below the name.

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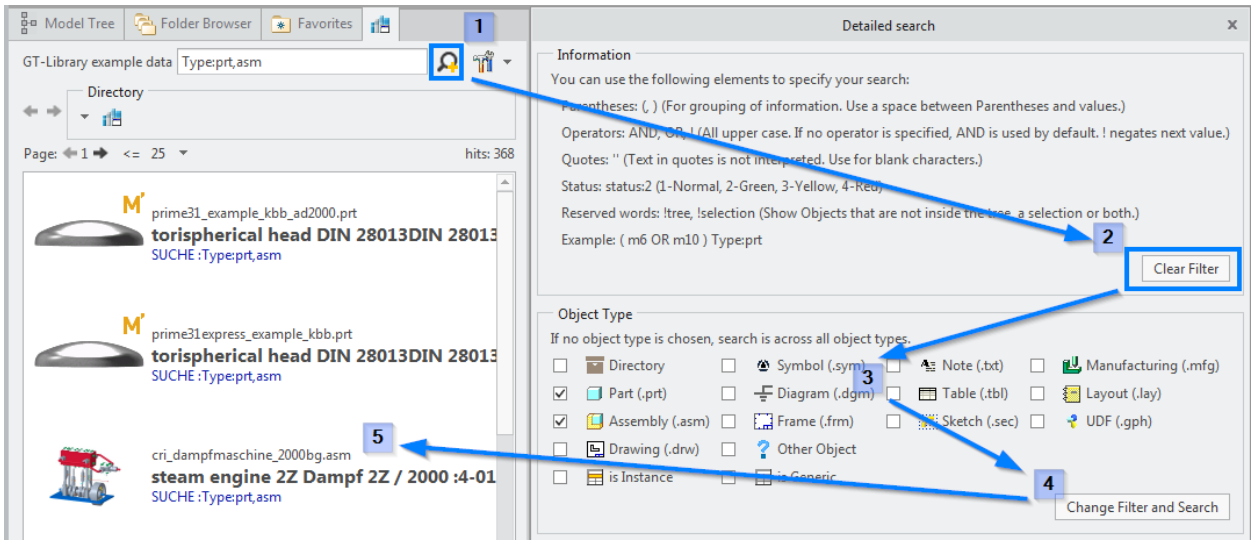


Enter the keyword in the input field and confirm with Enter (1). The search results are displayed in the Library browser objects view (2).

Finding library objects by object type using the advanced search

1. Navigate to the Library tab in the navigation area or switch to the Library window. Open the advanced search.
2. Click on *Clear Filter* to remove former searches from the Search field.
3. In the Object Type area click the types you want to be displayed.
4. Click on *Change Filter and Search* to start the search. The search results are displayed in the Library browser.

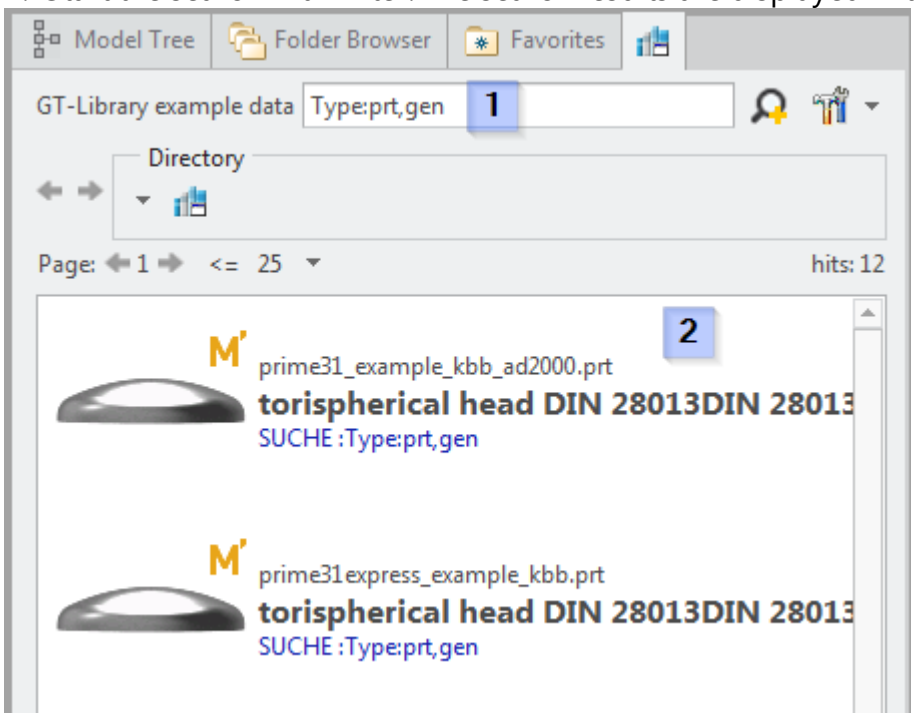
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Open the advanced search (1), clear the filter (2). Then, select the desired object types (3) and refresh the search (4) The search results are displayed in the Object view (5).

Finding library objects by object type using the Search input field

1. Navigate to the Library tab in the navigation area or switch to the Library window. Click into the Search input field.
2. Delete potential search queries from the field to remove former searches.
3. Enter the required types for the library objects in the input field according to the following pattern: Type:objecttype1,objecttype2,etc.
   Make sure to not enter blanks! Example: `Type:prt,asm,drw`
4. Start the search with Enter. The search results are displayed in the Library browser.



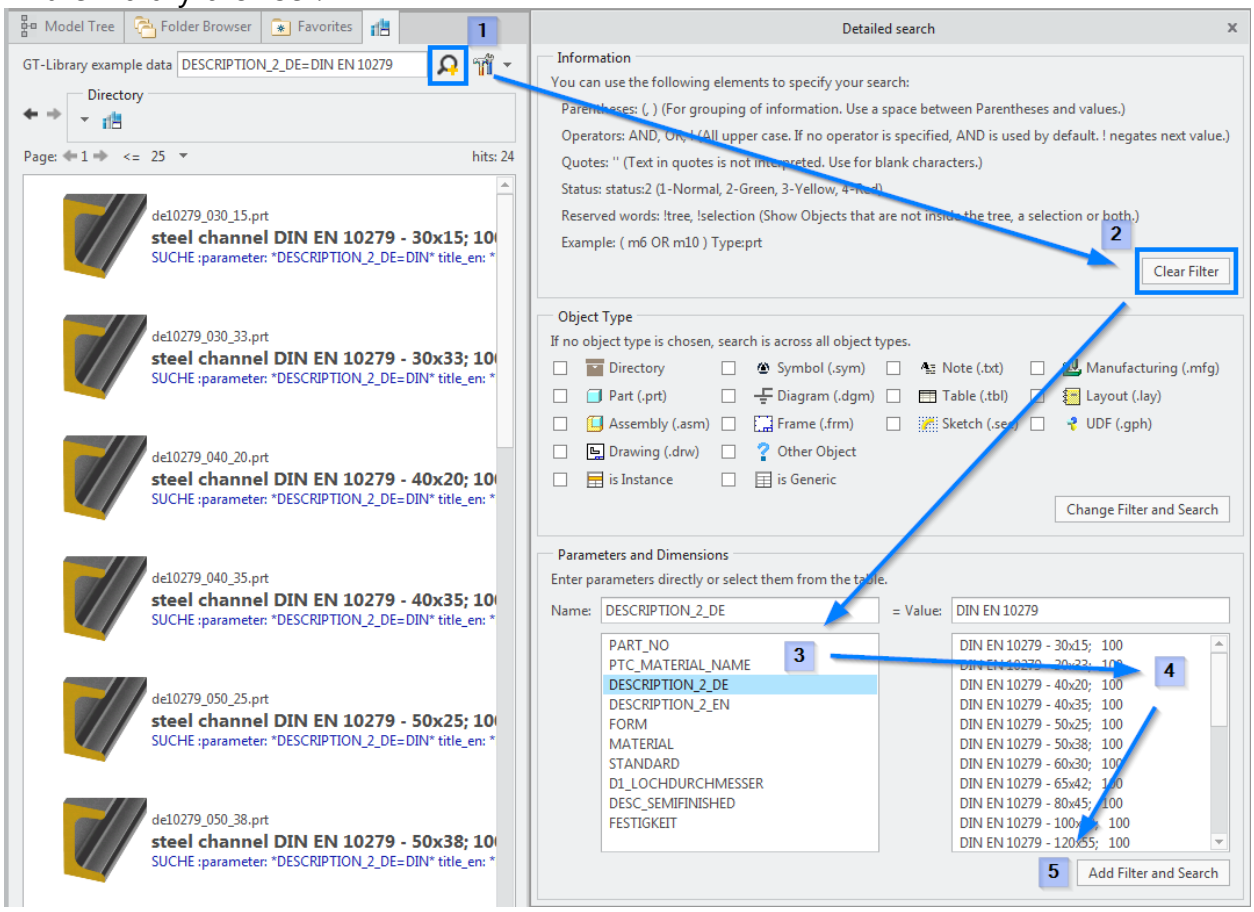
Directly enter the desired object type and confirm with Enter (1). Search results are displayed in the Library browser (2)

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Finding library objects by parameter or dimensions using the advanced search

Use the following steps to find library objects by parameter or dimensions using the advanced search:

1. Navigate to the Library tab in the navigation area or switch to the Library window. Open the advanced search.
2. Click on *Clear Filter* to remove former searches from the Search field.
3. In the *Parameters and Dimensions* area select either the Name of a parameter or dimension from the list, or use the input field above to search.
4. Select the value to be assigned to the parameter or dimension in the same way.
5. Click on *Add Filter and Search* to start the search. The search results are displayed in the Library browser.



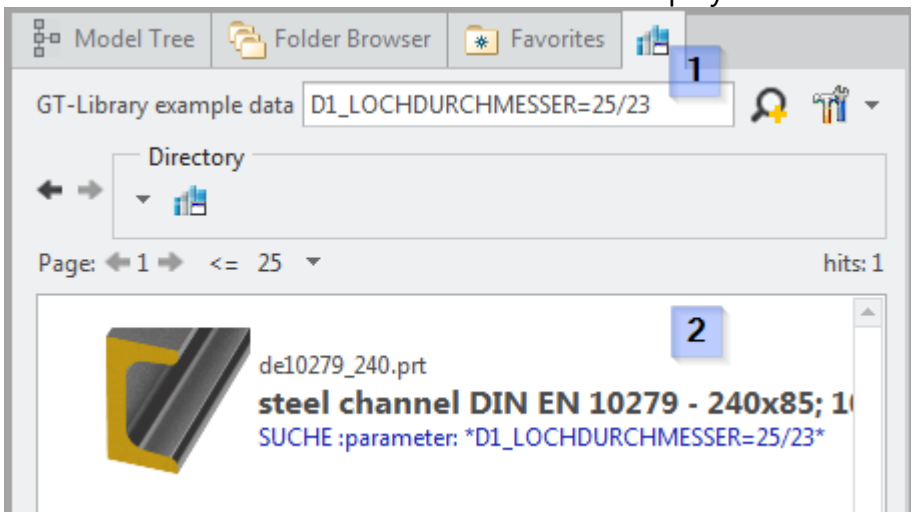
Open the advanced search (1), clear the filter (2). Select the parameter or dimensions (3), and the desired value (4). Refresh the search (5). The search results are displayed in the Library browser.

Finding library objects by parameter or dimensions using the search input field

1. Navigate to the Library tab in the navigation area or switch to the Library window. Click into the Search input field.
2. Delete potential search queries from the field.

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3. Enter the name and value of the parameter or dimension in the input field according to the following pattern: Parameter/Dimension=Value
   Example: DESCRIPTION_1_EN=cylinder sealing ring
   Only parameters and dimensions which have previously been included in the library database are searched.
4. Confirm with Enter. The search results are displayed in the Library browser.



Enter parameter or dimension and the value in the search field. Start the search with Enter (1). Search results are displayed in the Library browser (2)

Combining search options

1. Navigate to the Library tab in the navigation area or switch to the Library window. Click into the Search input field.
2. Enter the keyword in the input field.
3. Click on the advanced search button.
4. In the Object Type area click the types you want to be displayed.
5. Mix the search for object types with a search for parameters and dimensions.
6. Click on *Add Filter and Search* to execute the search. The search results are displayed in the Library browser.

Negated search: Excluding keywords

1. Navigate to the Library tab in the navigation area or switch to the Library window. Click into the Search input field.
2. Enter keywords in the input field.
3. To exclude a keyword, enter an exclamation mark followed by a blank before the keyword.
Beispiel: `drilling bush ! DIN`
Only search results which contain the first term **drilling bush** but do not contain the second term **DIN** are displayed.

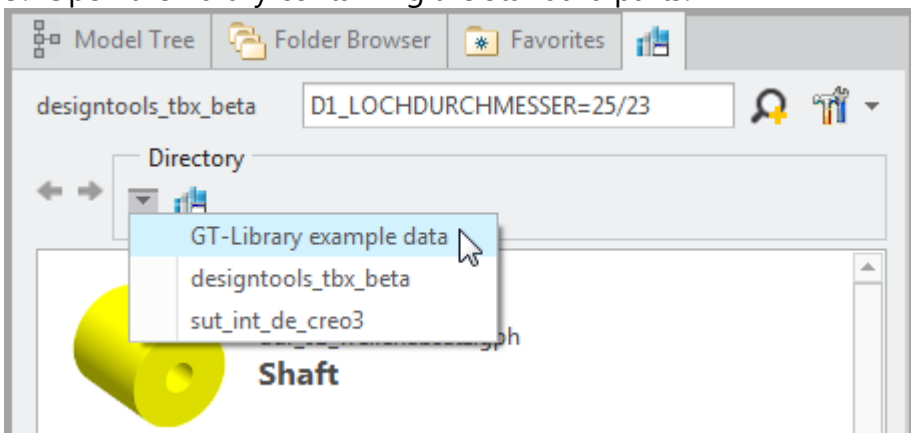
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6.2.2.2 Using library objects

Assembling a standard part with selection table

Prerequisites:
– an assembly to insert a standard part into
– a properly configured library database (actions, status)
– standard parts with selection tables in the database

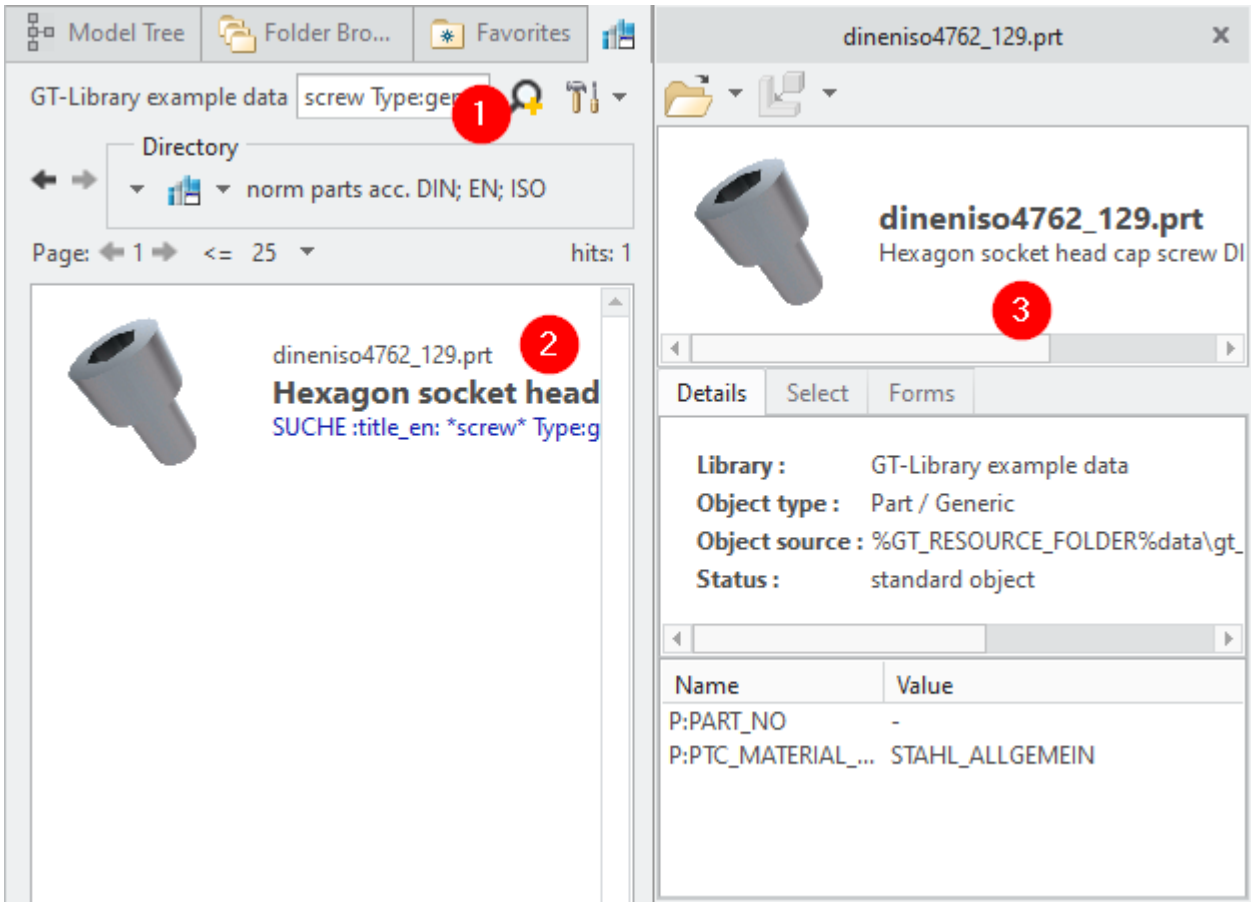
1. In Creo Parametric, switch to the assembly to insert the standard part. Make sure not to have a mode such as component placement or sketch mode activated.
2. Navigate to the Library tab in the navigation area or switch to the Library window.
3. Open the library containing the standard parts.



Switch to GENIUS TOOLS Library and open the library containing the standard parts

4. Use the search to find the standard part or navigate the library structure.
5. Click the standard part in the object display and switch to the Details window.

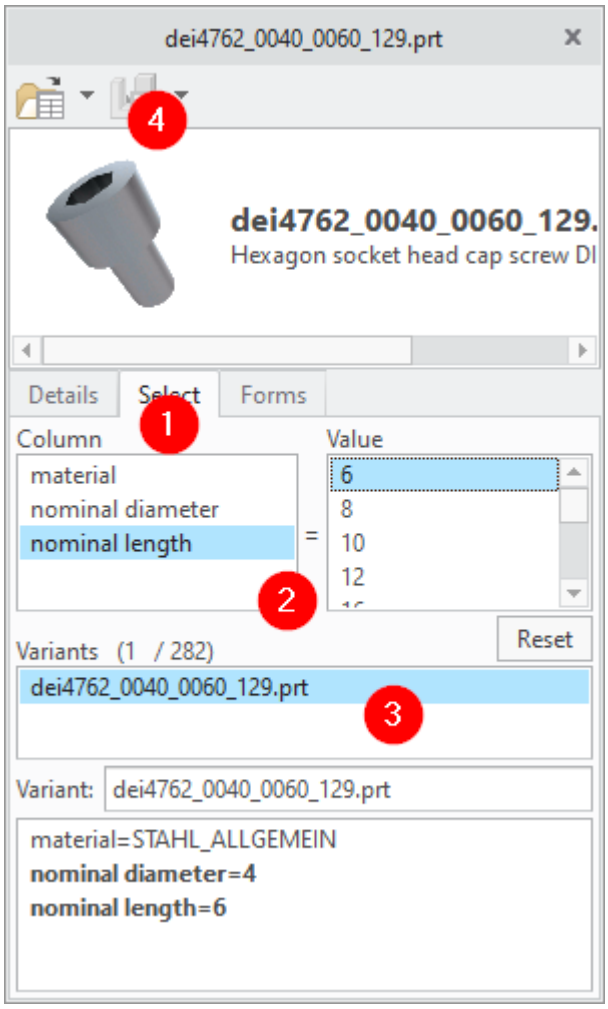
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Search for the appropriate standard part (1), select it (2) and switch to the details window (3).

6. Open the *Select* tab.
7. Select the standard part using the selection table.
8. Select the desired variant.
9. Click the *Insert selected variant* button.
10. Insert the part into the assembly as usual in Creo.

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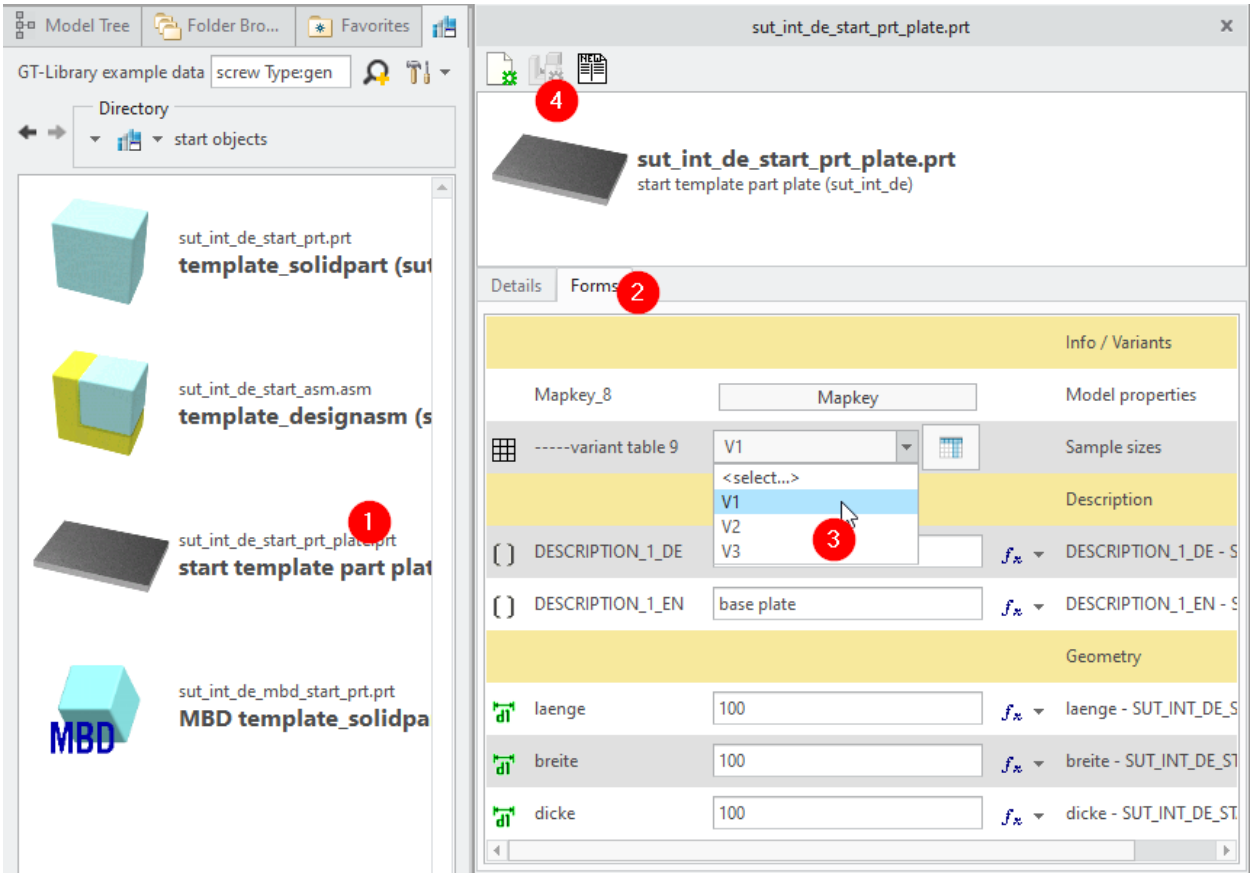
Switch to the Select tab (1), configure the standard part using the selection table (2), select the desired variant (3) and insert the variant into the assembly (4).

Assembling a new part with a Form

Prerequisites:
– an assembly to insert the part into
– a properly configured library database (actions, status)
– a part with an external form in the database

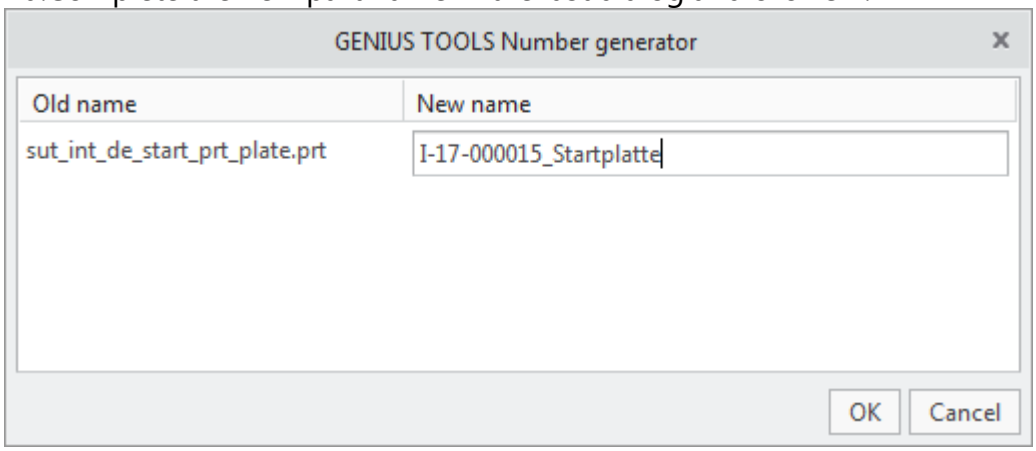
1. Switch to the assembly to insert the part in Creo. Make sure not to have a mode such as component placement or sketch mode activated.
2. Navigate to the Library tab in the navigation area or switch to the Library window.
3. Open the library containing the part with the form.
4. Use the search to find the desired part or navigate the library structure.
5. Click the part in the object display and switch to the Details window.
6. Open the *Forms* tab.
7. Configure the part in the form.
8. Click the *Copy and insert file* button.

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Select the required object (1) and switch to the Forms tab (2) in the details window. Customize the form (3) and click Copy and insert file (4).

9. Select a Name Generator in the following dialog and confirm your selection with *Next*.
10. Complete the new part name in the last dialog and click *OK*.



Enter the new file name and confirm the dialog with OK.

11. Insert the part into the assembly as usual in Creo.

6.3 Configuration

In this section, you will find further information on the folders used in the resources directory. In addition, you will find information on configuring libraries for GENIUS TOOLS Library in the Library Editor tool, and on using multi-lingual libraries.

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6.3.1 Areas in the resource directory

GENIUS TOOLS Library uses the resources directory of GENIUS TOOLS for Creo. In the `...\gt_resource_folder\library` folder, you can find the Library-database (file extension: .db) and a folder with same name for each database.
Resource directory in a Startup TOOLS installation: `%STOOLS_CFG_LW%\configuration\gt_resource_folder\`
Resource directory in a GENIUS TOOLS for Creo installation: `<GTfCDirectory>\gt_resource_folder\`
These folders contain the preview images for the library objects. The original preview images for library objects are located in the `img` subfolder. The `img_w100` subfolder contains automatically scaled preview images (100x75px, file format: PNG).
In addition, you can find backup copies of your databases in the `library` folder. As soon as a database is opened via the Library Editor, a backup copy is created. However, only one backup copy per day is created.
To restore the initial state of a database, unload it from the editor and the Library browser. Then, delete the database. Rename the desired backup copy with the name of the database. The database is now ready for use again.

6.3.2 Multilingual use

For distributed work at multiple cross-country and cross-language sites, GENIUS TOOLS Library supports a multi-lingual user interface as well as multi-lingual libraries.

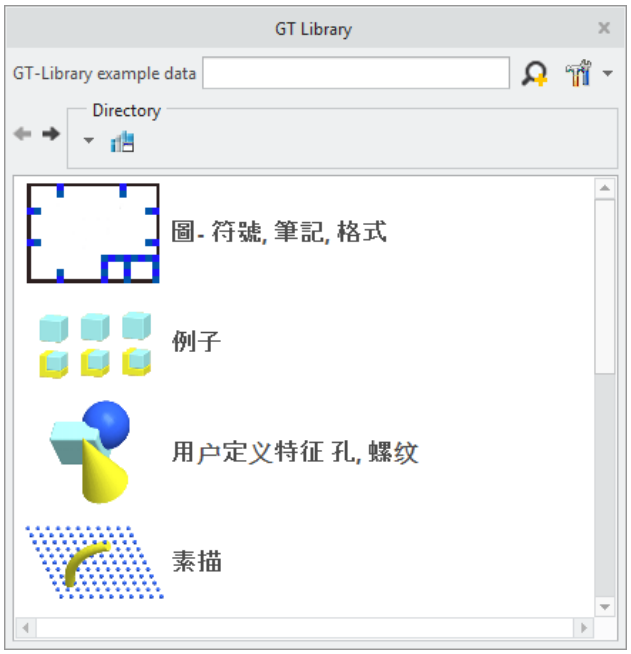
User interface

The GENIUS TOOLS Library user interface depends on the language in which Creo Parametric was started. Currently the languages German and English are available. When Creo Parametric is started in another language, the GENIUS TOOLS Library user interface is displayed in English.

Multi-lingual databases

GENIUS TOOLS Library databases can contain information in various different languages. New languages can be added to library databases via the Library Editor using language codes.

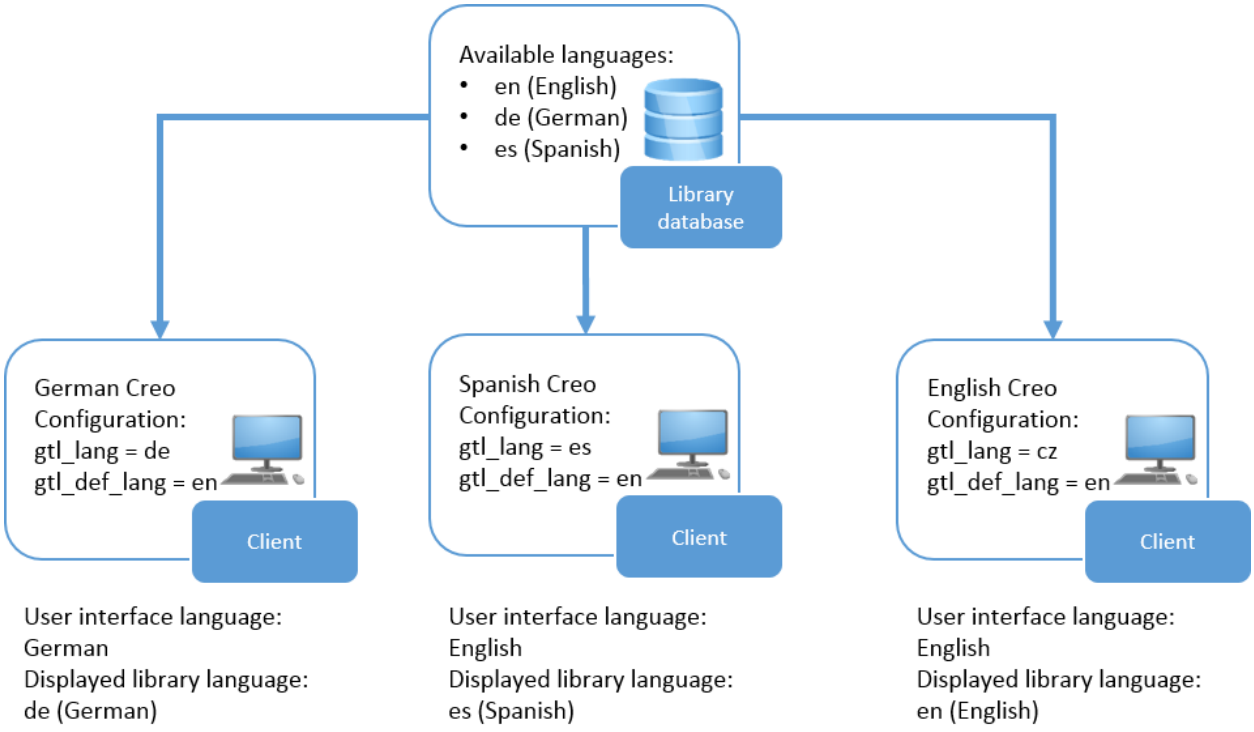
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GENIUS TOOLS Library with Chinese data

The language displayed in GENIUS TOOLS Library depends on the client computer configuration. The Configuration option `gtl_lang` specifies (via language code) which language to display.

The Configuration option `gtl_def_lang` specifies a language via language code to be used as a fallback variant if the language specified in `gtl_lang` is not found in a library database.



Displayed localization of GENIUS TOOLS Library and the database contents

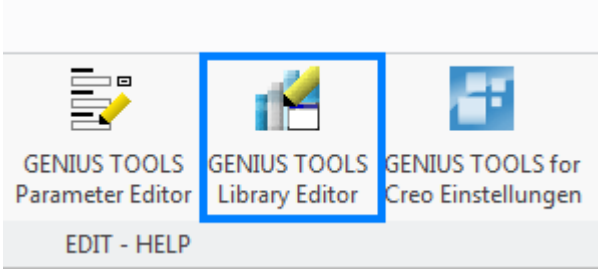
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6.3.3 Library Editor

GENIUS TOOLS Library Editor is a part of GENIUS TOOLS Library. Manage your libraries and library content with this editor.

Starting the program

Start GENIUS TOOLS Library Editor via the ribbon menu in the GENIUS TOOLS tab or via GENIUS TOOLS Quick Access ([<] key).



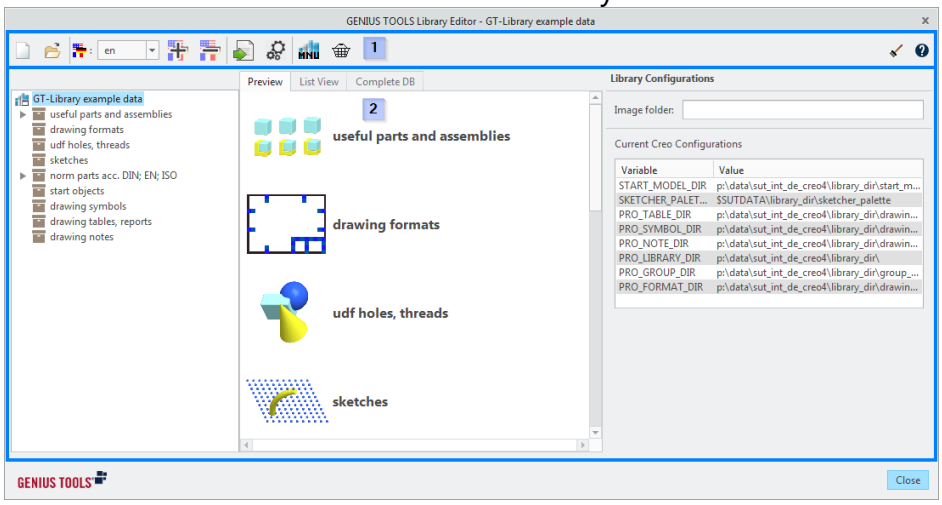
Starting via the ribbon menu



Starting via Quick Access

6.3.3.1 User interface

The user interface of GENIUS TOOLS Library Editor consists of the following elements:



1. Command bar
2. Library management

6.3.3.2 Command bar

The following buttons are contained in the command bar:

Icon	Name	Description
	Create new database	Creates a new database in the Library resources directory. **Note**: The database is opened immediately. A database already opened is automatically saved and closed.
	Open database	Opens a database.

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Icon	Name	Description
		Note: A database already opened is automatically saved and closed.
	Change displayed language	Changes the displayed language of library elements in the editor.
	Add/remove a language	Adds an additional language to a library or removes an existing one. **Note**: Languages set via the configuration (`gtl_lang` and `gtl_def_lang`) cannot be deleted from a database.
	Import objects into current category	Imports additional objects into the currently selected category of the library. Objects are not copied but represented by the corresponding library objects.
	Configure and execute batch revision	Starts a batch run across any categories and library objects. Preview images, parameters or family table information are automatically read or generated.
	Create MNUs	Opens the MNU export dialog.
	Open collector	Opens the collector for batch revisions of library objects.
	Clean up data	Opens the dialog for deleting unused images and resetting instance images.
	Help	Opens the Help.

6.3.3.3 Library management

The library management of the GENIUS TOOLS Library Editor is divided into three interface elements:
– Category tree
– Category view
– Object details

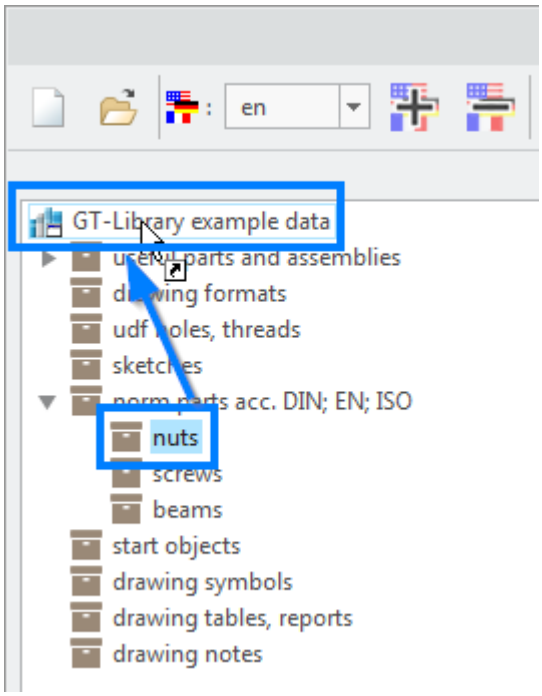
Category tree

The category tree shows all categories of the current library.

Please note: The editor always displays the previously opened library at first.

Use Drag-and-Drop to rearrange categories. Drag categories back to the root node to display them in the first level again.

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Drag a category and drop it on the root node to display it on first level again

Adding objects to the category tree

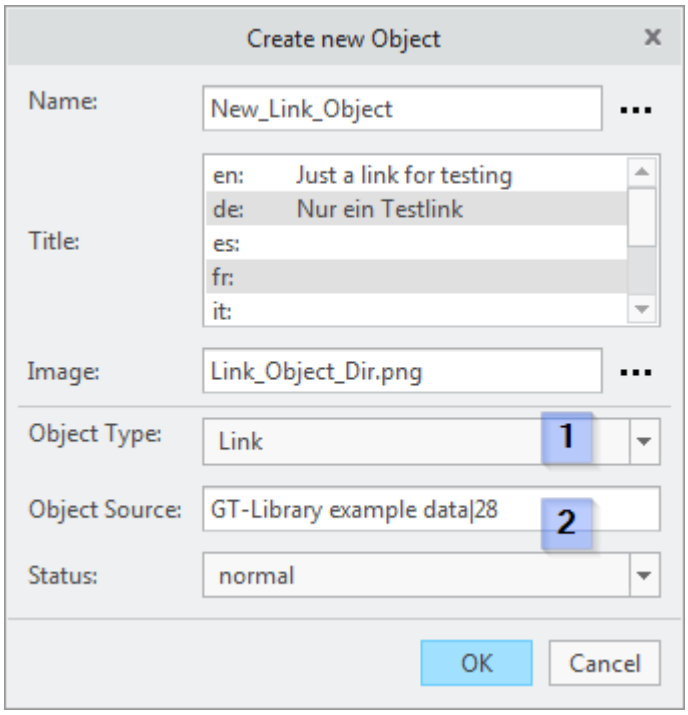
To add an object to the category tree, find the object using the search function in the **All objects** tab, then use Drag-and-Drop to place it in the required categories.
The **All objects** tab has a dedicated function for finding all objects that cannot be reached via the category tree.

Linking library categories

Categories can be linked to other categories or to other libraries. Library objects of the linked category are displayed in the other library or category. Alternatively, categories can be linked several times in the same library.
Proceed as follows to link a library category:

1. Open the library, containing the category you want to link.
2. Open the context menu in the category tree and copy the link information.
3. Open the library in which you want to create the link.
4. Create a new **Link** type library object.
5. Add the link information to **Object Source** and create the object.

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Always check the object type (1) when linking. Copy the link information into the field "Object Source" (2)

Category view

The Category view displays library objects of the current selection in the category tree.
Click a library object to display more information in the Details area.
Use drag and drop to rearrange library objects in the Preview area. The order defined in the preview area is used for displaying library objects in the library browser.
Use the tabs above the Category view to display different views of the library items.

Tabs in the Category view

Three tabs are available in the Category view:
Preview: Library objects and categories (=library objects) are displayed with preview image and description text.
List view: Library objects are sorted by type and internal name. In this view, displayed columns can be changed with the context menu. All library elements are displayed regardless of their status.
All objects: The tab allows a search over all library objects in the current library. In this view, displayed columns can be changed with the context menu.
The **All objects** tab has a dedicated function for finding all objects that cannot be reached via the category tree. 
Use the context menu to perform further actions.

Context menu

The following options are available in the Category view context menu:

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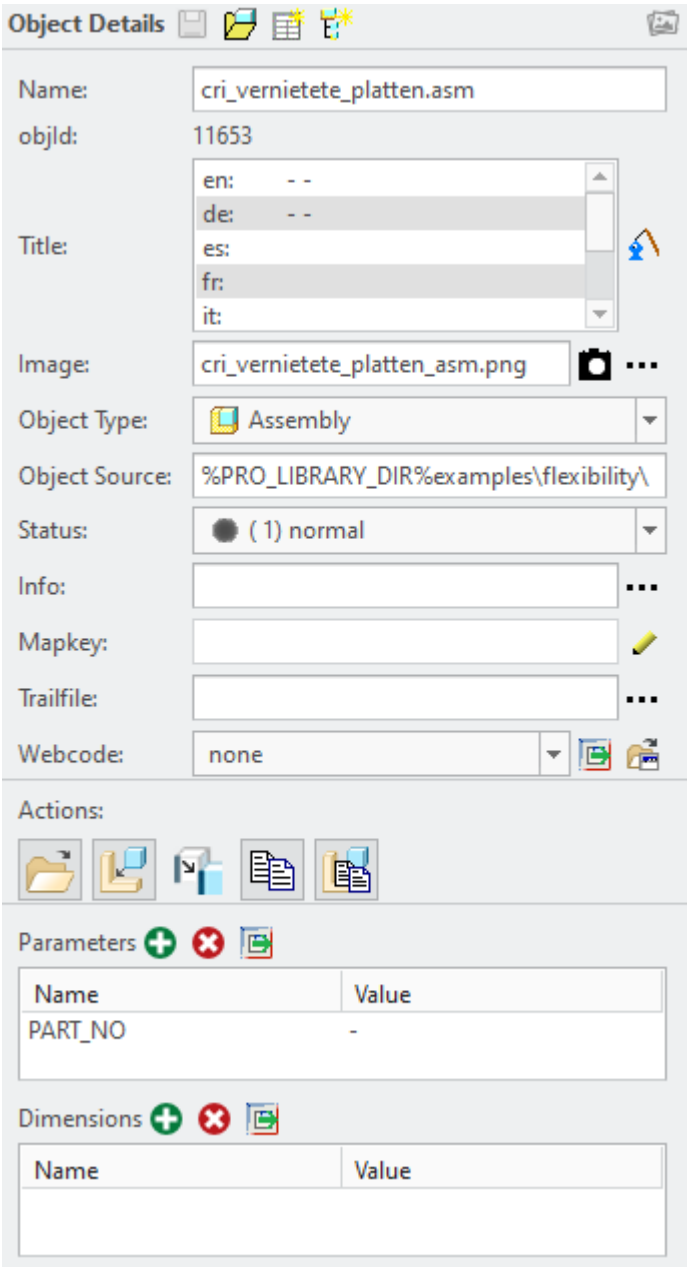
Change displayed columns: Changes the displayed columns in the *List view* and *All objects views*. Hold down the CTRL key to select multiple entries in the dialog.
Add category: Adds a new (sub)category into the selected category.
Add object: Adds a new library object into the selected category.
Add current model as object: Inserts the currently opened model into the selected category as a library object.
Remove category/object: Removes the selected object/category from the library (with subcategories and objects).

> **Tip**: As an alternative to deleting a category or an object, the database reference to an object or a category can be removed instead. the category or object is still in the database, but is not included in the tree structure.

Show dependencies: Displays parent and child objects of the selected library object.
Change order: Sorts the displayed elements. Combine the two possible views by selecting the options several times.
Import objects: Imports library objects into the selected category.

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Object details



Object details in Library Editor

Object Details display information on the selected element. The information displayed is different for library items and categories.

Above the details, you find a command bar containing the following buttons:

Icon	Name	Description
	Save object details	Saves modified object details into the database.
	Open model in Creo	Opens the current library object in Creo.
	Edit selection list	Opens the editor to customize selection lists for the current library object.
	Edit list of models to copy as well	Opens an additional editor window to customize copy rules for the current library

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Icon	Name	Description
		object.

Tip: Do not forget to save after making changes to a library object.

The following object details are editable:
Name: Name of the selected object. After an import, the name corresponds to the file name for library objects; for a category, the name corresponds to the folder name.
Database ID: The internal ID of the object in the library database (Only for information).
Title: The localized names of a library object. Standard texts can be used via the button  (Description of the standard text selection dialog 292).
Image: A preview images for a library object. Use the (...) button to define any image as a thumbnail. Alternatively, the camera button can be used to create a screenshot of the currently opened model.
The detail image icon is displayed in blue if there is an image in the folder defined by `gtl_detail_image_folder`. The image must have the same name as the object, using the pattern `<OBJECT_NAME>_<OBJECT_EXTENSION>.png` (e.g., **dei4032_mt_020_8.prt** > **dei4032_mt_020_8_prt.png**).
The image size for detail images can be defined in two ways:
– The size of all detail images is close to the same and is defined using the configuration options `gtl_detail_window_detail_image_height` and `gtl_detail_window_detail_image_width`.
– The configuration options `gtl_detail_window_detail_image_height` and `gtl_detail_window_detail_image_width` are both set to 0. The image size will be read automatically from the PNG files.
Images are retrieved in the following order:
– detail image of the instance
– detail image of the generic
– image of the instance
– image of the generic
Title and preview images can be created automatically via batch revision.

Please note: Changes to the detail image (after the initial append) will only be displayed after a Creo Parametric restart.

Object type: The current type of a library object. The type defines how a library object is opened by Creo.

Please note: The type of a category cannot be changed after it has once been created.

Always check the type of library objects! The type defines how a library object is opened by Creo and what actions can be performed on it. For example, manufacturing assemblies (MFGs) have the same file extension as normal assemblies (.asm), but must be treated differently by Creo.
Object source: Path of the library object. For categories, the folder name must be omitted.
Example for a category in a library that corresponds to a path:

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– Full path of the category: `D:/Parts/StandardParts`
– Object source: `D:/Parts/`
– Name: `StandardParts`

Use categories to open paths in the Library browser in Windows Explorer.

> **Warning**: Check the validity of the path for categories that are not solely used for logical structuring. The path of a category is composed of the object source and the name.

Status: Specifies one of the seven available status values for a library object or a category. The following three status values are administrative and cannot be found using filters:
– Archive: archived library objects are not displayed in the Library browser
– Not set: library objects without status are displayed in the Library browser and can be searched for
– Invisible: invisible library objects not displayed in the Library browser and cannot be searched for. Invisible library objects and categories are not displayed in the Library Editor preview either, but can be found via the **Lists** view and **All objects** tabs.

The status values **Normal**, **Green**, **Yellow** and **Red** can be assigned freely. They can be filtered via the object filter in the Library browser.

> **Tip**: Document the meaning of the freely definable statuses in the work instructions. Assign descriptions using the configuration options `gtl_<StatusName>_text` of GENIUS TOOLS Library.

Info: Document assigned to a library object or category with additional information. For a stored document, the Info button is displayed in the Detail window of a Library object. For categories, documents can be accessed via the context menu of the library browser.

> **Please note**: Information documents must be available on the client computers so that they can be opened! Viewing applications are controlled by the client computer.

Object details for library objects

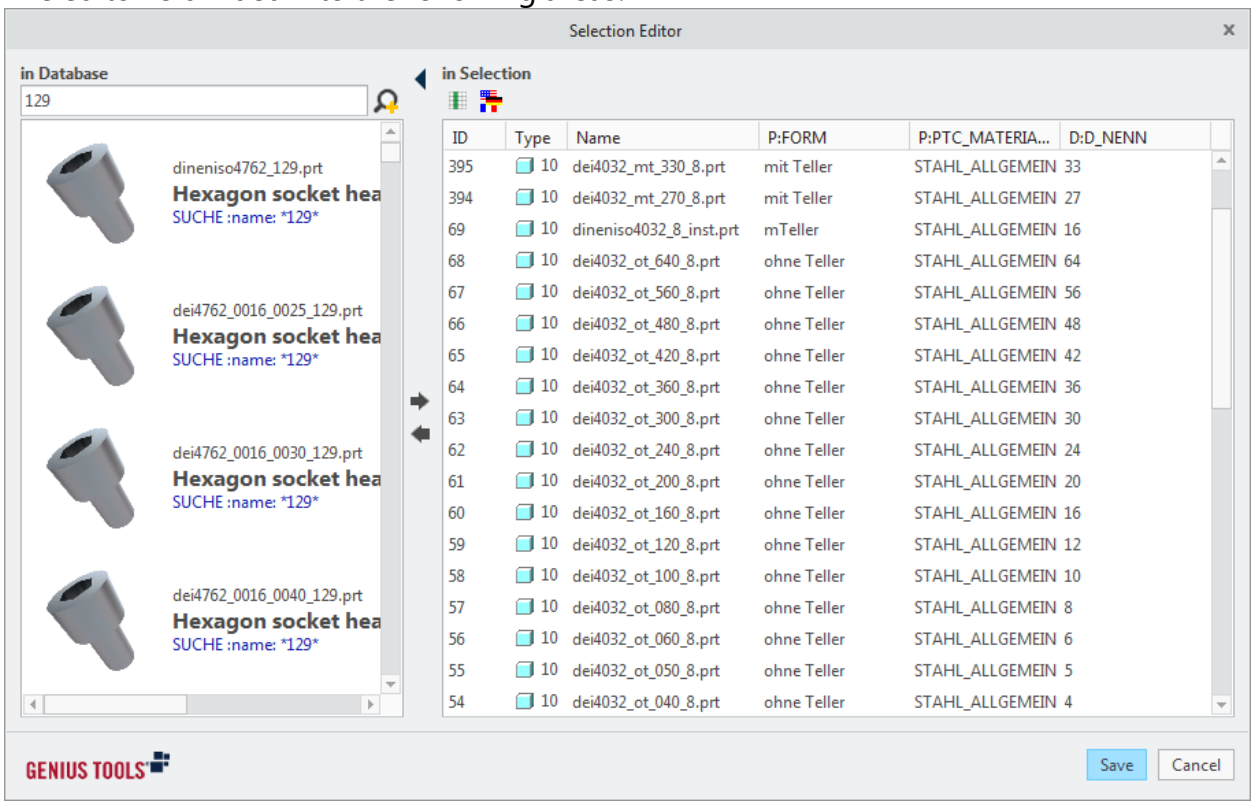
Mapkey: A mapkey for a library object. The mapkey is executed after clicking the mapkey button in the details window.
Trailfile: A trailfile for a library object. The Trailfile is executed after clicking the Trailfile button in the detail window.
Webcode: Webcode of a Form to be linked with the library object.
Actions: Specifies different actions that can be executed on the object in the GENIUS TOOLS Library Details window. Different actions can be executed on the individual object types.
Parameters and **Dimensions**: These two tables are used to add parameter-value pairs or dimension-value pairs to the library object. The parameters or dimensions given here are displayed in the GENIUS TOOLS Library Details window as additional information and can be searched for. Use the + and x buttons to add or remove value pairs. Value pairs can also be adopted from the current model using the **Read** button. 

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Please note: The parameter tables and dimensions tables can be filled automatically for generic models. Use the function *Read family table cell information*.

6.3.3.4 Selection lists editor

Selection lists for library objects are created in a special editor. Library objects are compiled in selection lists. They are available in the detail window in the Selection tab as variants of a library object.
In Library Editor, select a library object and click the *Edit selection list* button under Object Details.
The editor is divided into the following areas.



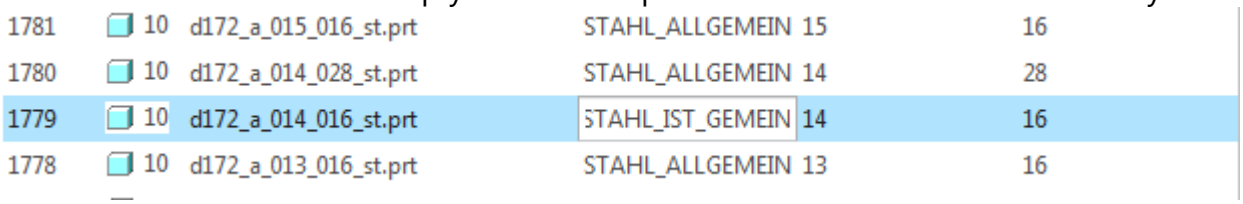
1. Search
2. Library browser
3. Options
4. Selection list

Tip: Selection lists can be filled automatically for generic parts with family tables. Use batch revision.

Use the search (1) to search the current database. The search is identical to the search of GENIUS TOOLS Library.
On the left side of the dialog is the Library browser (2). It displays library objects of the current database. Next to the Library Browser are the options (3). The library objects of the selection list (4) are displayed on the right.
Drag and drop library objects into the selection list or use the arrow buttons to add and remove library objects. Library objects in categories are added **recursively** (all contained

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library objects) or **explicitly** (only library objects that are directly in a category - without subcategories).
Click into table cells to edit empty or incorrect parameters and dimensions manually.



Click into the table cells to edit their content manually

Parameters and dimensions changed in selection lists are automatically changed in the corresponding library objects.
Modified values are not transferred back to models.
Use the tab key to navigate within selection lists and localization dialogs.

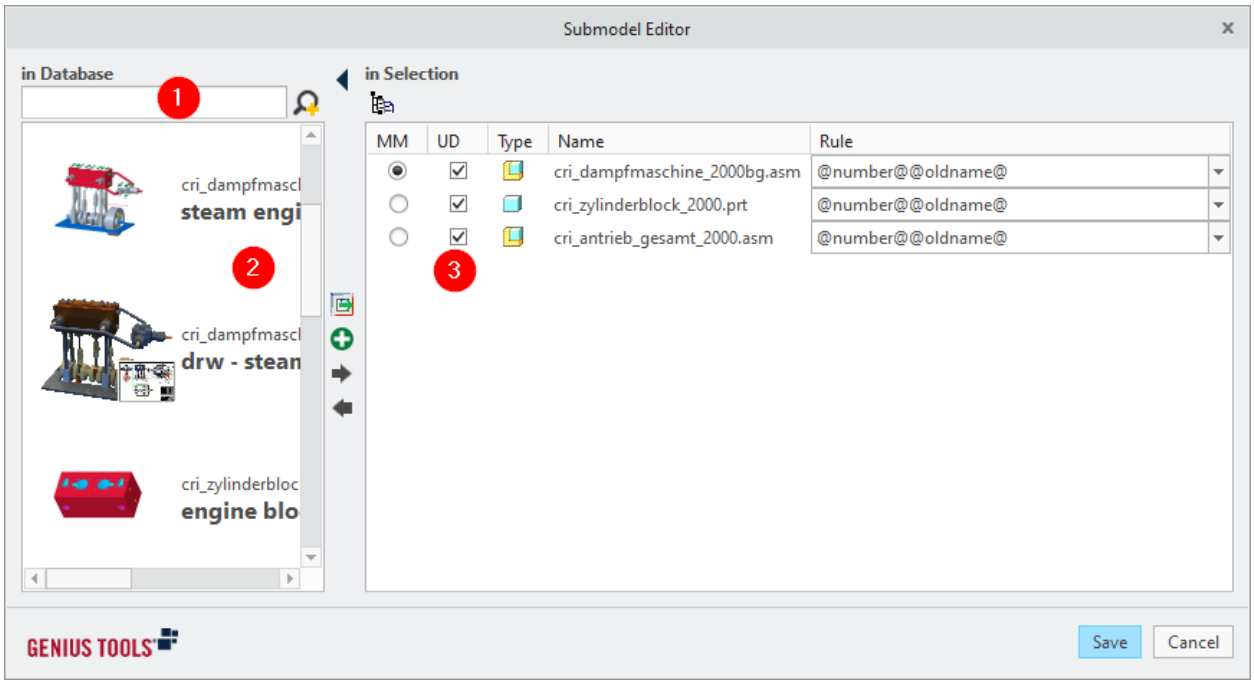
Options

Use the table symbol to show or hide columns.
Use the localization button to edit translations for columns. You can use the options for default texts 292 or for automated localization 293.
If library objects in the selection list are generics, use the third button: *Merge Selection Lists*. Nested family tables are read out by batch processing and processed for the selection list. In addition, parameters can be inherited from generics and the generics can be removed from the selection. This functionality is useful for consolidating nested family tables.
You can also merge selection lists manually. To do so, use the context menu to search the selection list for
– all instances
(instance information will only be written when importing or when using batch revision)
– all selection objects
(that is, all objects that are part of the selection list for the selected object)
If the selection table meets your requirements, click *Save*.

6.3.3.5 List of models to be copied

This list contains copying instructions for models to be copied together. Models linked in this way will be copied into the work directory together with the selected object if you execute a **Copy** action.
There is a separate editor dialog for models to be copied together. To open it, select a library object in Library Editor and click **List of models to be copied together**.

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The editor contains:

1. Search field
2. Library Browser
3. List of library objects in the selection: objects to be copied

Use the Search field (1) to search the current database. The search function is identical to the search function used in GENIUS TOOLS Library.

The left pane of the dialog shows the Library Browser (2), listing the library objects in the current database. The right pane shows the library objects in the current selection (3).

Drag-and-drop library objects into the current selection, or use the arrow buttons to move library objects to or from the current selection.

The following buttons are available.

Icon	Name	Description
	Copy submodel definition into selection	Use this dialog to define replacement rules that will be inherited by all instances of the selected model.
	Add dependent file not in library	Add dependent models for the current Creo model to the copying list **Please note**: The model has to be the currently active Creo model!
	Add file not in library	Add any model to the copying list
/	Add to current selection / remove from selection	Use the arrow buttons to add or remove library objects

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Creating copy definitions in the selection

1. In the list of selected objects, define the main model (MM) for the copy definition. The main model determines which form will be used and which model will be opened after copying.
2. Next, define whether instances that you have added to the selection should be unlinked from their generic model on copying (UD = undock).
3. Last, define the copying rule under **Rule**. Add an individual copying rule for each model, or use the dropdown list to select already configured copying rules.

Variables in copying rules

You can use all GENIUS TOOLS for Creo variables389. Additionally, there are two vaiables specifically for copying rules:
`@oldname@`: returns the old file name of a library object.
`@copyno:<model_name>@`: applies the copying rule of the model given in the variable to the current model.

Please note: Do not forget to save the library object for which you have created a list of objects to be copied.

6.3.3.6 Actions on library objects

Library object actions are specified in the Library Editor. They are available in a library objects Details window or in the context menu.

Please note: Different types of library objects support different actions.

Open



Allows to open models or to open models as simplified representations. Assemblies can also be opened with simplified graphics.
Notes, symbols and selections cannot be opened.

Insert



Allows to insert library objects into assemblies, parts, sketches, drawings and reports.
In NC assemblies, parts, sheet metal parts and assemblies will be inserted as fixtures.
Additionally activates the action **Insert as simplified representation**.

Library object type	Insertable in
PRT	ASM
ASM	ASM
GPH	ASM, PRT
SEC	SEC
FRM	DRW, REP
TBL	DRW, REP
SYM	DRW, REP

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Library object type	Insertable in
TXT	DRW, REP
Selection	ASM

Copy



Copies a library object into the current working directory with a new name using GENIUS TOOLS Name Generator. The copy is opened in Creo.
The action is available for parts and assemblies. This action copies models from the lists of models for copy purpose as well.
If a library object contains a Form, the action **Copy the selected file** will additionally be activated for the library object. This copies the model and values in the form are applied to the model. If you have defined copying rules for the model, these will be applied.
The workflow in combination with GENIUS TOOLS Name Generator (`gtl_gtng_*`) and GENIUS TOOLS Forms (`gtl_gtf_*`) can be defined using configuration options. For more information, please refer to configuration 354.

Insert file with note reference



Inserts a TXT file with hint arrow to a drawing (DRW) or a report (Rep).

Merge/Inherit



Inserts a library object (parts) as an inheritance into another part.

Die



Inserts a library object (parts) as a die for a sheet metal part.

Punch



Inserts a library object (parts) as a punch for a sheet metal part.

Copy geometry



Inserts a library object as a copy geometry for a sheet metal part. If the library object has multiple copy geometries defined, the user is offered a selection.

Execute mapkey



Executes a mapkey deposited in the library object.

Trail file

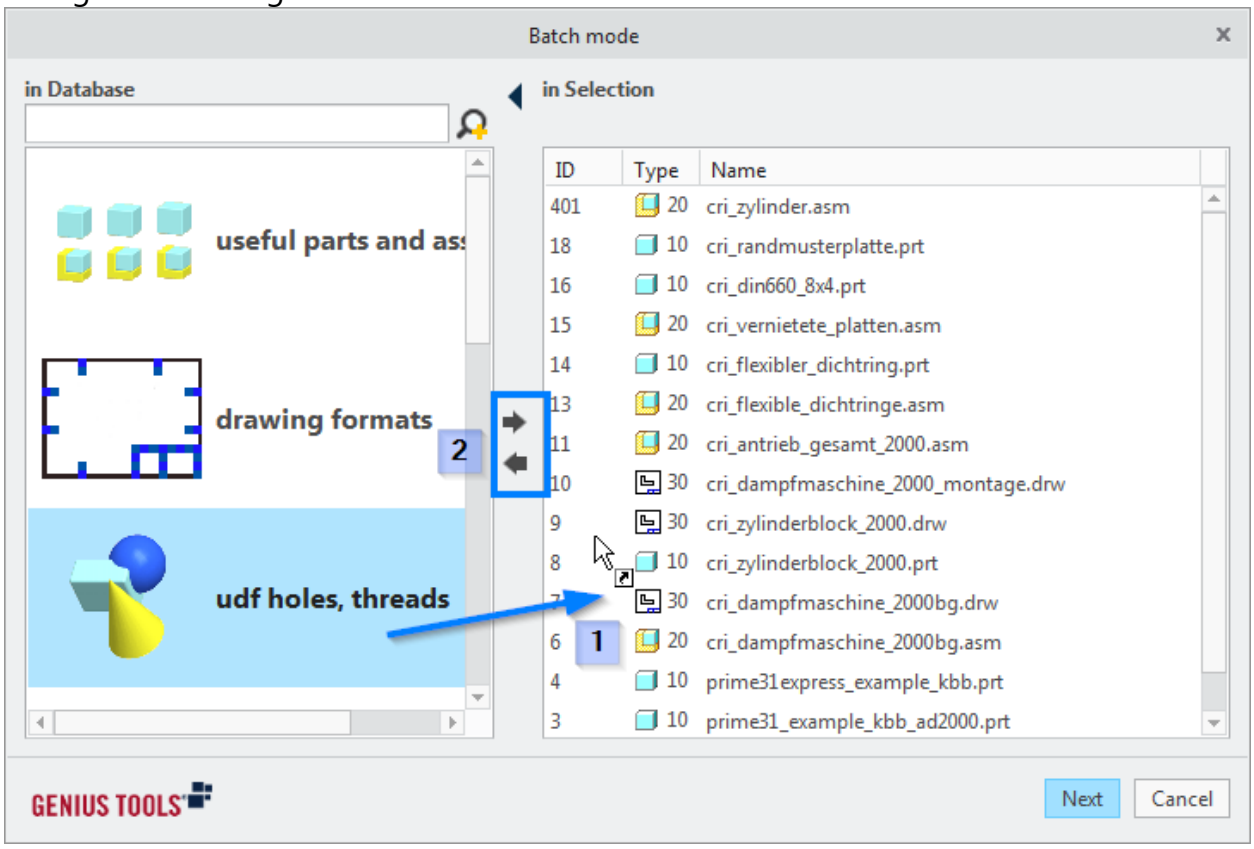


Executes a trail file deposited in the library object.

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6.3.3.7 Wizard: Batch revisions

There is a batch revision wizard guiding you through the configuration of the batch revision. The wizard consists of two dialogs: Object composer and Batch revision configuration.
In the Library Editor, click on the **Configure and execute batch revision** button to call up the configuration dialog of a batch revision.



Specify the library objects for revision via drag and drop (1) or use the two arrow buttons (2)

Object composer

In the first dialog, the library objects for batch revision are specified.
The dialog is divided into two parts. The library objects already selected (in Selection) are displayed on the left side. The browser displaying the library objects of the current database is located on the right side.
You can either drag and drop library objects into the selection list, or use the arrow buttons to add library objects to the selection list or to remove them.
When adding library categories to the selection list, select whether the library objects included should be added recursively (all library objects underneath the category and underneath included categories) or only from the selected folder (all objects underneath the category).
Use the Search bar to search in the database. The search function is the same as in the GENIUS TOOLS Library Search and filter area.
Click **Next** to open the next wizard dialog.

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Batch revision

The second dialog configures the batch revision actions.
Select the actions to be executed on the library objects.
The following options are available:
The options are divided into options for loaded models and options for models in the database. Options for loaded models require loading the entire model in Creo and are more time consuming. Options for models in database are only executed on the database.
You can also save the configuration for a batch revision job, load it later and run it again or make adaptations to the configuration.

Saving and loading the configuration
Save configuration:  Writes the currrent settings for batch revision into a configuration file GTLE_BATCH_CFG. The default storate location for Library is preselected.
Load configuration:  Loads a configuration file GTLE_BATCH_CFG and restores the settings for batch revision stored in the selected file.

Options for loaded models
Create instances as objects: Specifies whether instances of a generic part are also included in the library database as independent objects.
– Add new instance objects to batch list: Specifies whether newly created library objects are included in the current batch list.
– Add existing instance objects to batch list: Specifies whether library objects being already known instances of generic parts are included in the batch list.
– Do not revise existing generics: Excludes generics from the batch revision.
Read family table cell information: Specifies whether family tables are read from parts and added to the database.
Read parameters: Specifies the parameters to be read from the library objects. They will be displayed in the GENIUS TOOLS Library Details window.
Map parameters to existing language: Specifies one or more parameters for each available language to be used as the library object title in GENIUS TOOLS Library.
Specify individual parameters by name. Multiple parameters require a percent sign before and after the parameter name, for example:
– *parameter1*
– *%parameter1% - %parameter2%* or
– *%parameter1% - Generic part*
Create preview images: Creates a preview image for each library object.
Only if no preview image exists: Excludes library objects that already have a preview image from image creation.
Index - Form: Creates an index for the form (bounding box side lengths) of library objects for 3D search.
Index - Voxel: Creates an index of voxel information (spatial record) of library objects for §D search.

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Options for models in the database
Assign info documents from the info folder: Looks up info documents in the folder specified in `gtl_info_folder` and links them to library objects of the same name in the database. Supported file formats: PDF, HTML, DOC, DOCX, XLS, XLSX and XLSM.

> **Please note**: Paths are always calculated on the client. Use the configuration option `gtl_info_folder` to specify a path for multiple databases.

Change path: With this option enabled, path segments (left input field) are replaced by an input (right input field). Use this option when Creo being referenced by library objects have been moved and cannot be found via the search paths.
Change status: Changes the status of all library objects to the status provided here.
Following batch revision configuration, click **OK** to start it.
Click **Save configuration** if you want to execute a batch list several times. The configuration will be saved for later executions.

> **Please note**: A batch revision may take a long time depending on the selected options.

6.3.3.8 Wizard: Import

The Object Import dialog exists for importing library objects:
Click the button **Import Objects in current category** to open the dialog. Alternatively, use the context menu in the Preview area.

> **Please note**: Always select a category in the category tree, before importing.

The following options are available.
Folder: Defines the file system folder that is to be imported.
Import selected folder as category: Defines whether the folder is imported as a separate library category below the current category.
Import folders only: Imports a folder structure without including the contained data in the library database.
Import folders and files: Imports both: folders and files.
Configuration for MNU import: Defines the language assignment in MNU files.
Configuration for STOOLS XML import: Defines the language assignment in the XML files of the Library Viewer of the TOOLBOX.
Check file existence: Checks if all referenced files are contained in the folder structure.

> **Warning**: Always check the object type of library objects after an import.

6.3.3.9 Wizard: MNU export

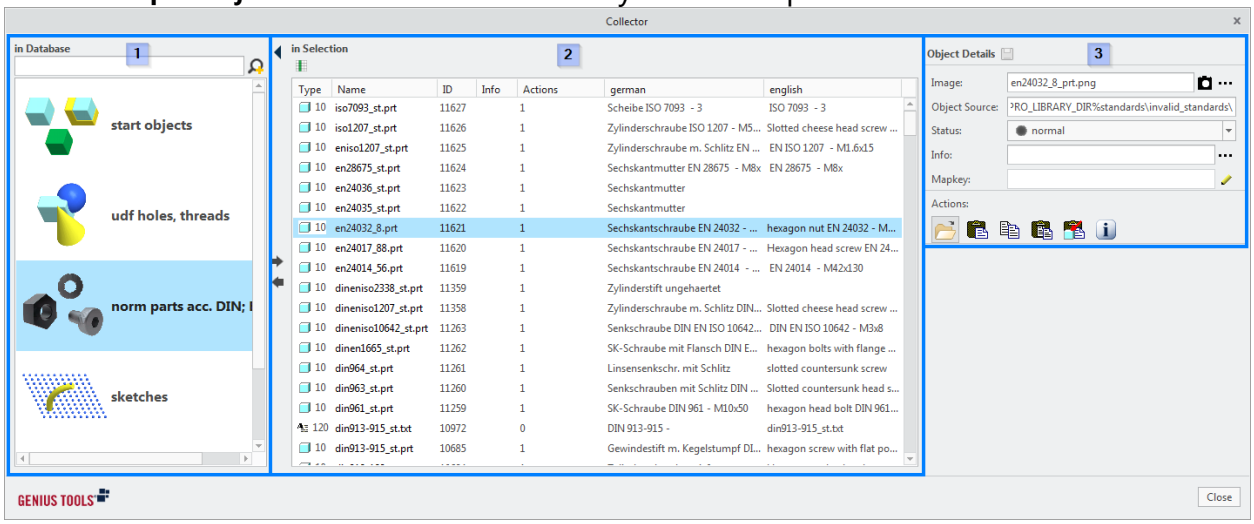
There is a dialog for exporting MNU files that guides you through the configuration of the export. In Library Editor click on the Create MNUs button to open the MNU export dialog.
The following options are available in the dialog:
PRO_LIBRARY_DIR: Specifies the folder to export the MNU files.
Category-based mode: An MNU file is created for each category in a library. The files are stored in the path of the category (object source).

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File-based mode: A folder and the associated MNU file are created for each category of a library. The structure corresponds to the categories of the library.
Categories: Select the categories to be exported here.
First language/Second language: Define here the language assignment for the MNU files.
Confirm the dialog with **OK** to start the MNU export.

6.3.3.10 Wizard: Object collector

For revising library objects, the Object collector dialog exists. The object collector is used to edit properties such as status, actions or preview images of several library objects simultaneously.
Click the **Open object collector** button in Library Editor to open the collector.

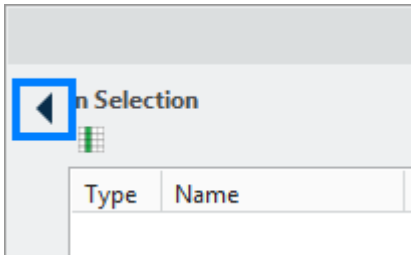


1. Database view
2. Library objects in selection
3. Object details

The object details are displayed if at least one library object is selected in the selection.

Database view

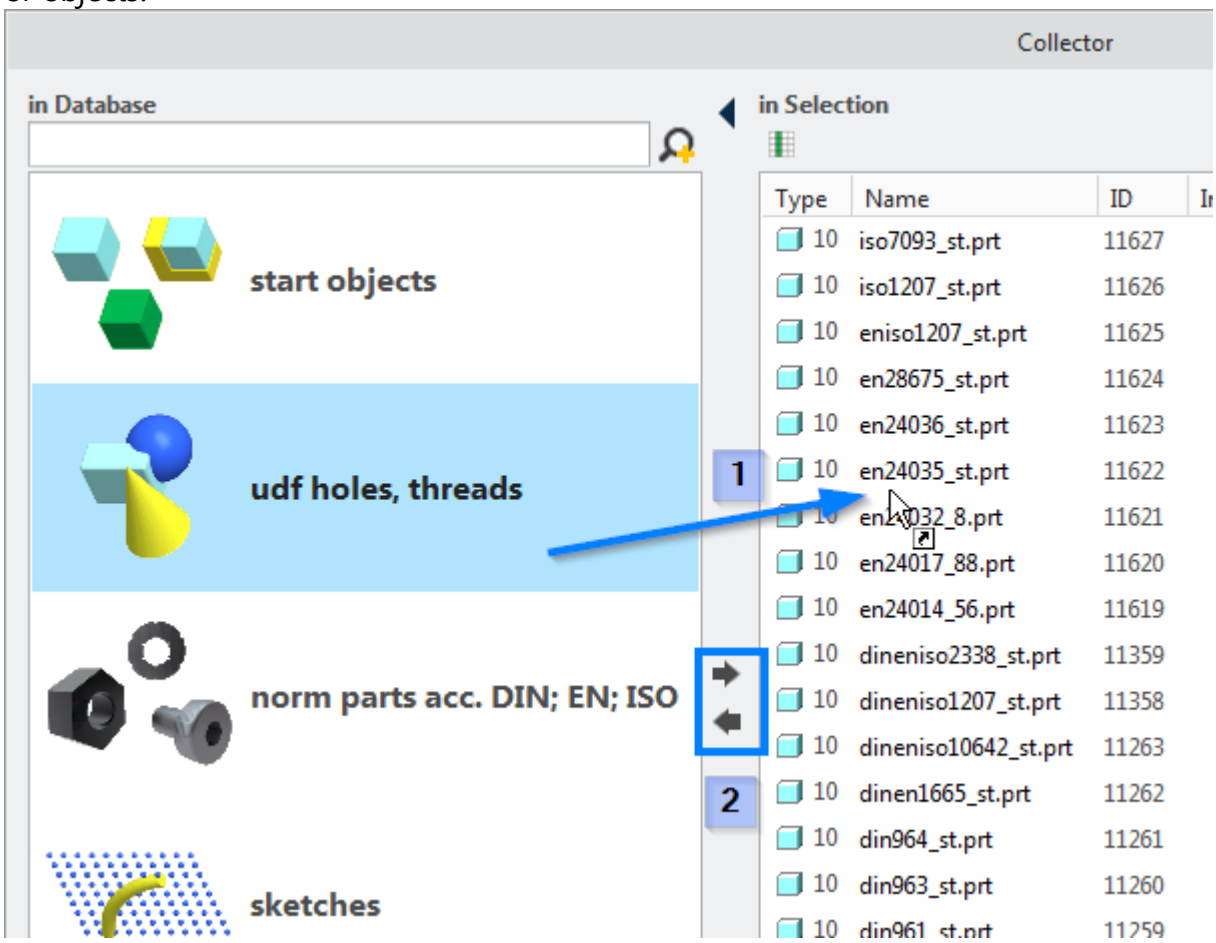
In the database view, library objects and categories are displayed as in the library browser.
Click on the arrow button to display the database view.



Expand the database view to add library objects to the collector

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Navigate the database view. Add library objects to be revised to the list via drag and drop (**1**) or use the arrow buttons (**2**). Use the Shift or Control key to select multiple categories or objects.

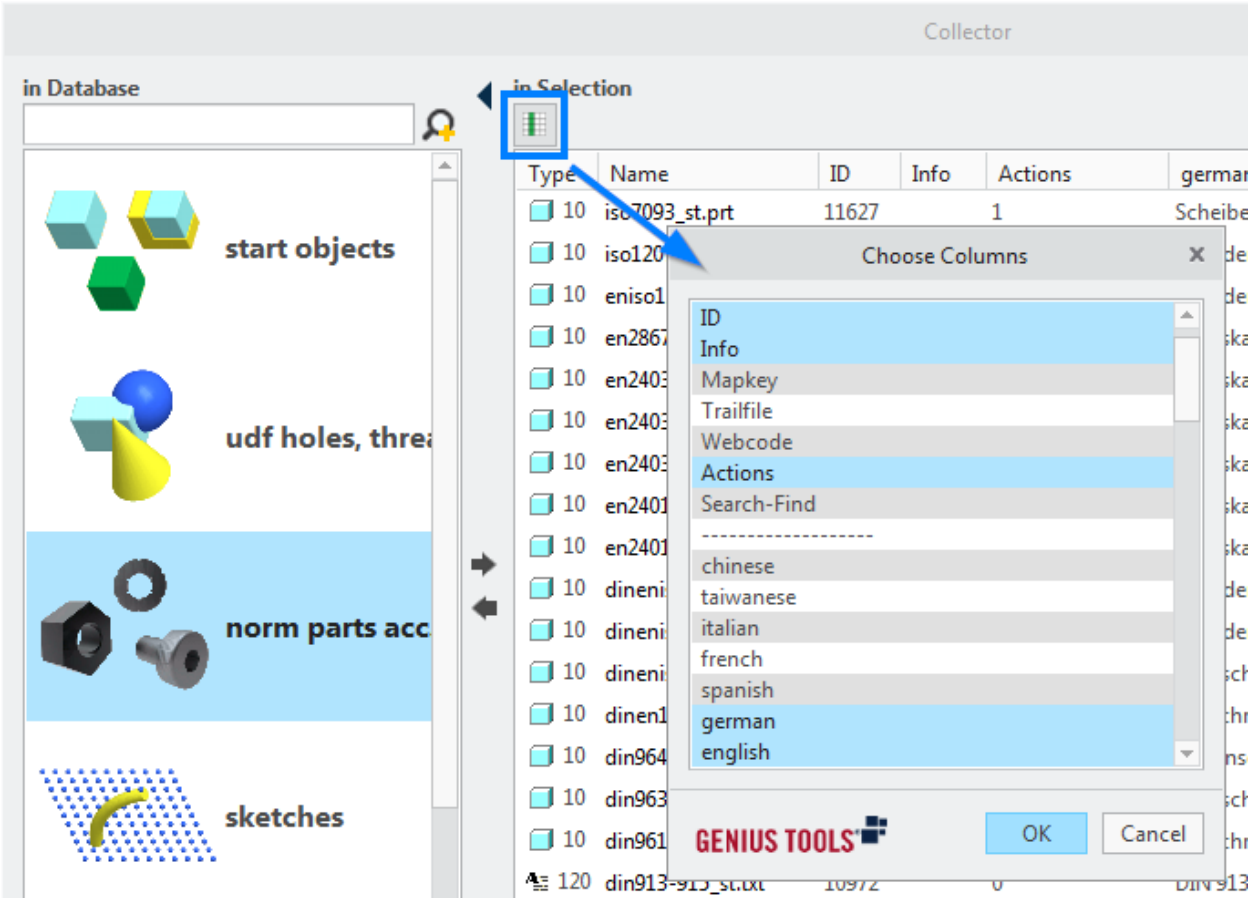


Add categories and library objects to the selection with drag and drop (1) or use the arrow keys (2).

Library objects in selection and Object details

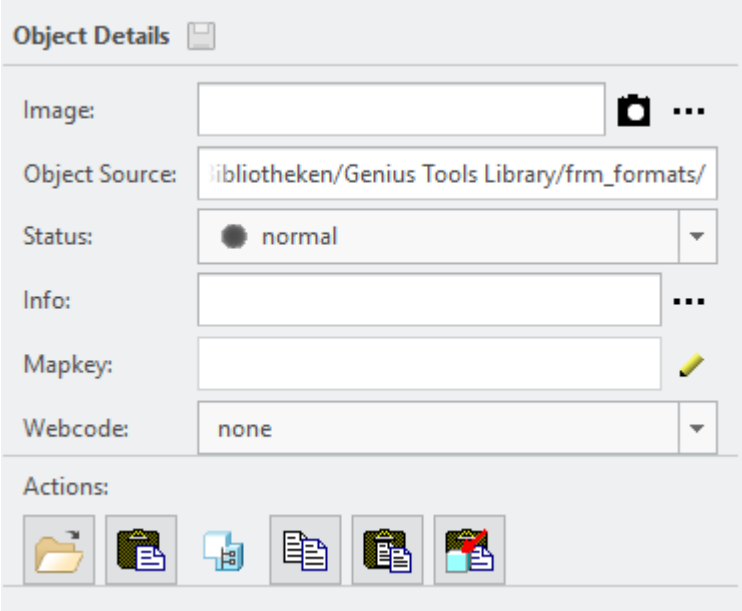
This section displays the library objects that have already been selected.
Use the button **Show Columns** to show additional information. Use the Shift or Control key to select multiple columns.

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Display additional information in the collector

Select the library objects to be edited in the selection. Use the keys Shift and Control for multiple selections. To the right, modify object details to be revised.



Modify the object details for all highlighted library objects at the same time

Click the button **Save Object** to save changes in the library database. Reload the library database in Library to work with the updated data basis.

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6.3.4 XML interface for Form values

GENIUS TOOLS Library comes with an XML interface for importing pre-calculated values for Forms. You company has to define whether this interface is used and for which Forms to create XML files.
The function **Form -Load values (.xml)** is available for the users from the tools menu of the library browser.
An XML file for loading Form values has to be available in a specified XML format and in UTF-8 encoding. This section describes the required XML format.

Root element

The element `root` has the following attributes:
– `modelname` (optional): name of the model that contains the target Form, without extension
– `webcode`: webcode of the target Form
– `new_name`: name for the copy of the model that contains the target Form

Form values

Each value to be set in the target Form is defined by an element `element` with the following attributes:
– `name`: name of the Form element
– `id` (optional): ID of the Form element. If no ID is given, the name is used for determining the Form element.
– `value`: value to be set in the Form
`element` is an empty element.
To access the names and IDs of the target Form elements, you can export the Form as an XML file via the tools menu of GENIUS TOOLS Forms.

Models to be copied together

The list of models to be copied with the model that contains the target Form is bracketed by an element `submodels`.
Each model to be copied with the target model is defined by an element `submodel` with the following properties:
– attribute `new_name`: name for the copy of the model, without extension
– attribute `copy` (optional): This attribute can contain the value `y` for **yes**, be empty, or be absent in order for the model to be copied. The model is not copied if you set `copy="n"`.
– element content: original name of the model to be copied, with extension

Example

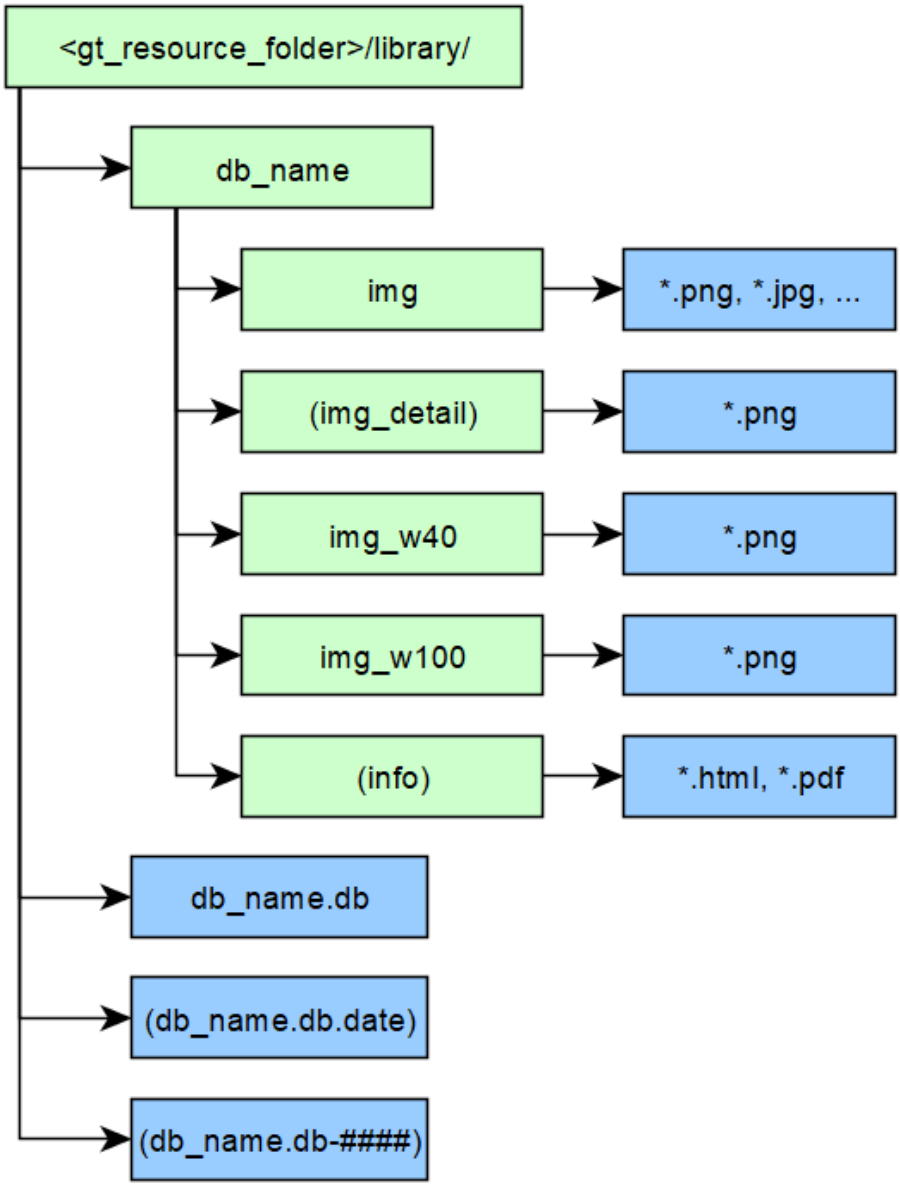
```
<?xml version="1.0" encoding="UTF-8"?>
<root modelname="SUT_INT_DE_START_CUBE" webcode="sut_int_de_start_cube"
    date="30.10.2018 9:28" new_name="model_copy">
    <element name="DESCRIPTION_1_DE" id="para|DESCRIPTION_1_DE"
    value="Startwürfel" />
```


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```
    <element name="DESCRIPTION_1_EN" id="para|DESCRIPTION_1_EN"
    value="base cube" />
    <element name="length" id="dim|0" value="20" />
    <element name="width" id="dim|1" value="20" />
    <element name="thickness" id="dim|2" value="20" />
    <submodels>
          <submodel new_name="model_copy_drawing"
          copy="y">sut_int_de_start_cube.drw</submodel>
    </submodels>
</root>
```

6.3.5 Data structure

The data that is needed by Library is saved inside a folder located in a configurable location, with the default at `<gt_resource_folder>/library`. Every database that is usable inside Library has its own storage structure inside this folder.



GT Library - Structure tree

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Files are represented in blue and folders in green in the figure. Images that are linked by the database are saved inside the image folders. Folders and files that are shown in brackets can be there, but do not have to be.

Security copies

Images in the image folder and security copies of the database (`db_name.db.####`) can be deleted. This has no impact on Library.

Synchronization

The file **db_name.db.date** is important for synchronization. It need to be re-written at every change of the database. This is done automatically by the Editor or GENIUS TOOLS Data Importer. If there is no **db_name.db.date** file the database **db_name.db** will be synchronized on every folder change. In this case, you should deactivate the synchronization (see also Configuration Options 343).

Images / Convert images

Different sizes of each image are saved pre-formatted in the folders **img_w40** and **img_w100**. If these do not exist when Library Editor is started, they will be created and the pictures from the respective other directory will be converted into them. This behavior has been implemented for legacy data, but it can also be used to clean up inconsistencies. Its important to remember that images from the **img_w40** folder cannot be resized to a bigger size at the conversion.
Detail images can be saved in the **img_detail** folder. You can find more information under Library Editor - Object details 123.

Info files

Info files can be saved in the info folder and linked automatically with objects by a batch process. You can find more informations about batch revisions under Library Editor - Object details 123 and Library Editor - Wizard: Batch revisions 131.

6.3.6 Use cases

In this section, you will find short instructions on tasks relating to Library Editor.

6.3.6.1 Creating a new library

Proceed as follows to create a new library:

1. Open GENIUS TOOLS Library Editor.
2. In the command bar, click *New*.
3. Enter a descriptive name for the new library. Be sure not to use special characters. The database and the required sub-directories are created in the resource directory.
4. In the next step, check the languages set in Library Editor. A standard library has German and English language set.
5. Click *Add a language* to add new library languages using language codes. Use the *Remove a language* button to remove the language codes not needed.

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Please note: The language code en and the language code specified via the `gtl_lang` configuration option cannot be removed.

Your new library is now ready for use. Proceed with adding categories and library objects to your database. They can either be created manually or be imported.

6.3.6.2 Creating a new category

1. Open the GENIUS TOOLS Library Editor.
2. Click *Open database* and select a database to be edited.
3. In the category tree, navigate to the position where you want to create a new category.
4. Open the context menu in the Preview area (right mouse button) and click *Add category*.
5. Enter the Name for the new category. Enter the **folder name** as the Name if the category corresponds to a folder.
6. Enter a Title for the category. Fill in the language dependent input fields.
7. If the category is to contain an image, choose the appropriate preview image by directly entering its location into the input field or by selecting a preview image via the (...) button.

Tip: When you create the category, the preview image is copied to the database image folder in the resources directory with a new name. When you open the category in the editor, another image name is displayed.

8. Check if the object type is set to category.
9. Enter the object source. Enter the **path**, without the last folder name, as the object source if the category corresponds to a folder.
10. Specify a status for the category.
11. Click *OK* to complete the category creation.

Your new library category is now ready for use. Proceed by adding library objects to your database. They can be created manually or be imported.

6.3.6.3 Creating a new library object

1. Open the GENIUS TOOLS Library Editor.
2. Click *Open database* and select a database to be edited.
3. Navigate to the location in your database structure where you want to create a new library object.
4. Open the context menu in the Preview area (right mouse button) and click *Add object*.
5. In the next dialog, enter the following information:
6. Enter the name of the object to be created or select a Creo object via the *three dotted button*.
7. Enter a Title for the object. Fill in all language dependent input fields.
8. If the library object should contain an image, choose the appropriate preview image by directly entering its location into the input field or by selecting a preview image using the (...) button.

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Transferring title information from parameters to library objects and creating preview images can be automated via batch revision.

9. Check the object type and adjust if needed.

Please note: Pay special attention to the object type with manufacturing assemblies.

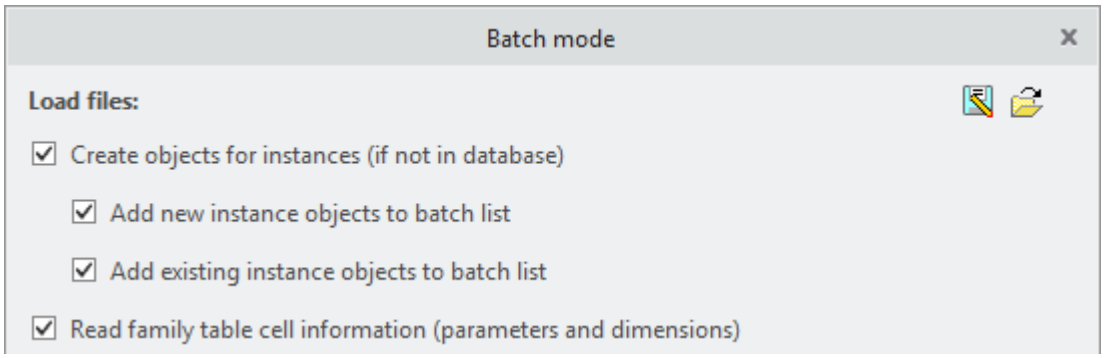
10. Specify a status for the library object.
    Use the preset status **Invisible** as long as you have not completed the revision of your library objects. Invisible library object are not displayed in the editor preview, switch to list view to see them.
    Setting statuses can be automated via batch revision.
11. Confirm the dialog with *OK*. Your new library object is now created.
12. Check the object details in the Library Editor and adjust if necessary.
13. Add an information document to the new object: Click on the *three dotted button* after **Info** and specify a document that can later be opened from the GENIUS TOOLS Library Details window.
14. Specify a mapkey or trail file with a mapkey for your library object: Click the *Pen icon* after **Mapkey** to enter a mapkey directly the next dialog (e.g. via Copy and Paste) or click on the *three dotted button* after **Trail file** to select a trail file from your file system.
15. Specify the executable actions on the library object: Click the actions that should be available for the library object.
16. Automatable revisions for your library object: Modifying title information, preview images and status can be automated via batch revision. Instances and family tables can be captured automatedly as well.

6.3.6.4 Importing family tables

Proceed as follows to import family tables of a generic part:

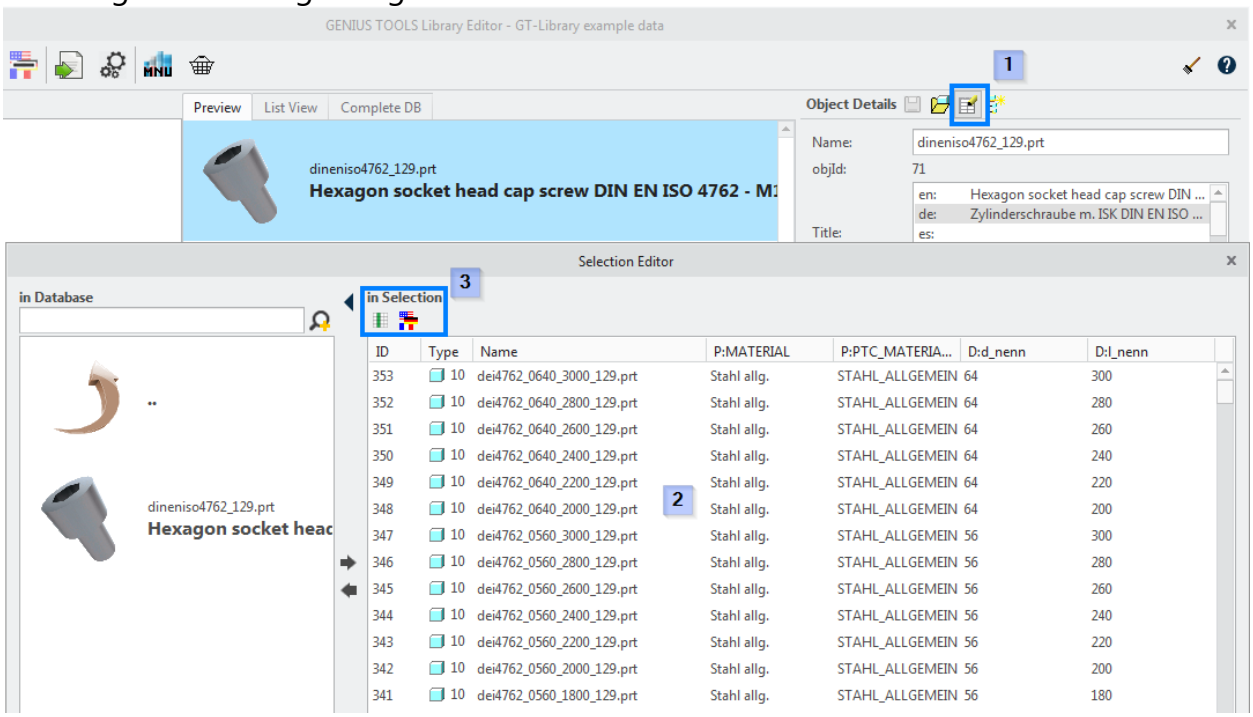
1. Create a new object in your library structure and select the generic part.
   If the instances should have the same preview image as the generic part, specify the preview image prior to the batch revision. Then the image will be inherited by the instances.
2. Start a batch revision. Add the library object you have just created to the selection. Then, click *Next*.
3. Activate the following options for the batch revision:
   a. Create objects from instances (if not in database)
   b. Add new instance objects to batch list
   c. Add existing instance objects to batch list
   d. Read family table cell information (parameters and dimensions)
   e. If each instance should have an individual preview image, also activate the *Create preview images* option.

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Activate these options to import family tables

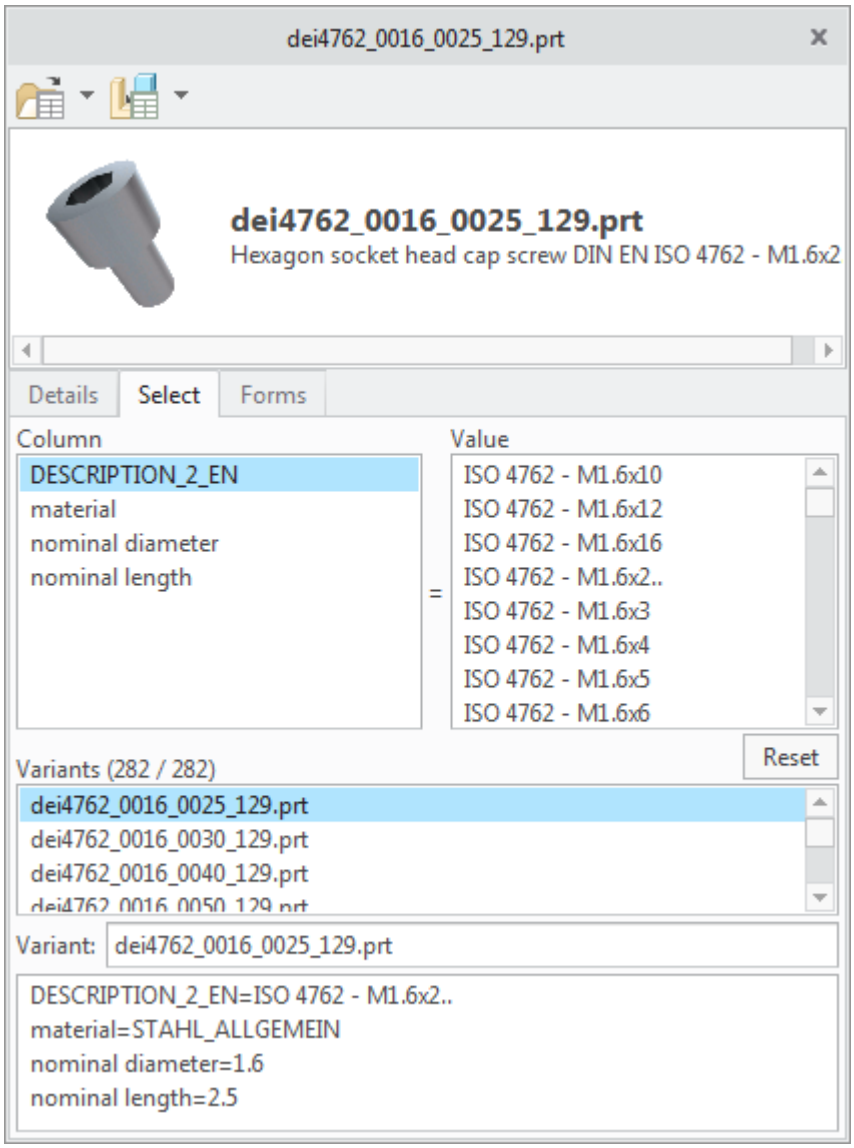
4. Click *OK*. The family table is read. This may take some time.
5. Select the generic part in the editor and click *Edit selection list* in the Object Details area.
6. Check the created selection list. If needed, complete missing information. Confirm the dialog after making changes.



In the editor, click "Edit selection list" (1). Then check the selection list (2). You can customize the columns display and assign multilingual column names using the command bar buttons (3).

The family table is now imported completely and is available as a selection table in the library object.

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The selection list is ready for use

6.3.6.5 Updating objects

When model information changes, this changed information must also be revised in your library database.

Use the Library Editor batch revision to update your library objects.

Using batch revision you can, for example:

– Update modified parameters

– Map modified parameters to multilingual titles

– Update preview images for your library objects

For these three scenarios, proceed as described at Importing additional object information 144. Existing preview images, titles and imported parameters will be overwritten.

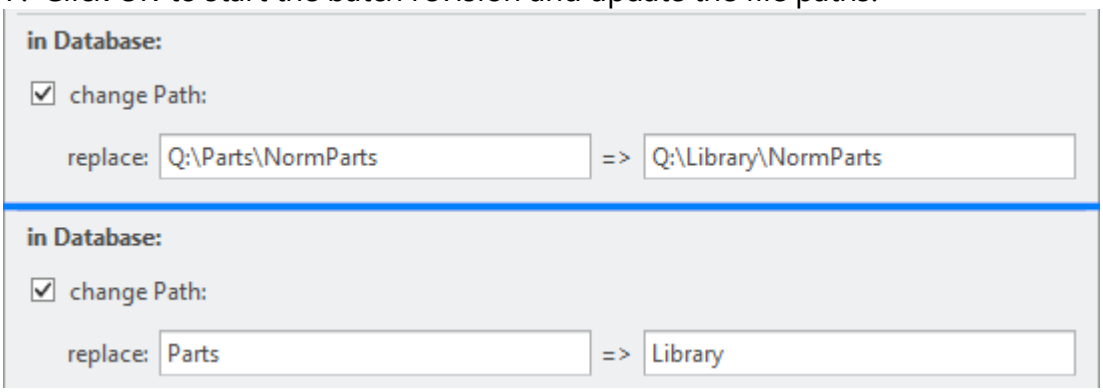
In addition, the batch revision allows to update the file path for library objects.

Proceed as follows:

1. Open Library Editor.

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2. Click *Execute batch revision*.
3. Select the library elements whose file paths have changed the same way. Confirm your selection by clicking *Next*.
   Example: All standard parts have been moved from `Q:\Parts\NormParts` to `Q:\Library\NormParts`.
4. Unselect all options except for *change Path*.
5. In the first input field, enter the segment of the old file path that should be changed.
6. In the second input field, enter the replacement for the segment.
7. Click *OK* to start the batch revision and update the file paths.



Enter either entire paths (1) or just the segments of the file path to be replaced (2)

Please note: Entire file paths or just segments of a path can be replaced. Make sure there are no library objects included in the batch revision for which the file path segment should not be replaced.

6.3.6.6 Importing additional object information

Use batch revision to import additional information for library objects into the database.

1. Open Library Editor.
2. Click *Execute batch revision*.
3. Select the library objects for which the additional information should be imported into the database. (individually or an entire category)
4. Click *Next*.
5. Select the additional information to be processed. In the dialog, deactivate all revision options that are not needed.
6. Click *OK* to start the revision.

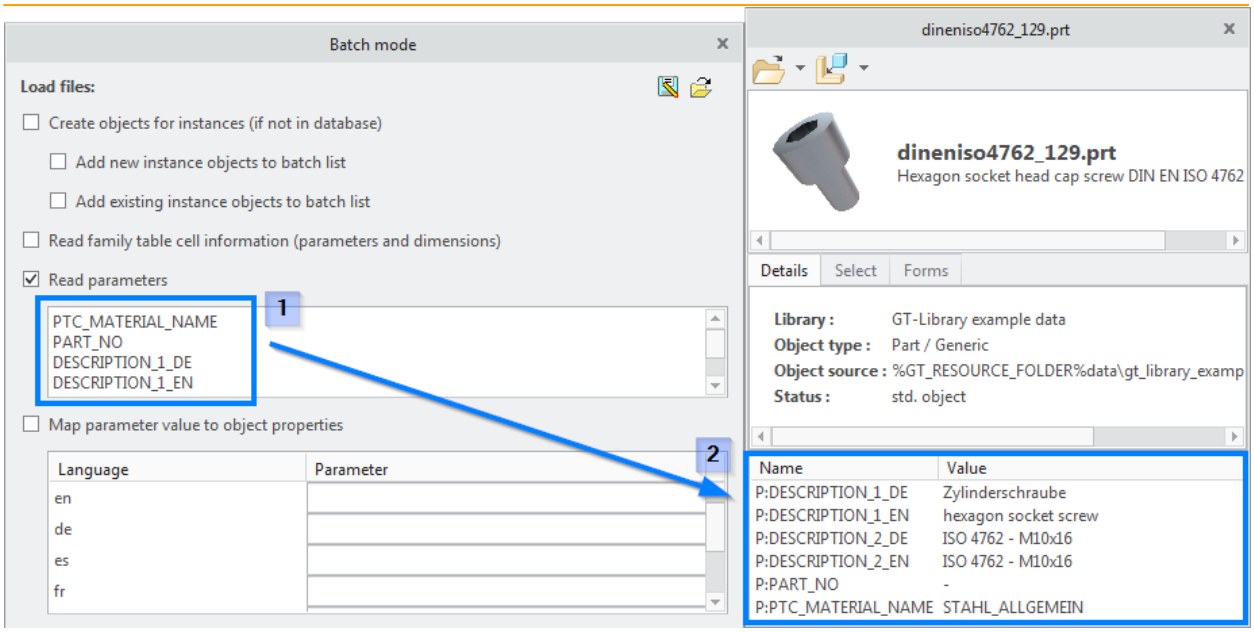
Importing parameters for search optimization

Imported parameters are saved for each library object. They are displayed in the Details window when selecting a library object and can be used in the search, in advanced search and in selection tables.

1. Activate the *Read parameters* option.
2. In the input field below, enter the parameters that should be imported. Enter one parameter per line.

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Please note: Make sure you spell all parameters correctly. Parameters not found in a library object will be ignored.



All parameters read into the batch revision (1) are imported into the library objects and are displayed in the Details window, for example (2)

Importing parameter as library object titles

Parameters from Creo data can be used to generate multilingual titles for library objects. A library object's title increases retrievability and can be used in the search and in advanced search. You can also search for titles in languages not displayed.

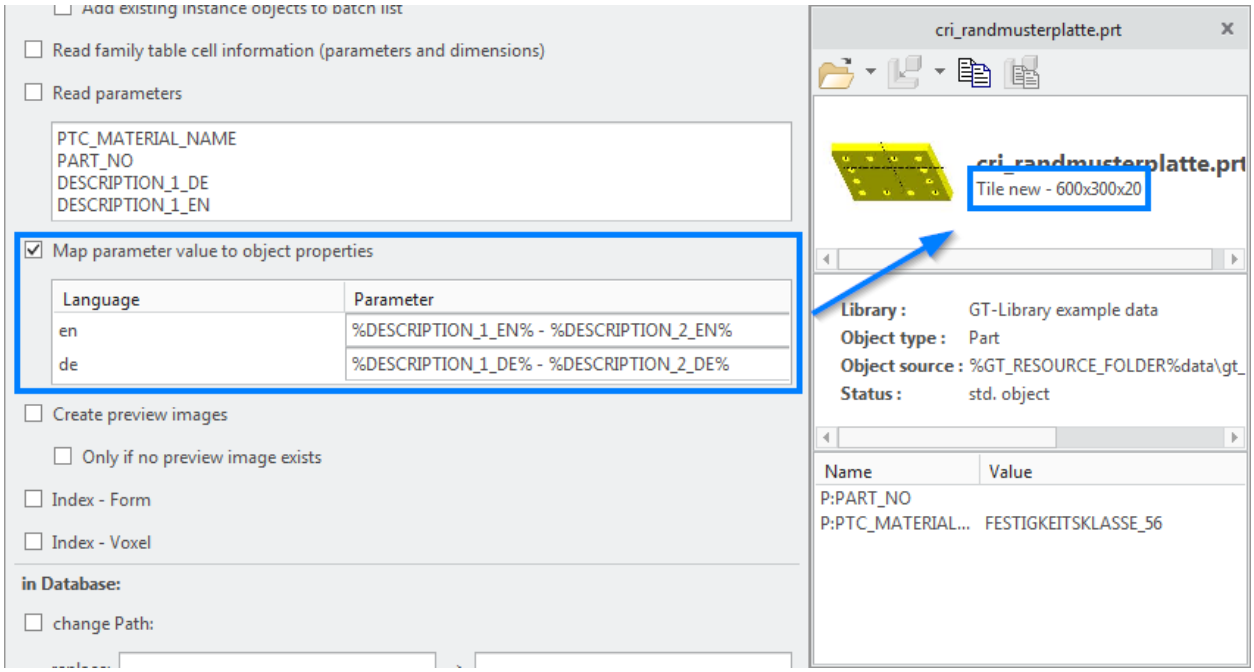
1. Activate the *Map parameter value to object properties* option.
2. In the table, enter the parameter to be used as the title after the individual language codes.

You can also combine parameters and text, and use multiple parameters as the title. Use percent signs (%) to separate parameters from each other and from static text.

Examples

```
%parameter1% - %parameter2%
%parameter1% - Generic part
```


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Parameters mapped to a language (1) are available as title in library objects (2)

Creating preview images automatically

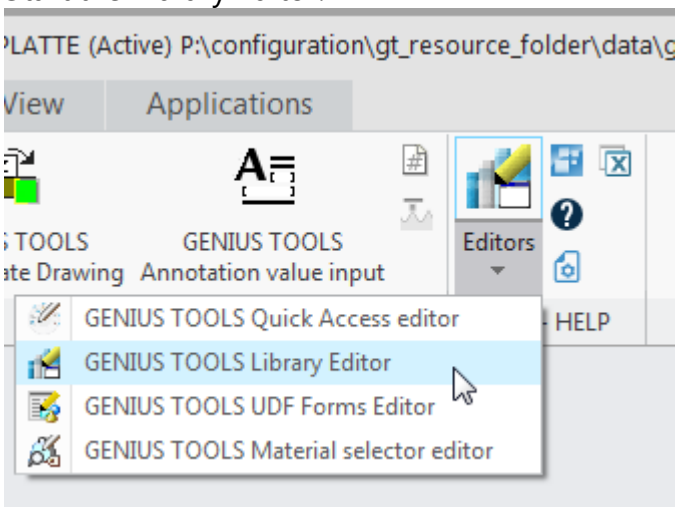
Preview images increase retrievability of library objects in the Library browser.

1. Activate the *Create preview images* option.
2. If for some of the library objects preview images do already exist, activate the additional option *Only if no preview image exists*.

6.3.6.7 Importing Library Viewer libraries

GENIUS TOOLS Library can import the file-based libraries of the Startup TOOLS TOOLBOX Library Viewer. These step-by-step instructions explain how to import a Library Viewer library using an example.

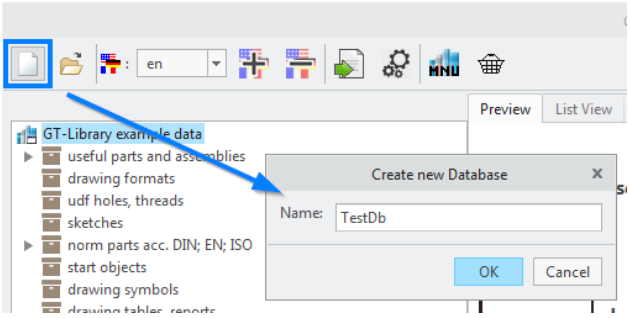
Start the Library Editor.



Start GENIUS TOOLS Library Editor from the ribbon

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Create a new database and enter a descriptive name. The name entered is also the database filename.

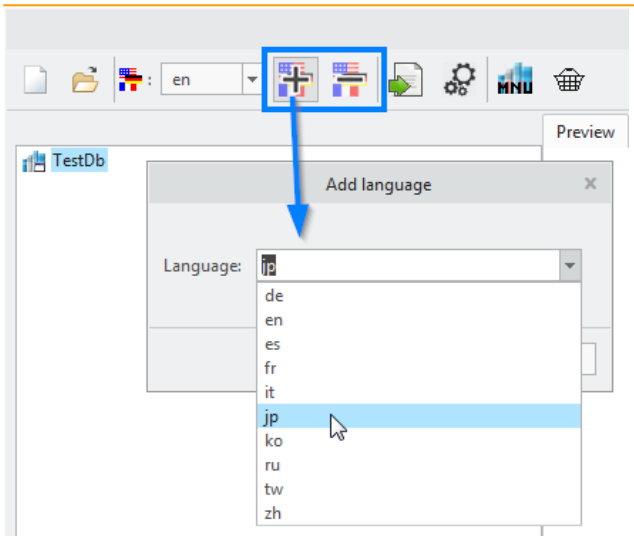


Create a new database

Warning: Make sure nobody else is working on the database during import when using an existing database.

Create the additional languages needed in the database. Select a language code from the drop-down list or enter any custom language codes. This step ensures that all additional information maintained can be reused in the new database.

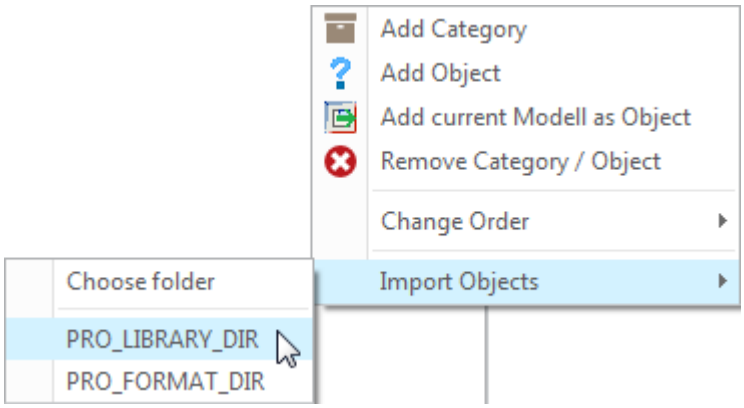
Please note: The input does not accept special characters and numbers.



Manage the included languages from the flag buttons

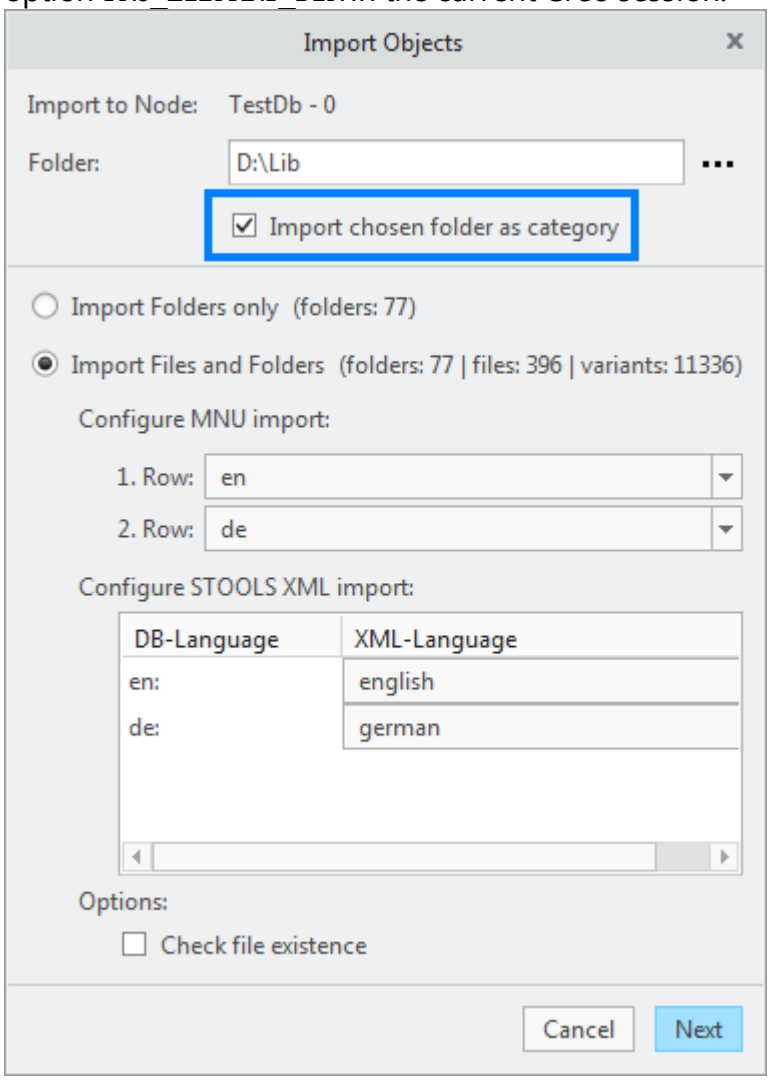
Open the context menu in the library preview (center area of Library Editor). Select the menu entry *Import Objects* and select *PRO_LIBRARY_DIR*.

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The context menu in the preview area opens via right mouse button

Deactivate the option *Import chosen folder as category*. Otherwise, the PRO_LIBRARY_DIR will be displayed as a category above the existing library structure in the Library browser. Make sure to select the proper library directory when working with Startup TOOLS and multiple projects. To find out which folder is currently referred to, check the config.pro option `PRO_LIBRARY_DIR` in the current Creo session.

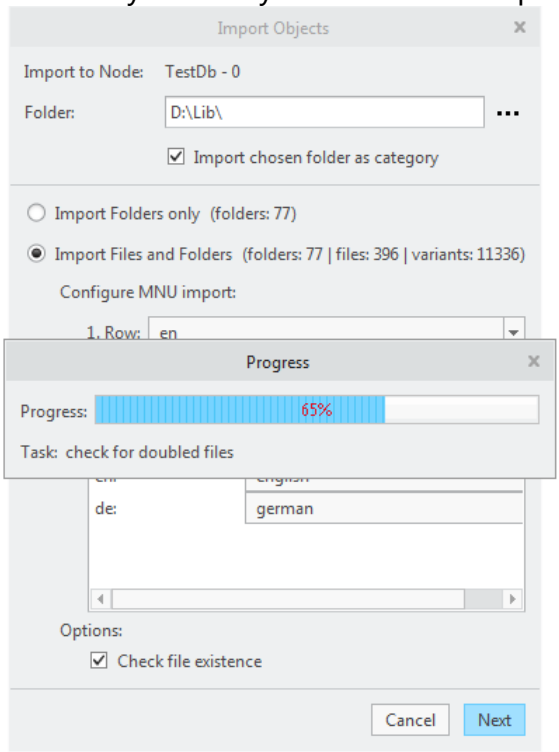


Check the directories and options in the import dialog. Do not forget the language assignments!

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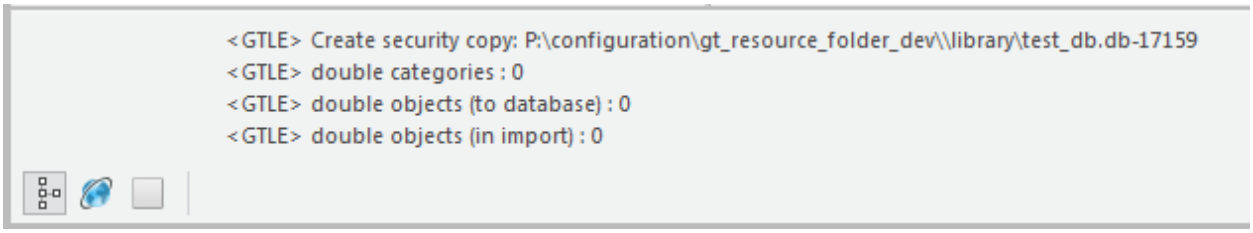
Please note: Check the assignment of the language settings.

Activate the *Check file existence* option if multiple manual changes have been made in your library. With this option, you can ensure all files do exist. This action is executed immediately as you activate it.
Do not use this option with Windchill as the library files will not be found.
Click *Next*.
The library directory is checked for duplicate files.



With bigger libraries, checking for duplicate files takes some time

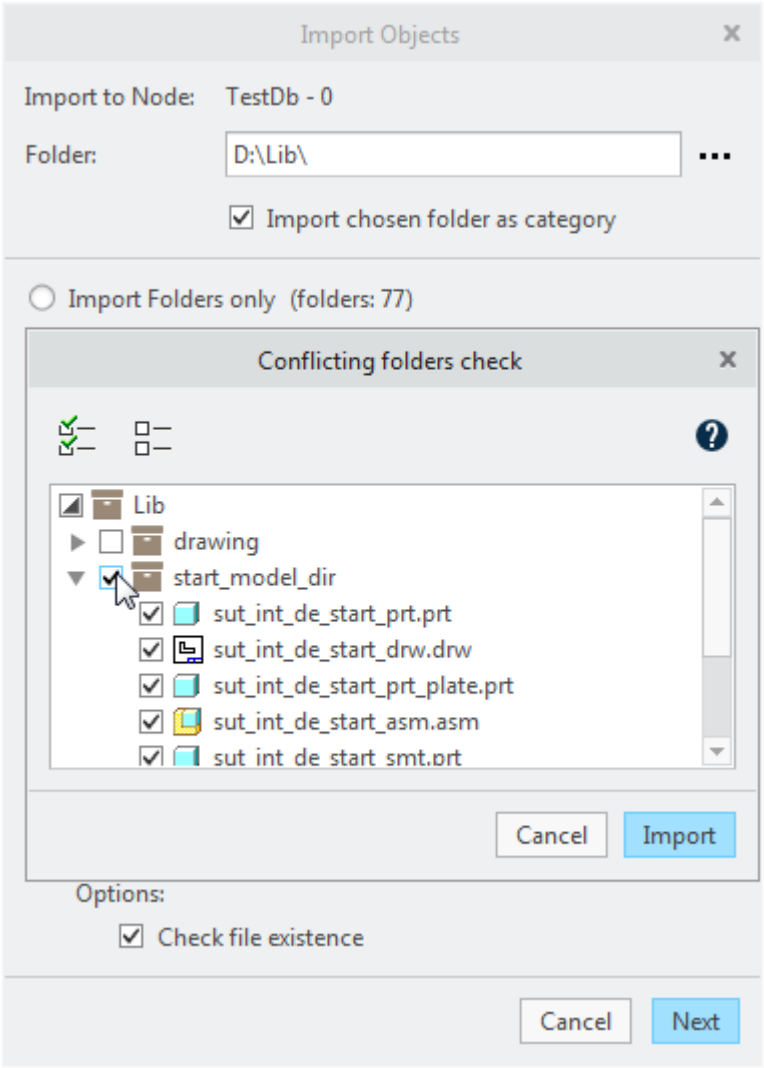
Additional information on the importing directory can be found in the Creo Parametric info area after the check



Refer to the Creo info area for additional information

Select the elements to be imported in the tree structure.

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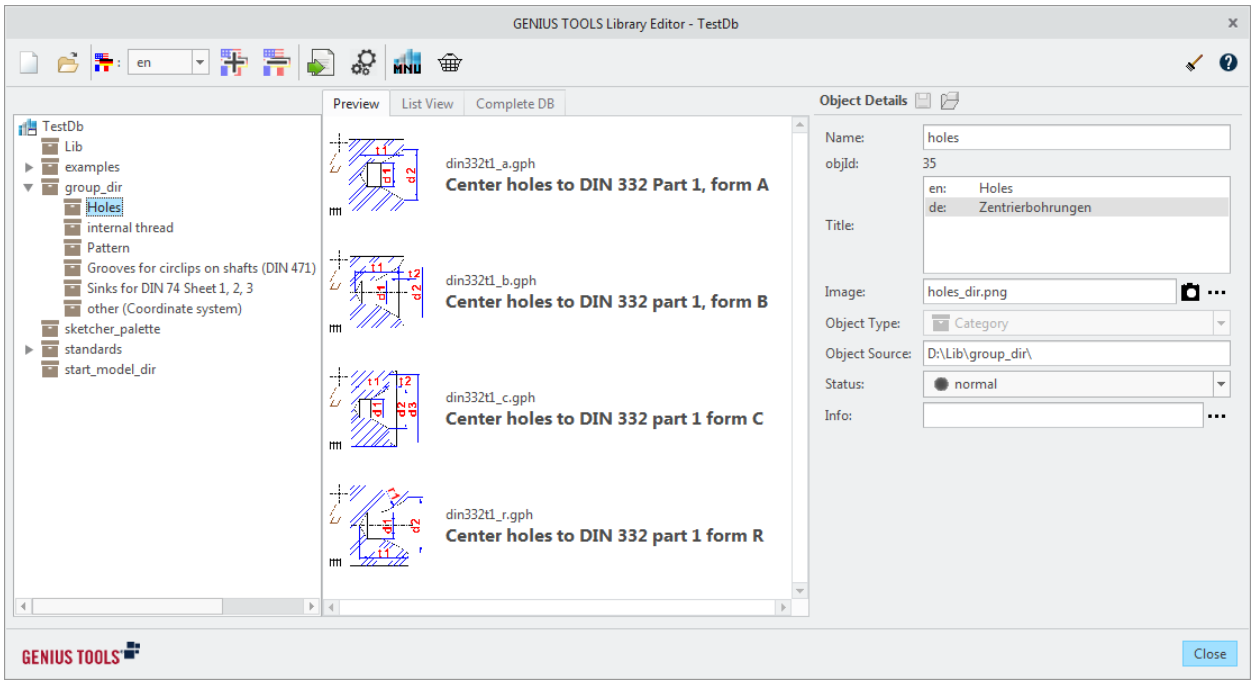
Select the files and directories to be imported and start the import

Click *Import*.

Please note: Checking and importing may take some time. This depends on the storage medium containing the library data.

The import of the Library Viewer library is now complete. The library functionality (except for ModelUIs) is now established.

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After importing, the library database is ready for use

To include additional information for searching and selection (parameters, family table values and variants) in the library, execute a batch revision.

6.3.6.8 Importing MUI files

Proceed as follows to import MUI files into a library.
The MUI template models have to be present in a GENIUS TOOLS Library library, e.g., because you imported them. Also, the model for which you want to import an MUI has to be loaded in Creo.

1. Open the library containing the imported template models in the GT Library Editor.
2. Search for the required template model (ASM or PRT) for the MUI you want to import. Open the model in Creo.
3. Click **Convert STOOLS MUI** in the object details. A dialog is displayed. Select the MUI and confirm.

Verifying the conversion

1. Close the Library Editor and select the model in Library. In the details window, select the tab **Form**.
2. Create a new model using the form.
3. Verify the properties of the newly created model. Were the correct models copied with it (asm, prt, drw) and the correct names assigned?
4. Verify the copying rules in the Library Editor und the Library configuration options 354:
   a. gtl_action_copy_set_file_as_common_name
   b. gtl_copy_drawings_with_same_name
   c. gtl_copy_check_existence
   d. gtl_gtf_save_forms_in_model
   e. gtl_gtng_overwrite_std_number_definition

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f. gtl_gtng_standard_db_filter_for_file_copy

5. Verify the form as displayed in the Library details window
   a. Are all form elements present?
   b. Do all form elements work?

Please note: Forms that have been changed have to be re-assigned to their library object.

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7 Material

GENIUS TOOLS Material allows you to select and assign a material file to a model based on any properties from all material data (contained in *PRO_MATERIAL_DIR* directory and its subdirectories). Selectable properties and language translations must be previously defined in GENIUS TOOLS Material Selector Editor.
GENIUS TOOLS Material is available in part mode with the following features:
– selection of materials based on any property
– any adjustment and localization of the material data display in the editor

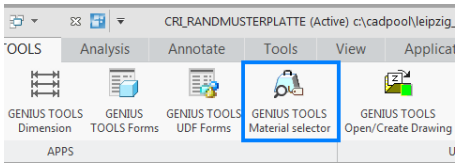
Please note: GENIUS TOOLS for Creo do not support MAT files. Make sure that you only use MTL files.

7.1 Usage

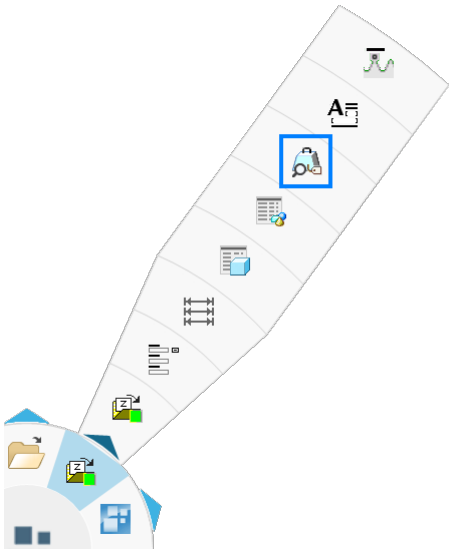
This section contains information on using GENIUS TOOLS Material. It describes the general structure of the program.

Starting the program

Start GENIUS TOOLS Material via the ribbon menu in the GENIUS TOOLS tab or via GENIUS TOOLS Quick Access ([<] key).



Starting via the ribbon menu



Starting via Quick Access

Checking materials in the model

When Material check is activated, the respective icon is displayed in the Creo Parametric main window.

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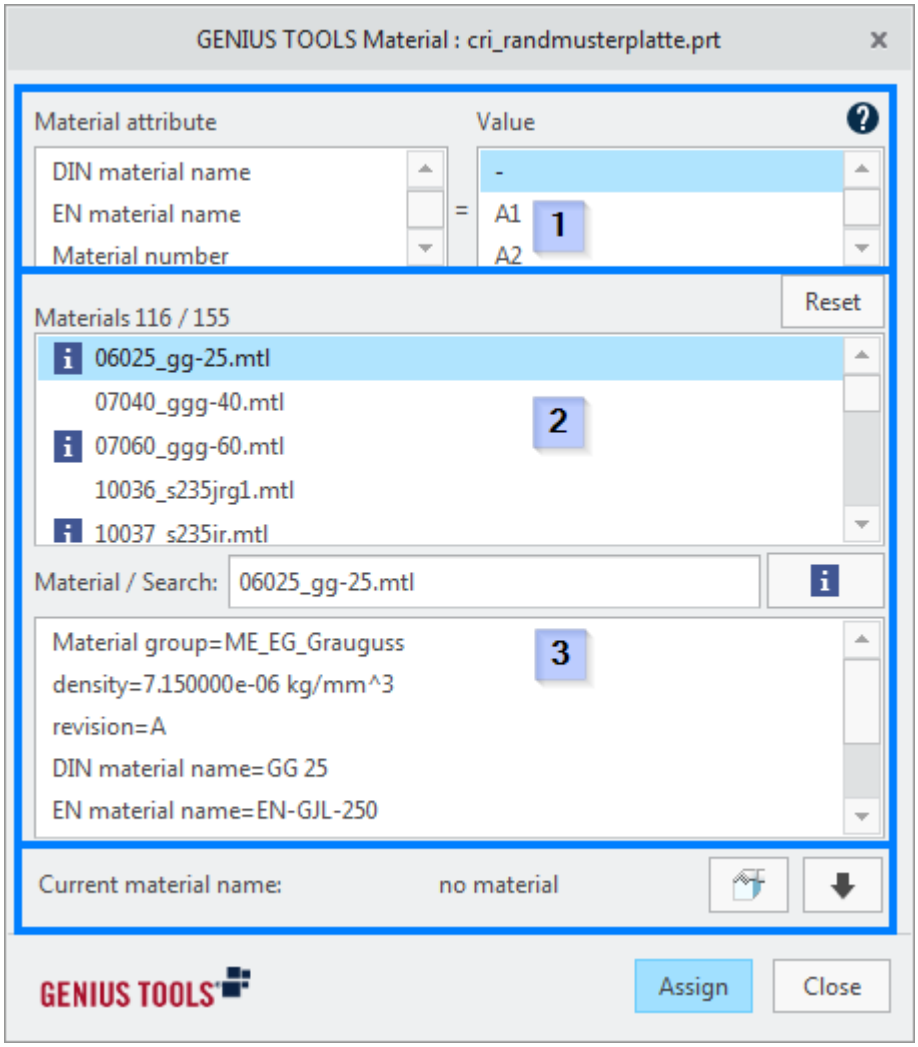


(1) Material parameter not found in model
(2) Material in model is another revision as material in database
(3) Material not in database

Warning: If the Creo configuration option `web_browser_in_separate_window=yes` is set, no icon can be displayed.

7.1.1 User interface

The user interface of GENIUS TOOLS Material consists of the following elements:



The GENIUS TOOLS Material user interface

1. Material attributes and associated values of the material files
2. Material list and search
3. Materials in the current model

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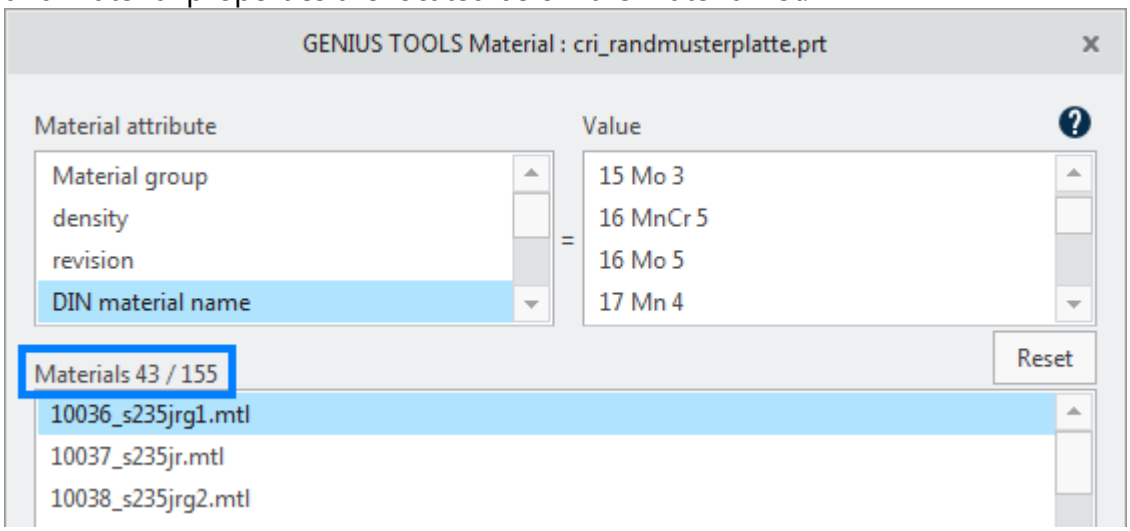
To assign a material to a model, select it in this dialog and click *Assign*. Already added materials remain in the model. The newly assigned material is set as default.

7.1.2 Material attribute and value

The two fields Material attribute and Value restrict the materials displayed in the material list. The Value field displays associated values of the selected material attribute.
First, click a material attribute and then select the desired value. All materials matching the selection are displayed in the material list. Repeat this step with other material attribute/value pairs to further restrict the selection.
Click **Reset** to restart the selection.
Material attributes are displayed with localized names. If no localization exists, the name of material attribute in the database is used.
Displayed attributes and values are specified via the GENIUS TOOLS Material Selector Editor and are managed in a database.

7.1.3 Material list

The material list displays the results of the material attribute/value filtering. The search and material properties are located below the material list.



The possible and total number of material files is displayed above the material list.

Select the required material in the material list and click **Assign** to assign it to a model.
Info documents can be assigned to the materials via the editor. Those materials are marked with an Info icon in the material list.

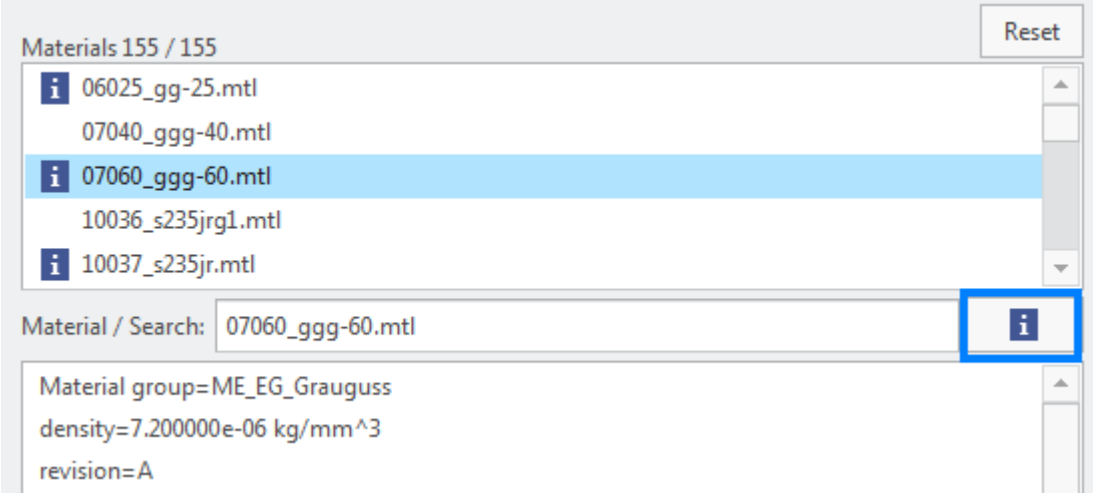
Search

The search function is used to search in the current filter results. Without active search, the currently selected material file is displayed in the search field.
Click into the input field and enter any keywords. Confirm your input by pressing the Enter key.

Tip: Only the material attributes meeting the current filter are searched.

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The search results are displayed in the material list.



Info documents of materials are called up via this button

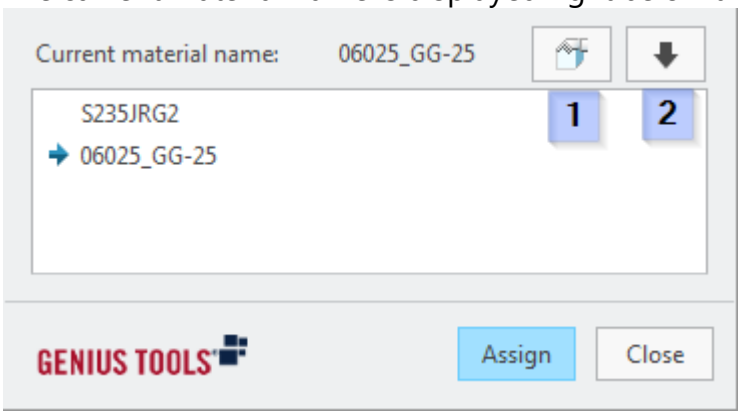
When a material with info document is selected in the material list, click the info icon behind the search field to open it.

Material properties

The properties of the currently selected material are displayed below the search field. Displayed properties depend on the displayed material attributes.

7.1.4 Material data in current model

The current material name is displayed right below the material list.



Open the Creo Material dialog (1) or display the materials currently contained in the model (2). The active material is marked with an arrow.

Open the Creo Material dialog via the left button (1). The materials contained in the model can be removed via this dialog.

Warning: GENIUS TOOLS Material will be closed.

Click the arrow button (2) to display all materials contained in the model. The active model is marked with an arrow icon in the list.

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7.2 Configuration

This section contains further information on the editor of GENIUS TOOLS Material. In addition, you will find information on configuration and on how to check the material version automatically.

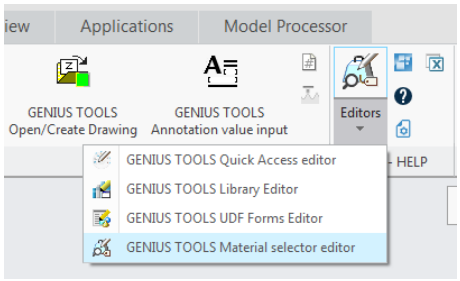
7.2.1 Material Editor

With GENIUS TOOLS Material Selector Editor, you can manage the display of materials and material attributes in GENIUS TOOLS Material.

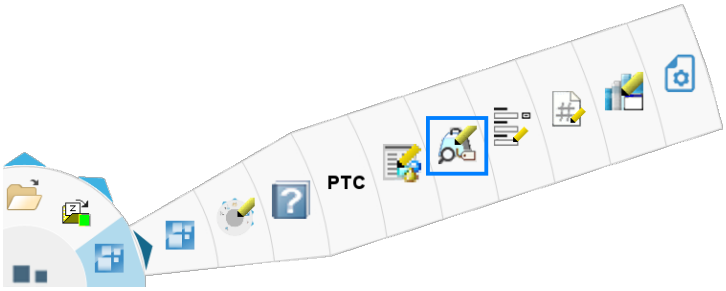
Please note: Materials cannot be edited with Material Selector Editor.

Starting the program

GENIUS TOOLS Material Editor can be started using the GENIUS TOOLS tab in the ribbon menu or with Quick Access (key [<]).



Start via the Ribbon

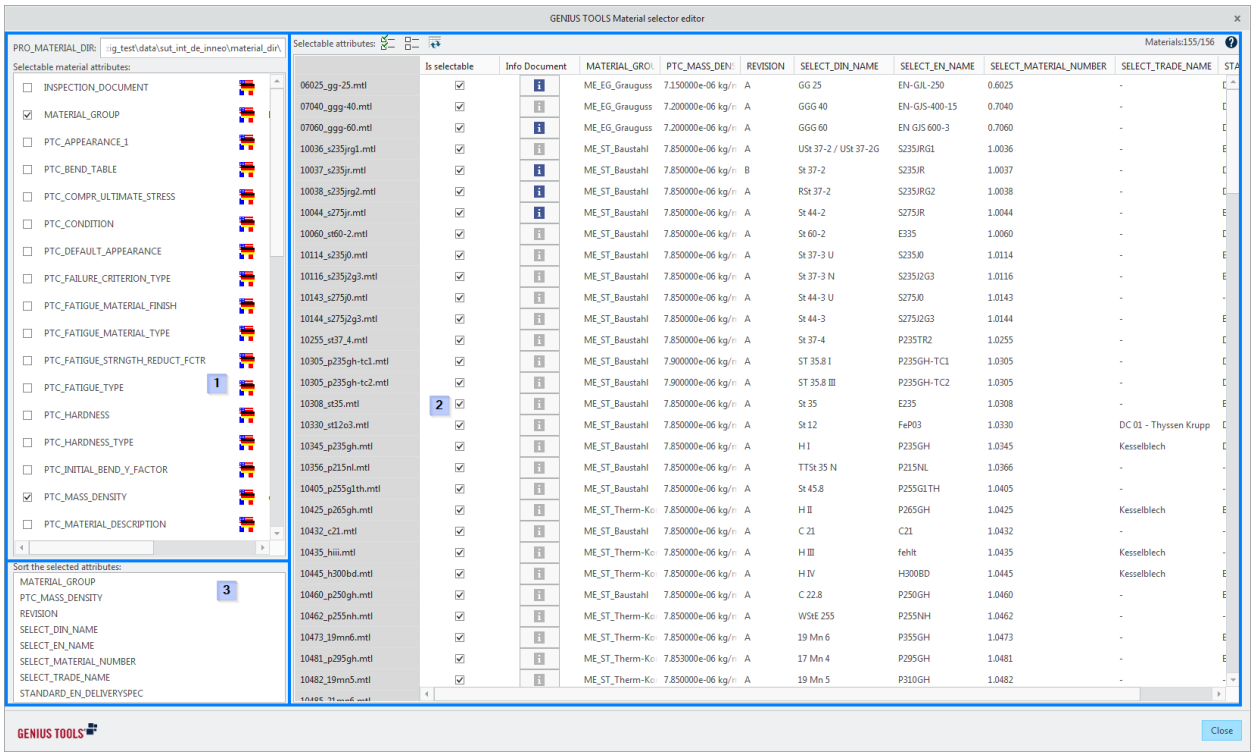


Start via Quick Access

7.2.1.1 User interface

The user interface of GENIUS TOOLS Material Selector Editor consists of the following elements:

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The user interface of GENIUS TOOLS Material Selector Editor

1. Material attributes and PRO_MATERIAL_DIR
2. Sorting order
3. Material list

Material Selector Editor displays all materials available in *PRO_MATERIAL_DIR* (including sub-directories) after starting.

Tip: The path length of *PRO_MATERIAL_DIR* is restricted by Creo to 260 characters.

Warning message when opening the editor

When material properties in *PRO_MATERIAL_DIR* differ from those in the database, an error message is prompted.
The database will not be updated automatically to avoid problems related to PDM systems. Update the material database manually with the editor!

7.2.1.2 Material attributes and sort order

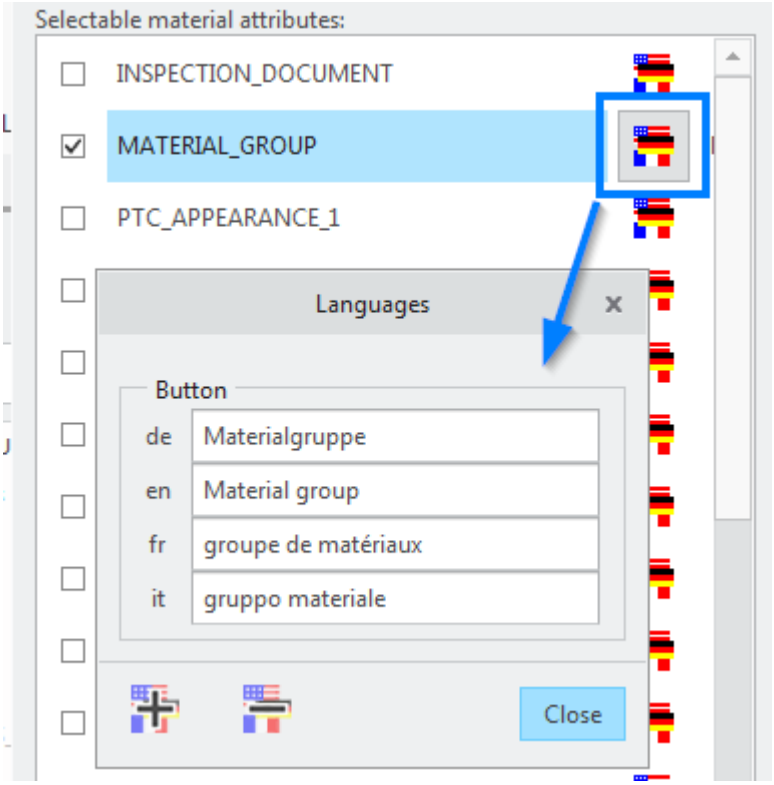
The available material attributes are displayed on the left. The current PRO_MATERIAL_DIR is displayed above this list.
Activate the checkboxes before the material attributes to make them available in GENIUS TOOLS Material.

Please note: The material database is rewritten, if you activate/deactivate a material attribute. With numerous activated attributes, this action may take some time.

Click the flag icon behind the attribute names to open the localization dialog for the material attribute.

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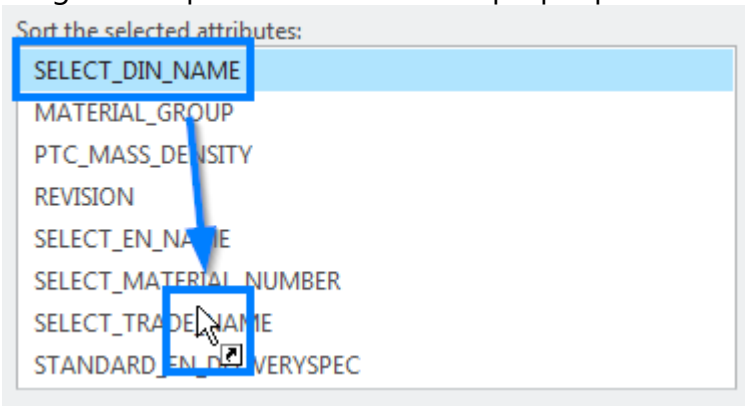
The set language (via configuration option gtm_db_lang 157) determines which localization is used in GENIUS TOOLS Material.



Additional languages are added and removed via the localization dialog using the two flag buttons

Sorting order

The sorting order of the attributes is displayed below the material attributes. Each activated attribute is displayed here.
The sorting order determines the display order of the material attributes in the material properties and in the material attribute value filtering.
Drag and drop the attributes to the proper position to modify the sorting order.



Select attributes and sort them via drag and drop

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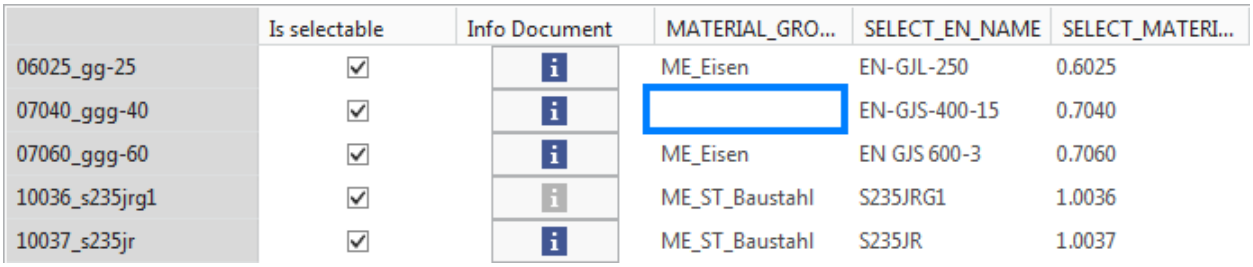
7.2.1.3 Material list

The material list displays all available materials from PRO_MATERIAL_DIR including sub-directories. They are displayed in the table depending on the selected material attributes. The following buttons are displayed above the material list

Icon	Name	Description
	Select all materials	Selects all materials in the list.
	Deselect all materials	Deselects all materials in the list.
	Check and update database	The entire material database is reread and all entries are checked.

Please note: Update the database when materials have been deleted or modified.

The total number of selectable and available materials is displayed in the top-left corner. Activate the checkbox after the name of a material (column: Is selectable) to make it available in GENIUS TOOLS Material.



	Is selectable	Info Document	MATERIAL_GRO...	SELECT_EN_NAME	SELECT_MATERI...
06025_gg-25	☑		ME_Eisen	EN-GJL-250	0.6025
07040_ggg-40	☑			EN-GJS-400-15	0.7040
07060_ggg-60	☑		ME_Eisen	EN GJS 600-3	0.7060
10036_s235jrg1	☑		ME_ST_Baustahl	S235JRG1	1.0036
10037_s235jr	☑		ME_ST_Baustahl	S235JR	1.0037

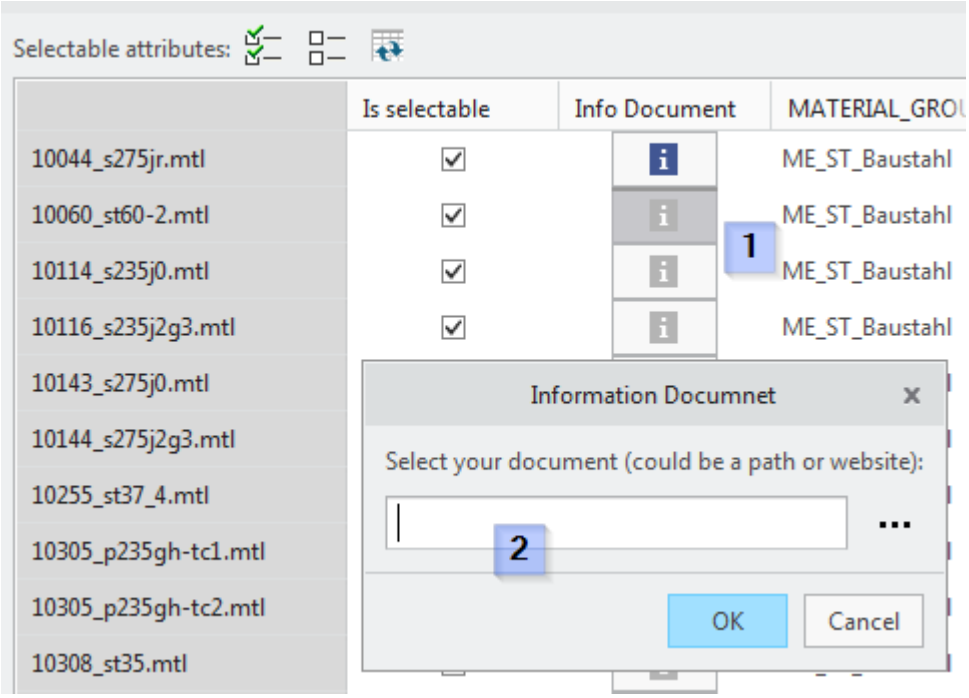
Check if all material attributes in the list are displayed correctly.

Empty material attributes are ignored in GENIUS TOOLS Material and are not displayed. In the case of materials being displayed with empty attributes, check whether a space or a tab has been entered into the material attribute.

Info documents

You can deposit documents to individual materials. These info documents are retrieved via the GENIUS TOOLS Material user interface.

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Click the Info icon (1) and enter a file or web address (2)

Click the info icon and specify a file or web address.
In order to open websites and network documents, the proper protocol (http://, https:// ftp://, etc.) must be specified!

7.2.2 Use cases

In this section, you will find short instructions on tasks relating to Material Selector Editor.

Check material version

GENIUS TOOLS Material allows for checking materials in models. This section explains how to set up this function.

Please note: The materials in models are not replaced with this function.



When material check is activated, the following icons are displayed in Creo:
(1) Material parameter not found in the model
(2) Material in model is another revision than the material in database
(3) Material not in database
Configuration options to be observed:

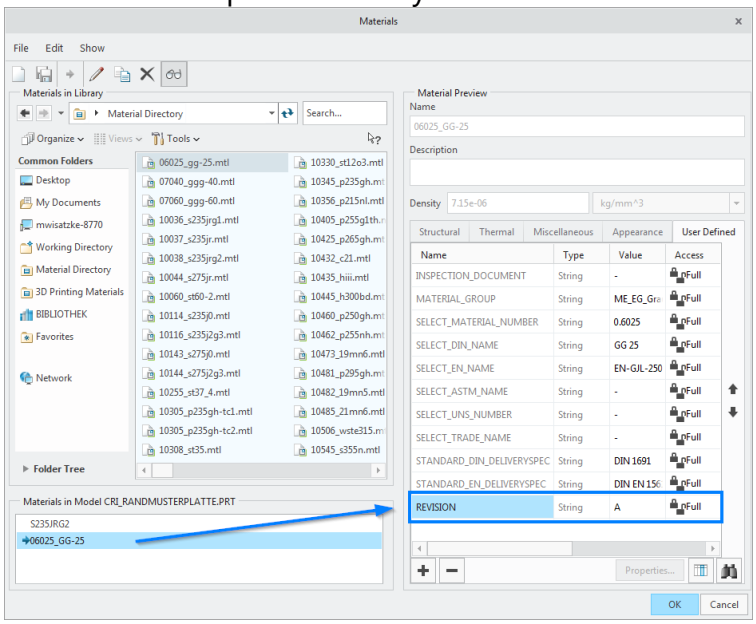
- `gtu_ui_change_check_material_version`: Use this configuration option to specify whether the function should be used.
- `gtu_ui_change_check_material_version_parameter`: Specify the material parameter for storing the material revision.

Tip: Pay attention to upper/lower case! The configuration option is case-sensitive.

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GENIUS TOOLS Material requires a material parameter for storing the revision of the deposited material. The parameter is read from the material in the model and compared with the revision of the material in the material database.
Proceed as follows to use material checking:

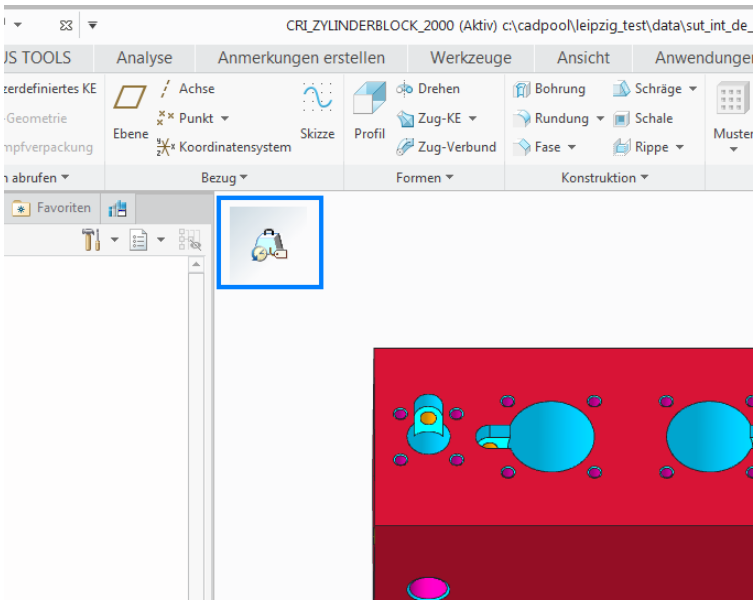
1. Determine a material parameter in which to store the material revision.
2. Maintain the parameter in your materials. Make sure the parameter is of type String.



Maintain the parameter in your materials, e.g. using Creo's material editor

3. Activate material check with the `gtu_ui_change_check_material_version=1` configuration option.
4. Specify the material parameter in the `gtu_ui_change_check_material_version_parameter` configuration option. When opening parts and assemblies, the parameter of the contained materials will be compared with the database and the respective notification is prompted.

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Notification icons are displayed after the material parameters check

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8 Name Generator

Creo Parametric can ensure consecutive naming of individual objects only in rudimentary form. Especially when a company do not use a product data management solution, achieving a consistent and logic numbering is complicated.
An integral component of GENIUS TOOLS for Creo is Name Generator. GENIUS TOOLS Name Generator is an intuitive tool for consecutive assignment of filenames with numbering for individual parts, sheetmetal parts and assemblies. This ensures the uniqueness of these filenames. Name Generator can also be used for any other files and objects in design. This allows ensuring clear assignment and a consecutive numbering in accordance with working guidelines.
Name Generator can be used individually on stand-alone workstations (locally) as well as in the network (globally) for all Creo workstations.
GENIUS TOOLS Name Generator is available with following features:

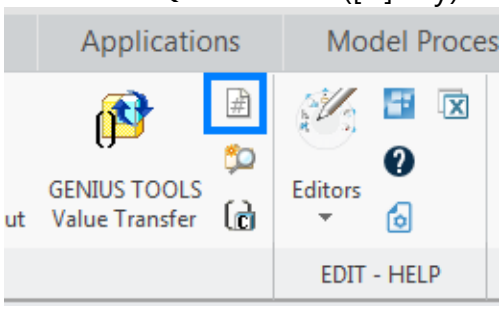
- Usable in intelligent Mapkeys
  - in GENIUS TOOLS Quick Access,
  - in GENIUS TOOLS Forms,
  - in GENIUS TOOLS Parameter.
- Manual application in various design steps when
  - assigning names for family table variants,
  - creating parts in assemblies.

8.1 Usage

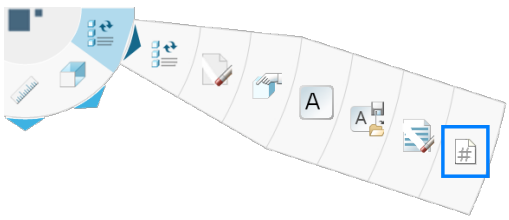
This section contains information on using GENIUS TOOLS Name Generator. It describes the general structure of the program. Under Use cases 170 you can find short step-by-step instructions to speed up your everyday work with GENIUS TOOLS Name Generator.

Starting the program

Start GENIUS TOOLS Name Generator from the ribbon menu in the GENIUS TOOLS tab or via GENIUS TOOLS Quick Access ([<] key).



Starting via the ribbon menu



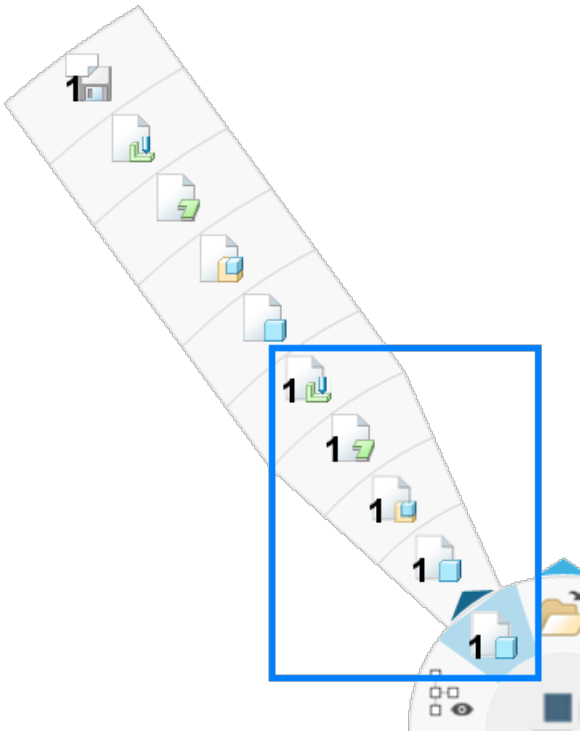
Starting via Quick Access

Further usage

Name Generator can also be used automatedly in other GENIUS TOOLS for Creo modules. You can find several examples in the GENIUS TOOLS for Creo standard configuration:

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– in GENIUS TOOLS Quick Access and Forms customized intelligent mapkey are used with Name Generator,
– in GENIUS TOOLS Parameter sample files Name Generator is integrated,
– via the GENIUS TOOLS Library sample libraries, new parts are created with Name Generator.



Use Name Generator to assign names for family table variants or to create parts in assemblies

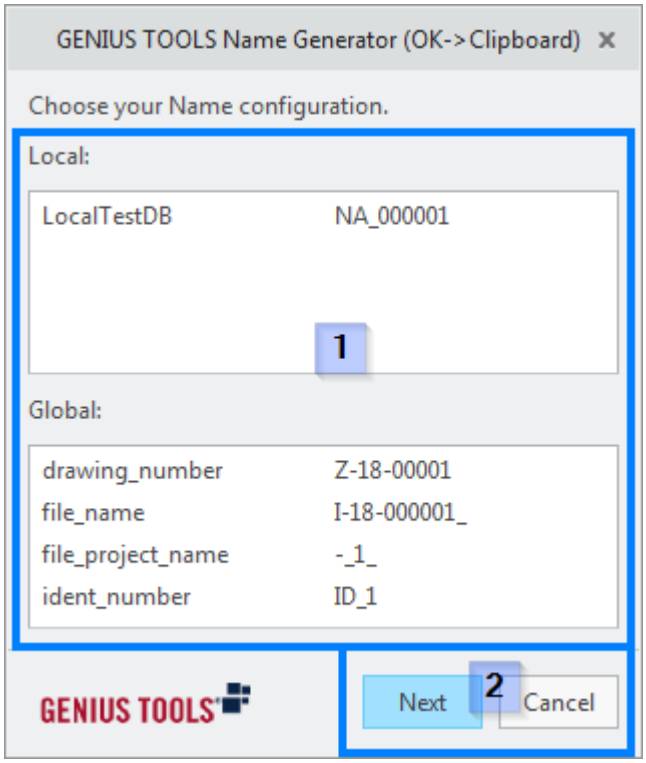
Local and global name configurations

GENIUS TOOLS Name Generator distinguishes local and global name configurations. Local name configurations are stored in the appdata folder of the respective user on the local machine. By default, global configurations are stored in the resource directory of the Startup TOOLS network drive and can be used by all users.

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8.2 User interface

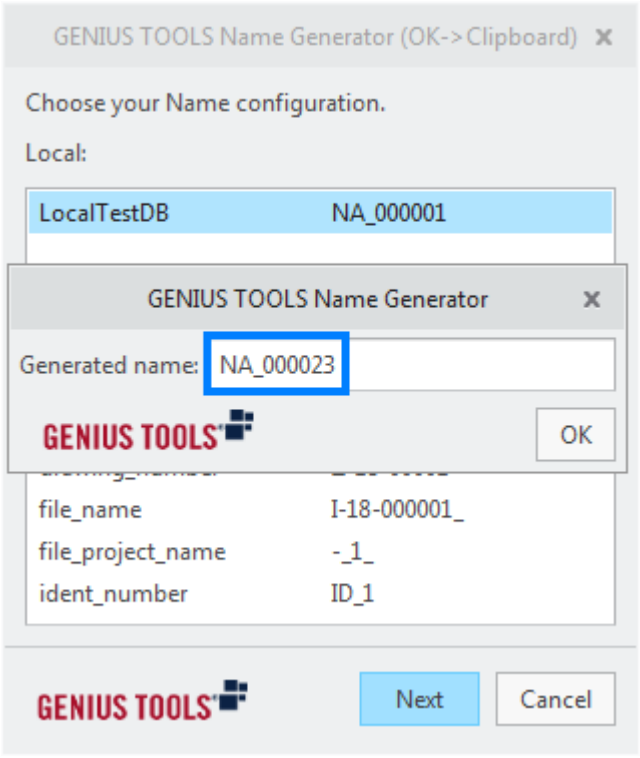
The user interface of GENIUS TOOLS Name Generator consists of the following elements:



1. Local and global name configurations
2. Buttons for confirming and aborting

A generic preview is displayed behind each name configuration.
Select one of the available name configurations (**1**) and confirm your selection (**2**).
Customize the generated name with your own entries in the next dialog and confirm the dialog.

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Customize the generated name if necessary. After clicking OK, the name is in the buffer memory

Use the generated name via CTRL+ V or the context menu (right-click -> Paste).

8.3 Configuration

In this section you will find further information about Name Generator Editor. The Use cases 170 section contains suggestions for configuring name configurations.

8.3.1 Name Generator Editor

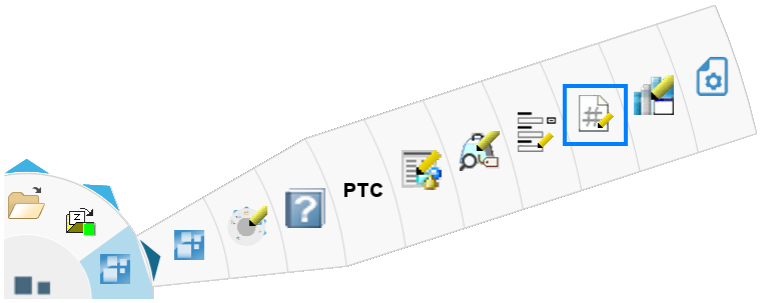
GENIUS TOOLS Name Generator Editor is used to create name configurations and to save them either locally or globally.
Local name configurations are saved locally in the appdata directory of the current user.
Global configurations are saved in the resource directory on the Startup TOOLS network drive.

Warning: Global name configurations require read and write access to the files for all users.

Starting the program

Start GENIUS TOOLS Name Generator Editor via GENIUS TOOLS Quick Access ([<] key).

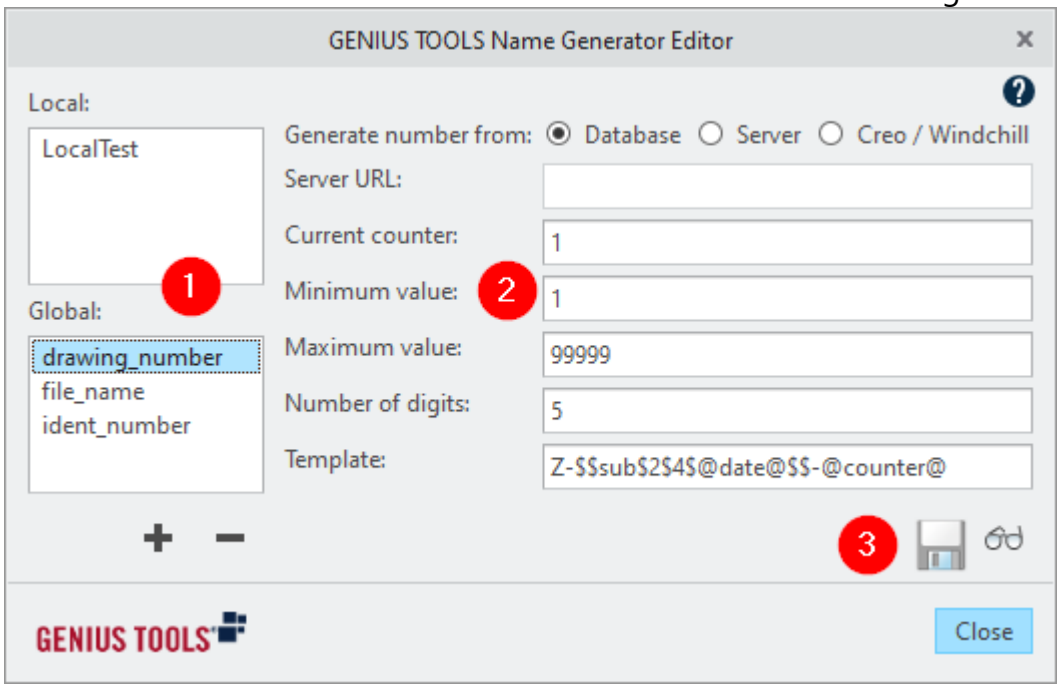
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Starting via Quick Access

8.3.1.1 User interface

The user interface of Name Generator Editor consists of the following elements:



1. Available name configurations
2. Configuration details
3. Save and preview

8.3.1.2 Available name configurations

Existing name configurations are displayed on the left side of the dialog.
Click an entry in the lists to display the associated options in the configuration details.
Use the Plus button to create new name configurations. Select a name configuration and click the Minus button to delete it.

Local and global name configurations

For different usage scenarios, there are local and global name configurations.
Local name configurations can be used for designs with no other persons involved or being edited exclusively via one user account on a workstation.
Local name configurations, by default, are saved under **%appdata%\INNEO\GENIUS_TOOLS\for_Creo\name_generator** on a local computer.

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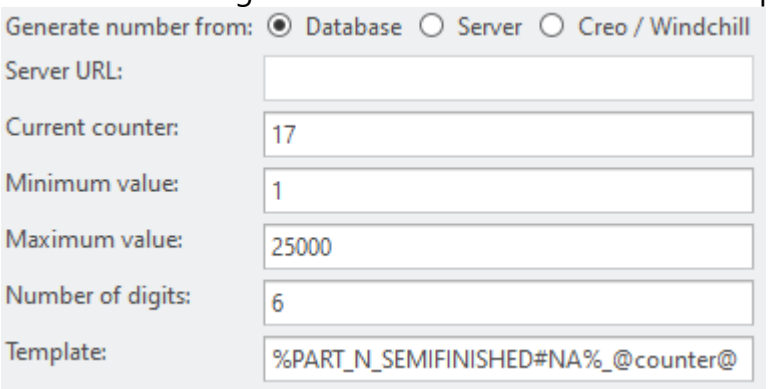
Tip: Customize the storage location of local and global name configurations with the GENIUS TOOLS for Creo configuration options.

Global configurations are stored on the network drive of Startup TOOLS. They can be used by several users with multiple workstations.
In order to create new names with the current counter, there always must be an active network connection.

Warning: Global name configurations require read and write access to the files for all users.

8.3.1.3 Configuration details

The current configuration of the selected element is displayed in the configuration details.



Generate number from
Specifies whether names are generated from the name generator databases or a PDM server.
If you are working with Windchill, use the option **Creo / Windchill**. This option lets you request numbers from Windchill without installing a customization on the Windchill server. The functionality uses the currently connected server and the current Creo user.

Filter
Specify whether you want Windchill to number parts (PRT), assemblies (ASM) or drawings (DRW).
The filter only has to be specified when you are using the **Creo / Windchill** option. Ignore this setting if numbers are generated from databases.

Server URL
The URL of the PDM server. The URL must return a number. This number is adopted into a name configuration instead of *@counter@*.
The URL only has to be specified when you are using the **Server** option. Ignore this setting if numbers are generated from databases.

Current counter
Displays the current counter of the name configuration. If necessary, the counter can be customized in this field.

Warning: The current counter must at least equal the minimum value.

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Minimum value
The minimum value is a name configuration's start value. Enter the smallest number for name generation.

Maximum value
The maximum value is the last number that can be assigned in the name generation.

Number of digits
Specifies the number of digits for number output.

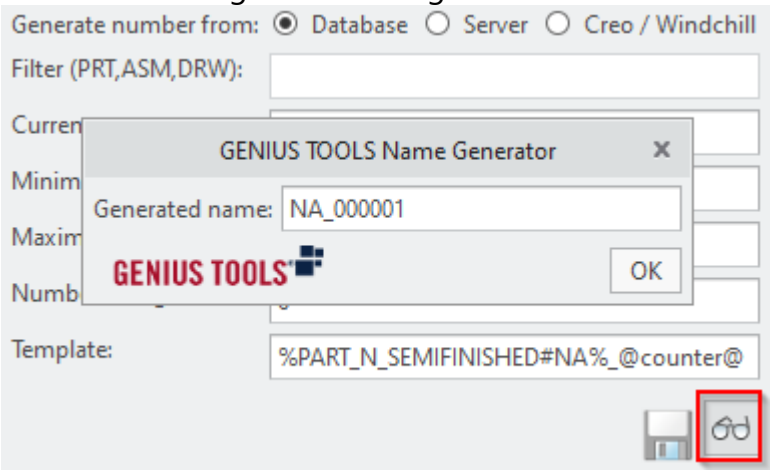
Template
Specifies the name configuration. You can use all variables and string operations of GENIUS TOOLS for Creo. Use the variable @*counter*@ for upwards counting name configurations!
You can find an overview of usable variables and string operations in the variables list 389.

> **Warning**: In older GENIUS TOOLS for Creo versions @*number*@ was used for the counter. To ensure compatibility, the variable can still be used.

All GENIUS TOOLS for Creo variables can be used in name configurations as desired. However, filenames are limited to 31 characters. Where variables return longer values, the generated name is truncated.

8.3.1.4 Saving and preview

Save name configurations using the Save button.



Use the preview function for name configurations

For each name configuration, a preview is generated. Use the preview function to check generated names.

8.3.2 Use cases

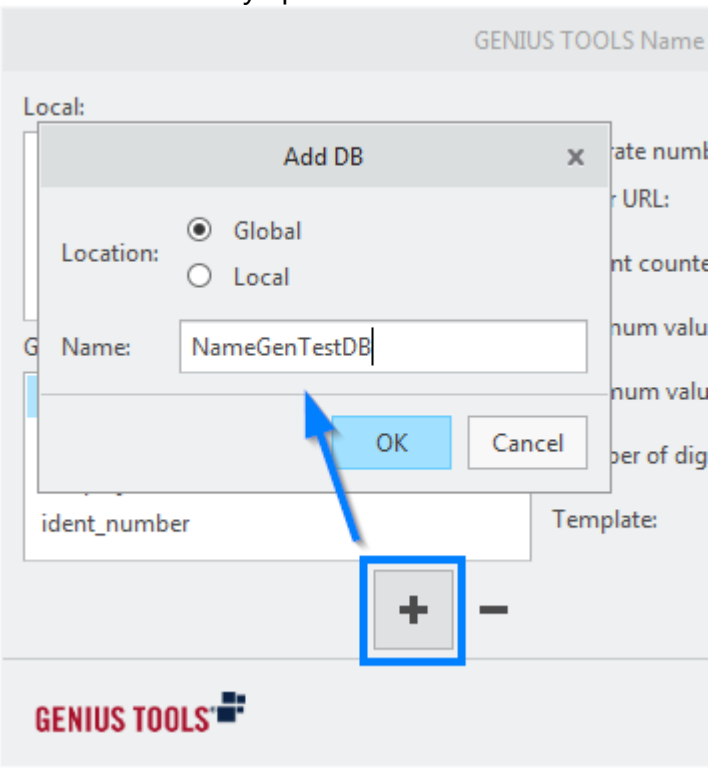
In this section, you will find use cases of the Name Generator and Name Generator Editor.

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8.3.2.1 Global name configurations with fallback

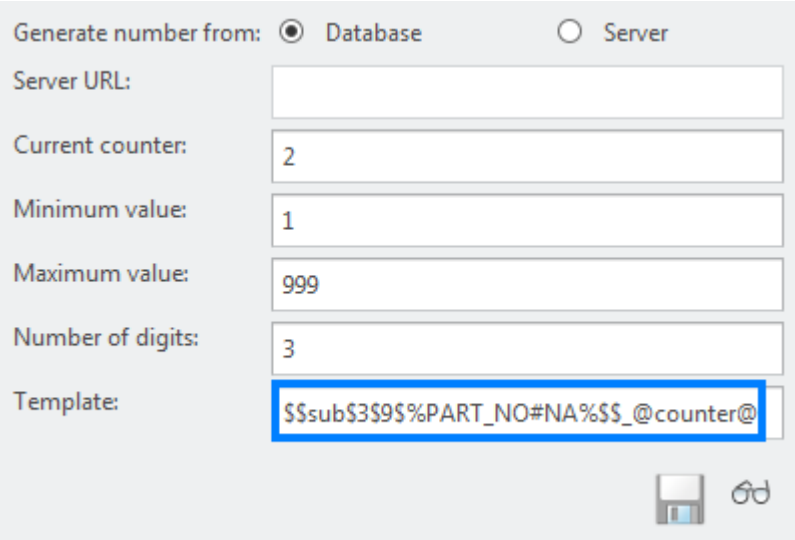
A name configuration is created in this example. With this name configuration, a parameter is read from a model that is truncated and returned together with the counter. If the parameter does not exist in a model, a static fallback text is returned instead.
Proceed as follows to create a new name configuration with fallback:

1. Open GENIUS TOOLS Name Generator Editor.
2. Click the Plus button in the Command bar.
3. Set the storage location to Global. Enter a name for the new name configuration. Make sure to use only special characters that can be used for filenames in windows.



4. Confirm the dialog.
5. Select the newly created name configuration at Global.
6. Configure the details of the name configuration.
7. Save the name configuration. The global name configuration with fallback is ready to use for all users.

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Example

`$$sub$3$9$%PART_NO#NA%$$_@counter@`

In this example, a parameter (%PART_NO%) is read from models.
The first four characters of the parameter are removed by a text operation ($$sub$3$9$%).
The remaining six characters (it is assumed that the parameter value length is always 10 characters) are written before the counter separated by an underscore (_) ($$sub$3$9$%)
If the character is not found, a static text (#NA) is written before the counter.

Tip: The first character in text operations has position 0.

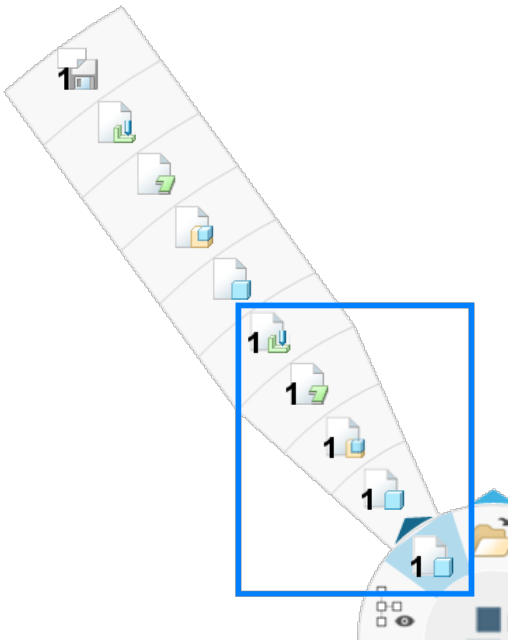
8.3.2.2 Quick Access and Name Generator

Use Quick Access and Name Generator to create new models and rename models with Quick Access and Name Generator.

Using Quick Access and Name Generator

In Quick Access ([<] key), the buttons for creating models with Name Generator are already active in standard configuration. You can identify those buttons by the small number One.

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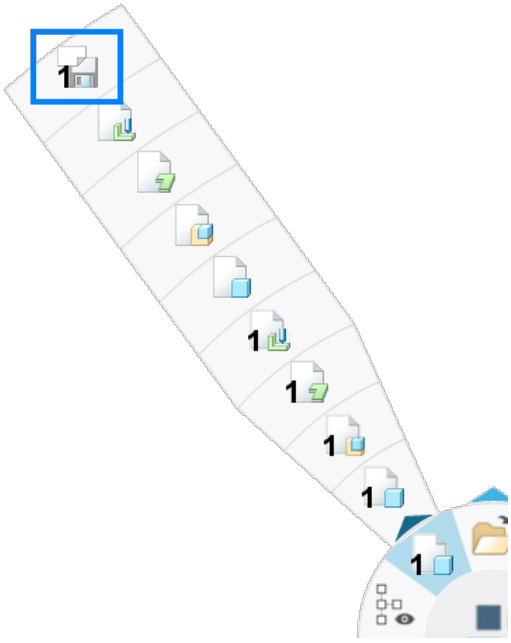


One click creates models of the specified type with the preset name configuration. The Creo default dialog for creating new models is opened. Instead of the typical Creo proposal a generated name proposal is pre-entered.

Please note: Make sure not to change the model type to a later time. (Additions within the scope of maximum name length may be reasonable.) Different name configurations for generating the model names can be deposited.

Renaming models using Quick Access

To rename the current model use the button **Rename current model**.

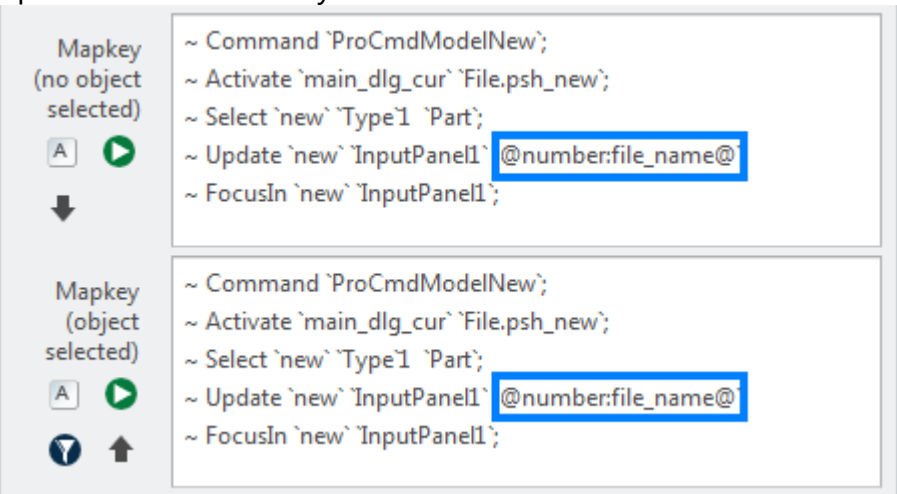


Clicking this button opens the Name Generator. Select the required name configuration and confirm the dialog.
The Creo standard dialog for renaming is opened with the newly generated filename pre-entered.

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8.3.2.3 Integrating name configurations in Quick Access

GENIUS TOOLS Quick Access uses intelligent Mapkeys extended with variables and operations that can only be used with GENIUS TOOLS for Creo.



Customize the mapkeys in Quick Access

For being able to use any name configurations, the Mapkeys have to be customized in Quick Access.

The variable **@number:...@** needs to be customized in the predefined Mapkeys.

The mapkey for *Create new part with number*:

```
~ Command `ProCmdModelNew`;
~ Activate `main_dlg_cur` `File.psh_new`;
~ Select `new` `Type`1 `Part`;
~ Update `new` `InputPanel1` `@number:file_name@`;
~ FocusIn `new` `InputPanel1`;
```

Now customize the variable **@number:...@** in the Mapkey.

Variant 1: With name configuration selection

@number@ opens Name Generator without pre-selected configuration. After selecting the configuration, the Creo dialog for creating parts is opened with a pre-entered name.

Variant 2: With defined name configuration

@number:nameconfiguration@ directly opens the dialog for part creation. A filename – created with the entered name configuration – is predefined and can be customized.

> **Please note**: If the name configuration is not unique, a name configuration will still have to be selected via the selection dialog.

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9 Parameter

GENIUS TOOLS Parameter is an program to easily edit administrative information (parameters) of parts, assemblies and drawings in Creo Parametric.
In assembly mode, the parameters of any sub-model can be edited. In drawing mode, you can switch between the drawing parameters and the parameters of the drawing models.
Parameters to be edited (name, type, displayed text, etc.) are defined in the parameter definitions. They can be created and edited with the included GENIUS TOOLS Parameter Editor.
It is also possible to work with multiple parameter definitions. The parameter definitions that will be used, can be specified manually or automatically, depending on the parameters (selection parameters) of the active model.
GENIUS TOOLS Parameter is available in assembly mode, part mode and drawing mode providing the following features:

- a classifiable master data definition including
  - an auto-selection mechanism for parameter definitions,
  - freely configurable groupings.
- easy parameter creation
  - with default properties for all types
  - specification for effective ranges (parts, assemblies and drawings)
- easily editable parameters through
  - free input,
  - lists and tables (from files and databases)
  - auto proposal function
  - format checking
  - input dependencies
  - adoption of parameters from other Creo models
- individual model tree configuration

9.1 Fundamentals

This introductory section gives you an insight into the operating principles of GENIUS TOOLS Parameter. In addition, you will find a glossary of important terms for a better understanding.

9.1.1 Glossary

Selection parameter
The selection parameter is a Creo model parameter. This parameter and the GENIUS TOOLS Parameter parameter definition list are used to determine which parameter definition will be applied to a model.

Field function
Field functions are predefined functions to determine parameter values in GENIUS TOOLS Parameter. They are displayed as buttons after the entry fields in the parameter form.

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Parameters
Parameters in terms of GENIUS TOOLS Parameter define the display and behavior when assigning values in GENIUS TOOLS Parameter. Creo model parameters are driven depending on the properties of a parameter.

Parameter definition and sub parameter definition
A parameter definition contains parameters, separators and references to sub parameter definitions. A sub parameter definition contains only parameters and separators. The information is stored in an XML data structure.

Parameter model
The parameter model is the Creo model, whose parameter values are currently displayed in GENIUS TOOLS Parameter.

Rumbling
Rumbling allows to pass values stepwise in a Creo parameter chain. The value in the last Creo parameter will be discarded. The goal of rumbling is to obtain a history of parameter values.

Separator
Separators are elements used to subdivide the parameters in the element list of Parameter Editor and the parameter sets in the parameter form in GENIUS TOOLS Parameter. Separators are also needed for the two functions and *Execute Field function*.

Table connection
A table connection is the connection between the values of two parameters. Parameter values can either be controlled by another parameter or filtered.

9.1.2 Parameter management concept

One of the major advantages of working with a uniform database in Creo Parametric is that both geometric information and administrative information is pre-defined. The benefit of this is that the information for drawing header, bills of material, and position flags in assembly drawings only needs to be created and maintained once. Administrative information in terms of Creo Parametric are parameters that are saved along with a part or an assembly. Examples of such parameters could be *Name*, *Description*, *Material*, *Weight*, and *Drawing number*.
When creating a drawing of a part or an assembly, the drawing header can be filled in automatically with these parameter values. When building assemblies, a current bill of materials can be generated at any time . The content of the BOMs (number and content of the individual columns) is freely configurable. The position flags on the assembly components can be automatically filled in with any information from these bills of material. All objects remain associative.
To guarantee that the unique database GENIUS TOOLS Parameter has been created, the program use parameter definitions containing all usable parameters to display them in a configurable view. There is a definition for each parameter. In addition to the parameter name the definitions also contain localized descriptions, and they define the data sources

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(free input, text files, databases, etc.) from which the parameters can be filled. The parameters are displayed in a form and can be easily filled in via user input.

Tip: Use GENIUS TOOLS Parameter Editor to create parameter forms according to your company specification.

Steps for preliminary considerations on the parameter concept

– Analyze the existing title boxes
– Analyze the BOMs
– Analyze design details in the ERP

9.1.3 Mechanisms on starting and saving

The parameters that are shown and changed in GENIUS TOOLS Parameter are specified in parameter definitions. It depends on the configuration which parameter definition will be applied to a Creo model and which parameters will be saved to the models.
For a better understanding, this section outlines the general mechanisms on starting GENIUS TOOLS Parameter and when saving parameters.

Start mechanism of GENIUS TOOLS Parameter

1. Determine the parameter definition to be used (see *Selecting the parameter definition*)
2. Read parameters from the current model
3. Apply automatically during parameter assignment (depending on the configuration of GENIUS TOOLS Parameter)
4. Display the parameters in the form section of GENIUS TOOLS Parameter
5. Output of status information (status signal light of GENIUS TOOLS Parameter)

Selecting the parameter definition

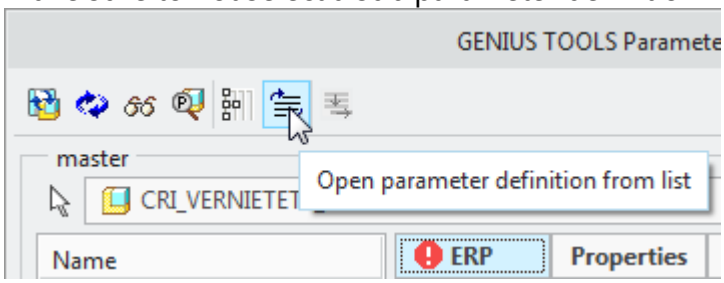
Automatic selection based on a model parameter
Automatic Selection based on a model parameter (selection parameter) is the default behavior of GENIUS TOOLS Parameter. A parameter in the Creo model is compared with a list of parameter definitions.
Important criteria for the selection based on a model parameter are the configuration options `gtp_lst` and `gtp_file_param`.
The configuration option `gtp_lst` specifies the location of the file containing all parameter definitions in list form. By default, this file (**gtp.lst**) is located at
<GTfCInstallation>\gt_resource_folder\parameter.
The list contains all available parameter definitions in following format:
`Location|Description|ParameterValue`
Example: `%GT_RESOURCE_FOLDER%\parameter\gtp_sut_int_de\pmm_int_de.xml|Production|PRODUCTION`
The configuration option `gtp_file_param` specifies the selection parameter. If the value in the model parameter matches with a parameter value in the list, the corresponding parameter definition will be applied to the model.

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Please note: If a list file contains duplicate parameter values, only the last entry will be applied.

Automatic selection based on a configuration option
If the selection based on a model parameter returns no result, it will be checked whether a parameter definition has been specified via the configuration option `gtp_file`. If a valid parameter definition is returned, it will be applied to the model.

Manual selection
If the automatic selection does not return a valid parameter definition, or if another parameter definition should be used, parameter definitions from the parameter definitions list can also be applied manually to a model.
Make sure to not select a sub parameter definition when selecting manually!



You can also assign parameter definitions to a model manually with this button

Saving mechanism of GENIUS TOOLS Parameter

After changes in the parameter form in GENIUS TOOLS Parameter, the following mechanism will be applied when saving the parameter values:

1. Verification of the parameter values according to the rules defined in the parameter definition
2. Output of warning messages (depending on the configuration)
3. The values are adopted by the model parameters:
   a. designations are removed (depending on the configuration)
   b. revised parameter values are adopted into the model
   c. designations are set
4. The model is being regenerated (depending on the configuration)
5. GENIUS TOOLS Parameter is completely reloaded with the new model parameters

Warning: Changes to the selection parameter or manual selection of a parameter definition may lead to loading a different Parameter definition!

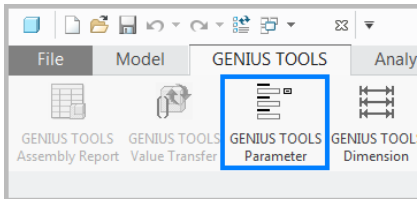
9.2 Usage

This section contains information on using GENIUS TOOLS Parameter. It describes the general structure of the program.

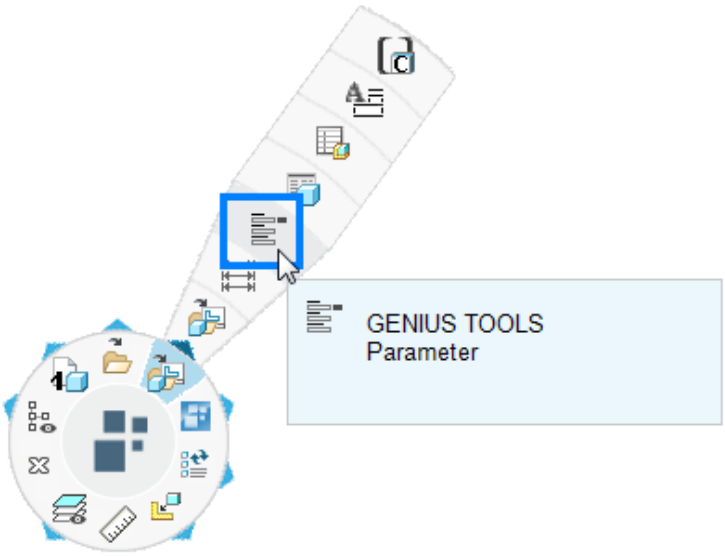
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Starting the program

Start GENIUS TOOLS Parameter in the ribbon menu in the GENIUS TOOLS tab or via GENIUS TOOLS Quick Access ([<] key).



Starting via the ribbon menu



Starting via Quick Access

Modality of the dialogs

The modality of the Parameter dialogs, i.e., whether you can work with the rest of the application when Parameter is open, is determined by the configuration option `gtp_dock_dialog_to_mdl`. You can edit multiple models using the same Parameter dialog and also open the editor at the same time. If you change modality to set `gtp_dock_dialog_to_mdl=0`, GENIUS TOOLS Parameter will remain open and available when you change the model.

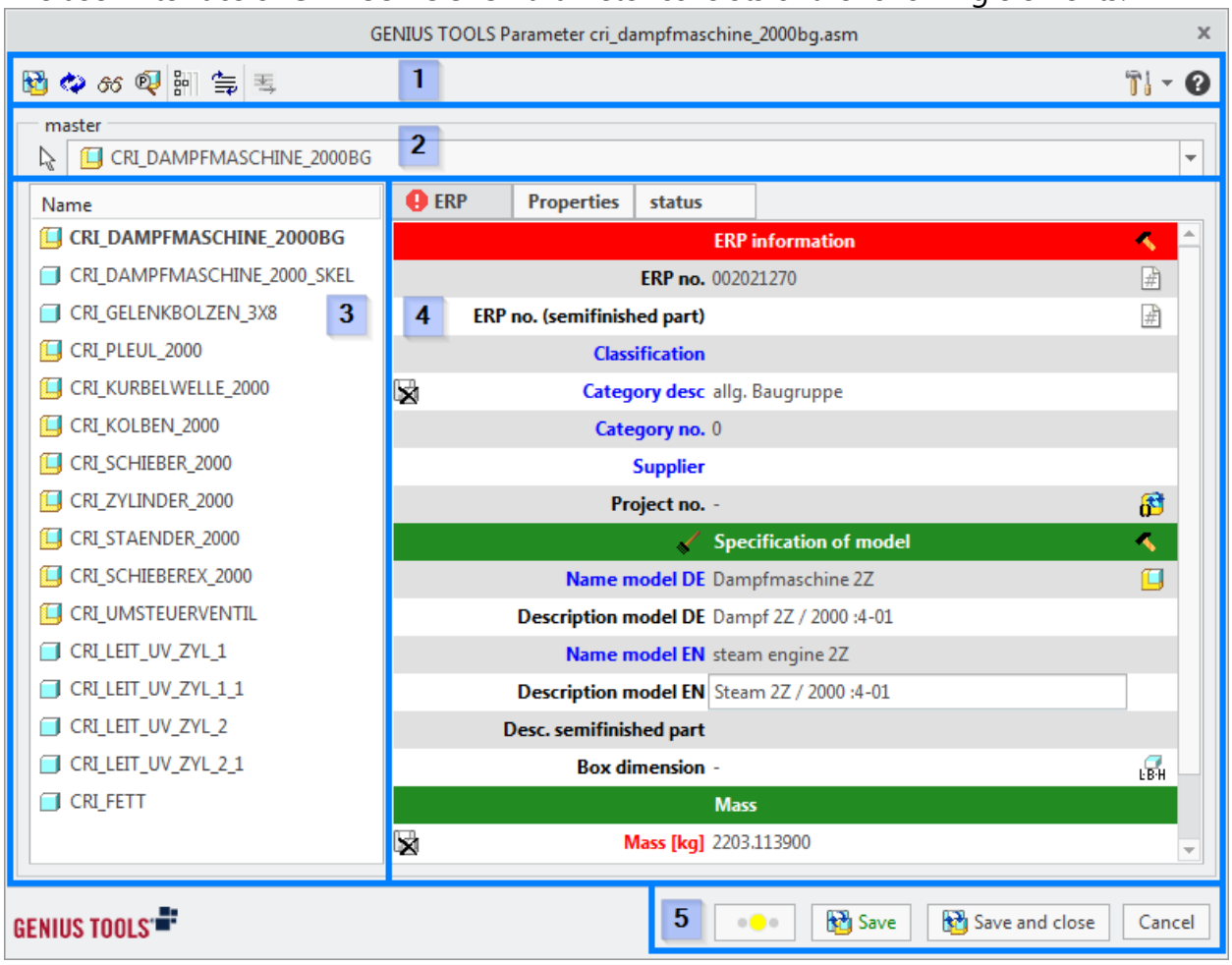
Click **Discard changes and reload** to make the current Creo model the parameter model and load the corresponding parameter definition.

Warning: You can only change parameter values if the active model is the parameter model! Save any changes to the parameter form before you change the active model.

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9.2.1 User interface

The user interface of GENIUS TOOLS Parameter consists of the following elements:



1. Command bar
2. Model selection
3. Model list
4. Parameter form
5. Status signal light and Save buttons

Warning: Do not open additional windows in Creo Parametric (Creo standard windows and GENIUS TOOLS windows) if the Parameter window is open. GENIUS TOOLS Parameter will be closed automatically.

9.2.2 Command bar

The following buttons are contained in the Command bar:

Icon	Name	Description
	Save	Saves all parameters and corresponding parameter values in the model.

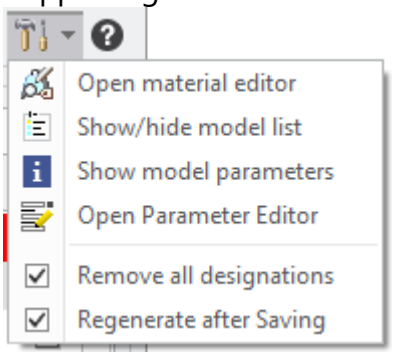
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Icon	Name	Description
		Note: Depending on the configuration, saving may be possible only if there are no conflicts.
	Discard changes and reload	The current parameter definition and the parameters of the model are reloaded. **Note**: Unsaved changes will be discarded!
	Adopt model parameters	Model parameters are read again, the parameter form is refilled. **Note**: Unsaved changes will be discarded!
	Select model and adopt parameter values	After selecting a model in the Creo window its Model parameters are read and displayed in the current parameter form. **Note**: Unsaved changes will be discarded!
	Update model tree	Reloads the model tree and displays it in the Creo Parametric sidebar. Parameters, flagged for the model tree in the editor will be additionally shown in the model tree. The model tree can only be adjusted if the GENIUS TOOLS Parameter is not bound to the Creo Parametric window (gtp_dock_dialog_to_mdl = 0).
	Highlight current model	Highlights the model selected in the model list in the Creo window.
	Open parameter definition from list	Opens an existing parameter definition and applies it to the model parameters of the current model.
	Rumbling	Executes rumbling when configured in the current parameter definition.
	Select start model	Displays a model selected in the Creo window or in the model tree in the parameter form.
	Activate or deactivate save message	Activates or deactivates the warning message for unsaved changes.
	Tools	The Tools menu contains various supporting functions.
	GENIUS TOOLS Help	Opens the Help.

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Tools menu

Supporting functions are started via the Tools menu:



Additional functions are available via the Tools menu

Open Material Selector Editor
Opens the GENIUS TOOLS Material Selector Editor to modify the material properties.

Show/hide model list
Shows or hides the model list on the left side of GENIUS TOOLS Parameter.

Show model parameters
Shows model parameters of each opened part in an extra window. The function only opens a view. No changes can be made, but parameter values needed can be copied.

Open Parameter Editor
Opens the GENIUS TOOLS Parameter Editor to edit the parameter definitions.

Remove all designations
Specifies whether all designations are removed in Windchill mode. The preset of this checkbox depends on the configuration.

Regenerate after saving
Specifies whether models will be automatically regenerated after clicking *Save*.

9.2.3 Reading parameter values from text files

You can import parameter values from text files into the parameter form. To do so, use the function **Import values** in the tools menu.
The file **GTP_values.txt** is read from the work directory and the values are written to the corresponding parameters. After import, table connections and JavaScript OnChange functions are executed.

Warning: The import function also writes read-only fields!

Values can be read from files with the following character encodings:
– UTF16LE/BE
– UTF8 BOM
– ANSI

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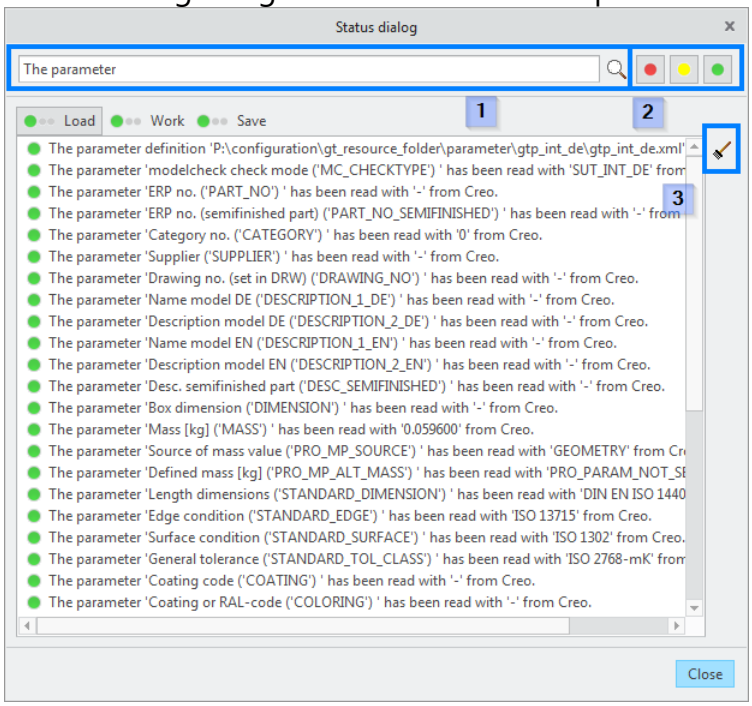
The text file has to follow the format given below with a parameter name and value separated by a colon in each line.

Beispiel

```
DESCRIPTION_1_DE:Abdeckkappe
DESCRIPTION_1_EN:Cover cap
PART_NO:004526-12
```

9.2.4 Status indicator

The status signal light is located below the parameter form.



The opened status dialog (status signal light) with warnings on saving

Use the search (1) to search for status message contents. Alternatively, you can use the three traffic light color buttons (2) to show or hide messages. Use the Reset function (3) to delete status messages.

The status light displays the current status in different phases using traffic light colors:

Load: Information on loading parameter definitions and parameters from the model as well as validation of the lists from files and databases.

Work: Information on the current parameter form editing status and verification of the parameter format.

Save: Information on saving of parameters in the model.

Save

The **Save** button turns green to indicate changes to the parameter form. Click on the button to apply changes in the parameter form to a Creo model. The status display is updated. Save and close skips updating the status display. If errors occur, the parameters are not saved.

Depending on the save status, the footer of the parameter window is colored:

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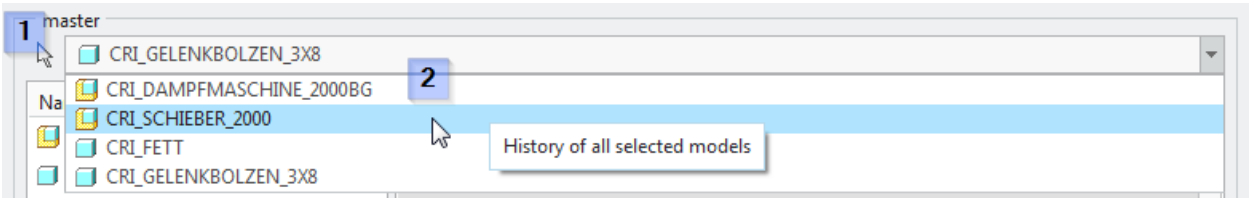
Green: Parameters were transmitted, no warnings or errors occurred during transmission. The PreSave method returned `true`.
Yellow: Parameters were transferred, but warnings or errors occurred during transfer. The PreSave method returned `true`.
Red: Parameters were not transferred because conflicts exist and the configuration options `gtp_do_not_save*` are set to 1.
Alternatively, the PreSave method returned a `false` and therefore no parameters were transferred.



The footer of the Parameter window shows the save status.

9.2.5 Model selection

The model selection consists of two elements:

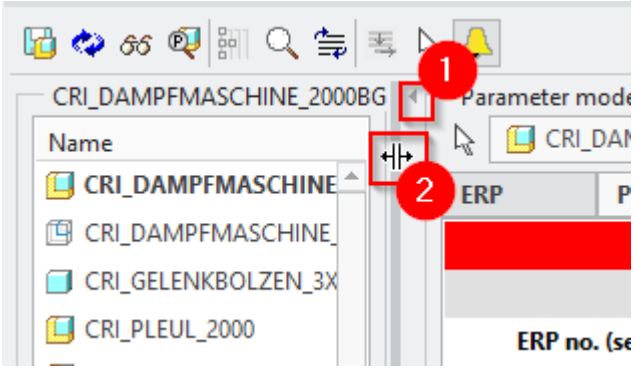


The Model selection with Object selection (1) and drop-down list (2). Move the mouse over the name of the current parameter definition to display its location

Select models using the Object selection (1). Their parameters will be read into the parameter form.
The drop-down list (2) shows the current selection. Open the list and select from the recently selected models.
Above the model selection, the name of the current parameter definition is displayed. Place the mouse on the definition name to see its storage location as a tooltip.

9.2.6 Model list

The model list is located on the left below the model selection area.



Open the model list (1) and use the handle (2) to change its width.

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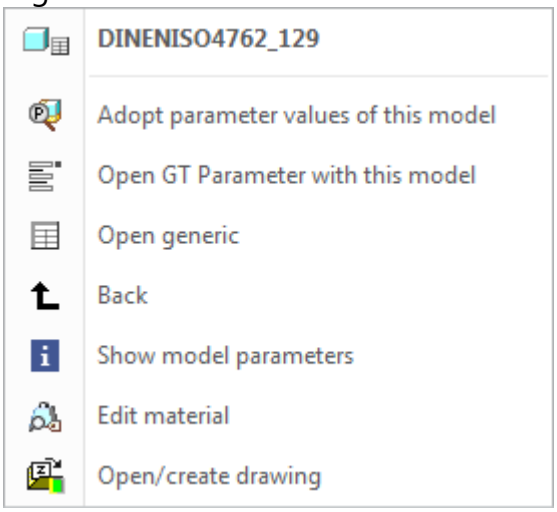
After starting the program, GENIUS TOOLS Parameter displays parameters of the current model together with the parameter definition that has been determined by the selection mechanism.
Click on a sub-model to display its parameters in the parameter form.
The model for which the parameter values that are displayed, is referred to as the parameter model.

Mode dependency of the model list

The model list depends on the configuration option `gtp_show_mdl_list`.
If the configuration option is set to 0, the model list is not displayed. If the configuration option is set to 1, the model list is displayed. If the configuration option is set to 2, the model list is displayed or not, depending on the model type (for example, show list for assemblies and for generic parts with instances).
If the configuration option `gt_window_size_position_save` is set to 1, the size of the model list is saved.

Context menu

The model list has its own context menu.
Right-click an element in the model list to open the context menu.



The model list context menu

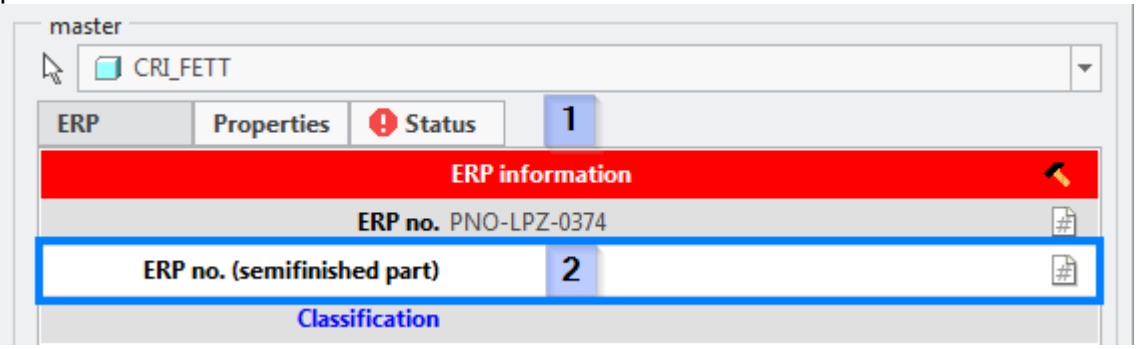
Adopt parameter values of this model: The parameters of the selected model are transferred to the fields of the parameter model in the parameter form. Save after executing this action to ensure that the values are applied into the parameter model.
Open GT Parameter with this model: Opens the selected model in GENIUS TOOLS Parameter.
Open generic: Opens the instance as a Generic.
One level up: Switches the parameter display of a lower level model to a model one level above.
Show model parameters: Opens a new window and displays an overview of all parameters of the selected model. It is not possible to make changes via this window. If you need parameter values from this overview, copy them!
Edit material: Opens GENIUS TOOLS Material for the selected model.

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Open/Create Drawing: Opens the models drawing or generates a new drawing.

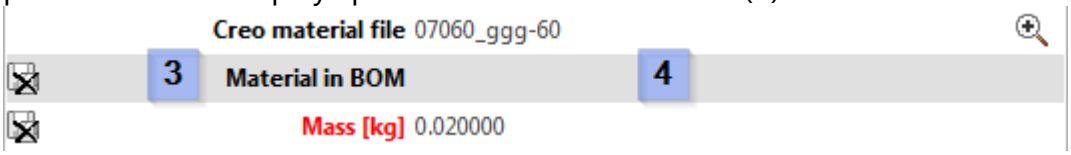
9.2.7 Parameter form

The parameter form displays parameters of the currently selected model (depending on the parameter definition).
Click into the area after the parameter title to activate the input field. Edit parameters either manually or using the preconfigured functions.
Use Tab to switch between the input fields.
Click the localized parameter name to display additional information about this parameter.



The parameter form with different parameter sets

Tabs (1) are shown above the parameter form when a loaded parameter definition contains further sub parameter definitions.
Click on a tab to open the corresponding form of the sub parameter definition. The parameter form displays parameter sets in a list view (2).



A parameter set consists of the localized parameter title (3) and the corresponding value deposited in the model (4).
Only the parameters previously specified in the editor are displayed in the parameter form.
The background color of the individual input fields depends on the configuration in the parameter definition.

Warning: Configuration in parameter definitions allows to specify restrictions (e.g. numbers only) for input fields.
Parameter values may be displayed in exponential notation. Check the Creo configuration option `param_dec_places`.

Tabs

Many different parameters can be specified in a parameter definition. As such a list can become confusing, parameters are organized in sub parameter definitions. They are referenced in the parameter definition and contain parameters in a usual way. The sub parameter definitions are displayed as tabs in the parameter form.

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Click on a tab to switch to the corresponding sub parameter definition.

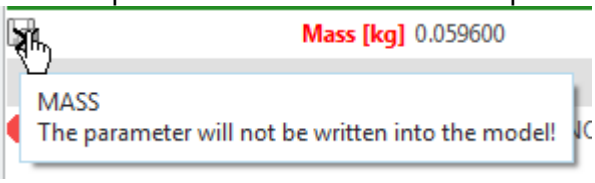


Display of tabs in GENIUS TOOLS Parameter with warning symbol. There are pending tasks in ERP.

If there are pending tasks (e.g. a mandatory field not filled in) for a sub parameter definition, a warning symbol is displayed before the name in the tab.
If you have previously opened GENIUS TOOLS Parameter in a Creo model, the program remembers in which tab you stopped working.

Parameter sets in the parameter form

A parameter set consists of the localized name of a parameter and the corresponding parameter value in the input field. Click on a parameter value to activate the corresponding input field. The different field types of the input fields can be found in the section *Field types and functions*.
Info symbols are displayed before the localized name to indicate important information about a parameter. Move the mouse pointer over the icon for further information!



Info symbols are displayed before the localized name

The following info symbols are displayed:

Icon	Description
	The parameter will not be adopted into the model when saving.
	The parameter is not contained in the model. Saving creates the parameter and transfers the parameter value into the model.
	The input field is a mandatory field and must be filled in.
	The input does not correspond with the specifications for the input field (e.g.: letters in a number field).
	The parameter is locked by a relation.
	The model is an instance, the parameter is not in the family table of the generic.

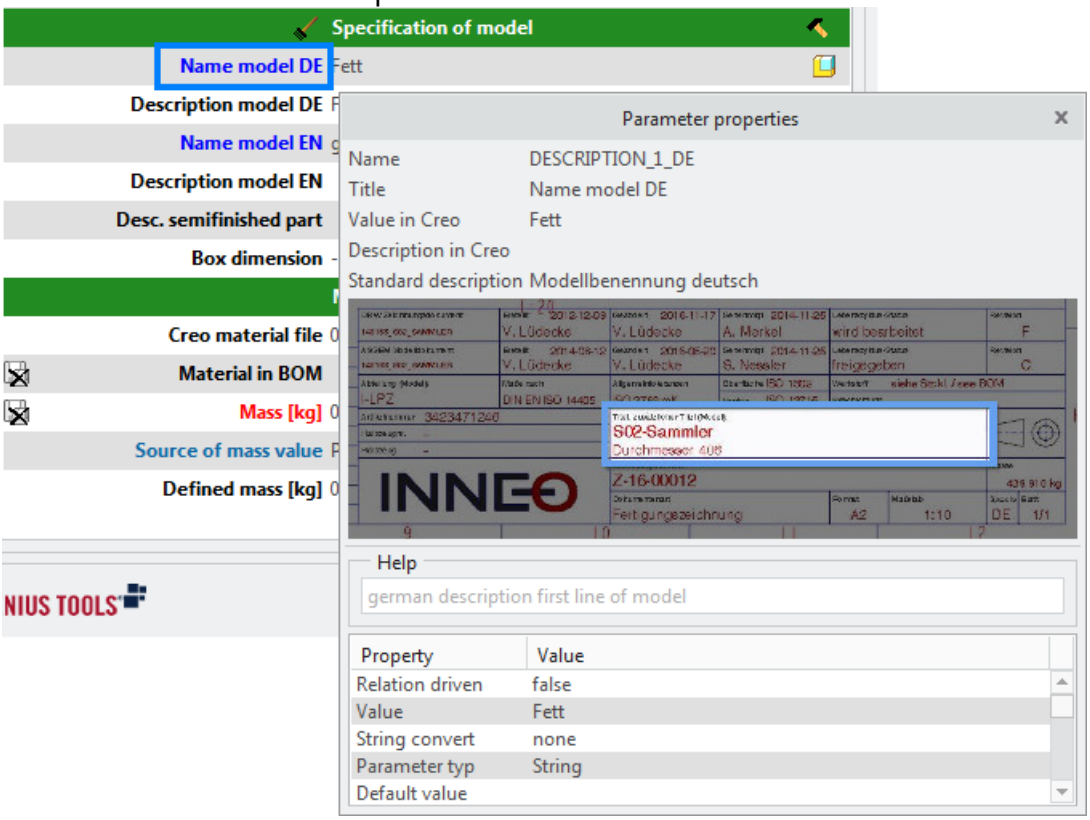
Localized parameter titles are displayed in different colors as soon as one of the following conditions occurs:
– Dark blue: The parameter is filled by database connection.
– Light blue: The parameter is filled by a CSV file.

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– Orange: The parameter is controlled or locked by a relationship.

Parameter properties

In addition, you can add further information on parameter sets. Click on the localized parameter title to open the properties dialog of a parameter. The dialog shows properties and information about the parameter.



Click on the localized parameter title to open the properties dialog

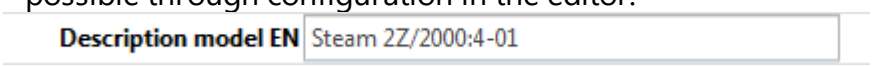
9.2.8 Field types

A parameter set in GENIUS TOOLS Parameter consists of a localized Parameter name and a value. The value is displayed in an input field with different functions. The functions are displayed after the input field.
Click to the right of the localized Parameter name to activate and fill an input field.

Field types

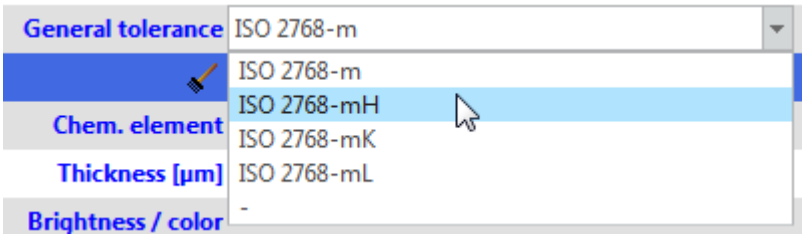
The input fields can have a different function depending on the configuration in the editor:

Input field
Regular input fields accept any string for input. Restrictions (e.g. numbers only) are possible through configuration in the editor.



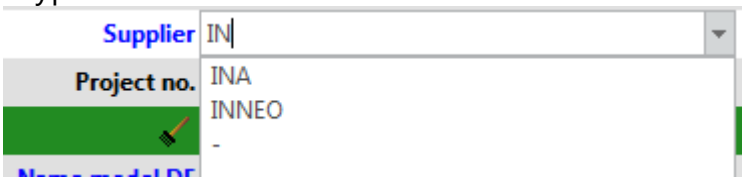
Drop-down list
Drop-down lists contain a selection of possible inputs. They are specified through text/CSV files or databases.

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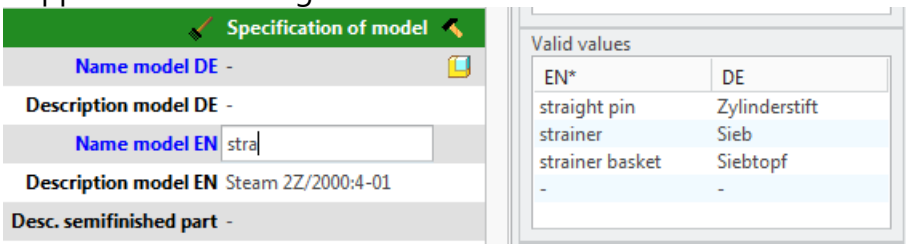
Combined input field

Combined input fields allow free input and to select from a drop-down list. If a combined drop-down is assigned to a database, the drop-down list entries will be filtered as you type.



List selection

A list selection automatically displays a list with appropriate entries for the current input. This requires a table connection. The displayed columns are specified in the configuration and are retrieved from a CSV file or a database. When entering text to a list selection with database connection, the list will be filtered for matching entries. Clicking on the entry applies the matching value to the field.



Material input field

The behavior of material input fields is similar to combined drop-down lists. All materials and subfolders of the material folder are displayed in the drop-down list. Subfolders can be selected to navigate the tree. In addition, you can open the material selection via the magnifier icon.



Read-only input field

Read-only input fields cannot be edited.



Checkbox

Checkboxes allow to choose from two options. This can be Yes/No decisions, for example.

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Reset (1) and execute field function (2)
These two functions affect the input fields until the next separator.
Reset (1) sets the input fields back to their initial value. It depends on the configuration whether an input field can be reset.
Execute field function (2) runs field functions that were configured for fields. If multiple functions have been configured for a field, the first one will be executed. Only functions that do not require user interaction will be executed.



Field functions

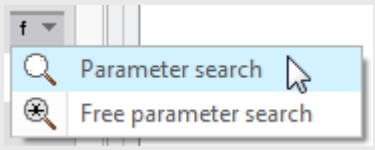
Field functions are predefined functions for parameter value definition in GENIUS TOOLS Parameter.
Click on a field function icon to execute the function.

Icon	Name	Description
	Date	Adopts the current date into a field. The date format is deposited in the parameter definition.
	Login name	Adopts the current Windows user name into the input field or the Startup TOOLS alias (short or long)
	Adopt parameter of same name	Adopts the value of a parameter of the same name from the selected model into the input field.
	Free parameter search	Opens the Creo Parametric parameter selection. The value of the selected parameter is adopted into the field. **Note**: This function only supports adoption of a single parameter! When selecting multiple parameters, only the first parameter value will be adopted.
	Model name	Adopts the model name from the model selected in the GENIUS TOOLS Parameter model list into the input field.
	Drawing name	Adopts the drawing name from the model selected in the GENIUS TOOLS Parameter

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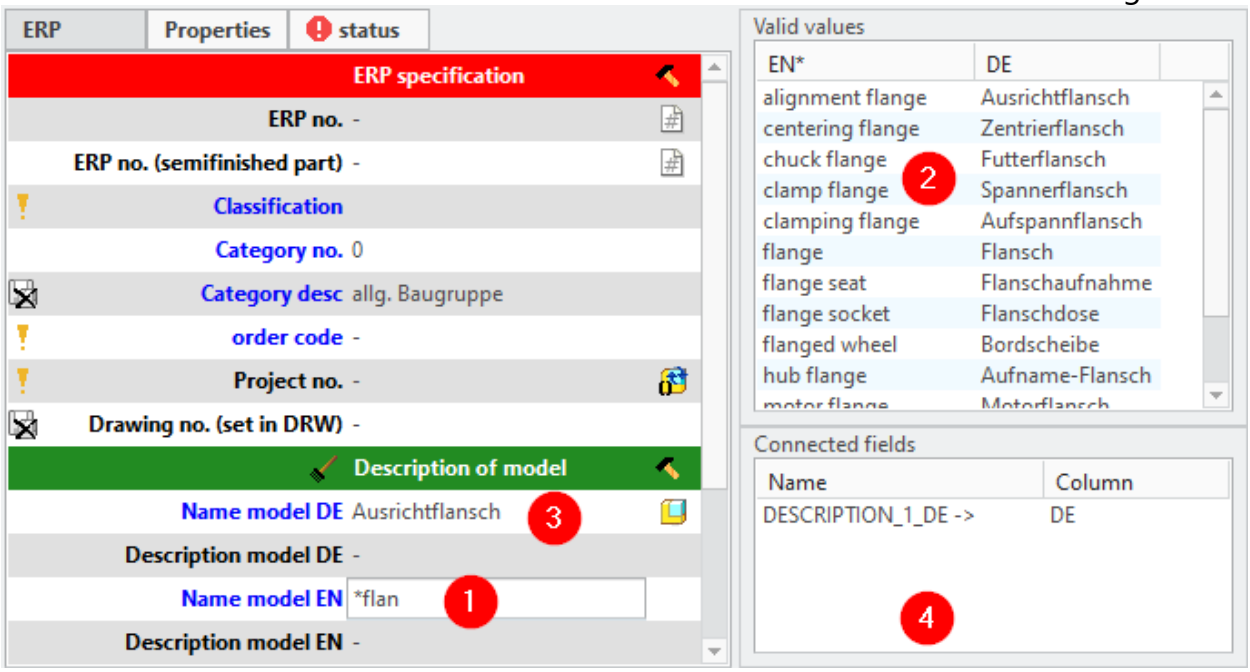
Icon	Name	Description
		model list into the input field. **Note**: Use this function in drawings only!
	PTC common name	Adopts the PTC common name from the model selected in the GENIUS TOOLS Parameter model list into the input field.
	Material selection	Opens the GENIUS TOOLS Material dialog. The selected material will be adopted into the input field.
	Bounding box	Adopts the bounding box dimensions from the model into the input field.
	Name Generator	Generates a name via GENIUS TOOLS Name Generator and transfers it into the input field. The name configuration is controlled via the parameter definition.
	Parameter search	Opens the Creo Parametric model selection and allows to select a part in the current model. The value of the parameter of the same name in the part is adopted into the input field. If the parameter does not exist in the selected part, the field remains empty.
	Use predefined parameter value	Adopts the value of a model parameter specified via the editor into the input field.
	Copy parameter value into active drawing model	Copies the parameter value into the parameter of the active drawing model. **Note**: Can only be used in Drawing mode!
	Copy parameter value from active model	Copies the parameter value from the parameter of the active drawing model. **Note**: Can only be used in Drawing mode.
	Transfer parameter to assembly components	Opens GENIUS TOOLS Value Transfer to transfer assembly parameters to sub-components.
	Replace variable	Replaces a variable specified through the editor with its current value.
	Execute JavaScript	Runs a JavaScript function configured in the parameter definition.

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Icon	Name	Description
	Multiple functions	If several of the functions listed above are available for an input field, they are grouped in a drop-down list after the input field.

Connected fields

Input fields can be interlinked. Then, they are dependent on one another. If the value of one of the fields is modified, appropriate values will be automatically entered into the other fields. Information from databases or CSV files will be evaluated in the background.



Following the input (1) appropriate values (2) are displayed. After selecting a value, the corresponding value is entered into each connected field (3). The names of the connected fields (4) are displayed below the valid values.

Click on a connected field and enter a search term. You can also use the * placeholder to search for subterms. Then, select the value to be entered from the list. Appropriate values will be adopted by each connected field.

9.3 Configuration

This section contains further information on
– available regular expressions for the Parameter Editor, and
– the structure of the Parameter Editor
In addition, you will find information on configuring GENIUS TOOLS Parameter and the parameter definitions in the Use cases section.

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9.3.1 Regular Expressions

Use Regular Expressions in GENIUS TOOLS for Creo to check value inputs or to allow only saving standards conforming inputs.

Character	Description
\	Indicates the following character as a special or verbatim character. For example “n” is corresponds to the character “n”. “\n” corresponds to a line-break character. The sequence “\\” corresponds to “\”, “\(” corresponds to “(”.
^	Corresponds to the beginning of the input.
$	Corresponds to the end of the input.
*	Corresponds to the proceeding character zero or multiple times. For example “zo*” matches either “z” or “zoo”.
+	Corresponds to the proceeding character one or multiple times. “zo+” for example matches “zoo”, but does not match “z”.
?	Corresponds to the proceeding character zero or one time. For example “a?ve?” matches the “ve” in “never”.
.	Corresponds to all single characters except for a line-break character.
(Pattern)	Matches Pattern and saves the equivalent. The compared substring can be retrieved from the resulting matches listing using the elements [0]...[n]. For comparing of characters put in parathenses ( ) use “\(” or “\)”.
x|y	Corresponds to either x or y. For example matches “l|red” either “l” or “red”. “(l|r)ed” matches “led” or “red”.
{n}	n is a positive integer. Corresponds to exactly n times. “o{2}” for example does not match the “o” in “Robert” but the first two “o”s in “Booooat”.
{n,}	n is a positive integer. Corresponds to at least n times. “o{2}” for example does not match the “o” in “Robert” but all “o”s in “Booooat”. “o{1,}” is equivalent to “o+”. “o{0,}” is equivalent to “o*”.
{n,m}	m and n are positive integers. Corresponds to at least n and maximum m times. For example “o{1,3}” matches the first three “o”s in “Boooooat”. “o{0,1,}” is equivalent to “o?”.
[xyz]	A group of characters. Corresponds to any of the included characters. “[abc]” for example matches the “a” in “falling”.
[^xyz]	A group of excluded characters. Corresponds to any character not included. “[^abc]” for example matches the “f” in “falling”.
[a-z]	A character range. Corresponds to any character in the specified range. For example, “[a-z]” matches any lowercase alphabetic character in the range from “a” to “z”.
[^m-z]	An excluded range of characters. Corresponds to any character not included in the specified range. “[m-z]” for example matches all characters not included in the range from “m” to “z”.

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Examples

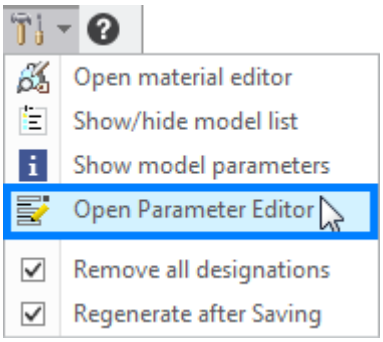
Regular expression	Description	Example
[a-z,A-Z]*_[a-z,A-z]*	Any alphabetic string with an underscore	user_tbx
[0-9]{5}	Five random numbers	12345
^.{7}$	7 random characters	t_p.prt
^[A-Z]{1}[a-z]{2,10}	A capital letter at the beginning followed by two to ten lower case letters	Tuser
dd.mm.yyyy	Date format	01.08.1975

9.3.2 Parameter Editor

The GENIUS TOOLS Parameter Editor is used to specify parameter definitions for use in GENIUS TOOLS Parameter.

Starting the program

Start GENIUS TOOLS Parameter Editor from the menu in the GENIUS TOOLS Parameter window or GENIUS TOOLS Quick Access ([<] key).



Starting from the GENIUS TOOLS Parameter window

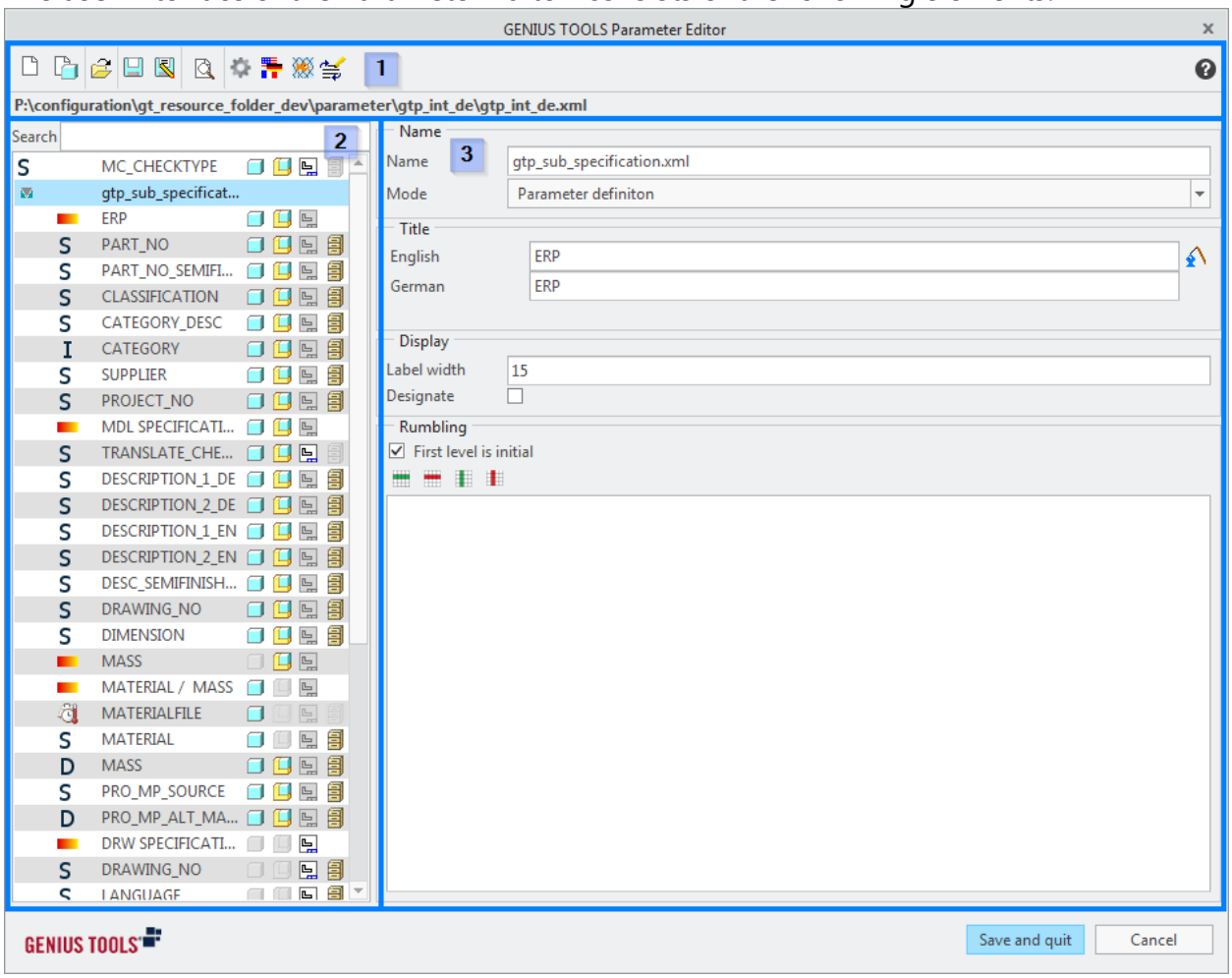


Starting via Quick Access

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9.3.2.1 User interface

The user interface of the Parameter Editor consists of the following elements:



The GENIUS TOOLS Parameter Editor user interface

1. Command bar
2. Element list
3. Detail view

9.3.2.2 Command bar

The following buttons are contained in the Command bar:

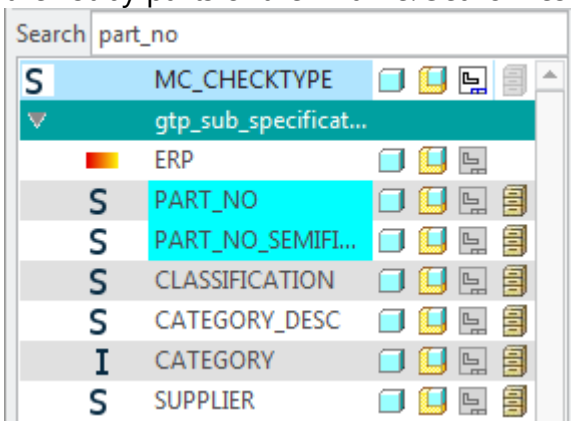
Icon	Name	Description
	New	Creates a new parameter definition in XML format. **Note**: The file is only created after saving.
	New parameter definition from model	Creates a new parameter definition based on **all** parameters of the currently opened model.
	Open parameter definition	Opens an existing parameter definition for editing.
	Save	Saves the current parameter definition.

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Icon	Name	Description
	Save as	Saves the current parameter definition with a new name.
	Preview	Displays the current configuration of the parameter definitions in GENIUS TOOLS Parameter without the need to save.
	Properties	Opens the dialog to edit the parameter definition properties.
	Manage languages	Opens the dialog to manage the languages of a parameter definition.
	Automatic standard texts	Opens the dialog for automatically setting default texts for all parameters and separators. The names of the parameter definitions are used as separators in the table. See Set standard texts for multiple elements 293
	Edit list of parameter definitions	Opens the dialog to edit the list of existing parameter definitions.

9.3.2.3 Element list

The element list displays all parameters and sub-parameter definitions contained in the current parameter definition. Click on an element in the list to display it in the detail view. Click on the arrow symbol before a sub-parameter definition to expand it and display the contained parameters.
A search field is located above the element list. Use the search field to search elements in the list by parts of their name. Search results will be highlighted in color.



Color highlight when searching

You can move parameters within the same parameter definition using Drag-and-Drop. Press CTRL to select multiple parameters.
The availability settings are displayed next to the element on the right. They indicate if an element (parameter or separator) will be displayed in the parameter form in parts, assemblies or drawings. Click on the symbols to show or hide an element in the corresponding mode.

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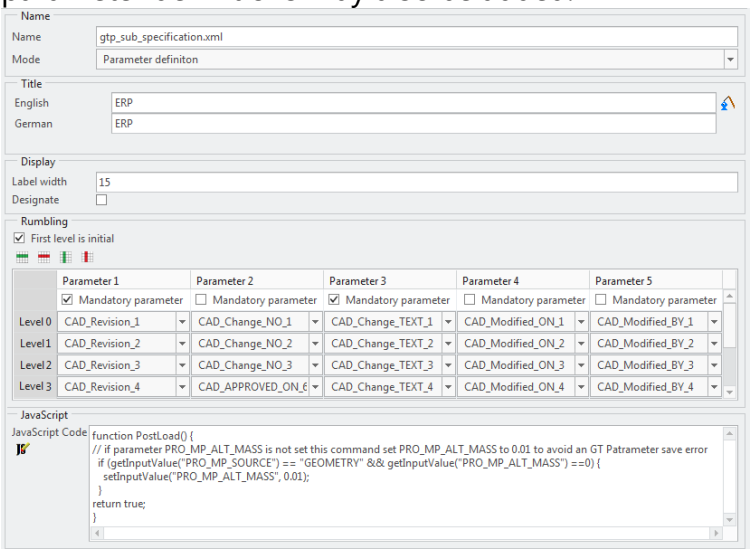
Parameters have a fourth icon. It specifies whether designations are allowed. This function is only relevant if a PDM system such as Windchill is used.

Context menu

The element list has its own context menu. Right-click on an element to open the context menu.
You can select multiple elements using CTRL.
The following options are available:
Add new parameter definition: Adds a new sub-parameter definition to the element list.
Add new parameter: Creates either a new parameter definition or a separator.
Remove selected parameter or parameter definition: Deletes the currently selected element.
Remove selected parameters of this parameter definition: deletes one ore multiple elements from the list.
Copy parameter or separator: Copies parameters or separators to the buffer memory.
Insert copied parameter or separator: Pastes the previously copied element into the element list at the current position.
Move selected parameter into the main parameter definition: Moves a parameter from a sub parameter definition into the main parameter definition file.
Moving the selected parameters up/down: Moves a parameter or separator one position in the list.

9.3.2.4 Parameter definitions

The content of the detail view depends on the selected element in the element list. This section describes the detail view for parameter definitions.
Parameters and separators are specified in parameter definitions. A reference to sub-parameter definitions may also be added.



Detailed view of a sub-parameter definition

The detailed view for parameter definitions is divided into different sections:

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Name

Name: The name represents the filename of the parameter definition file. If the filename value is changed and then saved, this will be similar to a *Save as* command. The parameter definition will be saved with a new name and the file with the old name remains unchanged.

Warning: The mode of sub parameter definitions cannot be changed at a later date.

Title

Specifies the language-dependent (localized) names that will be displayed as tabs in the parameter form.
The number of available input fields depends on the configuration and the localization.
Standard texts can be added via the button  (Description of the standard text selection dialog 292).

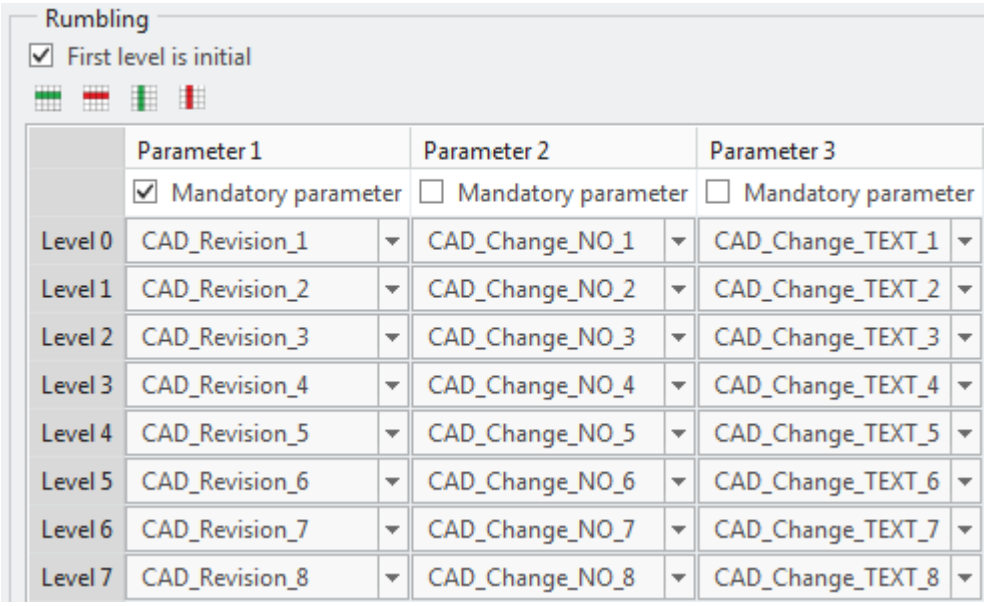
Display

Label width: Specifies the width (in characters) of the localized parameter title in the parameter form.
Selection table width: Specifies the width of the table shown next to the parameter form if a selection list is configured, e.g., using a database connection. The width is given in characters.
Designate: Specifies whether designations in PDM mode should be priorly removed for all parameters contained in the definition.

Rumbling

In the *Rumbling* section, parameters are specified whose values are transferred to other parameters.
The parameter values are transferred FIFO (first in, first out). This allows to create a change history, for instance. For each editing process, the parameter value is moved one step. When the end of the configured chain is reached, the parameter values are deleted.

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The parameter values are transferred step by step

First level is initial: If this checkbox is set, the parameter values from the first step are not overwritten on first filling the parameter. This means that the configured chain starts at level 1.

Add or remove rows: Adds rows to the table. You can add rows to determine after how many editing steps a parameter value is deleted.

Add or remove columns: Adds columns to the table, defining more parameters for which values should be transferred.

9.3.2.5 JavaScript in parameter definitions

You can add executable JavaScript code to each parameter definition. It is only available in the respective parameter definition.

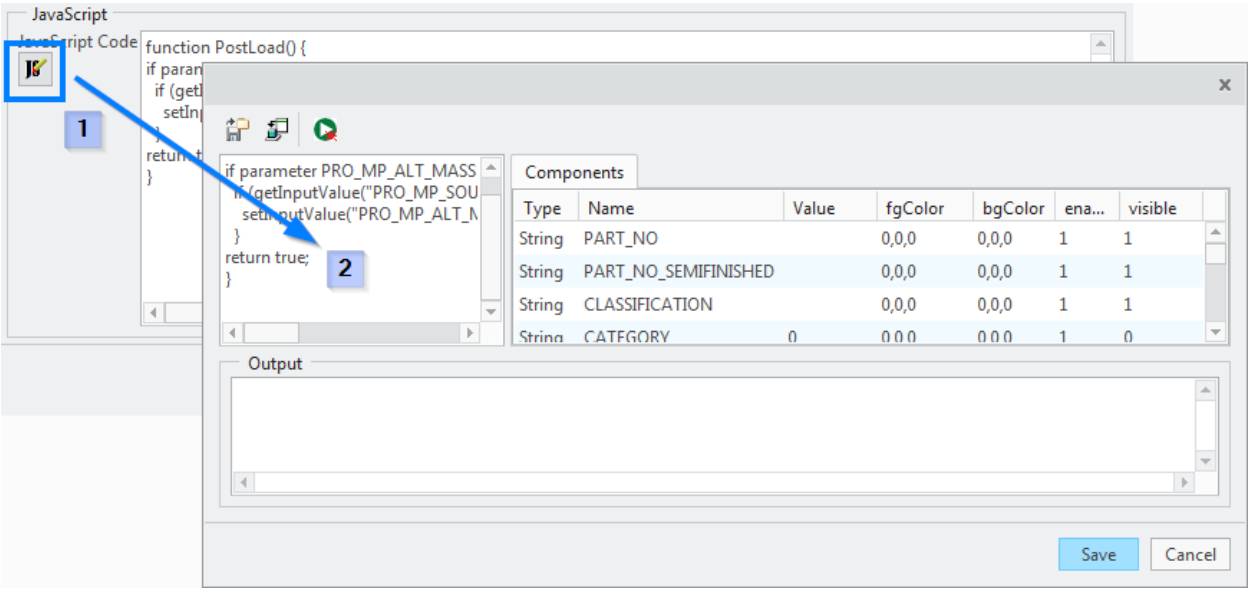
Parameter definition: Open the Properties dialog and navigate to the JavaScript section.

Sub parameter definition: Select the sub parameter definition in the element list and navigate to the JavaScript section in the detail area.

> **Warning**: Parameters may contain values in exponential notation. Check the Creo configuration option `param_dec_places`.

Enter JavaScript directly into the input field or use the JavaScript Editor 305. Click on the JavaScript icon to open the editor. Go here 307 for an explanation of JavaScript functions and short examples.

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Click the JavaScript symbol (1) to open the JavaScript editor (2).

JavaScript can be executed at three different times:
– After loading the Form (function: PostLoad)
– Before saving the Forms values (function: PreSave)
– After changing a Forms value (function: OnChange)
The names of PostLoad, PreSave and CheckUI are fixed. Functions of the type OnChange can have any name. You can add as many as required to your JavaScript code.

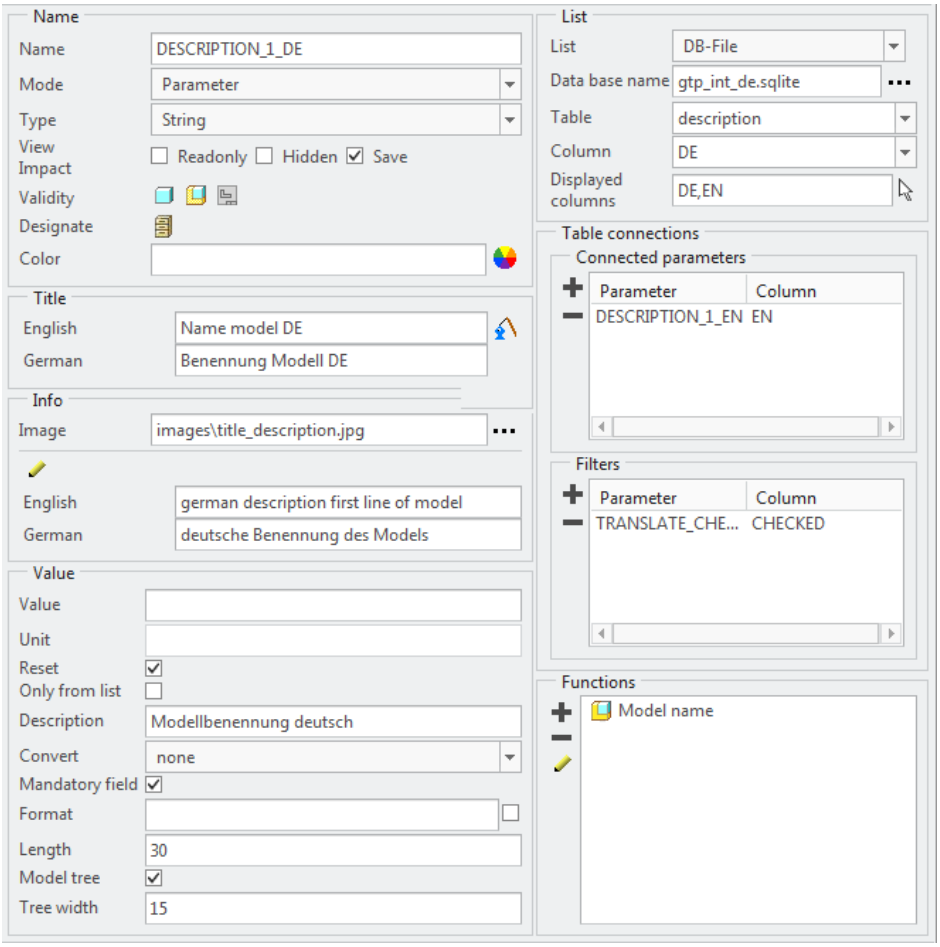
Warning: Avoid loops when programming.

If a table connection changes values at the start of GENIUS TOOLS Parameter, no OnChange function is executed. To correct these parameter values, the PostLoad function must be used.

9.3.2.6 Parameters

The content of the detail view depends on the selected element in the element list. This section describes the detail view for parameters.
Parameters in GENIUS TOOLS Parameter contain all settings to specify whether and how a parameter is saved in a Creo model and which input field type is to be used for input. Field functions such as *Name Generator* or *Material search* are also added into the parameters.

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Example for a detail view of a parameter

The detailed view for parameters is divided into different sections:

Name

Name: Specifies the Creo model parameter that is addressed by the parameter.
Mode: Specifies whether it is a separator or a parameter.
Type: Specifies the parameter type to be saved in Creo models. Possible types include: String, Integer, Real number, Yes/No and Material.
View Impact: Specifies general visibility settings of the parameter:

– Read-only: The input field cannot be modified.
– Hidden: Specifies whether the parameter is displayed. Hidden parameters are displayed in the **Hidden** tab if the configuration has been adjusted accordingly (`gtp_show_hidden_params`). Also saving these parameters depends on the configuration (`gtp_save_hidden`).
– Save: Specifies whether a parameter is adopted into the model when saving.

> **Tip**: Use the *Save* option to specify temporary parameters to allow a conditional selection for another parameter without saving the temporary parameter in the Creo model.

Validity: Specifies the visibility of a parameter in Part, Assembly and Drawing mode. Invalid parameters for a mode can neither be saved nor used.

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Designate: Specifies whether to allow or prevent designations in PDM mode. When saving in GENIUS TOOLS Parameter, the parameters are flagged "Designate" in the Creo model.
Color: Specifies an individual color for the input field. Type the color name directly into the entry box or choose an appropriate color via the color circle to select a color (Description of the color dialog 341).

Title

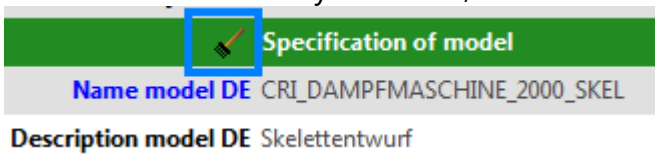
Specifies the language-dependent (localized) names that will be displayed in the GENIUS TOOLS Parameter Name column.
Standard texts can be added via the button (Description of the standard text selection dialog 292).

Info

Language-dependent (localized) information is added at Info.
In addition, you can add an Image. The image and localized information can be displayed in an extra dialog by clicking on the parameter name. URLs are automatically converted to clickable links in GENIUS TOOLS Parameter.
Use images and localized information to add support information about parameters.
Always specify URLs including the network protocol (http://, https://).
If images are changed later on, the change will only be displayed after restarting Creo.

Value

Value: Specifies a default value. This value is used when the parameter does not exist in the model and the field in the parameter form is not filled in or cannot be filled in (read-only fields).
Parameter unit: When the parameter type is "real number", a unit can be specified here. The unit will be adopted by the model parameter when saving.
Resettable: Allows to reset the input field in the parameter form to its default value.
If a field can be reset by the users, a reset icon will be displayed in the parent separator.



Reset icon for fields in the separator

Warning: The *Reset* function can only be used if there is a parent separator. The reset icon can only be displayed there.

Only from list: Specifies whether users can only select from predefined list items. It is not possible to directly type into the input field. This option requires a database or a list connection.
With database connections typing into the input field can be used for searching, but only list values will be accepted. When this option is disabled, a field will also accept free input.

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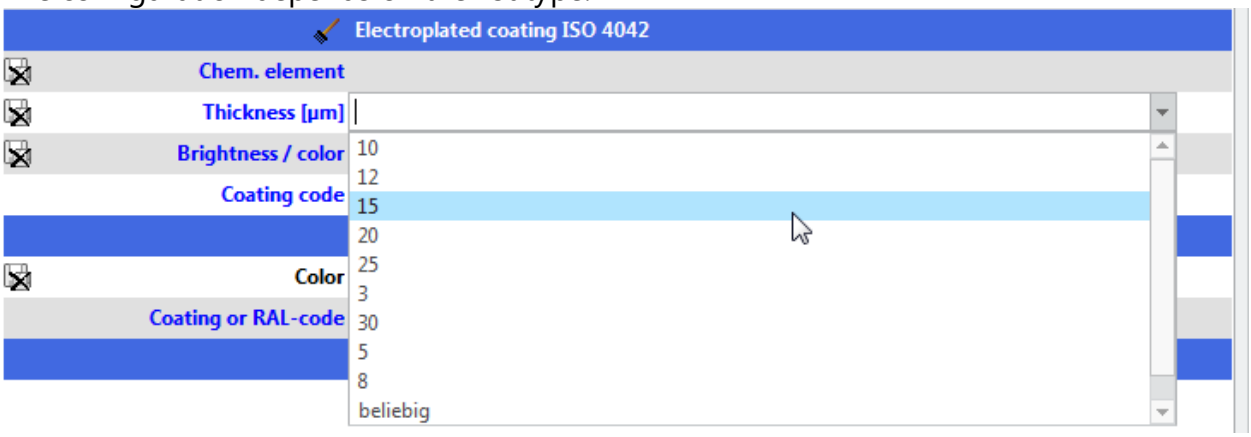
Description: The description entered here will be adopted by the model as parameter description on saving.
String convert: Allows automatic conversion of the input to upper or lower case. This option is only available for string type parameters.
Required field: Specifies whether an input field must be filled in by the user. Mandatory field are marked with an asterisk in the parameter form.
Format: Specifies a regular expression to verify the input. If a format has been specified for an input field, the users will be prompted when the input does not comply with the format (exclamation mark on red background).
The format can only be checked if the parameter is configured for writing into the model (**Save** is set) and is not hidden.

> **Tip**: Activate the checkbox behind the *Format* input field to prevent saving of values that do not comply with the format.

Maximum length: Specifies the maximum length for the input in characters.
Show in model tree: Specifies whether the parameter will be shown in the model tree when the model tree is displayed.
Column width in model tree: Specifies the column width for display of the parameter values in the model tree.

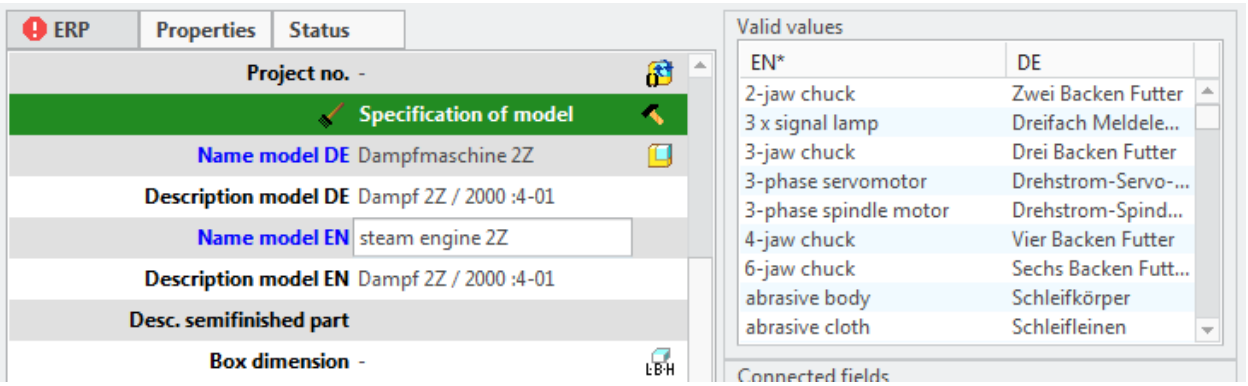
List

The list configuration is located on the right side of the detailed view.
The list configuration allows to deposit a list of values for a parameter:
– file-based lists (text and CSV files), see File-based lists for parameters 204
– database files such as SQLite or Access databases (until version 2003), see Database file lists for parameters 205
– lists directly from database systems, see Database lists for parameters 205
The configuration depends on the list type.



A list from a text file was deposited in an input field

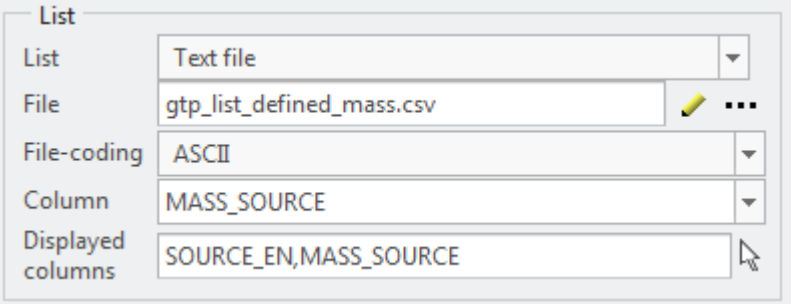
© 2020 INNEO Solutions GmbH



A database was deposited in an input field

9.3.2.7 File-based lists for parameters

File-based lists can be created using plain text files (TXT) or CSV files (Comma-Separated Values).
Text files allow the easy selection of entries from the file (one entry corresponds to one line). CSV files allow a more complex configuration with table connections similar to databases.
To configure a list from a text file you have to specify the file and the file encoding it uses. The list can be used after saving the parameter definition and reloading it in GENIUS TOOLS Parameter.

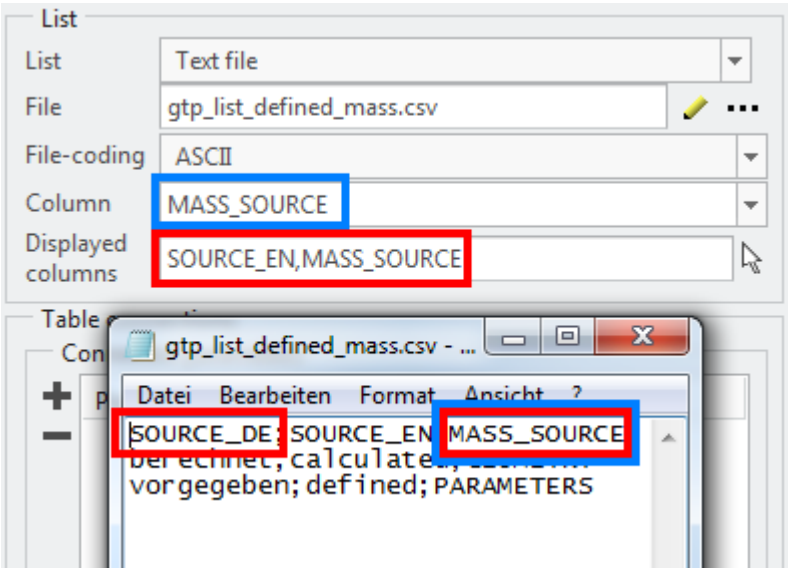


List configuration with CSV file

Warning: Pay attention to the file encoding when creating list files! Only Unicode and ASCII are supported.

File: Specifies the list file.
Select the list file using the three dots button or create a new file using the Edit button (pen icon). If a file has already been specified, Edit opens the file using the editor specified in the configuration.
Only the file name is displayed, not the path.
File encoding: Specifies the file encoding of the file.
If the selected file is a text file, no further configuration is required.
Column: Specifies the CSV file column to retrieve the values for the input field.
Displayed columns: Specifies the CSV file columns displayed in the parameter form to allow the user to make a selection.

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Column (blue) and displayed columns (red)

Tip: Activate the *Read-only* option for a list field. This way the list entries can be selected but cannot be modified.

9.3.2.8 Database file lists for parameters

Database files such as SQLite can be used for lists.
The following information needs to be entered:
Database name: Specifies the name of the database file. Click the button after the field to open the file browser and select the file.
Table: Specifies the name of the table in the database.
Column: Specifies the table column to retrieve the values for the input field.
Displayed columns: Specifies the table column displayed in the parameter form to allow the user to make a selection. If multiple columns should be displayed, specify them comma-separated.
The configuration of connected parameters is done in the same way as the configuration of CSV files with connected parameters.

9.3.2.9 Database lists for parameters

In addition to database files, GENIUS TOOLS Parameter can also use databases on a webserver.
An HTTP-POST request is sent to a webserver awaiting a JSON (JavaScript Object Notation) response.
Webserver: Specifies the PHP page returning valid JSON data. As a default this file (when using Startup TOOLS) should be located at **P:/webapps/php_gtp**.
Database name: Specifies the database to be used.
Table: Specifies the name of the table in the database.
Database name and table may be left blank if they are referred to automatically by the webserver PHP page
Column: Specifies the table column to retrieve the values for the input field.

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Displayed columns: Specifies the table column displayed in the parameter form to allow the user to make a selection.

Example of an HTTP-POST request

```
DB=gt_parameter.db&TABLE=namen&SFIELD=german&FIELDS=english,german&SEARCH=**%
```

Argument	Description
db	Database name
TABLE	Name of the table in the database
FIELDS	Name of the columns to be returned
SFIELD	Name of the search field
SEARCH	Search string

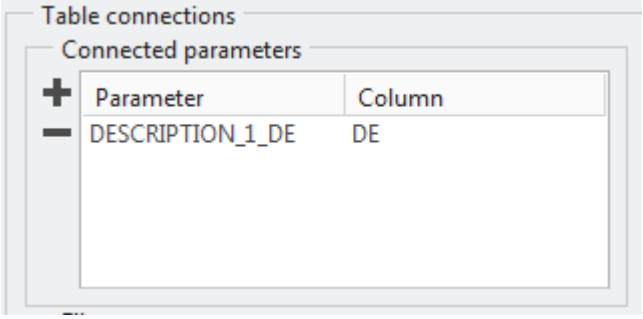
Example of the expected JSON response

```
{"timedb":10, "debug":"DB=gt_parameter.db TABLE=namen FIELDS=english,german
SFIELDS=german SEARCH=**%","varr":["Abdeckkappe|cover cap",
"Abdeckscheibe|cover disc","Abdeckung|cover"],"time":Verbrauchte Zeit}
```

Argument	Description
DB	Database name
TABLE	Name of the table in the database
FIELDS	Name of the columns to be returned
SFIELDS	Name of the search field
SEARCH	Search string
varr	List of possible inputs

9.3.2.10 Connected parameters

Lists with table connections can be specified for parameters. A table connection interlinks two or more input fields.
For instance, if a field allows a localized selection, a connected field can be automatically filled in with the appropriate localization.
In order to be able to use connected parameters, there has to be a list of values that contains a column for each affected parameter and a row for each combination of values. All parameters that you want to be connected need to be added to the connected parameters list. You have to specify the corresponding column name for each parameter



Connected parameter and column in the database

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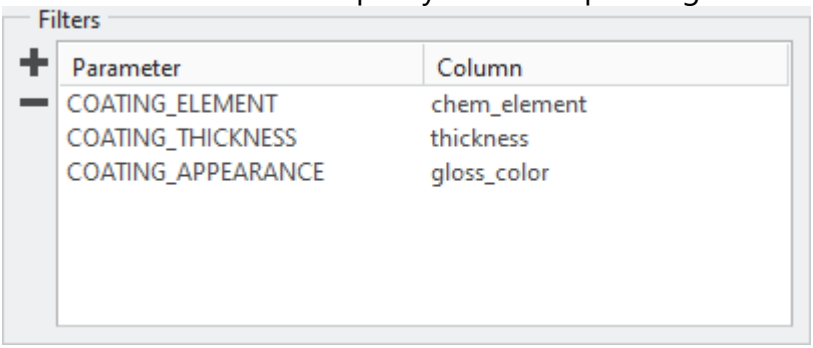
After saving and reloading it in GENIUS TOOLS Parameter the updated list is available with the connected input fields.

Please note: If values for connected parameters are set automatically, the **first** row of the value list is used that has the defined value for the leading parameter.
Parameter values can be set automatically, e.g., when a JavaScript function is executed, when values are read from the model, or when the configuration option `gtp_check_connections` is set to add missing values after loading the model.

9.3.2.11 Filters for parameters

Filters are used for 1:n-relations in tables. Specifying one parameter value controls the selection options of other parameters.
In order to be able to use filters, there has to be a list of values that contains a column for each affected parameter and a row for each combination of values.

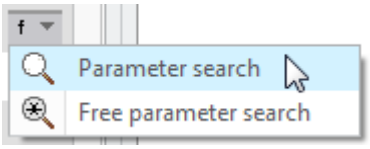
Example
The code for a galvanic coating per ISO 4042 is filtered by the coating material, coating thickness and coating gloss and color parameters. The users can now enter an ISO code to fill in the coating material, coating thickness and coating gloss and color automatically. Alternatively, they can enter values for coating material and coating thickness to filter the selection options for coating gloss and color and for the ISO code.
The parameters that are required to filter another parameter need to be added to the list under **Filter**. You have to specify the corresponding column name for each parameter.



9.3.2.12 Field functions

Various field functions and OnChange functions (JavaScript) and can be added to an input fields. The field functions fill an input field in the parameter form after a click.
OnChange JavaScript functions must be created before use in the respective parameter definition in order to be selectable and usable.
Maintain your material database! Missing or duplicate materials in the database can cause models that cannot be regenerated. Make sure to only use MTL files when material selection is used as a field function. GENIUS TOOLS for Creo does not support MAT files.
When you configure multiple functions for an input field, these functions are displayed in a drop-down list for the input field in the parameter form. When field functions are executed using the hammer button, only the first field function will be used.

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Multiple field codes in a drop-down list

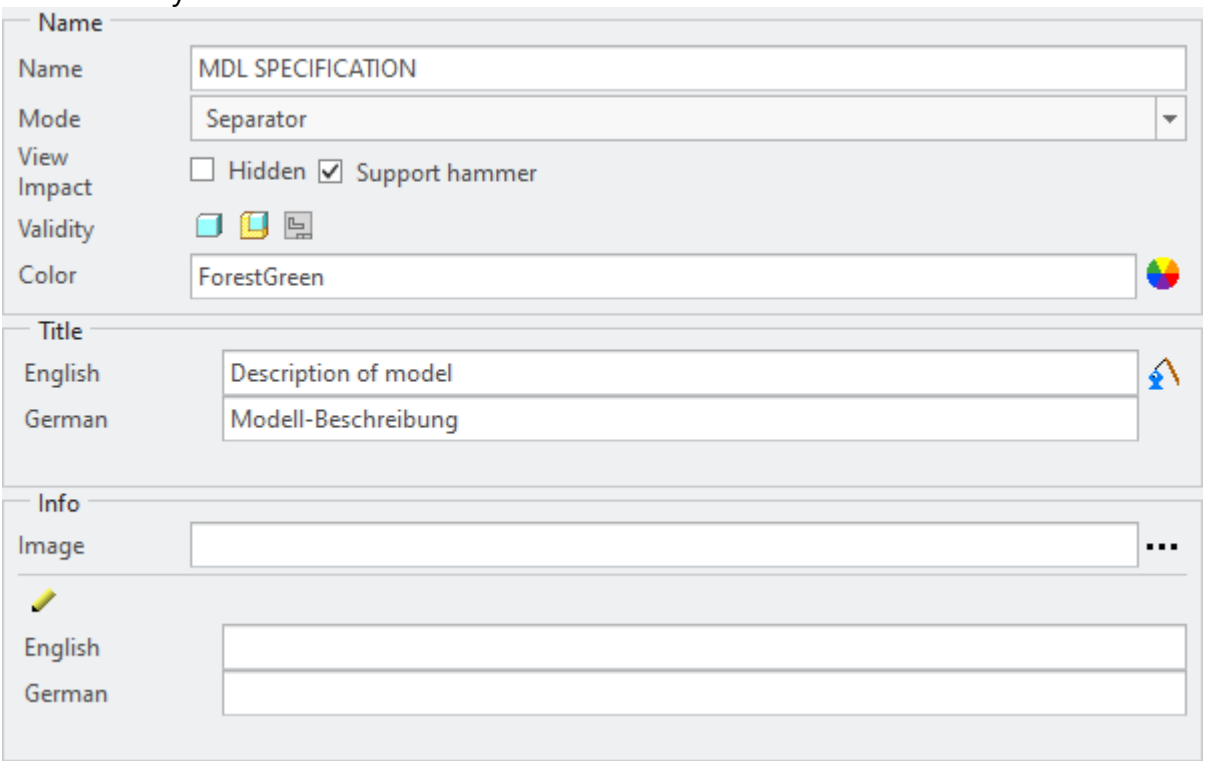
Name	Description
Date	Allows to apply the current date to the input field. Several prebuilt date formats are available. Alternatively, the required format can be manually entered.
Login name	Adopts the current Windows user name into the input field.
Adopt parameter of same name	Adopts the parameter value of a Creo parameter of the same name from another part or assembly into the input field.
Free parameter search	Adopts the value of a parameter from the Creo **Parameter selection** dialog into the input field. **Note**: The function supports only to adopt from a single parameter. When selecting more than one, only the first parameter value will be adopted.
Model name	Adopts the model name from the currently active model in GENIUS TOOLS Parameter into the input field.
Drawing name	Adopts the drawing name from the currently active model in GENIUS TOOLS Parameter into the input field. **Note**: Use this function in drawings only!
PTC Common Name	Adopts the PTC Common Name from the currently active model in GENIUS TOOLS Parameter into the input field.
Material selection	Opens GENIUS TOOLS Material and adopts the selected material into the input field.
Bounding box	Adopts the bounding box dimensions into the input field. There are further configuration options for this function in an extra dialog.
Name Generator	Adopts a generated name from GENIUS TOOLS Name Generator into the input field.

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Name	Description
	Parameter looks for the name generator database in the directory specified by the configuration option `gtng_folder`.
Use predefined parameter value	Adopts the parameter value of a Creo parameter that must be specified during configuration from a part that has to be selected at runtime.
Copy parameter value into active drawing model	Copies the parameter value into the parameter of the active model. **Note**: Can only be used in Drawing mode.
Copy parameter value from active drawing model	Copies the parameter value from the parameter of the active model. **Note**: Can only be used in Drawing mode.
Replace variable	Replaces a variable specified in the editor with its value and adopts it into the input field.
Run JavaScript	Executes a JavaScript function.

9.3.2.13 Separators

Use separators to logically structure the parameters, e.g. as section headers. Separators are also needed to reset input fields and to have them filled in by field functions automatically.



Detail view of a separator

The detail view for separators is divided into different sections:

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Name

Name: Specifies the name of the separator.

Mode: Specifies whether it is a separator or a parameter.

View/Impact: If a separator is marked **Hidden**, it is only used to structure the view in the Editor. It is not displayed in GENIUS TOOLS Parameter.

If the setting **Support hammer** is active, the button for automatically filling in values is displayed in the separator as soon as field functions are defined for parameters.

Validity: Specifies the visibility of the separator in Part, Assembly and Drawing mode.

Color: Specifies a custom color for a separator. Type the color name directly into the entry box or choose an appropriate color via the color selection (Description of the color dialog 341).

Title

Specifies language-dependent (localized) names that are displayed in the GENIUS TOOLS Parameter forms section.

Standard texts can be added via the button (Description of the standard text selection dialog 292).

Info

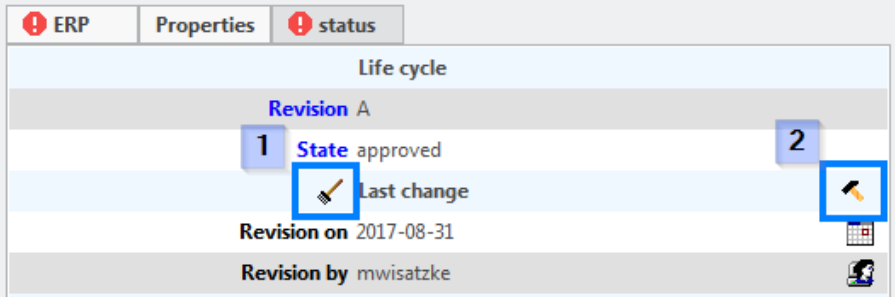
Language-dependent (localized information) and a preview image can be deposited at Info. They are currently not displayed in the forms section.

Resetting and automatically filling parameter values

In the parameter form, users can fill in parameters automatically (hammer symbol) and reset them (broom symbol). The functions are defined in the individual parameters. They are displayed in the separator above the parameters in the form. For this it is necessary that a separator is located above the parameters in the form.

Automatic filling: The symbol is displayed if at least one parameter has a field function and the setting **Support hammer** is active on the separator.

Reset: The symbol is displayed if at least one parameter is marked with the checkbox **Resettable**.



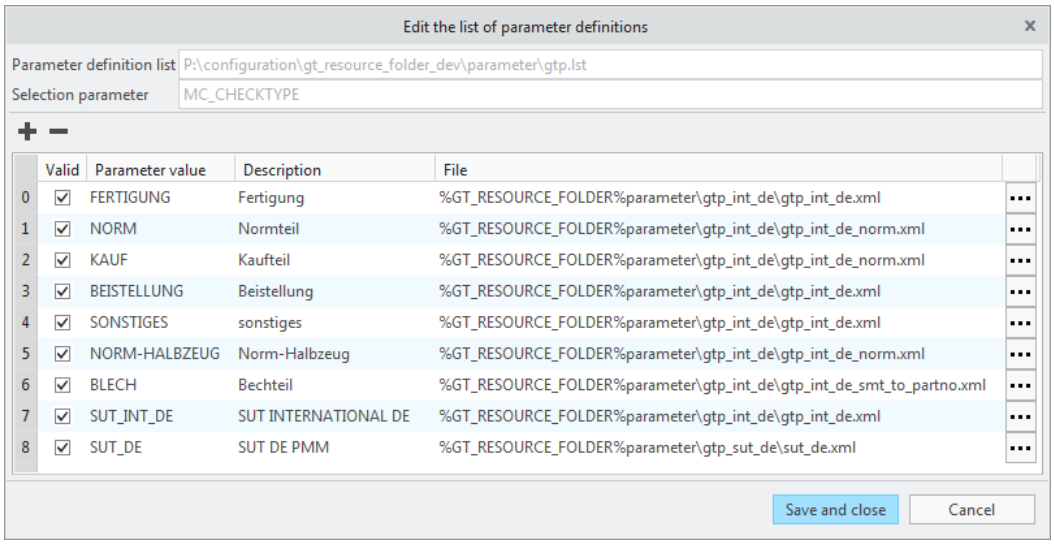
The Reset (1) and Fill in automatically (2) are only displayed in Separators

The two functions have to be specified in individual input fields but can only be triggered via a separator. The functions affect all parameters up to the next separator.

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9.3.2.14 Edit parameter definition list

The list of parameter definitions displays the content of the gtp.lst file. The entries can be edited directly in the dialog.
The fields above the list display the specified location of the file (Configuration option `gtp_lst`) and the current Selection parameter (`gtp_file_param`).
Click in a cell of the table view to edit it.



Parameter definitions are managed in the parameter definition list

Add new entries using the (**+**) button. Click on a line number and use the minus button (**-**) to remove an entry.
The individual line columns have the following meaning:
Valid: Activates or deactivates the parameter definition of the respective line. Deactivated parameter definitions are ignored on selection.
Parameter value: Specifies the value of the selection parameter (default: `MC_CHECKTYPE`) to apply the corresponding parameter definition to a model.

Warning: Make sure to assign parameter values only once.

Description: A meaningful description of the parameter definition.

Tip: Descriptions can also be used without a parameter value and a definition as comments or for separation.

File: Specifies the location of the parameter definition.
Click on the three dots button to open the file browser and select a parameter definition to add.
Changes to the parameter definition list are adopted after saving.

9.3.3 Use cases

In this section you will find use cases of the GENIUS TOOLS Parameter Editor. The tasks in the following sections mainly build upon one another.

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GENIUS TOOLS Parameter can be customized for use in companies in different ways. You can customize individual parameters of the parameter definition included with GENIUS TOOLS for Creo and Startup TOOLS or develop individual parameter definitions.
The following sections describe the second approach and also explain how to import parameter definitions from the Web.Link TOOLBOX Parameter manager.

Preliminary considerations on creating new parameter definition files

Before creating new parameter definitions think about your parameter concept:
– Which parameters should be added in the model, and in which mode (prt, asm, drw)?
– How should the parameters be structured (e.g. in sub-parameter definitions)?
– Which separators should be used for structuring the parameters?

Parameter definition backup

To avoid loss of data and restrictions in productive operation, we recommend to save a copy of your existing parameter definitions. In case of misconfiguration you can quickly restore a working configuration.

Customizing the configuration settings

Customize the GENIUS TOOLS Parameter configuration settings to your requirements. Closely inspect the following configuration settings:

gtp_db_folder
Inspect this configuration setting if you want to use information from databases in your parameters.

gtp_designate
Adjust this configuration setting if you are using a PDM system such as Windchill.

gtp_file and gtp_file_param
Adjust the configuration options `gtp_file` (path to a parameter definition when no model parameter is found for assignment) and `gtp_file_param` (selection parameter specifying which parameter definition is used) to have your new settings being used.

Creating the parameter definition files

The following outlines the creation of new parameter definitions with several examples.

> **Warning**: Note that sub-parameter definitions can also refer to other parameter definitions, but these references are not evaluated.

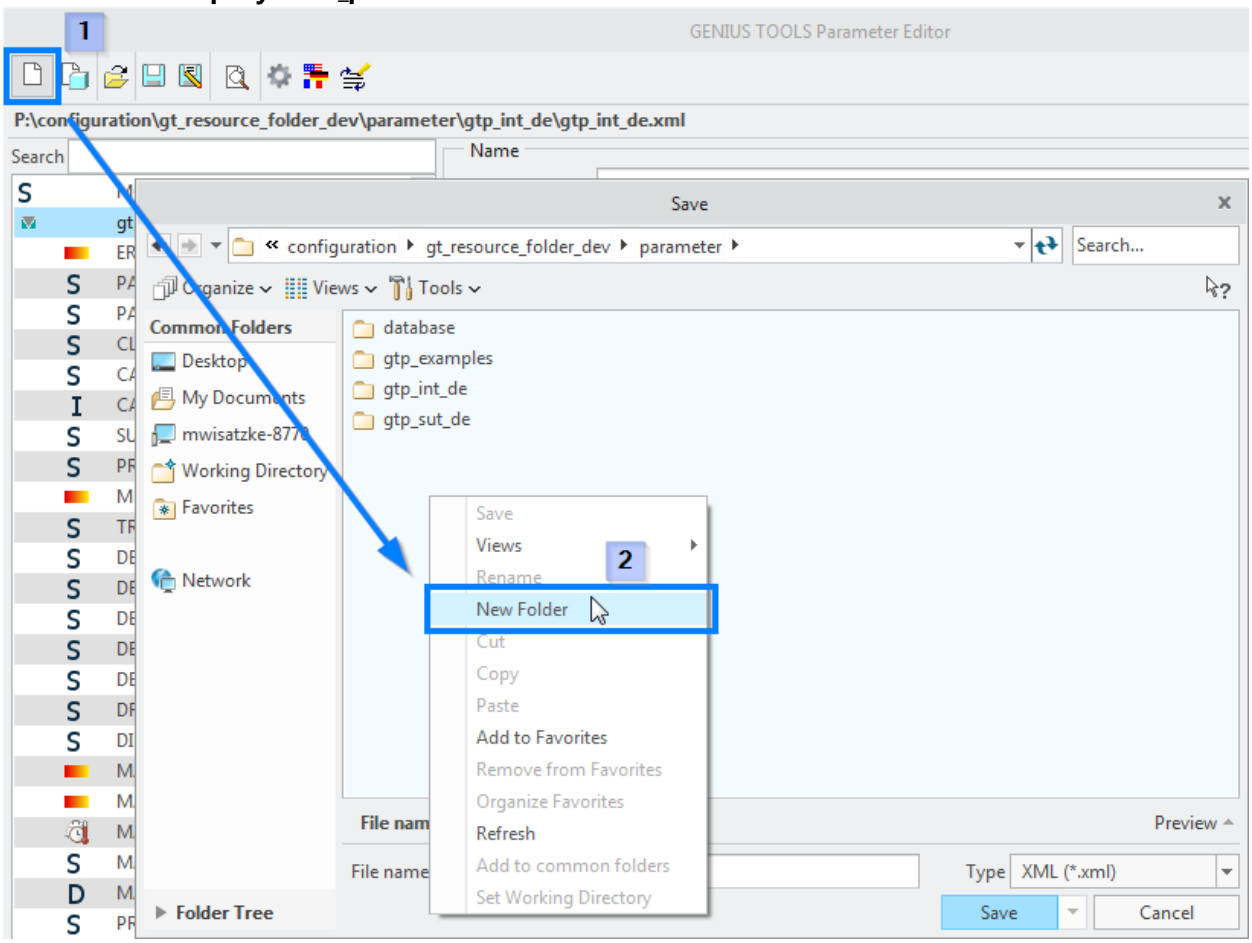
Another example shows the import of an existing parameter definition from the TOOLBOX Parameter manager.
The examples partly build on one another; so depending on the operational scenario the procedure of creating a parameter definition may be combined using the examples.

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9.3.3.1 Creating a simple parameter definition

A parameter definition without references to other definitions consists of a single file. All parameters and separators are included in it and are displayed as a list in the parameter form.

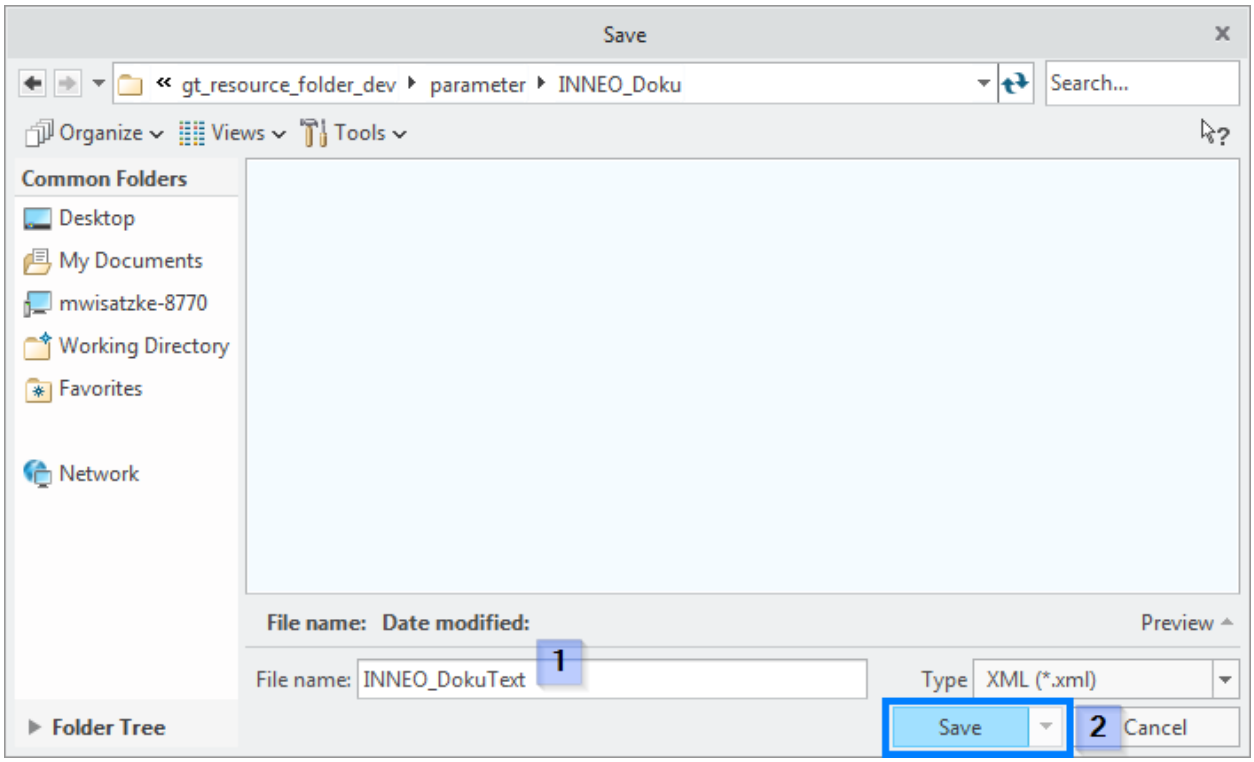
1. Open GENIUS TOOLS Parameter Editor.
2. Create a subfolder in the
   <GTfCInstallationDirectory>\configuration\gt_resourcefolder\parameter following the name scheme **companyname_parameterdefinitionname**.



In the editor, click on "Create new parameter definition" (1) and create a new folder (2) via the context menu

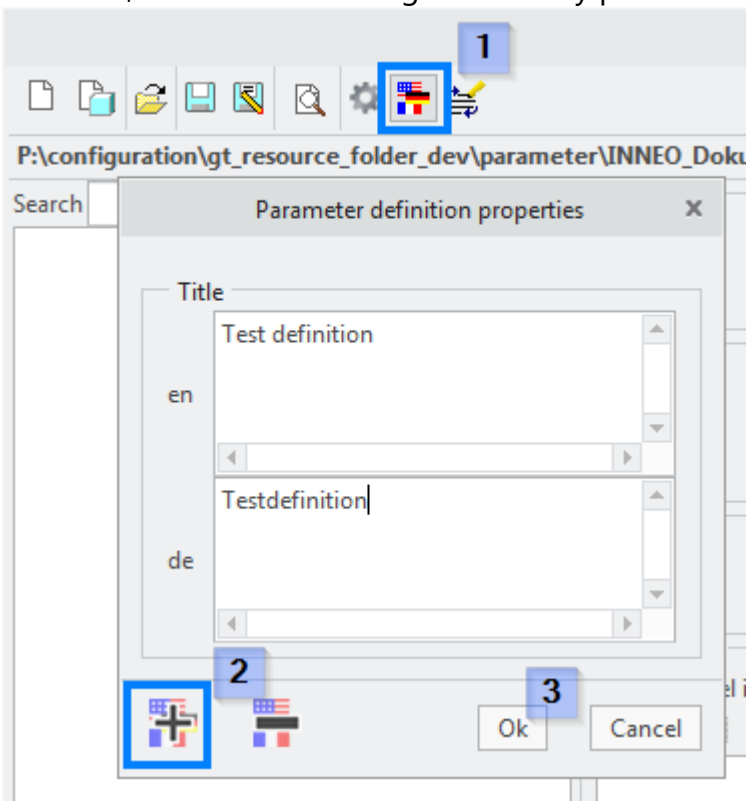
3. Create a new parameter definition inside the folder. Click **Save**.

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Enter a title (1) and confirm by clicking "Save" (2)

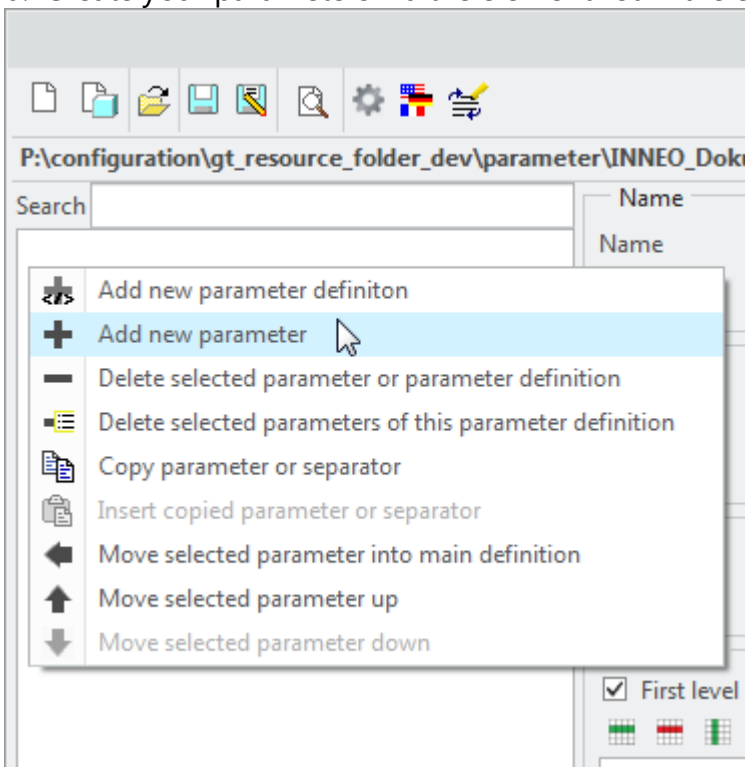
4. Click *Edit definition title*. Add additional languages to the parameter definition and enter the parameter definition titles for these languages. As soon as a new language is added, a name can be assigned to every parameter in this language.



Open the definition titles dialog (1). Add another language (2). Confirm the dialog after entering the definition titles (3)

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5. Click *Save* in Parameter Editor. The file is created.
6. Create your parameters via the element list in the editor.



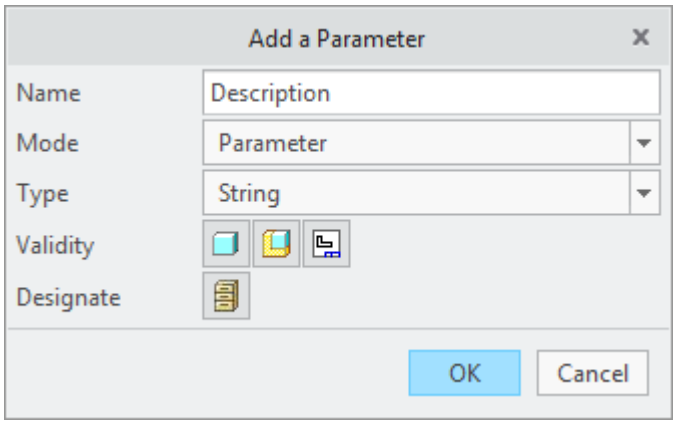
New parameters are added via the context menu in the element list of the editor

In the following sections, parameters with following properties are created as an example:
– Parameter with simple input
– Parameter with list selection
– Parameter with database connection
– Parameter as a mandatory field
In addition, a colored separator is created that allows to reset input fields.

Parameter with input field - Description

For non-standardized descriptions free input may be suitable. Note that *String* type parameters are restricted to a maximum of 80 characters.
Open the context menu in the element list and create a *String* type parameter. If you need descriptions in multiple languages, create an individual parameter for each language.

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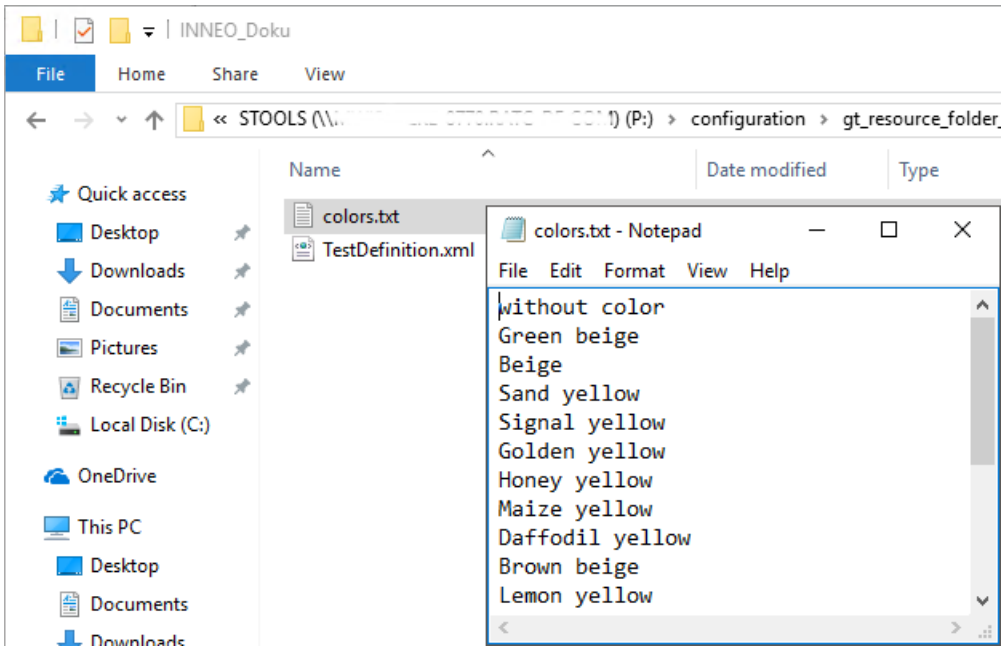
Create a new parameter

Enter a title for the field in *German* and *English* language.
Save the parameter definition.
For free input to into the field no further input is required.

Parameter with list selection - Color

In order to use the same color names in all parts, a list can be deposited for colors.

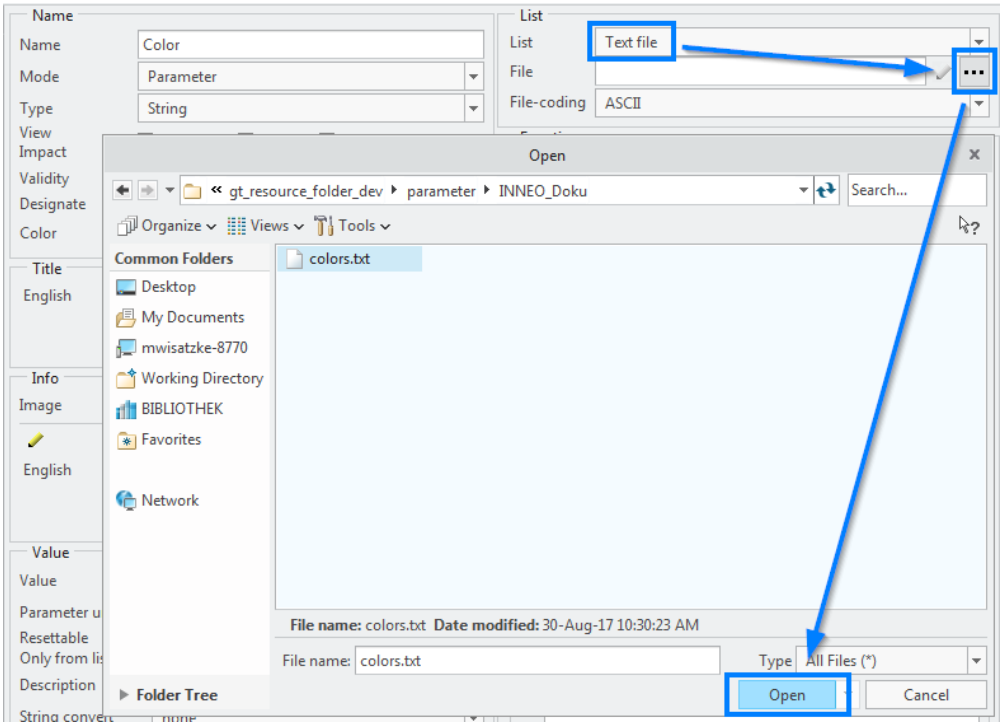
1. Create a *String* type parameter.
2. Create a new file **colours.txt** in the folder containing the Parameter definitions using the Windows Text Editor.
3. Enter the desired color names and save the file.



Make sure to use the proper file encoding when saving!

4. In the Parameter Editor list section, select *File* and select the file you just have saved via the three dots button.

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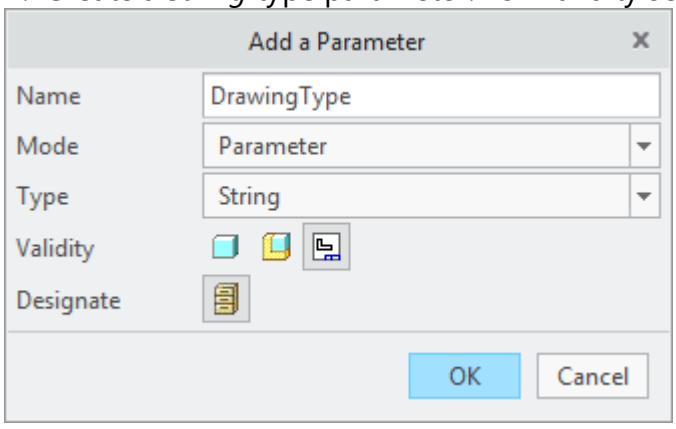
For List select "File" , then select the TXT file and confirm your input

5. In the *Value* section, select the option *Only from list*.
6. Enter a title for the field in *German* and *English* language.
7. Save the parameter definition. The parameter with list selection is fully configured.

Parameter with list from database file - Drawing type

In the **gt_resource_folder\parameter\database** folder there is a file named **gtp_int_de.sqlite**. This file contains a selection of several standardized records related to different topics.
For drawing types there is a prebuilt table in the database that will be used in this example.

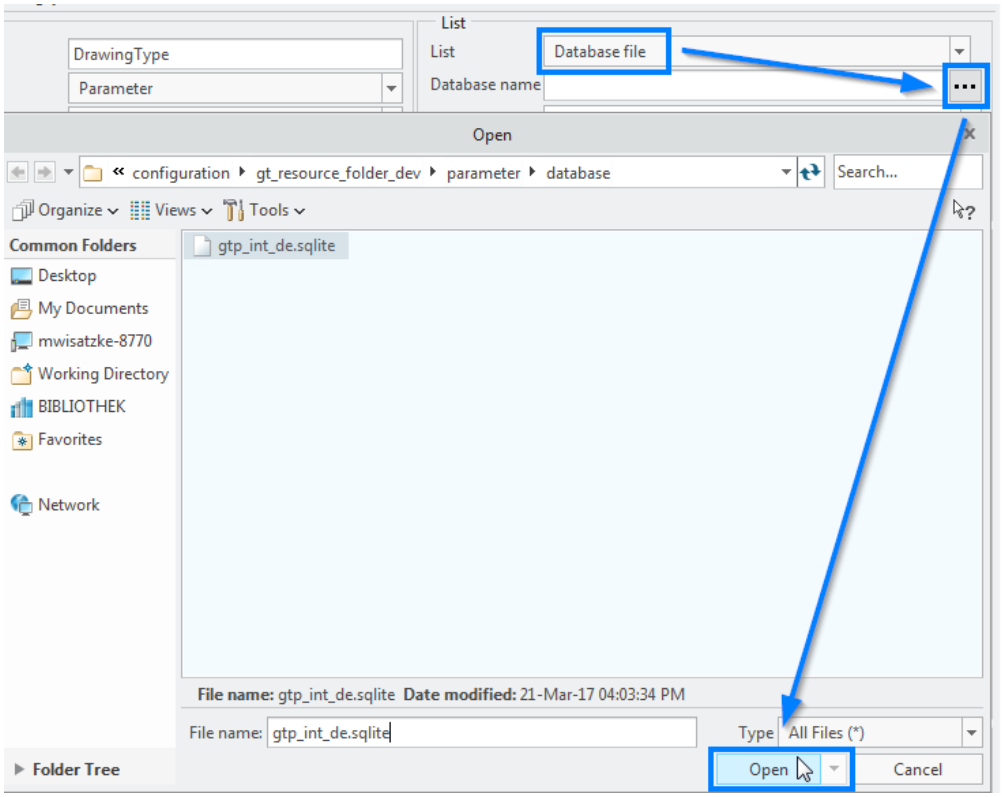
1. Create a *String* type parameter. For Validity select *Drawing*.



Make sure to use the proper validity setting

2. In the list section, select *Database file* and select the SQlite file in the **...\parameter\database** folder via the three dots button.

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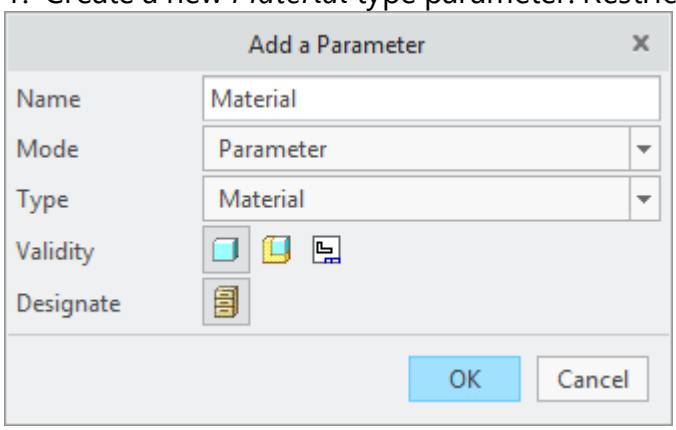
For List, select "Database" , then select the SQlite file and confirm your input

3. For Table, select *document_type*.
4. In the *Column* field below, select *DE* for German.
5. For *Displayed columns*, select *DE* and *EN* with the STRG/CTRL key pressed.
6. In the *Value* section, select the option *Only from list*.
7. Enter a title for the field in *German* and *English* language.
8. Save the parameter definition. The parameter with a list from a database is fully configured.

Parameter with mandatory field - Material

Materials are an important property of a model and are usually only added in parts (prt).

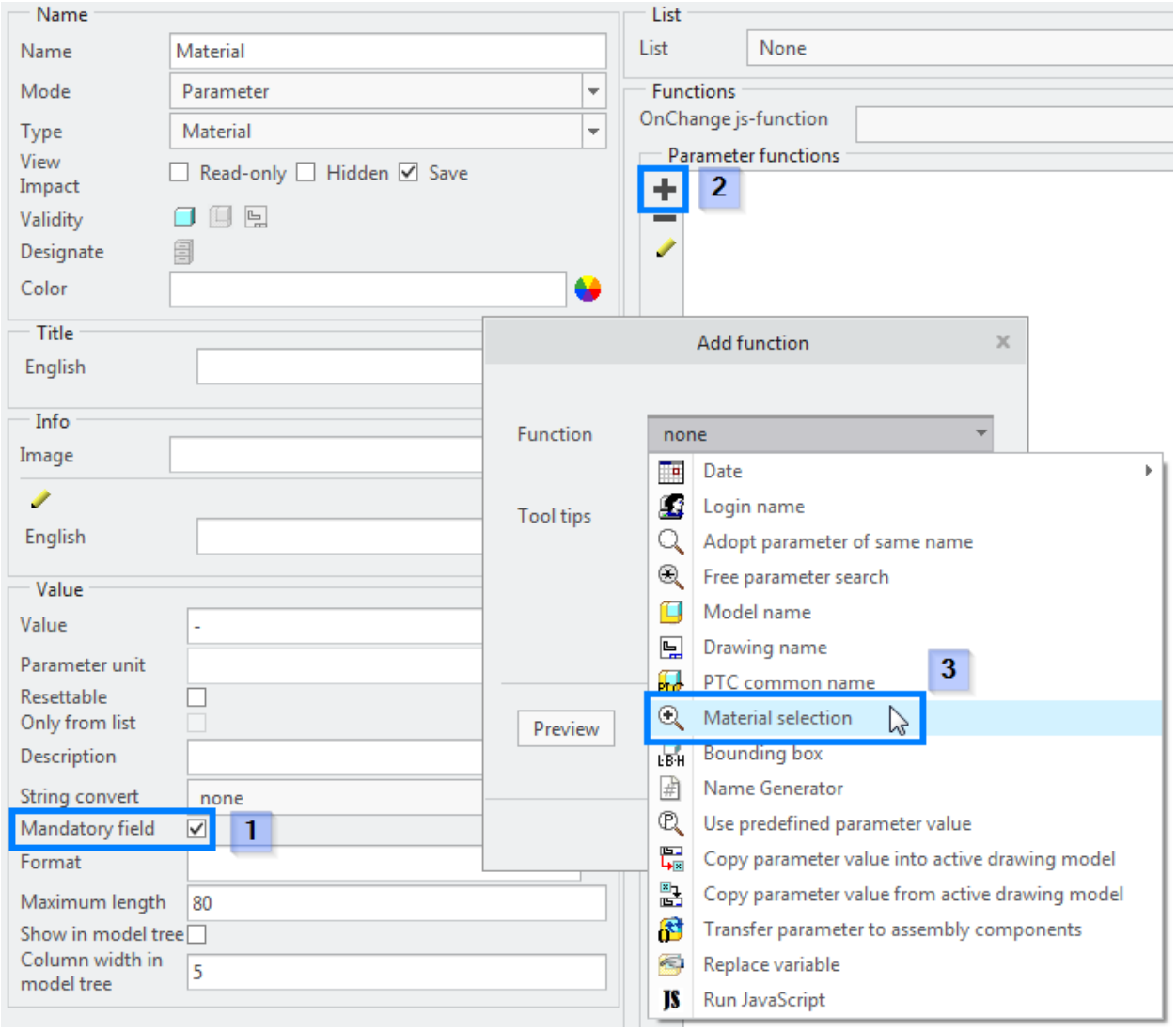
1. Create a new *Material* type parameter. Restrict the *Validity* to parts.



Make sure to use the proper parameter type at creation

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2. Activate the **Mandatory field** option in the value section.
3. Click on *Add function* and select *Material selection*.



Activate the Mandatory field option (1), click on Add function (2) and select Material selection (3)

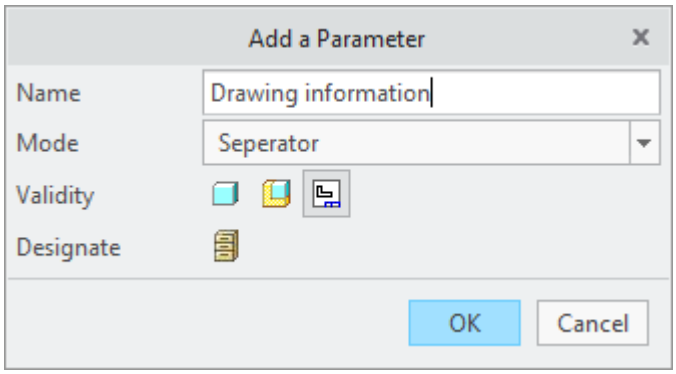
4. Enter a title for the field in German and English language.
5. Save the parameter definition. The material parameter as a mandatory field is fully configured.

Colored separator with reset-function

Separators are used for logically structuring the input fields for parameters. If **Reset** and **Fill automatically** are required in a parameter form, at least one separator for each parameter definition has to be created.

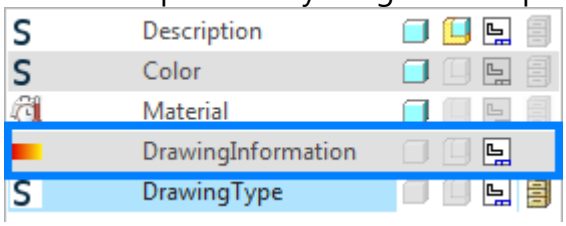
1. Open the element list context menu and click on *Add parameter*.
2. Select the *Separator* mode and enter a name.

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Make sure to select the proper mode

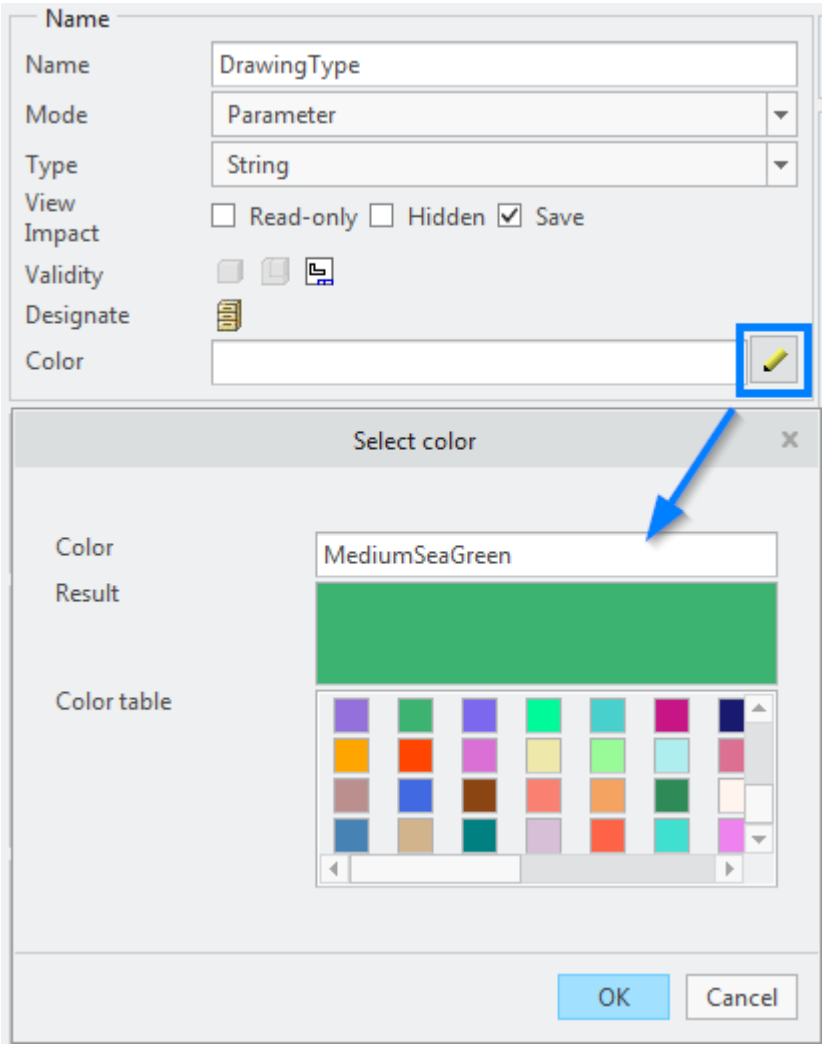
3. Drag the separator in the list and drop it before the parameter that should be reset. Move separators by Drag-and-Drop in the parameter definition list.



Drag the separator before the parameter

4. Click on the pen icon after the *Color* field and select an appropriate color. Confirm the selection.

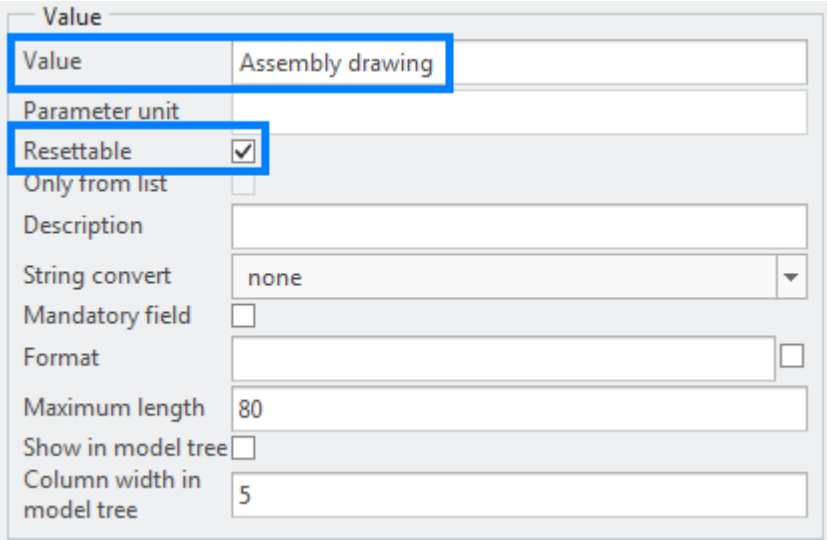
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A color can be directly selected via the pen icon

5. Enter a title for the field in *German* and *English* language. The **Reset** function is not specified in the separator itself. The separator is only needed to display the reset button.
6. Click the parameter that should be reset. In this example the *DrawingType* parameter.
7. In the *Value* section, activate the *Reset* checkbox.
8. Enter a default value at *Value*. This will automatically be entered into the field when resetting.

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Enter a default value and activate the "Reset" function

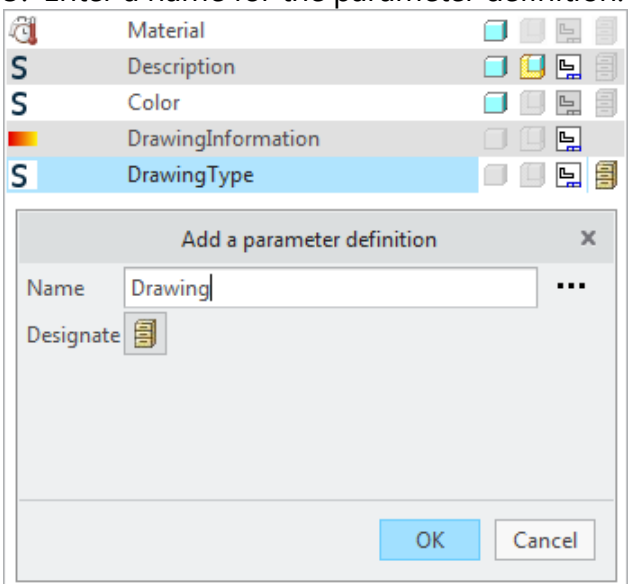
9. Save the parameter definition.

9.3.3.2 Creating a Parameter definition with tabs

GENIUS TOOLS Parameter supports to split a parameter definition into several sub-parameter definitions. These are displayed as additional tabs in the parameter form and increase clarity.

In the following example an existing parameter definition (Creating a simple parameter definition 213) is extended with a sub-parameter definition.

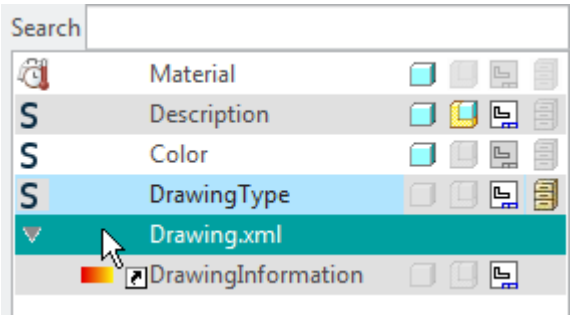
1. Open GENIUS TOOLS Parameter Editor and load the parameter definition.
2. Open the context menu in the element list. Click on *Add parameter definition*.
3. Enter a name for the parameter definition.



Create a new Parameter definition via the context menu

4. Drag-and-Drop the parameter into the new parameter definition.

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Drag and Drop the desired parameters into the new sub-parameter definition

5. Save the parameter definition.

9.3.3.3 Importing old parameter definitions

GENIUS TOOLS Parameter can import parameter definitions that were created with the Web.Link TOOLBOX Parameter manager.
Prior to import the following two preliminary considerations should be made:

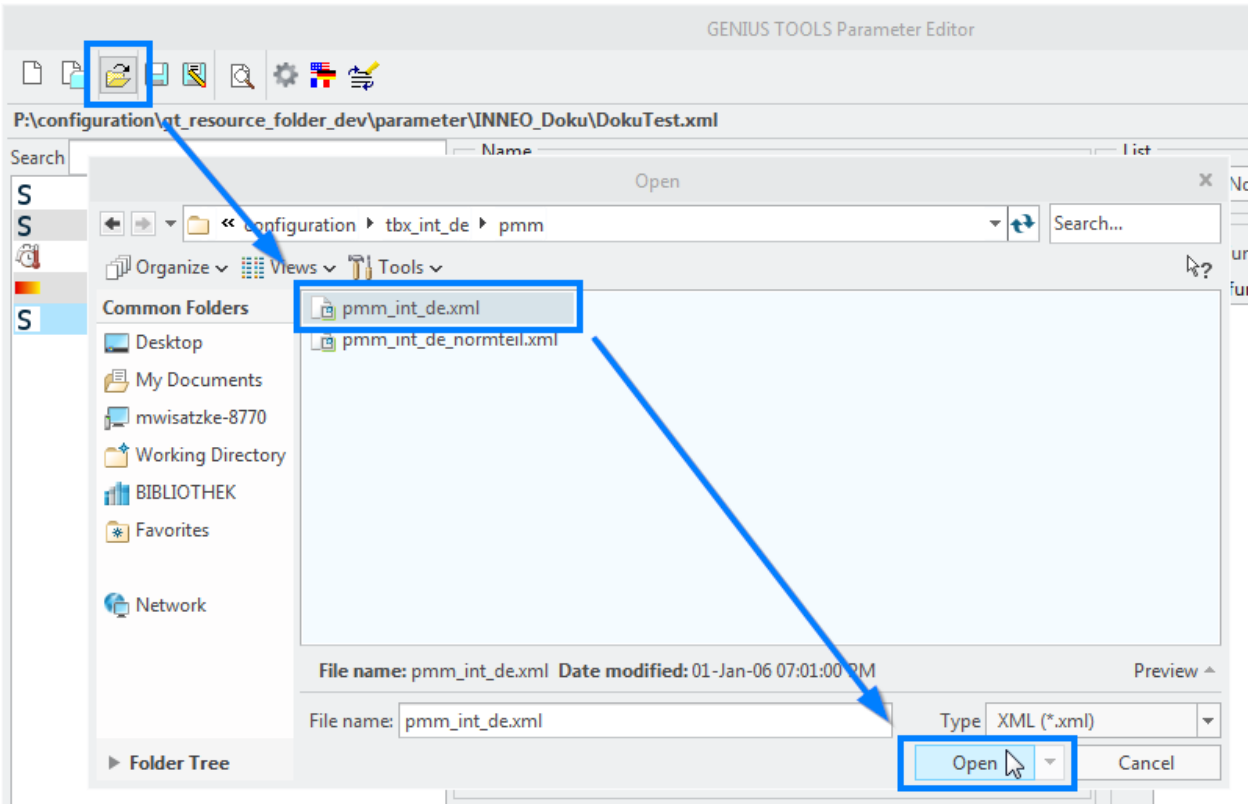
– Does the visibility/validity of parameters in the individual modes (prt, asm, drw) need to be customized?
– Should the existing parameters be split into sub-parameter definitions for logical structuring?

Proceed as follows to import a parameter definition:

Adopting the parameters

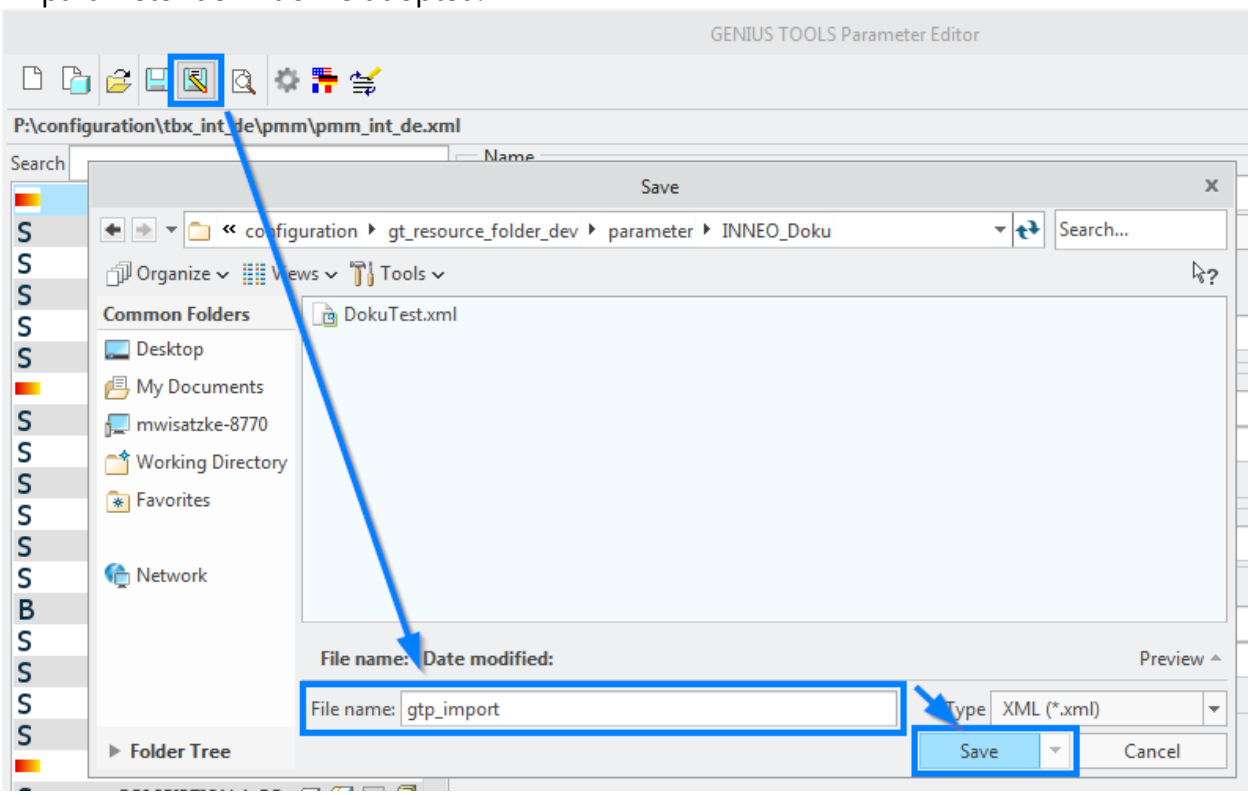
1. In Windows Explorer, create a subfolder under **<GTfCInstallationDirectory>\configuration\gt_resourcefolder\parameter** following the name scheme c**ompanyname_parameterdefinitionname**.
2. Open the old parameter definition in GENIUS TOOLS Parameter Editor.

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Open the old Parameter definition in the editor

3. Click on *Save as* and save the parameter definition in the newly created folder. The old parameter definition is adopted.

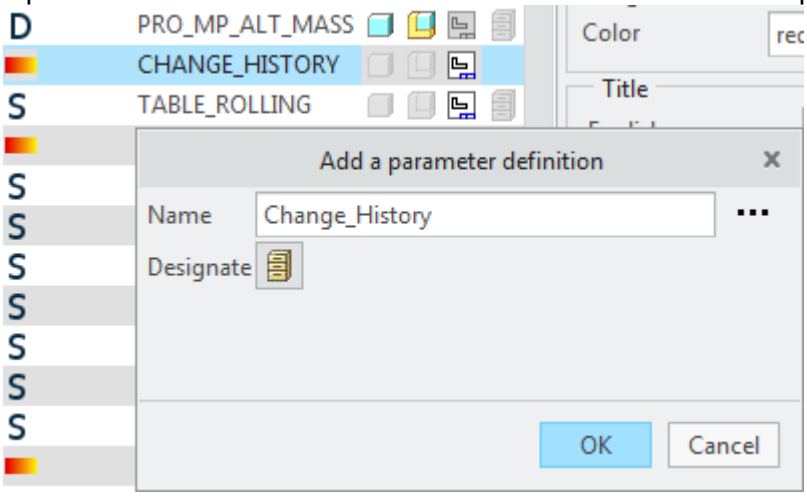


Save the parameter definition with a new name

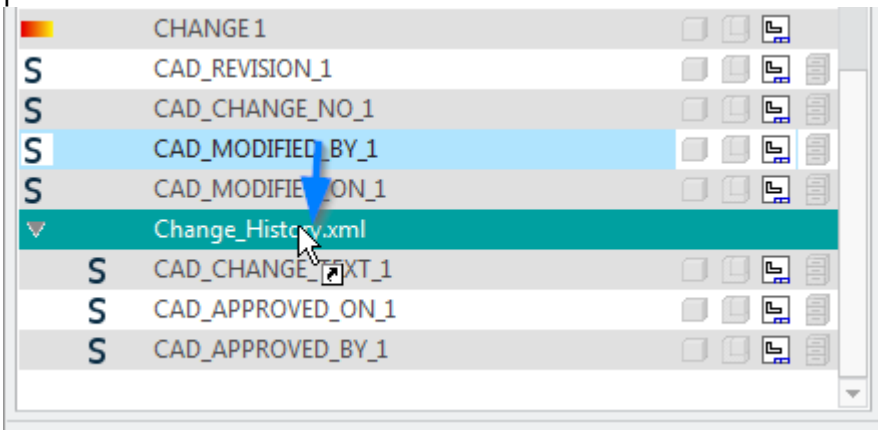
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Splitting into sub-definitions

If several tabs should be displayed in the parameter form rather than a long list of parameters, the parameter definition has to be split up into sub-definitions. If separators were used in the TOOLBOX Parameter manager to logically separate different parameters, they can now be grouped into topics via sub-definitions.
Open the context menu in the element list and add the required sub-definitions.



Select parameters or separators that should be moved and drag-and-drop them into a parameter definition.



When the creation of the sub-definitions and moving of the parameters and separators are done, the splitting process is complete.

Customizing the file and database connections

Verify whether the file and database connections in the parameters are up to date and functioning.
Open each parameter by clicking it in the element list and check the settings in the details view. Then, save the parameter definition.
Your new parameter definition for GENIUS TOOLS Parameter is now ready for use.

9.3.3.4 Auto-select parameter definitions

Which parameter definition is applied to a model is specified via the list of parameter definitions (lst file) and a parameter in the model. The list of parameter definitions is

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specified via the `gtp_lst` configuration option and the selection parameter via the `gtp_file_param` configuration option.
Default for the list of parameter definitions is the **gtp.lst** file; the selection parameter to determine the parameter definition is `MC_CHECKTYPE`.
Additional information can be found in the Configuration 302 section.

List of parameter definitions structure

Each line in the list must contain three values separated by a pipe (|) character:
– File path of the parameter definition
– Description of the parameter definition
– Parameter value of the selection parameter in models

Example

```
Parameter definition|Description|Parameter value
%GT_RESOURCE_FOLDER%\parameter\gtp_sut_int_de\pmm_int_de_fe.xml|manufacturing|MANUFACTURING
%GT_RESOURCE_FOLDER%\parameter\gtp_sut_int_de\pmm_int_de_be.xml|provision|PROVISION
%GT_RESOURCE_FOLDER%\parameter\gtp_sut_int_de\pmm_int_de_so.xml|other|OTHER
```

When a model is opened with GENIUS TOOLS Parameter and the parameter `MC_CHECKTYPE` has the value **PROVISION**, the second parameter definition for the model will be used automatically.

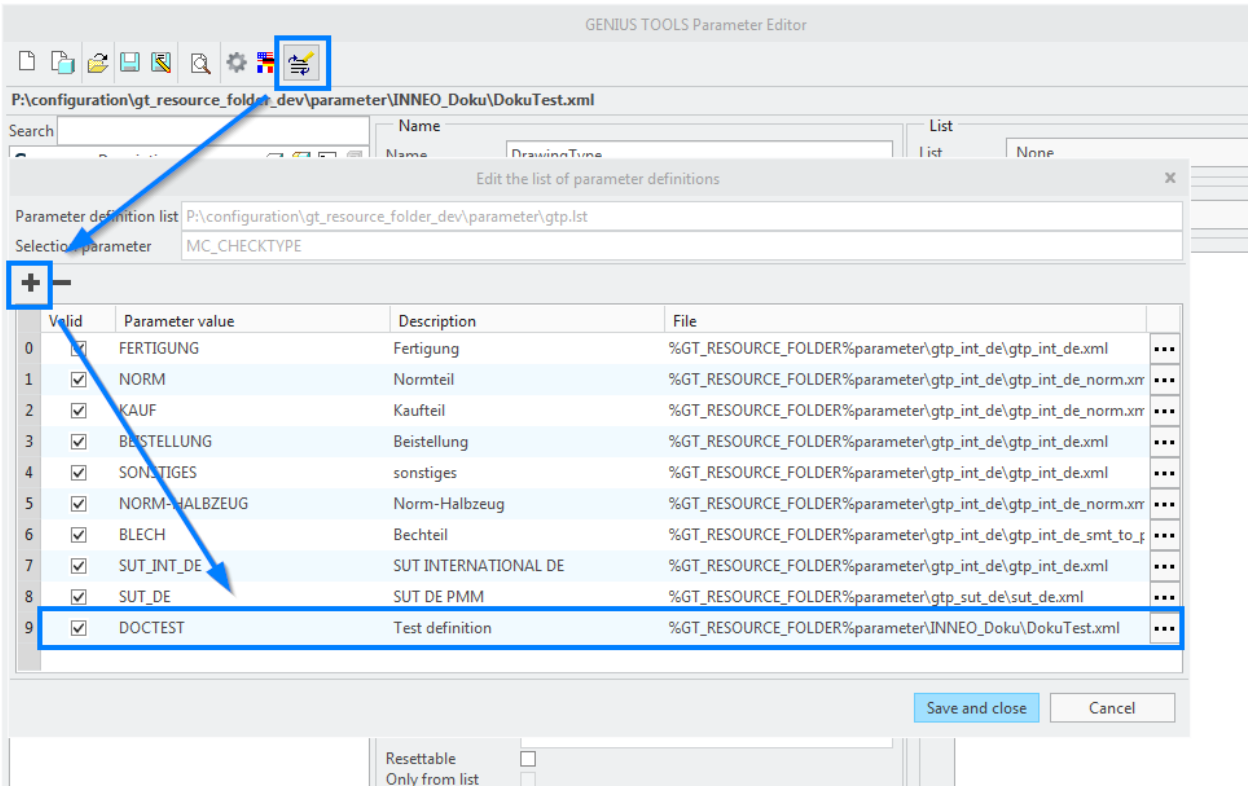
> **Please note**: If the list contains duplicate parameter values, always the last entry will be used.

Expanding the list of parameter definitions and start models

The list of parameter definitions can be edited manually as well as via the Parameter Editor user interface.
Proceed as follows to expand the parameter list in the editor with an additional entry:

1. Open the Parameter Editor.
2. Click on the *Edit list of parameter definitions* button.
3. Add a new entry to the list.
4. Enter the value for the selection parameter and a short description of the parameter definition.

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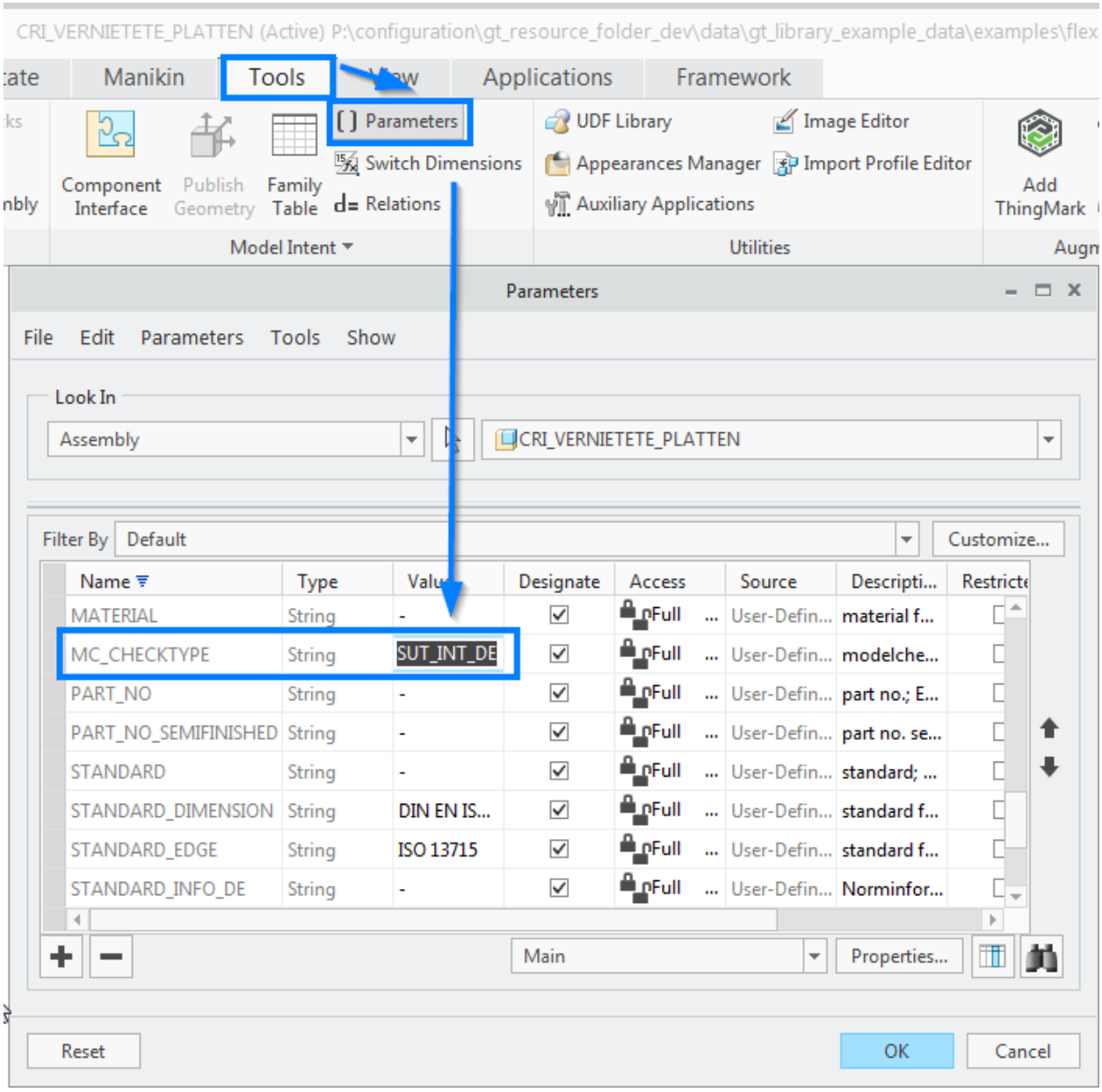


Open the parameter definition list and add a new entry

Please note: If you have modified the `gtp_file_param` configuration setting, the parameter value must be deposited in the parameter specified there.

5. Navigate to your start models folder in Creo Parametric. You will find the start models (when using Startup TOOLS) at *Library/start_model_dir* (**P:\data\<ProjectName>\library_dir\start_model_dir**).
6. Open a start model. In the *Tools* ribbon click *Parameter* and search for the `MC_CHECKTYPE` parameter. If you are using an individual selection parameter, create it in the start model.
7. As the parameter value enter the value you have specified in the list file.

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Switch to the "Tools" ribbon in Creo, open the Parameter dialog and edit the selection parameter

8. Save the start model.
9. Repeat this procedure for each start model used.

Your parameter definition will now be applied to each model that has been created with the modified start models.

9.3.3.5 Configure an input field for database webserver

GENIUS TOOLS Parameter can use external databases on webservers for filling in input fields. In this section such a connection will be set up for an input field between the webserver of Startup TOOLS and GENIUS TOOLS Parameter as an example.

Prerequisites

– The webserver of Startup TOOLS is configured correctly and available in the network.

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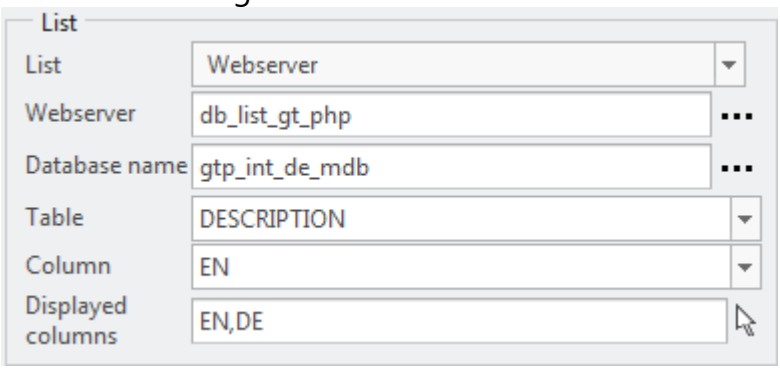
– The configuration option `gtp_web_server_url` has the value `%SUT_WEBSERVER %/webapps/php_gtp`.

Configuring the environment

1. Create the folder **php_gtp** at **P:\webapps**.
2. Copy the PHP files from the directory **P:\apps\gtfc\server\apache\php** into the folder **P:\webapps**.
   a. class_mdb_gt.php
   b. db_list_gt.php
   c. db_list_gt_info.php
   d. phpinfo.php
3. Copy the file **gtp_int_de.mdb** from the same source folder into the **P:\configuration\database** folder.

Configuring the input field

1. Open GENIUS TOOLS Parameter Editor and create a parameter definition.
2. Create an input field in the parameter definition. (In this example: `DESCRIPTION_DE`.)
3. At List, select **Webserver**.
4. Click on the three dots button after the *Webserver* option. Select the file **db_list_gt.php** in the **P:\webapps\php_gtp** folder.
5. Click on the three dots button at the *Databases* option. Select the **P:\configuration\database\gtp_int_de.mdb** file.
6. Open the drop-down list after Table and select the *DESCRIPTION* table from the database.
7. For the *Column* option, now select the column in the database table whose contents should be entered into the input field (in this example: DE).
8. Click on the mouse pointer icon after *Displayed columns*. Hold down the CTRL key and select the required language-dependent columns (in this example: DE and EN).
9. Save the changes.



The field is now fully configured

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10 Quick Access

GENIUS TOOLS Quick Access is an environment-sensitive ring menu for Creo Parametric. It allows starting regular and intelligent Mapkeys (commands) with short mouse travel. This way you can greatly accelerate your work with Creo Parametric.
Intelligent mapkeys have extended functionality and allow using variables, parameters and placeholders.
Quick Access is available in all Creo modes with following features:

- using regular and intelligent mapkeys
- starting GENIUS TOOLS for Creo and any desired Creo functions with short mouse travel,
- different usage scenarios:
  - central configuration
  - user-specific configuration
  - simultaneous central and user-specific configuration
- easy-to-use editor for homogeneous working environment
- export and import of all created Mapkeys with images and descriptions for easy data exchange

10.1 Usage

This section contains information on using GENIUS TOOLS Quick Access. It describes the general structure of the program.

Starting the program

Start GENIUS TOOLS Quick Access via the [<] key in the Creo environment. Quick Access opens at the current mouse position.
Depending on the current Creo mode, different commands are displayed in the ring menu.



Quick Access opens at the current mouse position

Place the action for opening on a button of a multi-button mouse. The Creo command is only active in the Creo environment.
Click outside the ring menu to close Quick Access without executing a command.

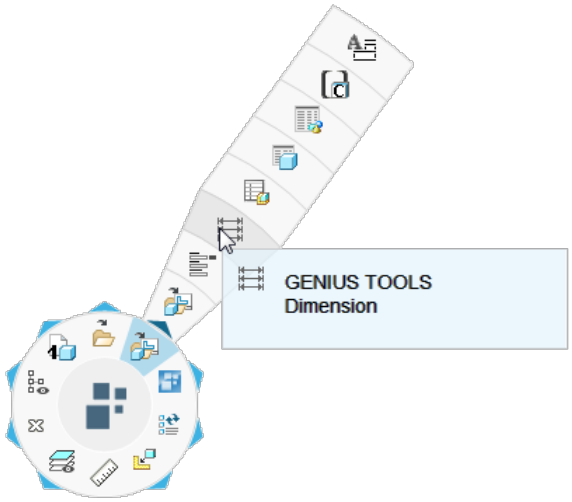
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10.1.1 User interface

Quick Access displays command icons in two ways:

1. Single icons: Single icons are displayed directly in the menu ring. Clicking the icon starts the associated Mapkey.
2. Group icons: Group icons are indicated by a blue arrow. The displayed icon is the first icon of a group. Move the mouse over the blue arrow to expand a group.

Greyed-out icons cannot be used for the current selection.
If you are not sure about what an icon will execute, leave the mouse pointer over the icon. Tooltips will be displayed shortly.



Leave the mouse pointer over an icon to display its tooltip

Undocking individual groups

Individual command groups can be undocked and are permanently visible as a toolbar. Click a group using either the middle (default) or right mouse button to undock it. Undocked groups are not redrawn mode-sensitively. In addition, they are not greyed-out selection-sensitively.

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Permanently visible toolbar

10.1.2 Mode and selection dependence

Displayed command icons depend on the current Creo mode.
The following modes are available for commands in Creo Parametric and in Quick Access:

Mode (Acronym)	Description
NO MDL	No part opened in Creo Parametric
PRT	Part
SMT	Sheetmetal part
ASM	Assembly
DRW	Drawing
SEC	Sketch
MFG	Sheetmetal assembly
DGM	Diagram
FRM	Frame
LAY	Layout

Selection-dependent mapkeys

Apart from the Creo modes, there is another dependency in Quick Access: Selection.
Each displayed icon represents two Mapkeys executing different command sequences:

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1. without selection in Creo Parametric
2. with selection in Creo Parametric

This ensures executing the correct command sequences as Mapkeys can have a slightly different sequence depending on the selection in Creo. If a Mapkey is not deposited, the icon is greyed-out in this selection state.

10.2 Configuration

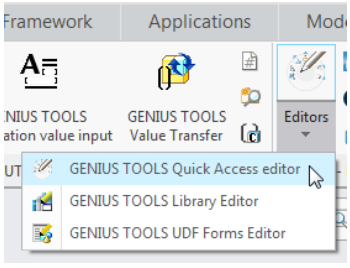
In this section, you will find information on configuring Quick Access via the editor and use cases for proper setup.

10.2.1 Quick Access Editor

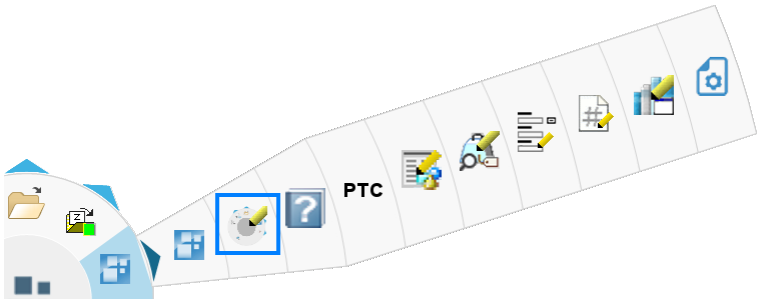
Quick Access Editor is used to manage GENIUS TOOLS Quick Access commands and functions.

Starting the program

Start Quick Access Editor from the ribbon menu in the GENIUS TOOLS tab or via GENIUS TOOLS Quick Access ([<] key).



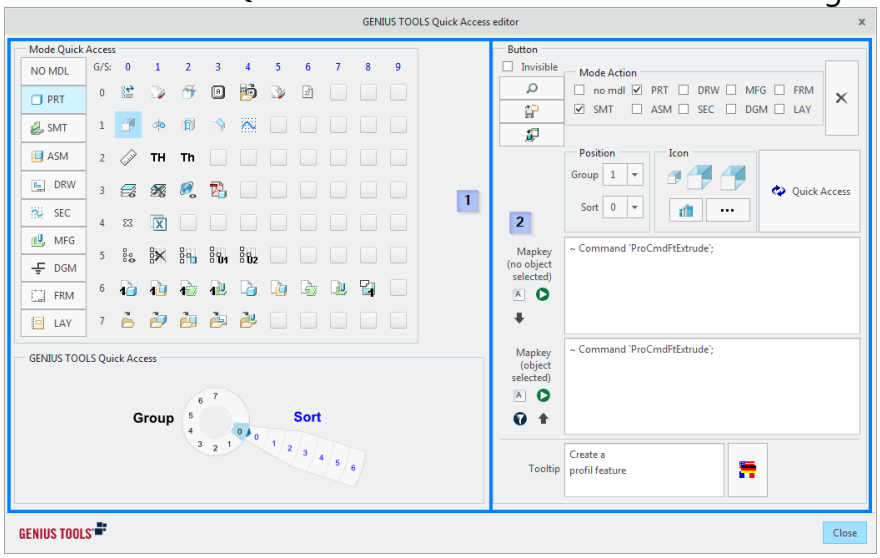
Starting via the ribbon menu



Starting via Quick Access

10.2.1.1 User interface

GENIUS TOOLS Quick Access Editor consists of the following elements:



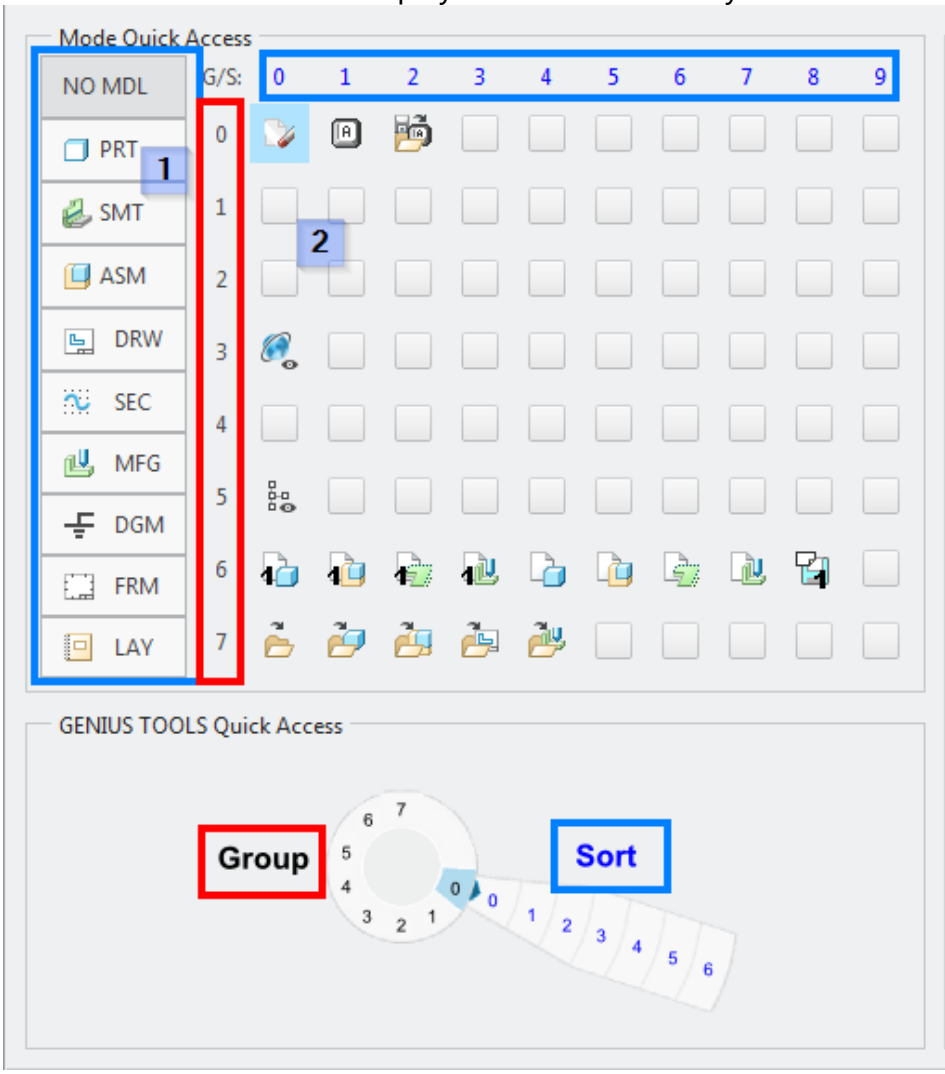
1. Command overview

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2. Command details
In the command overview, commands are assigned to groups and a specific mode. In the command details, the individual commands are configured.

10.2.1.2 Command overview

The commands overview displays commands already created in the available Creo modes.



Creo mode (1) and command grid (2) in the actions overview

Control the commands that can be used in Quick Access via this overview.
Commands displayed in Quick Access always depend on the Creo mode!
The different Creo modes are displayed on the left. Click a mode to change the display.
The following modes are available:

Acronym	Description
ALWAYS	Always (This mode must be released via a config option (`gtqa_always_option`))
NO MDL	No part opened in Creo Parametric
PRT	Part
SMT	Blech

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Acronym	Description
ASM	Assembly
DRW	Drawing
SEC	Sketch
MFG	Sheetmetal assembly
DGM	Diagram
FRM	Frame
LAY	Layout

Command grid

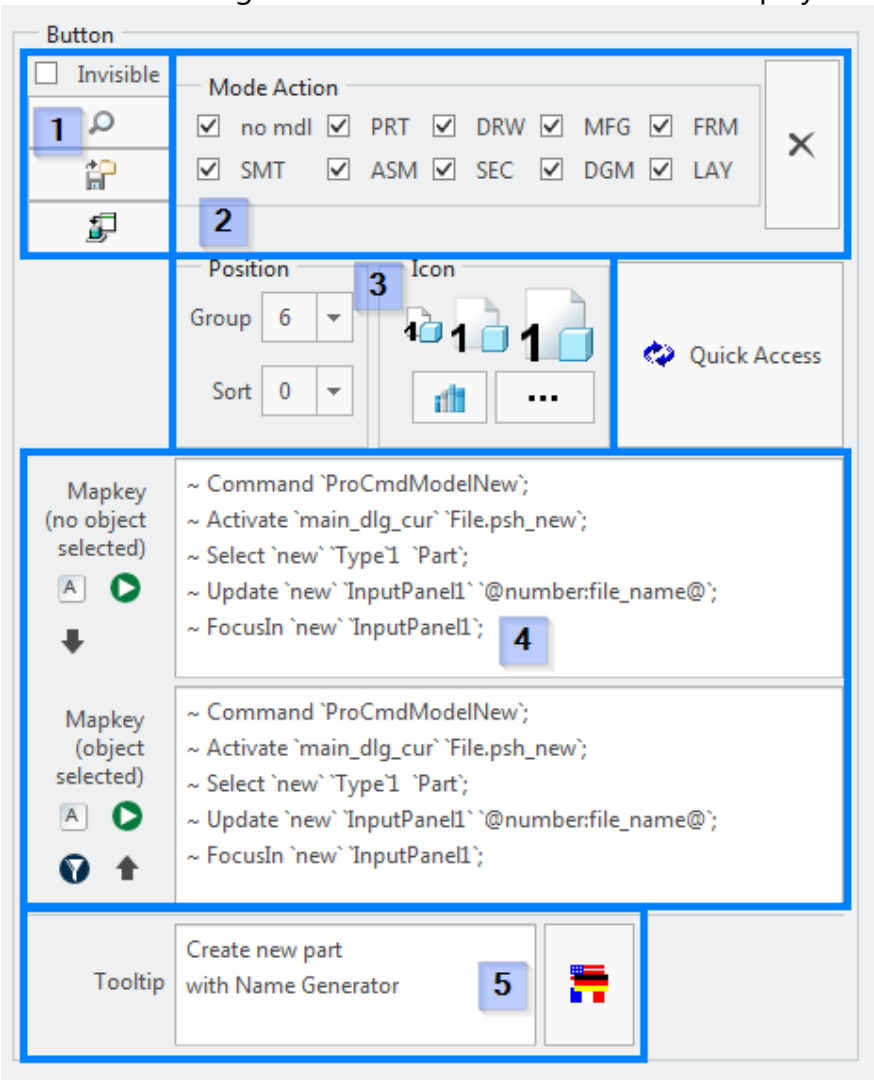
Already configured commands are displayed on the right of the command overview in the commands grid.
The different Quick Access groups 0 – 7 (or 0 – 9 with activated option `gtqa_change_closed_groups`) are displayed vertically. The sorting in the groups is specified via the horizontal arrangement of the commands.
Click a command to display the configurable properties of the command in the current mode. The configuration is made in the command definition section.
80 (8 groups x 10 Mapkeys) or 100 commands (10 groups with 10 Mapkey) with an individual icon can be deposited per mode.

Warning: Pay attention to sufficient space for displaying the commands! Additional commands are displayed in all other modes via the ALWAYS mode. This may cause that not all modes can be displayed in the ring menu. A warning message will be displayed when saving overloaded groups.

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10.2.1.3 Command details

The current configuration of the selected element is displayed in the command details.

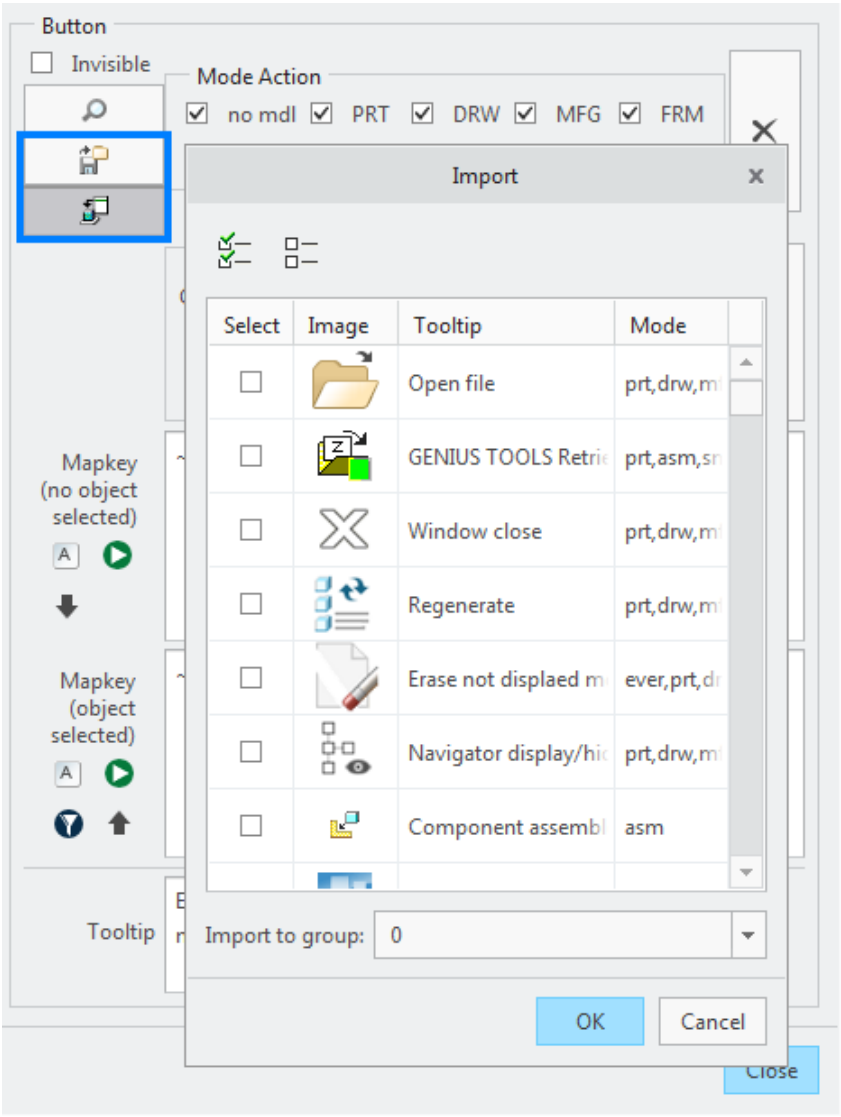


1. Import / export 236 and visibility settings 237
2. Mode 238
3. Position and command icon 238
4. Mapkey definition 240
5. Tooltip definition 239

10.2.1.4 Export and import

Created commands can be exported into and re-imported from a QAEX file (Quick Access export file). Images, tooltipps, the modes in which a command can be executed and the position are also transported.

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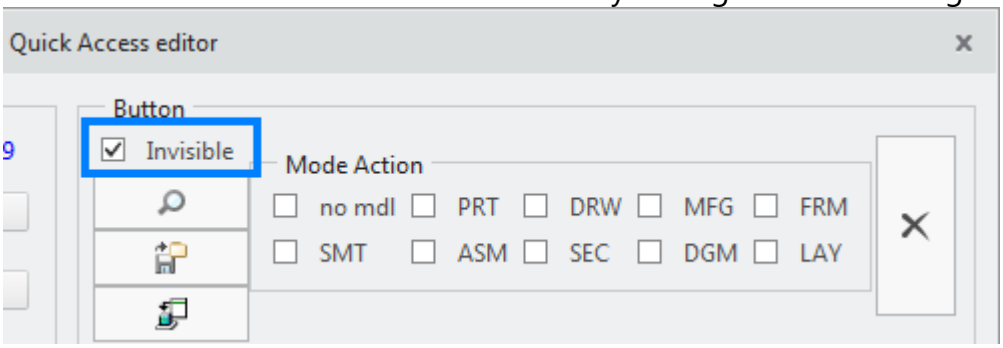


Commands can be re-imported into Quick Access

The position of the commands can be controlled with an import. Import only single commands into a group for this.

10.2.1.5 Visibility settings

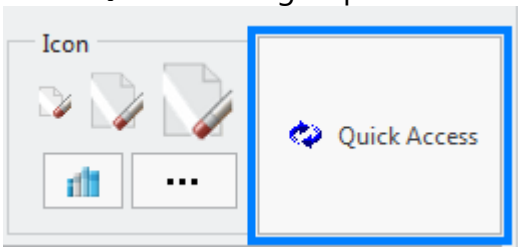
Deactivate unused commands in the visibility setting without deleting them.



Commands can be hidden via the "Invisible" checkbox

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Select a command and click *Invisible i*n the commands overview. To bring back a command, click the magnifier icon and select the command. The command is available again after refreshing Quick Access.
Save fully configured commands in the Quick Access database as templates. The position in the Quick Access groups is saved.

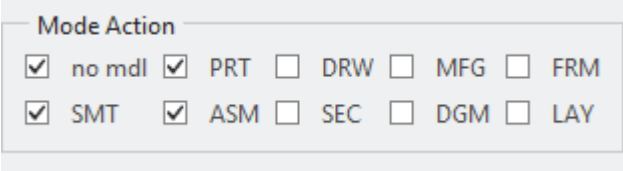


Refresh Quick Access and the hidden Mapkey command is available again.

10.2.1.6 Mode, position, icon and tooltip

Mode

In which Creo modes a command is displayed in Quick Access are specified under Mode.

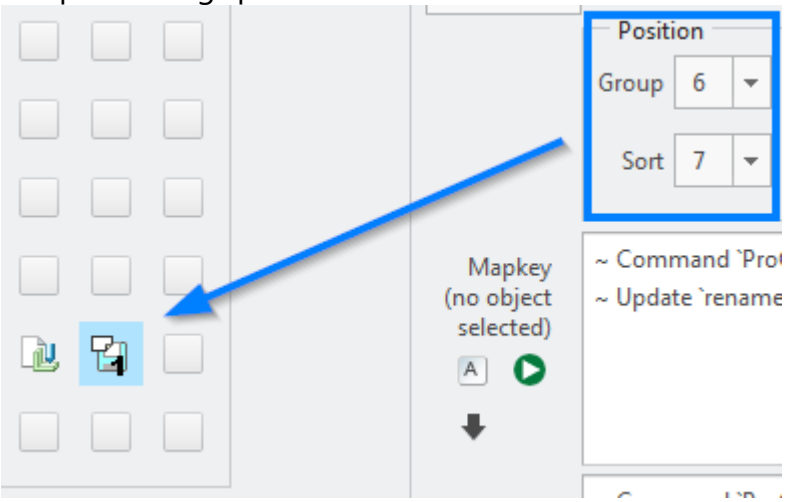


The visibility of the commands is controlled via the Mode

Mark a checkbox to display the active command in the corresponding mode.

Position

The positioning specifies the location at which a command is displayed in the ring menu.



The position in the ring menu is specified via Group and Sort

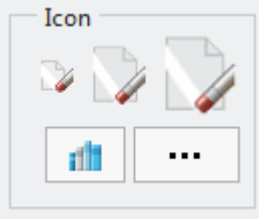
Specify a group and an individual sorting for each command in this group.

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Commands with same group and sorting are displayed one after the other in Quick Access.

Icon

The command icon is specified in the *Icon* section.
Quick Access supports multiple zoom levels for different display sizes and resolutions. In order for icons to be clearly visible, Quick Access supports icons in 20x20, 30x30 and 40x40 pixel resolution.



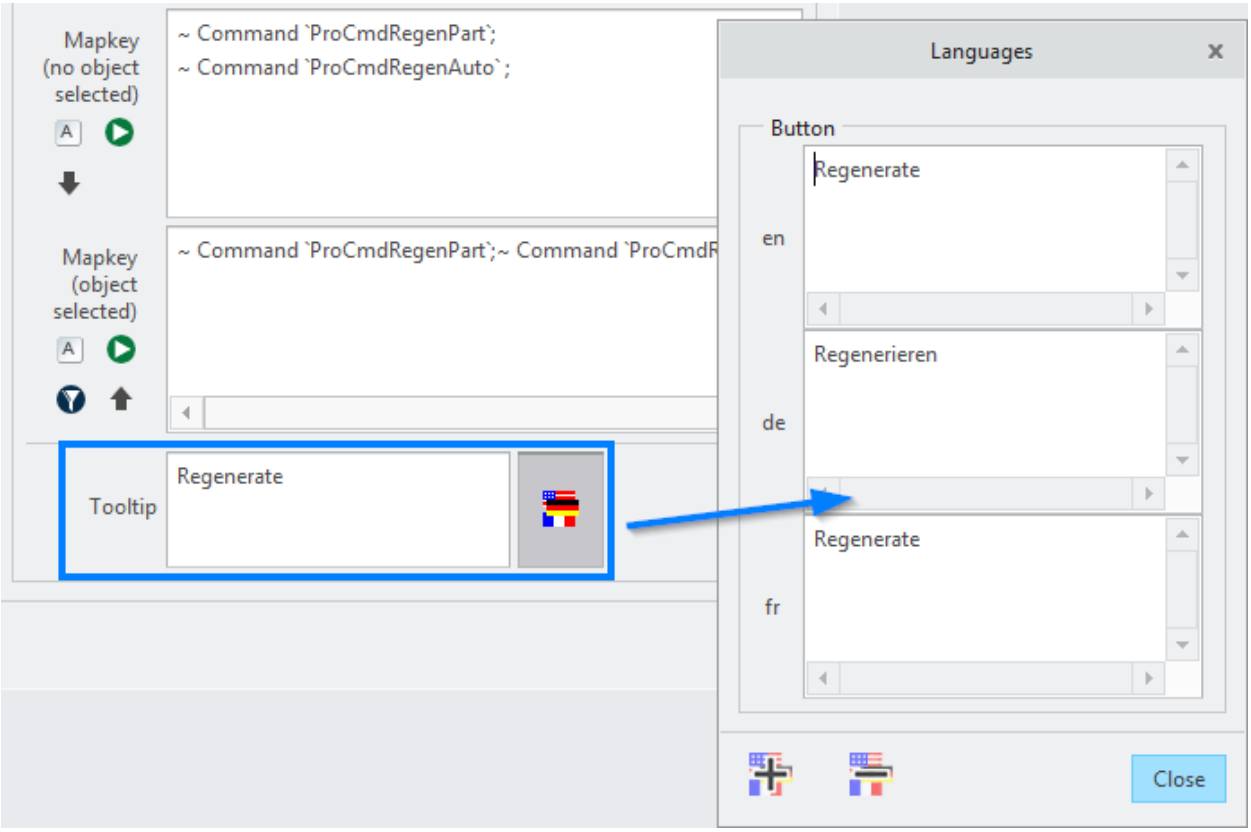
Icons should at least have 20x20 pixels

Use the left Button **Load icon from Quick Access library** to use the prefabricated icons. Use the right button **Import icon into Quick Access library** to use external icons. They are added to the library automatically.
Make sure the size of external icons is 40x40 pixels. The other sizes are created during the import.
If you wish to copy icons into the Quick Access library manually, make sure that identical icons with different resolutions always have the same name. Copy the icons into the folders **img_w20**, **img_w30** and **img_w40** in the resources directory of Quick Access.

Tooltip definition

For each command a tooltip in multiple languages can be entered.

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Specifying a tooltip in different languages

Enter text into the field to receive a monolingual tooltip.

To create a multilingual tooltip, click the flag icon. In the o<pening dialog, a tooltip can be entered for each language required.

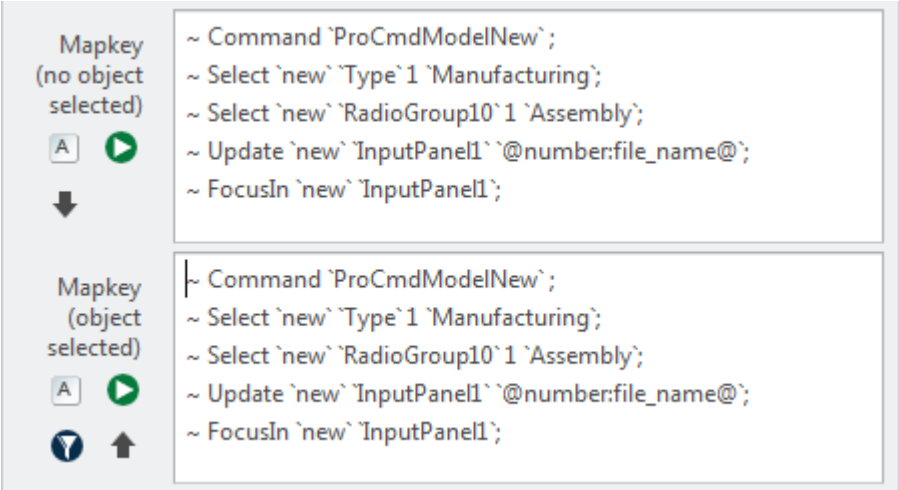
You can select default texts using (Set standard texts 292).

10.2.1.7 Mapkey definition

Two Mapkeys can be specified for each command. They are executed depending on the situation (with and without selection).

Icons are automatically greyed out if the corresponding situation-dependent Mapkey is empty.

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Mapkeys can be specified with and without selection in Creo Parametric

Enter the proper Mapkey into the two fields. As an alternative, existing Mapkeys can be integrated with: `%%MapkeyAcronym;`
We recommend always writing full Mapkeys into the fields to have them always available. Enter several existing Mapkeys with `%%MapkeyAcronym1; %%MapkeyAcronym2;` one after the other. These Mapkeys are executed one after the other. Use `key_input:` to emulate keyboard entries.
Additional functions are available before the Mapkeys:

Icon	Description
A	Shortens a Mapkey.
▶	Plays the Mapkey in the current Creo context.
↓/↑	Copy Mapkey downward /upward.
▼	Specifies the Creo objects for which the Mapkey is executed with selection.

Please note: Starting a Mapkey may close the editor.

Start tags

Quick Access supports two start tags: `key_input` and `browser`.
key_input: Passes a string as keyboard input. Only letters and numbers are supported. Example: `keyinput:abc`
browser: Passes a character string as URL to the Creo internal browser. Example: `browser:www.inneo.de`

Selection filter

The Creo objects on which the Mapkey with selection should be executed is specified via the selection filter.
Commands with a selection filter are only available in Creo Parametric with the proper selection (axes, layers, edges, etc.). If the selection filter is empty, the Mapkey is valid for any selected object.

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10.2.1.8 Deleting commands, updating QA

Deleting commands

To delete a command permanently, click the X icon next to the mode settings.

Refreshing Quick Access

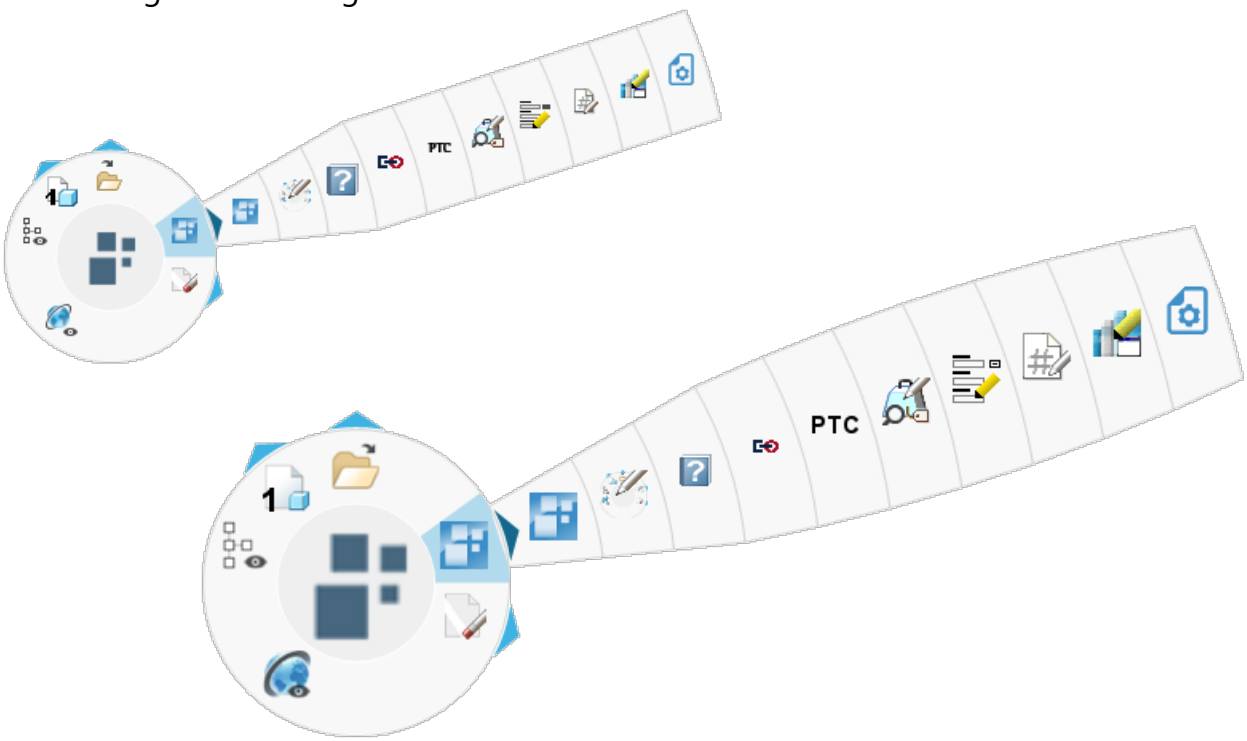
Click the **Refresh Quick Access** (double arrow) button to reload all commands. Updated commands are available instantly.

10.2.2 Use cases

In this section, you will find use cases and help on GENIUS TOOLS Quick Access Editor

Adapting zoom factors and icons

Quick Access supports multiple zoom levels to ensure well usability and readability on high-resolution displays (4K displays). This section explains the specific characteristics when using zoom and higher-resolution icons.



Quick Access supports different zoom levels for larger displays and higher resolutions. In addition, the display area for icons can be enlarged (image below) via the gtqa_group_bow config option

Relevant configuration options

– `gtqa_zoom`: Set the zoom level in steps of 0.1.
– `gtqa_command_icon_folder` and `gtqa_local_command_icon_folder`: Make sure the **img_w20** directories are specified each time.

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– `gtqa_group_bow`: Use this config option to display an arc in groups. This enlarges the display area for icons.

Quick Access uses different zoom levels for icons differing in size:
– For zoom levels 1 – 1.3 icons with a size of 20 x 20 pixels are used.
– The zoom levels 1.4 – 1.8 use icons with 30 x 30 pixels.
– Zoom levels 1.9 and higher use icons with 40 x 40 pixels resolution.

The zoom levels 1.0, 1.6 and 2.1 are recommended for best user experience.

Sources for icons

Depending on the zoom level set, the icons are used from **img_w20**, **img_w30** and **img_w40** directories of the Quick Access resources directory. When using icons with different resolutions, make sure the icons are saved in the proper folders. In addition, make sure to save identical icons (in different resolution) with equal names!

You can also use any external icons. Once an external icon has been selected for a command with Quick Access Editor, it is downsampled for the proper dimensions automatically and copied into the **img_w20-40** directories.

Small icons are not scaled up.

Creating icons

When creating your own icons for your Quick Access users, pay attention to some specific characteristics:
– Export icons as PNG files. Check the export settings and avoid saving color values of transparent pixels.
– Take care of good recognition of the individual icons in different sizes. Modify the image composition if necessary.
– Pay attention to a strong foreground-background contrast.

Creating a QA command

1. Open the Quick Access Editor.
2. Select the Creo mode in which to create a new command.
3. Select a free field in the commands overview. Set the group and sorting at Position.
4. Select the modes for using the command at *Mode Action*.
5. Specify an icon for the command. Select an icon from the library or from your own files.
6. Specify the mapkeys for the command with and without selection.
7. Enter a Tooltip.
8. Refresh GENIUS TOOLS Quick Access.

Example for extracting a Mapkey: Hide/show reference plane

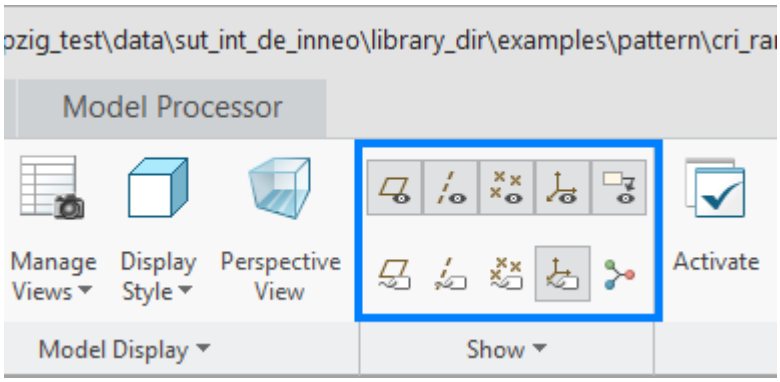
Open GENIUS TOOLS Quick Access by pressing the [<] key.

Select the **Record Mapkey** command, then click **Record** in the record dialog.

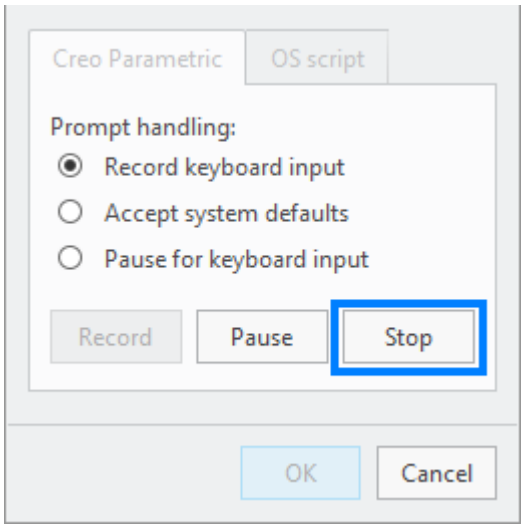
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Activate or deactivate all datum display filters in the **Show** tab.



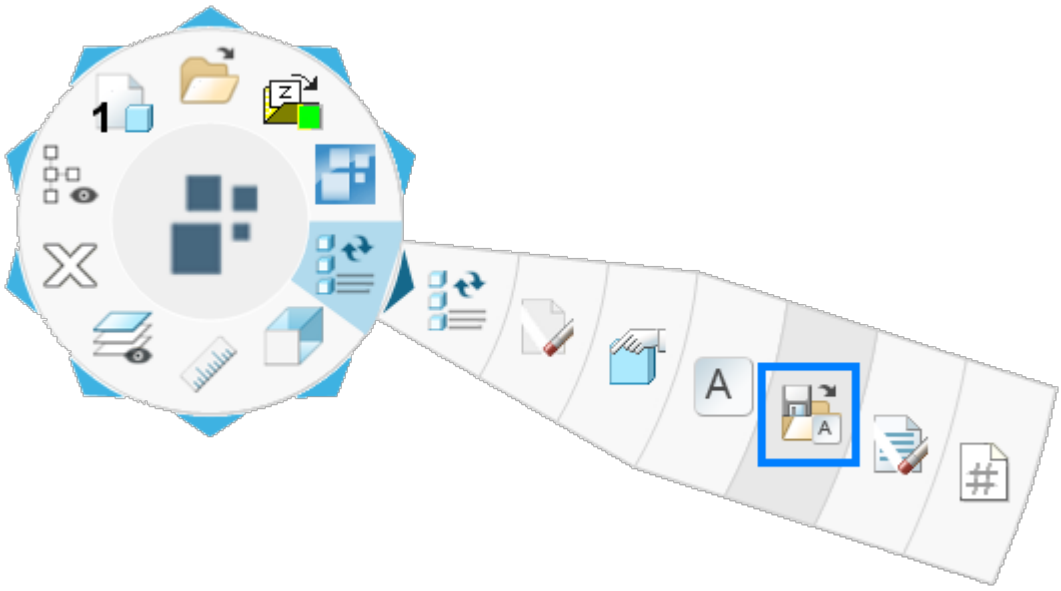
Click **Stop** (Creo 3) or **Pause** (Creo 4 and later) in the record dialog, then click **OK** to end the recording.



Open GENIUS TOOLS Quick Access again by clicking the [<] key.

Select **Save modified Mapkeys and open with Notepad**.

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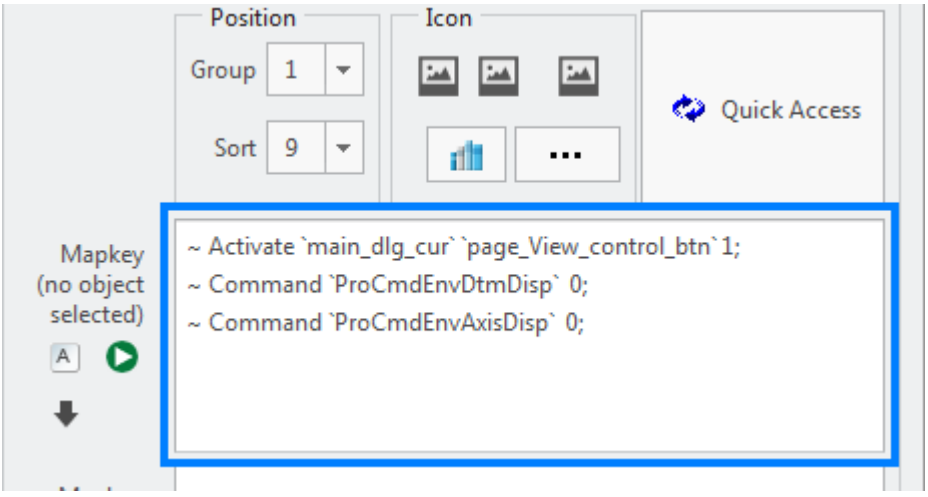


Copy the entire text from the editor (Ctrl+C).

Open GENIUS TOOLS Quick Access Editor.



Select an empty position in the grid or an existing command you wish to overwrite and insert the copied mapkey into the upper right field (Ctrl+V).



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Shorten the Mapkey and test it, then copy it into the lower input field to use when an object is selected in Creo.

Close the editor. Quick Access is refreshed automatically on closing.

Different types of use

Quick Access can be customized for use in companies in different ways. To do so, the deposited Mapkeys in the Quick Access groups can be customized. Another method is to either preset the configurable groups globally or to make them individually editable for the users.

> **Warning**: Quick Access uses a different database for each Creo version. The variable `%GT_CREO_VERSION%` is used for referring to the databases. When using different Creo versions in your company, all databases must be adapted for the respective versions. As an alternative, downwards compatibility of a database must be tested by an administrator.

There are three different operating options for Quick Access:
- Preset: All groups are preset as standards. Adjustments can only be made for all users by administrators. This is the delivery standard.
- Freely configurable: All groups in Quick Access can be adjusted individually by the users.
- Mixed mode: A certain number of ring menu groups is preset administratively. All other groups can be adjusted individually.

The ring menu groups 8 and 9 are always preset via the default assignments of GENIUS TOOLS, later adjustments require configuration changes.

Relevant configuration options
- `gtqa_command_icon_folder`
- `gtqa_command_file`
- `gtqa_local_command_file`
- `gtqa_local_command_group_split`
- `gtqa_local_icon_folder`
- `gt_start_quick_access_editor`

Further information on the options can be found in the Configuration 372 section.

Use type Preset (default)

In the preset use type, the entire ring menu is predefined administratively. Users can make no changes.

Configuration option	Comments
gtqa_command_icon_folder	Refers to the global Quick Access icon resource directory. (`%GT_RESOURCE_FOLDER%\quick_access\img_w20`)
gtqa_command_file	Refers to the global Quick Access database file. (`%GT_RESOURCE_FOLDER%`

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Configuration option	Comments
	\quick_access\quick_access_%GT_CREO_VERSION%.db)
gtqa_local_command_file	Should be commented out.
gtqa_local_command_group_split	Should be commented out.
gtqa_local_icon_folder	Should be commented out.
gt_start_quick_access_editor	Must be deactivated (value 0).

Use type Freely configurable

Freely configurable, each user can adjust and manage the commands of the Quick Acces ring menu on their own.

Configuration option	Comments
gtqa_command_icon_folder	Refers to the user-specific Quick Access icon resource directory: (%appdata\INNEO\GENIUS_TOOLS\for_Creo\quick_access\img_w20)
gtqa_command_file	Refers to the user-specific Quick Access database file: (%appdata\INNEO\GENIUS_TOOLS\for_Creo\quick_access\quick_access_%GT_CREO_VERSION%.db)
gtqa_local_command_file	Should be commented out.
gtqa_local_command_group_split	Must use the value “all” (default setting)
gtqa_local_icon_folder	Should be commented out.
gt_start_quick_access_editor	The Quick Access Editor must be startable (value: 1)

Mixed mode

In mixed mode, certain ring menu groups are preset administratively. All other groups and commands can be adjusted individually.

Configuration option	Comments
gtqa_command_icon_folder	Refers to the global Quick Access icon resource directory. (%GT_RESOURCE_FOLDER%\quick_access\img_w20)
gtqa_command_file	Refers to the global Quick Access database file. (%GT_RESOURCE_FOLDER%\quick_access\quick_access_%GT_CREO_VERSION%.db)
gtqa_local_command_file	Refers to the user-specific Quick Access database. (%appdata\INNEO\GENIUS_TOOLS\for_Creo\quick_access\quick_access_%GT_CREO_VERSION%.db)

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Configuration option	Comments
gtqa_local_command_group_split	Specifies how many command groups end users are allowed to adjust (0: only the first group can be edited to 7: all groups can be adjusted individually).
gtqa_local_icon_folder	Refers to the user-specific Quick Access icon resource directory. (`%appdata\INNEO\GENIUS_TOOLS\for_Creo\quick_access\img_w20`)
gt_start_quick_access_editor	The Quick Access Editor must be startable (value: 1)

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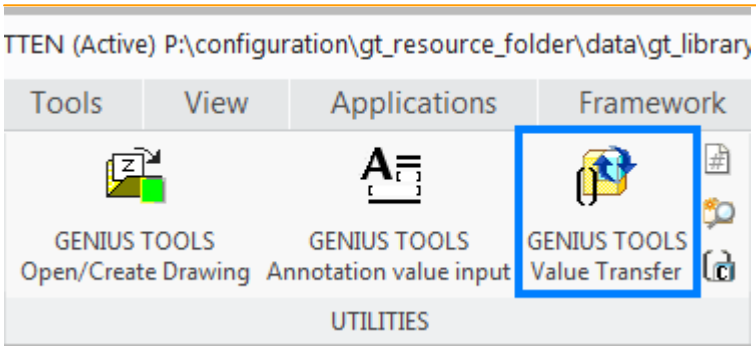
11 Value Transfer

GENIUS TOOLS Value Transfer allows for modifying numerous values in dimensions and parameters of sub-models in one step. In Assembly mode, assembly parameters and their values are transferred to sub-components. Optional filters restrict searching for sub-components systematically. Search results are displayed clearly prepared in table format. Current values are displayed for each component to ensure control over the parameter values to be transferred. The interactive process of modifying the values will be started afterwards.
The integration of Value Transfer into GENIUS TOOLS Parameter allows passing an assembly parameter (e.g. the project number) to sub-models quickly. To do so, the function for opening the Value transfer dialog has to be created at the project number parameter in this case. The Value transfer dialog will then be called from the GENIUS TOOLS Parameter when clicking the parameter function.

11.1 Starting the program

Start GENIUS TOOLS Value Transfer from the ribbon menu in the GENIUS TOOLS tab.

Please note: You can start Value Transfer in assembly mode also directly from GENIUS TOOLS Forms and GENIUS TOOLS Parameter.

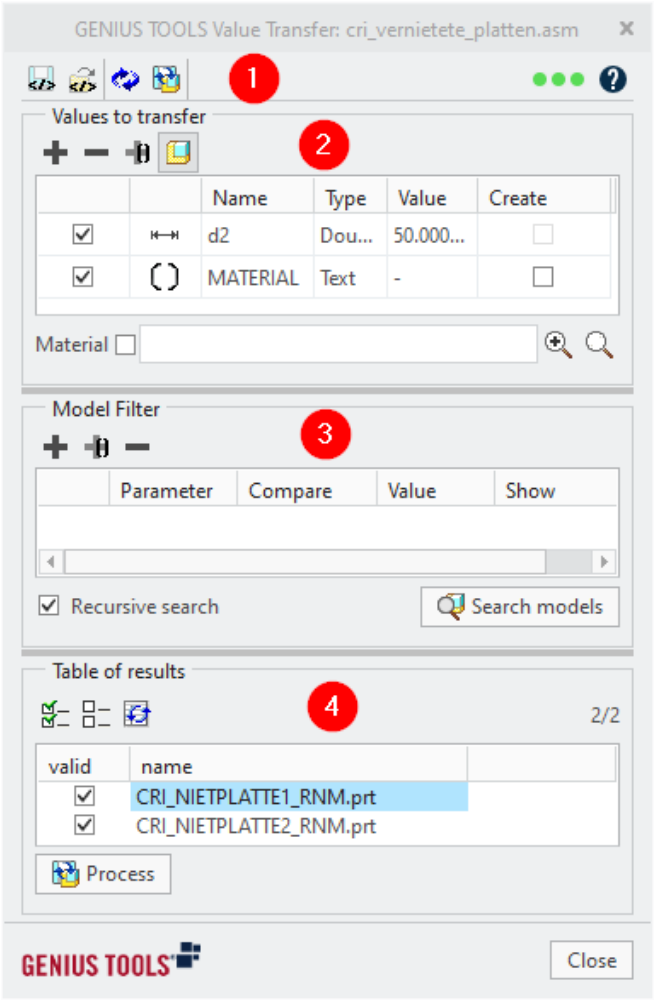


Starting via the ribbon menu

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11.2 User interface

The user interface of GENIUS TOOLS Value Transfer consists of the following elements:



1. Command bar
2. Transfer list
3. Filter
4. Results table

11.3 Command bar

The command bar displays frequently used functions. The following buttons are included:

Icon	Name	Description
	Save parameter and model search as XML	Saves all settings for parameters, dimensions and filters in an XML file.
	Load parameter and model search from XML	Loads settings for parameters, dimensions and filters from an XML file.
	Refresh	Analyzes the current assembly, evaluates parameter and dimension values and reapplies filters.

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Icon	Name	Description
	Write parameter into model and regenerate	Transfers parameter and dimension values to sub-components and regenerates the entire assembly.
	Help	Opens the Help.

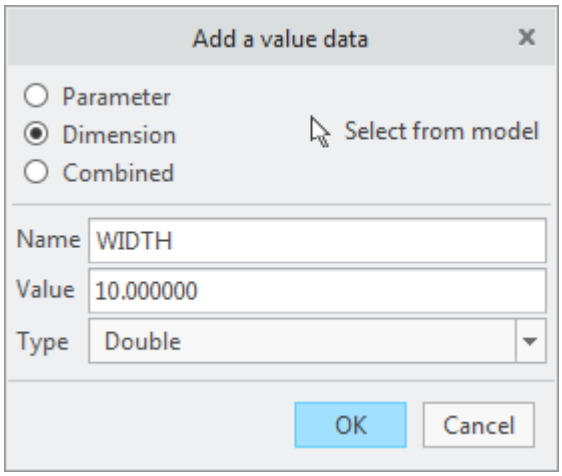
11.4 Status dialog

The status signal light is located in the command bar. The status signal light indicates the current status in different stages using the traffic light colors.
Load: Information on loading models from an assembly.
Work: Information on the current editing state.
Save: Information on value transfer into the models.
Use the Reset function (broom button) to delete status messages.

11.5 Transfer list

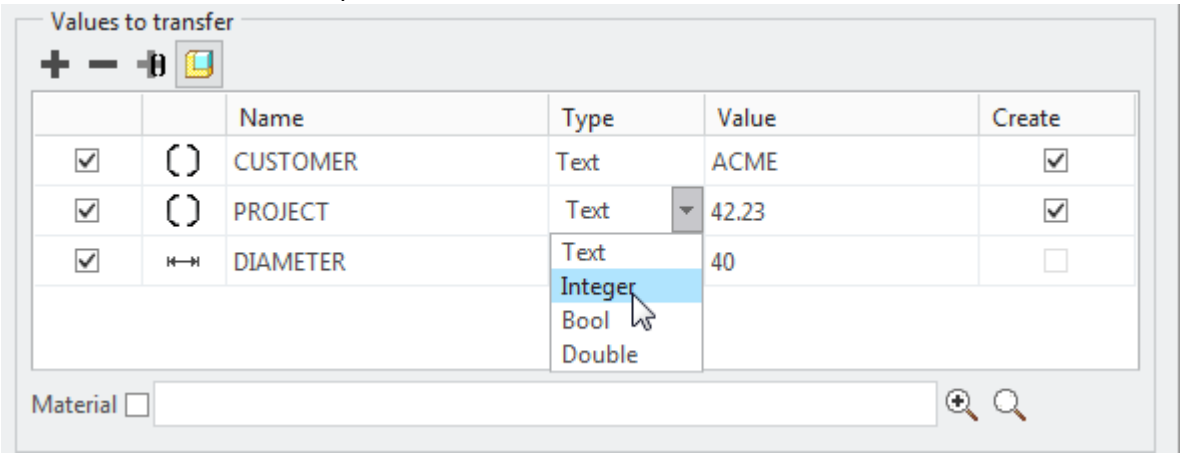
Parameters and dimensions that should be transferred to sub-components are specified in the transfer list. The entries contained in the list are displayed as column in the results table.
Add parameters and dimensions using the Plus button. Three options are available: Parameter, Dimension and Combined.
Parameter allows for selecting an assembly parameter.
Dimensions from sub-components can be selected via **Dimension**.
Combined allows to enter free text. When transferring these values, the sub-components are searched for a dimension with this name. If no such dimension exists, finding an equal parameter is attempted. Otherwise, a parameter with this name is created and filled with the value.
To transfer values to an assembly, use the assembly symbol. If an assembly is locked by your PDM system, the button is grayed out. Non-locked subassemblies and parts can still be processed.
To remove an entry, click on its name and click the Minus button.

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Add parameters or dimensions to the transfer list

Use the checkbox before the entries in the list to specify whether the values should be adopted by the sub-components. Use the second column to change the type (Parameter, Dimension or Combined).



Make sure to check the type of the parameters and dimensions!

Warning: Always check the type of parameters and dimensions! A wrong type may cause existing parameters or dimensions to not be overwritable.

Enter values to be transferred into the *Value* column of the list.

Changing materials

With Value Transfer you can change materials of sub-components also. Click on the **Material** checkbox. Select the required material using the magnifying glass buttons with the material selection or from a model.

11.6 Filter list

Criteria for filters to search for in sub-components are specified in the filters list. When the filter criteria are met, the specific sub-component is displayed in the results list.
Use the checkbox *Recursive search* to include subassemblies. Use the checkbox **Show** to change the filtering. Then update the result table.

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Add parameters using the Plus buttons with free input or by using the Creo parameter selection dialog. Click the parameter name, then click the Minus button to remove a parameter.
Specify a comparative operator in the *Compare* column. Available are: equal (=), not equal (!=), greater-than (>) and less-than (<).

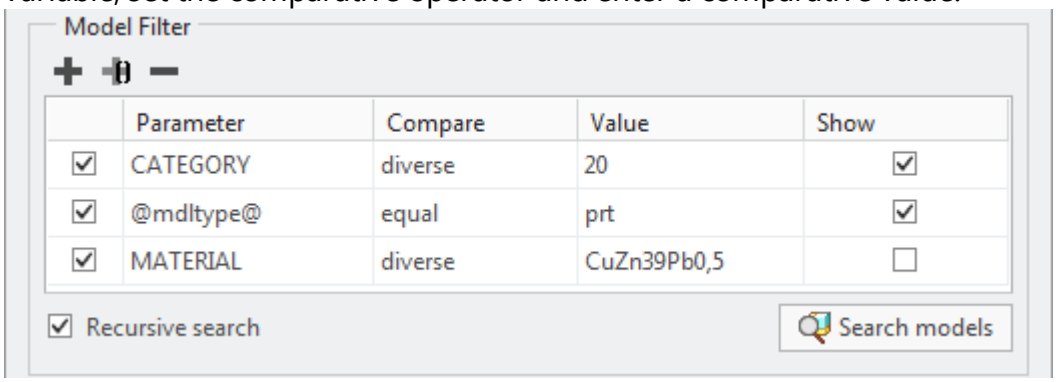
> **Tip**: Use the comparative operators **Equal** and **Not equal** as **Contains** and **Does not contain** for parameters containing text.

Enter the comparative value into the last column *Value*. Confirm the filters list by clicking the **Search models** button to refresh the results table.

> **Warning**: Always refresh the results table, only sub-components displayed in it are refreshed.

Filtering with variables

Add an entry to the filters list and open the context menu for the entry. Select the desired variable, set the comparative operator and enter a comparative value.



Use variables (here: @mdltype@) to filter by specific model properties

The filters are case-sensitive. For variables, the case is ignored for the operators **Equal** and **Not equal** is ignored.
If the value of a filter parameter is empty and the comparison is set to **Equal**, all models are listed in which either this parameter does not exist or is empty. If only models with new parameter values in which the parameter exists are to be assigned, only the check mark in **Create** must be removed.

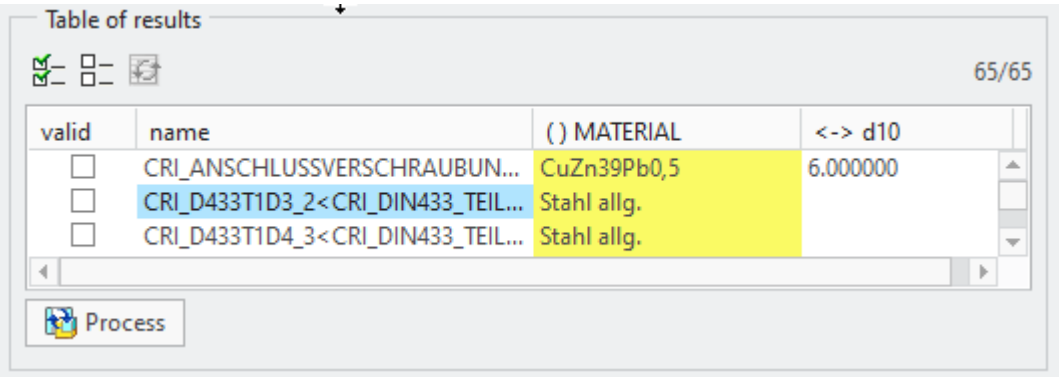
> **Tip**: Variables are always treated like text parameters.

You can find the variables available via the context menu in the Variables overview 389.

11.7 Results table

The results table displays the filtered sub-components. The current values of the parameters from the parameters list are displayed in the individual columns.

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Specify the sub-components Value Transfer should be applied to via the checkbox before the components.
Parameters controlled by a relation or that have access restrictions are marked with a yellow background. Dimensions that are controlled by a relation are also marked with a yellow background.
If a PDM system is used, the individual models can only be checked if they are unlocked. Models can be unlocked via the right mouse button menu. If several models are marked (via Shift and Control), several models can be unlocked.
By clicking the **Process** button, the parameter values specified in the parameter section are written into the sub-components.

Please note: Only active sub-models are considered when processing.

The parameter values in the results table can also be modified manually. Just click into a table cell and modify the value.

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12 UDF Forms

With GENIUS TOOLS UDF Forms you can create UDF groups in models and manipulate individual properties later on.
GENIUS TOOLS UDF Forms is available in assembly, part, and drawing mode with the following features:

- Creation of UDF groups in models - optionally with variable dimensions from lists and tables,
- Use of UDF family tables - for form control,
- Use of variable parameters (Only feature parameters located on the first feature of the UDF group),
- Subsequent editing of already created UDF groups,
- Re-placing UDF groups with the same values of already created UDFs.

Definition and structure of an UDF form is done in a graphical editor (UDF Forms Editor). GENIUS TOOLS UDF Forms is also used to place UDFs with GENIUS TOOLS Library. After placing in a model, a UDF form can be copied into models. This ensures that UDF groups with associated dialogs can also be edited in foreign Creo environments. Several identical and different UDFs can be installed in models. Each one can use different UDF form dialogs.

12.1 Fundamentals

With GENIUS TOOLS UDF Forms you can create UDF groups in models and manipulate individual properties later on.

Glossary

UDF Object
A UDF object consists of an UDF definition and an UDF.

UDF Definition
A UDF definition contains the configuration für a UDF in XML format The XML structure can be saved as a separate file or as a part of a Creo model.

Target model
The target model is the model opened in Creo into which an UDF object is placed.

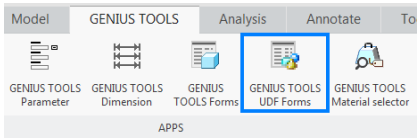
12.2 Usage

This section contains information on using GENIUS TOOLS UDF Forms. It describes the general structure of the program.

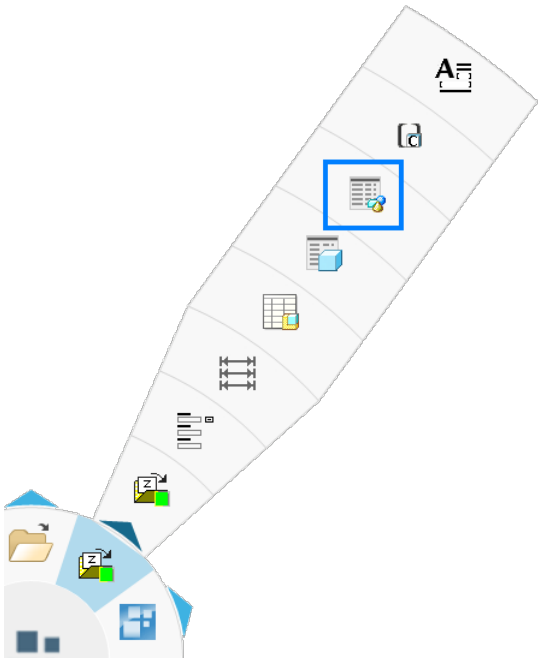
Starting the program

Start GENIUS TOOLS UDF Forms from the ribbon menu in the GENIUS TOOLS tab or with GENIUS TOOLS Quick Access ([<] key).

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Starting from the ribbon menu



Starting via <%GTQA%

GENIUS TOOLS UDF Forms only starts after selecting an UDF in the Creo main window or an UDF group in the model tree.

Forms and UDF Forms in the model

If a model contains a Form or UDF Form, a suitable Forms icon is displayed in the Creo Parametric main window. Click on the icon to open the form.

 Form in the model

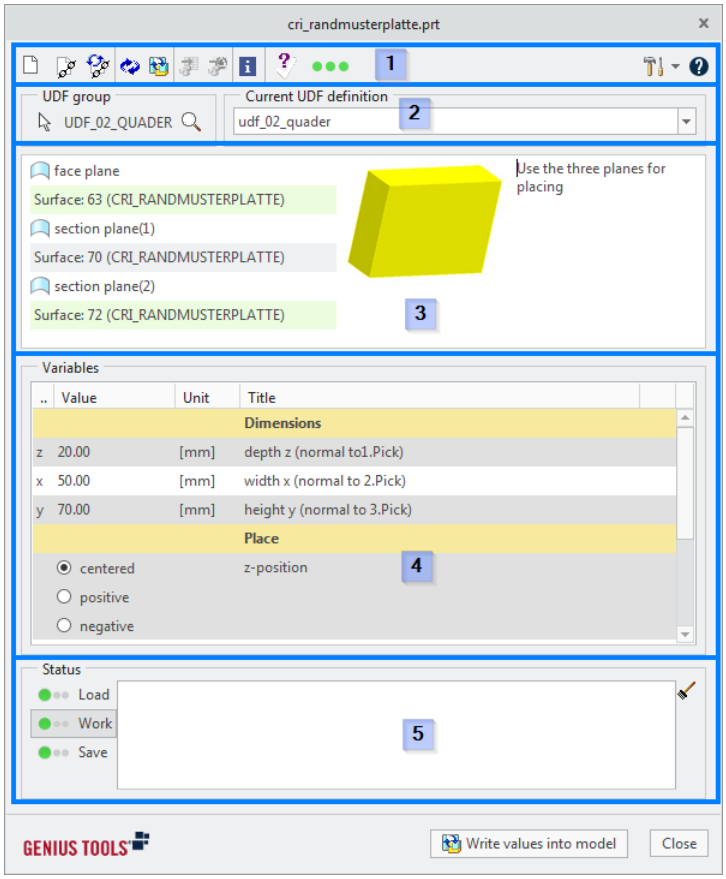
 UDF Form in the model

Warning: If the Creo configuration option `web_browser_in_separate_window=yes` is set, no icon can be displayed.

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12.2.1 User interface

The GENIUS TOOLS UDF Forms user interface consists of the following elements:



1. Command bar
2. UDF selection
3. Placement references
4. UDF Form
5. Status traffic light

12.2.2 Command bar

The following buttons are included in the command bar:

Icon	Name	Description
	Create	Creates a UDF in the model. References must be selected during placement.
	Create with references	Creates an UDF in a model. The placement references are used.
	Repeated creation with references	Creates several UDFs in a row. The placement references are used.
	Refresh	Updates the view after editing the UDF Form with the editor.
	Save values into model	Saves the entered values in the form into the current model and regenerates it.

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Icon	Name	Description
	Apply to table	Links the active UDF to an already placed drawing table. (Only active in drawing mode)
	Apply to symbol	Fills drawing symbols with the values of the UDF. The drawing is regenerated. (Only active in drawing mode)
	Show info	Opens a stored, language-dependent help document.
	Run check function	Starts the JavaScript function CheckUI from the UDF definition to check the values entered in the form. (The CheckUI function must first be stored in the UDF object.)
	Status signal light	Opens the status dialog. It shows the current status in the phases Load, Work and Save with traffic light colors.
	Tools	Opens the tool menu containing various supporting functions.
	Help	Opens the help.

Repeated creation with references

Use the function **Repeated creation with references** if you want to place a UDF several times in a model:

1. Activate the part in which you want to place UDFs.
2. Define constant references beforehand and then click on the button **Repeated creation with references**.
3. Select the missing references in the part. Repeat this step until the required UDFs have been placed.
4. Click with the middle mouse button to cancel the placing.

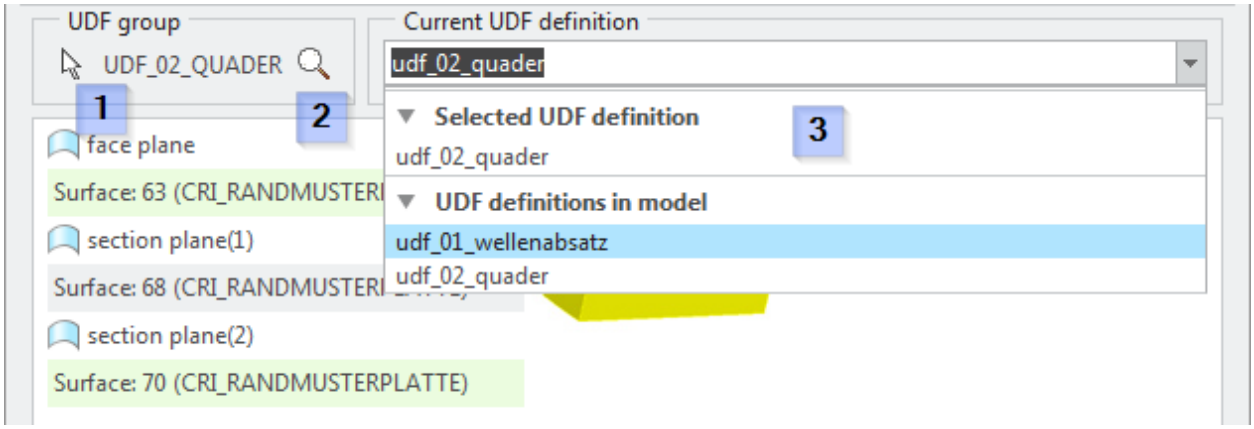
Tools menu

Write values to CSV: Saves the current values in the form to a CSV file.
Read values from CSV: Reads values from a CSV file and applies them to the current UDF form.
Open from XML: Opens an UDF object from an XML file (UDF definition).
Open from model: Opens an UDF definition from the current model.
Delete definition from model: Deletes an UDF definition from the current model.
Open GPH file from folder: Opens an UDF file from the file system.
Export current definition: Saves the definition of the current UDF object as XML file.
Open UDF Editor: Opens the GENIUS TOOLS UDF Forms Editor to edit the UDF definitions.

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12.2.3 UDF selection

The UDF selection consists of three elements:



UDF selection with object selection (1), magnifier (2) and drop-down list (3)

Select UDF groups in a part, assembly or drawing directly in Creo or in the model tree with the object selection (1).

Use the magnifying glass icon (2) to highlight the currently selected UDF in models.

The drop-down list (3) shows the UDF definitions in the model. Open the list and choose between the UDF definitions.

Only one UDF definition is saved in the model if an UDF object is placed several times.

12.2.4 Placement references

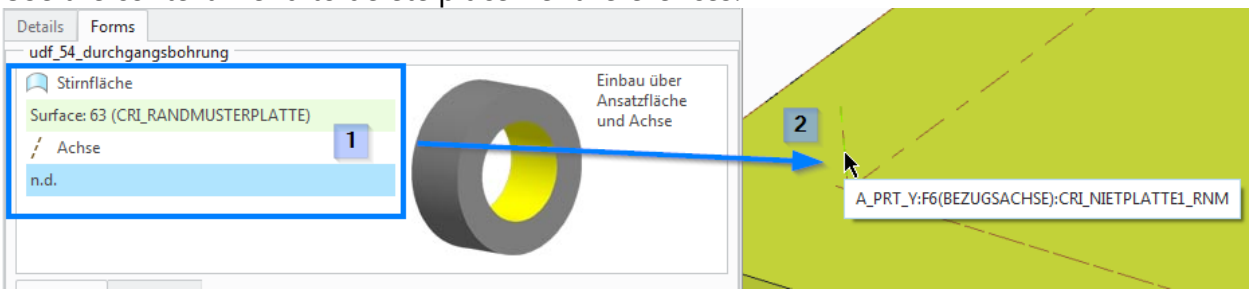
The Placement references section on the left side of the dialog displays the placement references.

Click on a colored field and select a placement reference in the model.

Use the functions Create with references and Repeated creation with references as soon as you have defined consistent placement references for multiple installations.

Tip: UDFs can be placed in assembly mode by enabling the required part.

Use the context menu to delete placement references.



Click on a field (1) and select the reference in the model (2)

On the right side there is a localized description and preview image of the currently selected UDF object.

Various information about the current UDF object is displayed. This information depends on the configuration of the UDF object in the editor.

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12.2.5 Form section

The form displays variables of the currently selected UDF object. The form elements are arranged in a four-column table:
The first column displays the name of the variable. The second column displays the current values of the variables. Depending on the configuration, different input fields are displayed. Click on a displayed value to activate input fields.
The third column displays the units of the variables, the fourth displays the localized description.

Input field types

Depending on the UDF object used, different types of control elements are available in the form.

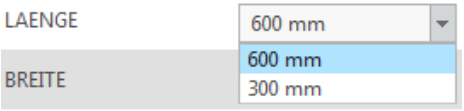
Warning: Check the Creo configuration option `show_dim_sign`, as GENIUS TOOLS Forms respects it.
`show_dim_sign=no`: Entering a negative value changes the direction vector of a dimension. The value becomes positive.
`show_dim_sign=yes`: When a negative value is entered, the value remains negative.

Input field



Input fields accept any string for input. Restrictions (e.g. numbers only) can occur depending on the parameter type.

Selection field



Selection fields (drop-down lists) contain a selection of possible inputs. They are predefined through the configuration.

Radio button



Radio buttons display predefined selectable values. Only one of the values can be selected.

Binary checkbox



Checkboxes allow to choose from two options. This can be Yes/No decisions, for example. Always two values are deposited in the configuration for checkboxes. With the checkmark set, the first value is used. Checkmark not set applies the second value.

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Value table



Value tables control the presetting of form elements. Click on the icon to open the selection dialog.

12.2.6 Status indicator

Below the form is the status indicator and the button for saving the values.
To open the status dialog in a separate window, use the function in the command bar.
Use the reset function (broom button) to delete status messages.
The status indicator light shows the current status in different phases:
Load: Information about loading UDF objects from the model.
Work: Information about checking the references and form entries.
Save: Information about applying UDF values.

12.2.7 Use cases

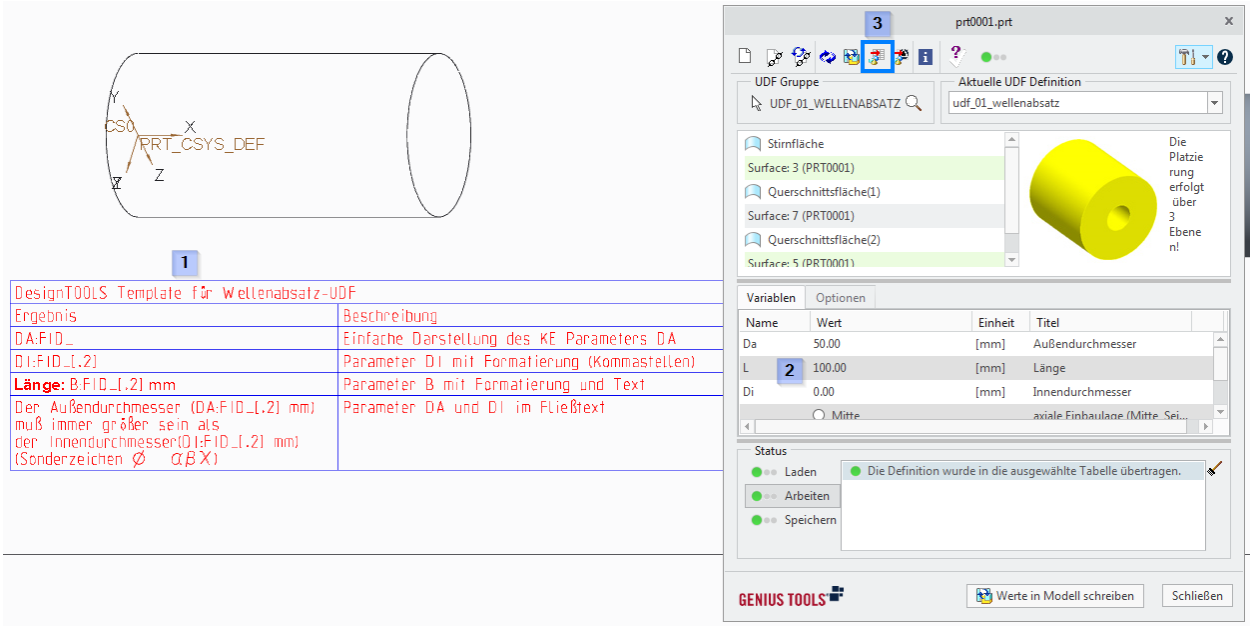
In this section you will find use cases related to GENIUS TOOLS UDF Forms.

Linking UDFs to drawing tables

To link UDFs to tables, proceed as follows:

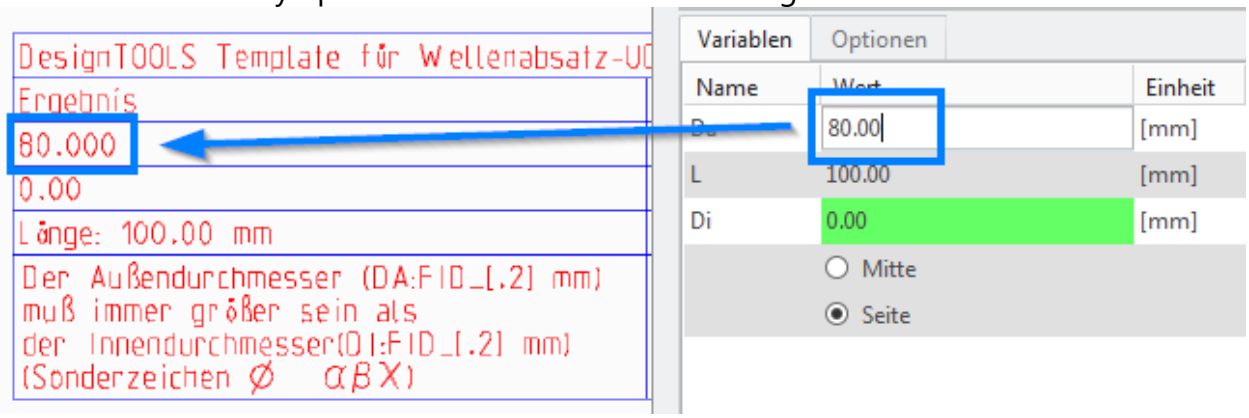
1. Place an UDF in a part.
2. Create a drawing.
3. Insert a table in the drawing.
4. Enter the required variables of the UDF in the table in the following notation:
   `VariableName:FID_[decimal places]`
5. In UDF Forms, click the button **Apply to Table**.

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Create a table (1)
Enter the variables from the UDF (2)
Click on "Apply to table" (3) and select the table

Select the table created in the drawing. The UDF is now linked to the drawing table. The table is automatically updated each time the UDF is changed.



If the UDF is changed, the table is updated automatically

Linking UDFs to drawing symbols

To link a UDF to an icon with variable text, proceed as follows:

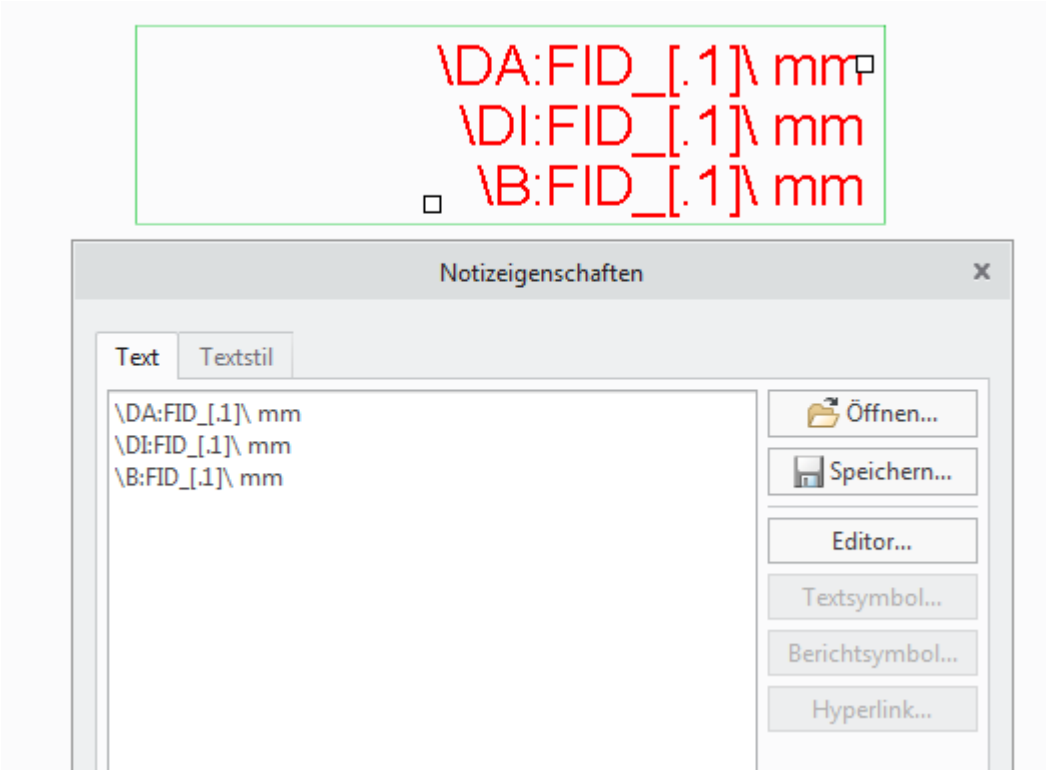
Preparing the symbols

Create a separate symbol for each UDF!

Enter the variables of the UDF in the following notation as a note in the symbol:

`\VariableName:FID_[decimal places]\`

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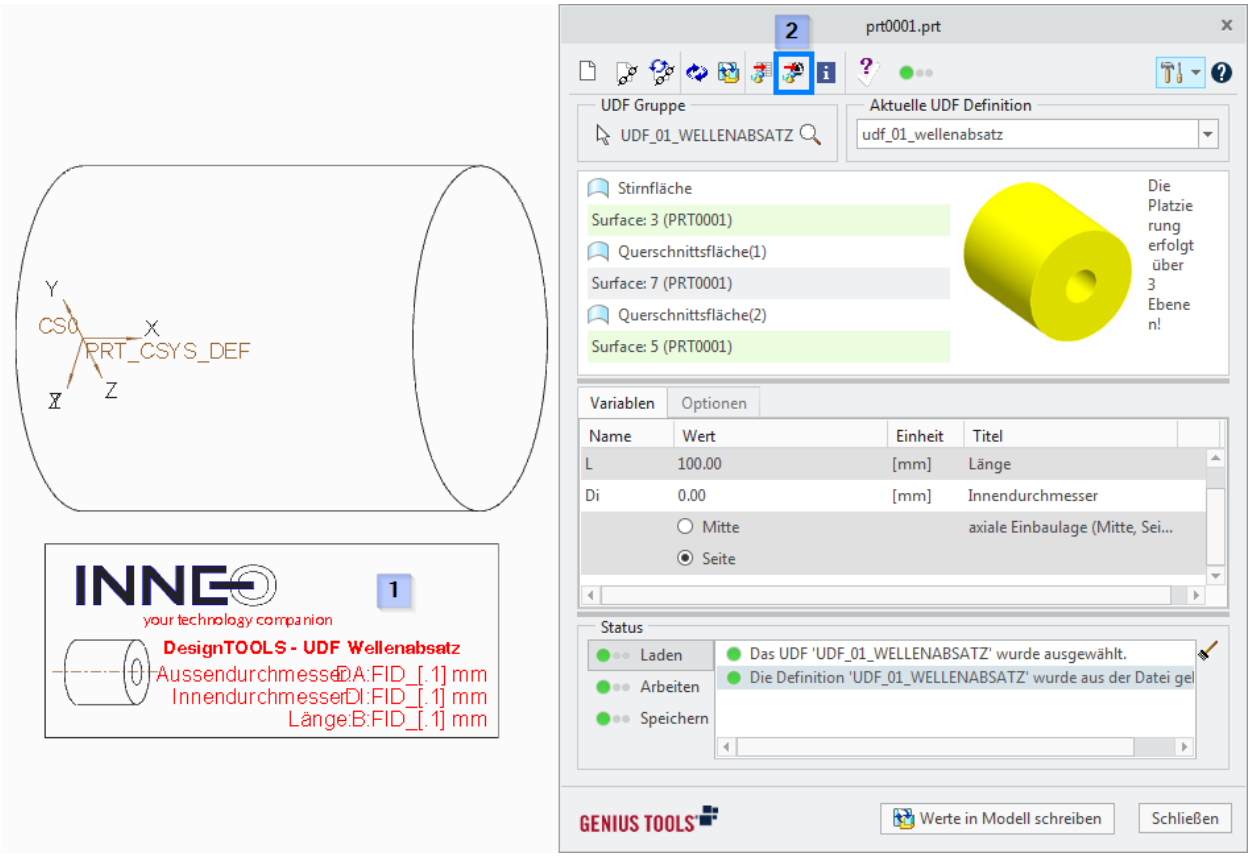


Create a note with the desired variables in the symbol

Linking the UDF with the symbol

1. Place an UDF in a part.
2. Create a drawing.
3. Insert the appropriate symbol for the UDF in the drawing.
4. In UDF Forms, click the button **Apply to symbol**.

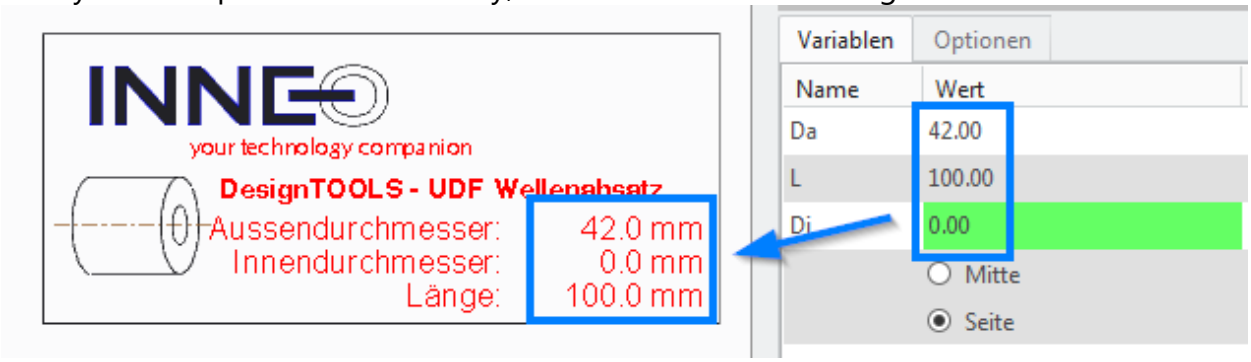
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Place the prepared symbol (1)

Click on "Apply to symbol" (2) and select the placed symbol

Select the placed symbol in the drawing. The UDF is now linked to the drawing symbol. The symbol is updated automatically, each time the UDF is changed.



If the UDF is changed, the symbol updates automatically

12.3 Configuration

This section contains further information on configuration and structure of UDF Forms Editor.

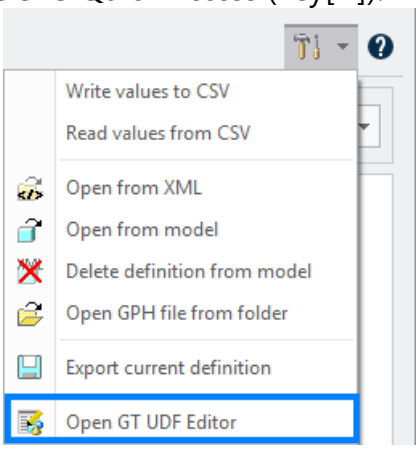
12.3.1 UDF Forms editor

With UDF Forms Editor UDF objects are created and edited afterwards. No changes are made to the UDF. All settings are stored in the XML structure of the UDF definition.

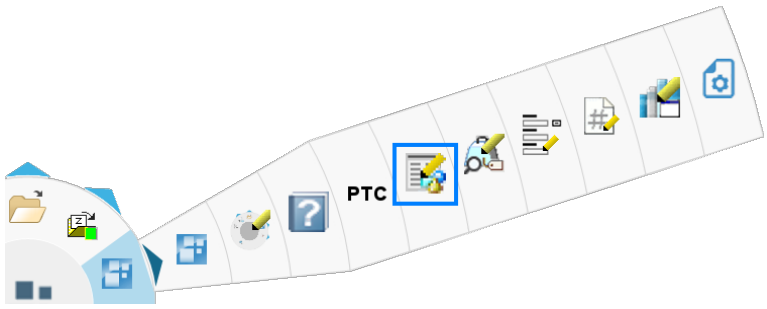
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Starting the program

Start GENIUS TOOLS UDF Forms Editor from the Tools menu of UDF Forms or via GENIUS TOOLS Quick Access (key[<]).



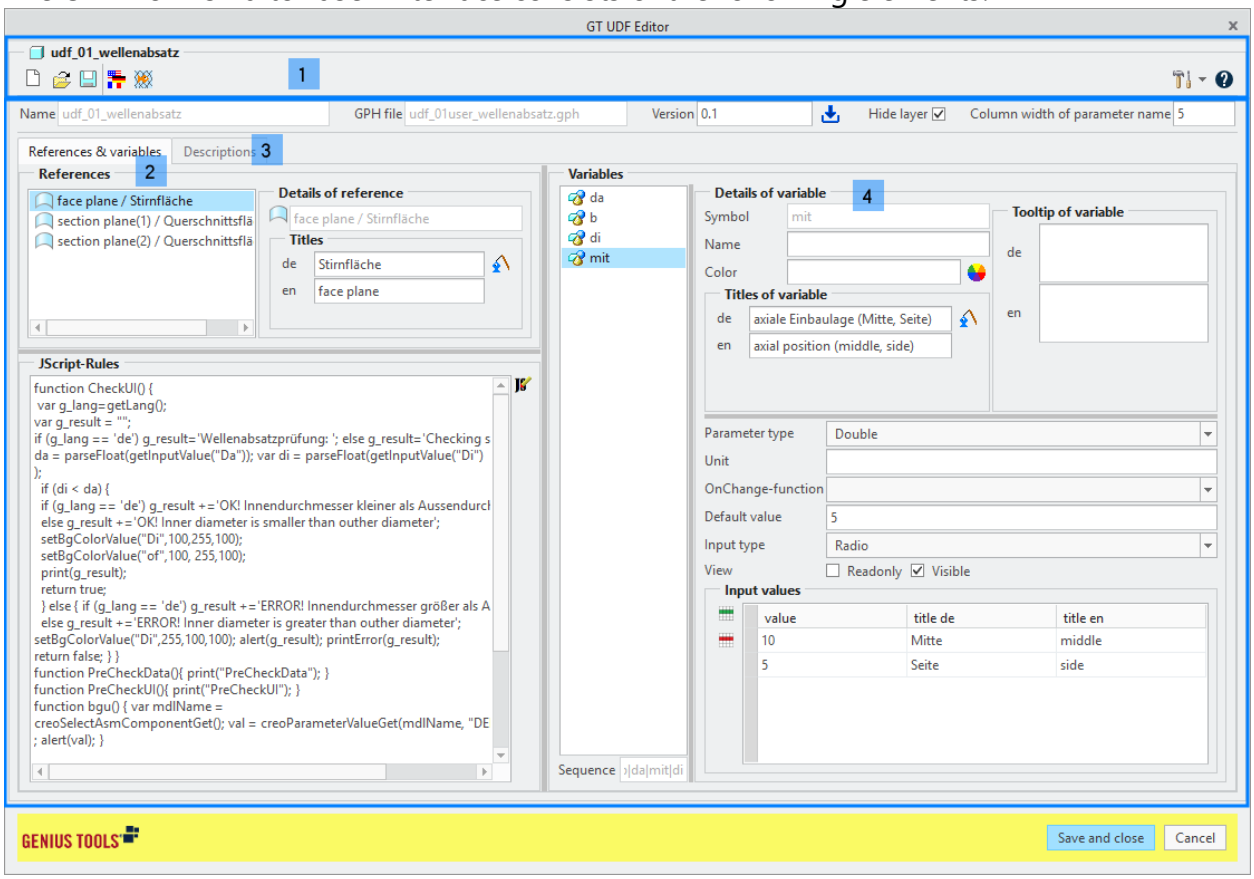
Starting from the tool menu



Starting via <%GTQA%

12.3.2 User interface

The UDF Forms Editor user interface consists of the following elements:



1. Command bar
2. Tab References and Variables
3. Tab Description
4. Detail view

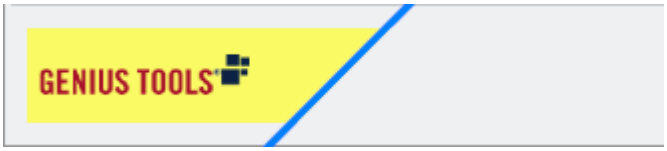
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12.3.3 Command bar

The following buttons are included in the command bar:

Icon	Name	Description
	Create new definition from GPH file	Creates a new UDF definition from the selected UDF in XML format.
	Open from XML file	Opens a UDF definition from the file system.
	Save	Saves the current UDF definition.
	Display variant list	Displays a list of available variants of the current UDF.
	Edit Languages	Opens the dialog for managing the languages of a UDF definition.
	Automatic standard texts	Opens the dialog for automatically setting standard texts for all variables and references. The table is also divided into these two areas. The identifier of the GPH file is used as the key for the translation for the references and the name for the variables. See Set standard texts for multiple elements 293
	Tools menu	The tools menu contains various supporting functions.
	Help	Opens the help.

The current location of the UDF definition is displayed above the command bar. If an internal UDF definition is edited, the footer turns yellow.



The footer changes color and indicates that an internal UDF definition is being edited.

Warning: Make sure to edit the correct definition!

Tools menu

Supporting functions are started from the tools menu.
Open a definition according to selected UDF model: Opens an external UDF definition for the model.
Create a new definition according to a selected UDF: Creates an UDF definition from the current selected UDF.
Open from GPH file: Opens an UDF definition from an UDF file.
Open from model: Opens an UDF definition from the current model.

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Save definition as XML file: Saves the current configuration to an external XML file.
Write definition into the model: Saves the current configuration into the UDF definition in the current model.
Delete a definition in the model: Deletes the selected UDF definition from the current model.

12.3.4 Description tab

In the detailed view, general information for UDF forms is stored.

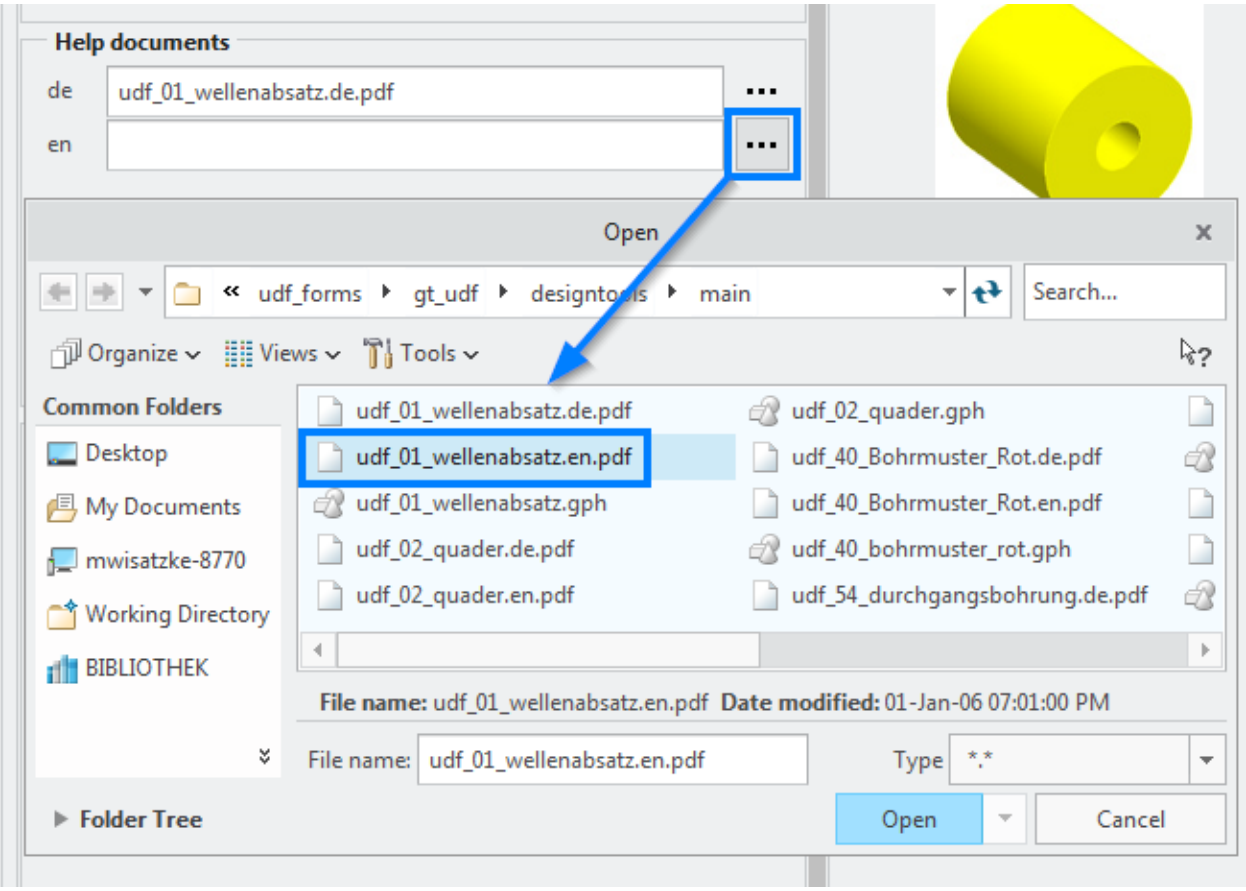
Name
The name of the UDF.

Column width of the parameter name
Determines the width of the first column of the form in characters. Specify any value.

Titles
Define the localized names of the UDF. They will be displayed in the UDF Form. Standard texts can be used via the button  (Description of the standard text selection dialog 292).

Help documents
Add language-dependent documents here. Enter the file path directly into an input field or select a file using the file selection.
Help documents have to be accessible and openable on client computers! The applications to use are specified by the client computer.
Supported path formats:
– absolute paths
– UNC paths
– HTTP paths
– If you enter the file name only, the help document is searched in the group directory and in the directory configured as `gtuf_data_folder`.

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Open the file selection and select a help document

Descriptions

Enter a localized description of the UDF here. The description is displayed in the UDF Form dialog next to the placement references, depending on the Creo language.

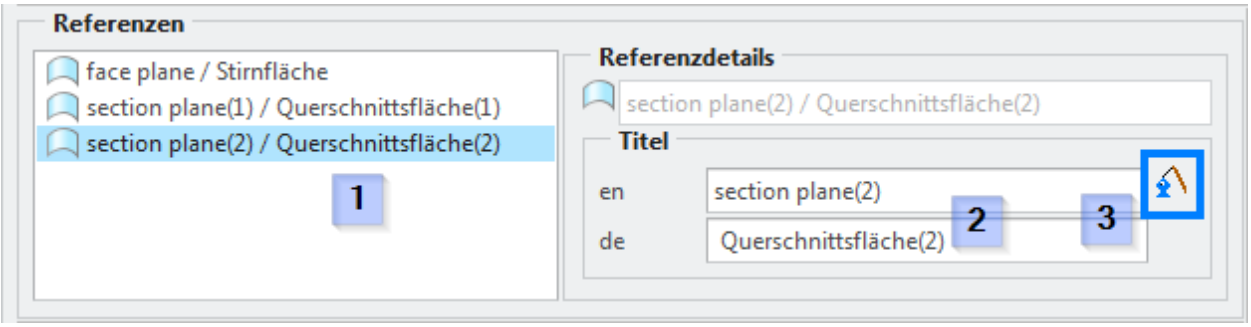
Images

Preview images are configured in this area. Since images can contain localized information, they can be stored individually for each language.
Enter the file path directly into an input field or select a file using the file selection.
Use the drop-down list **Preview** to switch between the localized preview images.

12.3.5 References

The placement references of an UDF are managed here.
The references of an UDF are displayed on the left. This references cannot be edited, since UDFs are not changed by the editor.
If references in an UDF are named in the `English text / translation text` format (with spaces before and after the slash), the reference titles are automatically filled in.
Reference details are displayed on the right. Here, localized titles of the references are defined for the UDF form. Select a reference and enter the language-dependent text directly in the input fields. Click the flag icon to edit the localized titles, alternatively.

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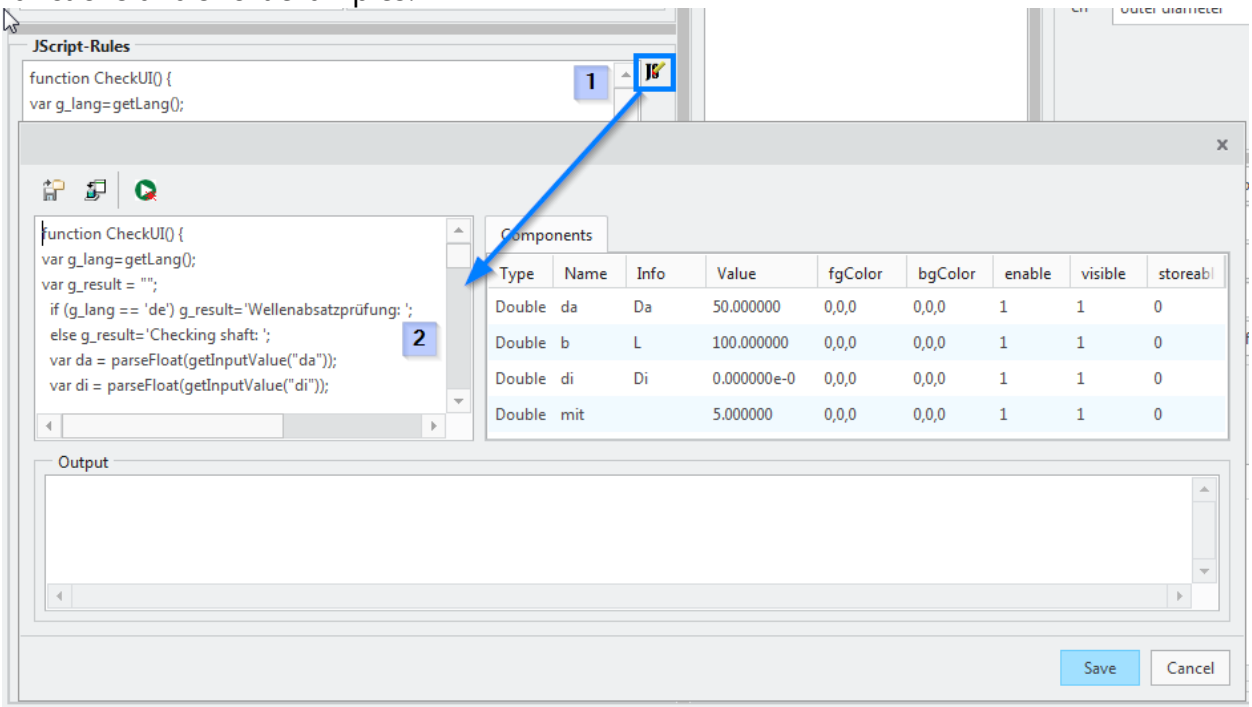


Select a reference (1). Then enter the localized reference titles directly (2) or use the standard text button (3)

Standard texts can be set via (Set standard texts 292).

12.3.6 JavaScript in UDF Forms

In the section **JScript Rules** in the tab **References and Variables**, executable JavaScript code for an UDF form is stored.
Enter JavaScript directly into the input field or use the JavaScript Editor 305. Click on the JavaScript icon to open the editor. Go here 307 for an explanation of the JavaScript functions and short examples.



Click on the JavaScript symbol (1) to open the JavaScript editor (2)

JavaScript can be executed at four different times:
– After loading an UDF object (function: PostLoad)
– Before saving an UDF object (function: PreSave)
– After clicking the button Check values in the UDF Forms dialog (function: CheckUI)
– After changing a variable value (function: OnChange)
The names of PostLoad, PreSave and CheckUI are fixed. Functions of the type OnChange can have any name. You can add as many as required to your JavaScript code.

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Tip: Use JavaScript to adjust the visibility and background color of separators.

12.3.7 Variables

Instanzen

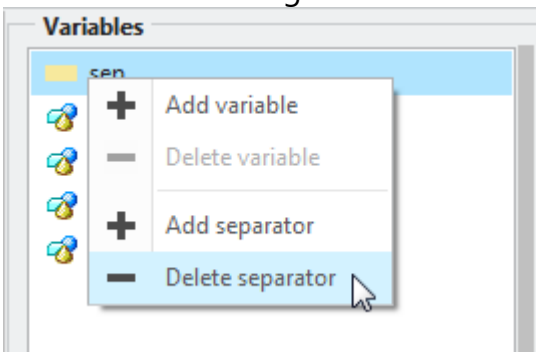
The **Instances** section is only displayed for UDF that contain variants or instances.
Use the drop-down list **Function after instance change** to select a JavaScript OnChange function.
Use the **Visible** check box to show or hide the variant selection in UDF Forms.

Variables

The **Variables** section manages the available variables for an UDF.
Two types of objects are be created in the variable list: Variables and separators. Use separators to structure the variables in UDF forms logically, for example as section headings.
The variable list is displayed on the left-hand side. On the right is the detail area for the individual variables.
Variables come directly from the UDF or are defined in an UDF form. Variables are required to adjust the UDF with the form area, but can also be used as auxiliary variables for calculations in JavaScript.

Please note: Parameters from an UDF are also displayed under Variables. If parameters are to be controlled with UDF Forms, they must be created at the first feature of the UDF (GPH file)! The parameters are written to the UDF group in the model later.

Click on a variable to display its properties in the details area. Use the context menu in the variable list to manage variables and separators in the list.



Use the right mouse button in the variable list to open the context menu

Variable details

Symbol: The internal name of a variable or separator. The symbol can be changed for manually created objects.
Name: Defines the name of a variable. The name is displayed in the third column of the form.

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Color: Defines the background color of the UI element. The color can be selected via the color dialog 341.
Parameter type: Defines the data type of a variable. Text, Integer, Boolean and Double are available.
Default value: Defines the value of a variable that is entered into the mask when the surface is reloaded and updated. This value is also entered for value tables. Behind a value of a value table there is always a set of variables with one value each. When saving the UDF definition, the system checks whether the default value of the value table matches the default values of the variables of the associated record. Instances are not taken into account!
Unit: Defines the unit of a variable.
Input type: Defines the field type of a variable in an UDF form. Text field, Selection, Radio, Hidden and Value table are available for selection. Hidden input fields are not displayed. Set the input type of variables that should not be changed by user input to **Hidden**.
Input values: For checkboxes and radio buttons. Defines possible values for the selection in the UDF form.
Title: Defines the title of a variable or separator. The title is displayed in the fourth column of an UDF form. Standard texts can be selected in the default text dialog 292.
Tooltip: Defines localized tooltips. These are displayed when the cursor is placed over the variable or separator in UDF form.

12.3.8 Field types

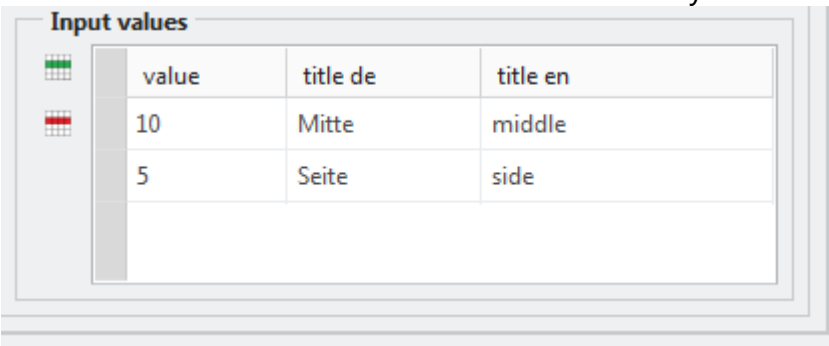
In GENIUS TOOLS UDF Forms you can use different field types in forms.

Input field

Input fields accept different entries.
Enter a default value for text fields. The default value is the prefilled value in the form.

Selection fields and radio buttons

Selection fields and radio buttons are controlled by a table consisting of values and labels.



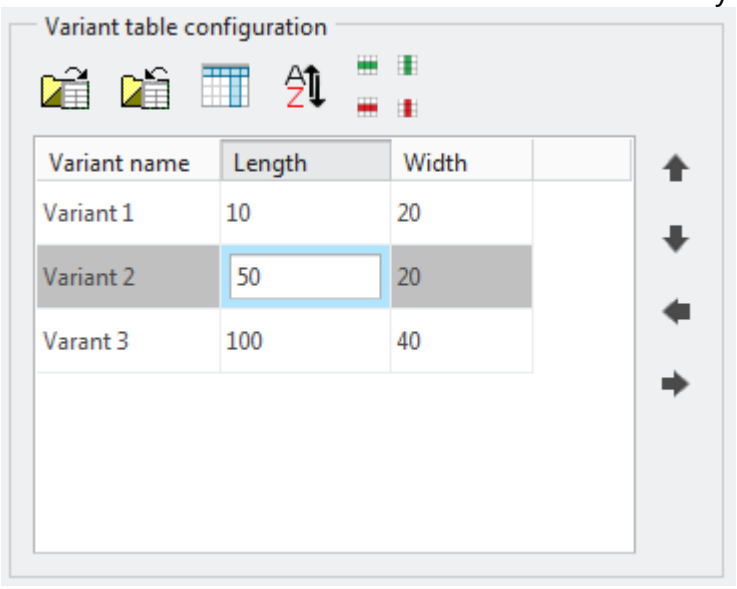
Select a line and remove it by clicking on the red table symbol

Use the buttons on the left to add and remove rows.

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Value tables

Value tables control several variables simultaneously. Each table line is a single variant.



Use the arrow buttons on the right to move rows and columns in the table.

The following buttons are available for editing:

Icon	Name	Description
	Import value table from file	Imports a value table from the following file formats: – xls (Excel 97-2003) – xslx (Excel 2003-2016) – csv (Comma-separated values) – txt (text files with UTF-16LE/Unicode formatting)
	Export value table to file	Exports a value table to the formats: – xls (Excel 97-2003) – xslx (Excel 2003-2016) – csv (Comma-separated values)
	Edit value table in spreadsheet software	The value table is opened in a spreadsheet program (depending on the client computer) and can be edited. Then it is reimported.
	Sort selected column	Sorts the rows by the active column. Three sorting orders are available: – 0-Z – Z-0 – initial
/	Add/Remove row	Adds a new line under the current cursor position. To remove, select a

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		row and click *Remove row*.
/	Add/Remove column	Adds a new column to the right of the current cursor position. To remove, select a column and click *Remove column*.

Use the arrow buttons on the right to move rows or columns.

Please note: Any changes to a value table made in a spredsheet program (deleting, moving or editing rows or columns) are adopted as-is in GENIUS TOOLS UDF Forms.

Hidden variables

Set the input type to **Hidden** to not display variables in the form. Use this functionality for variables that should not be changed by user input.

12.3.9 Use cases

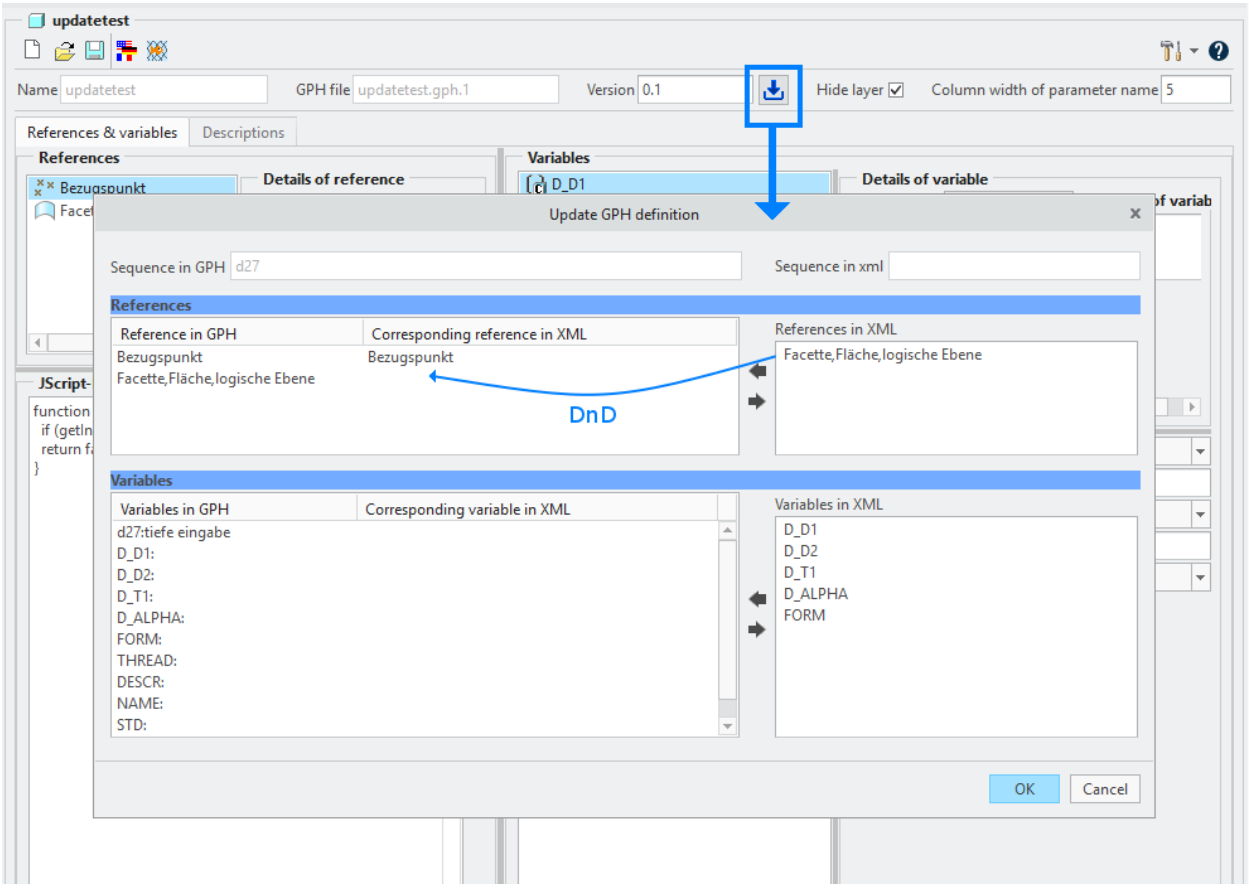
Updating UDF definitions

The GPH file on which a UDF is based is being modified several times during the development process.
Creo and therefore also GENIUS TOOLS UDF Forms always uses the current GPH file.
The UDF definition used by the module GENIUS TOOLS UDF Forms Forms is read from the directory and then no longer matches the GPH.
If a new UDF definition is created for the current GPH, the descriptions, help documents, JavaScript code, etc. are no longer included in the definition.
To solve the problem, there is now an update mechanism in GENIUS TOOLS UDF Forms Editor.
In this context, a version is stored in the UDF definition. When creating the UDF, the parameter `UDF_VERSION` is added to the created group. Several UDF definitions of the same name are now also supported in the model.

Warning: GPH files of older versions must not be in the session during the update process!

The update mechanism is started in the editor:

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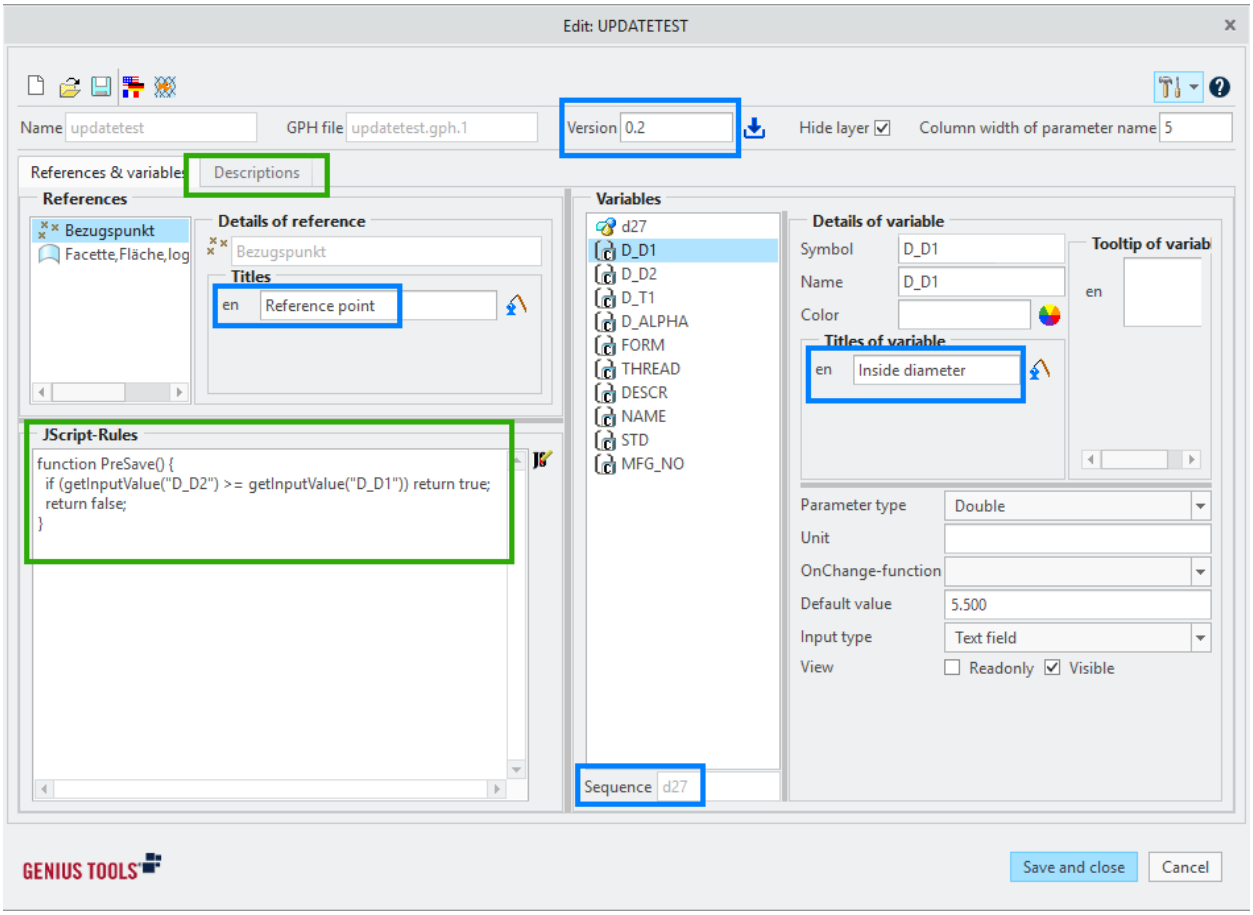


Update Dialog

In the update dialog, the individual references and variables of the current GPH are now compared with the references and variables of the UDF definition. The program creates an automatic assignment. Further assignments can be created using DragAndDrop. The assignment can also be done with the arrow keys. The table cells of both areas must be selected.

After saving, the version of the UDF definition is automatically incremented by 1, references that are no longer needed are removed and former variables from the sequence are also removed. Descriptions, help, JavaScript code etc. are retained.

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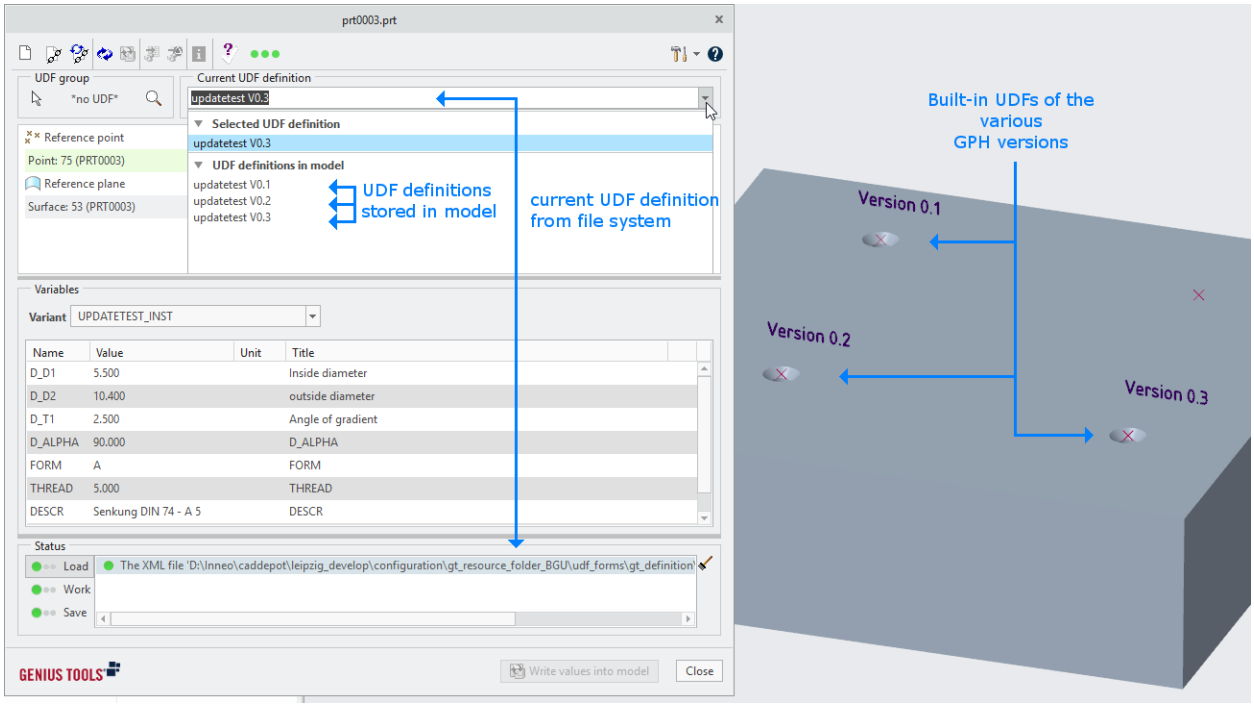


Result of the update

The blue areas show the adjusted or accepted values and the green areas show the values retained.

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Model with UDFs in three different versions



After the update, UDF groups of older versions can also be edited with the corresponding UDF definitions.

This way, dimensions and parameters can be adjusted. The current GPH is always used for exchanging instances or creating a new UDF group.

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13 Utilities

GENIUS TOOLS Utilities comprises several individual applications. Utilities contains the following applications which can be used in different modes:

Application	Typ independent	Assembly	Part	Drawing
3D note value input		X	X	
Show information	X			
Component parameter		X		
Point		X	X	
Create Search.pro	X			
Change standard texts	X			
Show Pitch		X	X	
Copy Table 1:1 to Excel				X
Table to Excel				X
Export Table to CSV				X
Create tolerance table				X
Open/create drawing		X	X	
CS Assembler		X		

Also refer to chapter GENIUS TOOLS for Creo 343 configuration.

Please note: The CS Assembler module is only available with subscription licences for GENIUS TOOLS for Creo.

13.1 CS Assembler

CS Assembler is a tool for automatically adding a number of components to an assembly.

Please note: CS Assembler is only available with subscription licences for GENIUS TOOLS for Creo.

The target assembly and the component models have to contain specific coordinate systems. In the target assembly, the relevant coordinate systems are specified by component parameters. In the component models, the relevant coordinate systems are specified by a common name, which is defined in a configuration option.
The assembling process works by making the corresponding coordinate systems coincident to each other.
The assembling instructions are defined in an XML file which assigns a target coordinate system in the assemby to each component model. For each component model, the file defines which target coordinate system or which target coordinate systems of the same name should be used.

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Prerequisites

In order to be able to use CS Assembler, the configuration option `gtu_start_csassembler` has to be active, that is, set to 1.
Each model that is to become a component of the target assembly has to have an assembling coordinate system, which has to have the name specified in the configuration option `gtu_csassembler_component_cs_name`.
The models to be assembled have to be located in the Creo search path.
The assemby that is to receive the components has to have a target coordinate system for each model to be assembled. The target coordinate system has to be identifiable via the component parameters **CLASSIFICATION** and **SUBTYPE**. These parameters are used to assign a target coordinate system to each component model in the XML assembling instruction.
If there are multiple target coordinate systems in the assembly that fit the assembling instructions, the component model is added multiple times.

XML assembling instructions

The assembling instructions have to be available in a specified XML format and in UTF-8 encoding. This section describes the required XML format.
The root element `root` does not carry any additional information.
Each model to be assembled is defined by an element `assemble` with the following attributes.:

- `file`: File name of the model, with extension
- `classification`: Value of the **CLASSIFICATION** parameter on the target coordinate system
- `subtype` (optional): Value of the **SUBTYPE** parameter on the target coordinate system. You can use different values for the **SUBTYPE** parameter in order to use multiple target coordinate systems with the same **CLASSIFICATION**.

`assemble` is an empty element.

Example

```
<?xml version="1.0" encoding="utf8"?>
<root>
    <assemble file="PRT001.prt" classification="001" subtype=""/>
    <assemble file="PRT002.prt" classification="002" subtype=""/>
</root>
```

Starting the program

Open the assembly that you want to add components to.
Start **CS Assembler** via the ribbon menu in the GENIUS TOOLS tab, **Utilities** group.



Select the XML file that contains the assembling instructions. The models specified in the XML file are added to the assembly.

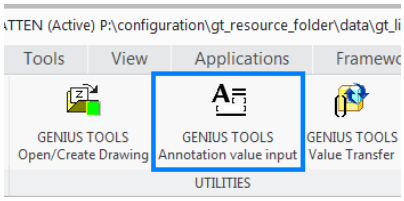
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13.2 Annotation Value Input

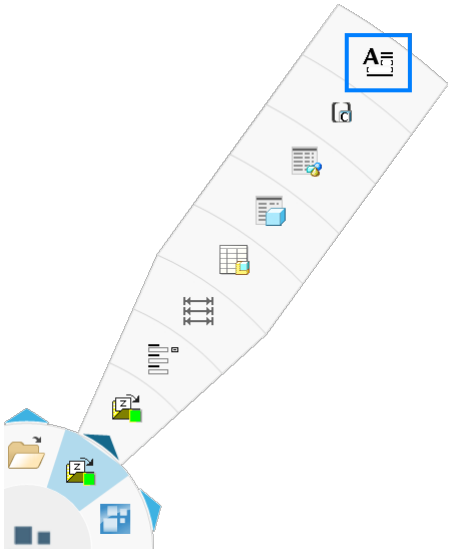
Modify dimension and parameter values quickly and comfortably using 3D notes and the 3D note value input.

Starting the program

Start *Annotation Value Input* in assembly mode via the ribbon menu in the GENIUS TOOLS tab or via GENIUS TOOLS Quick Access ([<] key)



Starting via the ribbon menu

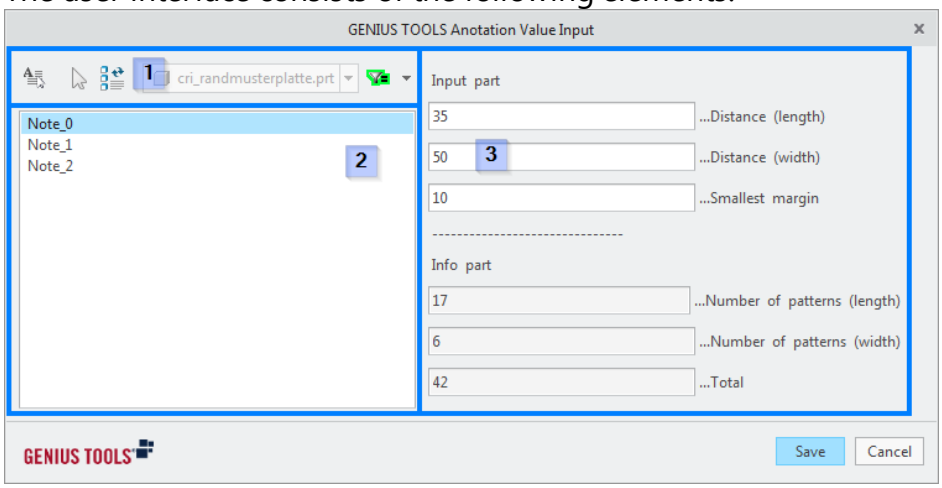


Call-up via Quick Access

Tip: *Annotation Value Input* can only be started in assembly mode, or if notes exist in a part.

13.2.1 User interface

The user interface consists of the following elements:



1. Command bar
2. Notes list
3. Current note

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Command bar

The following buttons are included in the command bar:

Icon	Name	Description
	Note selection	Allows to select notes directly in the Creo main window.
	Model selection	Enables direct selection of models in the model tree or in the graphics window. NOTE: The function is only available in assembly mode!
	Save and regenerate	Saves the current note and regenerates the model with the current values.
	Filter	Filters by notes with input options.

Selection list

The command bar includes the selection list. In assembly mode this drop-down menu displays the most previously selected assemblies and parts.

13.2.2 Display of notes

The note list displays all notes of the currently selected model.
Use the filter in the command bar to limit the display to notes that accept inputs.

Current note

To the right of the note list, the content of the currently selected note is displayed.
Notes are displayed with static and dynamic contents. Static note contents are texts.
Dynamic contents such as parameters or dimensions are displayed as input fields.
Modify the values in the input fields as desired. After saving and regenerating the new values are transferred to the model.

> **Please note**: If notes are longer than 15 lines, they are displayed in page mode. In this case, a note is split up and two buttons to switch pages are displayed.

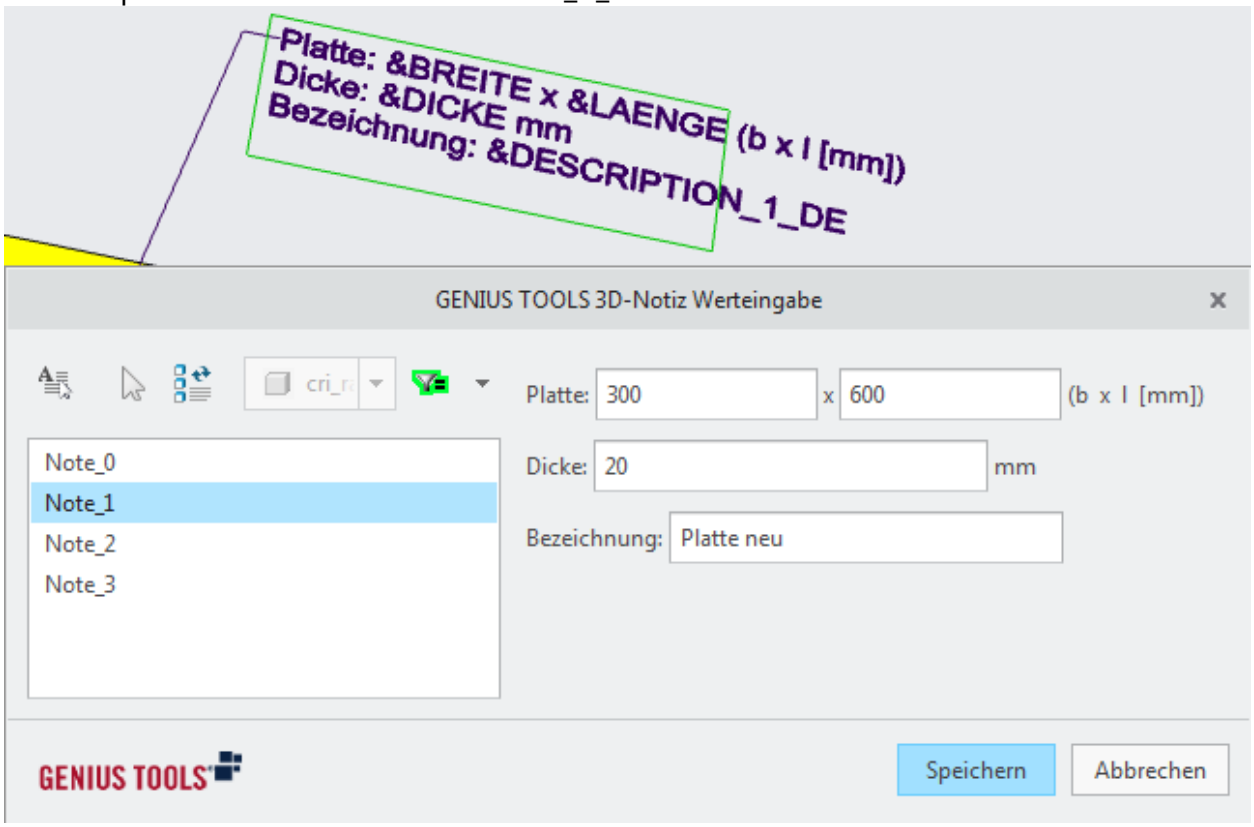
13.2.3 Editing notes

Create and edit notes on models as usual. When using static texts only, they cannot be modified in Annotation Value Input.
Enter parameters and dimensions into notes in following notation to make them editable with *Annotation Value Input*:
Parameter: `&ParameterName`
Dimensions: `&DimensionName`

Example
If you have three dimensions `WIDTH`, `LENGTH` and `THICKNESS` as well as the parameter `DESCRIPTION_1_EN` in your model, the following text for the note will resolve to the following note content.

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Notiz	Hinterlegter Text	Notizinhalt
Plate:	&WIDTH x &LENGHT (w x l [mm])	300 x 600 (b x l [mm])
Thickness:	&THICKNESS mm	20 mm
Description:	&DESCRIPTION_1_EN	Plate new



Parameters and dimensions as dynamic contents can be edited in the note

13.2.4 Calculations in notes

The Annotation Value Input supports arithmetic operations and math functions.
They differ in notation from default arithmetic operations in Creo. To use an arithmetic operation the expression must begin with the equals sign (=).
Example: "=12-d4" or "=Math.pow(d2,3)"

Please note: Dimension units will be ignored in calculations, only the values are used.

Mathematical function	Description	Input example
+	Addition	=d27+5
-	Subtraction	=12-d4
/	Division	=d42/23
*	Multiplication	=d31*3
Math.sqrt(x)	Square root	=Math.sqrt(9)

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Mathematical function	Description	Input example
Math.pow(x,y)	Power (x to the power of y)	=Math.pow(d2,3)
Math.abs(x)	Absolute value	=Math.abs(-5)
Math.round(x)	Commercial rounding	=Math.round(2.565)
Math.ceil(x)	Round up on next integer	=Math.ceil(3.6)
Math.floor(x)	Round down on next integer	=Math.floor(3.4)

Calculations example

If you have a parameter named `VOLUME` in your model and it is not filled automatically, you can add the following line in your note:

```
Volume: &VOLUME mm@+3@#
```

Now, if you want to fill this parameter via the *Annotation Value Input*, you can enter `=WIDTH*LENGHT*THICKNESS` into the input field; the volume is calculated automatically and adopted into the parameter.

Please note: Calculation formulas will not be saved.

Also refer to the GENIUS TOOLS for Creo 302 configuration section.



Enter the formula and click on "Save and regenerate" The result will be adopted into the note

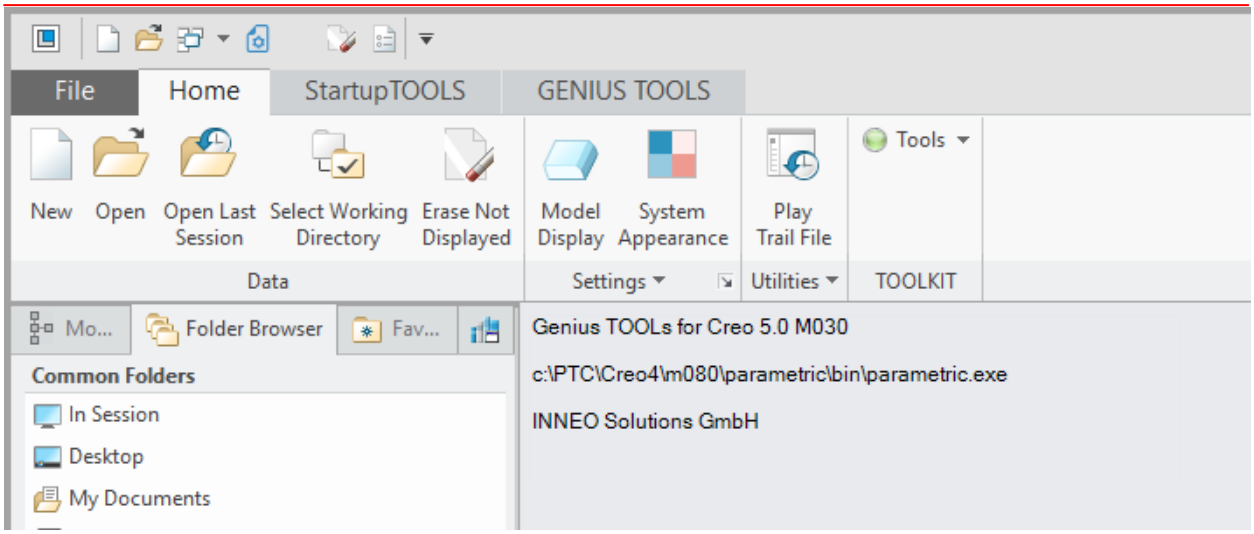
13.3 Show information

Textual information is shown in the Creo Parametric drawing area, if no model is displayed.

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If the config options are defined, the module starts with GENIUS TOOLS for Creo initialization.

Warning: If the Creo configuration option `web_browser_in_separate_window=yes` is set, no information text can be displayed.



Configuration

The text to display is defined by the config option `gtu_ui_change_show_info_text`.
To create a line break, write `<br>` or `</br>`.
Variables which are defined with % are used differently from the standard way described under Variables 389. Variables are searched and replaced in the following order. If no value is found in one step, the next step is tried:
– Creo Parametric Configuration option
– environment variable
– GENIUS TOOLS for Creo Configuration option
– the variable is not replaced
The replacement happens at GENIUS TOOLS for Creo start. Other variables are replaced at runtime (e.g. `$ENVIRONMENT_VARIABLE$` or string replacements).
Please also refer to Configuration of the GENIUS TOOLS for Creo 376.

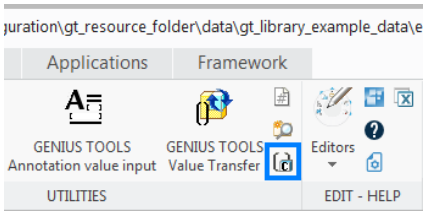
13.4 Component Parameter

GENIUS TOOLS *Component parameter* creates component parameters in assemblies. A component parameter allows to assign and edit values for models of same name. With component models of same name it is possible to assign different component parameter values.

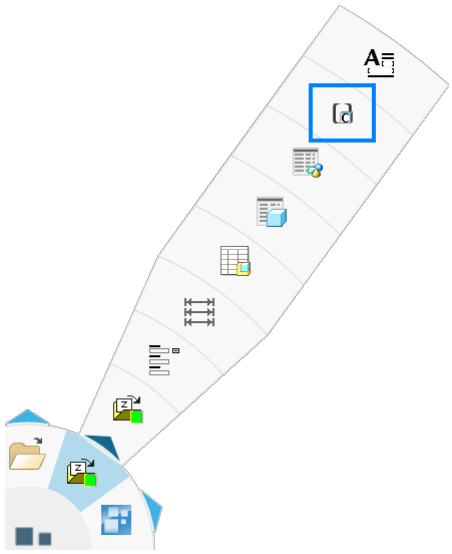
Starting the program

Start GENIUS TOOLS Component parameter in assembly mode via the ribbon menu in the GENIUS TOOLS tab or via GENIUS TOOLS Quick Access ([<] key).

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Starting via the ribbon menu



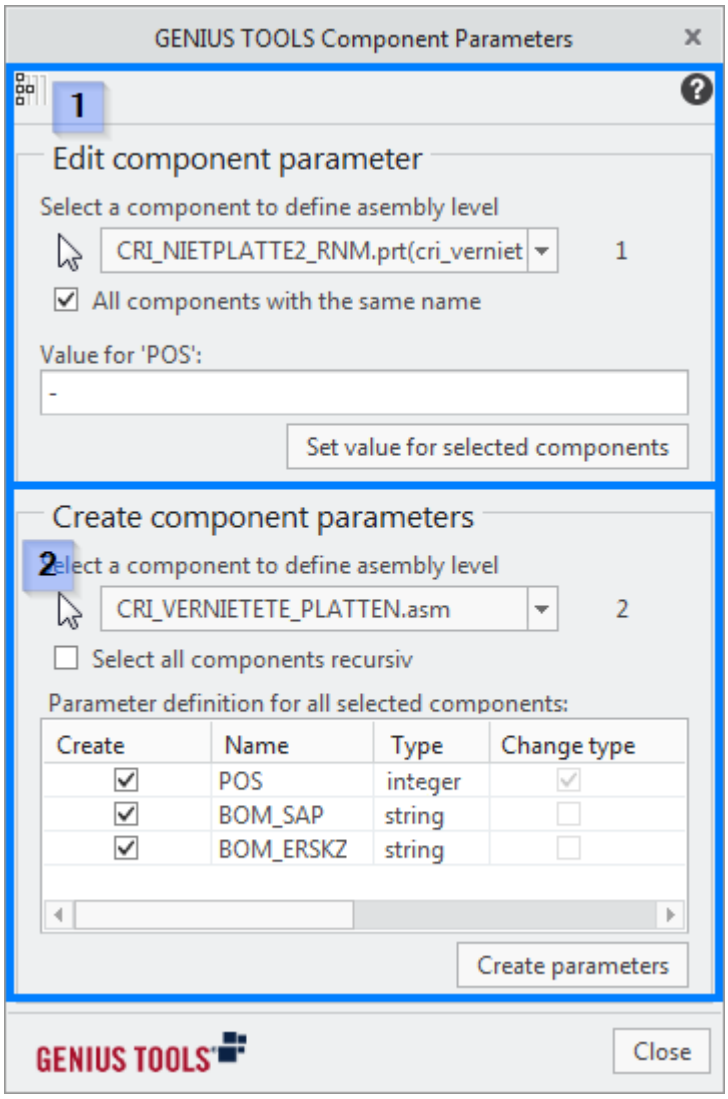
Starting via Quick Access

On Call-up component parameter starts with an empty selection. Select a subassembly in the model tree to start with a selection.

13.4.1 User interface

The user interface of GENIUS TOOLS Component Parameter consists of the following elements:

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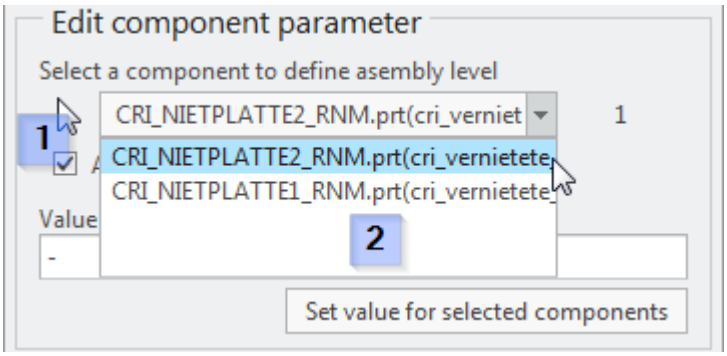
1. Configuration of the position number parameter
2. Area to create the component parameters

Use the button (above 1) to display the model tree. The component parameters are automatically displayed as an additional column in the model tree (this can be configured individually for each parameter).

13.4.2 Editing position number parameters

The parameter values for assembly elements are set in the editing area.
Use the model selection to select a subassembly or an element from it. Models already selected via the object selection are displayed in the list, too.

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The model selection with object selection (1) and drop-down list (2).

The number of assembled instances of the selected element is displayed right to the model selection. Click on the number to open a new window displaying the IDs of the assembled elements.

The **All assembly elements with same name** option aggregates repeatedly assembled assemblies or parts. This way it is possible to pass the same position numbers to all elements.

If the option is deactivated and multiple assemblies of an element have been detected, an individual value can be entered into the **Value for POS** table for each element.

> **Please note**: The name (POS) for the component parameter for position numbers may vary due to the configuration on your system.

13.4.3 Creating component parameters

The **Create component parameters** area is used to create parameters across an entire assembly or subassemblies.

> **Please note**: You can create any parameters. Prior to this, the parameters have to be created in the configuration.

Select the desired editing layer via the model selection. The number of affected elements is displayed right to the model selection. Click on the number to open a new window displaying the IDs of the assembled elements.

Example

If a part on the layer below the main assembly is selected, the main assembly will be displayed. All elements on the same layer and in the same assembly (in this case, the main assembly) as the selected part will be affected by the edit.

Activate the **Recursive selection of all assembly elements** option to select all elements underneath an assembly. Deactivate the option to select only those on the first layer.

The table displays the component parameters to be created. Select or deselect individual parameters using the **Create** option.

> **Please note**: Parameter properties can only be modified in the configuration of the XML file.

Click on **Create parameters** to create all selected parameters in the assembly elements.

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13.4.4 XML configuration

The position number parameter and the component parameters to be created are specified in the **gtu_component_parameters.xml** file in the **component_parameter** subfolder of **gt_resource_folder**:

```
<gtuCP version="1.0">
  <info>
...
  </info>
  <posParameter name="POS"
                defaultValue="5"
                type="string"
                designate="1"
                isInMdlTree="1"
                colWidth="8"/>
  <parameters2Create>
...
  </parameters2Create>
</gtuCP>
```

The XML file to be used is specified via the `gtu_comp_file_name` configuration option.

Position number parameter

The following attributes are required for the position number parameter:

XML attribute	Description
name	Specifies the name of the position number parameter to be created.
defaultValue	The default value displayed in the text box.
type	Specifies the parameter type. Available are *string*, *integer* and *double*.
designate	Should the parameter be designated when used with Windchill (0: no, 1: yes).
isInMdlTree	Specifies whether the parameter should be displayed in the model tree when clicking the associated button.
colWidth	If *isInMdlTree* is active, this attribute determines the width of the column for this parameter in the model tree in characters.

Example

```
<posParameter   name="POS"
                defaultValue="5"
                type="string"
                designate="1"
                isInMdlTree="1"
                colWidth="8"/>
```

Warning: Only one position number parameter will be processed.

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Component parameter

Also creation and initial filling of the component parameters is controlled via this XML file. Any desired target component parameters with different properties can be specified:

XML attribute	Description
name	Specifies the name of the parameter to be created.
defaultValue	The default value entered when creating the parameter.
type	Specifies the parameter type. Available are *string*, *integer*, *double* and *bool*.
designate	Should the parameter be designated when used with Windchill (0: no, 1: yes).
isInMdlTree	Specifies whether the parameter should be displayed in the model tree when clicking the associated button.
colWidth	If *isInMdlTree* is active, this attribute determines the width of the column for this parameter in the model tree in characters.
isType2Change	If *isType2Change* is "1", the selection box in the interface for the type change is active. If the parameter already exists in the component and the parameter type is different from the default type, the parameter is deleted and a new parameter with this name, the correct type, the original value and the original parameter description is created again.

Changing the type of component parameters is necessary, for example, if parameters with an incorrect type were added via Assembly Report. The value of the parameter and the description of the parameter are retained.

Example

```
<parameters2Create>
...
<parameter
    name="CompParam"
    defaultValue="-"
    type="string"
    designate="0"
    isInMdlTree="1"
    colWidth="4"
    isType2Change="1"/>
...
</parameters2Create>
```

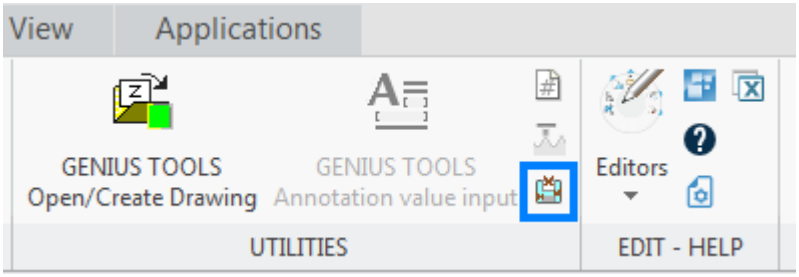
13.5 Points

With GENIUS TOOLS Points, you can export single points, curves and point groups as PTS files with different settings.

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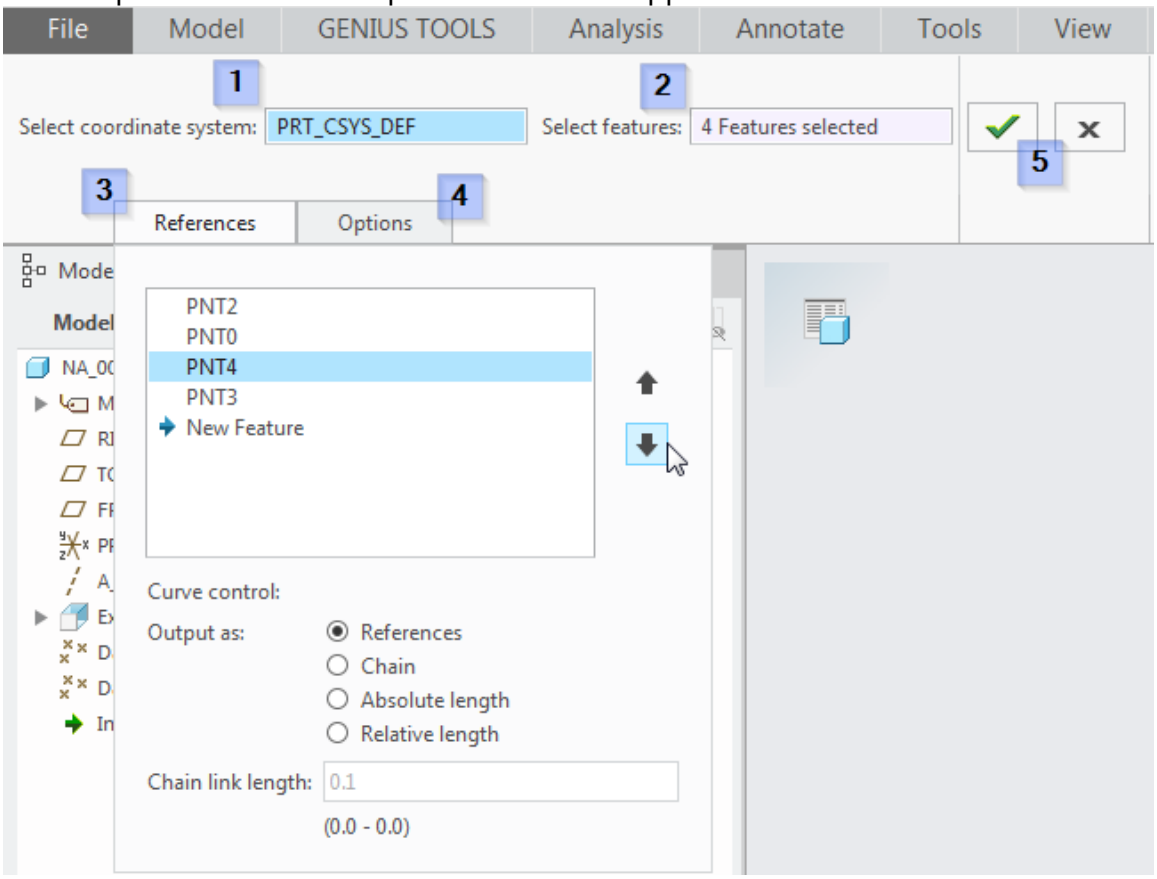
Starting the program

Start Points from the ribbon menu in the GENIUS TOOLS tab.



Procedure

1. Select a coordinate system.
2. Select Creo features like points, curves or groups of points. You can also select single-level patterns. Multilevel patterns are not supported.



The procedure for GENIUS TOOLS Points

3. Under **References**, check the order of the elements and adjust it if necessary.

Tip: Disband groups of points by using the context menu.

4. Define the output options of curves.
5. Check the precision (decimal places) under **Options**.
6. Confirm the dialog and save the point file.

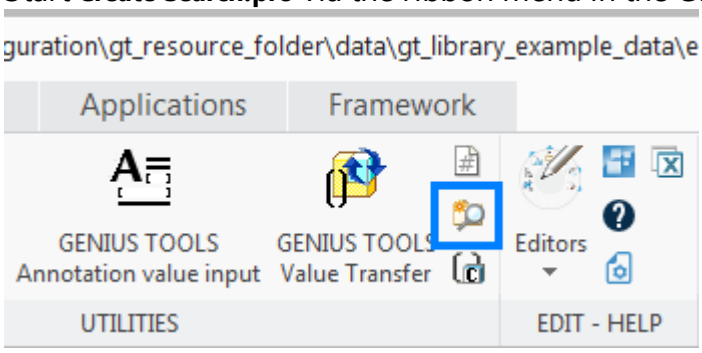
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13.6 Create Search.pro

GENIUS TOOLS **Create Search.pro** creates a project or assembly-specific **search.pro** file on the basis of customizable configuration settings.

Starting the program

Start **Create Search.pro** via the ribbon menu in the GENIUS TOOLS tab.



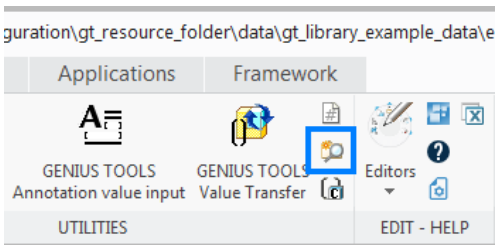
A save dialog is opened after starting. When the storage location is selected and the file has been saved, the GENIUS TOOLS **Create Search.pro** function is completed.
The contents of the **search.pro** file depends on the configuration.

13.7 Show Pitch

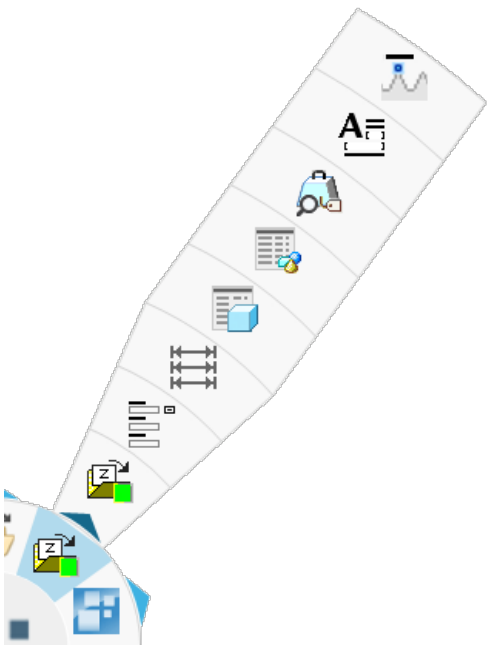
This function places a text specified in the configuration on a non-cosmetic thread.

Starting the program

Start **Show pitch** via the ribbon menu in the GENIUS TOOLS tab or via GENIUS TOOLS Quick Access ([<] key).



Starting via the ribbon menu



Call-up via Quick Access

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Select a dimension of a threaded hole (non-cosmetic thread) in Creo. The text of the selected dimension will be replaced with the text specified in the configuration. The variable `@feat_id@` can be used here, which is replaced with the feature ID.

Example

– The dimension of a threaded hole is selected
– The function replaces the dimension with : `@D x &PITCH:FID_1107[.2]`
– with the configuration: `@D x &PITCH:FID_@feat_no@[.2]`
– Afterwards will be displayed: **1.0 x 0.30**

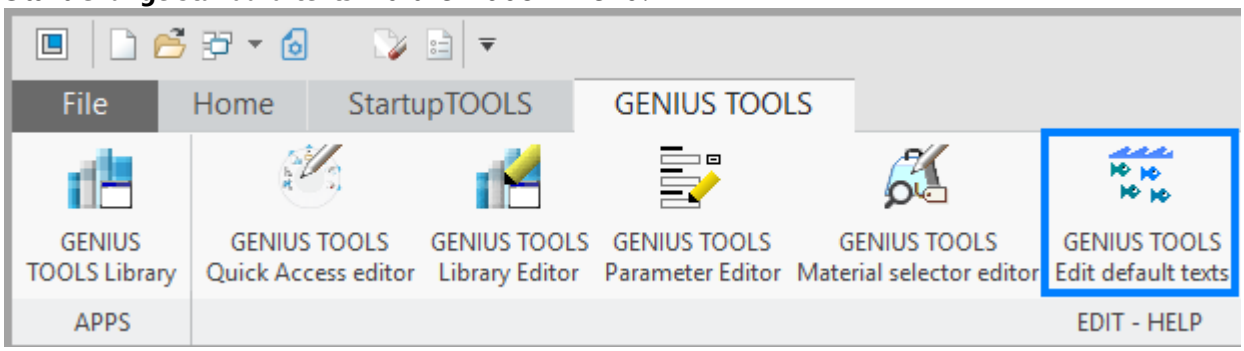
This way the display of a dimension created in a English Creo Parametric installation will be filled correctly. In an German Creo Parametric installation the configuration has to be changed from `PITCH to STEIGUNG`.
Also refer to chapter GENIUS TOOLS for Creo 302 configuration for this.

13.8 Standard texts

Create a database with standard texts which can be used in multiple GENIUS TOOLS for Creo modules to fill multilingual Descriptions partly automated.

Starting the program

Start **Change standard texts** via the ribbon menu.



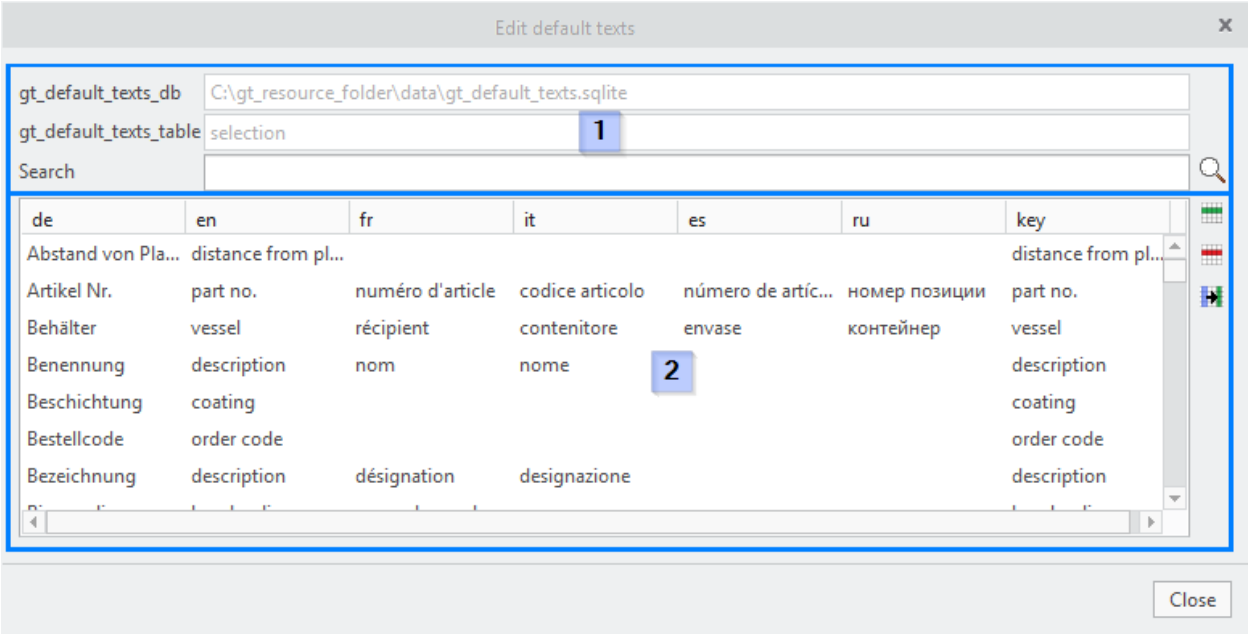
Start via the ribbon menu

GENIUS TOOLS Change standard texts starts with the database and table defined by the configuration.

User interface

The UI of GENIUS TOOLS *Change standard texts* contains the following elements:

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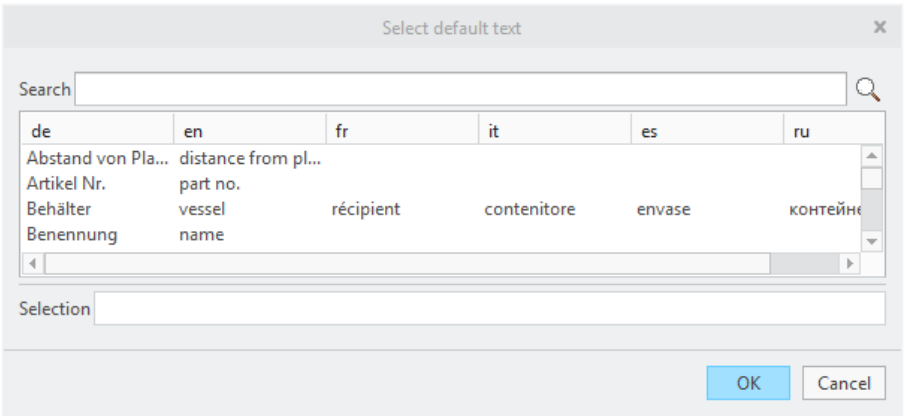
1. Configuration options and filters
2. Tabular editor

You can use the filter function (Search) to filter down the list of editable elements(2). These could be edited directly inside the table.
You can add elements/rows with the button and remove elements/rows with the button.
To add or delete languages, the database accessed via the configuration must be changed accordingly.

> **Tip**: The editor can be opened over the complete runtime. So the texts can be changed or added while you use **Set standard texts** at the same time. Already set values will not be affected by these changes.

13.8.1 Set standard texts

Standard texts could be set on every element that has a fish button ( ) next to it.
Click on the fish button ( ) to open the dialog for multilingual text selection of standard texts. You can use the search field to filter the text list.

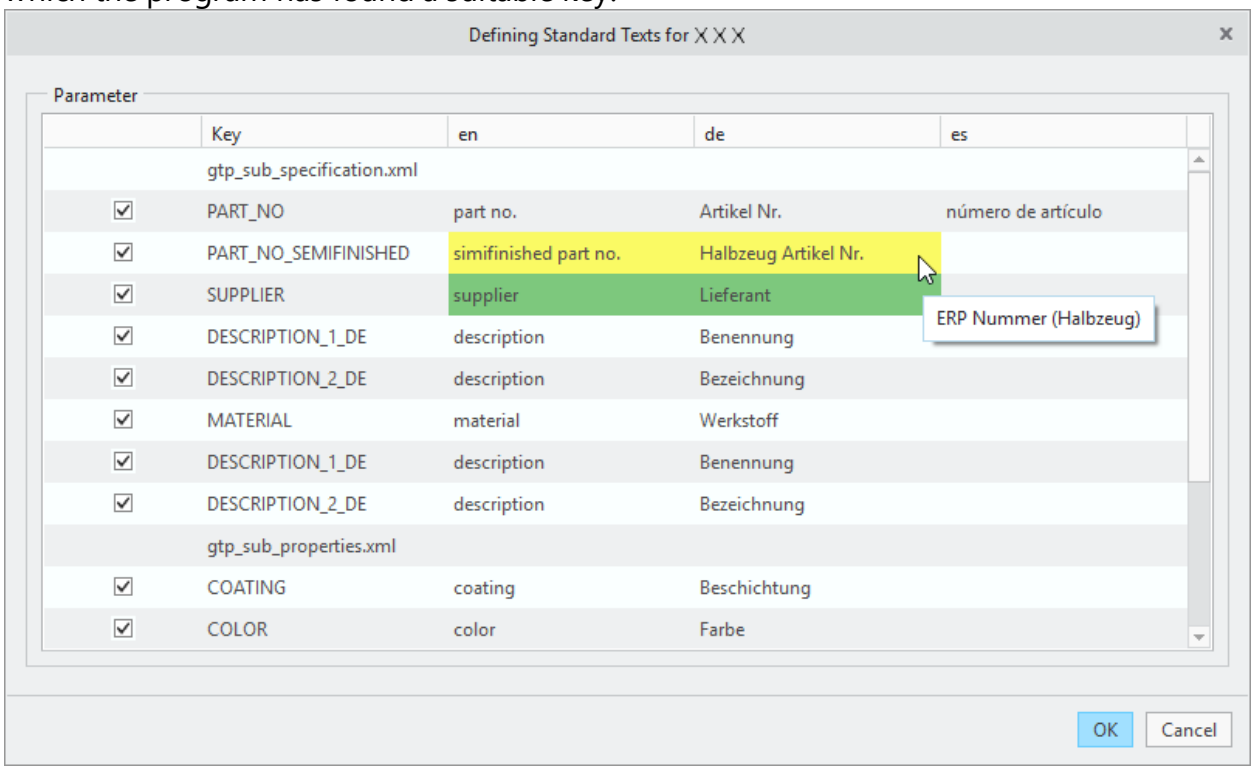


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Select a standard text and click OK. The selected text is transferred to the language dependent fields. To change the standard texts, use GENIUS TOOLS Change Standard texts 292.

13.8.2 Set standard texts for multiple elements

In the various editors, it is possible to store standard texts for a single element (e.g. parameter in Parameter or measurement in Forms). This function is called via .
In addition, standard texts for several elements can also be stored in some editors. The automatic setting of standard texts is called up via the button . The program collects all suitable elements and transfers them to the user interface for automatic setting of standard texts. An attempt is made to find a suitable translation on the basis of a keyword in the database. The result is displayed in a table. The table lists only those elements for which the program has found a suitable key.



New values cannot be entered here.
The values in the column **Key** depend on the module. For example, Parameter contains the names of the parameters and separators.
The language columns depend on the displayed columns in the calling editor.
The background colors of the individual cells have the following meaning:

– white: The translation of the element in the editor matches that in the database.

– green: The element has no translation in the editor yet.

– yellow: The translation of the element in the editor is different from the translation in the database. The translation of the editor appears as a tooltip.

If the dialog is confirmed with OK, all checked lines are transferred to the editor.

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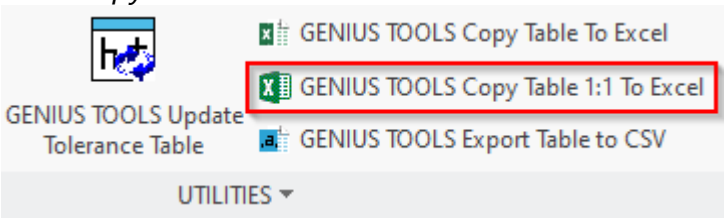
13.9 Copy Table 1:1 to Excel

The function creates an Excel file (XLSX, Excel file without macros) with parameters and texts from table cells.

Warning: The Excel export requires Excel 2010 or later on the executing computer. Make sure that no Excel instance is running when you export a table.

Starting the program

Start *Copy table 1:1 to Excel* via the ribbon menu in the GENIUS TOOLS tab.



Starting via the ribbon menu

You can also start the function via **Copy table to Excel** using the **One to One** option.
Copy table 1:1 to Excel generates an Excel file from a drawing table (**excel_tmp.xlsx**) which can be saved using any name.
When started, select a table in your current drawing. This table will then be exported as Excel. Merged cells will not be considered, the contents of the individual cells will be adopted as-is.

Please note: Tables are always exported exactly as displayed.

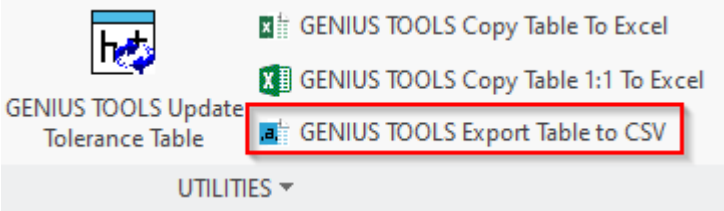
Also refer to the Configuration 302 section.

13.10 Export Table to CSV

GENIUS TOOLS Export Table to CSV exports a selected table, or a table template with data from a drawing. In both cases, the result is written to a CSV file.

Program start

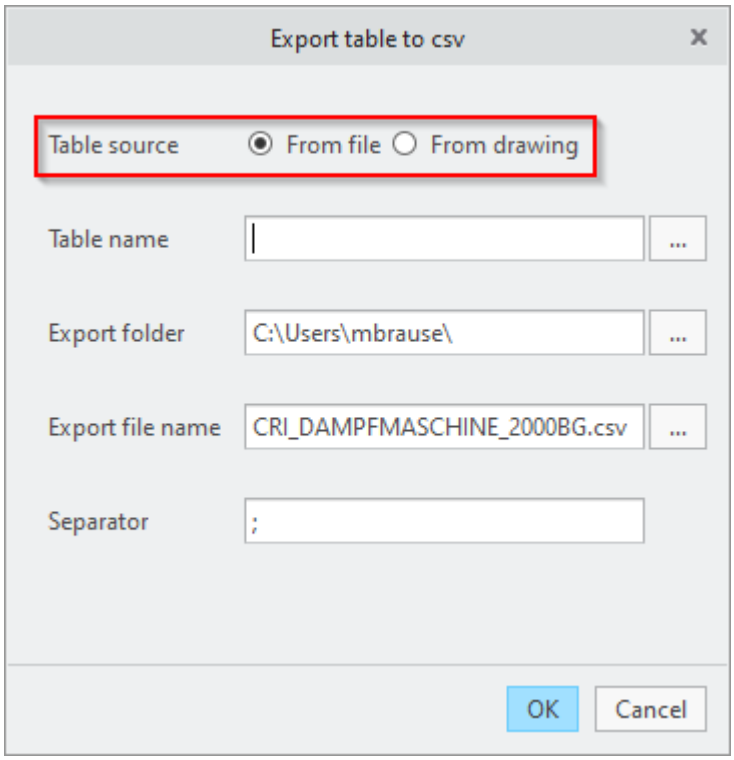
Start **GENIUS TOOLS Export Table to CSV** via the ribbon menu in the tab GENIUS TOOLS while a drawing is opened.



Create report

It can be chosen from two data sources
1. from file
2. from drawing

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A report from file adds a template table (*.tbl) to the current drawing. This template is filled using the table rules and exported to a CSV file After the export is completed, the table is removed from the drawing.
A report from drawing exports the selected drawing table to a CSV file The table is not changed.
Both possibilities can be preconfigured using configuration options 381.

13.11 Table to Excel

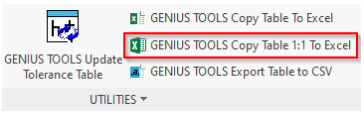
The function *Copy table to Excel* exports a Creo drawing table into an Excel file (xlsx or xslm file; Excel file with or without macros). The data to be exported can be specified using an Excel template.

> **Warning**: The Excel export requires Excel 2010 or later on the executing computer. Make sure that no Excel instance is running when you export a table.

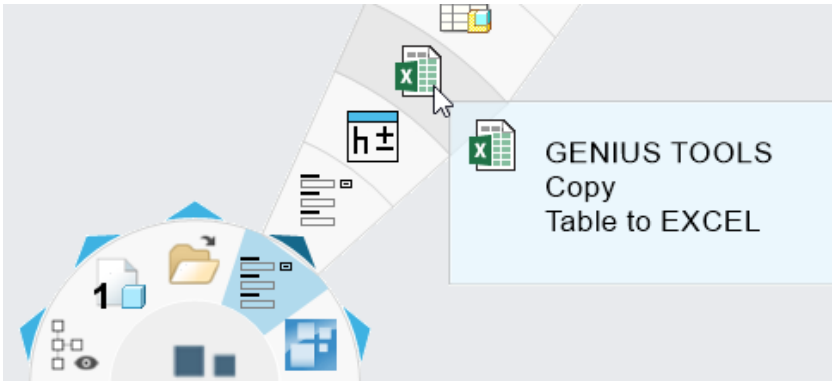
Starting the program

Start Copy table to Excel via the ribbon menu in the GENIUS TOOLS tab or via GENIUS TOOLS Quick Access ([<] key).

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Starting via the ribbon menu

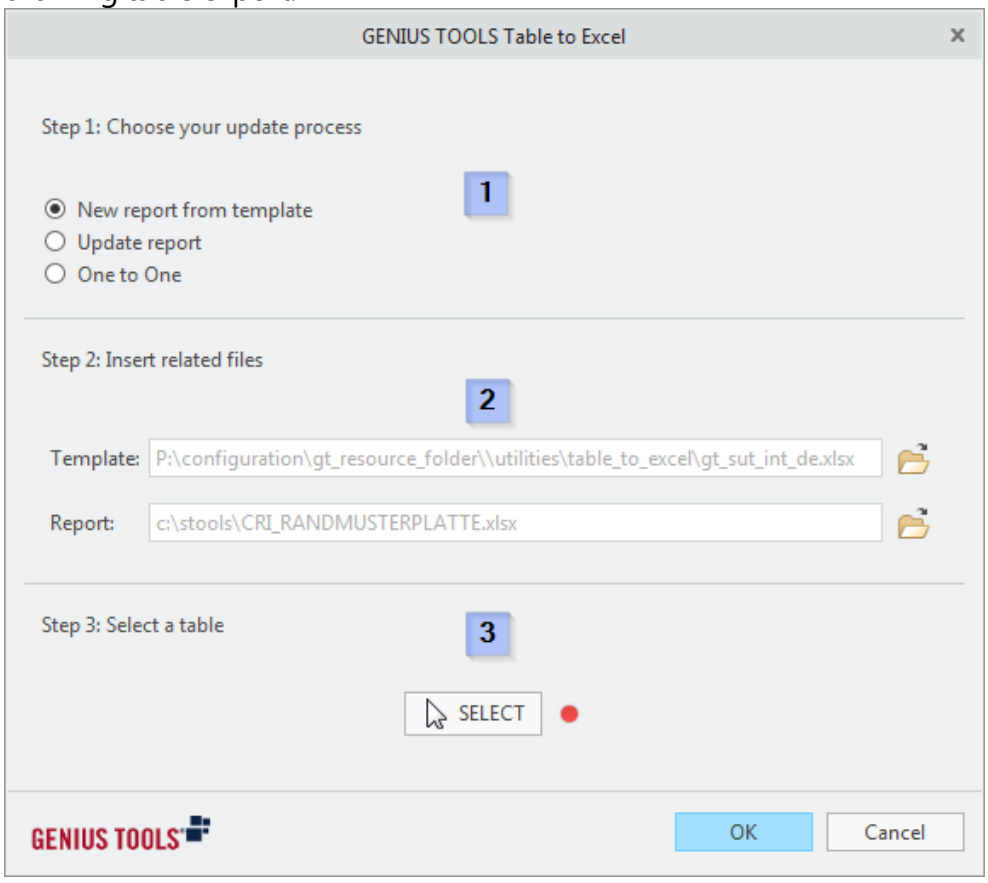


Call-up via Quick Access

For the **Copy table 1:1 to Excel** function, see section: Copy table 1:1 to Excel 294.

13.11.1 Creating reports

Follow the three steps in the dialog, then confirm the dialog by clicking "OK" to start the drawing table export:



Step 1: Select process

Choose from the three options:

New Excel document from template: Starts the function *Copy table to Excel*. This function fills an Excel template with the contents of a drawing table and saves the new Excel document.

Update Report: Updates an existing Excel file via the function *Copy table to Excel*. This function updates an existing Excel document.

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One to One: Starts the function *Copy table 1:1 to Excel*.

Step 2: Select file

Template: Select a completely configured Excel template for the report. (Default path: `%gt_resource_folder%\utilities\table_to_excel\`)
Report: Enter directory and filename of the report to be created.
To update an existing Excel file only the Excel document to be updated has to be selected.

> **Please note**: An existing Excel file can only be updated if the cell comments have not been removed (manually, or automatedly via the configuration options).

Step 3: Select drawing table

Click the **Select** button and select a drawing table.

> **Tip**: Select the table to be exported prior to starting **Copy table to Excel** to skip the third step.

13.11.2 Structure of a template file

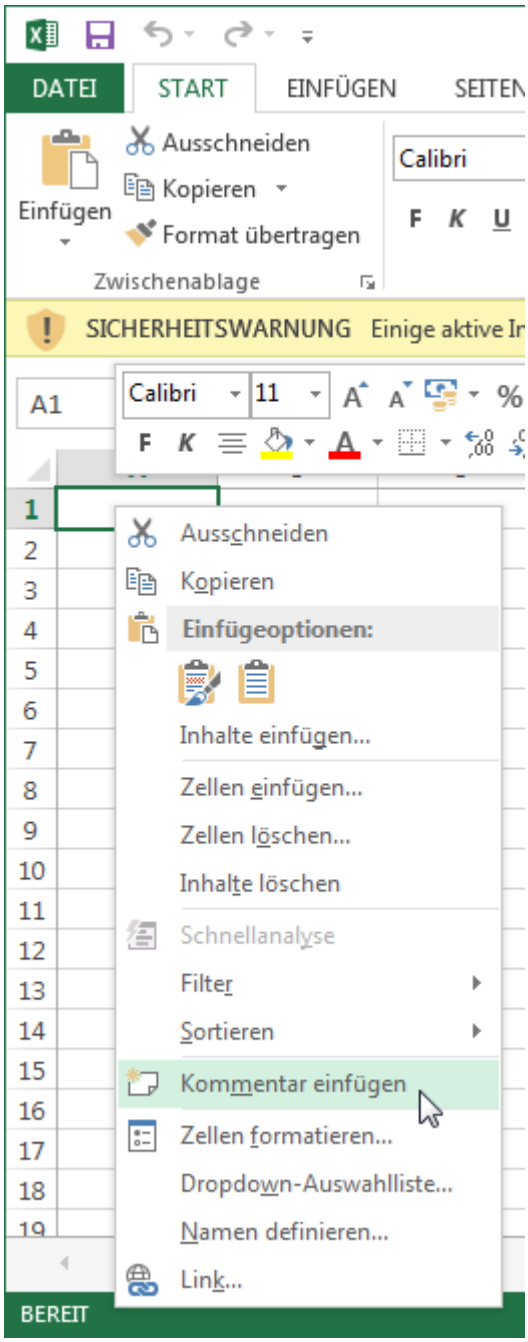
Exporting a report via Copy table to Excel requires an Excel template. It has to be in XLSM or XLSX format (Excel file with and without macro functions), created with Excel version 2010 or newer. The report output format is the same as the template format but can be changed.
Create any table in Excel and deposit comments in the cells.

> **Please note**: Tables are always created from the specified origin of a drawing table.

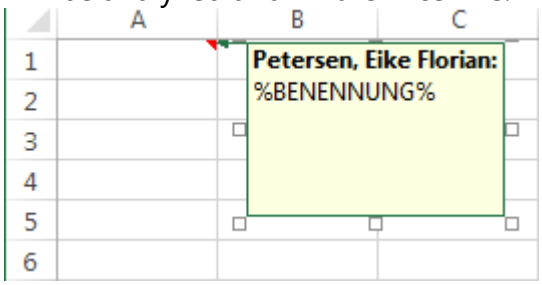
Creating and editing comments

Use the Excel context menu to create comments in any cell:

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A comment's first line will always be ignored (editor name). The following comment lines will be analyzed and fill the Excel file.



Using comments, you can dump different information to reports.

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Output drawing table rows

Output one or more drawing table rows.
`T:RowNumber(row):ColumnNumber(column):NumberFollowingRows:NumberHeaderRows` (for split tables)
Always pay attention to the table orientation in Creo Parametric (the table direction in the table properties)! The first cell of a drawing table is always the initial point of the table.

Examples
`T:1:1` - Copies the cell 1:1 (first row:first column (the counter always starts at 1) into the Excel cell.
`T:1:1:all` - Copies the cell 1:1 and all cells 1 of the following rows (2:1, 3:1...) to the associated Excel table rows (each in the column below).
`T:1:1:3` - Copies the cell 1:1 and the first cell of the three following rows (2:1, 3:1, 4:1 - if so many exist) to the following Excel table rows.
`T:1:1:all:3` - Copies all cells of position 1 after the first three rows to the associated Excel table rows.

Output model and drawing specific parameters

Output model and drawing specific parameters.
`%ParameterName%`

Example
`%DESCRIPTION_1_DE%`

Output information from outside the table using variables

Use the available variables 389 of GENIUS TOOLS for Creo to output non-table-related information as well.
`@VariableName@`

Example
`@dateen@`

13.12 Create Tolerance Table

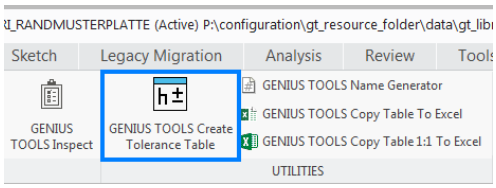
This function creates tables of dimensions in Creo Parametric drawing mode. The set tolerance dimensions are used.

Please note: Only fitting tolerances already displayed will be output.

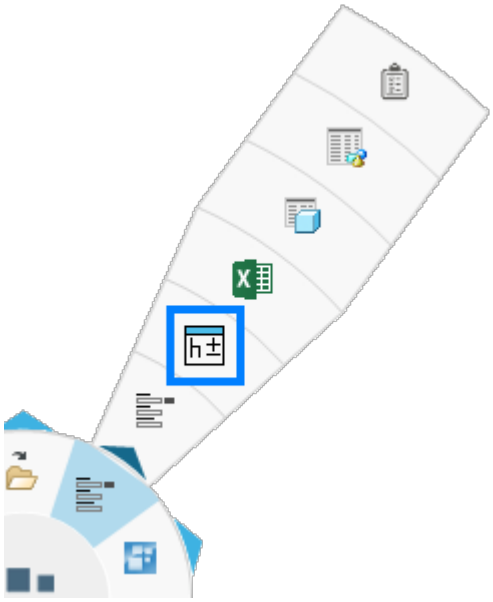
Starting the program

Create tolerance table is started in drawing mode via the ribbon menu or via Quick Access ([<] key).

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Starting via the ribbon menu



Call-up via Quick Access

The function creates a tolerance table at a freely selectable position on a drawing. As a default the tolerance table will always be created for all views displayed on the drawing. It can be selected via the configuration whether views of the current sheet only or if all views should be considered.

Warning: If a tolerance is changed or a new one is added, the tolerance table has to be recreated.

The following table formats are supported:

Abmaße	Passmaß
Ø2.2 H6	0.006
	0.000
Ø2.2 H7	0.010
	0.000
Ø12 H7	0.018
	0.000

Form A: Dimensions

Tolerance	Minimum	Maximum
Ø2.2 H6	2.200	2.206
Ø12 H7	12.0180	12.0180

Form B: Minimum/maximum dimension

For table view configuration refer to configuration 302.

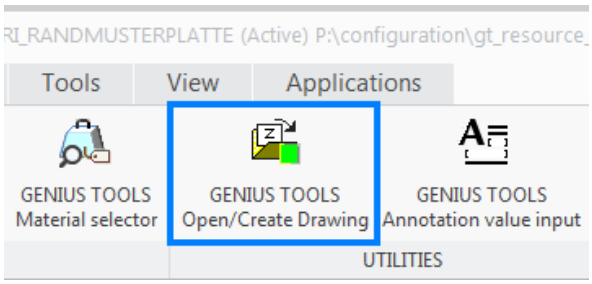
13.13 Open/create drawing

This function opens or creates a drawing of the current model depending on whether a drawing with the model name already exists.

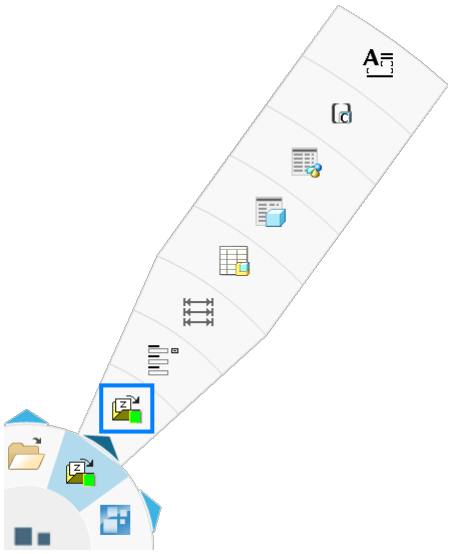
Starting the program

Start the function via the ribbon menu in the GENIUS TOOLS tab or via GENIUS TOOLS Quick Access ([<] key).

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Starting via the ribbon menu



Call-up via Quick Access

The function searches for a drawing named: **<PREFIX><Model name><SUFFIX>.drw.*** in the default search paths of Creo Parametric.

If a drawing is found in the search paths, it will be opened. If no drawing is found, the mask to create a new drawing will be opened. The filename of the new drawing and other options will be preset in this mask. This selection can be extended with custom Mapkeys. Also refer to the Configuration 302 section.

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14 GENIUS TOOLS for Creo Configuration

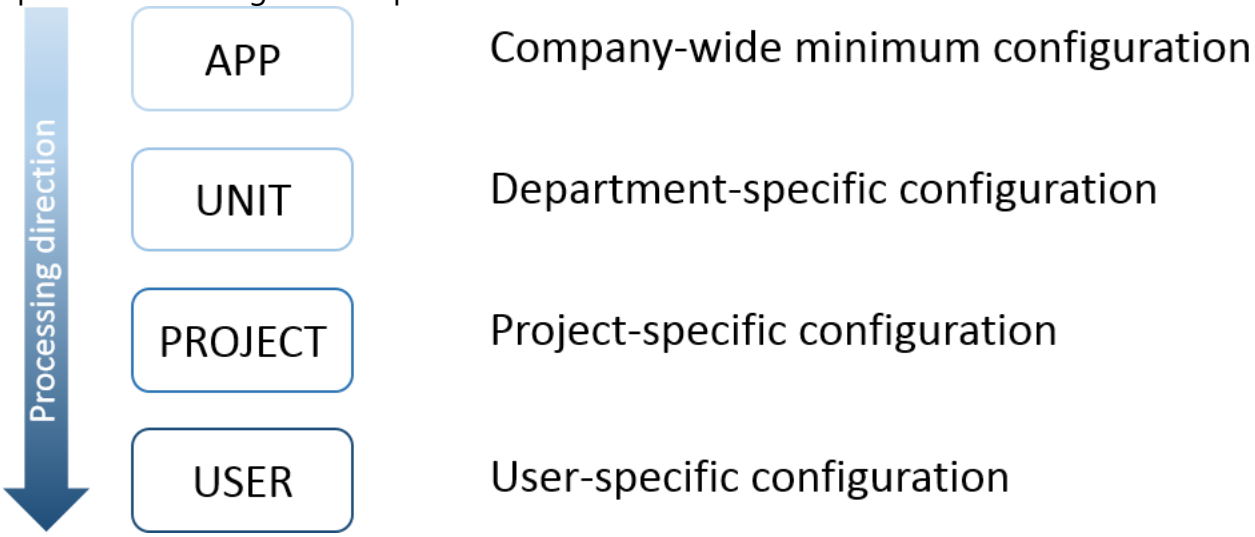
GENIUS TOOLS for Creo can be configured multi-staged for the use with Creo Parametric. You can customize individual applications in order to ensure a maximal flexibility.
The configuration of the individual applications is controlled with configuration files (CFg files). These can be located in different locations on servers in the intranet or on the local system. The files are read at the start of Creo Parametric with a specified logic. This enables for many different configurations.
In this section you will find information about the start mechanism and the configuration concept as well as an overview of available configuration options of the modules. Additionally you will find information about Configuration Utility and the JavaScript Editor, which can be opened from different modules.

14.1 Configuration and start

GENIUS TOOLS for Creo are controlled by several configuration files. These files contain module-dependent the configuration options.

Configuration concept

Configuration files can be deposited at different intranet locations for multi-level configurations. This type of configuration should be used to provide all staff members in a project or department with an equal working environment.
GENIUS TOOLS for Creo provides four different environments for a multi-level configuration. The folders to be used and the number of deployed environments can be specified via configuration options.



Reading a multi-level configuration. The latter configuration options overwrite the standard configuration

The APP environment represents the company-wide standard or minimum configuration. It can be extended, modified and customized by UNIT (department-specific), PROJECT (project-specific) and USER environment (user-specific software configuration).

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APP
All values at APP represent the baseline configuration. This configuration will be overwritten on every update of GENIUS TOOLS for Creo and Startup TOOLS.
Default path: **<GTfCInstallationDirectory>\conf**
Path with Startup TOOLS: **P:\apps\gtfc\conf**
This configuration should be sourced from the Startup TOOLS network drive (default: P:\) and not be modified.

UNIT
Department-specific configuration settings are specified at UNIT.
Default path: **<GTfCInstallationDirectory>\gt_resource_folder\configuration\projects**
Path with Startup TOOLS: **%STOOLS_CFG_LW%\configuration\projects**
The configuration files are located on the Startup TOOLS network drive. `%STOOLS_CFG_LW%` is the environment variable for the Startup TOOLS network drive and is specified via Startup TOOLS Configurator.

PROJECT
All configuration settings specified at PROJECT represent a project-specific configuration.
Default path: **<GTfCInstallationDirectory>\gt_resource_folder\configuration\projects\default**
Path with Startup TOOLS: **%STOOLS_CFG_LW%\configuration\projects\%APPL_PROJECT_DIR%**
`%APPL_PROJECT_DIR%` is the environment variable for project-specific program configurations and is specified via Startup TOOLS Configurator.

USER
User-specific configuration settings are specified at USER.
Default path: **%appdata%\INNEO\GENIUS_TOOLS\for_Creo\configuration**
Path with Startup TOOLS: **%appdata%\INNEO\GENIUS_TOOLS\for_Creo\configuration**
`%appdata%` as an environment variable designates the Windows AppData folder at **C:\Users\<UserName>\AppData\Roaming**.

Starting mechanism

GENIUS TOOLS for Creo uses the following start mechanism to determine the correct configuration:

1. Reading the configuration file **gt_main.cfg** from the APP folder
2. Determine the folders for UNIT, PROJECT and USER. Configuration options: `gt_conf_unit`, `gt_conf_project`, `gt_conf_user`
3. Determine and set the resources directory to be used from the gt_main.cfg-files at APP, UNIT, PROJECT and USER. Configuration option: `gt_resource_folder`
   Determining and setting the resources directory follows the configuration concept. For example, if another directory is set in the user settings (USER) as in PROJECT, the user directory will be used
4. Determine modules to be started. Configuration options: `gt_start_*`
5. Read the configuration files for the modules in the order given in the table below. Reading the configurations of the individual modules also follows the configuration concept.
6. Start GENIUS TOOLS for Creo with the determined configuration

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7. Evaluate the licenses. Configuration option: `gt licpath`

Please note: The old configuration files are read for compatibility reasons. When you use the new editor in the modules, the old files are automatically converted to the new configuration structure (only **gt_main.cfg** and **gt_modules.cfg**).

Read order	Module
1	Library (gt_library.cfg)
2	Forms (gt_forms.cfg)
3	Name Generator (gt_name_generator.cfg)
4	Quick Access (gt_quick_access.cfg)
5	Material (gt_material.cfg)
6	Parameter (gt_parameter.cfg)
7	Dimension (gt_dimension.cfg)
8	Utilities (gt_utilities.cfg)
9	Assembly Report (gt_assembly.cfg)
10	UDF Forms (gt_udf_forms.cfg)
11	Inspect (gt_inspect.cfg)
12	Modules (gt_modules.cfg)

Language configuration

The UI-language is defined by the Creo-language. It is German if you have a German Creo, else it is English.
There are different configuration options per module that are define the language in which data is shown. Some of them are pre-set wit the UI language and can be changed by the configuration files.

Option	Standard
gt_lang	UI language
gta_lang	UI language
gtf_def_lang	en,de,fr
gtf_lang	UI language
gti_def_lang	en
gti_lang	UI language
gtl_def_lang	en
gtl_lang	UI language
gtm_db_def_lang	en
gtm_db_lang	UI language
gtp_lang	UI language
gtqa_db_def_lang	en
gtqa_db_lang	UI language
gtu_lang	UI language
gtuf_lang	UI language

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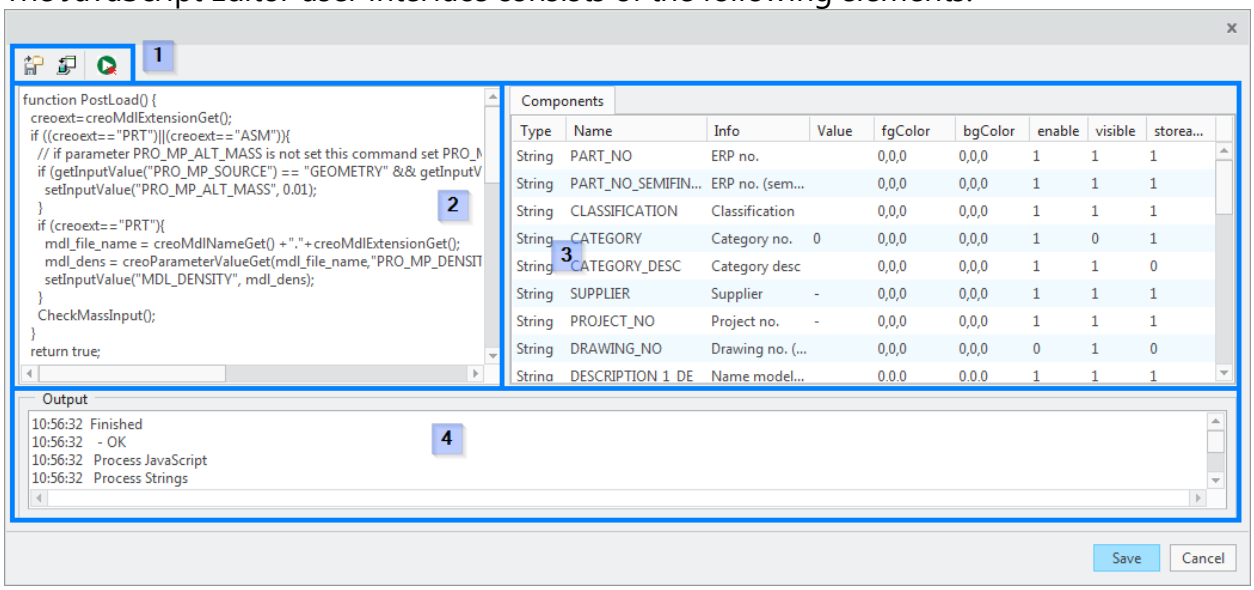
The module data is shown in the defined language (`*_lang`). If it is not available, the fallback language is used (`*_def_lang`). If the fallback is not defined or not available, en is used.
An exception is the `gtf_def_lang` option in which multiple languages can be declared. These are automatically created at the creation of a new Form in GENIUS TOOLS Forms. The first (en by default) is the fallback language.
For information on the effective range of the configuration options, please refer to the configuration options 343 chapter.

14.2 JavaScript Editor

With the JavaScript editor, you can develop and test JavaScript code for GENIUS TOOLS for Creo.
The editor is always called-up from the respective GENIUS TOOLS for Creo module.

User interface

The JavaScript Editor user interface consists of the following elements:



1. Command bar
2. Input area
3. Component view
4. Output

Command bar

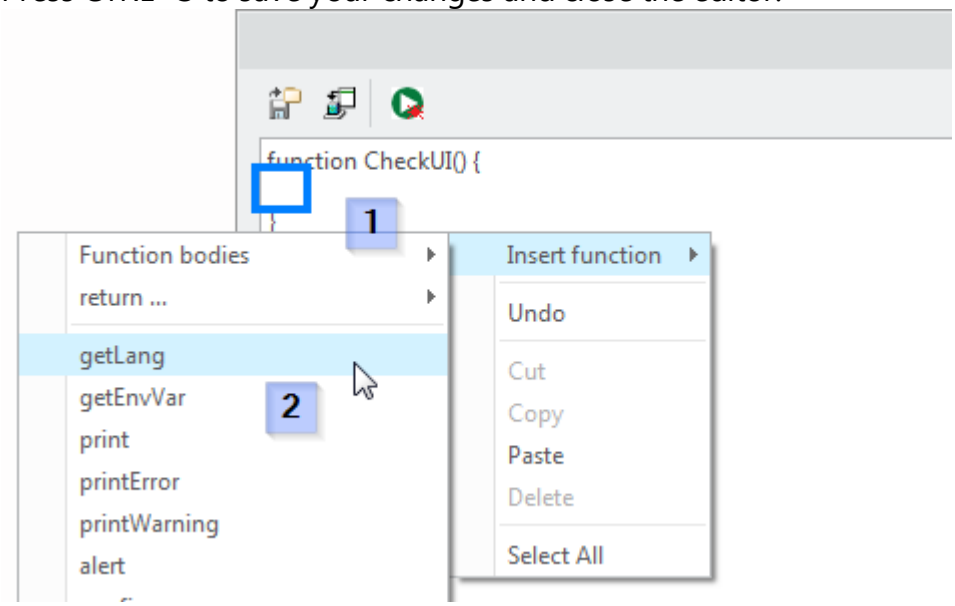
The following buttons are included in the command bar:

Icon	Name	Description
	Export	Exports the JavaScript as js file.
	Import	Imports javaScript from a js file.
	Execute	Executes the JavaScript code with the given component values.

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Input area

JavaScript code is edited in the input area.
Use the context menu to insert code snippets for usage in GENIUS TOOLS modules. Right click on the position at which you want to insert a code snippet. Then select the snippet from the menu.
Press CTRL+S to save your changes and close the editor.



Open the context menu at the position at which you want to insert a code snippet (1). Then select an entry from the context menu (2).

Add all code snippets to your program code and export them as js file. Then open the file in a source code editor to use syntax highlighting and auto complete. Then reimport your source code.

Component view

The component view displays all components available in the current context with their current properties.
Components in this sense for example are parameters of the current parameter definition or variables of the current UDF definition.
Click into a table cell to edit the values manually.
If JavaScript is executed in the editor, the modifications are displayed in the component view. Execution in the editor does not affect the real values in the model.

Properties overview
Type: Specifies the current type of a component (variable type).
Name: The name of a component allowing to address it via JavaScript.
Value: The current value of the component.
fgColor: Displays the current foreground color of the components as RGB values.
bgColor: Displays the current background color of the components as RGB values.
enable: Displays the editability of a component (0 - No, 1 - Yes).
visible: Displays the visibility of a component (0 - No, 1 - Yes).

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storable: Displays the storability of a component (0 - No, 1 - Yes).

Output

The results of the script are displayed in the Output area.
In the Command bar, click **Execute** to receive outputs for the current JavaScript!

Available JavaScript functions

GENIUS TOOLS for Creo supports JavaScript in the modules Forms, UDF Forms and Parameter. For example, this enables you to check parameter and dimension values before adopting them into a model. But it also allows automated calculation and modification of the values.
You can find an overview of the supported JavaScript functions in the individual GENIUS TOOLS modules in the following table.

Function	Forms	UDF Forms	Parameter
CheckUI	X	X	
PostLoad	X	X	X
PreSave	X	X	X
return	X	X	X
runHttpRequest	X	X	X
getLang	X	X	X
readFile	X	X	X
writeFile	X	X	X
print	X	X	X
printWarning	X	X	X
printError	X	X	X
alert	X	X	X
confirm	X	X	X
getEnvVar	X	X	X
getInputValue	X	X	X
setInputValue	X	X	X
setBgColorValue	X	X	X
getEnable	X	X	X
setEnable	X	X	X
getVisible	X	X	X
setVisible	X	X	X
getStoreable			X
setStoreable			X
creoMdlNameGet	X	X	X
creoMdlExtensionGet	X	X	X
creoMdlOIDGet	X	X	X
creoMdlMassGet	X	X	X
creoParameterValueGet	X	X	X
creoParameterValueSet	X	X	X

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creoSelectAsmComponentGet	X	X	X
creoDrwActiveMdlNameGet	X	X	X
creoCurrentMdlNameGet	X	X	X

Function descriptions

Name	Description	Example

CheckUI	Will be executed on clicking the associated button of the current GENIUS TOOLS.	function CheckUI() {
		...
		}

PostLoad	Will automatically be executed after loading the current definition (UDF Forms definition).	function PostLoad() {
		...
		}

PreSave	Will automatically be executed in a module before saving.	function PreSave() {
		...
		}

getLang	Returns the interface language of the current GENIUS TOOLS module.	getLang();

readFile	Reads the contents of a file into a JSON object.
	var vals = readFile(filename, codex, obj)
	And there is:
	– vals: JSON object of the file
	– filename: the complete path of the file
	– codex: the coding (0 - std ASCII, 1: UTF8, 2 UTF16 BE)
	– obj: an error object for better further processing (obj.code: Error code (0: no error) and obj.text: error text)
	– can be NULL.
		function PostLoad() {
		var vals =
		readFile("c:\\temp\
		\test.txt", 0);
		var obj = JSON.parse(vals);
		if (obj.length > 0) {
		setInputValue(
		"DESCRIPTION_1_DE",
		obj[0]);
		}
		}

writeFile	Writes a JSON object to a file.
	var ret = writeFile(filename,jData, codex, obj)
	And there is:
	– ret: "ok" if no error occurred
	– filename: the complete path of the file
		function PostLoad() {
		var obj = {};
		var line0= getInputValue(
		"DESCRIPTION_1_DE");
		var data = [];
		data[0] = line0;
		var jData =
		JSON.stringify(data);

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	– jData: Json object string – codex: the coding (0 - std ASCII, 1: UTF8, 2 UTF16 BE) – obj: an error object for better further processing (obj.code: Error code (0: no error) and obj.text: error text) – can be NULL.	var ret =writeFile("c:\ \temp\\test.txt", jData, 0); }
print	Outputs a status message (green) in the status signal light and in the Creo message log.	print("All changes have been saved in the model.")
printWarning	Outputs a status message (yellow) in the status signal light and in the Creo message log.	printWarning(+ ErrorCount + "errors occured in the calculation"')
printError	Outputs a status message (red) in the status signal light and in the Creo message log.	printError("Values could not be written into the model!")
alert	Outputs an alert box/dialog box with text. It has to be confirmed with "OK".	alert("Please check your input!")
confirm	Outputs a dialog box with text. It has to be confirmed with Yes or No. Returns the result of the query dialog (Yes=true/No=false).	var retConfirm = confirm("Do you want to proceed?");
getEnvVar	Reads the value of a Windows environment variable.	var login = getEnvVar("USERNAME")
replaceVars	Replaces environment variables and Creo configuration options.	var t = replaceVars("mdlpath TBXCONFIG");
getInputValue	Outputs the entered value of a component (e.g. parameter, variable).	var offset = getInputValue"z");
setInputValue	Sets a component (e.g. parameter, variable) to a value.	setInputValue("z", 30);
setFgColorValue	Sets the foreground color for a component. Color specification in RGB values.	setFgColorValue("z",255,0,0) ;

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	An empty value resets the color to the color originally configured. This can be used to remove highlighting.	
setBgColorValue	Sets the background color for a component. Color specification in RGB values. An empty value resets the color to the color originally configured. This can be used to remove highlighting.	if (x > 1){ setBgColorValue("z",0,234,50); }
getEnable	Reads the editability of a component.	
setEnable	Sets the editability of a component.	
getVisible	Reads the visibility of a component.	
setVisible	Sets the visibility of a component.	
getStoreable	Returns the storability of a component (“Save” option of a parameter).	
setStoreable	Sets the storability of a component (“Save” option of a parameter).	
creoMdlNameGet	Reads the Name of the current model of the GENIUS TOOLS module.	
creoMdlExtensionGet	Reads the file name extension of the current model of the GENIUS TOOLSmodule.	
creoMdlOIDGet("Model name")	Reads the OID of a model whose name (including the file name extension) is passed to the function. For example, the OID of a model can be used in the function `runHttpRequest` in order to access specific objects in a PDM system.	creoMdlOIDGet("my.prt") Usage in a HTTP request: var mdl = creoMdlNameGet(); var oid = creoMdlOIDGet(mdl); var request = runHttpRequest("http://pdm/Windchill/servlet/rest/objects/"+ oid + "?%24select=number", "", "1"); var obj = JSON.parse(request);

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creoMdlMassGet	Reads the mass of the current model.	
creoParameterValueGet(mdl,"ParameterName" t/f);	Reads the value of a parameter of a model that has to be specified. Use t or f (true and false) to determine whether floating point values should be rounded according to the Creo configuration option PARAM_DEC_PLACES (default: 6 digits) (t). If the values are not rounded (f), a maximum of 17 digits (total) will be output .	creoParameterValueGet(mdl,"NAME" f);
creoParameterValueGet(ParameterName);	Reads the value of a parameter of the current model.	var CurMod = creoParameterValueGet("DESCRIPTION_1_DE"); alert('Name of the current model: ' + CurMod + '');
creoParameterValueSet(mdl, ParameterName, Value);	Writes a value into a parameter of the current model. The return value is the error code. If the parameter is not in a family table and the function is applied to an instance, the parameter value is written into the generic model.	var ret = creoParameterValueSet("PART_NO", "Value"); var ret = creoParameterValueSet(mdl,"PART_NO", "Value");
creoSelectAsmComponentGet	Outputs the filename of an assembly component that has to be selected manually in the Creo window.	
creoDrwActiveMdlNameGet	Returns the active model of a drawing.	
creoCurrentMdlNameGet	Reads the name of the current Creo model (Current Model).	
return	Returns a Boolean value. Is required for CheckUI, PostLoad and PreSave to return whether the function has been successfully completed.	return true; return false;

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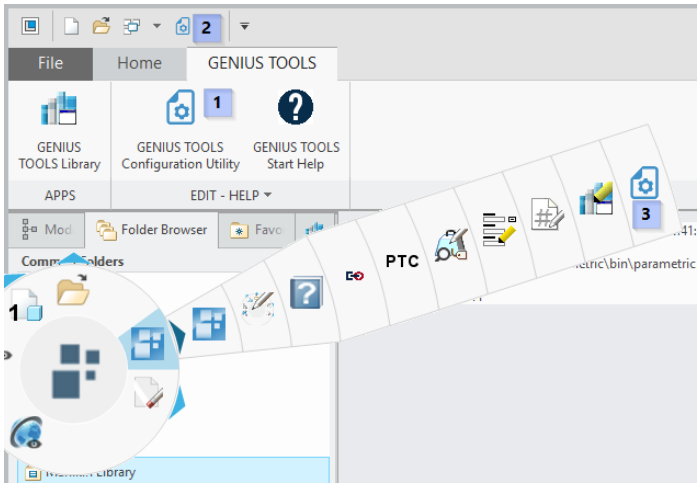
runHttpRequest("URL","DATA",1/0)	Executes an HTTP request. The function accepts the URL and URL parameters (DATA). An additional parameter USERNAME/PASSWORD takes the value 1 or 0 and defines whether the user should be asked for login information or not. You can use the function `creoMdlOIDGet` in order to be able to access specific objects via their OID.	var site = "http://ServerName/Folder/db_list_gt.php"; var query = "DB=pmm_tc.mdb&TABLE=namen&SFIELD=german&FIELDS=german,english&SEARCH=ab*"; var ret = runHttpRequest(site, query,0);

14.3 Configuration Utility

The time when configuration entries for the toolkit application GENIUS TOOLS for Creo had to be made manually in text files is over.
From Startup TOOLS 6.0 on the new Configuration Utility not only helps to understand current configurations. It also allows to edit all entries and save them to the correct locations.
In the course of this, a consolidation of the configuration files also takes place.
While before version 6.0 each application had its own configuration files, these are now combined into general configurations (**gt_main.cfg**) and application-specific changes (**gt_modules.cfg**).
For the conversion of older variants to the current model, the Configuration Utility only needs to be used once. With the first saving process, the new improved data storage is automatically carried out. It will lead to a significantly reduced number of configuration files.
Especially with more complex configuration requirements, manual editing of the configuration files can be time-consuming. At the same time, errors can quickly occur during the process.
Thanks to Configuration Utility all entries can be made within a user interface and checked for errors.
A special highlight is the possibility to use variants of values as comments in the graphical user interface. This allows administrators to check different configuration variants very quickly without having to manually enter the different configuration files.

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Starting the application



Different ways to open GENIUS TOOLS Configuration Utility

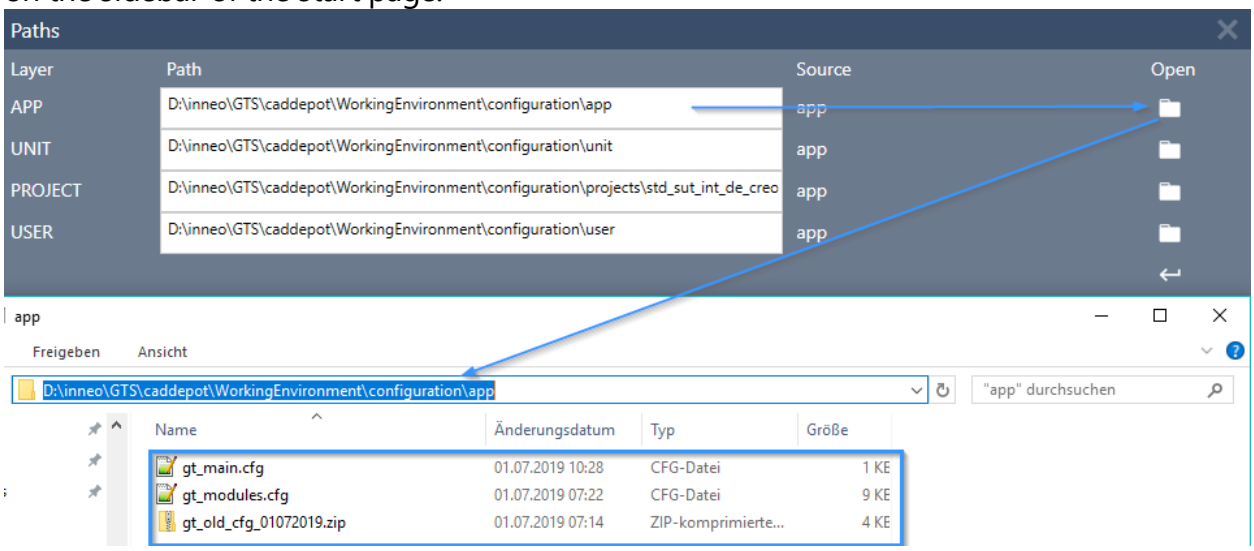
Calling GENIUS TOOLS Configuration Utility is possible in three ways:

1. ribbon menu on the GENIUS TOOLS tab
2. Configuration Utility icon in the header line
3. GENIUS TOOLS Quick Access (key [<])

Do not start Configuration Utility outside a Creo environment, otherwise the environment variables may not be read correctly.

Configuration Files

A finished configuration is saved in a set of configuration files. The fastest way to reach them is via the folders in the **Paths** window. The **Paths** window opens with the button on the sidebar of the start page.



Opening the current path to the app layer file

After saving, the files **gt_main.cfg**, **gt_modules.cfg** and the zipped folder **gt_old_cfg_%Date%.zip** are located in the corresponding folder.

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The zip file contains the previous configuration files of this layer, so that possible misconfigurations can be undone at any time.
This is an example of a **gt_main.cfg** file:

```
;*** gt_main.cfg ***

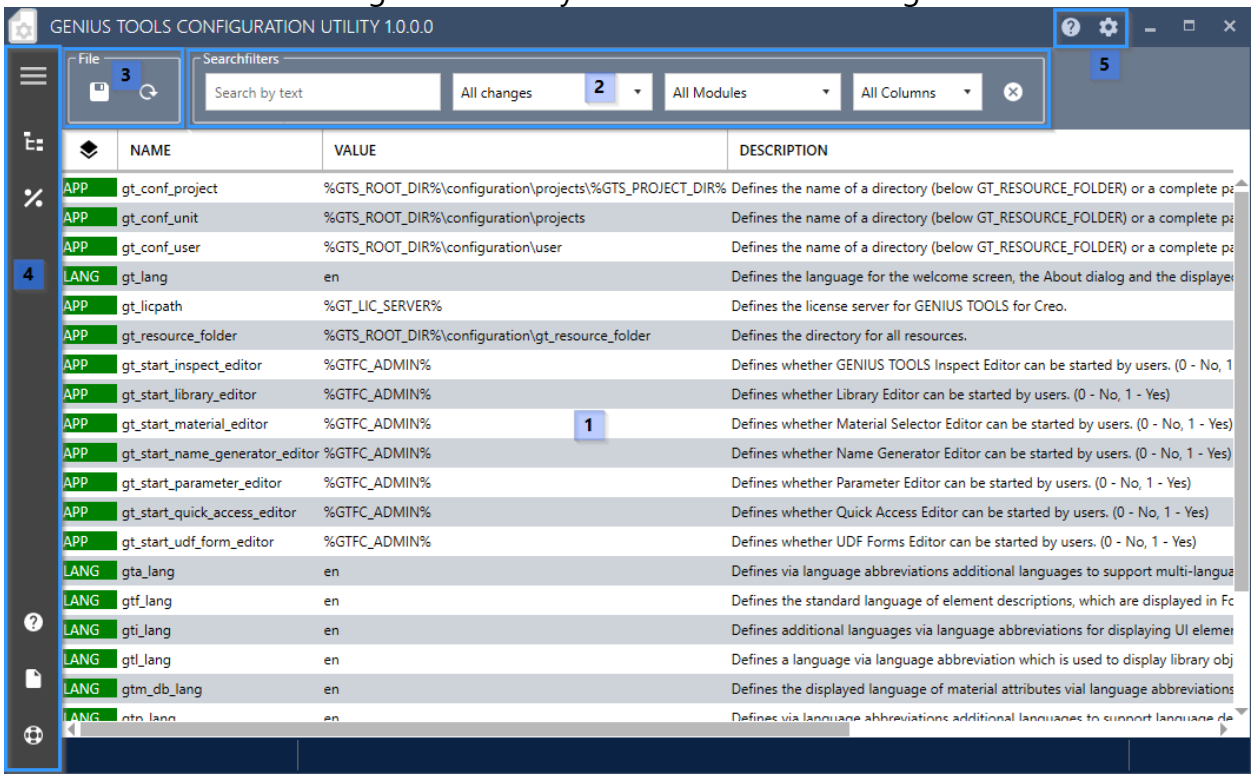
gt_start_library_editor = %GTFC_ADMIN%
;gt_start_library_editor = 0
;gt_start_library_editor = 1

;*** Not in use/Nicht verwendet: ***
;gt_start_inspect_editor = 1
;gt_start_inspect_editor = 0
```

1. Top: file title
   Below the active values and commented-out variants
2. Bottom: Configuration options not in use
   Only commented-out variants

14.3.1 Start page

The user interface of Configuration Utility consists of the following elements:

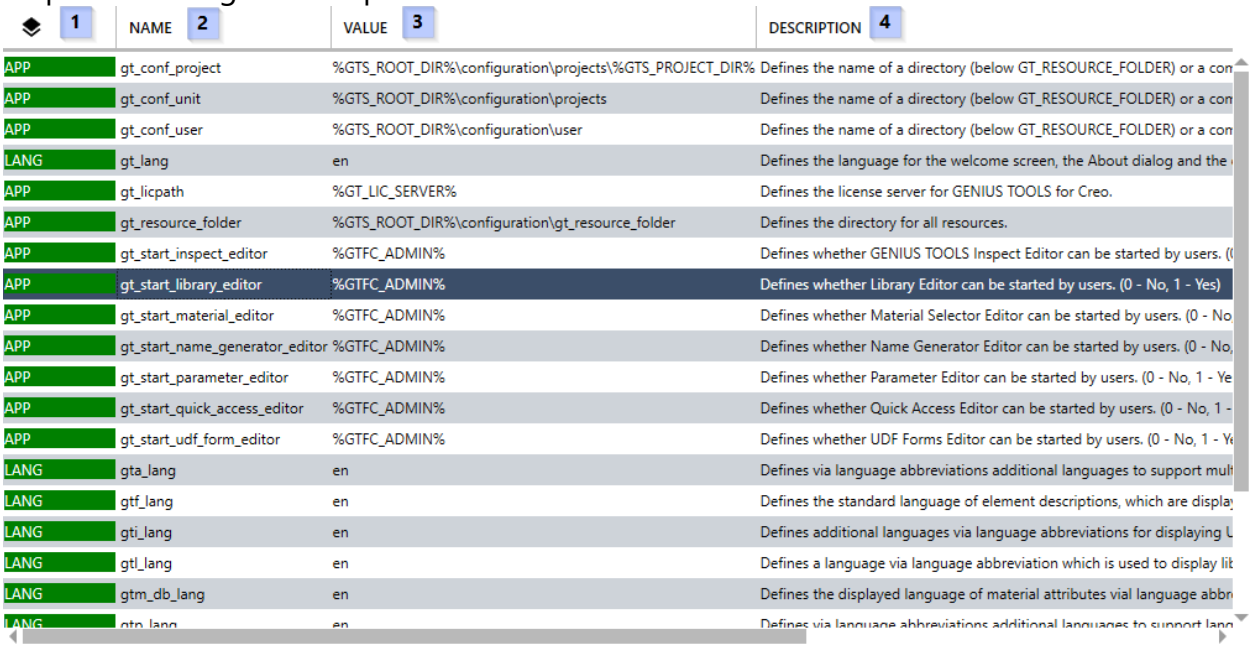


1. Options table
2. Search filters
3. File operations
4. Sidebar
5. Help and Settings

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14.3.1.1 Options table

In the center of the start page, a table shows an overview of all available configuration options.
Double-click on a line to open the configuration editor. There, new values for the respective configuration option can be entered within the levels APP to USER.



The table is divided into the following columns:

1. Layer
2. Name
3. Value
4. Description

Layer

The first column indicates whether the start value of the respective configuration option has been modified. Where this is the case, an entry with a green background is made. This contains the latest layer at which the value was adjusted.
Possible values:

- LANG for **message.txt** Files from a subfolder under **%GTS_ROOT_DIR%\apps\gtfc\text**
- ENV for environmental variables
- APP
- UNIT
- PROJECT
- USER

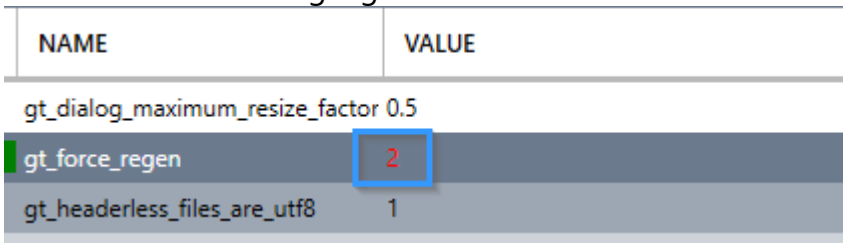
Name

Specifies the name of the configuration option.

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Value

Displays the current value of the corresponding configuration option.
Incorrect values are highlighted in red in this column.



Description

Contains an explanatory text for the configuration option.
Depending on the language settings, the explanation is available in German or English.
In addition to the range of application of the configuration option, the text usually also contains the valid value range.

14.3.1.2 Search filters

The Search Filter box allows you to find specific configuration options or groups of configuration options more quickly.



The search filter offers the following options:

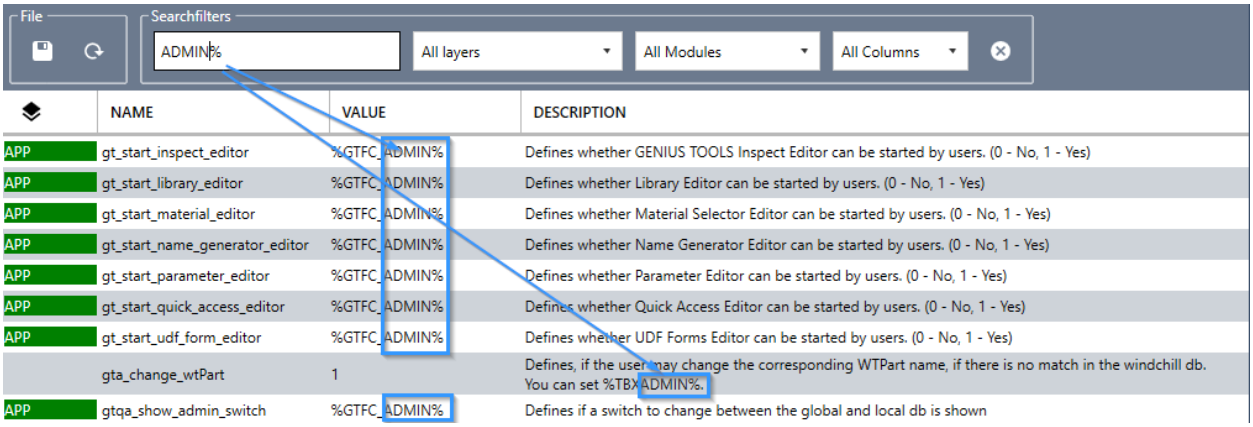
1. Text filter
2. Layer filter
3. Module filter
4. Column filter
5. Clear all filters

All filters function in combination. Only those lines are displayed that correspond to all filter rules.

Text filter

The text search allows you to search the table for character combinations, words or word groups. All lines in which the searched characters occur are displayed.

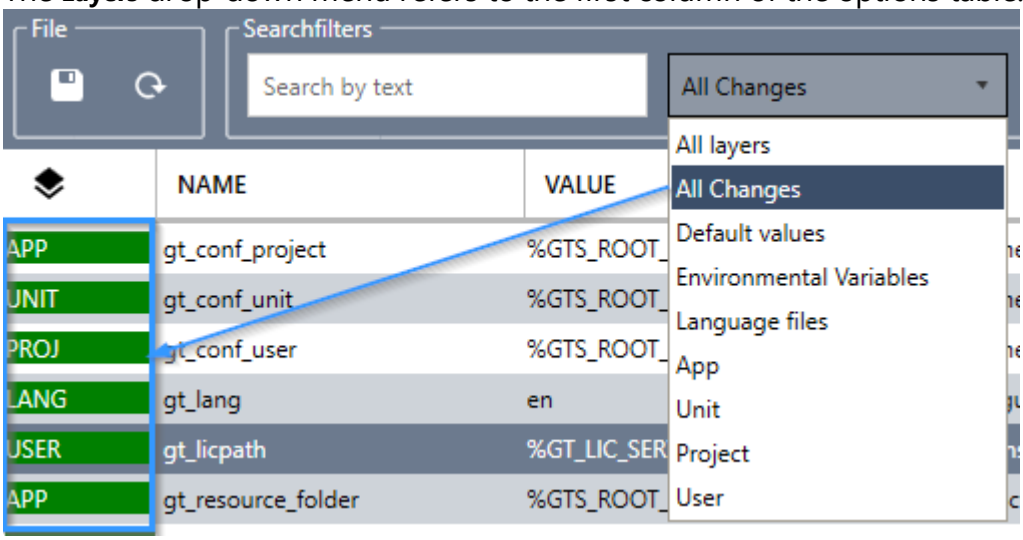
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Text filter search for ADMIN% with 9 hits in 2 columns

Layer filter

The **Layers** drop-down menu refers to the first column of the options table.



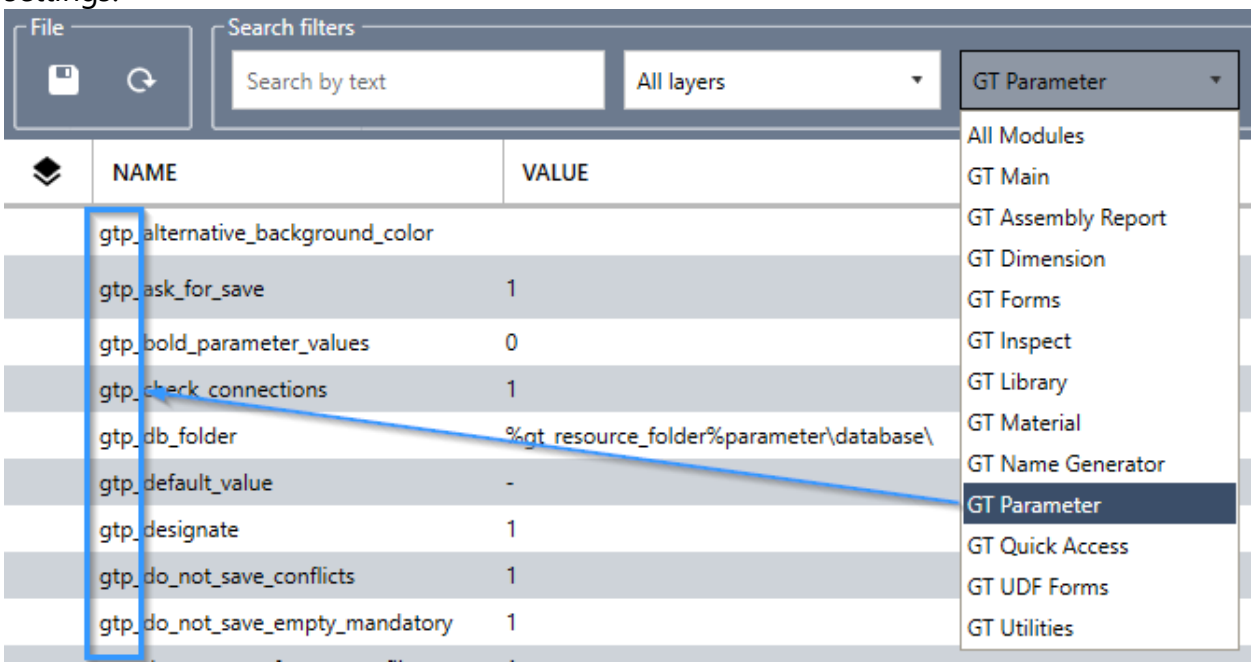
1. All layers
   No filter is applied, all lines are displayed.
2. All changes
   Default setting when opening the application. Displays only those rows that have a green background in the first column, regardless of the actual level at which the change was made.
3. Default values
   Displays only unmodified default values.
4. Environmental variables
   Displays only lines where the value of the configuration option was last set by an environmental variable.
5. Language files
   Displays only lines in which the value of the configuration option was last retrieved from a **message.txt** in a subfolder of **%GTS_ROOT_DIR%\apps\gtfc\text**.
6. App
   Displays only lines where the value of the configuration option was last set by an app-layer configuration file.

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7. Unit
   Displays only lines where the value of the configuration option was last set by a unit-layer configuration file.
8. Project
   Displays only lines where the value of the configuration option was last set by a project-layer configuration file.
9. User
   Displays only lines where the value of the configuration option was last set by a user-layer configuration file.

Module filter

Displays only lines containing configuration options for specific modules or general settings.



1. All Modules
   Initial setting.
   Does not restrict the display of rows in the table.
2. GT Main
   Displays only configuration options that make general settings.
   These begin with the abbreviation `gt_`. They are written by files of type **gt_main.cfg**.
3. Assembly Report - Utilities
   Displays only configuration options for the corresponding GENIUS TOOLS application. These can be identified by the respective abbreviation that appears in front of the name of the configuration option.

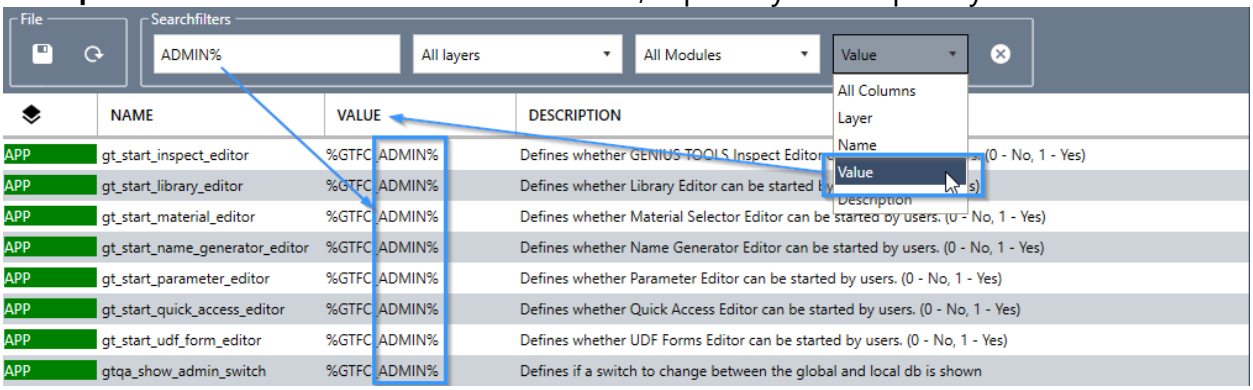
Sometimes it happens that configuration options are not obtained from the corresponding configuration file due to errors in the entry or other reasons. With Configuration Utility such deviating entries can be detected and corrected if necessary, see Configuring values 326.

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The configuration options of individual modules used to be obtained from specifically named configuration files. With Configuration Utility, they are stored per layer in a single file named **gt_modules.cfg**. Together with **gt_main.cfg,** only two configuration files per level are required.

Column filter

Allows to restrict the text search column by column.
For example, character combinations may only be searched in the column **Value** or **Description**. This makes the search much easier, especially for frequently used characters.



Restricting the text filter search for ADMIN% to the Value column

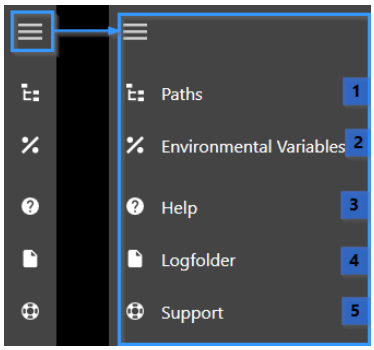
Clear all filters

The **Clear all filters** button  resets all fields in the search filter area to their initial value.

14.3.1.3 Sidebar and header

Sidebar

The sidebar shows six buttons with five separate functionalities.
The first three buttons are located at the top, the others at the bottom of the bar.
With a click on the menu button at the top, the bar can be unfolded to display the labels of the individual functions.
The individual buttons can be operated both in open and closed state of the sidebar.

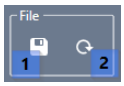


1. Paths
   Opens a window for displaying and opening the paths to configuration files of individual layers.
2. Environmental Variables
   Opens a window in which the environmental variables used in any configuration options can be viewed and modified. New environmental variables can also be created there for testing purposes.
3. Help
   Opens the help file.

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4. Log folder
   Opens the folder in which the Configuration Utility log files can be found.
5. Support
   Link to INNEO support.

File operations



1. Save
   Opens the **Save configuration** window in which the changes made can be checked and saved.
2. Reset configuration options
   Reloads the configuration options using the currently defined paths of the configuration files.

When you click **Reset configuration options**, the last saved configuration is loaded. All unsaved changes will be lost.

Header Operations

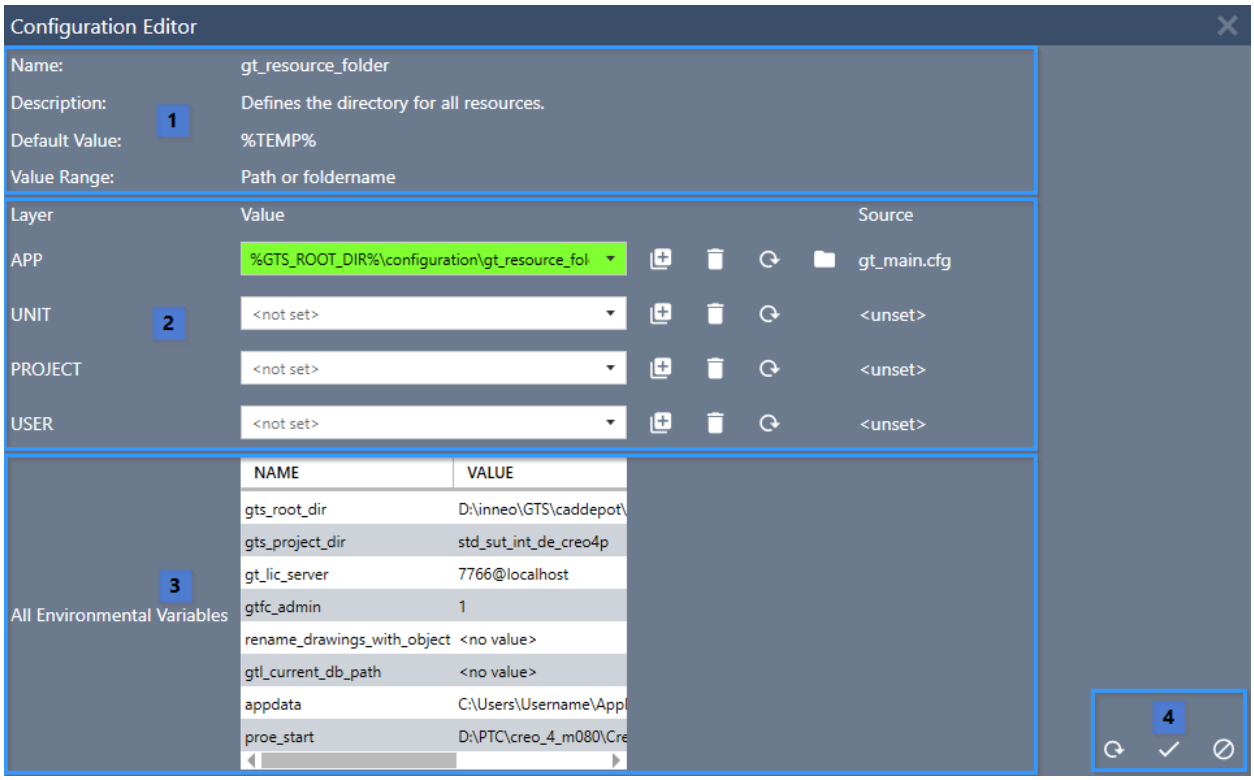


1. Help
   Opens the help
2. Settings
   Using the drop-down menu cards, you can change color and language settings from Configuration Utility. The help can also be called. In addition, the program can be cleanly closed.

14.3.2 Configuration editor

With the configuration editor, individual configuration options for each level can be viewed, changed, commented out and deleted. All changes made here are later written to the corresponding configuration file during the saving process.
The structure of the configuration editor window is divided into four units.

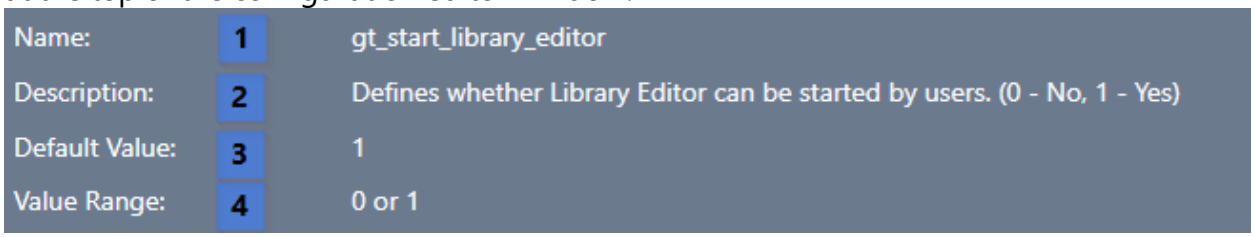
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1. Static information
2. Edit values (see Configuring values 324)
3. Overview of environmental variables
4. Reset or close

Static Information

Each configuration option has static, i.e. unchangeable, components. These are displayed at the top of the configuration editor window.



1. Name
   Shows the name of the configuration option.
2. Description
   A short text explaining the function of the configuration option. If it is possible, the range of configurable values is specified.
   The description is displayed in the selected language, provided that a description text is available. In languages where this is not the case, the English version is used by default. If the language setting of Configuration Utility is changed in the course of the application, the next time the configuration option is opened, the corresponding language will be displayed here.
3. Default Value
   Default value is the start value that applies if no downstream file modifies it. This is also

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the fall-back value if all other layers are commented out and/or deleted while the application is running.

4. Value Range
   Describes within which range entries must lie, or which form they must have, in order to be valid.

Warning: A value explicitly set to empty will overwrite any preceding value, including the default value.

Table of Environmental Variables

To make entries easier to read, the configuration editor displays all environmental variables and their values that currently appear in any configuration option.
In this way, the user is not forced to call up the corresponding entries again in the **Environmental Variables** window (accessible via  in the sidebar menu of the main window).

Please note: The list of environmental variables in the configuration editor is for information purposes. The entries are read only and cannot be edited here.

The table consists of the columns **Name** and **Value**.
If a configuration option at any level contains a value that has content enclosed by percentage signs, this table can be used to determine whether and how this placeholder is converted.
If there is an environmental variable in a configuration option to which no value has been assigned, the entry `<no value>` is displayed in the table.
If you click on a row in the table, the corresponding environmental variable is automatically transferred to the last row in the **Value** column that was clicked before.
An empty value field is filled according to the pattern `%environmental_variable%`.
If something is already in the field, the environmental variable is inserted at the cursor position.
If a passage of the previous value is marked, the environmental variable is inserted before the marked position.
The environmental variable is separated from characters before or after it by a backslash, as is usual in Windows paths.

Reset or Close

In the lower right area of the window there are three buttons with following different functions:



1. Reload and reset
2. Close and preserve values
3. Close and reset values

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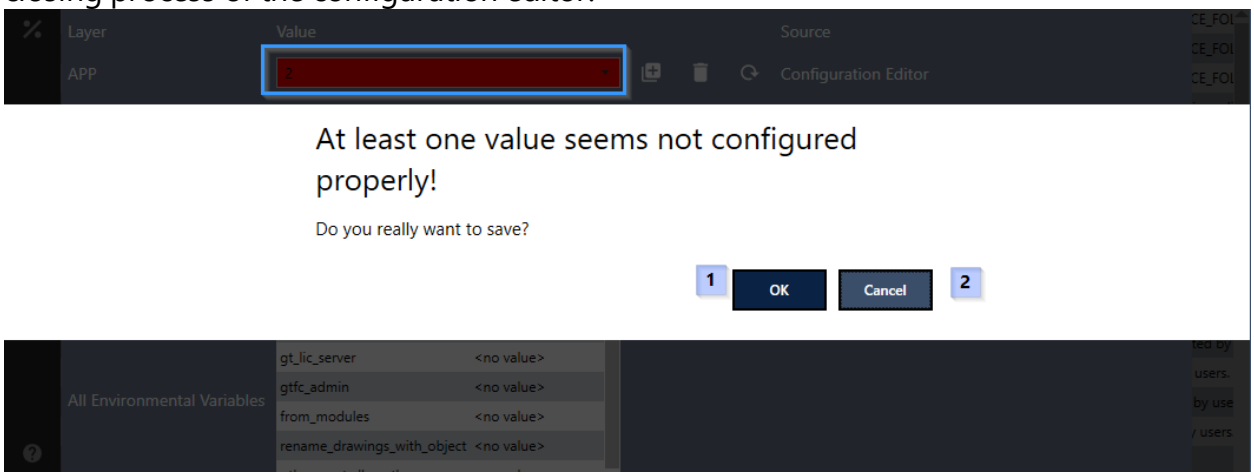
None of these functionalities influences saved comments. These can only be removed directly in the corresponding drop-down menu or they can be reset to the state of the last saved configuration together with all values by reloading them on the start page.

Reload and reset

A click on **Reset** allows all values of the selected configuration option to be reset to the values currently saved in configuration files.
Changes in the comment field are not affected. This also means that already deleted comments cannot be restored this way.
You can then continue to edit the various values as you wish.

Close and preserve values

A click on the button causes the **Configuration Editor** window to close.
Changes, where relevant, are incorporated into the configuration table on the start page and kept for the saving process.
Only with the final saving do the entries become permanent.
If a value on one or more levels is highlighted in red, Configuration Utility interrupts the closing process of the configuration editor.

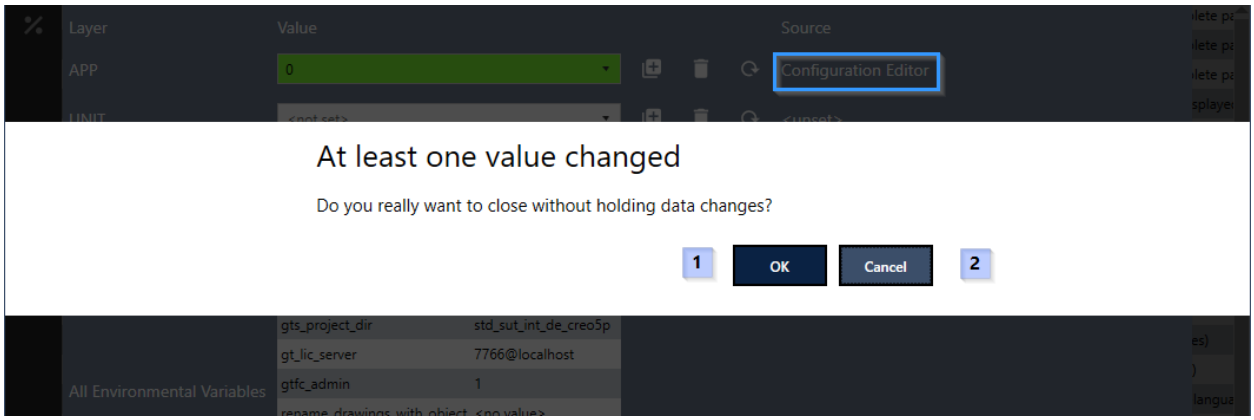


Instead, the system asks whether the specified values are actually to be preserved.
This can be confirmed with **OK** (1), or the process can be aborted with **Cancel** (2).
If you cancel, the relevant values can be edited again.
Alternatively, you can exit the configuration editor via the close and reset button.
The comments in the various drop-down menus are kept in any case.

Close and reset values

A click on the button causes the **Configuration Editor** window to close.
If no changes have been made, the window closes immediately.
Likewise, it closes immediately if only comments should have been added.
If changes have been made to the active values, Configuration Utility interrupts the closing process of the configuration editor.

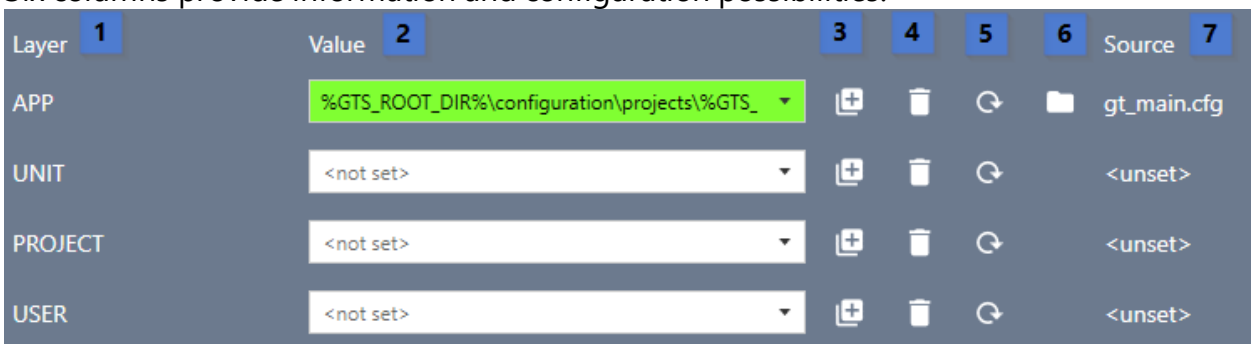
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Instead, Configuration Utility asks whether the Configuration Editor should actually be closed.
The edited values will be lost if you do so.
This can be confirmed with **OK** (1) or the process can be aborted with **Cancel** (2).
If you cancel, the relevant values can be edited again.
Alternatively, you can exit the configuration editor via the close and preserve button.
The comments in the various drop-down menus are kept in any case.

14.3.2.1 Configuring values

This area is the centerpiece of the configuration editor.
This is where the actual changes to the configuration options are made.
Six columns provide information and configuration possibilities.

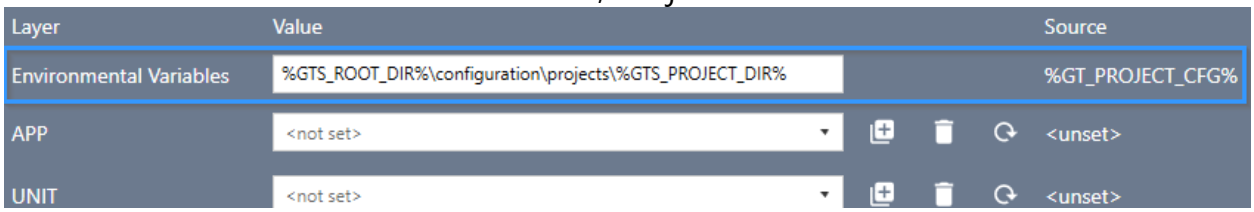


1. Layer
   Layers APP, UNIT, PROJECT, USER.
   All buttons in the respective line refers only to the level specified here.
2. Value
   A writable, expandable field in which a new value can be entered.
   Valid values are highlighted in green. Invalid values are highlighted in red. Empty fields are always white.
   In the drop-down menu of the field, existing commented-out values can be viewed and deleted.
3. Add comment
   Button to enter the current value commented-out into the corresponding configuration file with the next saving process.

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4. Delete value
   Deletes the current value of the respective level. Existing or newly added comments are retained.
5. Reload layer
   Restores the original value of the configuration option at the current layer when clicked. Existing or newly added comments are retained.
6. Open path
   If the value range consists of a path or folder name, a folder icon is displayed as soon as an entry is made at the corresponding layer. One click opens the entered path.
7. Source
   Specifies the source from which the current value of the respective layer was obtained. Usually this is a configuration file or the configuration editor, if the corresponding option has already been opened at runtime of Configuration Utility. For later storage, the indication of this source is irrelevant, because it depends on the configuration option and not on where its current value was obtained from. The source serves primarily as information for administrators who want to get an overview and make adjustments.

In some cases, a fifth line is added above the App layer. This line is displayed if configuration options have been modified on the environmental variables level. The environmental variables line is not editable, it is just for information.



In general, a click into the corresponding field is sufficient for editing the value.
In addition, the Configuration Utility allows to set commented-out values.
Commented-out values can then be viewed and deleted in the drop-down menu of the corresponding layer.
The configuration editor has three color codes for values:

1. Green for correct values
2. Red for incorrect values
3. White for empty and unseeded values

All changes become effective when the configuration editor is closed with ✓, whereby the data is kept until the final saving process, or until Configuration Utility is closed without saving. When closing the configuration editor with ⊘ all changes are immediately discarded.
The entries made are not written to the corresponding configuration files until the global saving process has been executed, see Saving the configuration 332.

Setting values for empty fields

To set a new value, select the field in the **Value** column at the respective layer and set the value.
As a rule, empty fields are white and contain a watermark.

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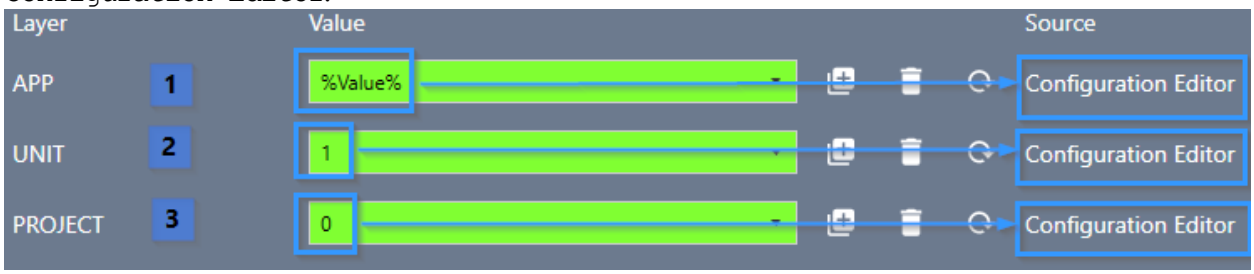
Possible watermarks are `<not set>` or `<empty value>`.
Both disappear as soon as something is entered in the field.
The content of the watermark does not appear in the saved configuration file.



Fields can be empty for various reasons:

1. The value is empty in the corresponding configuration file.
2. The value was emptied or the field clicked upon in the configuration editor.
3. The value was not set or deleted at this level.

If the fields are filled, the entry in the **Source** column is changed accordingly to `Configuration Editor`.

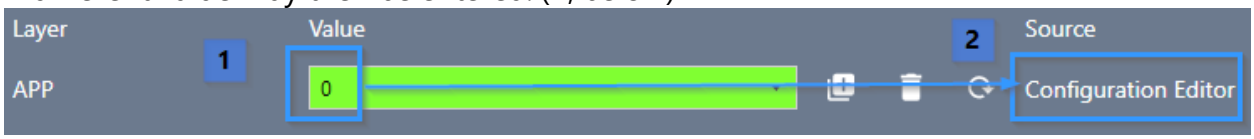


Changing existing values

To change an existing value, select the field in the **Value** column at the chosen layer and exchange the former with an alternative value.
The previous content can be deleted without any problems.
In the example, the value at app level was determined by the source file **gt_main.cfg**. (1)



To modify this value, the user clicks in the field of the column **Value.** (2, above)
A different value may then be entered. (1, below)



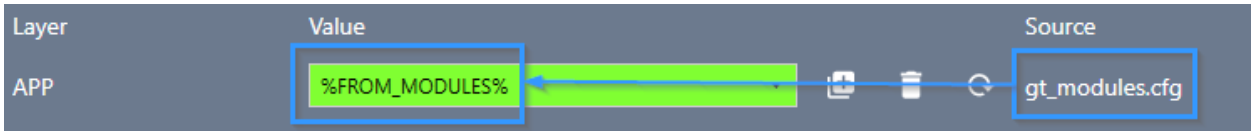
The **Source** column is automatically set to `Configuration Editor` (2).

Finding deviating sources

Under certain circumstances, an edited value may not be assigned to the `Configuration Editor` source.
This may happen, for example, for operational reasons or because the configuration files were filled out manually without Configuration Utility and configuration options where

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thereby saved several times to different files of the same layer, where they should not have been saved.



In the example, the current value comes from the file **gt_modules.cfg**.
A new value is entered at this level or an alternative is selected from the drop-down menu.



Instead of identifying `Configuration Editor` as the source a different configuration file is specified. In the example, this is due to the fact that the value at app level was first set by **gt_main.cfg** and then overwritten by **gt_modules.cfg** during application startup of Configuration Utility.
In this way, formally correct values from incorrectly filled in files or legacy data from earlier configurations can be detected and corrected.

> **Please note**: In the course of the general saving process, all configuration options are assigned either to the file **gt_main.cfg** or **gt_modules.cfg** of the respective level according to their names. An accidental double assignment within the same level or a wrong assignment to a configuration file not intended for this purpose is not possible with Configuration Utility.

Setting empty values

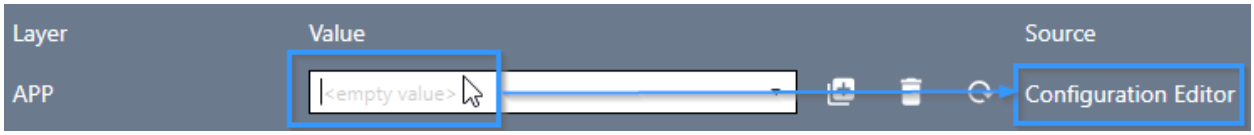
Sometimes there are circumstances where it seems advantageous to set an empty value, e.g. to overwrite the value of the previous layer without setting an alternative. As a result, the configuration option is written to the corresponding configuration file, unlike the delete operation.
It is advisable only to insert empty values if it is ensured that the affected application can and should process them at the corresponding point.
An empty field can be recognized by its watermark `<empty value>` and distinguished from a `<not set>` value.
In addition, `Configuration Editor` or the name of a configuration file is displayed in the **Source** column.
An empty value is set by deleting the previous content:
If the value is not set, it is sufficient to click in the text field of the corresponding layer to set the empty value.
This also means that whenever an empty text field is clicked, an empty value is set automatically.



Unset value on the APP layer

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The setting of an empty value is recognizable by the watermark and by the changed information under **Source**.



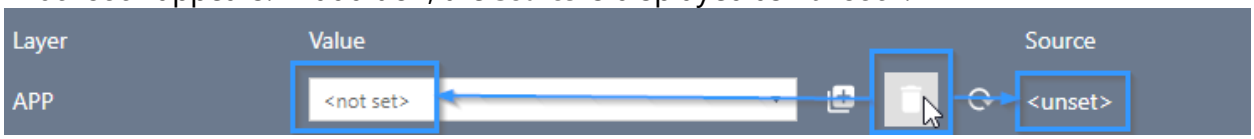
Empty value after clicking in the text field

The previous entry in the **Source** column is changed to `Configuration Editor`.

> **Please note**: To replace an empty value, it is sufficient to enter a new value. If it is to be completely removed and not set on this layer, it is necessary to use the **Delete Value** button . Otherwise, the empty value is written to the configuration file at this layer during the saving process. All superordinate settings of the configuration option would be overwritten in this way.

Deleting values

To completely remove values, simply click on the corresponding layer.
The field is cleared immediately, its background color is set to white and the watermark `<not set>` appears. In addition, the **Source** is displayed as `<unset>`.



Such deletions appear in the save window with the note `<deleted>` to indicate that the corresponding configuration option will no longer be saved to the respective configuration file of the layer in the future.
Comments in the drop-down menu of the corresponding value field are not affected. They are retained even after the value has been deleted. If necessary, they must be deleted separately.

Evaluation of formal requirements

Whenever an entry is made, the system automatically checks whether the character string meets the formal requirements of the configuration option.
The configuration editor evaluates the value during input process and highlights it in color.



The entered value is...

1. ...recognized as correct and highlighted green.
2. ...recognized as wrong and highlighted in red.

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3. ...identified as `<empty value>` or `<not set>` and highlighted in white.
4. ...identified as an environmental variable that could potentially stand for a correct value. The configuration editor assumes that an even number of percent signs describe one or more suitable environmental variables, evaluates the entry as correct, and highlights it in green.

If the values are highlighted in red, it can be assumed that the corresponding application cannot process them or will issue an error message.
If the configuration editor is closed with values highlighted in red, a prompt appears asking whether the wrong value is actually intended in this form.
The saving process itself is *not* prevented by such values.
It is therefore up to the user to decide whether they wish to retain such values or not.

Resetting a layer

A click on the reset button within a layer causes only this layer to be reset to the last saved value.
The original entry in the **Source** column will also be restored.
This is useful if only individual, but not all, values of the current configuration option are to be reset.
An example:

1. The button  was accidentally clicked on app layer.
2. The user immediately clicks the **Reset Layer** button .
3. The original value and the source are restored.

If the value was not set originally, it is also reset to `<not set>`.
Unsaved changes will be lost.
Comments in the dropdown menu of the value field are not affected. They remain as they were last set.
Entered values can be saved as comments before resetting. In this way, they can be quickly re-entered into the value field.
If all values within the configuration option are to be reset, use the **Reset** control element at the bottom right of the configuration editor window.

Open Path

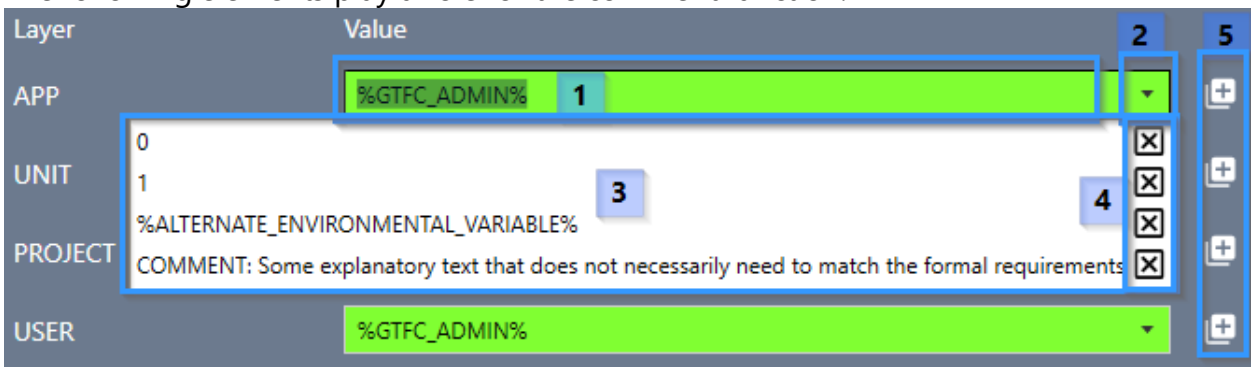
For configuration options that specify a folder or filepath as their value range, a folder icon appears at each layer as soon as an entry is made in the corresponding text field. If this is a valid address, a click on the  icon opens the corresponding folder.

14.3.2.2 Configuring comments

In addition to the possibility of assigning configuration options to values that are then used in the various applications, the Configuration Utility also offers the possibility of adding commented variants of configuration options.
These have no influence on the workflow of the associated applications.
The comments are saved independently of the used values.
They are written to the respective configuration files with the general saving process.

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The following elements play a role for the comment function:

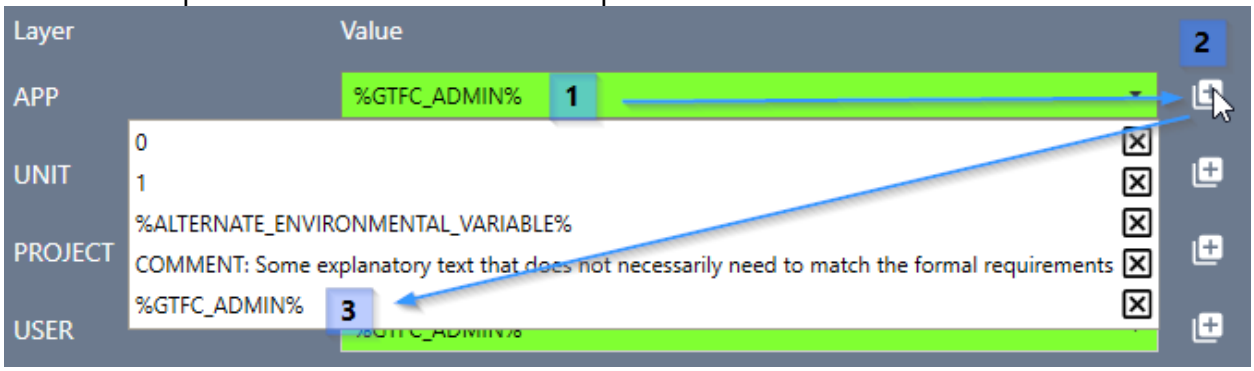


1. The text field of the layer in the column **Value**.
2. The drop-down menu behind the text field of the layer.
3. The text part of the individual lines of the dropdown menu.
4. The **Delete Comment** button ☒ on the right side of each line of the drop-down menu.
5. The **Add Comment** button ⊞.

Comments can contain alternative values, explanations, or any other combination of characters.
Comments can be blank lines.
Comments can be filled and added multiple times with the same content.
Comments can also be assigned to levels where the value of the configuration option is not set.
Comments do not have to meet the formal criteria for values because they are not used when running applications.
Comments are not listed as changes when saving.
They are stored directly in the respective configuration files.
If comments are identical to the current value of the configuration option when saved, they will not be created separately as commented-out version.

Adding comments

A comment can be added by entering it in the text field of the **Value** column or by adding an already entered value.
With a click on the button **Add Comment** the entry is automatically created. The drop-down menu opens.
In this way you can check immediately whether the entry was actually made. It can now be found in a separate line at the end of the expanded list.



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By pressing the **Add Comment** button  several times, a comment can be added several times.

> **Warning**: If a comment is entered in the text field, the current value is overwritten and lost.
> In order to obtain the current value, it is advisable to first transfer it to the comment list so that it can then be selected again.

If the current value is `<not set>`, the button **Delete Value**  must be operated after adding a comment.
Otherwise, the comment remains as a value and is treated as such later when it is saved.
Manual deletion of the field, sets it as `<empty value>` and not as `<not set>`.
If the original value is to be retained, the **Restore Value**  button can be operated after adding a comment.button can be operated after adding a comment.
Alternatively, any value can be entered into the text field after commenting has been completed.

> **Please note**: Comments will also be saved when you close and discard changes.

Deleting comments

To delete a comment, expand the list of comments.
The **Delete Comment**  button is located at the end of each line. A click on this button will remove this line from the drop-down menu.
If the deleted comment is also the current value, it will be removed automatically.
This is the only way to delete comments. The  and  buttons have no effect on the comments in the drop-down menu.
A global reload from the file options of the start page also resets comments to the last saved state.

Selecting comments

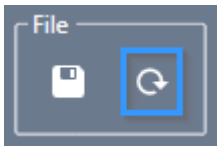
By selecting a comment in the drop-down menu of a level, the content of the corresponding line can be set as the current value with one click.
`Configuration Editor` is then automatically set as the source.
An exception will only occur if the new value was previously set by another configuration file at the start of Configuration Utility on this layer and later overwritten by a value from another source. Then the source of the corresponding predecessor is selected.

> **Warning**: If a comment is added from comment list to the text field or newly inserted there, the previous value is overwritten and thus lost.

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14.3.3 Saving the configuration

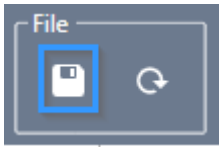
Resetting configuration options



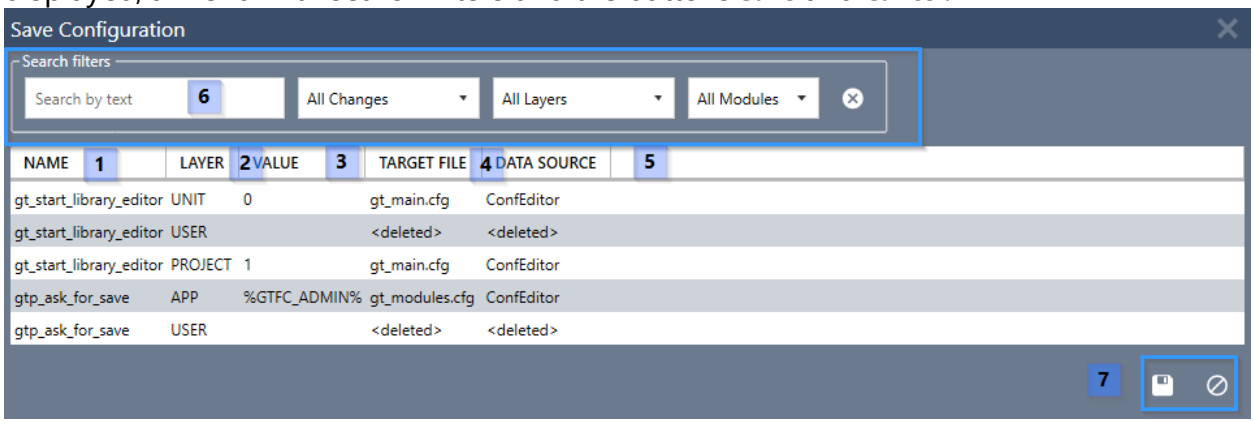
The **File** group on the start page contains the **Reset** button for reloading the previous configuration.
If this button is clicked, all default values, language files, environmental variables and configuration files are read again.
Any unsaved changes made so far will be discarded.
If a saving process has been carried out in the meantime, the new values are loaded.

> **Please note**: Changes in the **Environmental Variables** window are not reset during this process. These can be manually reset using the usual process there. This ensures that any path changes by environmental variables can be tested.

Saving the configuration



The **File** group on the start page contains the **Save** button for opening the **Save Configuration** window.
The **Save Configuration** windows consists of a table in which the configuration options are displayed, a menu with search filters and the buttons **Save** and **Cancel**.



Within the table there are the following columns:

1. Name
   Returns the name of the configuration option. In contrast to the start page, duplications may occur if the option has been defined or deleted on several levels.
2. Layer
   Specifies the level to which the value or deletion belongs row by row.

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3. Value
   Specifies the concrete content of the configuration option at each layer
4. Target File
   Indicates whether the configuration option is deleted at the layer (`<deleted>`), saved in **gt_main.cfg** or **gt_modules.cfg**.
5. Data Source
   Indicates whether a configuration option has been deleted (`<deleted>`), modified in the configuration editor (`ConfEditor`) or comes from a specific configuration file (e.g. **gt_main.cfg**).
6. Search Filters
   With text search, filter by type of change, filter by layer and filter by module, as well as clear filter functionality.
7. Save and Cancel
   Save lets you create configuration files on all required layers in the predefined paths.
   Cancel closes the window without saving. The changes will still be available.

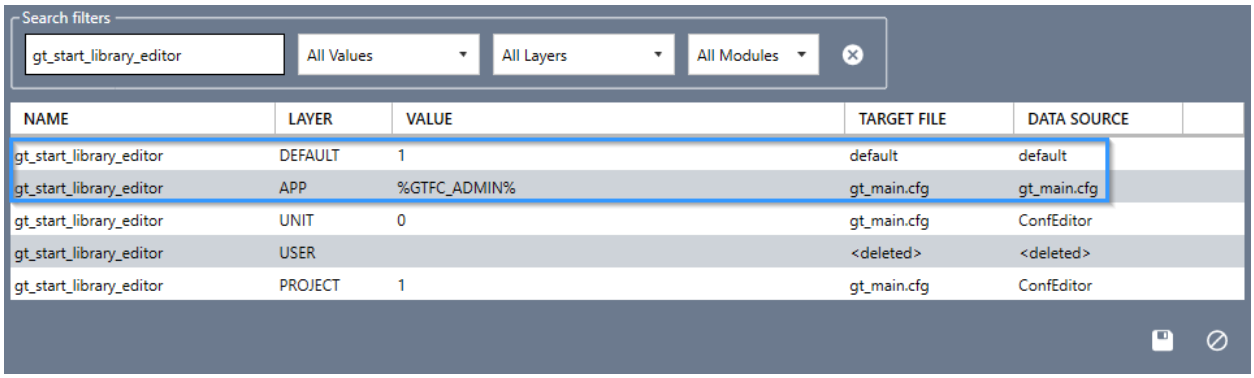
You can reload the configuration via a restart of the auxiliary application. The action **GENIUS TOOLS Reload Configuration** () can be used for this. Please check for the correct configuration of `gt_application_name_for_restart` before use.

> **Tip**: Add the Toolkit command "GENIUS TOOLS Reload Config" to your Quick Access toolbar in Creo Parametric. So it is fast and easy to test the effects of a changed configuration option.

Save value table

The save value table assigns a separate row to each configuration option per layer with a set or a deleted value.
This also includes values that neither originate from a configuration file nor are to be saved into one.
A separate line is not provided for levels at which the configuration option was not set at any time.
Deletions are highlighted separately. They have the label `<deleted>` in the columns **Target File** and **Data Source**.
Values set by the user can be recognized by the data source `ConfEditor`.
The search filters are preset so that when the **Save Configuration** window is opened, only changes at runtime of Configuration Utility are displayed.
In the example above, three lines of `gt_start_library_editor` were displayed.
In fact, there are two more lines.

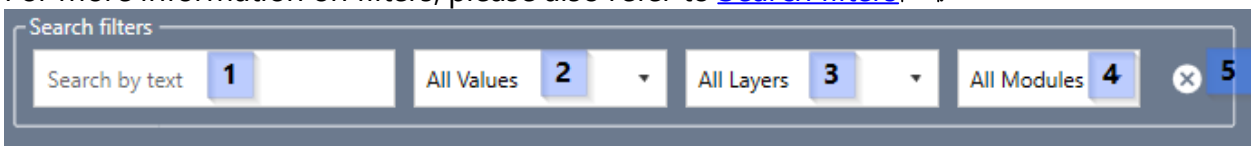
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In addition to the values edited in the configuration editor, there are the layer `DEFAULT`, in which the default value is displayed, and `APP`, described by **gt_main.cfg** but not changed in the editing process.
When saving, the value `%GTFC_ADMIN%` will still be actively stored in the configuration file **gt_main.cfg** at app layer.
However, the entries at unit and project layer will be new. At user layer, `gt_start_library_editor` will no longer be added to the configuration file due to the deletion. The entry previously saved there will disappear.

Search Filters

Similar to the table on the start page, the **Save Configuration** window can also be filtered. For more information on filters, please also refer to Search filters 316.



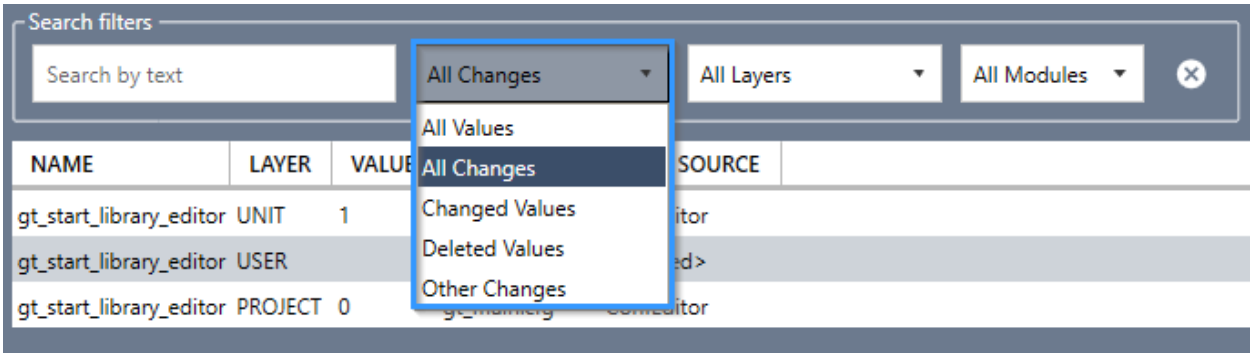
1. Text search
   Filters all columns according to the entered characters
2. Value filter
   Filters by type of assigned values of configuration options
3. Layer filter
   Filters by layer and source of values
4. Module filter
   Filters by configuration options from specific modules
5. Delete filters
   Sets all filters to the most inclusive setting This also means that the initial setting is changed from **All changes** to **All values**.

All filters can be freely combined.

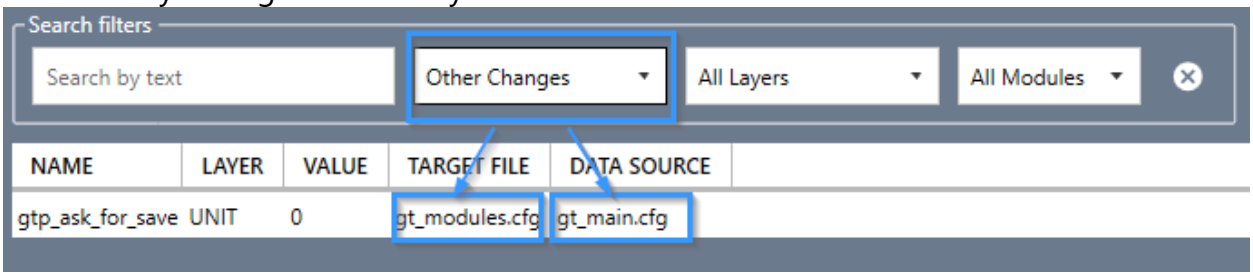
Value Filter

The value filter displays the rows that correspond to the selected type of value.

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By default, only values that have been modified during the current instance from Configuration Utility are displayed, which means all lines of all configuration options that were edited using the configuration editor.
This includes deleted values, newly created and changed values.
To display all configuration options with all their values, the filter must be set to **All Values**.
Changed Values only refer to entries that have been created or modified, but have not been deleted.
Deleted Values displays all levels of all configuration options where the value was deleted.
Other Changes deals with the rare case where the value was modified and Configuration Utility determined that the value is identical to the value read from a configuration file other than the last one. You can recognize this case by the fact that data source and target file are two different configuration files. During the saving process, this deviation is corrected by Configuration Utility.

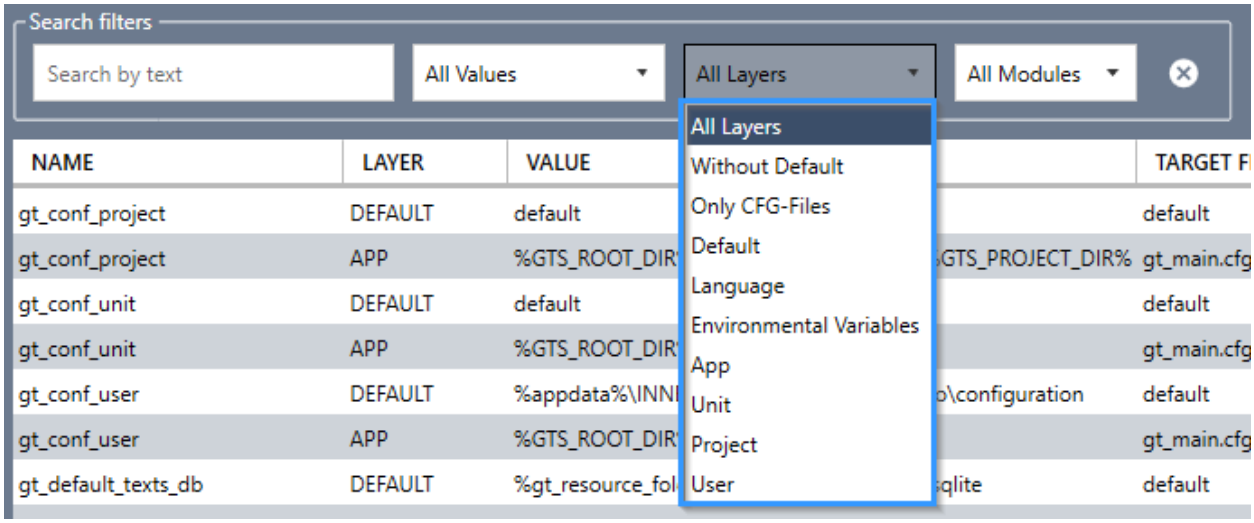


Configuration option with different source and target files

Layer Filter

The layer filter allows you to show or hide the configuration options according to their layer and origin.

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1. **All Layers** does not restrict the selection. This is the standard setting.
2. **Without Default** omits all rows whose layer value is `DEFAULT`.
3. **Only CFG Files** displays all lines that have an entry at APP, UNIT, PROJECT or USER layer.
4. **Default** only displays rows whose layer or source is described as `DEFAULT` or `default`.
5. **Language** only affects entries with the layer `LANGUAGE FILES` from the text files that determine the language of the respective application.
6. **Environmental Variables** only displays cases where a configuration option was set by an environmental variable.
7. **App** to **User** display only the rows that are assigned to the corresponding level.

Save and Cancel

When the button is pressed, the **Save Configuration** window is closed without generating the necessary configuration files. The values are retained and displayed in the same form if the window is opened again.

The configuration options are saved if the button is pressed. All general settings are stored in **gt_main.cfg** files, all module-related settings in **gt_modules.cfg** files.

The files are stored in the destination folders of the respective layers.

NAME	LAYER	VALUE	TARGET FILE	DATA SOURCE
gt_start_inspect_editor	USER		<deleted>	<deleted>
gt_start_library_editor	USER		<deleted>	<deleted>
gta_level_row_colors	USER	green	gt_modules.cfg	ConfEditor
gtl_favorite_button1_liblink	USER	sut_int_de_creo4	gt_modules.cfg	ConfEditor
gtl_favorite_button2_liblink	USER	designtools_tbx	gt_modules.cfg	ConfEditor
gtl_img_size	USER	40	gt_modules.cfg	ConfEditor
gtl_show_object_names	USER	0	gt_modules.cfg	ConfEditor
gtng_use_windchill_credentials_for_server_request	USER	0	gt_modules.cfg	ConfEditor
gtp_ask_for_save	USER		<deleted>	<deleted>
gtp_web_server_url	USER	%SUT_WEBSERVER%/webapps/php_gtp	gt_modules.cfg	ConfEditor
gtqa_show_admin_switch	USER	%GTFC_ADMIN%	gt_modules.cfg	ConfEditor
gtu_table_to_excel_std_template_name	USER	gt_sut_int_de.xlsx	gt_modules.cfg	ConfEditor
gtuf_create_layer	USER	1	gt_modules.cfg	ConfEditor

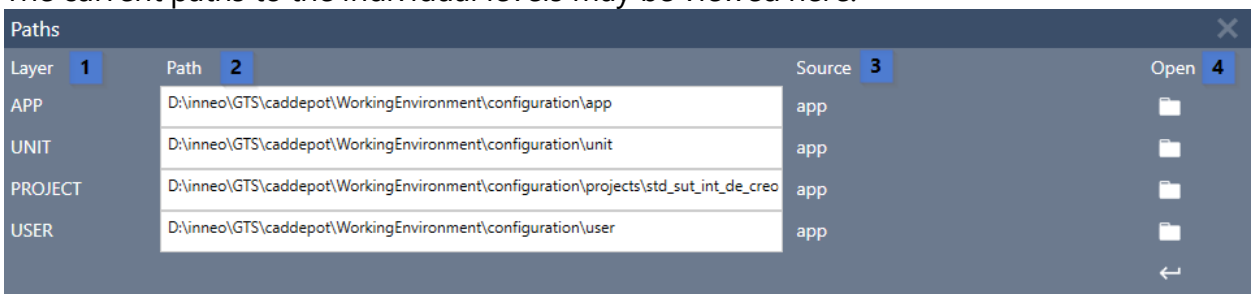
They are only created if there are configuration options or comments defined at the corresponding layer for the respective file.

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If, for example, there is no configuration option on user layer with target **gt_main.cfg**, no **gt_main.cfg** file will be created in the corresponding folder.
However, if there are comments for configuration options with target file **gt_main.cfg**, it will be created. This is not apparent from a pure look at the table, as only values actually assigned are shown there, but not commented out ones.

14.3.4 Paths

The **Paths** window opens with the button on the sidebar of the home page.
The current paths to the individual levels may be viewed here.



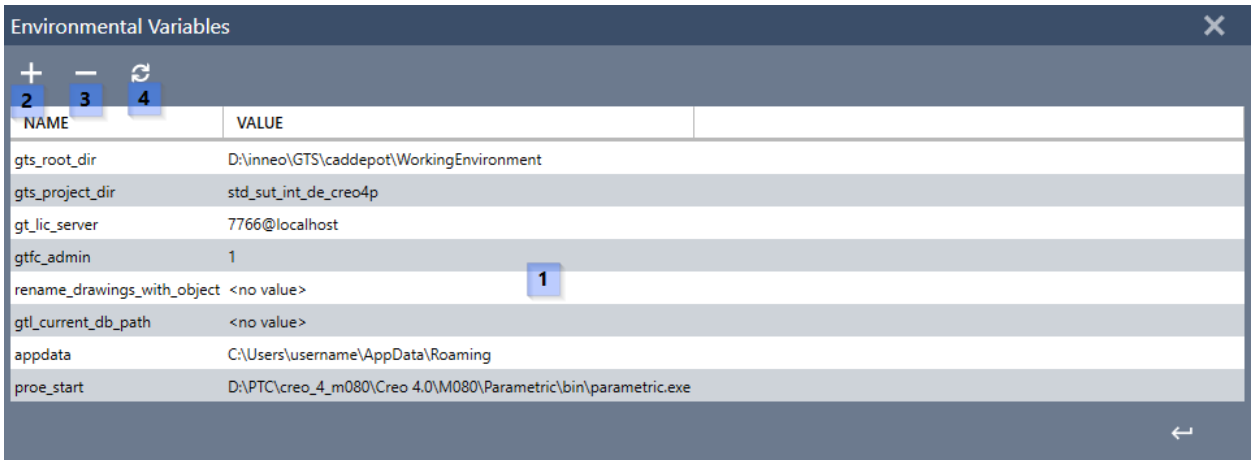
1. Layer
   Assigns the paths to the corresponding layers.
2. Path
   Information text containing the complete path to the configuration files as currently defined. The path cannot be modified at this point. Selecting and copying is still possible.
3. Source
   Shows the level at which the path is defined, in case there is a need for change.
4. Open
   A click on the respective button opens the link to the corresponding folder. The configuration files can then also be viewed directly there. Editing values directly outside of Configuration Utility is not recommended.

The button closes the window.

14.3.5 Environment variables

The **Environmental variables** window opens via on the sidebar of the start page.
There it is possible to define required environmental variables for the duration of the runtime of Configuration Utility.

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1. Table
   Subdivided into the columns **Name** and **Value**.
2. Button
   Adds an empty line to define a new environmental variable.
3. Button
   Allows you to remove a line and its contents.
4. Reload
   Restores the original state of all environmental variables.

The table lists all environmental variables that are noted as values or parts of them in a configuration option.
Each entry enclosed by a percentage sign is interpreted as an environmental variable.
The **Value** column indicates what replaces the corresponding environmental variable when the configuration option is in use.
Environmental variables where no value is set are given the entry `<no value>`.
They will be used as if they where not set at all.

> **Please note**: Environmental variables are only simulated with this function. It is not possible to create environmental variables in the system itself with Configuration Utility, not even locally. However, changes at this point can affect, for example, paths which can affect the structure of the configuration files and options when saving.

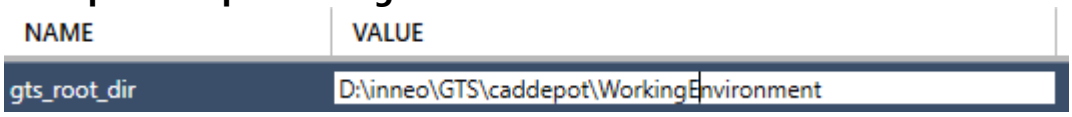
The button closes the window.

Change

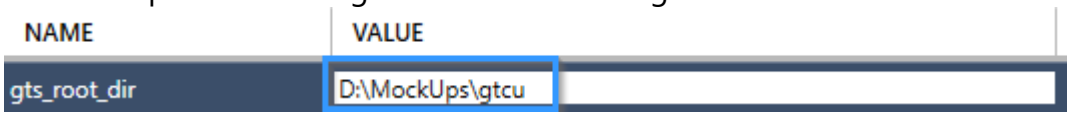
To change an existing value, click in the **Value** column in the corresponding row.
To change the name of the environment variable, click in the **Name** column in the corresponding row.
As soon as the text field is highlighted, the contained text can be removed and modified.
The changed text is automatically adopted.
The changes take effect as soon as the button in the file options on the start page is clicked.

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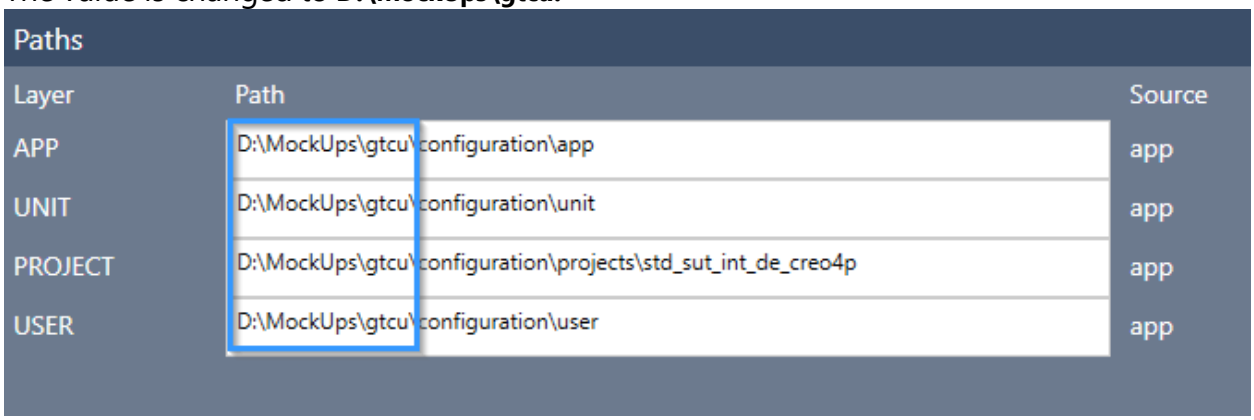
Example for a path change



In the example, `%gts_root_dir%` is an environmental variable that occurs as a placeholder in various paths indicating the location of configuration files.



The value is changed to **D:\MockUps\gtcu.**



After changing `%gts_root_dir%`, several paths have changed. This can be verified by clicking on the button in the side bar of the main window.
The entry in **gt_main.cfg** at APP level is as follows: `gt_conf_project = %GTS_ROOT_DIR%\configuration\app`
As a result, on all following levels, the first part of the entry (`%GTS_ROOT_DIR%`) is now resolved differently than before.
In consequence of this, other configuration files are read than originally intended.
This can lead to a change in the configuration structure, especially when changing and reloading several times.

Insert



To insert a new environmental variable, press the button.
A row is then added to the table.
By default, a new row has the entries `<no variable>` in the **Name** column and `<no value>` in the **Value** column.
These can be processed according to the usual pattern.
Rows that are created but not modified are automatically removed when the **Environmental Variables** window is closed.

Delete

Each row of the table can be deleted in two steps:
1. Click on the corresponding row to mark it

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2. Press the button
At the next **Reload** on the start page, Configuration Utility behaves as if the variable is not set.

Reload

A click on the button undoes all changes.
Both new entries are removed and changes are undone.
If an environmental variable is removed from all entries containing it via configuration editor at runtime and the new configuration is saved, the environmental variable does not reappear when you click **Reload**.

14.4 Database Version Control

Database Version Control is an administration tool for updating the databases used by GENIUS TOOLS for Creo to the current version that fits the software version in use.
For information on how to use Database Version Control, please refer to Usage 340.
For information on the database versions required by the current GENIUS TOOLS for Creo version, please refer to Database and product versions 341.

Starting the program

Open Database Version Control from the user interface of the GENIUS TOOLS for Creo Configuration Utility by clicking the icon under **Apps**.

14.4.1 Usage

Database Version Control checks all SQLite databases in a directory you select and determines whether they are up-to-date for use with GENIUS TOOLS for Creo.
To update your GENIUS TOOLS for Creo databases, proceed as follows.

1. Under **Database folder path**, select your database directory.
   To refresh the list of databases after switching directories, click **Reload**.
2. Verify the following information in the list of databases:
   a. Path, name and type of each database
   b. Current version and new version. These two columns tell you whether the current version and the new version are identical or whether the database can be updated.
   c. Update. This setting determines whether each database will be processed when you start the update function.
   Databases for which an update is available are checked by default.
3. Set the **Update** setting for all databases that you want to update.
4. Start the update function by clicking **Update**.

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14.4.2 Database and product versions

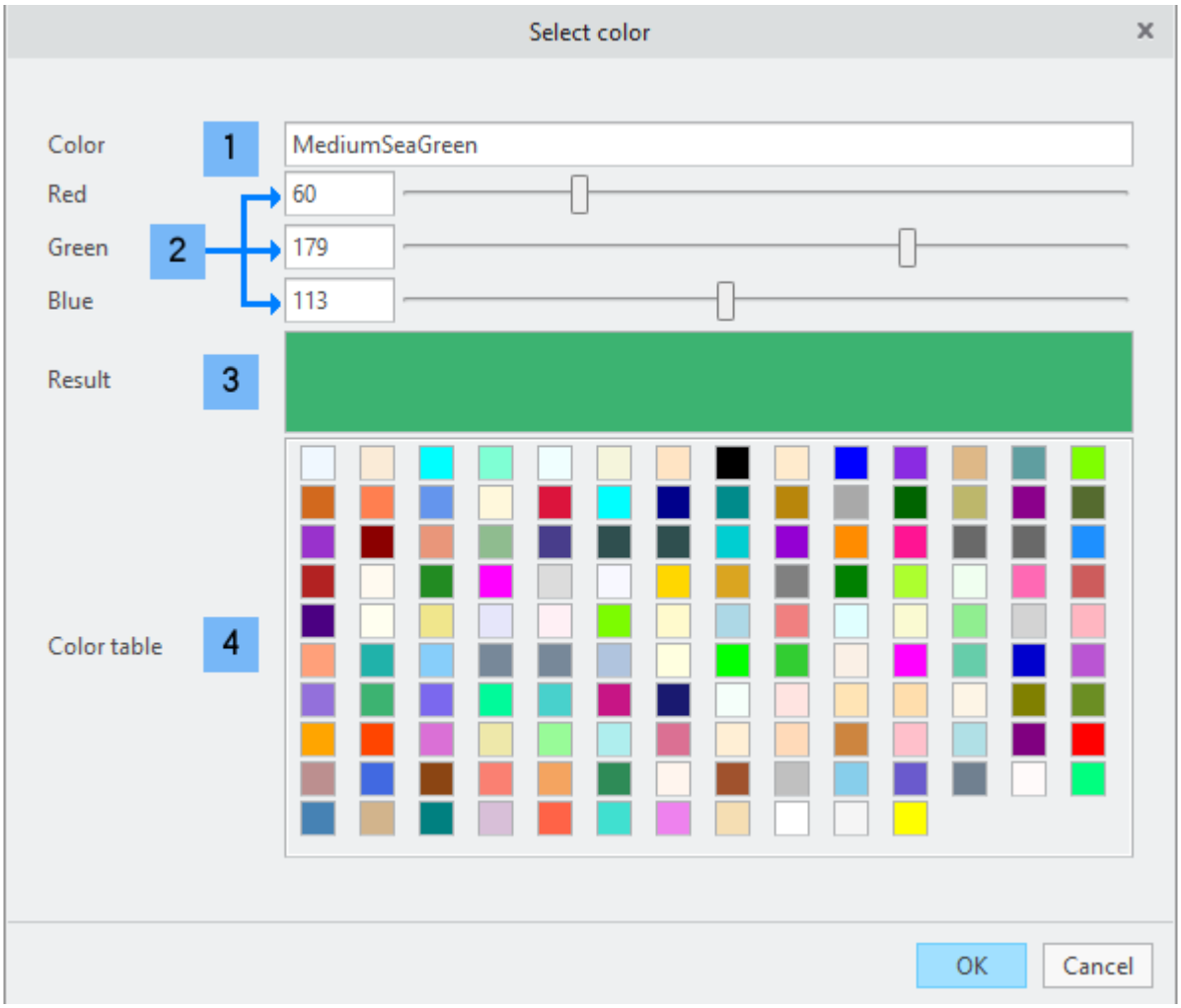
GENIUS TOOLS for Creo uses SQLite databases whose version has to fit the version of the software that you have in use. The database versions are numbered independently of the product versions. Not every product version requires a database update.
The following table provides an overview of the database versions required by the current GENIUS TOOLS for Creo version.

GENIUS TOOLS for Creo product version	library	name_generator	material	quick_access	stdTexts
6.0.0.0+	1.8	2.0	1.2	1.1	6.0.0.0

14.5 Color selector

The color selection dialog is used for the simple determination of background colors in the different GENIUS TOOLS modules.
Predefined HTML standard colors as well as own colors can be used.
The color selection dialog is always called by an editor of one of the GENIUS TOOLS modules.

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Farbauswahldialog

1	Color	When the dialog is started, the color value of the calling GENIUS TOOLS module is written into this field. The following are supported: – predefined color names (e.g. Red) – comma-separated RGB values (e.g. 100,255,16) – colors in hexadecimal notation (e.g. #ffff10) When the dialog is loaded, the transferred color is analyzed and displayed. Changes in this field do not update the color display in the dialog. Confirming the dialog transfers the value in this field to the calling editor.
2	Red Green Blue	Determination of the color via RGB. In the input field, the individual color components in the range [0,255] can be defined. The sliders also control the individual color components. These changes are immediately visible in the surface.
3	Result	This field displays the resulting color.
4	Color table	Table with predefined colors that can be selected with a mouse click.

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14.6 Configuration Options

This is an overview of configuration options in the GENIUS TOOLS for Creo-modules
This overview is created by an automated process.

Please note: Do not use environment variables such as `GT_RESOURCE_FOLDER` or `GT_CONF_USER` in Creo configuration files! These variables are only available after the start of the GENIUS TOOLS for Creo.

General Configuration Options

In the configuration file **gt_main.cfg** the settings for GENIUS TOOLS for Creo are administered.

gt_application_name_for_restart

Options Any text
Default GENIUS TOOLS for Creo

Specifies the name of the application as in creotk.dat.

gt_conf_project

Options Path or foldername
Default default

Defines the name of a directory (below GT_RESOURCE_FOLDER) or a complete path. Is read after "UNIT".

gt_conf_unit

Options Path or foldername
Default default

Defines the name of a directory (below GT_RESOURCE_FOLDER) or a complete path. Is read first.

gt_conf_user

Options Path or foldername
Default %appdata%\INNEO\GENIUS_TOOLS\for_Creo\configuration

Defines the name of a directory (below GT_RESOURCE_FOLDER) or a complete path. It is read after "UNIT" and "PROJECT".

gt_default_texts_db

Options Path or foldername
Default %gt_resource_folder%data\gt_default_texts.sqlite

Defines the sqlite-database for default texts.

gt_default_texts_table

Options Table name
Default selection

Defines the table of the sqlite-database for default texts.

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gt_dialog_maximum_resize_factor

Options Number between 0 and 1

Default 0.5

Defines the maximum window size with automatic size-adjustments regarding to the desktop height.

gt_force_regen

Options 0 or 1

Default 0

Should regeneration in GENIUS TOOLS for Creo be forced. (0 - No, 1 - Yes)

gt_headerless_files_are_utf8

Options 0 or 1

Default 1

Defines the reading format of headerless files (0 = ASCII, 1 = UTF-8) This configuration option is used for files, opened without formatting.

gt_image_height

Options Any number to up to 1200

Default 800

Defines the maximum height of images in Forms and UDF Forms model info.

gt_image_width

Options Any number to up to 1200

Default 800

Defines the maximum width of images in Forms and UDF Forms model info.

gt_lang

Options Language abbreviation (en, de, es, ...)

Default de

Defines the language for the welcome screen, the About dialog and the displayed Help. Additionally, it defines the displayed language in the External Model Data Viewer.

gt_licpath

Options Port@IP

Default 7766@localhost

Defines the license server for GENIUS TOOLS for Creo.

gt_log_debug

Options 0 or 1

Default 0

Defines, if debug mode entries are written in the Creo log file.

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gt_log_debug_in_trail

Options 0 or 1

Default 0

Writes additionally debug mode entries in the Creo trail file (0 - No, 1 - Yes).

gt_replace_character_if_not_found

Options Any text

Default

Defines a string that is returned instead of variables if they do not exist. The "empty" option returns an empty string.

gt_resource_folder

Options Path or foldername

Default %TEMP%

Defines the directory for all resources.

gt_show_license_dialog

Options 0 or 1

Default 1

Defines, if an error dialog for license errors is displayed (0 - No, 1 - Yes).

gt_sqlite_db_max_tries

Options Any number

Default 25

Number of trials to access a SQLite database.

gt_sqlite_db_sleeptime_between_tries

Options Any number

Default 10

Time elapsing in ms before trying to reconnect to a SQLite database.

gt_start_assembly

Options 0 or 1

Default 1

Defines whether GENIUS TOOLS Assembly Report can be started by users. (0 - No, 1 - Yes)

gt_start_assembly_editor

Options 0 or 1

Default 1

Defines whether Assembly Report Editor can be started by users. (0 - No, 1 - Yes)

gt_start_configuration_utility

Options 0 or 1

Default 1

Defines whether Configuration Utility can be started by users. (0 - No, 1 - Yes)

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gt_start_dimension
Options 0 or 1
Default 1
Defines whether GENIUS TOOLS Dimension can be started by users. (0 - No, 1 - Yes)

gt_start_forms
Options 0 or 1
Default 1
Defines whether GENIUS TOOLS Forms can be started by users. (0 - No, 1 - Yes)

gt_start_forms_editor
Options 0 or 1
Default 1
Defines if the editor of the forms may be started.

gt_start_inspect
Options 0 or 1
Default 1
Defines whether GENIUS TOOLS Inspect can be started by users. (0 - No, 1 - Yes)

gt_start_inspect_editor
Options 0 or 1
Default 1
Defines whether GENIUS TOOLS Inspect Editor can be started by users. (0 - No, 1 - Yes)

gt_start_library
Options 0 or 1
Default 1
Defines whether GENIUS TOOLS Library can be started by users. (0 - No, 1 - Yes)

gt_start_library_editor
Options 0 or 1
Default 1
Defines whether Library Editor can be started by users. (0 - No, 1 - Yes)

gt_start_material
Options 0 or 1
Default 1
Defines whether GENIUS TOOLS Material can be started by users. (0 - No, 1 - Yes)

gt_start_material_editor
Options 0 or 1
Default 1
Defines whether Material Selector Editor can be started by users. (0 - No, 1 - Yes)

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gt_start_name_generator
Options 0 or 1
Default 1
Defines whether GENIUS TOOLS Name Generator can be started by users. (0 - No, 1 - Yes)

gt_start_name_generator_editor
Options 0 or 1
Default 1
Defines whether Name Generator Editor can be started by users. (0 - No, 1 - Yes)

gt_start_parameter
Options 0 or 1
Default 1
Defines whether GENIUS TOOLS Parameter can be started by users. (0 - No, 1 - Yes)

gt_start_parameter_editor
Options 0 or 1
Default 1
Defines whether Parameter Editor can be started by users. (0 - No, 1 - Yes)

gt_start_quick_access
Options 0 or 1
Default 1
Defines whether GENIUS TOOLS Quick Access can be started by users. (0 - No, 1 - Yes)

gt_start_quick_access_editor
Options 0 or 1
Default 1
Defines whether Quick Access Editor can be started by users. (0 - No, 1 - Yes)

gt_start_udf_form
Options 0 or 1
Default 1
Defines whether GENIUS TOOLS UDF Forms can be started by users. (0 - No, 1 - Yes)

gt_start_udf_form_editor
Options 0 or 1
Default 1
Defines whether UDF Forms Editor can be started by users. (0 - No, 1 - Yes)

gt_start_utilities
Options 0 or 1
Default 1
Defines whether GENIUS TOOLS Utilities can be started by users. (0 - No, 1 - Yes)

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gt_start_value_transfer

Options 0 or 1

Default 1

Defines whether GENIUS TOOLS Value Transfer can be started by users. (0 - No, 1 - Yes)

gt_version_string

Options Any text

Default

Shows current Version of GENIUS TOOLS for Creo

gt_visible_details_rows_set

Options Any number >0

Default 9

Height of the detail area as row count

gt_window_size_position_save

Options 0 or 1

Default 1

Defines whether the position and size of GENIUS TOOLS dialogs are saved and used again the next time. Also saves the status of the parameter model list.

GENIUS TOOLS Assembly Report

In the configuration file **gt_modules.cfg** the settings for GENIUS TOOLS Assembly Report are administered.

gta_change_wtPart

Options 0 or 1

Default 1

Defines, if the user may change the corresponding WTPart name, if there is no match in the windchill db.You can set %TBXADMIN%.

gta_dec_places

Options 0 to 6

Default 2

Defines the number of decimal places, displayed in tables in GENIUS TOOLS Assembly Record.

gta_default_file

Options Filepath

Default %gt_resource_folder%assembly\gt_assembly.xml

Defines the file name of the default report for Assembly Report.

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gta_export_creo_index

Options 0 or 1

Default 1

Defines, if the index of a component should be exported to CSV or Excel additionally to the defined columns in the editor.

gta_export_file

Options Filename

Default

Defines the default name of an exported report file. You can use the GENIUS TOOLS for Creo variables. (For example: "=%PART_NO%_%CAD_REVISION%_%CAD_CREATED_ON%") Please note: Do not use file extensions if you use Excel and csv exports.

gta_export_index_value

Options 0 or 1

Default 1

Defines, if the index value of a component should be exported to CSV or Excel additionally to the defined columns in the editor.

gta_export_path

Options Path or foldername

Default

Defines the default path for saving reports.

gta_export_rownumber

Options 0 or 1

Default 1

Defines, if the row index should be exported to CSV or Excel additional to the columnes definied in the editor.

gta_export_template

Options Filepath

Default %gt_resource_folder%assembly\\gt_assembly.xlsx

Defines the default export template.

gta_export_type

Options 0 or 1

Default 1

Defines, if the component type should be exported to CSV or Excel additionally to the columnes definied in the editor.

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gta_fill_empty_with_default

Options 0 or 1

Default 1

Defines if the component parameter for the index should be filled with its default value, if the parameter does not exists in the model.

gta_lang

Options Language abbreviation (en, de, es, ...)

Default de

Defines via language abbreviations additional languages to support multi-language titles in GENIUS TOOLS Assembly Report.

gta_level_row_colors

Options Any text

Default

Defines the colors of table rows according to its level in the bill of material. Sepereated by comma and given as hex values.

gta_open_export_csv

Options 0 or 1

Default 1

Defines, if the exported CSV should be opened or not.

gta_show_mdl_list

Options 0 or 1

Default 1

Defines, if the list of assemblies of the first level is visible or not.

gta_struct_insert_space

Options

Default 3

Defines the number of blanks that are prefixed per level in each entry.

GENIUS TOOLS Dimension

In the configuration file **gt_modules.cfg** the settings for GENIUS TOOLS Dimension are administered.

gtd_can_change_family_table_values

Options 0 or 1

Default 1

Defines, whether users can change entries in family tables in GENIUS TOOLS Dimension.

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gtd_dec_places

Options 0 to 6

Default 2

Defines the amount of decimal places displayed in GENIUS TOOLS Dimension.

gtd_filter

Options 0 or 1

Default 0

Defines, if GENIUS TOOLS Dimension is started with active name filter (named dimensions) (0 - No, 1 - Yes).

gtd_label_col_size

Options Any number

Default 10

Defines the width of the dimension names column in characters. A value less than 5 will be ignored.

gtd_regenerate_only_dimensions_model

Options 0 or 1

Default 0

Defines, if the root model (assembly) and all its sub models are regenerated (0) or only the currently selected model in GENIUS TOOLS Dimension with its sub models (1).

gtd_value_col_size

Options Any number

Default 5

Defines the width of the dimension values column in characters. A value less than 5 will be ignored.

GENIUS TOOLS Forms

In the configuration file **gt_modules.cfg** the settings for GENIUS TOOLS Forms are administered.

gtf_ask_before_changing_fam_table

Options 0 or 1

Default 0

Defines whether users will be asked before changes to entries in family tables are applied in GENIUS TOOLS Forms.

gtf_def_lang

Options Language abbreviation (en, de, es, ...)

Default en,de,fr

Defines the languages of element descriptions that are displayed in the Forms Editor.

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gtf_default_folder

Options Path or foldername

Default %gt_resource_folder%forms

Defines the default folder for imports and exports of definitions and values.

gtf_descriptionwidth

Options Any number

Default 15

Defines the width of the name column of GENIUS TOOLS Forms in characters.

gtf_lang

Options Language abbreviation (en, de, es, ...)

Default en

Defines the standard language of element descriptions, which are displayed in Forms and the Forms Editor (Standard is the current Creo language).

gtf_lock_column_resize

Options 0 or 1

Default 1

Defines, if the second and third column are automatically resized if the Forms window is resized (0 - yes, 1 - no).

gtf_midwidth

Options Any number

Default 15

Defines the width of the middle column in Forms in characters.

gtf_namewidth

Options Any number

Default 10

Defines the width of the name column in Forms in characters.

gtf_separator

Options Any character

Default ;

Defines the separator for reading of csv files.

GENIUS TOOLS Inspect

In the configuration file **gt_modules.cfg** the settings for GENIUS TOOLS Inspect are administered.

gti_def_lang

Options Language abbreviation (en, de, es, ...)

Default en

Defines the display language of GENIUS TOOLS Inspect.

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gti_din_compliant

Options 0 or 1

Default 1

Defines if the numeration shall resemble DIN 6770 (1). If not (0) there will be a new numeration for all check symbols following the rules.

gti_excel_file

Options Filename

Default gti_report.xlsx

Defines the name of the output file of the Excelexport.

gti_excel_template

Options Filename

Default gti_template_de.xlsx

Defines the name of the basic excel template.

gti_fillup_places

Options 0 to 5

Default 3

Defines the maximum amount of leading zeros, numbers are filled up with.

gti_folder

Options Path or foldername

Default %gt_resource_folder%inspect\

Defines the folder containing the symbols, tables and the definitions

gti_lang

Options Language abbreviation (en, de, es, ...)

Default de

Defines additional languages via language abbreviations for displaying UI elements.

gti_number_sort_at_height

Options 0 or 1

Default 1

Defines, if symbols are numbered by height in the drawing (1) or creation order (0).

gti_number_sort_at_type

Options 0 or 1

Default 1

Defines, if symbols are numbered by type(1) or creation order (0).

gti_numbering_all_sheets

Options 0 or 1

Default 1

Defines whether symbols should be numbered across all sheets.

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gti_size_wchar

Options Any number

Default 8

Defines the size of a wchar, important for automatic symbol placement.

gti_start_file

Options Filename

Default gti_definition.xml

Defines the name of the basic definition file.

gti_start_number

Options 0 or 1

Default 1

Defines the starting number for incrementing inspection symbols.

GENIUS TOOLS Library

In the configuration file **gt_modules.cfg** the settings for GENIUS TOOLS Library are administered.

gtl_action_copy_set_file_as_common_name

Options 0 or 1

Default 1

If active (1), a copied file is renamed with the Common Name.

gtl_action_insert_with_mapkey

Options 0 or 1

Default 1

Defines, if inserting an part from GENIUS TOOLS Library is done by mapkey or a programatic function (different user experience).

gtl_close_detail_panel_after_copy

Options 0 or 1

Default 1

Defines, if the detail dialog is closed (1) or remains open (0) after a file is copied.

gtl_close_detail_panel_after_insert

Options 0 or 1

Default 0

Defines, if the detail dialog is closed (1) or remains open (0) after a file is inserted.

gtl_close_detail_panel_after_open

Options 0 or 1

Default 1

Defines, if the detail dialog is closed after a file is opened or inserted (1) or remains open (0).

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gtl_copy_check_existence

Options 0 or 1

Default 1

Should the new names are checked for existance before the start of a copy process (could take a long time)

gtl_copy_drawings_with_same_name

Options none, part, assem or both

Default %rename_drawings_with_object%

Defines whether drawings of the same name are copied as well. Default is the value of the Creo option "rename_drawings_with_object". Possible options: none - drawings are not copied. assem - Only for assemblies. part - Only for parts. both - both.

gtl_db_path

Options Folderpath

Default %gt_resource_folder%library\

Defines the path to the library databases.

gtl_def_lang

Options Language abbreviation (en, de, es, ...)

Default en

Defines an alternative via language abbreviation, if the translation (defined in gtl_lang) is not found in the library database.

gtl_detail_image_folder

Options Path or foldername

Default %gtl_current_db_path%

Defines the folder for detailed images displayed in GTL Detail Window.% gtl_current_db_path% - uses /library//img_detail/Otherwise it uses the path given in this value

gtl_detail_window_autoincrease_size

Options 0 or 1

Default 1

Defines, if the configuration options gtl_detail_window_select_height, gtl_detail_window_select_width, gtl_detail_window_udf_forms_height and gtl_detail_window_udf_forms_width are used (1) or not (0).

gtl_detail_window_detail_image_height

Options Any number

Default 0

Defines the height of a detail image.

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gtl_detail_window_detail_image_show_title

Options 0 or 1

Default 1

If a detailed picture for an object is found, its title will be displayed besides (1) or not (0).

gtl_detail_window_detail_image_width

Options Any number

Default 0

Defines the width of the detail image.

gtl_detail_window_height

Options Any number

Default 450

Defines the initial height of the detail dialog in pixel.

gtl_detail_window_hide_details

Options 0 or 1

Default 0

Defines, if object details are always shown (0) or be hidden initially (1).

gtl_detail_window_move_by_tree_width

Options 0 or 1

Default 1

Defines if the detail dialog is displayed next to the model tree. (0 - No, 1 - Yes)

gtl_detail_window_preselected_tab

Options 0 to 2

Default 0

Defines the default tab of the Detail window in GENIUS TOOLS Library (0: Details, 1: Selection 2: Form).

gtl_detail_window_select_height

Options Any number

Default 600

Defines the minimal height of the Detail window in pixel after changing to the "Selection" tab.

gtl_detail_window_select_width

Options Any number

Default 300

Defines the minimal width of the Detail dialog in pixel after changing to the "Selection" tab.

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gtl_detail_window_selection_information_height

Options Any number

Default 4

Defines the height of selection information in rows

gtl_detail_window_show_both_languages

Options 0 or 1

Default 0

Defines, if both languages (gtl_lang and gtl_def_lang) are displayed in the Detail window (1) or gtl_lang only (0).

gtl_detail_window_show_variant_attribute_type

Options 0 or 1

Default 0

Shows attribute types (D:, P:) in the Selection tab of the Detail window of GENIUS TOOLS Library (1).

gtl_detail_window_udf_forms_height

Options Any number

Default 700

Defines the minimal height of the Detail dialog in pixel after changing to the Forms tab (UDF Forms).

gtl_detail_window_udf_forms_width

Options Any number

Default 350

Defines the minimal width of the Detail dialog in pixel after changing the Forms tab (UDF Forms).

gtl_detail_window_width

Options Any number

Default 300

Defines the initial width of the Detail dialog in pixel.

gtl_dnd_enabled

Options 0 or 1

Default 1

Activates (1) or deactivates (0) Drag and Drop for GENIUS TOOLS Library in Creo 3.0.

gtl_downsync

Options 0 or 1

Default 1

Defines, if libraries are cached locally on initial call (1) of if they are always read from GT_RESOURCE_FOLDER (0) This configuration option do not affect the editor.

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gtl_downsync_path

Options Folderpath

Default %appdata%\INNEO\GENIUS_TOOLS\for_Creo\library\

Defines the path for locally caching libraries. Depends on gtl_downsync.

gtl_editor_create_db_security_copy_once_a_day

Options 0 or 1

Default 1

Defines, if a backup of a database is created once a day after opening it with the Library Editor (1) or not (0).

gtl_editor_file_import_action_fallback

Options 0 to 262143

Default 16383

Defines one or more actions, which are added to library objects during import or object creation via addition (31=1+2+4+8+16). 1 - Open, 2 - Insert, 4 - Copy, 8 - Copy insert, 16 - Insert (with reference), 16384 - Merge, 32768 - Die, 65536 - Punch, 131072 - Insert as Copy Geom

gtl_editor_file_import_check_selection_existance

Options 0 or 1

Default 0

Defines if the existance check during the import is also applied to instances (1). PLEASE NOTE: This affects import times significantly.

gtl_editor_find_double_objects_by_path_and_name

Options 0 or 1

Default 0

Defines how duplicate objects are checked (0 - by object name, 1 - by object path and object name).

gtl_editor_link_double_objects

Options 0 or 1

Default 1

Defines how doubled objects are treated by GENIUS TOOLS Library (0 - every doubled object is created during the import, 1 - Doubled objects are linked and only created once during the import).

gtl_editor_mnu_creator_automatic_selection

Options 0 or 1

Default 1

Defines, if tree view selections are inherited between subnodes of the tree in the MNU export dialog (Yes - 1, No - 0).

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gtl_editor_selections_inherit_instances

Options 0 or 1

Default 1

Defines, if images are inherited from a generic to its instances (0 - No, 1 - Yes).

gtl_editor_sqlite_allow_unsecure_write_operations

Options 0 or 1

Default 1

Defines, if unsecure but faster write operations are used for database access (0 - No, 1 - Yes)

gtl_favorite_button1_image

Options File name with extension .png

Default gtl_favorite_icon32_std.png

Defines the icon of the first favorite button.

gtl_favorite_button1_liblink

Options Any text

Default company

Defines the first favorite library.

gtl_favorite_button2_image

Options File name with extension .png

Default gtl_favorite_icon32_dtools.png

Defines the icon of the second favorite button.

gtl_favorite_button2_liblink

Options Any text

Default designtools

Defines the second favorite library.

gtl_favorite_button3_image

Options File name with extension .png

Default gtl_favorite_icon32_pipe.png

Defines the icon of the third favorite button.

gtl_favorite_button3_liblink

Options Any text

Default planttools

Defines the third favorite library.

gtl_favorite_button4_image

Options File name with extension .png

Default gtl_favorite_icon32_user.png

Defines the icon of the fourth favorite button.

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gtl_favorite_button4_liblink

Options Any text

Default user

Defines the fourth favorite library.

gtl_favorite_button_show

Options 0 or 1

Default 1

Defines, if the buttons for favorites are displayed in GENIUS TOOLS Library (0 - No, 1 - Yes)

gtl_favorite_path

Options Path or foldername

Default %appdata%\\INNEO\\GENIUS_TOOLS\\for_Creo\\library\\

Defines the path to save GT Library favorites.

gtl_filter_green

Options 0 or 1

Default 1

Default filter setting for the filter "Green".

gtl_filter_green_text

Options Any text

Default

Defines the description of the status "Green", displayed in the Detail dialog. If the option is empty, the language-dependend default is used.

gtl_filter_normal

Options 0 or 1

Default 1

Default filter setting for the filter "Normal".

gtl_filter_normal_text

Options Any text

Default

Defines the description of the status "Normal", displayed in the Detail dialog. If the option is empty, the language-dependend default is used.

gtl_filter_red

Options 0 or 1

Default 1

Default filter setting for the filter "Red".

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gtl_filter_red_text

Options Any text

Default

Defines the description of the status "Red", displayed in the Detail dialog. If the option is empty, the language-dependend default is used.

gtl_filter_yellow

Options 0 or 1

Default 1

Default filter setting for the filter "Yellow".

gtl_filter_yellow_text

Options Any text

Default

Defines the description of the status "Yellow", displayed in the Detail dialog. If the option is empty, the language-dependend default is used.

gtl_green_color

Options Hexadecimal 000000 - FFFFFF

Default 008800

Specifies the Color tone for green in GENIUS TOOLS Library.

gtl_gtf_save_forms_in_model

Options 0 or 1

Default 1

Defines, if Forms are copied into a model (1) or not (0) during the creation of a new copy of a model.

gtl_gtng_gtf_show_name_dialog_everytime

Options 0 or 1

Default 0

Defines if the name dialog is displayed always (1) or only if it is not opened manually before (0).

gtl_gtng_overwrite_std_number_definition

Options 0 or 1

Default 1

Defines if the Name Generator definition @number@@oldname@ is replaced by @number:%gtl_gtng_standard_db_filter_for_file_copy%@@oldname@. Also, if the definition is set explicit.

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gtl_gtng_standard_db_filter_for_file_copy

Options Any text

Default

Limits the displayed name configurations from GENIUS TOOLS Name Generator. If only one result remains, this name configuration is automatically used.

gtl_home_db

Options Filename

Default

When containing a path to a data base the path bar of GTL will display an icon showing a house. Clicking this icon will open this database.

gtl_img_size

Options 100 or 40

Default 100

Defines the displayed icon size in pixel.

gtl_info_folder

Options Folderpath

Default %gtl_current_db_path%

Defines a folder that will be searched for information documents for library objects during a batch processing run.

gtl_lang

Options Language abbreviation (en, de, es, ...)

Default de

Defines a language via language abbreviation which is used to display library objects.

gtl_mark_category_images

Options 0 or 1

Default 1

Defines whether images of library categories get a triangle symbol for better differentiation.

gtl_mdl3d_search_by_bounding_box

Options 0 or 1

Default 1

Defines the 3D search behavior together with gtl_mdl3d_search_by_voxel.

gtl_mdl3d_search_by_voxel

Options 0 or 1

Default 1

Defines the 3D search behavior together with gtl_mdl3d_search_by_bounding_box.

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gtl_mdl3d_search_factor_bb_bounding_box

Options 0 to 1

Default 0.5

Defines the billing factor. The values entered for the three configuration options gtl_mdl3d_search_factor_bb_bounding_box, gtl_mdl3d_search_factor_bb_bounding_box_unnorm und gtl_mdl3d_search_factor_bb_mass_center must add up to 1 (= 100%). They determine the weighting of the individual search options.

gtl_mdl3d_search_factor_bb_bounding_box_unnorm

Options 0 to 1

Default 0

Defines the billing factor. The values entered for the three configuration options gtl_mdl3d_search_factor_bb_bounding_box, gtl_mdl3d_search_factor_bb_bounding_box_unnorm und gtl_mdl3d_search_factor_bb_mass_center must add up to 1 (= 100%). They determine the weighting of the individual search options.

gtl_mdl3d_search_factor_bb_mass_center

Options 0 to 1

Default 0.5

Defines the billing factor. The values entered for the three configuration options gtl_mdl3d_search_factor_bb_bounding_box, gtl_mdl3d_search_factor_bb_bounding_box_unnorm und gtl_mdl3d_search_factor_bb_mass_center must add up to 1 (= 100%). They determine the weighting of the individual search options.

gtl_mdl3d_search_factor_bounding_box

Options 0 to 1

Default 0.5

Defines the billing factor. The values entered for the two configuration options gtl_mdl3d_search_factor_bounding_box and gtl_mdl3d_search_factor_voxel must add up to 1 (= 100%). They determine the weighting of the individual search options.

gtl_mdl3d_search_factor_voxel

Options 0 to 1

Default 0.5

Defines the billing factor. The values entered for the two configuration options gtl_mdl3d_search_factor_bounding_box and gtl_mdl3d_search_factor_voxel must add up to 1 (= 100%). They determine the weighting of the individual search options.

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gtl_mdl3d_search_voxel_per_axe

Options Any number

Default 10

Defines the number of voxel for the 3D resolution. Please note: This value must be consistent in database and program.

gtl_red_color

Options Hexadecimal 000000 - FFFFFF

Default 880000

Specifies the Color tone for red in GENIUS TOOLS Library.

gtl_run_mode

Options 0 or 1

Default 1

Defines the display mode of GENIUS TOOLS Library (0 - as external dialog, 1 - inside the Creo navigator pane)

gtl_search_btn_search

Options 0 or 1

Default 0

Defines if a search is performed after a click on extended search button (0 - No, 1 - Yes).

gtl_search_no_type_no_folder

Options 0 or 1

Default 0

Defines if folders will be searched (1) or not (0) when there are no statements of the type flag in the search options.

gtl_search_values_per_page

Options Any number

Default 25

Number of rows per page. Values <1 and >999 are read as 25.

gtl_show_both_languages

Options 0 or 1

Default 0

Defines, if both languages (gtl_lang and gtl_def_lang) are displayed in the library browser (1) or only gtl_lang with the fallback gtl_def_lang (0).

gtl_show_category_names

Options 0 or 1

Default 0

Defines, if category names are displayed.

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gtl_show_font_size

Options Any number

Default 5

Defines the font size in the library browser.

gtl_show_object_names

Options 0 or 1

Default 1

Defines, if object names are displayed in GENIUS TOOLS Library (0 - No, 1 - Yes).

gtl_show_path

Options 0 or 1

Default 1

Defines if the path of underlying categories will be shown(1) or not(0).

gtl_start_db

Options Filename

Default

Defines the library loaded on startup. If empty, the alpha-numerical first is used.

gtl_yellow_color

Options Hexadecimal 000000 - FFFFFF

Default FFA500

Specifies the Color tone for yellow in GENIUS TOOLS Library.

GENIUS TOOLS Material

In the configuration file **gt_modules.cfg** the settings for GENIUS TOOLS Material are administered.

gtm_command_file

Options Filepath

Default %gt_resource_folder%\material\material.db

Defines the database used by GENIUS TOOLS Material and GENIUS TOOLS Material Editor.

gtm_db_def_lang

Options Language abbreviation (en, de, es, ...)

Default en

Defines via language abbreviation, which language is used, if the translation is not found in gtm_db_lang.

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gtm_db_lang

Options Language abbreviation (en, de, es, ...)

Default de

Defines the displayed language of material attributes vial language abbreviations (standard is the Creo language).

gtm_infoDoc_folder

Options Path or foldername

Default %gt_resource_folder%\material\info\

Defines the directory containing information documents for GENIUS TOOLS Material, if no path is specified

gtm_remember_selected_filter

Options Any number

Default 1

The number of layers that shall be kept.

gtm_replace_materials_with_same_name

Options 0 or 1

Default 1

Defines the behavior of GENIUS TOOLS Material if an assigned material has the same name like the new assigned one (0 - the old material will not be replaced, 1 - the old material will be replaced).

gtm_show_infoDoc_in_list

Options 0 or 1

Default 1

Defines if the info symbol shall already be shown in the shortlist or only after picking the material.

gtm_show_properties_button

Options 0 or 1

Default 1

Defines if the "Open Materialproperties" control will be shown in GT Material(1) or not (0).

gtm_visible_details_rows_set

Options 8-21

Default 9

Defines the height of the material list in rows.

GENIUS TOOLS Name Generator

In the configuration file **gt_modules.cfg** the settings for GENIUS TOOLS Name Generator are administered.

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gtng_db_name_filter

Options Any text

Default

All File names of configuration definitions are searched for the here defined value. Only the definitions containing this value are displayed in the Name generator.

gtng_folder

Options Path or foldername

Default %gt_resource_folder%\name_generator\

Defines a directory containing the global name configurations for Name Generator.

gtng_local_folder

Options Path or foldername

Default %appdata%\INNEO\GENIUS_TOOLS\for_Creo\name_generator\

Defines a directory containing the local name configurations for Name Generator.

gtng_use_windchill_credentials_for_server_request

Options 0 or 1

Default 1

If an Windchill server is recognized, this option defines if the login data is requested (1) or an URL without login data is retrived (0).

GENIUS TOOLS Parameter

In the configuration file **gt_modules.cfg** the settings for GENIUS TOOLS Parameter are administered.

gtp_alternative_background_color

Options Any text

Default

Defines the color of every even row in the parameter form. Enter the colour as RGB values (e.g.: 122,45,89). The default color (grey) is used if the config option is empty. If the value is "n" or "no", no background color will be used.

gtp_ask_for_save

Options 0 or 1

Default 1

A window will pop up in the GTP after changing the model or closing the dialog, if there are parameters with changed values.This behaviour will be deactivated if the option is "0".

gtp_bold_parameter_values

Options 0 or 1

Default 0

Defines, if the parameter values are displayed bold (0 - No, 1 - Yes).

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gtp_check_connections

Options 0 or 1

Default 1

Defines if database connections and filters should be checked after importing the parameter values and missing values are set automatically (0 - No, 1 - Yes)

gtp_db_folder

Options Path or foldername

Default %gt_resource_folder%parameter\database\

Defines the Folder for the data bases, which are used for data base nodes.

gtp_default_value

Options Any text

Default -

Defines the default value for parameter values.This value is added to value lists in GTP regardless of whether it is valid for a parameter. If an empty value is set as the default value, it is not added to value lists.The default value is considered as an empty value when checking for empty values, e.g. in mandatory fields.

gtp_designate

Options 0 or 1

Default 1

Defines, if the designate checkbox in GT Parameter is displayed (0 - no, 1 - yes)

gtp_do_not_save_conflicts

Options 0 or 1

Default 1

Defines if you can safe when filter conflicts occur (0 - Yes, 1 - No)

gtp_do_not_save_empty_mandatory

Options 0 or 1

Default 1

Defines, if you can save when mandatory fields are left blank (0 - Yes, 1 - No).

gtp_do_not_save_format_conflicts

Options 0 or 1

Default 1

Defines if you can save when format conflicts occur (0 - Yes, 1 - No)

gtp_dock_dialog_to_mdl

Options 0 or 1

Default 1

Defines the behavior of the GTP dialog.If the value is "1" the dialog belongs to the specific model window.If the value is "0" the dialog can be open and the user can interact with the model window.

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gtp_dropdown_height_max

Options Any number

Default 10

Defines the maximum ammount of elements in a dropdown list, displayed when lists from databases, csv or text files are used in GT Parameter.

gtp_editor_new_def_without_sys_params

Options 0 or 1

Default 0

Defines, if existing system parameters of Creo/Windchill should be included when a new parameter definition is created from a model (0 - System parameters are not included, 1 - System parameters are included into the definition).

gtp_editor_open_csv_program

Options Filename

Default notepad.exe

Defines the standard program to edit csv and text files

gtp_file

Options Filepath

Default %GT_RESOURCE_FOLDER%parameter\gtp_int_de\gtp_int_de.xml

Defines the path to the parameter definition file for GT Parameter (Fallback).

gtp_file_param

Options Any text

Default MC_CHECKTYPE

Defines a parameter of the type String, which is used to automatically select aparameter definition file in conjunction with "gt_lst".

gtp_fill_empty_description

Options 0 or 1

Default 0

Defines, if an empty description of a Creo parameter should be overwritten with the description from the current parameter definition (0 - No, 1 - Yes).

gtp_filter_auto_fill_back

Options 0 or 1

Default 1

Defines, if the filtering is set automatically, if only one selection is possible (0 - No, 1 - Yes)

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gtp_filter_auto_single_fill

Options 0 or 1

Default 1

Defines if the last available hit of a filtering is set automatically into a parameter value field (1) or not (0).

gtp_lang

Options Language abbreviation (en, de, es, ...)

Default de

Defines via language abbreviations additional languages to support language dependent parameter titles in the parameter definition of GT Parameter.

gtp_lock_change_generic

Options 0 or 1

Default 1

Defines, if parameters of instances that are not in the family table, may be changed in the GTP1: may change parameter0: parameter is locked.

gtp_lock_rel_locked_params

Options 0 or 1

Default 1

Defines if relations locked by parameter may be changed in GTP

gtp_lst

Options Filepath

Default %GT_RESOURCE_FOLDER%parameter\gtp.lst

Defines the path to the list file, containing the overview of all available parameter definitions.

gtp_model_tree_columns

Options Any text

Default

Defines the parameters which are displayed as an extra column in the model list.

gtp_overwrite_description

Options 0 or 1

Default 0

Defines, if a description (not empty) of a Creo parameter can be overwritten by GENIUS TOOLS Parameter (0 - No, 1 - Yes).

gtp_regen

Options 1, 0, 2, or -1

Default 1

Defines, if the checkbox "Regenerate after Saving" is set to true as default. 1:true, 0:false, 2:true_hide, -1:false_hide

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gtp_save_hidden

Options 0 or 1

Default 0

Defines, if hidden parameters are transfered into the model on Save. (0 - No, 1 - Yes)

gtp_show_duplicate_warning

Options 0 or 1

Default 1

Defines if a warning message box is shown if duplicated parameters occur (1) or only an information message in the message area of Creo (0).

gtp_show_hidden_params

Options 0 or 1

Default 0

This setting defines, if the hidden parameter tab is displayed in GT Parameter (1) or not (0).

gtp_show_mdl_list

Options 0 to 2

Default 2

Defines, if the model list is displayed: 0 - list is hidden, 1 - list is always displayed, 2 - list is model dependant

gtp_show_server_conflict_dlg

Options 0 or 1

Default 0

Uses the server conflict dialog to check the status of a model in Windchill (0 - The dialog has to be opened manually (lock symbol) 1 - The dialog is shown after every model change if Creo cannot determine the status without the dialog).

gtp_start_drw

Options 0 or 1

Default 1

Defines, if the parameters of the active model (0) or the drawing parameters (1) are displayed first by GT Parameter in drawing mode.

gtp_use_type_insensitive_dbs

Options 0 or 1

Default 1

Defines, how to handle integer and double values in databases.1: The values are saved as strings in the database and will be handeled as strings.0: The double values are stored as rounded values in the database and it should be asked for ranges not for values.

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gtp_web_server_url

Options Path or foldername

Default

Defines the path to the web server for database querries.

GENIUS TOOLS Quick Access

In the configuration file **gt_modules.cfg** the settings for GENIUS TOOLS Quick Access are administered.

gtqa_always_option

Options 0 or 1

Default 0

Defines, if the modus option "Always" is displayed and usable in the Quick Access Editor.

gtqa_background_circle

Options 0 or 1

Default 1

Defines, if the inner circle of Quick Access is visible.

gtqa_background_picture

Options File name with extension .png

Default gtqa_quick_access.png

Defines the filename of the picture that is to be used as the logo of the GT Quick Access menu. Has to be a png-file and has to be placed in the "\text\resource"-folder.

gtqa_change_closed_groups

Options 0 or 1

Default 0

If the locked groups (8 and 9) would be shown and editable inside the QuickAccess Editor

gtqa_command_file

Options Filepath

Default %gt_resource_folder%\quick_access\quick_access.db

Defines the path to the database, used by Quick Access and Quick Access Editor.

gtqa_command_icon_folder

Options Path or foldername

Default %gt_resource_folder%\quick_access\img_w20\

Defines the directory for the GENIUS TOOLS Quick Access command icons.

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gtqa_db_def_lang

Options Language abbreviation (en, de, es, ...)

Default en

Defines via language abbreviation, which language is used for GENIUS TOOLS Quick Access and its Editor if the translation is not found in gtqa_db_lang.

gtqa_db_lang

Options Language abbreviation (en, de, es, ...)

Default de

Defines via language abbreviations, which language is used for the tooltips (Default is the Creo language).

gtqa_group_bow

Options 0 or 1

Default 0

Defines the shown group style (0 = strict, 1 = bown)

gtqa_local_command_file

Options Filename

Default

Defines a second, local database for Quick Access and Quick Access Editor (Default path: %appdata%/inneo/genius_tools/quick_access/quick_access.db).

gtqa_local_command_group_split

Options 0 to 9 or "all"

Default all

Defines, which groups of the Quick Access are read from the local database (specify the highest group) and can be configured by user with the Quick Access Editor (0-9) or all (all).

gtqa_local_command_icon_folder

Options Path or foldername

Default

Defines the directory for the icons used by Quick Access (Default: %appdata %/inneo/genius_tools/quick_access/img_w20/).

gtqa_no_tooltips

Options 0 or 1

Default 0

Defines, if tooltips are displayed in Quick Access (0 - tooltips are displayed, 1 - tooltips are not displayed.)

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gtqa_show_admin_switch

Options 0 or 1

Default 1

Defines if a switch to change between the global and local db is shown

gtqa_start_mapkey

Options Any text

Default <

Defines the mapkey for starting Quick Access.

gtqa_tooltip_background_alpha_channel

Options 0 to 254

Default 180

Defines the opacity of the background from 0 - transparent to 254 - opaque

gtqa_tooltip_time

Options Any number

Default 1

Defines the time until tooltips in GENIUS TOOLS Quick Access are displayed in seconds (Default: 1).

gtqa_undock_groups_with_middle_mouse_button

Options 0 or 1

Default 1

Undock the open group as a seperate window by use of the middle mouse button

gtqa_undock_groups_with_right_mouse_button

Options 0 or 1

Default 0

Undock the open group as a seperate window by use of the right mouse button

gtqa_zoom

Options 1.0 to 2.0

Default 1.6

Defines the zoom factor of GENIUS TOOLS Quick Access. Zoom >= 1.0 < 1.4 -> 20x20 px IconsZoom >= 1.4 < 1.9 -> 30x30 px IconsZoom >= 1.9 -> 40x40 px Icons

GENIUS TOOLS UDF Forms

In the configuration file **gt_modules.cfg** the settings for GENIUS TOOLS UDF Forms are administered.

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gtuf_create_layer

Options 0 or 1

Default 1

Defines if a layer should be created with the name of the UDF and if the help features should be placed on it.

gtuf_data_folder

Options Path or foldername

Default %gt_resource_folder%udf_forms\gt_udf

Defines the path where the UDF models are located.

gtuf_dec_places

Options 0 to 6

Default 2

Defines the number of decimal places, displayed in tables in GENIUS TOOLS UDF Forms.

gtuf_definition_folder

Options Path or foldername

Default %gt_resource_folder%udf_forms\gt_definition

Defines the path where the UDF definitons are located.

gtuf_lang

Options Language abbreviation (en, de, es, ...)

Default de

Defines additional languages in wich UI elements should be displayed via language abbreviations.

gtuf_save_xml_in_mdl

Options 0 or 1

Default 1

If value is "1" the xml-Definiton will be saved into the model. If value is "0" only external files can be written.

gtuf_separator

Options Any character

Default ;

Defines the separator for reading of csv files.

gtuf_show_status

Options 0 or 1

Default 1

Defines if the status area below the input fileds should be displayed or not.

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GENIUS TOOLS Utilities

In the configuration file **gt_modules.cfg** the settings for GENIUS TOOLS Utilities are administered.

General Utilities Configuration Options

gtu_autostart_mapkey_inline

Options 0 or 1

Default 0

Defines if the mapkey should be startet synchron or asynchron.

gtu_autostart_mapkey_mapkey

Options %%Any text

Default

Defines the Mapkey. WARNING: The mapkey must be written in one line. Mapkey from the config.pro file can be used by: %%MapkeyName;

gtu_lang

Options Language abbreviation (en, de, es, ...)

Default en

Defines the display language of GENIUS TOOLS Utilities.

gtu_start_autostart_mapkey

Options 0 or 1

Default 1

Defines, if a defined mapkey "gtu_autostart_mapkey_mapkey" should be started (0 - No, 1 - Yes).

gtu_start_close_all_windows

Options 0 or 1

Default 1

Defines, if the button for "Close all other windows" is displayed (0 - No, 1 - Yes).

gtu_start_ui_change

Options 0 or 1

Default 1

Defines if the the module UI Change gets started (0 - No, 1 - Yes).

gtu_ui_change_check_material_version

Options 0 or 1

Default 0

Defines if the material version check should be done (0 = No, 1 = Yes).

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gtu_ui_change_check_material_version_parameter

Options Any text

Default REVISION

Defines the parameter that is filled with the material version.

gtu_ui_change_hole_optionmenu

Options 0 or 1

Default 0

Defines if the HoleMenu shall be expanded of if it maintains its standard height. This should not be used with Creo 5.0 or higher, because PTC changed the custom settings in newer versions.

gtu_ui_change_hole_optionmenu_length

Options Any number >0

Default 20

Defines the number of shown rows at the Hole Optionmenu

gtu_ui_change_show_forms_icon

Options 0 or 1

Default 1

Defines if the Forms icon is shown if a model is displayed with Forms(1) or not(0).

gtu_ui_change_show_info

Options 0 or 1

Default 1

Defines if the text from gtu_ui_change_show_info_text will be displayed in the Creo Window if there is no model loaded (1) or not (0).

gtu_ui_change_show_info_background

Options Hexadecimal 000000 - FFFFFF

Default

Specifies the Color tone for the background from GENIUS TOOLS Utilities Show Info.

gtu_ui_change_show_info_color

Options Hexadecimal 000000 - FFFFFF

Default 000000

Specifies the Color tone for the text from GENIUS TOOLS Utilities Show Info.

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gtu_ui_change_show_info_text

Options Any text

Default %GT_VERSION_STRING%

%PROE_START%

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Text output that will be displayed if gtu_ui_change_show_info = 1.

Annotation Value Input

gtu_annotation_value_input_filter_with_input_panels

Options 0 or 1

Default 1

Filter includes text fields (0 - The Filter is deactivated at startup, 1 - The Filter is activated at startup)

gtu_annotation_value_input_pagesize

Options Any number >0

Default 15

Define the number of shown lines per page

gtu_start_annotation_value_input

Options 0 or 1

Default 1

Defines, if the button "Annotation value input" is displayed (0 - No, 1 - Yes).

Component Parameters

gtu_points_curve_chain_precision

Options Any real number between 0 and 1

Default 0.1

Defines the standard value for curve displays and results with gtu_points_curve_output_type in a definition for displaying curves.

gtu_points_curve_output_type

Options 0 to 3

Default 0

Defines the preselection for displaying curve points0 - References1 - Catenary Curve2 - Absolute Length3 - Relative Length

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gtu_points_precision

Options Any number >0

Default 6

Defines the number of decimals based on a total of 15 for a PNT-File.

gtu_points_remove_double_selected_points

Options 0 or 1

Default 1

Defines if points that are defined twice should be removed from the save file.

gtu_start_points

Options 0 or 1

Default 1

Defines, if the button "GTU Points" is displayed (0 - No, 1 - Yes).

Points

gtu_points_curve_chain_precision

Options Any real number between 0 and 1

Default 0.1

Defines the standard value for curve displays and results with gtu_points_curve_output_type in a definition for displaying curves.

gtu_points_curve_output_type

Options 0 to 3

Default 0

Defines the preselection for displaying curve points0 - References1 - Catenary Curve2 - Absolute Length3 - Relative Length

gtu_points_precision

Options Any number >0

Default 6

Defines the number of decimals based on a total of 15 for a PNT-File.

gtu_points_remove_double_selected_points

Options 0 or 1

Default 1

Defines if points that are defined twice should be removed from the save file.

gtu_start_points

Options 0 or 1

Default 1

Defines, if the button "GTU Points" is displayed (0 - No, 1 - Yes).

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Create search.pro

gtu_create_search_pro_exclude_current_path

Options 0 or 1

Default 1

Defines, if the current working directory is included in the search.pro file (0) or not (1).

gtu_create_search_pro_exclude_file

Options Filename

Default

Defines a file containing search paths, which are not included in the new search.pro file.

gtu_create_search_pro_line_start

Options Any character

Default

Defines characters, which are insertet at the eginning of each line.

gtu_create_search_pro_path_end_with_slash

Options 0 or 1

Default 1

Defines, if a slash (/) (or backslash \) is added on the end of a file path (1) or not (0).

gtu_create_search_pro_standard_save_folder

Options 0 to 2

Default 0

Defines the standard save location. 0 - Creo standard directory, 1 - directory of the current object, 2 - current working directory.

gtu_create_search_pro_standard_save_name

Options Filename

Default search.pro

Defines the suggested file name of the search.pro file in the save dialog.

gtu_start_create_search_pro

Options 0 or 1

Default 1

Defines, if the button for "Create Search.pro" is displayed (0 - No, 1 - Yes).

Edit Standard Texts

gtu_start_edit_default_texts

Options 0 or 1

Default 1

Defines, if the modul to edit the default values is enabled (0- No, 1 - Yse).

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Show Pitch

gtu_show_pitch_check_param

Options Any text

Default STEIGUNG

Defines a language-dependend feature parameter. If defined, it is checked if the parameter is existing. If the parameter didn't exists the function is unavailable at the selected dimension.

gtu_show_pitch_text_definition

Options Any text

Default M @D x &STEIGUNG:FID_@feat_no@[.2]

This value has to be customized for "Show Pitch" to work with the set Creo language. Standard: M @D x &STEIGUNG:FID_@feat_no@[.2] (use: &STEIGUNG and &PITCH)

gtu_start_show_pitch

Options 0 or 1

Default 1

Defines, if the button "Show Pitch" is displayed (0 - No, 1 - Yes).

Table to CSV

gtu_start_table_to_csv

Options 0 or 1

Default 1

Defines if the the module Table to csv gets started (0 - No, 1 - Yes).

gtu_table_to_csv_export_file

Options Filename

Default

Defines the file name when exported. May contain variables. If this value is empty, the regular file name will be used.

gtu_table_to_csv_export_folder

Options Path or foldername

Default

Defines the destination folder of the CSV file

gtu_table_to_csv_export_sep

Options Any character

Default ;

Defines the separator for writing csv files.

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gtu_table_to_csv_table_template

Options Filename

Default

Type in the template for table to csv.

gtu_table_to_csv_write_file_as_utf8

Options 0 or 1

Default 1

Defines if a CSV is written as ASCII(0) or UTF8(1).

Table to Excel and Copy Table 1:1 to Excel

gtu_start_table_to_excel

Options 0 or 1

Default 1

Defines, if the button "Copy Table to Excel" is displayed (0 - No, 1 - Yes).

gtu_table_to_excel_copy_borders

Options 0 or 1

Default 1

Defines if the table boundaries will be copied to the Excel table (0 - No, 1 - Yes).

gtu_table_to_excel_erase_replaced_comments

Options 0 or 1

Default 0

Defines, if the comments in the excel sheets will be deleted after filling (1) or not (0).

gtu_table_to_excel_name_by_template

Options Any text

Default

With the here defined parameters and variables, a name for the output file of "Table to Excel" is generated automatically.

gtu_table_to_excel_open_export

Options 0 or 1

Default 1

Defines if a report should be open after export.

gtu_table_to_excel_report_folder

Options Path or foldername

Default

Defines the standard directory for saving Excel reports.

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gtu_table_to_excel_run_check

Options 0 or 1

Default 1

Specifies whether to check whether an Excel session is open.

gtu_table_to_excel_std_template_name

Options Any text

Default

Defines a name of an Excel template, selected at the start of the dialog.

gtu_table_to_excel_template_folder

Options Path or foldername

Default %gt_resource_folder%\utilities\table_to_excel\

Defines the path to the template directory for "Table to Excel" (.xlsx-files).

gtu_table_to_excel_use_model_instead_of_drawing_name

Options 0 or 1

Default 0

Defines, if the drawing name (0) or the model name (1) are used for the naming of the Excel table.

Create Tolerance Table

gtu_start_tolerance_table

Options 0 or 1

Default 1

Defines, if the button "Create Tolerance Table" is displayed (0 - No, 1 - Yes)

gtu_tol_table_creo_insert

Options 0 or 1

Default 1

Defines the insertion of the tolerance table (0 - insertion without preview, 1 - insertion with preview on the mouse cursor).

gtu_tol_table_fitsize_color

Options 0,1,2,3,4,5,6,8,9,10 oder 12

Default 9

Defines the color of the fitsizes in the tolerance table. The following colors can be used:0 Red (PRO_COLOR_LETTER)1 Green (PRO_COLOR_HIGHLITE)2 White (PRO_COLOR_DRAWING)3 Background (PRO_COLOR_BACKGROUND)4 Grey (PRO_COLOR_HALF_TONE)5 Blue (PRO_COLOR_EDGE_HIGHLIGHT)6 Grey (PRO_COLOR_DIMMED)8 Magenta (PRO_COLOR_ERROR)9 Cyan (PRO_COLOR_WARNING)10 Green (PRO_COLOR_SHEETMETAL)12 Brown (PRO_COLOR_CURVE)

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gtu_tol_table_fitsize_height

Options Positive real number

Default 2.5

Defines the text height of the tolerance table column "Fitsize".

gtu_tol_table_fitsize_text

Options Any text

Default

Defines the column name "Fitsize". If nothing is specified, the standard of GENIUS TOOLS is used, based on the current Creo language. You can split multiline headings by using /n.

gtu_tol_table_fitsize_width

Options 1-999

Default 19

Defines the width of the fitsize column.

gtu_tol_table_font

Options Any text

Default

Defines the font of the tolerance table. The Creo standard font is used, if no value is set.

gtu_tol_table_form

Options A or B

Default A

Defines the type of the tolerance table. The available table configurations can be found in the online help.

gtu_tol_table_lower_text

Options Any text

Default

This config key defines the column name "Minumum". If nothing is specified, the standard of GENIUS TOOLS is used, based on the current Creo language. You can split multiline headings by using /n.

gtu_tol_table_minimal_pending_zeros

Options 0 to 999

Default 3

Defines the minimal number of characters of a tolerance value, which are displayed.

gtu_tol_table_only_dims_from_current_sheet

Options 0 or 1

Default 1

Defines, if all dimensions (0) or only the dimensions of the current sheet (1) are displayed in the tolerance table.

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gtu_tol_table_show_diameter

Options 0 or 1

Default 1

Defines, if a diameter sign is displayed on diameter tolerances (0 - No, 1 - Yes).

gtu_tol_table_show_plus_at_positive

Options 0 or 1

Default 0

Defines, if a plus sign is displayed on positive numbers (1) or not (0).

gtu_tol_table_show_prefix

Options 0 or 1

Default 1

If the prefix sign should be shown or not

gtu_tol_table_show_sign_before_zero

Options Any text

Default

If a table cell contains only a zero, the here defined text is displayed before this zero.

gtu_tol_table_std_height_plus

Options Positive real number

Default 2.5

This entry defines with the inner text height the cell height (text height + standard height = cell height)

gtu_tol_table_text_color

Options 0,1,2,3,4,5,6,8,9,10 or 12

Default 0

Defines the text color of the tolerance table. The following colors can be used:0 Red (PRO_COLOR_LETTER)1 Green (PRO_COLOR_HIGHLITE)2 White (PRO_COLOR_DRAWING)3 Background (PRO_COLOR_BACKGROUND)4 Grey (PRO_COLOR_HALF_TONE)5 Blue (PRO_COLOR_EDGE_HIGHLIGHT)6 Grey (PRO_COLOR_DIMMED)8 Magenta (PRO_COLOR_ERROR)9 Cyan (PRO_COLOR_WARNING)10 Green (PRO_COLOR_SHEETMETAL)12 Brown (PRO_COLOR_CURVE)

gtu_tol_table_text_height

Options Positive real number

Default 2.5

Defines the text height of the tolerance table column tolerance.

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gtu_tol_table_tolerance_color

Options 0,1,2,3,4,5,6,8,9,10 or 12

Default 0

Defines the color of the tolerances in the tolerance table. The following colors can be used:0 Red (PRO_COLOR_LETTER)1 Green (PRO_COLOR_HIGHLITE)2 White (PRO_COLOR_DRAWING)3 Background (PRO_COLOR_BACKGROUND)4 Grey (PRO_COLOR_HALF_TONE)5 Blue (PRO_COLOR_EDGE_HIGHLIGHT)6 Grey (PRO_COLOR_DIMMED)8 Magenta (PRO_COLOR_ERROR)9 Cyan (PRO_COLOR_WARNING)10 Green (PRO_COLOR_SHEETMETAL)12 Brown (PRO_COLOR_CURVE)

gtu_tol_table_tolerance_height

Options Positive real number

Default 2.5

Defines the text height of the tolerance table column header.

gtu_tol_table_tolerance_text

Options Any text

Default

This entry defines the column name "Tolerance". If nothing is specified, the standard of GENIUS TOOLS is used, based on the current Creo language. You can split multiline headings by using /n.

gtu_tol_table_tolerance_width

Options 1-999

Default 19

Defines the width of the tolerance column.

gtu_tol_table_upper_text

Options Any text

Default

This entry defines the column name "Maximum" is defined. If nothing is specified, the standard of GENIUS TOOLS based on the current Creo language is used. You can split multiline headings by using /n.

Open/Create Drawing

gtu_ord_copy_common_name_on_drw_create

Options 0 or 1

Default 1

Defines, if the PTC_COMMON_NAME remains the standard name of the drawing file (0) or the PTC_COMMON_NAME is copied from the model (1).

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gtu_ord_createdrw

Options Any text

Default

Defines a mapkey which is started after the create drawing dialog is opened.

gtu_ord_ignore_name_for_common_name

Options 0 or 1

Default 0

0 - The common name is set like expected, 1 - If the common name is the same like the model name, it will not be set.

gtu_ord_pdm_auto_open_one_drawing

Options 0 or 1

Default 0

PDM - If there is only one drawing it should be opened

gtu_ord_pdm_close_dialog_after_show_url

Options 0 or 1

Default 1

PDM - Dialog get closed after display of the drawing details page

gtu_ord_pdm_file_name_attribute

Options Any text

Default objCadModelName

Defines the Windchill attribute in which the file name will be found. It may be differ depending on the specific Windchill installation and version. (e.g. name, number, objCadModelName)

gtu_ord_pdm_look_for_used_parts

Options 0 or 1

Default 0

Defines if also drawings shall be searched that are referenced in the current Subpart (REST API support needed).

gtu_ord_pdm_show_Thumbnails

Options 0 or 1

Default 1

Defines if thumbnails from Windchill (when using REST API) shall be downloaded (1) or not (0).

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gtu_ord_pdm_shown_attributes

Options Any text

Default

Type in additional attributes to be shown. These must be deposited in Windchill. This may be parameters of other object attributes (e.g. status, version,...) Type in the attributes as comma separated values (e.g. "REVISION,VERSION,STATUS")

gtu_ord_pdm_sort_out_doubles

Options 0 or 1

Default 1

PDM - Drawings that are inside the resource and drawing model list get filtered

gtu_ord_post_drw_name

Options Any text

Default

Defines a suffix for the file name of drawings. = PREFIX + + SUFFIX + .DRW

gtu_ord_pre_drw_name

Options Any text

Default

Defines a prefix for the file name of drawings. = PREFIX + + SUFFIX + .DRW

gtu_ord_use_pdm_server

Options 0 or 1

Default 1

Try to use Windchill plugin while connected with Windchill

gtu_start_open_create_drawing

Options 0 or 1

Default 1

Defines, if the button for "Open/Create Drawing" is displayed (0 - No, 1 - Yes).

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15 Variables

The following variables can be used in various GENIUS TOOLS for Creo applications and can be combined with regular text.
Thus, for example the following results in:
@date@_Project5_@mdln@
2017-16-02_Project5_prt0001
If a variable cannot return a value, the `gt_replace_character_if_not_found` configuration option determines the returned value. If the configuration option is not set, the variable name will be returned as entered.

Date and time information

Text operation	Description	Example
@date@	Returns the current date in yyyy-mm-dd format to facilitate sorting.	2017-13-02
@datede@	Outputs the current date in German dd.mm.yyyy format to facilitate sorting.	13.02.2017
@dateen@	Output the current date in English dd-mm-yyyy format.	13-02-2017
@dateus@	Output the current date in American mm-dd-yyyy format.	02-13-2017
@dateusshort@	Output the current US-American format, short notation mm-dd-yy.	02-13-17
@time@	Output the current time in a notation that can also be used for filenames, short notation HH-MM (0-23)-(0-59).	14-15
@timede@	Output the current time in German format, short notation HH:MM (0-23):(0-59).	14:15
@timeen@	Output the current time in US-American format, short notation hh:MM a (1-12):(0-59) AM/PM.	02:15 AM

Object information

Text operation	Description	Example
@curworkdir@	Returns the current working directory.	c:\temp
@clipboard@	Returns the current buffer memory.	
@common@	Returns the common name.	
@count_form@	Returns the number of internal forms of a model.	
@mdln@	Returns the current model name.	

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Text operation	Description	Example
@mdlpath@	Returns the current directory of the current model.	
@mdlpathr@	Returns the current directory of the current model with a slash instead of a backslash ("/" instead of "\").	
@genname@	Returns the generic name of the current instance.	
@feat_id@	Returns the feature ID of the currently selected feature	7400
@filename@	Returns the file name.	
@filepath@	Returns the current directory of the model.	
@fileversion@	Returns the current version of the file **with** prefixed "." (number following the file suffix e.g.: test.prt.2).	.1
@mdlno@	Returns the current version of the file **without** prefixed "." (number following the file suffix e.g.: test.prt.2).	1
@mdltype@	Returns the type of a model. (part, assembly, drawing)	PRT
@selmdln@	Returns the name of the currently selected model.	
@selmdlpath@	Returns the path of the currently selected model.	

Drawing information

Text operation	Description	Example
@pageno@ or **@sheetno@**	Output the current page on the drawing.	
@sheetscale@	Output the current page base scale of the drawing.	2:1
@sheetformat@	returns the (paper) format of the current drawing (A0-A4 in compliance with DIN 476 or A-F in compliance with ANSI A).	A3 or B
@maxpage@	Output the total number of pages in the current drawing.	

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Parameter information

Text operation	Description	Example
%PARAM%	Returns the value of a parameter. The input between the percent signs may vary.	%DESIGNATION%
%curmod:PARAM%	Returns a parameter value of the current model of a drawing into a drawing. The replacement of PARAM may vary. Outside of drawings this notation does not make sense.	%curmod:DRAWINGNUMBER%
%dubase:PARAM%	Returns a double Value in e^ notation instead of the regular output rounded to 6 decimal places. This can also be used in combination with *curmod* and *curmat*. The order %curmat:dubase:PARAMETER% must be observed.	%dubase:DOUBLE_PARAMETER%
§env-var§	Outputs an environment variable of Model Processor/from Windows.	§USERNAME§ §COMPUTERNAME§ §HOMEDRIVE§ §LOGONSERVER§ §USERDOMAIN§

Text operations for variables

A regular expression cannot contain string operations.
The first character of the count always has position 0.

Text operation	Description	Example
$$sub$x$y$TEXT$$	Cuts an input out of a text (TEXT) starting with x and ending with y; x and y must be numeric values. Make sure the text is of appropriate length.	$$sub$2$5$@para@$$
$$pre$x$TEXT$$	Sub-string from start (character at position 0) till character x.	
$$pree$x$TEXT$$	Sub-string from start (character at position 0) till character x before the end of the string.	
$$poste$x$TEXT$$	Sub-string with length x, measured from the end of the string. Is equivalent to the last x characters of the string.	

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Text operation	Description	Example
$$posts$x$TEXT$$	Sub-string till the end, starting at character x. Thus is equivalent to variable number of output characters.	
$$repl$x$y$TEXT$$	Replace x with y in the text. TEXT can be any text or another variable.	

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16 Regular Expressions

Use Regular Expressions in GENIUS TOOLS for Creo to check value inputs or to allow only saving standards conforming inputs.

Character	Description
\	Indicates the following character as a special or verbatim character. For example “n” is corresponds to the character “n”. “\n” corresponds to a line-break character. The sequence “\\” corresponds to “\”, “\(” corresponds to “(”.
^	Corresponds to the beginning of the input.
$	Corresponds to the end of the input.
*	Corresponds to the proceeding character zero or multiple times. For example “zo*” matches either “z” or “zoo”.
+	Corresponds to the proceeding character one or multiple times. “zo+” for example matches “zoo”, but does not match “z”.
?	Corresponds to the proceeding character zero or one time. For example “a?ve?” matches the “ve” in “never”.
.	Corresponds to all single characters except for a line-break character.
(Pattern)	Matches Pattern and saves the equivalent. The compared substring can be retrieved from the resulting matches listing using the elements [0]...[n]. For comparing of characters put in parathenses ( ) use “\(” or “\)”.
x|y	Corresponds to either x or y. For example matches “l|red” either “l” or “red”. “(l|r)ed” matches “led” or “red”.
{n}	n is a positive integer. Corresponds to exactly n times. “o{2}” for example does not match the “o” in “Robert” but the first two “o”s in “Booooat”.
{n,}	n is a positive integer. Corresponds to at least n times. “o{2}” for example does not match the “o” in “Robert” but all “o”s in “Booooat”. “o{1,}” is equivalent to “o+”. “o{0,}” is equivalent to “o*”.
{n,m}	m and n are positive integers. Corresponds to at least n and maximum m times. For example “o{1,3}” matches the first three “o”s in “Booooat”. “o{0,1,}” is equivalent to “o?”.
[xyz]	A group of characters. Corresponds to any of the included characters. “[abc]” for example matches the “a” in “falling”.
[^xyz]	A group of excluded characters. Corresponds to any character not included. “[^abc]” for example matches the “f” in “falling”.
[a-z]	A character range. Corresponds to any character in the specified range. For example, “[a-z]” matches any lowercase alphabetic character in the range from “a” to “z”.
[^m-z]	An excluded range of characters. Corresponds to any character not included in the specified range. “[m-z]” for example matches all characters not included in the range from “m” to “z”.

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Examples

Regular expression	Description	Example
[a-z,A-Z]*_[a-z,A-z]*	Any alphabetic string with an underscore	user_tbx
[0-9]{5}	Five random numbers	12345
^.{7}$	7 random characters	t_p.prt
^[A-Z]{1}[a-z]{2,10}	A capital letter at the beginning followed by two to ten lower case letters	Tuser
dd.mm.yyyy	Date format	01.08.1975

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17 Available Arithmetic Operations

You can use arithmetic operations and mathematical functions in different modules of GENIUS TOOLS for Creo.
These operations differ in notation from the default Creo calculations. To use an arithmetic operation in an input field, start with the equal sign, then enter the mathematical function.

Examples

```
=12-d4
=d42/23
```

Please note: Units like degree (in angular dimensions) or the length information are ignored. Only the values are used for calculations.

Mathematical Function	Description	Example
+	Addition	=d27+5
-	Subtraction	=12-d4
/	Division	=d42/23
*	Multiplication	=d31*3
Math.sqrt(x)	Square root	=Math.sqrt(9)
Math.pow(x,y)	Exponentiation (x to the power of y)	=Math.pow(d2,3)
Math.abs(x)	Absolute value	=Math.abs(-5)
Math.round(x)	Round	=Math.round(2.565)
Math.ceil(x)	Round up to next integer	=Math.ceil(3.6)
Math.floor(x)	Round down to previous integer	=Math.floor(3.4)

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18 Frequently Asked Questions

On this page you find a summary of frequently asked questions on GENIUS TOOLS for Creo and possible solutions.

General questions

What happens if the license for GENIUS TOOLS for Creo gets lost?
If the floating license (e.g. due to Windows hibernation mode) is lost, all GENIUS TOOLS applications and their functions are deactivated. To avoid loss of data all windows stay opened. As soon as the license is regained you can continue working as usual. Regaining a license from the network may require some time.

Why are not all GENIUS TOOLS for Creo apps and editors displayed in the GENIUS TOOLS ribbon?
GENIUS TOOLS for Creo is a product group divided into different products. Depending on the product purchased, only the included modules are displayed.
The GENIUS TOOLS modules are mode-dependent. Check if you are in the proper Creo mode!
Make sure that all required Creo licenses have been loaded. Even if you can open parts and assemblies, the GENIUS TOOLS for Creo ribbon will only be displayed with the corresponding Creo license available.
The GENIUS TOOLS modules and editors can also be deactivated individually with configuration settings.

Excel connection does not work. What can I do?
Make sure Microsoft Office 2010 or newer is installed. In many cases the Excel connection also works with older Office versions (minimum 2007) but some GENIUS TOOLS functions require Office 2010; therefore proper operation of GENIUS TOOLS for Creo with older Office versions cannot be guaranteed.
If the error message **Failed to initialize Microsoft Excel** is displayed in the Creo log, this can be due to a corrupted Office installation. Try to execute the office repair option.

Specific questions about GTfC modules

Library: Umlauts in my library object status are not displayed. Is there a solution?
Check the **gt_library.cfg** and the `gt_headerless_files_are_utf8` configuration options in **gt_main.cfg**. As the status names are specified via configuration options it is possible that the CFG file was not saved correctly and that the umlauts are misinterpreted.

Name Generator: My Name Generator database is not used automatically in my Quick Access mapkey. I always have to select the correct name configuration in the selection dialog. What can I do?
Do you have multiple name configurations with similar file name? The filter rules do not search for unique equivalents. For instance, if you have two name configurations (**FileName.db** and **FileName_User.db**), and a mapkey with `number:FileName`, the selection dialog will always appear. Take care of uniqueness at name configuration designation.

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Rename the name configurations (e.g. **FileName_Global.db** and **FileName_User.db**) and specify the uniquely identifiable name configuration in the mapkey.
This behavior also occurs in environments with local and global name configurations.

Parameter: I receive a save/regenerate error; what solutions are available?
Have you activated the units relation in Creo? Check the Creo configuration option `relations_num_const_units`. Try to specify values with units (10[kg] instead of 10).
Check the info icons in the parameter form and in the tabs and check the status signal light. Pay attention to mandatory parameters!

Open/create drawing: I receive an error message that a drawing already exists even though it does not open via Open/create drawing.
This error may occur if drawing models or frames for a drawing are missing.
Unfortunately, the repair dialog cannot be opened due to an API error. You have to open the drawing manually.

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