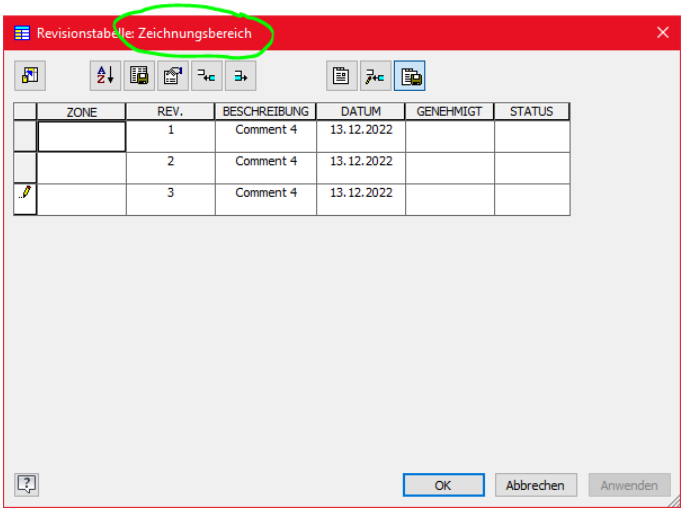
Revision Table Rules:

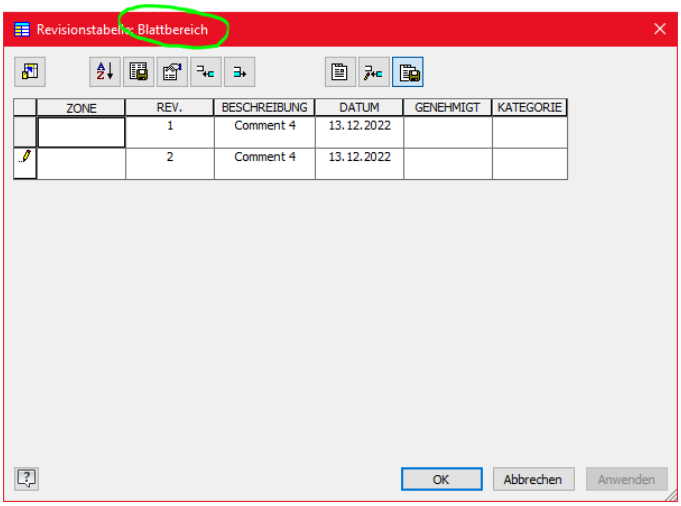
- There are two different types of visible Revision Tables:
  - Document scope: I.e. all visible Revision Tables of that kind (spread on different sheets or even the same sheet) reference the same common, invisible underlying Revision Table Data Object. A drawing document (i.e. .idw-file) can have one or no hidden Revision Table Data Object of that kind.
  - Sheet Scope: Every Sheet may have an own hidden Revision Table Data Object which is the common data source for all Revision Tables of that kind on that particular sheet (even if you have multiple revision tables of that kind on the same sheet). A Sheet can have one or no hidden Revision Table Data Object of that kind. A drawing document can have as many of those objects as it has sheets.

- If you want to figure out, which kind of revision table you're currently dealing with, you have to have a glance on the caption of the editor window:

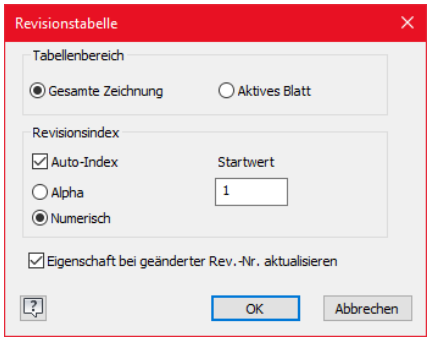
  Document scope:



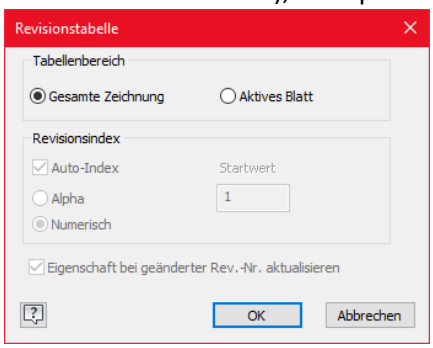
  Sheet scope:



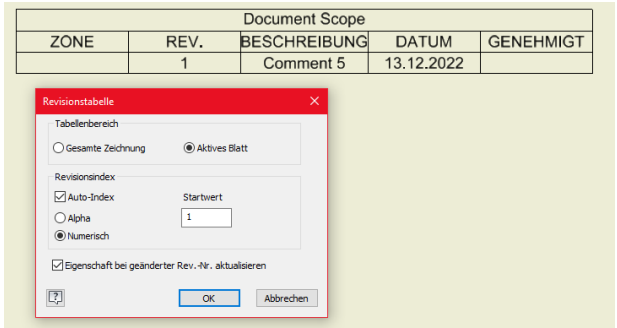
- The underlying invisible Revision Table Data Object is implicitly created either on inserting a referencing Revision Table or Revision Tag the first time:
    - If there is no such Data Object of either kind yet existing inside the drawing, you can choose which kind of Revision Table to create, and control all its properties:



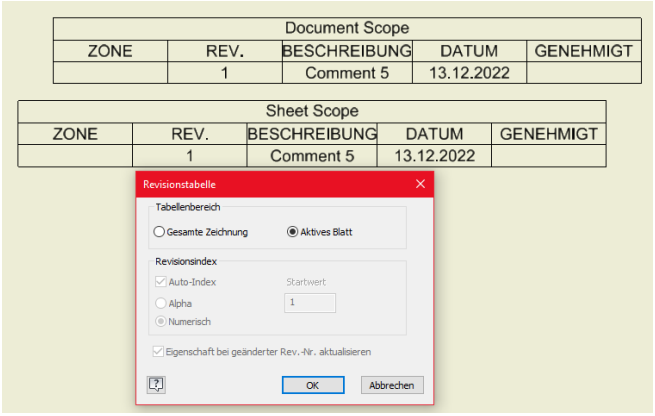
- Once you have created the underlying Revision Table Data Object, you can create as many visible Revision Tables referencing that particular Data Object as you want
    - If you try to create another visible Revision Table with Document Scope, (it doesn't matter on which sheet), the options are grayed out:



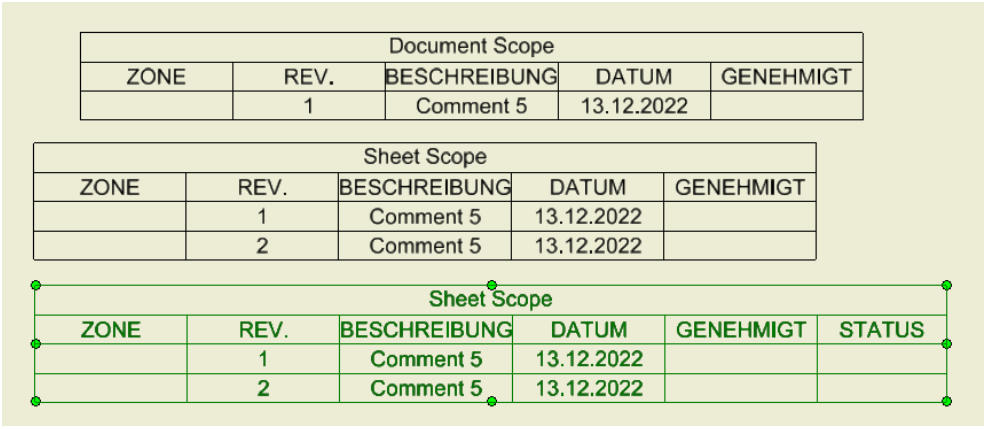
    - When you create a Revision Table with Sheet Scope the first time (remind: one per sheet), the behaviour of the corresponding underlying Data Object can be controlled, just as described before (i.e. even if another one with document scope does already exist on that sheet):



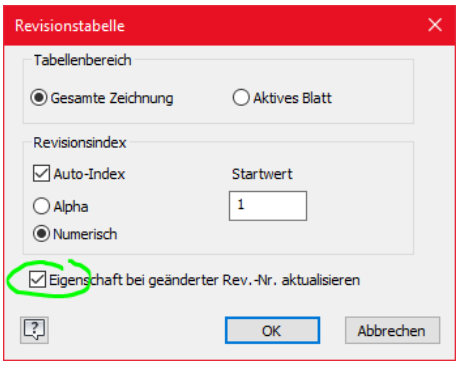
- If there is an underlying Data Object already existing for the current sheet, the options are grayed out too:



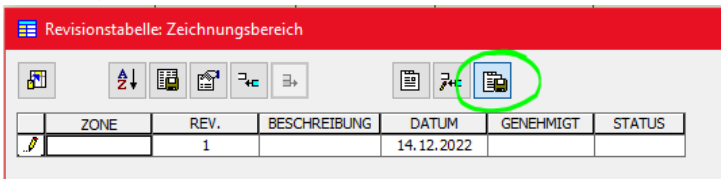
- All visible Revision Tables of both kinds, which reference the same underlying Data Object, have the same number of rows and show the same content. Anyway, you can independently select different columns to be displayed for each instance:



- One option upon creation of an underlying Revision Table Data Object (i.e. creation of the first referencing visible Revision Table or Tag), is to select, whether the iProperty „Revision Number“ inside „Inventor Summary Information“ shall be linked with the revision table:

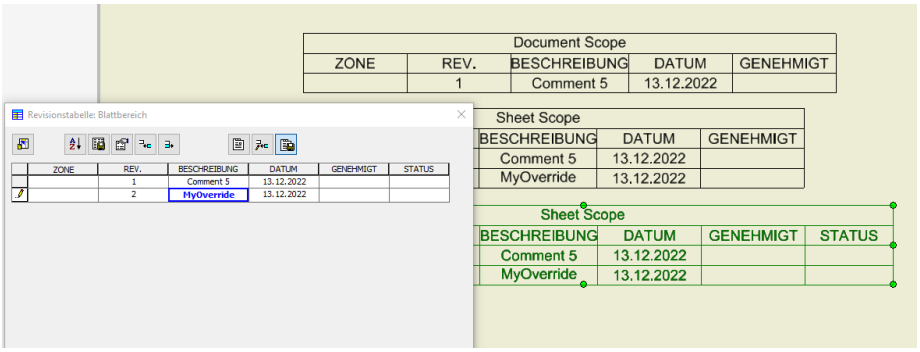


This behaviour can be changed later via a toggle Button (whose current state is not very obvious):

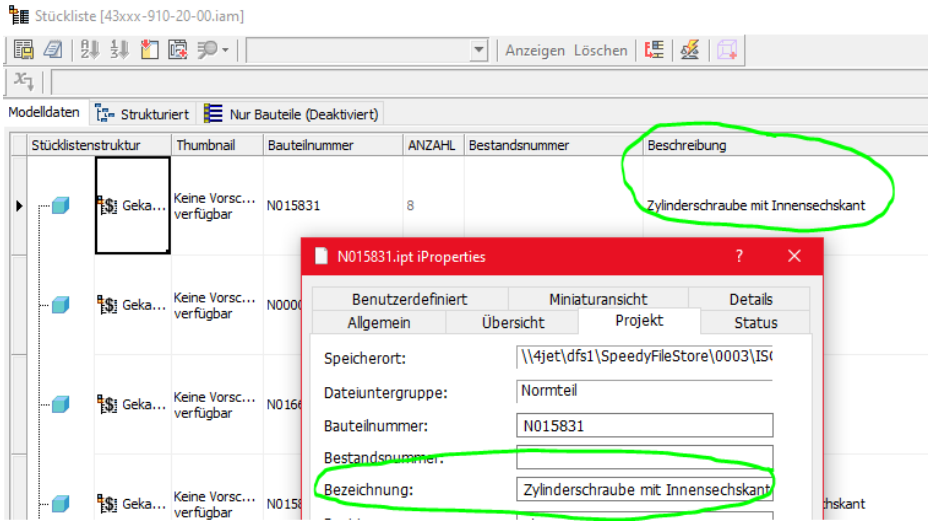


You can set the checkmark for both kinds of Revision Tables, but it takes only effect for such with Document Scope. This behaviour makes sense, but the fact that this option is not grayed out for Revision Tables with Sheet Scope is misleading.
The linking works bidirectional (for Tables with Document Scope): Changing the iProp changes the value in the **active row** of the Table, and vice versa.

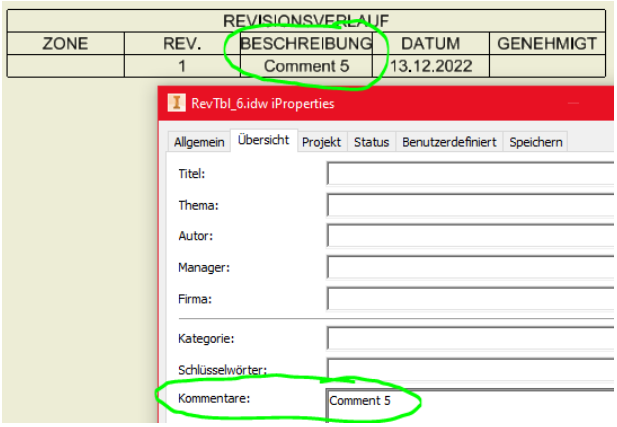
- Other columns, which are linked to some other iProperties behave differently:
  - The link is always active, no matter what was chosen above
  - This linking is not bidirectional: When you change the iProperty, the Revision Tables on the sheets will instantly show that change. When you try to change it the other way round by editing the active row inside the Revision Table Editor, you'll end up with an overridden value in your visible table



  - That override applies to all visible tables which are referencing the same underlying Data Object
  - This applies to both kinds of Revision Tables
  - This applies only to the active row of the Revision Table(s)
  - The MUI-Dependent default column captions might be misleading: E.g. in German versions of Inventor, the default column caption for "comments" is „Beschreibung". But the literal English translation of "Beschreibung" is "Description" and in some places of the GUI it really serves as alias for the iProperty "Description" in „Design Tracking Properties" (i.e. in the API or the BOM-Editor, whereas in the iProperty-Tab it's named „Bezeichnung" (which would rather be translated back with "designation" – so welcome to the Babylonian confusion):

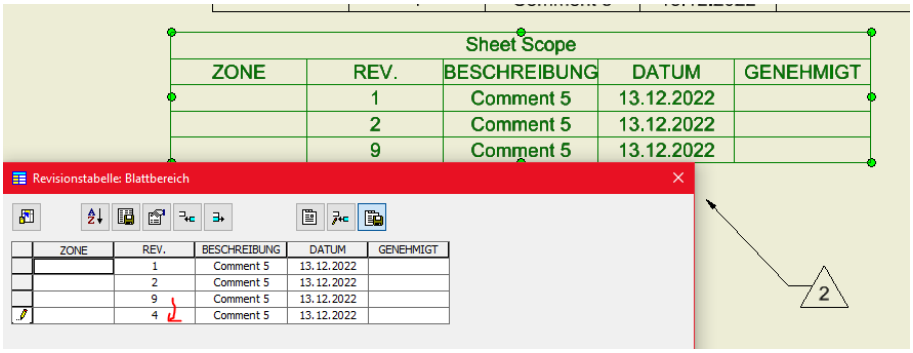


Anyway, it points to „Comments“ in „Inventor Summary Information“ too (which is „Kommentare“ in German):

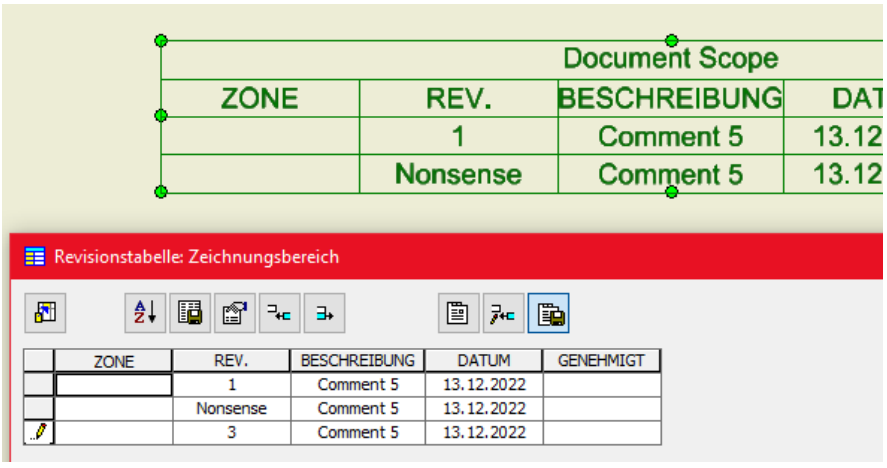


- All kinds of linking between Revision Tables and iProperties that have been described so far, do not affect the model which might be put on the sheet as drawing view.

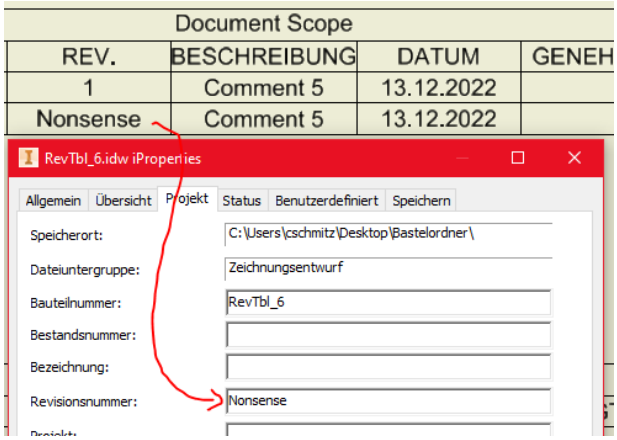
- The auto-increment feature for the column ”Revision Number” works for both kinds of Revision Tables.
  - As described before, in case of a Table with Document Scope it will feed back to the iProperty “Revision Number”.
  - In case of a Table with Sheet Scope, it will increment it too. If you edit respectively override it, it will not be marked as override (i.e. there will be no bold blue box), but the Table maintains its internal counter:



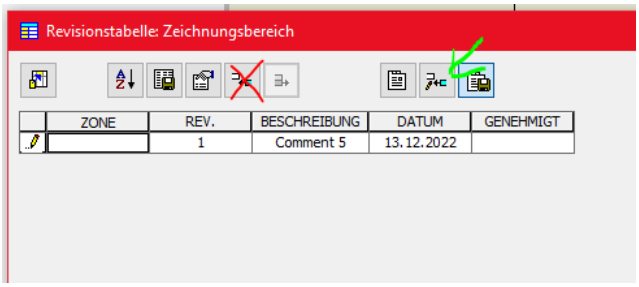
  - The same applies to Tables with document Scope…



… but any overrides will be copied to the iProperty anyway, as long as the respective row is the active row:

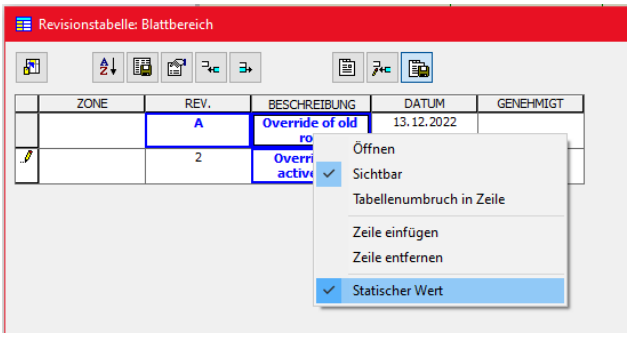


- The last revision-row of the Revision Table is the active row (marked with a pen in front):
  - Everything explained about automagic updates above applies to this row.
  - This row can't be deleted.
  - Older rows can be deleted.
  - Whenever a new **revision** row is inserted, the Revision Number is incremented as chosen upon creation. In case of a Revision Table with document scope, the iProperty "Revision Number" will be incremented too (if chosen so):

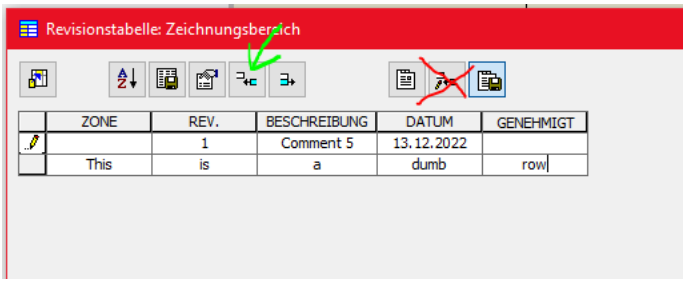


  - A new Revision row will always be added at the bottom of the Table

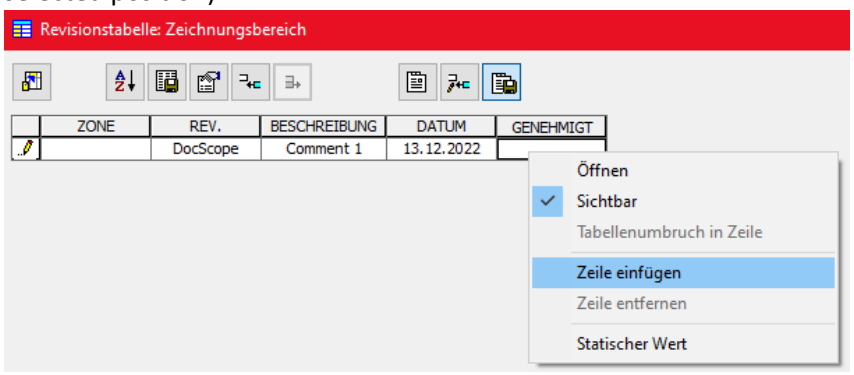
  - The cell-texts of older rows will be cached to the underlying Data Object and the link to the corresponding iProperties is broken. The content of this cache is not editable, but can still be overridden as before (removing the override will bring up the historic entry again), or the rows can be purged entirely and irreversibly:



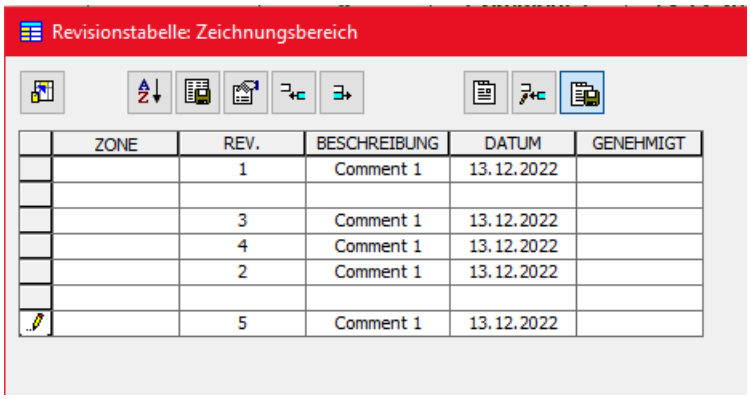
  - You can add rows without any intelligence and populate its cells with whatever you want:



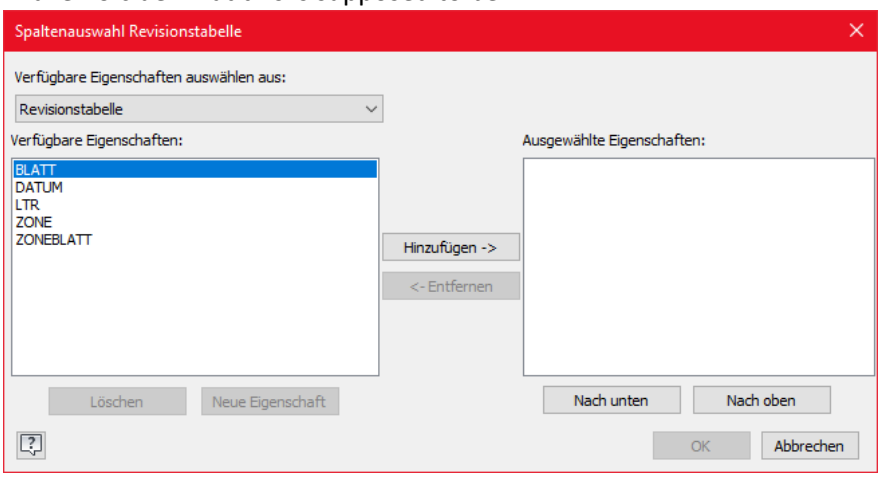
- In that case, the **active** row is not necessarily the last row in the table any more
- Non-Revision Rows can be added at any position
- The context-Menu option “Insert row” will insert such a dumb row (underneath the selected position):



- Old rows and dumb rows can be moved up and down inside the table at any time:

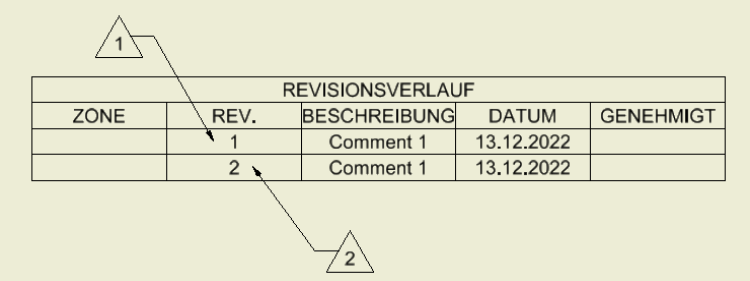


- I have no clue what this is supposed to be:



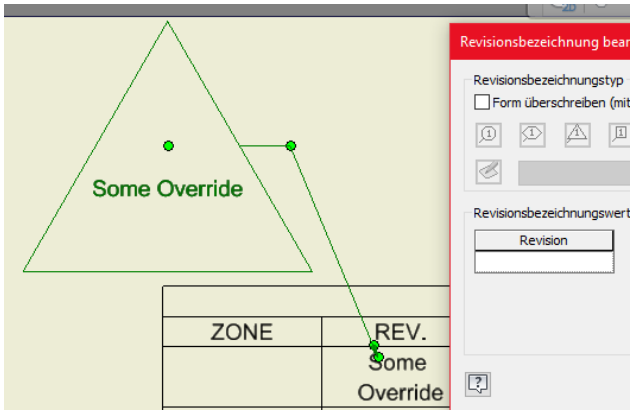
About Revision Tags:

- Each Revision Tag points to a certain row of a certain Revision Table Data Object:
    - If there is nothing else but a Revision Table Data Object with Document Scope, all newly created Tags will point to that Table.
    - Every Tag points to the row that has been the active Row when it has been created:

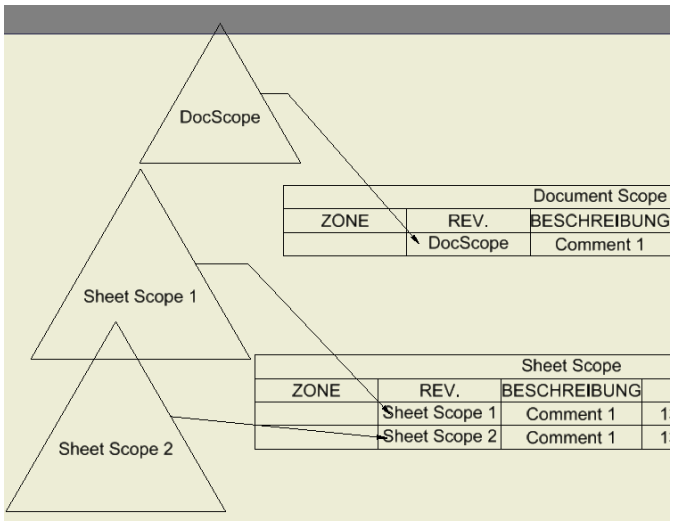


This association cannot be changed afterwards.

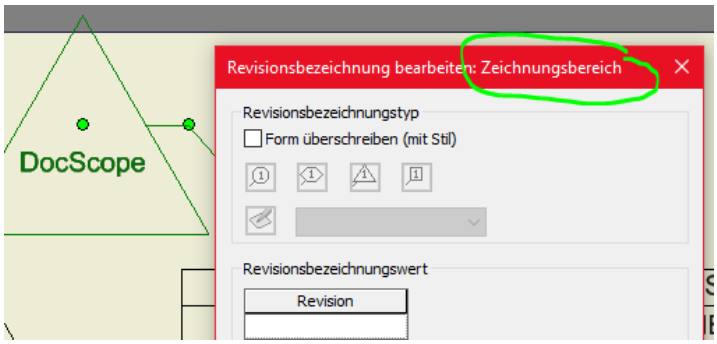
- The Cell-Text of the Revision Column can be altered for all rows, either by editing the Tag or by using the Table editor. The result is equivalent and has all characteristics which have been described above (i.e. the internal counter will not be affected). For some odd reason, the Tag-Editor does not show the current content when it is called:



- When there are already two competing Revision Tables of different Kinds on the same sheet (i.e one with Document Scope and one with Sheet Scope), every newly created Revision Tag on that sheet will point to the Table with Sheet-Scope.
    - There doesn't seem to be a way to control this.
    - Tags that have been created before the creation of the Sheet-Scope-Table remain associative with the Document-Scope-Table.

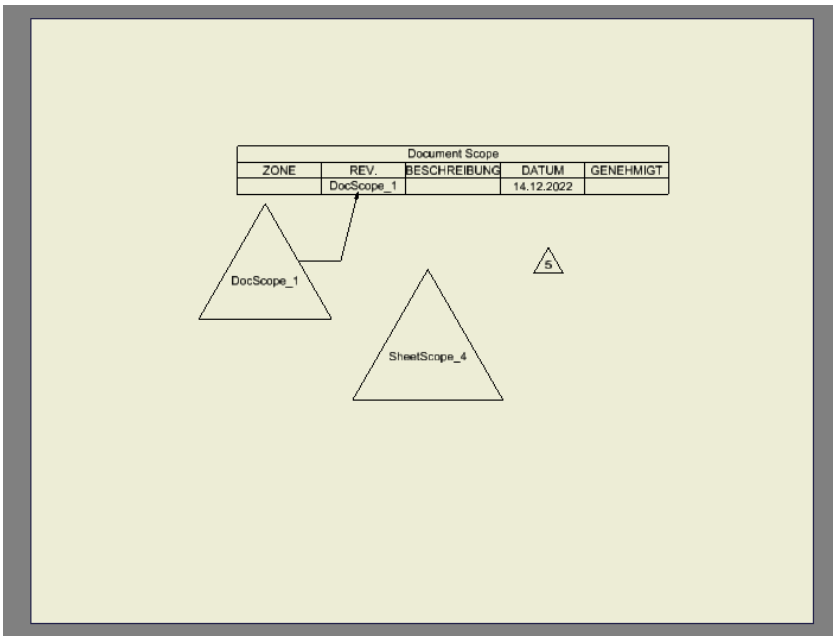


- The only way to figure out, which Table belongs to a certain Tag is by examining the caption of the Tag-Editor (similar to figuring out the Table's kind):



- The underlying Revision Table Data Object persists, as long as there is any Revision Table or –Tag pointing to it. That means: If you want to get rid of the entire revision history, and start it all over from scratch on an existing drawing (e.g. because it has been created as a copy of an existing drawing), you'll need to purge all referencing Tables and Tags. Otherwise, the entire content of the table will pop up again after deleting and recreating the Table. This can be quite tough, if you need to purge all Revision Tags on a Drawing that looks like a knitting pattern sheet.

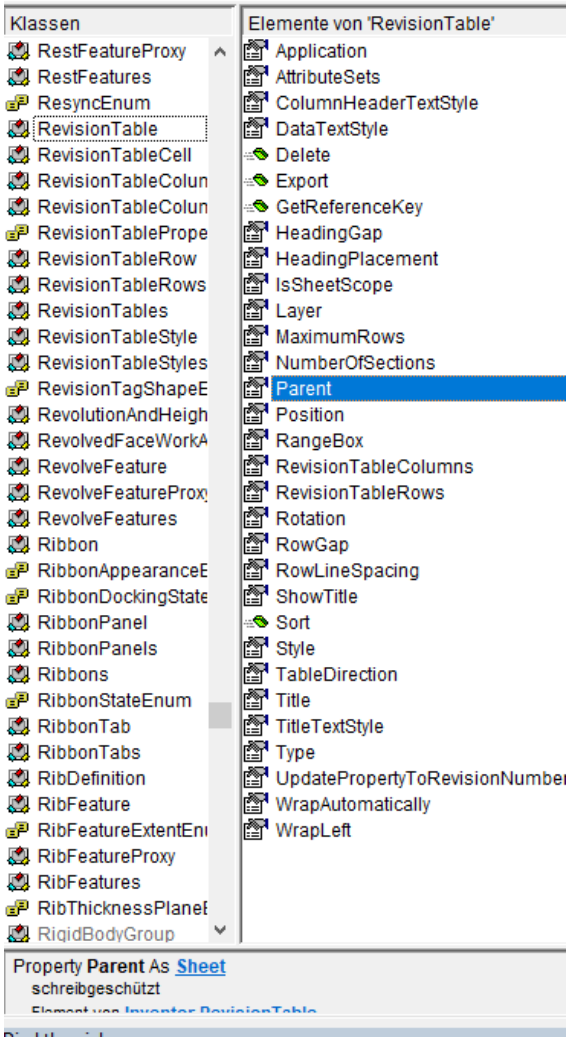
- Heads up! When there have been two competing Revision tables of different kind on the same sheet, and the one with sheet scope has been deleted, but there are still tags pointing to it, the underlying Data Object persists! Thus, any newly inserted tag will point to this hidden Data Object whose presence is not indicated by any visible referencing Revision Table on that sheet. This can be confusing, as the Revision Numbers of the newly created tag might have nothing to do with what's visible on the sheet:



About the Exposure through Inventors API:

- Everything that has been described above about what's going on behind the curtain, is not exposed through the API either. Thus, trying to clarify things by examining the API's Object Model is not helpful:

- A RevisionTable-Object has no reference to a hidden, underlying Data Object:



- Revision Tables with identical underlying Data-Object with Document Scope appear to be independent, Sheet-Bound Objects:

Überwachungsausdrücke

Ausdruck	Wert	Typ
oDoc.Sheets.Item(1).RevisionTables.Item(1)		Variant/Object/RevisionTable
Application		Object/Application
AttributeSets		AttributeSets/AttributeSets
ColumnHeaderTextStyle		TextStyle/TextStyle
DataTextStyle		TextStyle/TextStyle
HeadingGap	0,089	Double
HeadingPlacement	kHeadingAtTop	HeadingPlacementEnum
IsSheetScope	Falsch	Boolean
Layer		Layer/Layer
MaximumRows	<Anwendungs- oder objektdefinierter Fehler>	Long
NumberOfSections	1	Long
Parent		Sheet/Sheet
Position		Point2d/Point2d
RangeBox		Box2d/Box2d
RevisionTableColumns		RevisionTableColumns/RevisionTableColumns
RevisionTableRows		RevisionTableRows/RevisionTableRows
Rotation	0	Double
RowGap	0,089	Double
RowLineSpacing	kSingleLineSpacing	LineSpacingEnum
ShowTitle	Wahr	Boolean
Style		RevisionTableStyle/RevisionTableStyle
TableDirection	kTopDownDirection	TableDirectionEnum
Title	"REVISIONSVERLAUF"	String
TitleTextStyle		TextStyle/TextStyle
Type	kRevisionTableObject	ObjectTypeEnum
UpdatePropertyToRevisionNumber	Wahr	Boolean
WrapAutomatically	Wahr	Boolean
WrapLeft	Falsch	Boolean
oDoc.Sheets.Item(2).RevisionTables.Item(1)		Variant/Object/RevisionTable
Application		Object/Application
AttributeSets		AttributeSets/AttributeSets
ColumnHeaderTextStyle		TextStyle/TextStyle
DataTextStyle		TextStyle/TextStyle
HeadingGap	0,089	Double
HeadingPlacement	kHeadingAtTop	HeadingPlacementEnum
IsSheetScope	Falsch	Boolean
Layer		Layer/Layer
MaximumRows	<Anwendungs- oder objektdefinierter Fehler>	Long
NumberOfSections	1	Long
Parent		Sheet/Sheet
Position		Point2d/Point2d
RangeBox		Box2d/Box2d
RevisionTableColumns		RevisionTableColumns/RevisionTableColumns
RevisionTableRows		RevisionTableRows/RevisionTableRows
Rotation	0	Double

- In other words: There is no Revision Table-related object on document-Level that could be referenced by tables with Document Scope:

Überwachungsausdrücke

Ausdruck	Wert	Typ
AttributeManager		AttributeManager/AttributeManager
AttributeSets		AttributeSets/AttributeSets
AutoCADBlockDefinitions		AutoCADBlockDefinitions/AutoCADE
BorderDefinitions		BorderDefinitions/BorderDefinitions
BrowserPanes		BrowserPanes/BrowserPanes
ClientViews		ClientViews/ClientViews
Compacted	Falsch	Boolean
ContainingDWGDocument	Nothing	Object
DatabaseRevisionId	"{9F95BF53-4238-91FA-FDB4-3784CF776736}"	String
DefaultCommand	"AppSelectNorthwestArrowCmd"	String
Dirty	Wahr	Boolean
DisabledCommandList		DisabledCommandList/DisabledComr
DisabledCommandTypes	0	CommandTypesEnum
DisplayName	"RevTbl_6.idw"	String
DisplayNameOverridden	Falsch	Boolean
DocumentEvents		DocumentEvents/DocumentEvents
DocumentInterests		DocumentInterests/DocumentInteres
DocumentSubType		DocumentSubType/DocumentSubTy
DocumentType	kDrawingDocumentObject	DocumentTypeEnum
DrawingBOMs		DrawingBOMs/DrawingBOMs
DrawingEvents		DrawingEvents/DrawingEventsObje
DrawingSettings		DrawingSettings/DrawingSettings
EnvironmentManager		EnvironmentManager/EnvironmentMa
File		File/File
FileSaveCounter	2	Long
FullDocumentName	"C:\Users\cschmitz\Desktop\Bastelordner\RevTbl_6.id	String
FullFileName	"C:\Users\cschmitz\Desktop\Bastelordner\RevTbl_6.id	String
GraphicsDataSetsCollection		GraphicsDataSetsCollection/Graphic
HighlightSets		HighlightSets/HighlightSets
InternalName	"{7B0607CC-4F84-FBBE-85FB-F6B8943CB79B}"	String
InventorDocument		Document/DrawingDocument
IsInventorDWG	Falsch	Boolean
IsModifiable	Wahr	Boolean
NeedsMigrating	Falsch	Boolean
NonTransactingClientGraphicsCollection		ClientGraphicsCollection/ClientGraph
NonTransactingGraphicsDataSetsCollection		GraphicsDataSetsCollection/Graphic
Open	Wahr	Boolean
OwnershipType	kNoOwnership	FileOwnershipEnum
Parameters		Parameters/Parameters
Parent		Object/Application
PrintManager		PrintManager/DrawingPrintManager
PropertySets		PropertySets/PropertySets
RecentChanges	15	CommandTypesEnum
ReferencedDocumentDescriptors		DocumentDescriptorsEnumerator/Do
ReferencedDocuments		DocumentsEnumerator/DocumentsEı
ReferencedFileDescriptors		ReferencedFileDescriptors/Referenc
ReferencedFiles		DocumentsEnumerator/DocumentsEı
ReferencedOLEFileDescriptors		ReferencedOLEFileDescriptors/Refe
ReferencedOpaqueFileDescriptors		ReferencedOpaqueFileDescriptors/F
ReferenceKeyManager		ReferenceKeyManager/ReferenceK
ReferencingDocuments		DocumentsEnumerator/DocumentsEı
RenderStyles		RenderStyles/RenderStyles
RequiresUpdate	Falsch	Boolean
ReservedForWrite	Falsch	Boolean
ReservedForWriteByMe	Falsch	Boolean
ReservedForWriteLogin	""	String
ReservedForWriteName	""	String
ReservedForWriteTime	#01.01.1601#	Date
ReservedForWriteVersion	<Anwendungs- oder objektdefinierter Fehler>	Long
RevisionId	"{DB78C236-6171-47E9-0D15-99EF4FE2365B}"	String
SelectionPreferences		SelectionPreferences/SelectionPrefe
SelectionPriority	kEdgeSelectionPriority	SelectionPriorityEnum

- Revision Tags don’t seem to be exposed through the API at all:

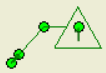
<Alle Bibliotheken>

RevisionTag

Suchergebnisse

Bibliothek	Klasse	Element
Inventor	RevisionTableStyle	AllowLandingLineForRevisionTags
Inventor	RevisionTagShapeEnum	kCircularRevisionTag
Inventor	CommandIDEnum	kCreateRevisionTagCommand
Inventor	RevisionTagShapeEnum	kHexagonRevisionTag
Inventor	RevisionTagShapeEnum	kSquareRevisionTag
Inventor	RevisionTagShapeEnum	kTriangularRevisionTag
Inventor	ObjectDefaultsStyle	RevisionTagLayer
Inventor	RevisionTableStyle	RevisionTagLeaderStyle
Inventor	RevisionTableStyle	RevisionTagShape
Inventor	RevisionTagShapeEnum	
Inventor	ObjectDefaultsStyle	RevisionTagStyle
Inventor	RevisionTableStyle	RevisionTagTextStyle

REVISIONSVERLAUF				
ZONE	REV.	BESCHREIBUNG	DATUM	GENEHMIGT
	1	Comment 1	13.12.2022	



Überwachungsausdrücke

Ausdruck	Wert	Typ
ThisApplication.ActiveDocument.SelectSet		Object/SelectSet
Count	1	Long
Type	kSelectSetObject	ObjectTypeEnum
Item 1	Nothing	Variant/Object

- This is deplorable, as you cannot even write a macro to find and delete all revision tags on all sheets, if you want to reset the revision table content completely.