ENGLISH

TIS 5.8

TIME INTELLIGENCE SOLUTIONS© 5.8

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XIMES®

DEVELOPER MANUAL

VERSION 5.8.2

PREFACE

References

References	Addresses
Referenced Solution and Accounts for most areas	• **Server:** https://www.ximeshosted.com/XIMES • **Client:** UK01 • [TIS]Editor Project: UK EXAMPLES_Operations_111026

Scope

Scope	This document is written for all parts of Version 5.8.2 of [TIS].
Version of Manual	The version of the manual corresponds with the version of [TIS]. The suffix is the version of the manual for a certain version of [TIS]. Manual Version 5.8.2 is the second manual for [TIS] 5.8.
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CHANGE LOG

Version 5.4.1

No.	Change		Date	Author
1	Document compilation		2012-12-10	Thomas Tippl
2	Working with [TIS]		2012-12-17	Thomas Tippl

Version 5.4.2

No.	Change		Date	Author
1	Automatically Recalculation	For creating an automatically recalculation for immediate display in the [TIS]Board	2013-01-09	Thomas Tippl
2	Formula Interpreter	It allows testing a solution and makes calculations and results visible.		

Version 5.4.4

No.	Change		Date	Author
1	Write TIS Tables 3.0	Creating user defined folders and/or table names.	2013-03-07	Thomas Tippl
2	Read TIS Tables 3.0	Reading from user defined folders and/or tables.		
3	Hiding Zero Values	Keeping your tables clear.		
4	Finding Empty Strings in Parameters	Helps finding empty strings from parameters inputs.		

Version 5.5.1

No.	Change		Date	Author
1	Navigation Buttons	Easily navigating through [TIS]Board pages.	2013-06-17	Thomas Tippl
2	EJS Charts	Manual scaling for the Y-axis possible		
3	Import Data from SQL	Find empty strings		
4	General Parameters	Formatted Controller Portlets		
5	Formula Interpreter	Additional functions		
6	Tiles	Additional [TIS]Board function	2013-07-31	Thomas Tippl

No.	Change		Date	Author
7	Optimizer: Sequence Simple	New Operator to optimize the time interval of breaks or working tasks.		
8	Template Project	New function to avoid conflict when multiple users want to work on one project		
9	Editable Grid	Additional functions: Fill down, Increment down, Copy		
10	Gauge Portlet	Additional [TIS]-Board Portlet to present data trends		
11	Export and Import with [TIS]Board	Importing and Exporting Project, Portlets and TIS-Tables directly out of TIS-Board		
12	Replace Projects	New function to replace existing ("older") projects with newer projects.		
13	Deploy Pages	New Function: Allow other users to work with your pages.		
14	Refresh Page on Opening	Let an [TIS]Board page automatically refresh after opening.		

Version 5.5.2

No.	Change		Date	Author
1	New XIH Functions	Get the database name of a TIS table.	2013-11-03	Thomas Tippl
2	Options for Read TIS Table 3.0	Define which data should be read from a TIS Table.		
3	Additional Information on Template Projects	Helps to understand templates better		
4	Additional Information on Deploy Pages	Avoiding troubles when deploying pages.		
5	Column Information in Editable Grid	Enabling tooltips in the [TIS]Board for Editable Grids.		
6	[TIS]Board Event Handler	Trigger the recalculation of a data node with a certain event in the [TIS]Board		
7	Troubleshooting Parameter	What to do, if a parameter cannot control the settings of an operator.		
8	[OPA] in [TIS]	Generate Shifts in [TIS]		
9	Videos in HTML portlets	Displaying Videos in [TIS]Board		

Version 5.6.1

No.	Change		Date	Author
1	Line Break	In grid portlets a line break is possible for text strings.	2014-04-24	Thomas Tippl
2	Setting up a new User	Assigning rights and roles for a new user in [TIS]Admin.		
3	SQL Queries from more than one Table	A good SQL operator to get data from two sources at once.		
4	Updating TIS-Tables	How TIS tables are updated with "Write TIS Table"		
5	Formatting Tiles	Formatting tiles by using HTML codes and different font sizes.		
6	Show Row ID in Editable Grid	This option allows to display the row ID		
7	Copy Data from TIS to Excel and back	Data can be copied from an Editable Grid to Excel. There it might be edited and be copied back to [TIS]		
8	Editable EJS Chart	A new Portlet type to change data with a graphical interface		
9	Additional Functionality in Multiple Selection	No selection can now mean "select all".		
10	Additional Functionality in EJS Chart	To avoid errors with the EJS Chart, the number of data can be limited		
11	Send Emails from [TIS]	[TIS] can send emails automatically.		
12	Upload Files	Files can be uploaded via the [TIS]Board to make calculations with it.		
13	Password Restricted Import and Export of Projects	Exported projects can be protected by passwords		
14	Advanced Information in the Recalculation Operator	The operator returns information if one or more of its calculated data node returns an error or a warning.		
15	New Features in the Project Settings	Projects in [TIS]Editor can now be password protected and the project language can be chosen.		
16	Metadata Observer	For dynamic content in the Simple Grid		
17	Sorting in Multiple Selection	The entries in the selection lists can now be defined.		

No.	Change		Date	Author
18	Event Handling in [TIS]Designer	After certain events, recalculations for certain nodes is necessary. That is handled in [TIS]Designer.		
19	Regular Expressions	Regular Expression allow a sophisticated search of string patterns within other strings.		
20	Stimulsoft Reports	Creating data reports with Stimulsoft Designer and created PDF reports on recalculation.		
21	TIS Table Information	Get information about TIS Tables of a project or in a certain folder.		
22	Joining Data from two Sources	Joining two tables with common key in a SQL statement		
23	Stripe Rows in Simple Grid	In a Simple Grid every second row turns grey so that the grid turns striped.		
24	Additional Operations for Parameters	The list of operations that can be controlled with parameters was extended.		
25	Maximum Runtime for SQL queries	It happens that the maximum runtime for query was exceed.	2014-05-21	Thomas Tippl
26	Combo Boxes in the Editable Grid	A new feature in the Editable Grid to select predefined values.		
27	Radio Buttons	A new feature in the Editable Grid to group several true/false values		
28	Overview [TIS]Board pages in folder	A new feature in the [TIS]Board showing all pages of a specific folder		
29	Compatibility View for [TIS]Editor in Internet Explorer	Premise to use [TIS]Editor in IE		
30	Move Operations to Parent Data Nodes	Operations can be moved to their parent data node		
31	Import Data from ODBC Sources	How to import data from different ODBC sources		

Version 5.6.2

No.	Change		Date	Author
1	Forced Line Break	A forced line break on an defined position is now possible in Editable Grids.	2014-06-12	Thomas Tippl
2	Parameter Symbol for Operation	A new symbols displays if an operation is connected to a Parameter		
3	TIS-Board Symbol for Nodes	A new symbols displays if a node is TIS-Board node		
4	Initialising Tables for Editable Grids	A tip if you want to create an empty table which should be filled by the user.		
5	Trouble Shoot Regression Analysis	What to do if the Regression Analysis returns an error		
6	Change the Default Client	Set a different Default Client for the TIS-Board.		

Version 5.6.3

No.	Change		Date	Author
1	Setting a Custom Logo	Replace the XIMES logo with a custom logo	2014-08-21	Thomas Tippl
2	DateTime Queries in MSSQL and ORACLE			

Version 5.8.1

No.	Change		Date	Author
1	Editable Grid – automatically or manual Save	Quicker inputs in the Editable Grid	2015-02-19	Thomas Tippl
2	Creating Resources	Define portlet elements in different languages		
3	Changing Resources	Change languages for portlets and pages		
4	Parameter with Date and Time	Create control portlets with date or time fields only		
5	Change Button Texts in [TIS]Designer	Change button names easily in [Tis]Designer		
6	Combined Control Portlets	Combine control portlets on one page wo that only on control button click is necessary.		

No.	Change		Date	Author
7	Resolution Settings Stimulsoft Report	Improve the picture quality of Stimulsoft Reports		
8	Test Data for Stimulsoft	Create test data to improve the handling of the Stimulsoft Designer.		
9	Refresh Portlet on Tab Change	Refresh you portlets automatically when more than one page are open.		
10	Improvement for Tiles	TISBoard Admin rights no longer needed when deploying pages with tiles		
11	Limit Number of Chosen Records in Multi Select	Users may only choose a maximum number of records in the Multiple Selection		
12	Avoiding Empty Tables in Read TIS Table	Returning a warning instead of an empty table		
13	Avoiding Empty Tables in Import from SQL Operations	Returning a warning instead of an empty table		
14	Control Import Files with Parameters	Files and folders can be controlled via Parameters		
15	Error Node Definition for Import Operation	Error information of imports can be displayed in a defined error node		
16	Display Parameter Values	Helps trouble shooting with parameters in operations		
17	Troubles with Browser Zoom	Avoid rendering problems by not using the browser zoom		
18	Upload Portlet and Stiumlsoft side by side	Easily check new Stimulsoft reports		
19	Stop Solution Runner	If solution runners need to be stopped or restarted		
20	Delete Project Copies	When working with templates, sometimes the project copies need to be deleted		
21	Stop Requests	When unfinished calculations should be stopped		

Version 5.8.2

No.	Change		Date	Author
1	New Start Page	Due to the integration of the [TIS]Designer into the [TIS]Board, the look of the start page has changed	2015-08-25	Thomas Tippl
2	Integration [TIS]Designer into [TIS]Board	Portlets can be created and designed directly from the [TIS]Board		
3	Default Values Editable Grid	Default values for additional rows can be defined for Editable Grids		
4	New Column Design in [TIS]Board	The number of columns at the column ratios on a [TIS]Board page can be defined by the user		
5	Replacement of Headers in Multiple Selection with Resources	The caption of the columns in the Multiple Selection can now be changed in the Portlet Designer		
6	Button Icons for Recalculate Portlets	The icons for the control buttons can be changed now in the Portlet Designer		
7	Improvement for File Upload	Show/hide information and get information on uploads.		
8	Confirmation of Recalculation	Definition if a user needs to confirm to recalculate.		
9	Improvements Time Zones	Special parameters ignore the server time zone		
10	Editable Grid: Check if Data Format valid	If a column contains a combo boxes, pasted values are checked if they are allowed or not		
11	New Event Logoff	A new logoff event allows recalculations when user logs off		
12	Hide/show of Row Numbers in Simple Grid and Editable Grid	Rom numbers of grids can be displayed or hidden		
13	Show/hide of Buttons and Title of Portlets	Portlet description and icons can be hidden or displayed		
14	More discreet Portlet Buttons	Icons appear only when moving the mouse over it		
15	Improved Resource Management	Resources can be filtered in the resource management		
16	Single Button Recalc	A new design for control portlets without parameters		

No.	Change		Date	Author
17	New Default Colours for Tiles	A new standard set of discreet standard colours for tiles		
18	Admin Portlet for Cron Jobs	Create and deleted automated calculation processes		
19	User-defined Logo for Pages in [TIS]Board	Choose logos for [TIS]Board pages		
20	Tool Tip for Data Node Information in [TIS]Editor	A new tooltip for nodes gives information on the connected portlets.		
21	Resources for Control Portlets	Caption of control buttons can be replaced with texts from resources		
22	Email Settings	Configurations for the operator "Send Mails"		
23	Shortcut Admin/User Mode	Switch easily between admin an user mode in [TIS]Board		
24	Automatically Saving of Portlets	Portlets can easily automatically saved to a specified folder		
25	Markings in EJS Charts	The markings in EJS Charts can manually be set by the number of markings or by their spacing		
26	Collect Report Data	New operator to collect data about single calculation steps		
27	Improving Editing in the Formula Editor	External text editor allow an improved handling of the Formula Editor		

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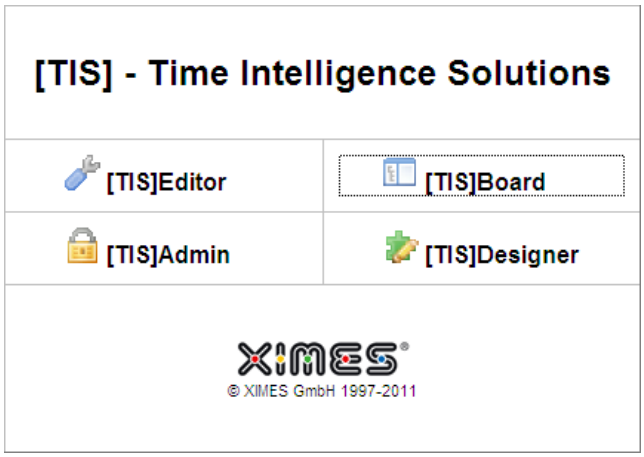
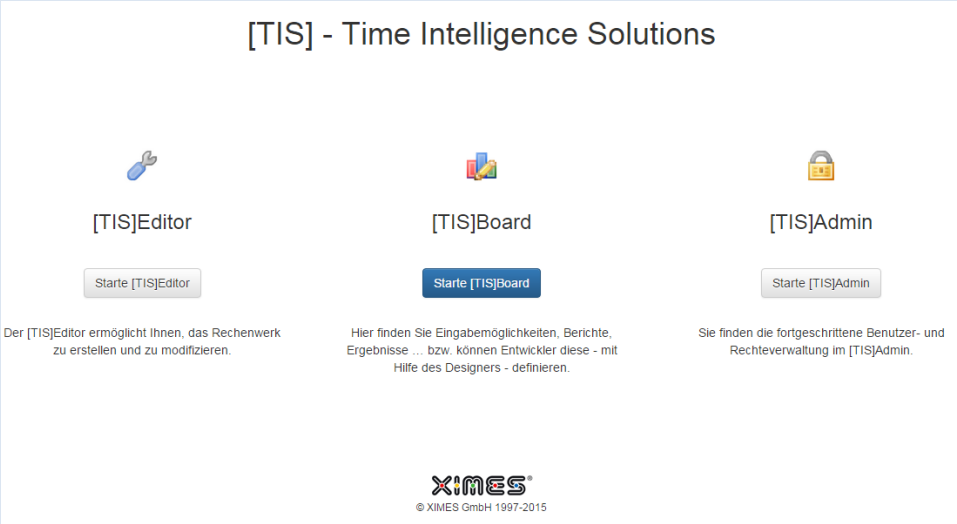
A. INTRODUCTION TO [TIS]

A.1. What [TIS] is all about

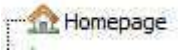
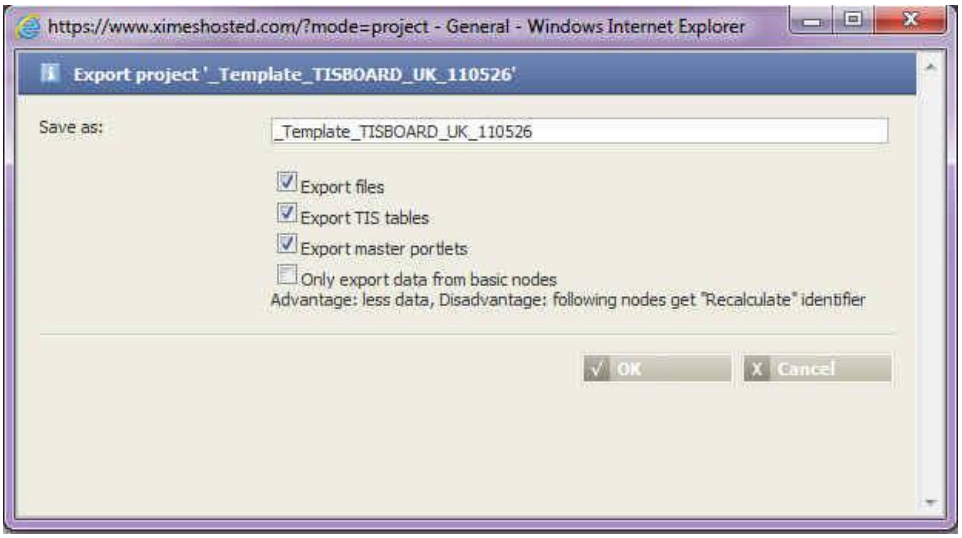
Aim of TIS	User should be able to build planning and controlling applications. Foreseen areas of use: • Forecasting • Personnel requirement calculation • Queue Management • …

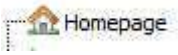
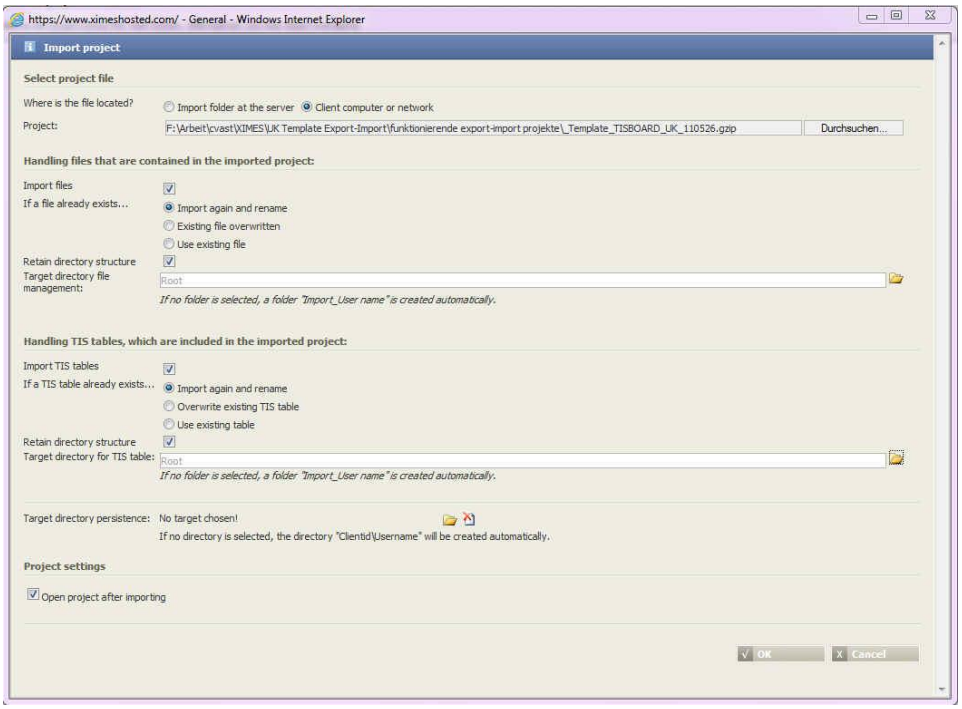
A.2. Components of [TIS]

[TIS]Editor	Allows to define calculations in solutions (a solution can consists of one or many [TIS]Projects) Runs only with Microsoft Internet Explorer. In newer versions please activate the compatibility view.
[TIS]Board	Folder/pages/Portlets are used to • Visualize data • Edit data Control the solutions created with [TIS]Editor application Runs with every current web browser, such as Microsoft Internet Explorer, Mozilla Firefox, Apple Safari or Google Chrome, and on common smartphones.
[TIS]Designer	Is a tool to define and shape Portlets. Portlets can then be used in [TIS]Board. Runs with every current web browser, such as Microsoft Internet Explorer, Mozilla Firefox, Apple Safari or Google Chrome.
[TIS]Administration	User- & access rights Management
How to get there?	Start a web browser and navigate to the [TIS] launch pad: e.g. https://www.ximeshosted.com/XIMES Click on the according name to start one of the four components introduced above: 

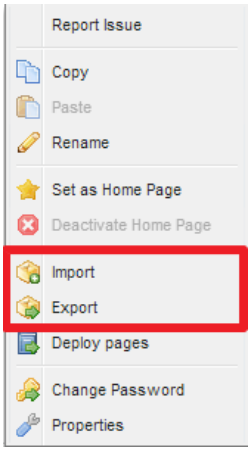
New: 5.8.2	As of version 5.8.2 the start screen has a new appearance. The [TIS]Designer is now integrated into the [TIS]Board. 

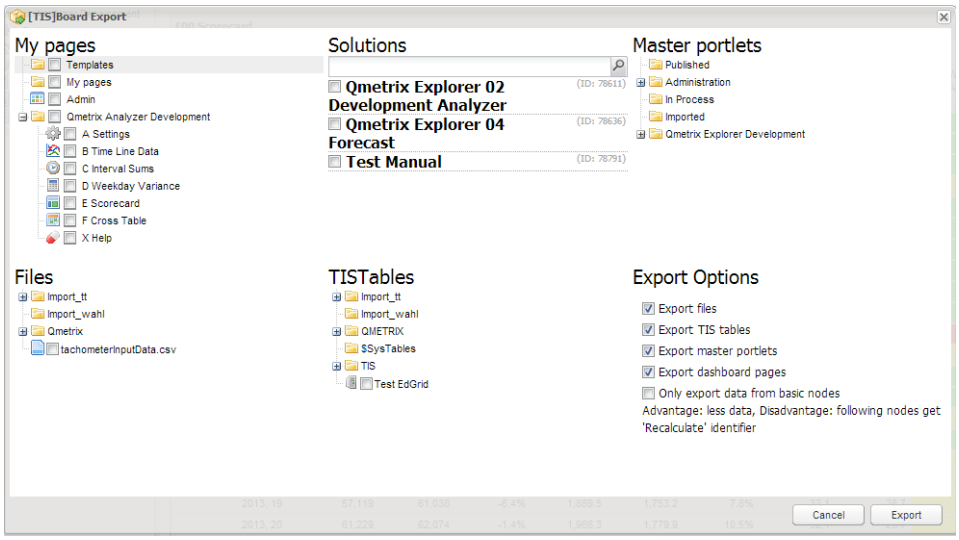
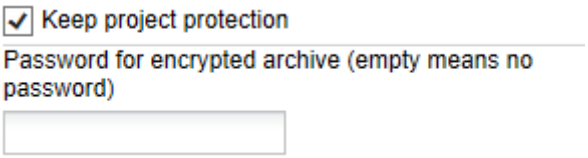
A.3. Export and Import Projects in [TIS] with [TIS]Editor

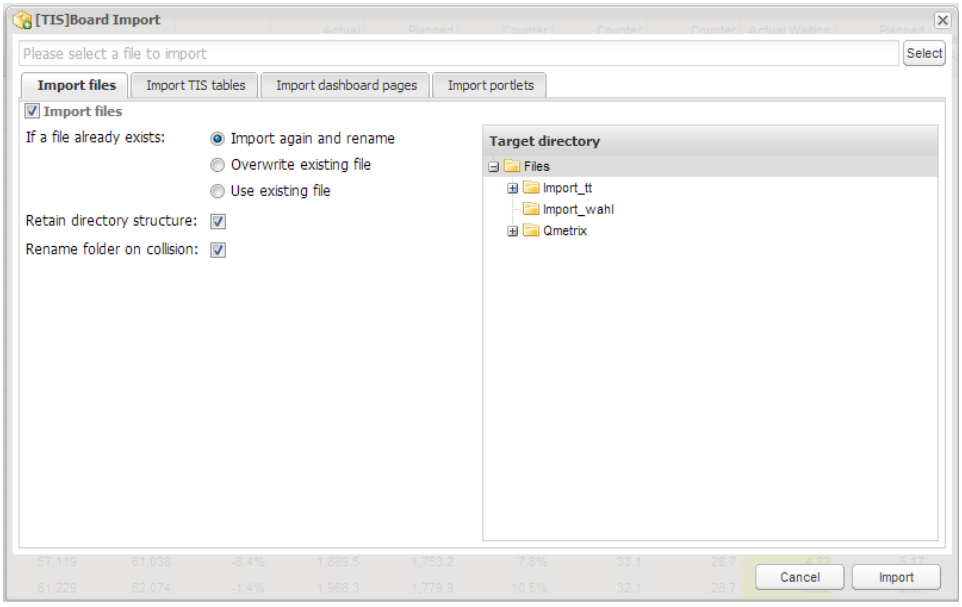
Project Export	1. Select 'Homepage' in the tree-structure on the left  2. Select the project you want to export and choose 'Export' from the menu at the right 3. Choose the following export settings: 

Project Import	1. Select 'Homepage' in the tree-structure on the left  2. Choose 'Import' from the menu at the right and select the project you want to import. 3. Choose the following import settings and set the 'Target directory file management' and the 'Target directory for TIS table' to 'Root': 

A.4. Export and Import Projects in [TIS] with [TIS]Board

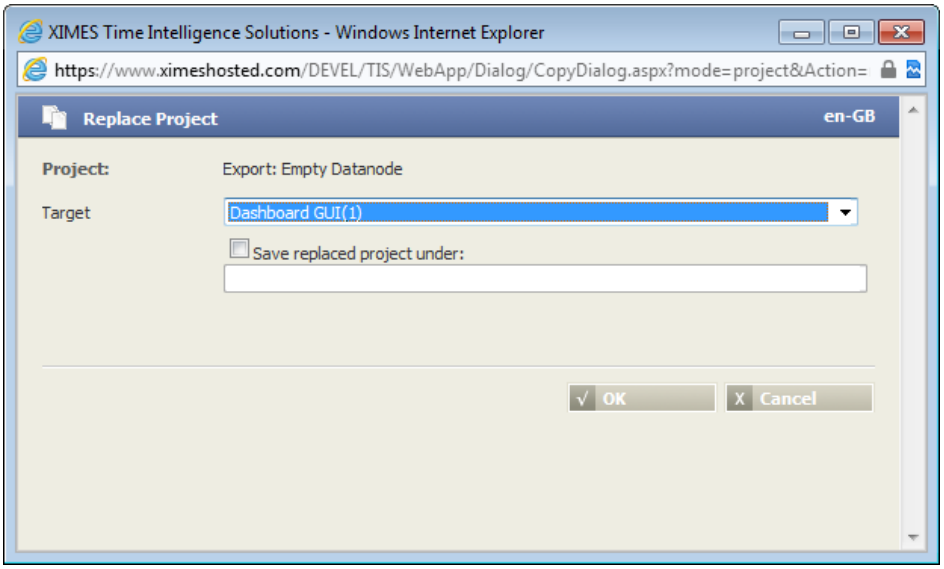
In editing mode in [TIS]-Board you will find Import and Export in the button "More"	

Project Export	After choosing "Export" an additional window opens. There you can choose which pages, which files, which solutions, which TIS-Tables and which Master Portlets you want to export.  After clicking on "Export" the Export-file will be created. As of version 5.6 the exported file can be password protected:  When the project is protected the file can only be imported by typing the password in the import window. Additionally the exported gzip file can only be extracted with the password.

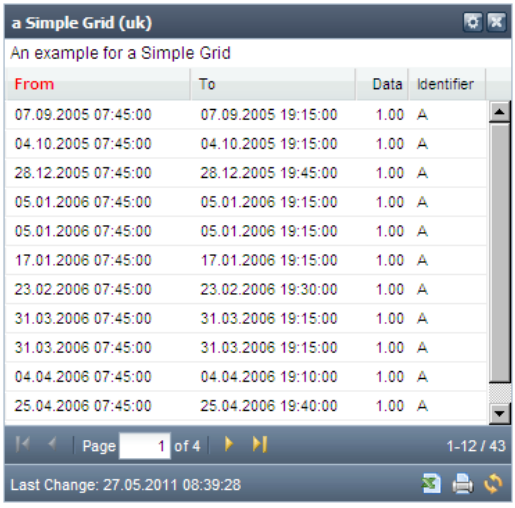
Project Import	After choosing "Import" an additional window with four tabs opens. There you can choose the Import file. After that you need choose how [TIS] should deal with Import files, TIS-Tables, Dashboard pages and Portlets.  There you can choose if they should be imported at all, how the import should deal with existing files, tables, pages or portlets and where they should be stored. After that click on "Import".

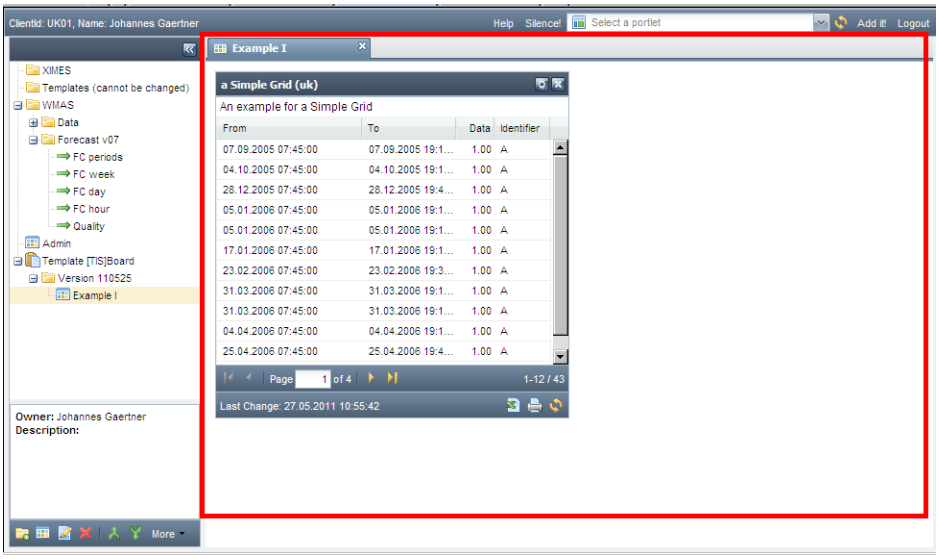
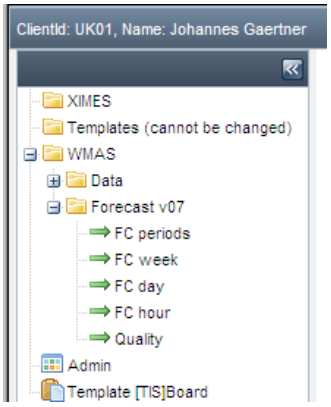
A.5. Replace Projects

Notion	Description
Background	If you have productive solution for one or more users and one project to develop the solution, I might happen, that you want to upgrade the productive project to the newly developed solution.
Preparing the Replacement	Make a copy of the newer project or import it to [TIS]. Click onto the project so that the background gets grey. Click the new button on the right:

Notion	Description
Choose Target Project	A new window opens where you can choose the target project.  You can also save the replaced project with a new name.

A.6. Definitions within [TIS]

Notion	Description
Project in [TIS]Editor	A project is a collection of connected data nodes in [TIS]Editor. See Description of [TIS]Editor.
Solution	A solution is a set of projects or a single project that aims at providing a complete functionality to users. E.g. the forecasting Solution consists of several projects.
Portlet in [TIS]Designer and in [TIS]Board	A small window that can contain data, text, visualisations or allows for interaction and provides many useful features (e.g., updating, paging, …) E.g. a Simple Grid Portlet 

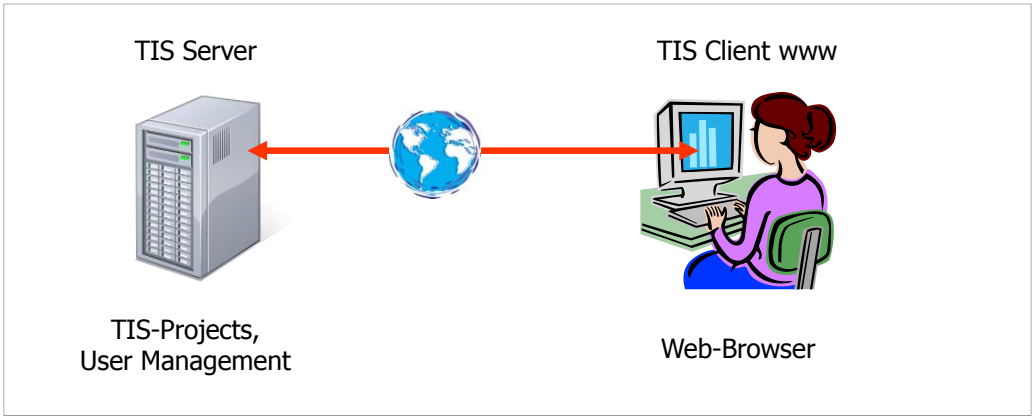
Notion	Description
Page	A page is an element of [TIS]Board that contains a number of Portlets (the number can be zero)  Pages are displayed and organized as tabs, similar to the tabs of a web browser. Note, that there is a limit on the number of opened pages (defined in the settings by the administrator).
Navigation tree - explorer	A part of [TIS]Board that allows for selection & management of pages and folders 

A.7. Three different Ways to use [TIS]Board with far reaching Consequences

Ways to use	Aim	Consequences
[TIS]Board as **PLANNING SOLUTION** **STANDARD USE - DOCUMENTED HERE**	The aim is to support single planners by providing customized views and opportunities for interaction on a specific [TIS] project. *E.g. specific views and options for interaction are provided for a forecasting solution.*	• The corresponding project is opened and locked if one starts recalculation from [TIS]Board, i.e. no one else can open it/change it. While working with the according solution, [TIS]Board uses it exclusively. In this case, if the solution should be changed in [TIS]Editor then the project has to be released. • If one only reads data for at specific Portlets there is no locking. See Locking and releasing projects for details.

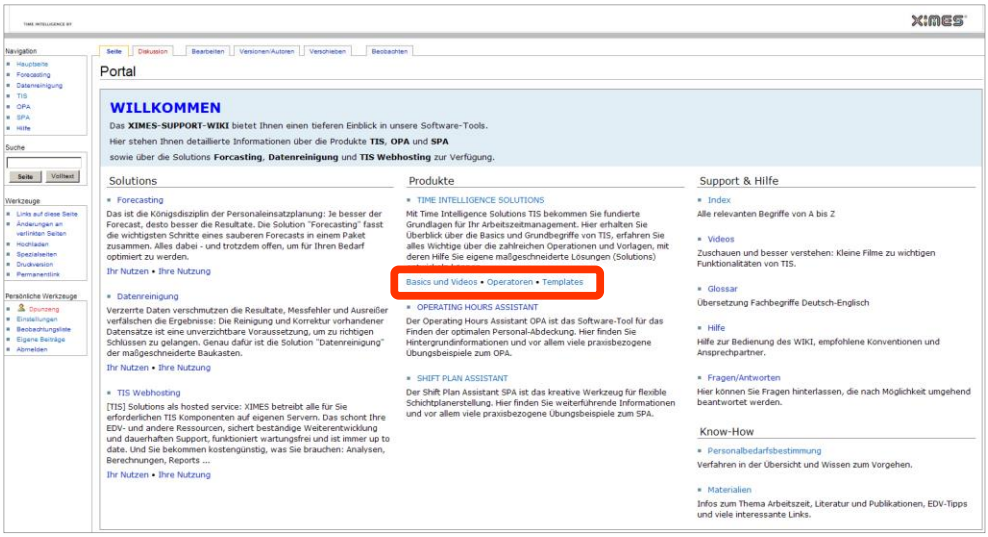
A.8. Basic Issues

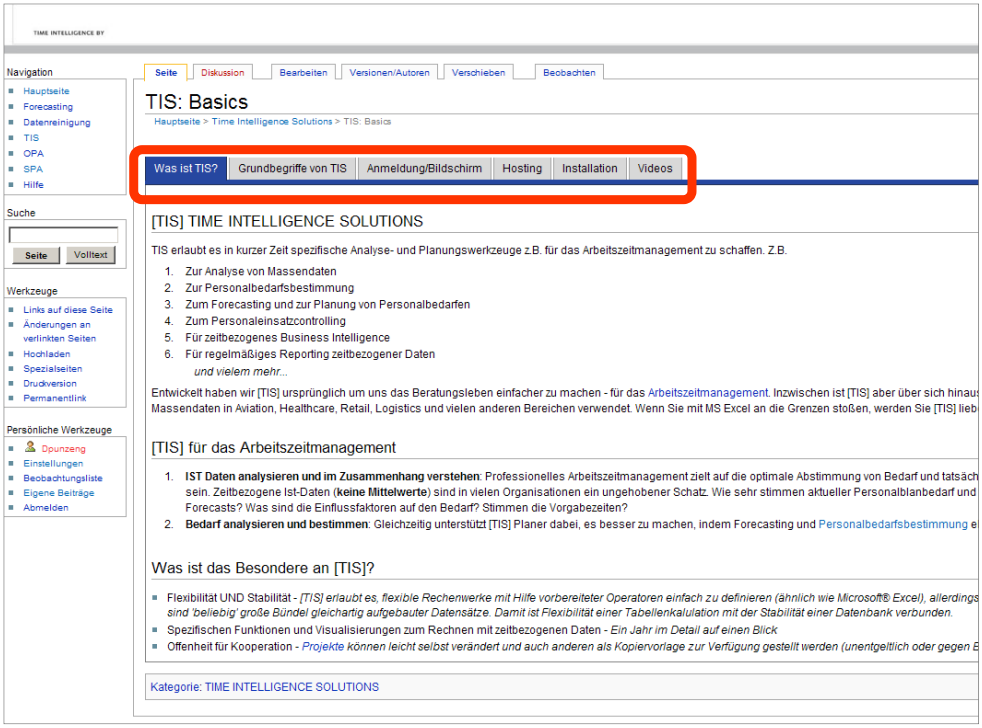
A.8.1. Core Elements of the [TIS] Architecture

[TIS]	Time Intelligence Solutions = allows for building customer specific applications
TIS is client-server application	 This has consequences on many things: • Sessions continue even if the client stops • A stop of a client does not cause a stop of the server to calculate • The server continues to calculate until it finishes or a time out occurs
TIS Server	TIS uses a database This has consequences on many things: • The database may stop to work even when the server runs • The database may be busy even when the server is not?

[TIS]Editor and [TIS]Board	[TIS]Editor & [TIS]Board **[TIS]Editor** Define the calculation „Maschine room" Few, specialized users Focus: „Everything is possible" **[TIS]Board** Display & User Interaction Push & Pull Many Users Focus: „Nice and Simple"

A.8.2. What is the Wiki for?

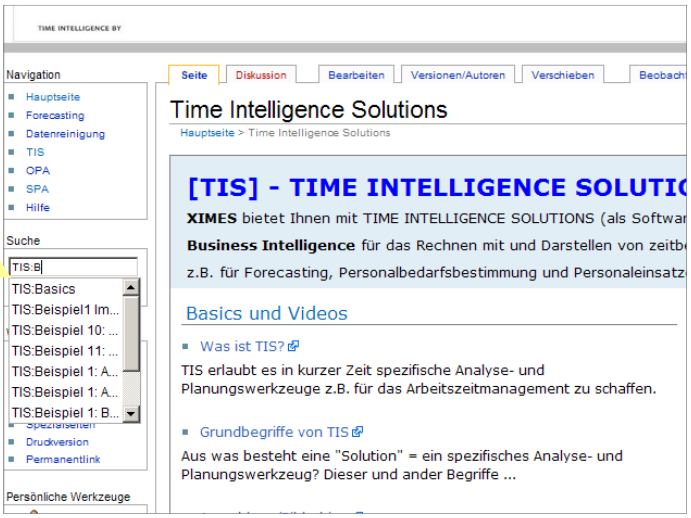
Idea of wiki	Easy exchange and adaptation of knowledge. Especially for the description of operators.
Homepage German	



Alle Zeiger in die Wiki-Struktur schauen so aus:

Wiki: "TIS:Basics"

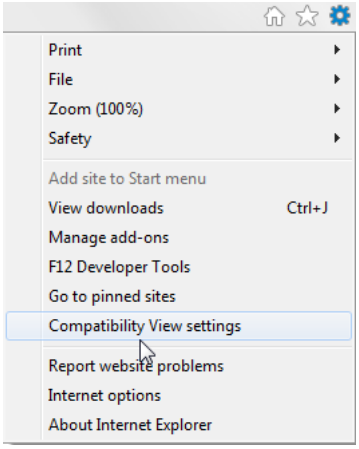
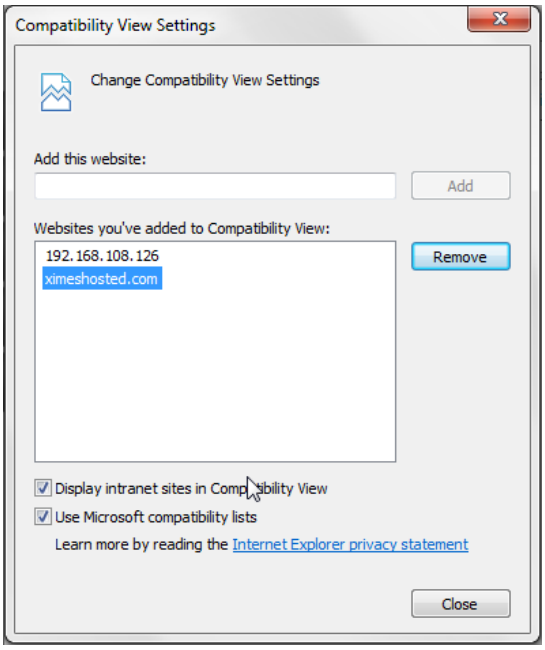
Achtung: Groß-/Klein-schreibung beachten



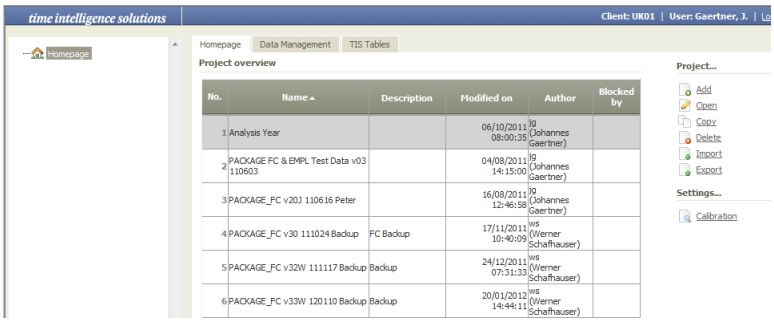
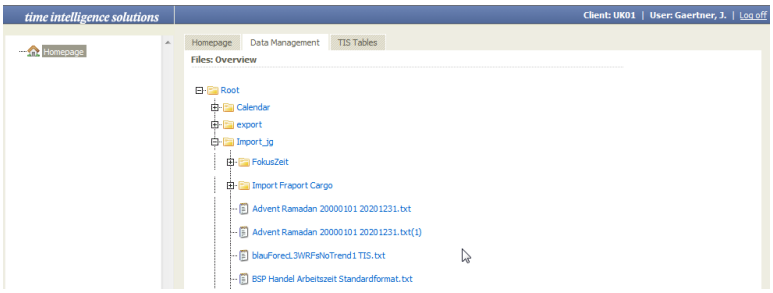
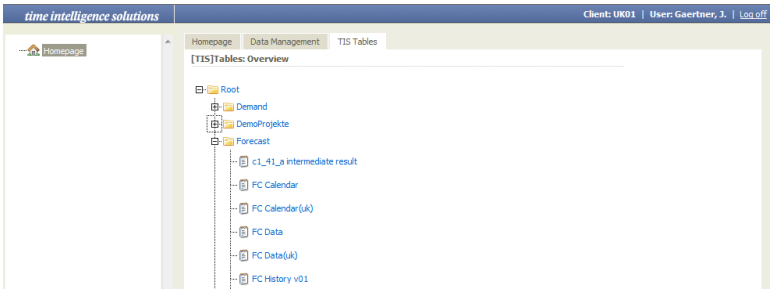
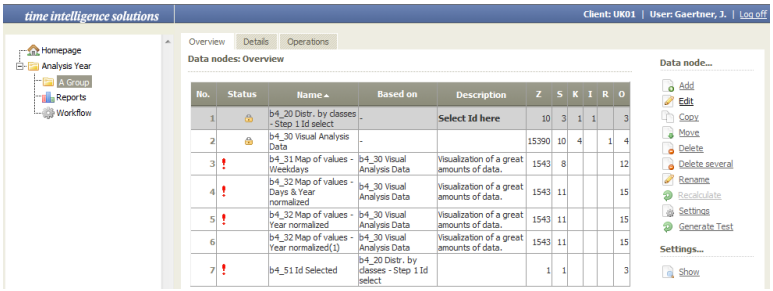
B. [TIS]EDITOR

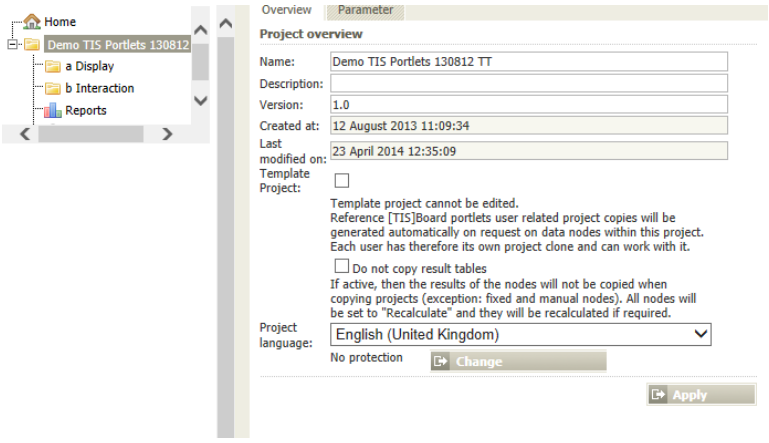
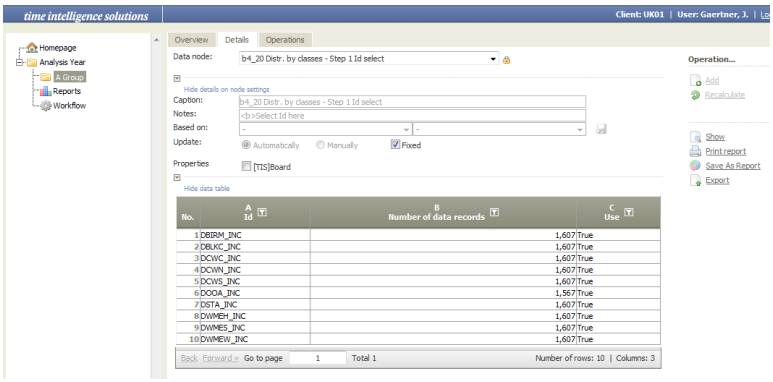
B.1. Overview

B.1.1. Premises on using [TIS]Editor

Browser settings	 	[TIS]Editor is being run in Microsoft Internet Explorer. In newer versions IE needs to be run in the compatibility view. Add the current server to the settings.

B.1.2. What are the Main Elements of [TIS]Editor?

Homepage	 With corresponding rights you may even see a fourth tab: Allowing specifying general parameters for a project. See TISBoard Manual v19J.docx in the most up to date version on how tow to use Parameters.	*1.* Overview TIS-Projects: *A project is where the calculation takes place.* 2. Access to data management 3. Access to TIS-table management
Data Management		Upload of data files, Refresh data. This data is on the server and usable by all users with correspond-ing rights.
TIS-Tables		Manage tables from TIS. Such tables allow using the same data-set from different TIS-Projects (a project is where the calculation takes place.)
Project Folder Data node		Main working area. After opening a project one sees the folders of this project and within each folder the data-nodes.

Project Settings		In the settings different information and settings for the project can be made. • Description and Version number • Activation as template project • If the project is copied, if the result tables should be copied too. • Project language (if the language is not available the client default is chosen). Changes standard column names and number formatting. • Password protection for editing and exporting the project
Definition data node	Data node = At least one sorted table of records = RESULT which may have 0,1, … inputs that again may be data-files , TIS-tables, or other nodes which may have 0…n operations that define the calculation leading from input data to the RESULt-Table E.G.: Input-node – OPERATIONS – RESULT node	
Content of nodes		Actual data

Example: Pages, columns, rows

No.	C Tag	D von	E bis
1	01.01.2004	08:00	09:00
2	02.01.2004	07:30	09:30
3	02.01.2004	07:30	13:45
4	02.01.2004	07:30	15:30
5	02.01.2004	07:30	15:30
6	02.01.2004	07:30	15:30
7	02.01.2004	07:30	15:30
8	02.01.2004	07:30	15:30
9	02.01.2004	07:30	08:00
10	02.01.2004	07:30	15:30
11	02.01.2004	07:30	15:30
12	02.01.2004	07:30	15:30
13	03.01.2004	08:00	09:00
14	04.01.2004	08:00	10:00
15	04.01.2004	08:00	09:00
16	05.01.2004	07:30	15:45
17	05.01.2004	07:30	16:30
18	05.01.2004	07:30	08:30
19	05.01.2004	07:30	15:30
20	05.01.2004	07:30	15:30

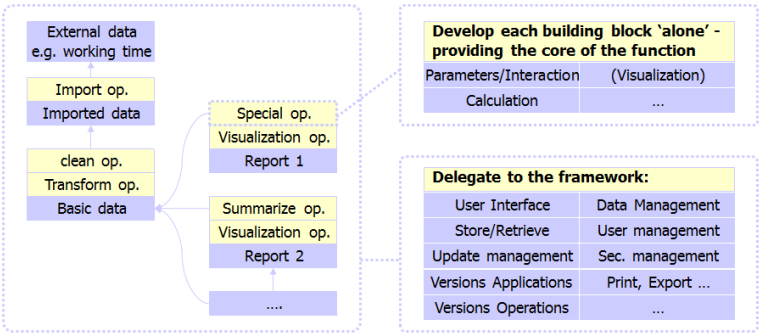
« Zurück Vor » Gehe zu Seite 1 insg. 170 Anzahl Zeilen: 3386 | Spalten: 3

Core idea of TIS – overview

Made to measure applications more easily & to allow new ways of use

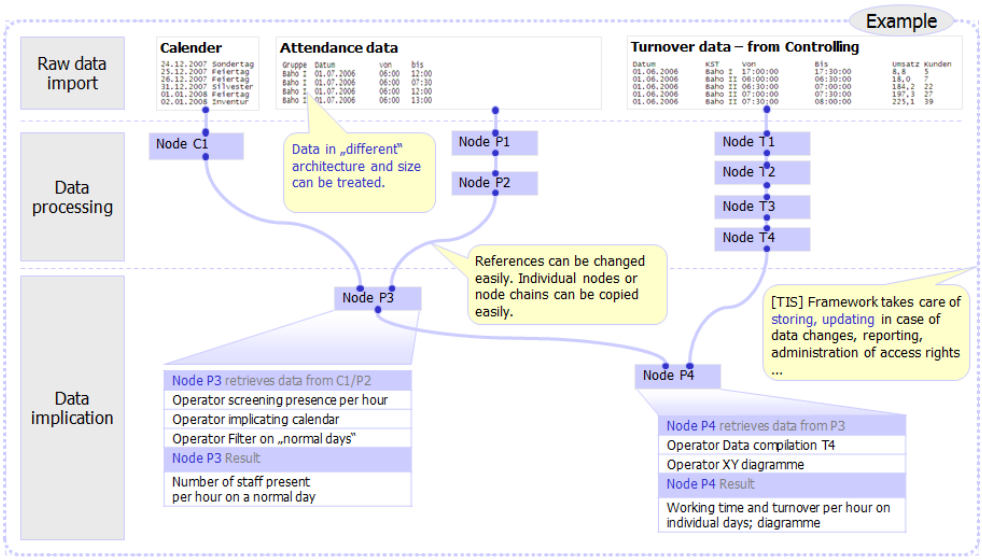
1: instead of relating cells and applying operations [TIS] relates data nodes (records of 'any' size) with operations

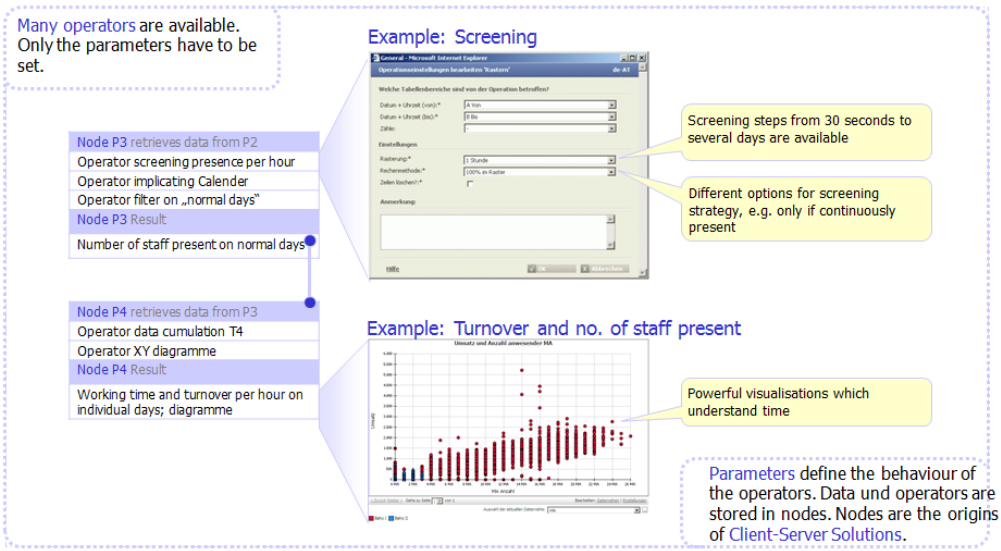
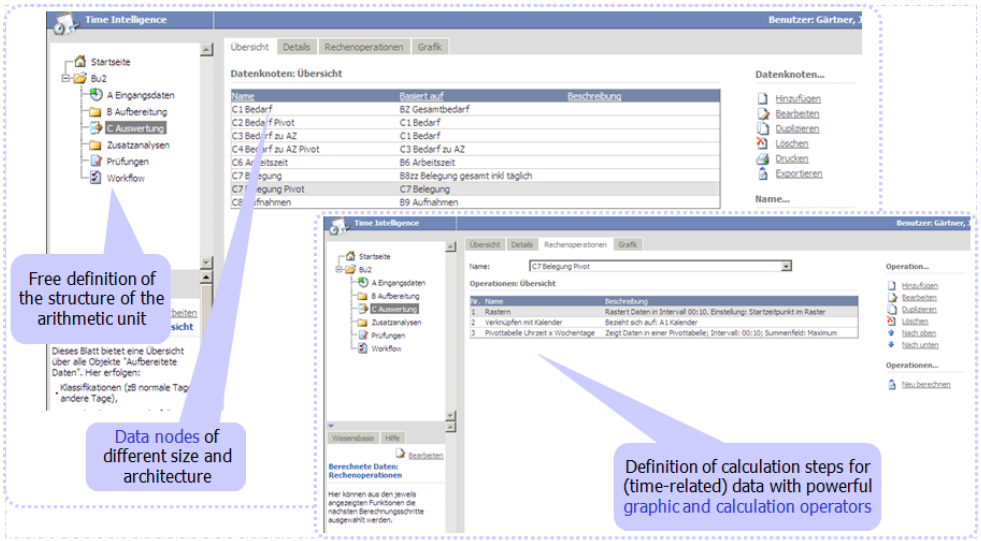
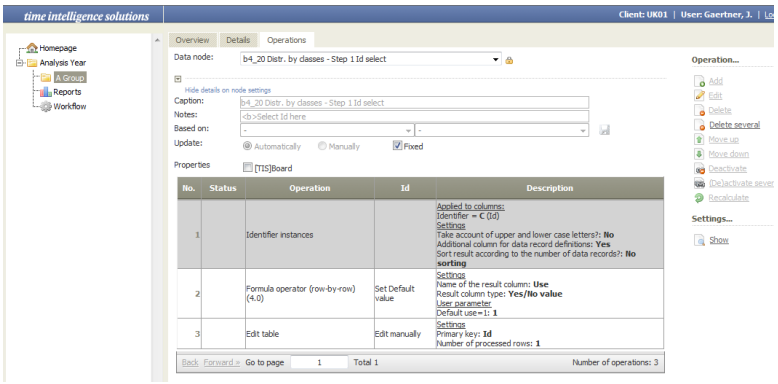
2: make it "easy" to create new building blocks of functionality (operators)



Build op calculations with connected nodes.

[TIS] – Building Client-Server Solutions the "Lego"-way



[TIS] uses powerful operators and visualisations, which "understand" time	
Example: Structure, data nodes and calculations steps	
Operations	 Definition of calculations with chains of predefined and parameterized operations.

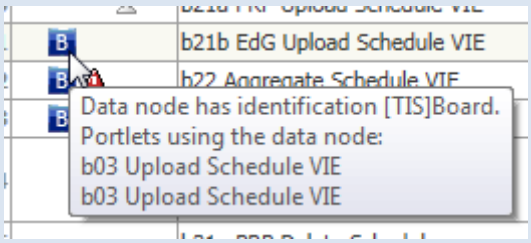
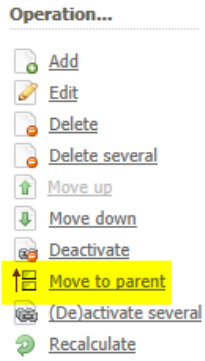
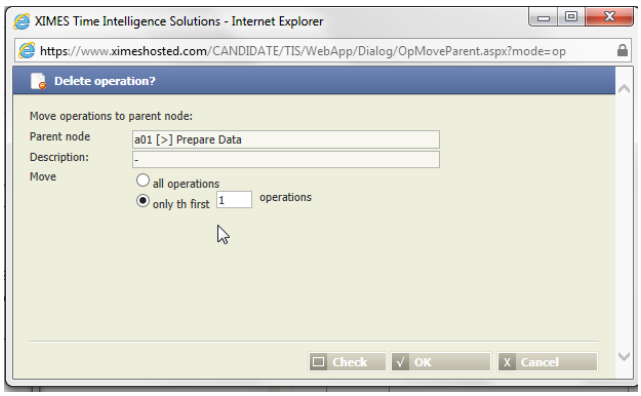
Levels of design in TIS	[TIS] – works like Lego **Solution** Solves a problem for a customers e.g. Forecasting for a Call-Center **Template** Adresses a general topic E.g. calculate daily profiles **Operator** Addresses a specific task Scaling in 15' intervals	Different levels of design facilitate reuse of components.

B.1.3. General Issues of Working with the [TIS]Editor

What do the Column headers for nodes tell me?

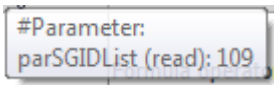
No.	Status	Name ▲	Based on	Description	Z	S	K	I	R	O
1	🔒	b4_20 Distr. by classes - Step 1 Id select	-	Select Id here	10	3	1	1		3

No. 1	Number of node	
Status 🔒	Status symbols see: [What do the Status-symbols for nodes tell me?](#)	
Name ▲ b4_20 Distr. by classes - Step 1 Id select	Name	
Based on -	The first input node - … none	
Description Select Id here	Free text	

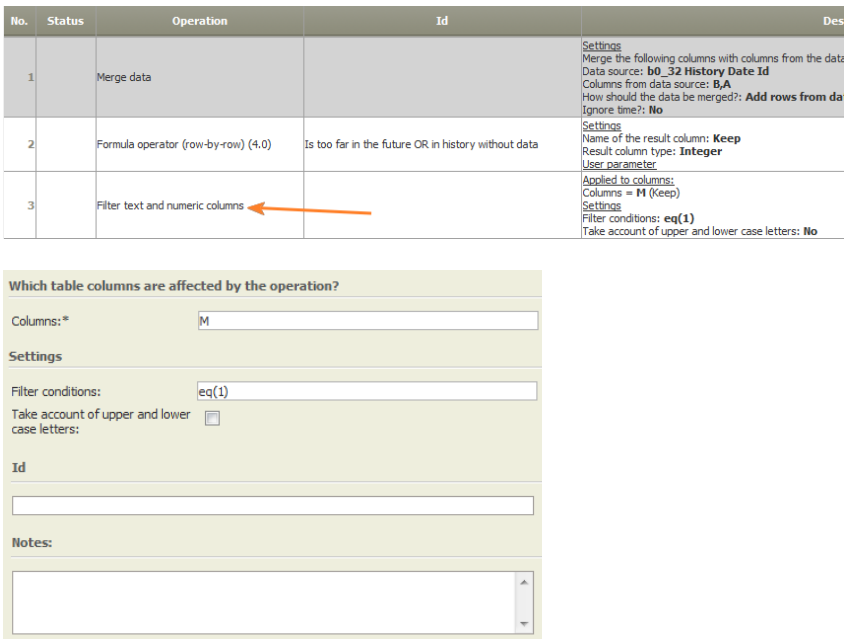
	This node is a TIS-Board node. As of version 5.8.2 a tool tip gives information on the connected Portlets. 	
	Z Zeilen = R Row … number of rows S Spalten = C Columns … number of columns K Kinder = number of children = nodes where the first input node is this node I Indirect nodes where this node is another input node R referenced nodes by this node	
	One or more operations of a data node can be moved to the parent data node. When clicking the symbol, a new window opens. 	

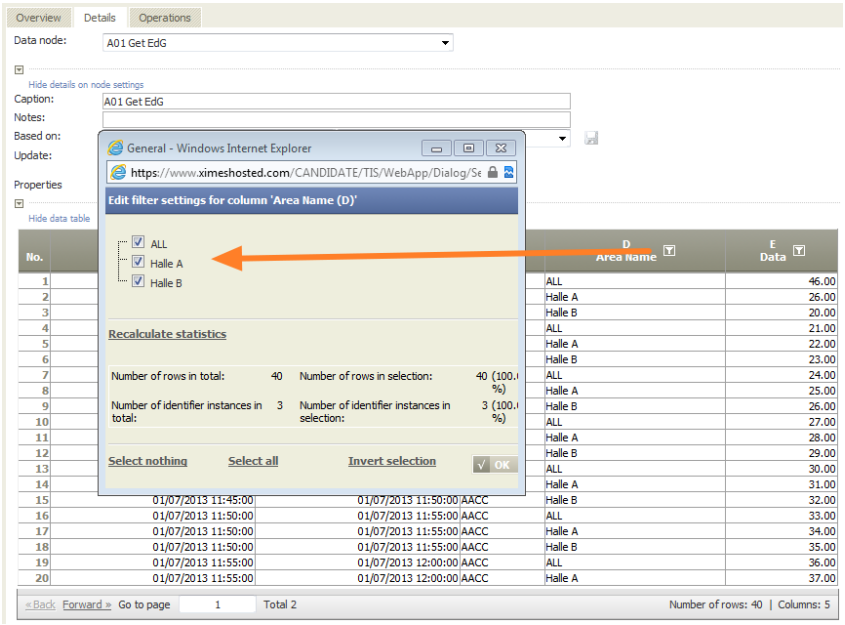
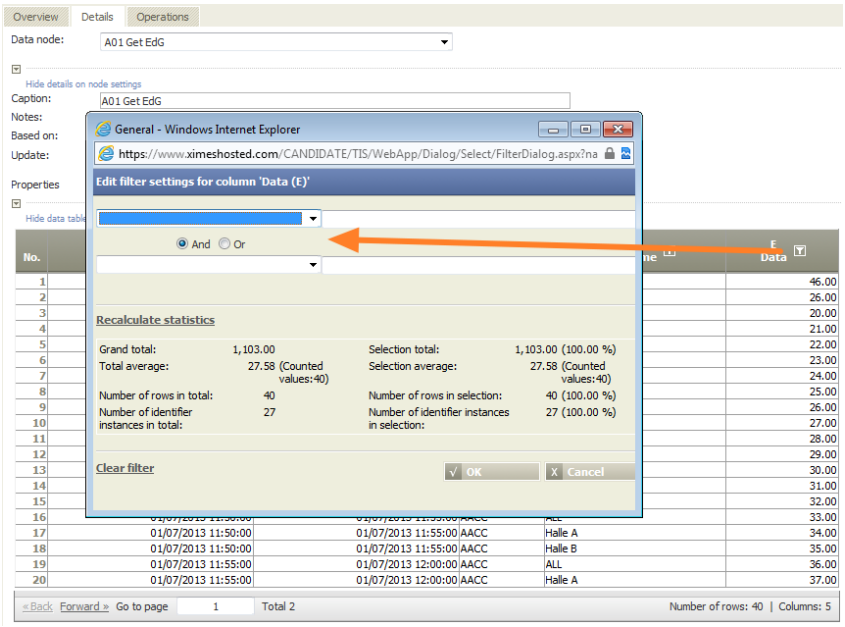
What do the Status-Symbols for nodes tell me?

	This node is locked. No changes of input data will cause a recacluation of data. No manual recalculation is possible.	
	Some input data of this node has changed (maybe many steps before)	
	This node is manually updated. Changes of input data will cause no recacluation of data, but by pressing recalc a new calculation is done.	
	Some operations are deactivated.	

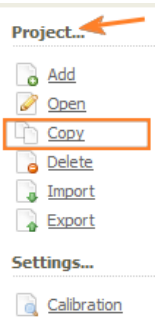
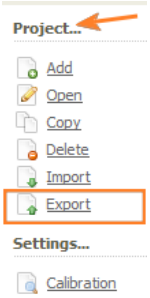
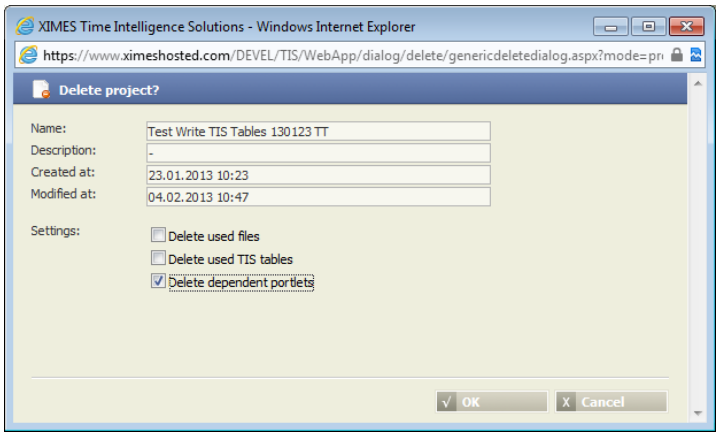
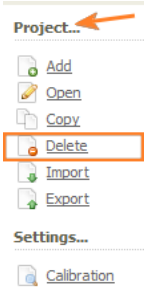
	This node is errounous and has an EMPTY result table. The error is severe, so that TIS is not able to perform the calculation (e.g. columns are missing for a calculation).	
	A warning by an operator occurred. A warning is a less severe error (e.g., a missing value for a chart). TIS is still able to compute something.	
	This symbol shows that a this node has a connection to a TIS Parameter. The tool tip shows that if the node reads or writes a Parameter.  	

What types of filters have to be distinguished?

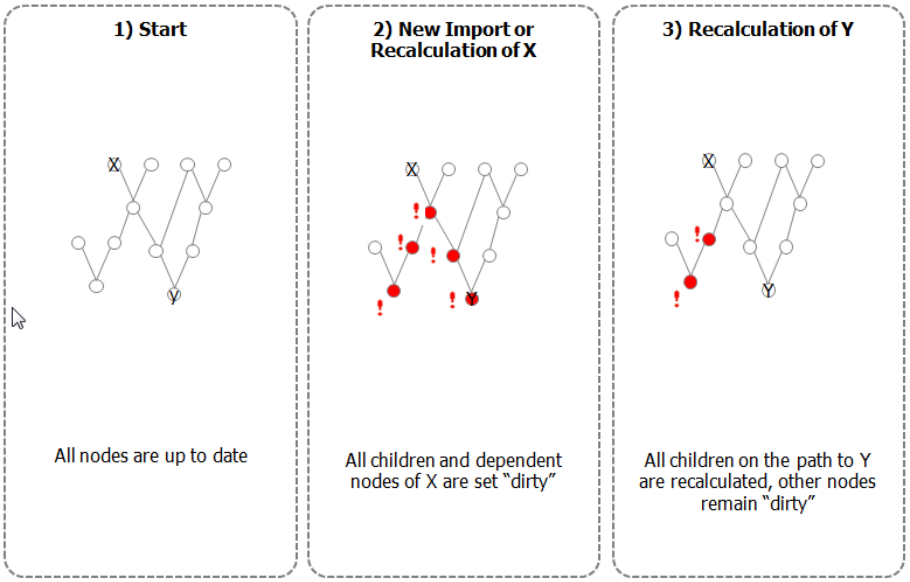
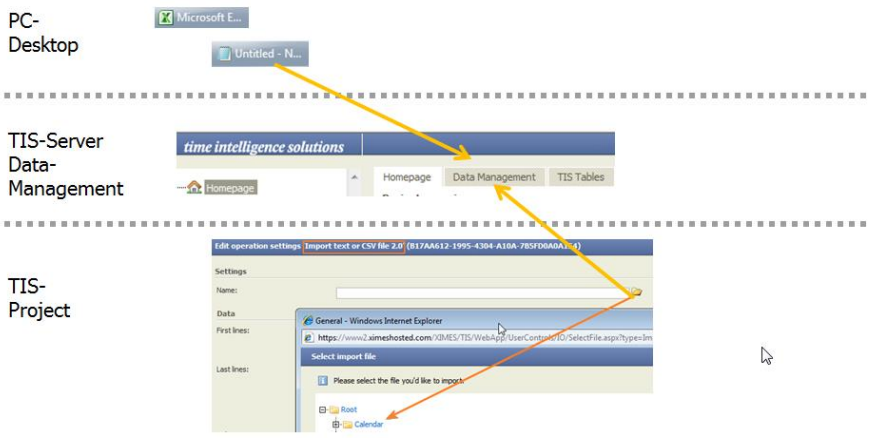
Filter operator	 	Case a change of the data-node, i.e, rows are actually dropped.

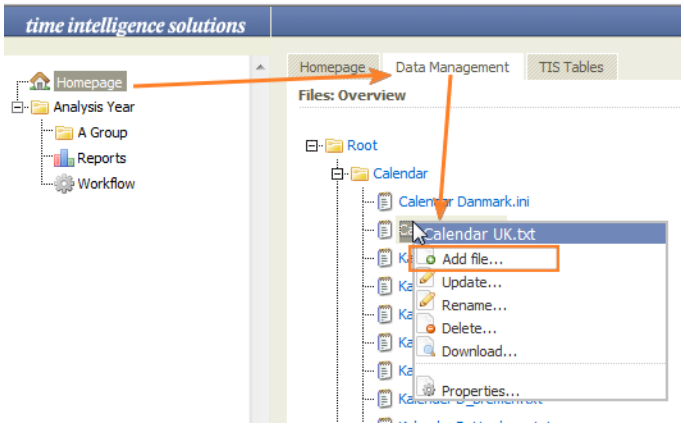
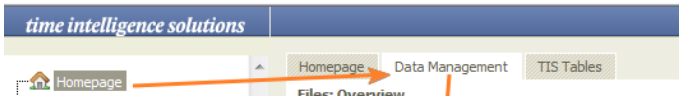
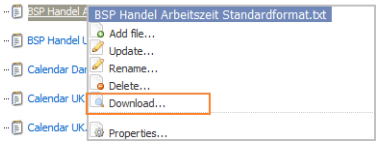
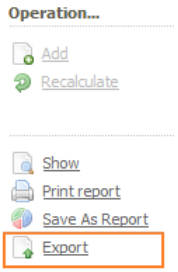
Filter as part of the view	 	Only the view is changed. Data node further done the calculation path are not changed.

How to manage [TIS]Projects?

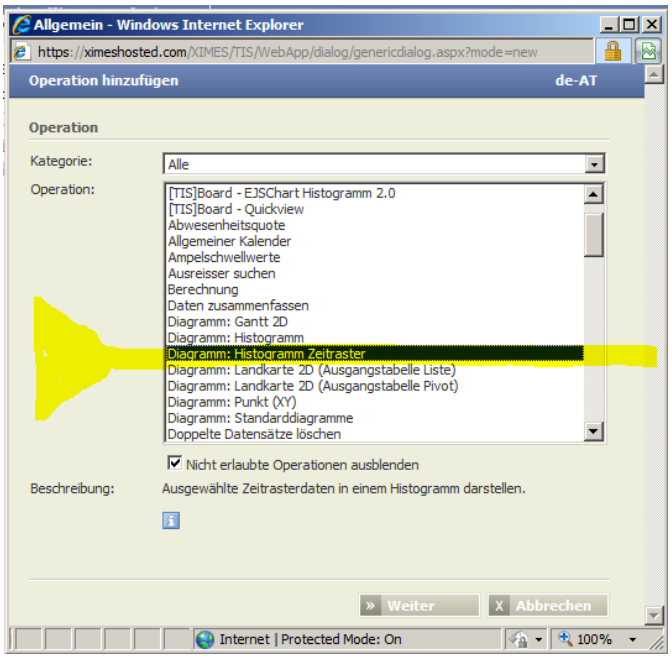
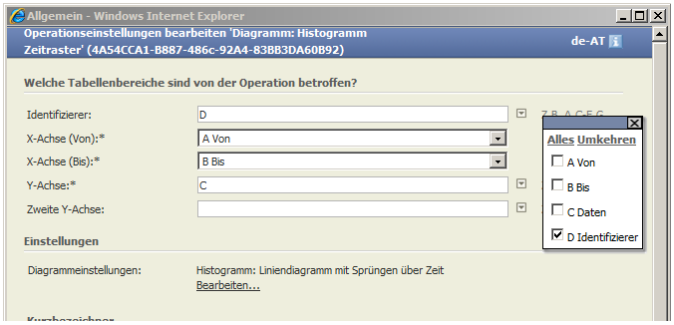
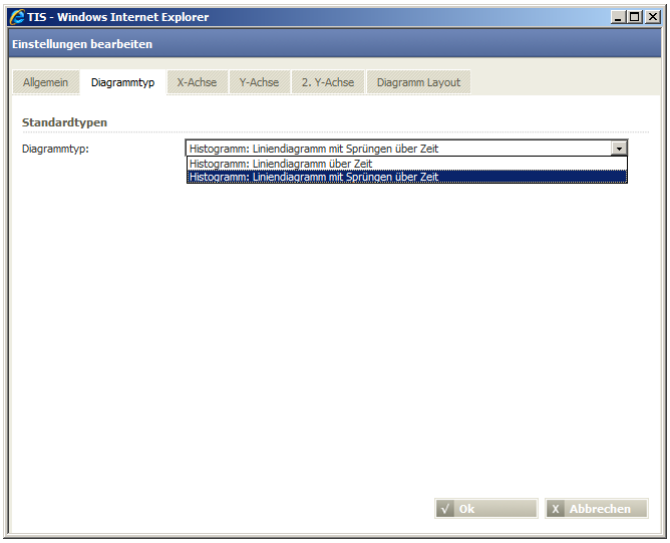
Naming Convention	There is always a small risk that one starts to develop from the wrong version, or needs time to sort out versions or destroys ones project accidentally. Furthermore it eases work if the naming takes place in a way that facilitates sorting E.G. Several projects that build upon each other (e.g. STEP 01 Import, Step 02 Calculation, …) might use the following naming convention • STEP # Name • Date YYMMDD • Versions number • Initials of authors • Optional Remarks Exercises see: Naming Convention	
Copy	1. Go to Homepage 2. Select project (Homepage) 3. Press Copy Button (right hand) 4. Enter name...please consider How to name [TIS]Projects? 5. Wait for Copy to prepare project and press Save	
Export	1. Go to Homepage 2. Select project (Homepage) 3. Press Export Button (right hand) 4. Wait for Export to prepare file, enter name ...please consider How to name [TIS]Projects? 5. Press Save as	
Delete	1. Go to Homepage 2. Select project (Homepage) 3. Press Delete Button (right hand)  Depended Portlets can also be deleted.	

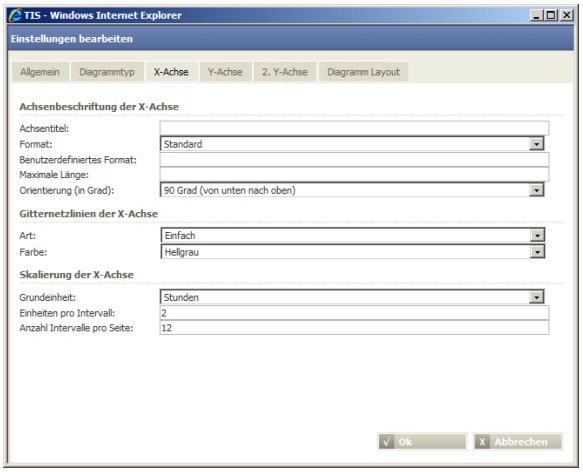
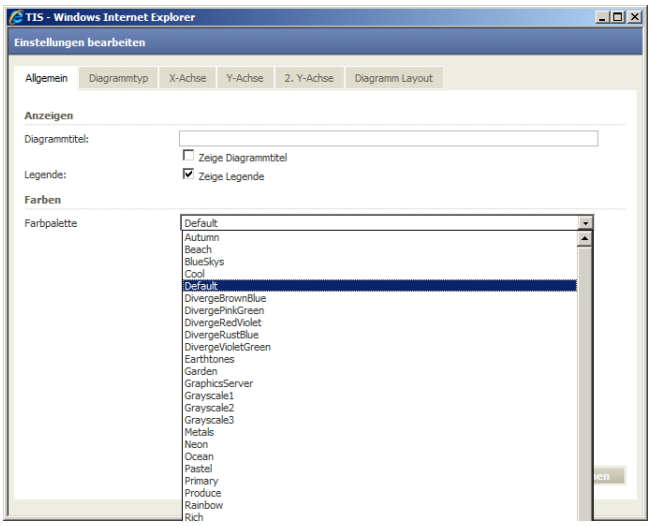
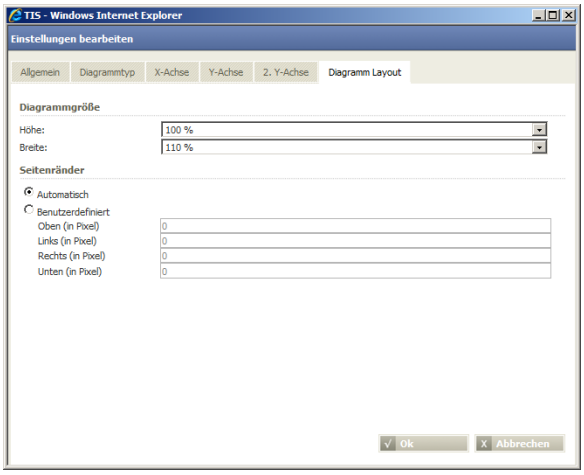
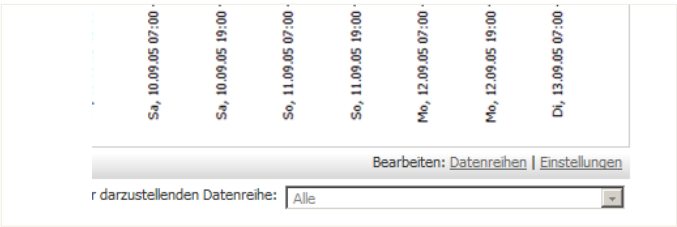
How to manage [TIS]Data?

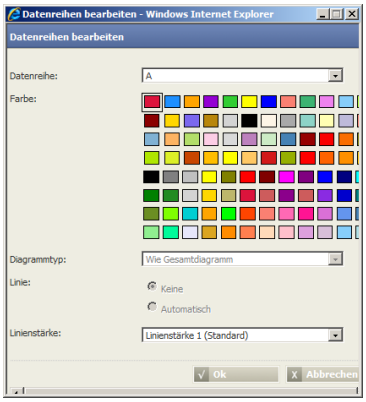
Naming Convention	There is always a small risk that one starts to develop from the wrong version, or needs time to sort out versions or overwrites a project accidentally. Furthermore it eases work if the naming takes place in a way that facilitates sorting E.G. Several projects that build upon each other (e.g. STEP 01 Import, Step 02 Calculation, …) might use the following naming convention • STEP # Name • Date YYMMDD • Versions number • Initials of authors • Optional Remarks Exercises see: Naming Convention
How does the update process of [TIS]nodes work?	EXAMPLE: 
How to upload data?	Client – Server Interaction 

	1. Store the data as *.txt on your PC 2. Upload the *.txt file with into data management  3. Reference the data in data-management with Import-CSV Operator
Export data to CSV	Use an export to CSV operator 1. Goto the Node an add Export CSV operator 2. Select an already existing file under TIS/DATA Management and adapt settings  3. Download the file from there to your PC or import into another application 
Export data to Excel	Export to an EXCEL 2003 file (limited to approx 65.000 rows) 1. Goto to the Node on tab Detail 2. Press the Export Button on the very right side 
Export data to ODBC data source	Export to an ODBC data source (e.g. a database table)
Export data to TIS-Table	Export to a TIS-Table to share data via projects (even with options to select data for reimporting) 1. Use an Export Operator: Write TIS table 2. Export to a Data table

Formatting charts

Example: Chart „Histogram Time Patter“		Select the “Chart” operation. Remark: This is only possible if the under-lying data allows to add a chart operator. You can override this by unchecking the tick-box under the list of operations to see the complete list of operations.
Allocate data fields		A chart operator does not work without the following fields: From To Value y axis By using the “Identi-fier”, it si possible to draw more than one data line in one chart.
Select graph drawing method		Two methods are available: Connecting data points with straight lines Connecting data points with stepped horizontal lines

Selecting the formating and scaling options of the axes and title		Remark: The horizontal range is defined by "unit per interval" times "number of intervals.
Colour sceme		Several schemas are available
Diagram layout		Defines the height and width of the diagram to your needs
Scale formatting		Various formatting options and orientations are available

Line colour and line with		To change line colour and line with, select the data column and pick the colour box and the correspond-ing line weight.

B.2. Using [TIS]Board as Planning Solution

Steps	Description
Build the calculation	In [TIS]Editor build a corresponding project or several projects
Build information tables & diagrams	• For tables use simple grid or an EDITABLE GRID Portlet • Diagrams can be built in [TIS]Editor and displayed in [TIS]Board via the CHART Portlet or in [TIS]Board directly (e.g., an EJS-Chart Portlet) without producing a di-agram in [TIS]Editor. How to decide: ○ Large amounts of records (> 30.000 data points) OR No time scale involved → [TIS]Editor Diagram & Chart Portlet ○ Interactivity with drill down → [TIS]Board: EJS-Chart Portlet ○ Overview charts → [TIS]Board: Quickview Portlet ○ Gantt Chart, XY-Chart, → [TIS]Editor Diagram & Chart Portlet
Create Portlets	In [TIS]Designer one creates a separate Portlet for each chart and save it separately.
Create pages	In [TIS]Board one creates a new folder which will contain the pages to be created. Add the desired Portlets to the relevant pages and subsequently arrange them by dragging them as required.

B.3. Operators

B.3.1. Operators in Wiki

The most common operators are described in the XIMES Wiki. In this chapter these operators can be found with their German and English names, their operator class and their links within the Wiki.

Other operators or detailed information about the operators in the Wiki can be found in the following chapters.

Operator Name (German/English)	Operator Class (German/English)	Wiki Link (German/English)
Abwesenheitsquote	Allgemeine Mathematik	http://wiki.ximes.com/index.php?title=TIS:Abwesenheitsquote
Absence	Math	-
Ampelschwellwerte	Sonstiges	http://wiki.ximes.com/index.php?title=TIS:Ampelschwellwerte
Traffic light threshold value	Other	

Operator Name (German/English)	Operator Class (German/English)	Wiki Link (German/English)
Allgemeiner Kalender	Datum & Zeit - Berechnungen	http://wiki.ximes.com/index.php?title=TIS:Ausreisser_suchen
General Calendar	Date & Time	http://en.wiki.ximes.com/index.php?title=General_Calendar
Ausreisser suchen	Auswahl und Anordnung von Daten	http://wiki.ximes.com/index.php?title=TIS:Ausreisser_suchen
Search for outliers	Data Selection	-
Berechnung	Auswahl und Anordnung von Daten	http://wiki.ximes.com/index.php?title=TIS:Berechnung
Calculation	Data Selection	http://en.wiki.ximes.com/index.php?title=Calculation
Bericht: Export nach MS PowerPoint	Exportoperation	http://wiki.ximes.com/index.php?title=TIS:Export_nach_MS_PowerPoint
Report Export to MS PowerPoint	Export-operation	-
CSV Export Resultta-belle	Exportoperationen	http://wiki.ximes.com/index.php?title=CSV_Export_Resulttabelle
Data export to CSV file	Export-operation	-
Daten zusammenfas-sen	Datentabelle erzeugen/bearbeiten	http://wiki.ximes.com/index.php?title=TIS:Daten_zusammenfassen
Merge Data	Data conversion	http://en.wiki.ximes.com/index.php?title=Merge_Data
Diagramm: Gantt Chart	Diagramme	http://wiki.ximes.com/index.php?title=TIS:Diagramm:_Gantt_Chart
Diagram: Gantt Chart	Diagram	-
Diagramm: Histo-gramm	Diagramme	http://wiki.ximes.com/index.php?title=TIS:Diagramm:_Histogramm
Chart: Histogram	Diagram	-
Diagramm: Histo-gramm Zeitraster	Diagramme	http://wiki.ximes.com/index.php?title=TIS:Diagramm:_Histogramm_Zeitraster
Chart: Histogram Time Pattern	Diagram	http://en.wiki.ximes.com/index.php?title=Chart:_Histogram_Time_Pattern
Diagramm: Landkarte 2D (Liste)	Diagramme	http://wiki.ximes.com/index.php?title=TIS:Diagramm:_Landkarte_2D_(Liste)
Diagram: Map 2D (Liste)	Diagram	-

Operator Name (German/English)	Operator Class (German/English)	Wiki Link (German/English)
Diagramm: Punkt (XY)	Diagramme	http://wiki.ximes.com/index.php?title=TIS:Diagramm:_Punkt_(XY)
Diagram: Punkt (XY)	Diagram	-
Diagramm: Standarddiagramme	Diagramme	http://wiki.ximes.com/index.php?title=TIS:Diagramm:_Standarddiagramme
Diagram: StandardDiagram	Diagram	-
Doppelte Datensätze löschen	Auswahl und Anordnung von Daten	http://wiki.ximes.com/index.php?title=TIS:Doppelte_Datens%C3%A4tze_l%C3%B6schen
Delete duplicated data records	Data Selection	-
Export in CSV Datei	Exportoperationen	http://wiki.ximes.com/index.php?title=TIS:Export_in_CSV_Datei
Export in CSV Datei	Exportoperation	-
Export ODBC Operator	Exportoperationen	http://wiki.ximes.com/index.php?title=TIS:Export_in_ODBC_Quelle
Export to an ODBC data source	Exportoperation	-
Filter auf Text- und numerische Spalten	Auswahl und Anordnung von Daten	http://wiki.ximes.com/index.php?title=TIS:Filter_auf_Text-_und_numerische_Spalten
Filter text and numeric columns	Data Selection	http://en.wiki.ximes.com/index.php?title=Filter_text_and_numeric_columns
Formeloperator (zeilenweise)	Allgemeine Mathematik	http://wiki.ximes.com/index.php?title=TIS:Formeloperator_(zeilenweise)
Formula operator (rowwise)	Math	http://en.wiki.ximes.com/index.php?title=Formula_operator_%28rowwise%29
Glättung	Statistik	http://wiki.ximes.com/index.php?title=TIS:Gl%C3%A4ttung
Smoothing	Statistics	-
Handel (Umsatz und Besetzung)	Statistik	http://wiki.ximes.com/index.php?title=TIS:Handel_(Umsatz_und_Besetzung)
Retail (sales volume and employees)	Statistics	-
Identifizierer Ausprägungen	Auswahl und Anordnung von Daten	http://wiki.ximes.com/index.php?title=TIS:Identifizierer_Auspr%C3%A4gungen

Operator Name (German/English)	Operator Class (German/English)	Wiki Link (German/English)
Identifier instances	Data Selection	-
Identifizierer Filter	Auswahl und Anordnung von Daten	http://wiki.ximes.com/index.php?title=TIS:Identifizierer_Filter
Identifier filter	Data Selection	-
Import von Daten aus SQL-Quellen	Importoperationen	http://wiki.ximes.com/index.php?title=TIS:Import_von_Daten_aus_SQL-Quellen
Import of data from SQL source	Importoperation	-
Import von Daten aus SQL-Quellen V03	Importoperationen	http://wiki.ximes.com/index.php?title=TIS:Import_von_Daten_aus_SQL-Quellen_V03
Import of data from SQL source V03	Importoperation	-
Import Text- bzw. CSV-Datei	Importoperationen	http://wiki.ximes.com/index.php?title=TIS:Import_Text-_bzw._CSV-Datei
Import Text- or CSV-file	Importoperation	-
Import Text- bzw. CSV-Datei mittels XML-Aufbaubeschreibung	Importoperationen	http://wiki.ximes.com/index.php?title=TIS:Import_Text-_bzw._CSV-Datei_mittels_XML-Aufbaubeschreibung
Import Text- or CSV-file with XML-Description	Importoperation	-
In Prozent	Allgemeine Mathematik	http://wiki.ximes.com/index.php?title=TIS:In_Prozent
In percent	Math	http://en.wiki.ximes.com/index.php?title=In_percent
Kreuztabelle	Statistik	http://wiki.ximes.com/index.php?title=TIS:Kreuztabelle
Pivot table	Statistics	http://en.wiki.ximes.com/index.php?title=Pivot_table
Min/Max ermitteln	Allgemeine Mathematik	http://wiki.ximes.com/index.php?title=TIS:Min/Max_ermitteln
Calculate Min/Max	Math	-
Normierung nach Datum bzw. Tagen	Allgemeine Mathematik	http://wiki.ximes.com/index.php?title=TIS:Normierung_(Datum)
Normalizing(date)	Math	-

Operator Name (German/English)	Operator Class (German/English)	Wiki Link (German/English)
Normierung nach Tageszeit	Allgemeine Mathematik	http://wiki.ximes.com/index.php?title=TIS:Normierung_(Tageszeit)
Normalizing(time of day)	Math	-
Null-Werte ersetzen	Datentabelle erzeugen/bearbeiten	http://wiki.ximes.com/index.php?title=TIS:Null-Werte_ersetzen
Replacing null values	Data conversion	-
Pivot Wertefolge pro Id (Sparklines)	Auswahl und Anordnung von Daten	http://wiki.ximes.com/index.php?title=TIS:Pivot_Wertefolge_pro_Id_(Sparklines)
Pivot operator for several data columns	Data Selection	-
Pivottabelle erstellen	Auswahl und Anordnung von Daten	http://wiki.ximes.com/index.php?title=TIS:Pivottabelle_erstellen
Create Pivot Table V2	Data Selection	-
Pivottabelle auflösen	Auswahl und Anordnung von Daten	http://wiki.ximes.com/index.php?title=TIS:Pivottabelle_aufl%C3%B6sen
Dissolve pivot table	Data Selection	-
Pivottabelle Uhrzeit x Wochentage	Statistik	http://wiki.ximes.com/index.php?title=TIS:Pivottabelle_Uhrzeit_x_Wochentage
Pivot table time x weekdays	Statistics	http://en.wiki.ximes.com/index.php?title=Pivot_table_time_x_weekdays
QMETRIX Festlegung Lining	Sonstige	http://wiki.ximes.com/index.php?title=TIS:QMETRIX_Festlegung_Lining
QMETRIX Definition Lining 1.0	Other	-
QMETRIX Visualisierung Lining	Sonstige	http://wiki.ximes.com/index.php?title=TIS:QMETRIX_Visualisierung_Lining
No English operator	Other	-
QMETRIX Wartezeitberechnung	Sonstige	http://wiki.ximes.com/index.php?title=TIS:QMETRIX_Wartezeitberechnung
QMETRIX Waiting Time Calculation	Other	-
Rastern	Datum & Zeit – Berechnungen	http://wiki.ximes.com/index.php?title=TIS:Rastern

Operator Name (German/English)	Operator Class (German/English)	Wiki Link (German/English)
Scaling	Date & Time	http://en.wiki.ximes.com/index.php?title=Scaling
Regressionsanalyse	Statistik	http://wiki.ximes.com/index.php?title=TIS:Regressionsanalyse
Regression analysis	Statistics	-
Regressionsanalyse 6.0	Statistik	-
Regression analysis 6.0	Statistics	http://en.wiki.ximes.com/index.php?title=Regression_analysis_6.0
Saisonale ARIMA Analyse = SARIMA	Statistik	http://wiki.ximes.com/index.php?title=TIS:SARIMA
Seasonal SARIMA analysis	Statistics	-
Spalten formatieren	Sonstiges	http://wiki.ximes.com/index.php?title=TIS:Spalten_formatieren
Format columns	Other	-
Spalten mischen	Sonstiges	http://wiki.ximes.com/index.php?title=TIS:Spalten_mischen
Mix columns	Other	-
Spalten löschen	Datentabelle erzeugen/bearbeiten	http://wiki.ximes.com/index.php?title=TIS:Spalten_l%C3%B6schen
Delete columns	Data conversion	-
Spalten splitten	Auswahl und Anordnung von Daten	http://wiki.ximes.com/index.php?title=TIS:Spalten_splitten
Split columns	Data Selection	-
Spalten umbenen-nen, sortieren, lö-schen	Datentabelle erzeugen/bearbeiten	http://wiki.ximes.com/index.php?title=TIS:Spalten_umbenennen,_sortieren,_l%C3%B6schen
Rename, reorder and delete columns	Data conversion	http://en.wiki.ximes.com/index.php?title=Rename%2C_reorder_and_delete_columns
Spalten zusam-menfassen	Datentabelle erzeugen/bearbeiten	http://wiki.ximes.com/index.php?title=TIS:Spalten_zusammenfassen
Combine columns	Data conversion	-
Spalteninhalt verket-ten	Datentabelle erzeugen/bearbeiten	http://wiki.ximes.com/index.php?title=TIS:Spalteninhalt_verketten

Operator Name (German/English)	Operator Class (German/English)	Wiki Link (German/English)
Thread column values	Data conversion	-
Statistische Auswertungen	Statistik	http://wiki.ximes.com/index.php?title=TIS:Statistische_Auswertungen
Statistical evaluations	Statistics	-
Summieren und Zählen	Datum & Zeit – Berechnungen	http://wiki.ximes.com/index.php?title=TIS:Summieren_und_Z%C3%A4hlen
Sum and count	Date & Time	http://en.wiki.ximes.com/index.php?title=Sum_and_count
Tabelle bearbeiten	Datentabelle erzeugen/bearbeiten	http://wiki.ximes.com/index.php?title=TIS:Tabelle_bearbeiten
Edit table	Data conversion	-
Tabelle erzeugen	Datentabelle erzeugen und Werte eingeben	http://wiki.ximes.com/index.php?title=TIS:Tabelle_erzeugen
Create table	Edit new data	-
Tabelle aus Persistenz laden	Importoperatoren	http://wiki.ximes.com/index.php?title=TIS:Tabelle_aus_Persistenz_laden
Save table	Importoperation	-
Tabelle in Persistenz speichern	Exportoperatoren	http://wiki.ximes.com/index.php?title=TIS:Tabelle_in_Persistenz_speichern
Read table	Exportoperation	-
Textmuster analysieren	Statistik	http://wiki.ximes.com/index.php?title=TIS:Textmuster_analysieren
Analyze text pattern	Statistics	-
Text verschlüsseln	Sonstige	http://wiki.ximes.com/index.php?title=TIS:Text_verschl%C3%BCsseln
Encrypt text	Other	-
Umwandlung Datum/Uhrzeit	Datentabelle erzeugen/bearbeiten	http://wiki.ximes.com/index.php?title=TIS:Umwandlung_Datum/Uhrzeit
Convert "Date-Time"	Data conversion	-
Umwandlung Datum/Von-Uhrzeit/Bis-Uhrzeit	Datentabelle erzeugen/bearbeiten	http://wiki.ximes.com/index.php?title=TIS:Umwandlung_Datum/Von-Uhrzeit/Bis-Uhrzeit

Operator Name (German/English)	Operator Class (German/English)	Wiki Link (German/English)
Convert "From-Date/From-Time/To-Time"	Data conversion	http://en.wiki.ximes.com/index.php?title=Convert_%22From-Date/From-Time/To-Time%22
Umwandlung "String -> Datum"	Datentabelle erzeugen/bearbeiten	http://wiki.ximes.com/index.php?title=TIS:Umwandlung_%22String_in_Datum%22
Convert "String -> Date"	Data conversion	-
Umwandlung "String -> Double"	Datentabelle erzeugen/bearbeiten	http://wiki.ximes.com/index.php?title=TIS:Umwandlung_%22String_in_Double%22
Convert "String -> Double"	Data conversion	-
Verknüpfen mit Kalender	Datum & Zeit - Berechnungen	http://wiki.ximes.com/index.php?title=TIS:Verkn%C3%BCpfen_mit_Kalender
Link to calendar	Date & Time	http://en.wiki.ximes.com/index.php?title=Link_to_calendar
Verknüpfen mit Wertetabelle	Datentabelle erzeugen/bearbeiten	http://wiki.ximes.com/index.php?title=TIS:Verkn%C3%BCpfen_mit_Wertetabelle
Link with value table	Data conversion	-
Werte schneiden	Allgemeine Mathematik	http://wiki.ximes.com/index.php?title=TIS:Werte_schneiden
Cutting values	Math	http://en.wiki.ximes.com/index.php?title=Cutting_values
Zahlenreihe transformieren	Sonstiges	http://wiki.ximes.com/index.php?title=TIS:Zahlenreihe_transformieren
Transform number rows	Other	-
Zeilen löschen	Datentabelle erzeugen/bearbeiten	http://wiki.ximes.com/index.php?title=TIS:Zeilen_l%C3%B6schen
Delete rows	Data conversion	-
Zeitbereichsfilter	Datum & Zeit - Berechnungen	http://wiki.ximes.com/index.php?title=TIS:Zeitbereichsfilter
Time interval filter	Date & Time	-
Zeilen sortieren	Auswahl und Anordnung von Daten	http://wiki.ximes.com/index.php?title=TIS:Zeilen_sortieren
Sort Rows	Data Selection	-
Zeit gruppieren	Datum & Zeit - Berechnungen	http://wiki.ximes.com/index.php?title=TIS:Zeit_gruppieren

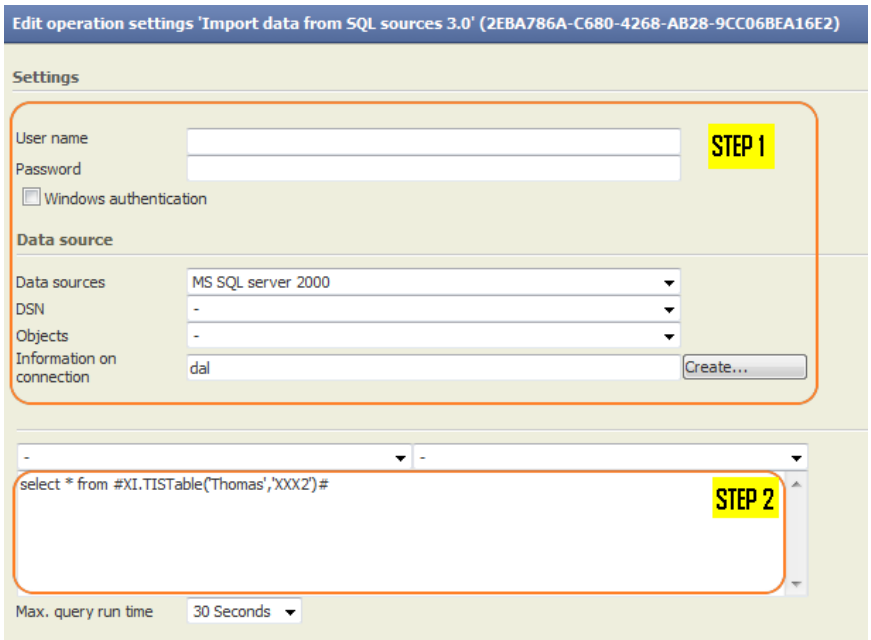
Operator Name (German/English)	Operator Class (German/English)	Wiki Link (German/English)
Group time	Date & Time	-
Zeitintervall innerhalb einer Zeile	Datum & Zeit - Berechnungen	http://wiki.ximes.com/index.php?title=TIS:Zeitintervall_innerhalb_einer_Zeile
Length operator	Date & Time	-
Zeitintervall zwischen Zeilen	Datum & Zeit - Berechnungen	http://wiki.ximes.com/index.php?title=TIS:Zeitintervall_zwischen_Zeilen
Time interval between rows	Date & Time	-
Zeitrasterkonvertierung	Datum & Zeit - Berechnungen	http://wiki.ximes.com/index.php?title=TIS:Zeitrasterkonvertierung
Time raster conversion	Date & Time	-
Zeitverschiebung	Datum & Zeit - Berechnungen	http://wiki.ximes.com/index.php?title=TIS:Zeitverschiebung
Time shift operator	Date & Time	-

B.3.2. Import Data from SQL Operator

Version 01	Works with the keyword dal.
Version 03	Understand different keywords – e.g. for the use of parameters.

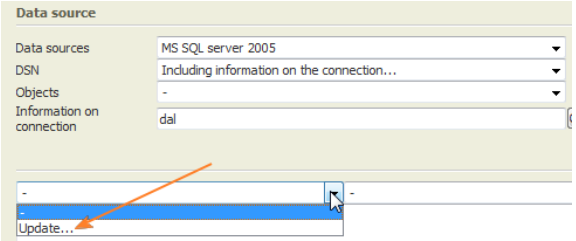
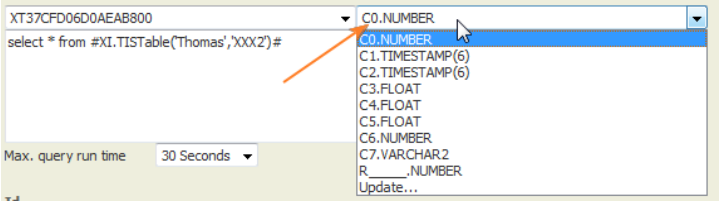
Overview

Aim	An SQL Query allows importing data from a data base of your choice (e.g. Access) or files (Excel, Text, CSV) available for the server.

Screenshot and main steps STEP 1 - How to access data-base tables STEP 2 - How to select data from such a table?	 • STEP 1: Make sure you can access the data which often makes it necessary to provide a password … • STEP 2: Define the SQL-Query that specifies what data to provide in the [TIS]Editor result data-node
Critical aspects	• This feature gives access to all the data within the schema. The corresponding passwords should be handled properly. • Please check whether external access to the website is possible. This operator could be an door for hackers, trying to access the data in the database • Queries can cause substantial load for the database. Please check whether it is acceptable, that potentially inefficient queries are sent to the database or involve an expert.
Further aspects	• Since this is an import operation, it can only be applied to empty data nodes. • The TIS-Server must be connected to the source via the operating system (e.g. via shared directories). If the data source is a file (e.g. Excel, Access,...) the user connected to the webserver must be able to access the file or have the necessary rights. • MS-SQL and Oracle differ in their SQL please consider the different SQL-keywords (especially when moving from one Server to another. • You can use Parameters and access TIS-Tables directly – see the [TIS]Board-Manual for a detailed description.

Step 1: How to access data-base tables?

The easy way	If you want to connect to a TIS-Table or a table within the schema [TIS]Editor runs within – which is the most probable case – then it is enough to select the field data source and enter `dal` as information on connection.
Enter username and password	Username and password for the connection to the data source. These fields have to be filled in only if the data source requires authentication with username and password (e.g. databases typically do but files typically don't). If you use Windows authentication then user connected to the WEB-Server is used for authentication (not the account on the client PC where session runs).

Select the Data Source	Choose from the different connection methods • MS-SQL-Server 2000 • MS-SQL-Server 2005 • Oracle (as of version 9i or higher) • ODBC-data source... "e.g. Access, Excel, txt, or CSV files
OPTIONAL fetch additional information	• DSN: Displays data sources available for the method chosen (data bases, ODBC-sources, etc.) • OBJECTS: Displays objects available for the method chosen (data bases, etc.)
Define the Connection String (if entering `dal` is not sufficient)	NOTE: This is the only relevant information for the establishment of the connection. The string for connection must comply with the conventions for connection strings. The button Create … combines a valid connection string on the basis of the information User, Password, Data source, etc… Excellent information on <b>Composition of Connection information can be found on the following website http://www.connectionstrings.com/ An example to access an MS-access table in a file called ODBC.mdb `driver={Microsoft Access Drive(*.mdb)};Dbq=C:\Inetpub\wwwroot\TIS2005\IMPORTEXPORTPROJECT\ODBC.mdb` Many different databases can be accessed.E.g. • MySQL • Filemaker • MSProject • MSEXchange • Active Directory • Lotus Notes
Check Table names and Column Name	As soon as the connection string is defined, on can update the list of tables that can be accessed:  In the next steps one can also see the column-names and types 

Step 2: How to select data from such a table?

Background	The SQL queries are sent directly to the data base and (provided you have the necessary rights) and applied. 'All SQL-language elements which are supported by the selected data source are allowed. E.g. `select * from your_tablename`
Define the max. query time	Define, when the operator shall stop the query (if not successfully completed). This avoids erroneous queries paralysing the server.

Notes including how to use Parameters in Tablename and where- statements	You can use Parameters and access TIS-Tables directly – see the [TIS]Board-Manual for a detailed description.
	
	• E.g. accesing TIS-Tables directly -
	`select * from #XI.TISTable('your folder name','your table name')#`
	• Or via Parameter
	`select * from #XI.TISTable(#XI.TISPar('parCPath')#,#XI.TISPar('parCName')#)# where C1 >= trunc(current_date) order by C1`
	
	`Select * from #XI.TISTable('Demand\All Cargo', 'my Tablename')#`
	
	• E.g. using Parameters
	`select projectid, projectname from project where projectid=#XI.TISPar('Parameter_ID')#`

Getting database independent datetime	Please consider `#XI.SysDate()#` to get the current Date&Time as it is independent from the database where your query will run.

Examples where you build up the SQL Statement with parameters usinf TISParSQL	`Select`
	
	`#XI.TISParSQL('STAT_Descr_MasterData_VAR1')# as VAR1, Count(*) as Nr`
	
	`from #XI.TISTable(#XI.TISPar('TAB_Pfad')#,#XI.TISPar('TAB_Stamm')#)#`
	
	`GROUP BY #XI.TISParSQL('STAT_Descr_MasterData_VAR1')#`
	
	`ORDER BY #XI.TISParSQL('STAT_Descr_MasterData_VAR1')#`

Examples for query elements (see also Dealing with different SQL-Keywords from MS-SQL and Oracle)

Good examples can be found at: http://www.w3schools.com/Sql/default.asp	
Find texts	`where column_A like '%1C%'` % is used as wild-Card for strings of any length _ is used as wild_card for letters if one wants to find _ then Txt `LIKE '_1C%' ESCAPE '\'`

Compare dates	`From < to_date('20091201000000', 'YYYYMMDDHH24MISS')`
	
	`From >= to_timestamp('200904010000', 'yyyymmddhh24mi')`

Convert	`TO_NUMBER(C3,'99999', 'NLS_NUMERIC_CHARACTERS = '',.-''')`
	
	`UPPER('aabb')`

Comments within	`/* this is treated as comment */`
Filter for NULL	`Time_Col is not null`
Count	`Count(*)`
Not in 2nd table	`select * from Table_A where Key_col not in (select Key-col from Table_B)`

Group by & order by	`select  Divisionname, Avg(Prio), Count(*) from XY`
	
	`group by Divisionname, IncType`
	
	`order by Divisionname`

Select only different names	`SELECT DISTINCT C0, C1 FROM Table`

Calculate Sums and Mittelwert (avg)	`SELECT Sum(C0) FROM Table`
	
	`SELECT Avg(C0) FROM table`
	
	If AVG doesn't work, type conversion often helps:
	
	`Select cast(avg(C0) as float(53)) FROM table`

Select and count different values	`SELECT C0 as Bereich, C2 as Monat, count(*) as Anzahl` `From Table GROUP BY C0, C2 ORDER BY C0,C2`
Looking for many values	`C1 in ('Einzeldaten', 'Summendaten') AND C2 in ('2010', '2011'` `AND C5 in ('Überzahlung')`
Empty strings	If you need to search for empty strings in a TIS-Table use the following statement: `c0 = '@xiempty@'`

Select data from different tables	`SELECT column_name(s) FROM table1`
	`UNION`
	`SELECT column_name(s) FROM table2`
	
	If duplicated records should be allowed use the keyword ALL:
	
	`SELECT column_name(s) FROM table1`
	`UNION ALL`
	`SELECT column_name(s) FROM table2`

Join Data from two Sources	`SELECT t.title_id, t.title, s.qty`
	`FROM titles AS t, sales AS s`
	`WHERE t.title_id *= s.title_id`
	
	From the table "titles AS" the columns title_id and title are selected. From table "sales AS" the column "qty" is selected, where the columns "title" in both tables match.

Different SQL-Keywords from MS-SQL and Oracle

Some examples are provided here. A longer list can be found at: http://dba-oracle.com/oracle_news/2005_12_16_sql_syntax_differences.htm

Area	Oracle	MS-SQL
Get the current Date & Time	lease use instead the following command which is provided by the [TIS] `#XI.SysDate()#`	Please use instead the following command which is provided by the [TIS] `#XI.SysDate()#`

Convert	`TO_NUMBER(C3,'99999', 'NLS_NUMERIC_CHARACTERS = '',.-''')`
	
	`TO_CHAR(DATE_VAL, 'YYYY/MM/DD')`
		`Col1 = convert(float, Col1)`
		
		`cast (INCCLOCK as date)`

Select first records	`SELECT * FROM data` `WHERE ROWNUM <= 100`	`SELECT * FROM data TOP 100`
Get substring from string	`SUBSTR`	`SUBSTRING`

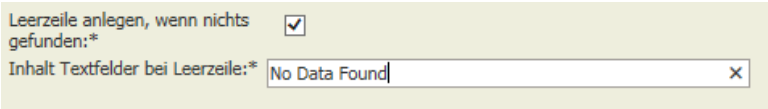
Compare Dates	`From < to_date('20091201000000', 'YYYYMMDDHH24MISS')`
	
	`From >= to_timestamp('200904010000', 'yyyymmddhh24mi')`
	
	`TO_CHAR(DATE_VAL, 'YYYY/MM/DD')`
	
	`c0 >= #XI.TISPar('parFrom')#`
		`C0 >= convert(datetime, '#XI.TISParSQL('DATA_SPY Von')#',104) *)`
		
		*) 104 is the code for data format

Additional information

Task	Steps	Notes

How to understand the structure of a database	Integrated Security=False;User ID=NAME;Password=xxxxxxxxxxxx
	
	ORACLE:
	
	`select table_name, column_name, DATA_TYPE, DATA_LENGTH, DATA_PRECISION, DATA_SCALE, column_id from user_tab_cols`
	
	`order by table_name,column_id`
	
	List all tables and Columns of a database	

Avoid Empty Tables

Task	Steps	Notes
Avoiding empty Tables	As of version 5.8 empty tables can be avoided by selecting the option. In case an empty table would be returned a defined warning appears instead of the table.  	

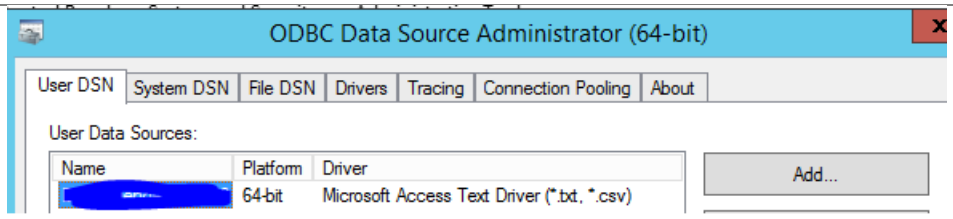
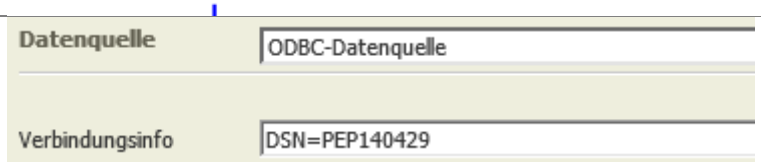
Trouble-Shooting

Error	Background	Solution
Can't find the data	Somewhere in the chain access is not given	Steps: 1. Test the TCP/IP Connection to the server 2. Check whether the database is visible to the database server (e.g. for oracle check the OracleNet settings) 3. Check User-Dsn & System DSN 4. Check whether the server process (e.g. IIS_WPG) has the right to read, RXL (Read, Execute und List)</ … in the Orcale-Client folder: C:\Oracle\ … her are the drivers. 5. Reset the IIS-Server if updates do not get through (but make sure not to interrupt other persons work)
Error-Message Import: `Sorry, currently import from TIS File System is not possible!`	The data-source is used by another process and cannot be accessed.	Wait until the other process releases the data-set or file or consider a redesign.
Connection String does not work	Some ODBC-Drive to not work with blanks in the filename.	Write the name in squared brackets [ODBC with blanks.mdb].
	File-names …	Some drivers prefer ' instead of " to delimit texts
	Access problems	Check whether the Web-Server has access rights to the file you want to read (might have been lost when copying).
Import does not work	The datatype is not correct. E.g. the database provides numeric data but TIS expects it to either floating point or integer, or database export Date but TIS expects DateTime.	Use a convert command in the SQL string – see Dealing with different SQL-Keywords from MS-SQL and Oracle.

Connection string does not work anymore	It could be caused by a change of the server from 32bit to 64bit and no update of ODBC-drivers.	Talk with your system administrator for updates of corresponding ODBC-drivers.
Cannot find file I uploaded to the TIS-data management	Import SQL cannot access these files	Put the files on the server.
Sum or Average does not work	Sometimes the database as difficulties with large values	Transformation helps `cast(avg(C40) as float(53)) as Hour`
Maximum Query Run Time was exceeded	Although a maximum runtime was set for the query, the query need more time.	Not all SQL provider support the maximum runtime feature.

B.3.3. Import Data from ODBC Sources

Getting Started	• The necessary drivers have to be installed (e.g. Text Driver)
	• A dataset name (DSN) has to be defined that is then used in the import
	  ○ The name should without blanks.
	  ○ File must be reached from TIS server.
	  ○ If several files have the same structure then it is enough to define one
	  ○ It is much faster to import characters than floating numbers or integers (convert later!)

	
Example for Import Definition	
Example for Creating a Statement	Select top 100 Firma, Beruf from PEP_Dateiname.txt Note: blanks in filenames may cause difficulties
File Format for Text Files	ODBC works with out problems, if the file has a UTF-8 format and has no real UTF 8 symbols. If there are real UTF 8 symbols, the file needs to be saved as ANSI format.

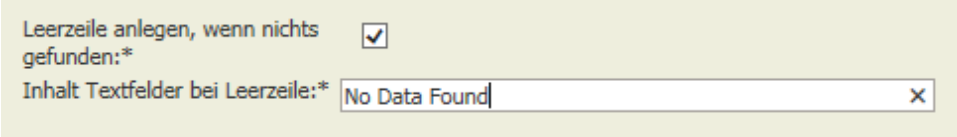
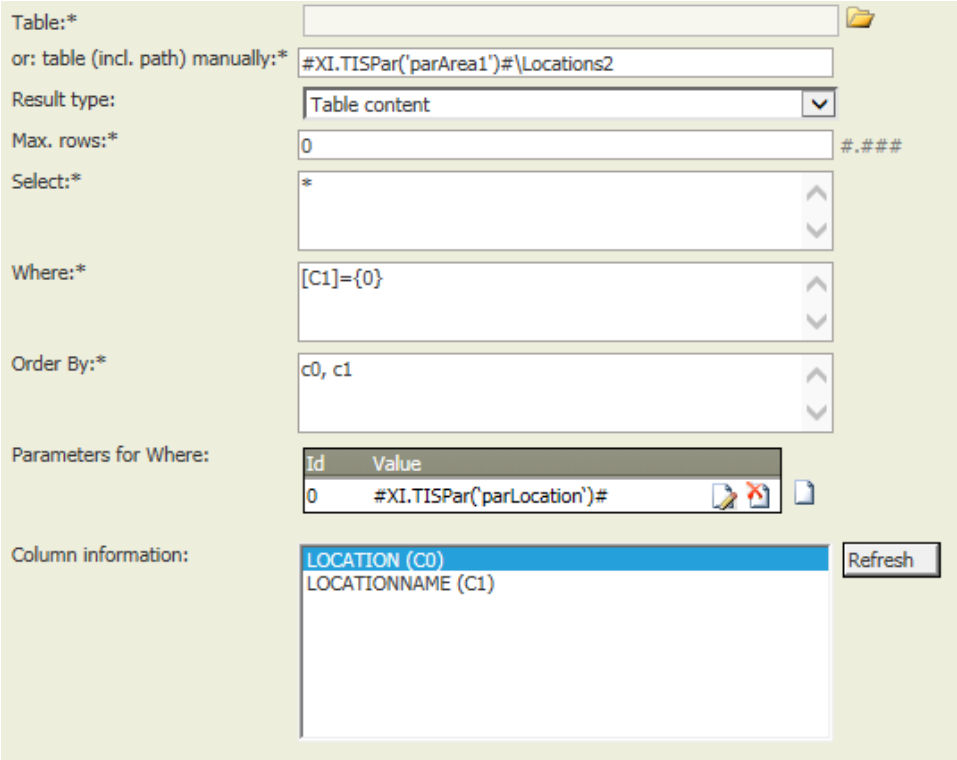
B.3.4. Import Text or csv Files

Getting Started	Basic information on the operation can be found in wiki.ximes.com
Import via Parameters	As of version 5.8 import files can be defined via Parameters. Pfad (manuell): `#XI.TISPar('parFolder')#\#XI.TISPar('parFile')#`

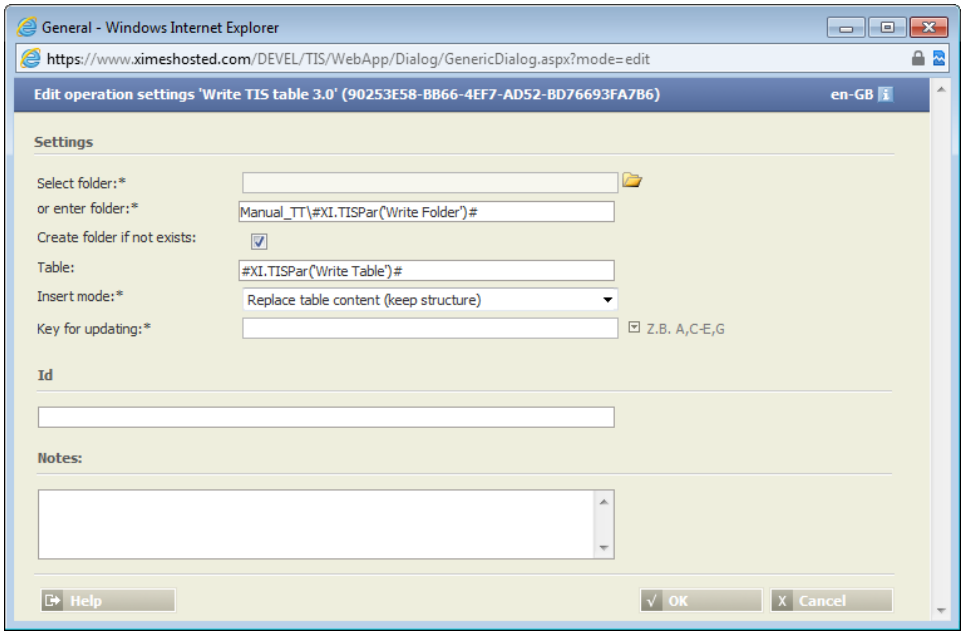
Definition Error Node	As of version 5.8 a specific error node needs to be defined. That gives the possibility that error nodes can be displayed in [TIS]Board. Define an empty data node and choose the node as data node in the import operation. Fehlerausgabe in Knoten:* a99 Error Node

B.3.5. Read TIS Table

Getting Started	This operator allows reading a TIS table from user defined folders or with user defined table names. The definition of the folder and the table name are defined via a parameter and eventually with in the [TIS]Board.
Define a parameter for your folder and/or your table name.	Go to General Parameter for Operations and create parameters with Data Type "Text". Define a value for each parameter. Add Parameter Clear Edit Delete Unique name / Caption / Description / Data Type / Current Value Read Table / Define Table for Reading / Text / Table_B Read Folder / Define Folder for Reading / Text / Folder_A
Read TIS table 3.0	The input `Manual_TT\#XI.TISPar('Read Folder')#` reads the TIS Table from a subfolder of the folder "Manual_TT" with the name which was defined in the parameters. The table name can also be a simple name or a parameter definition – like in the example: `#XI.TISPar('Read Table')#` General - Windows Internet Explorer https://www.ximeshosted.com/DEVEL/TIS/WebApp/Dialog/GenericDialog.aspx?mode=edit Edit operation settings 'Read TIS table 3.0' (6213B5DB-F4BC-47C2-8825-24296AF587D2) en-GB Settings Table:* or: table (incl. path):* Manual_TT\#XI.TISPar('Read Folder')#\#XI.TISPar('Read Tab Select:* * Where:* [C0]={0} Order By:* Parameter for Where: Id Value Column info: Refresh Help OK Cancel

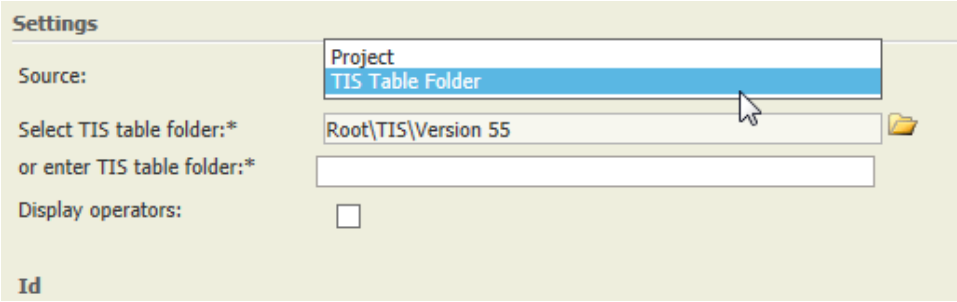
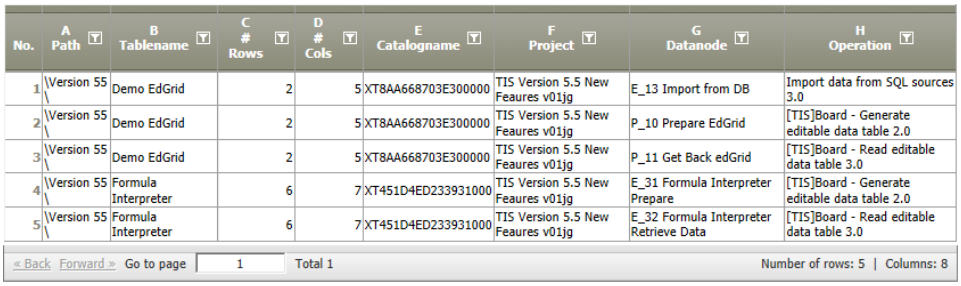
Options	Like importing data from SQL you can choose which data should be read from the TIS table: Select: Choose only the columns you need with the respective column number C0, C1 … Where: Define which data in a column should be imported only. Define for each necessary column an ID number starting with 0. Then define in the field "Parameter for Where" the values for each ID. Order by: The sorting of imported data can be user defined. For that the column numbers can be typed into the field "Order by". If more than one column is applied, use comma as separator. By standard data is sorted ascending. If your data should be sorted descending, type "desc" after der column number.
Avoiding empty Tables	As of version 5.8 empty tables can be avoided by selecting the option. In case an empty table would be returned a defined warning appears instead of the table. 
Using Parameters for 'Where'	As of version 5.8 parameters can be used to define the 'where' in Read TIS Tables.  This filters all data with the value of the parameter in column c1.

B.3.6. Write TIS Table

Getting Started	This operator allows writing a TIS table into a defined folder within the TIS-Table structure with a defined table name. Both definitions are optional, so that also either the folder name or the table name only can be defined. The definition of the folder and the table name are defined via a parameter and eventually with in the [TIS]Board.
Define a parameter for your folder and/or your table name.	Go to General Parameter for Operations and create parameters with data type "Text". Define a value for each parameter.
Select or create a table which you want to write as a TIS table and choose the operation "Write TIS Table 3.0".	Choose here a predefined location within the TIS table structure or enter a folder manually. It can be a simple input of a name, the input for a parameter defined folder or a combination out of the two – like in the example. The input `Manual_TT\#XI.TISPar('Write Folder')#` writes the TIS Table into a subfolder to the folder "Manual_TT" with the name which was defined in the parameters. The checkbox below allows to create new folders. If not checked, TIS tables are only written into existing folders. The table name can also be a simple name or a parameter definition – like in the example: `#XI.TISPar('Write Table')#` 
Updating existing records	When you want to update an existing TIS Table, use one or more keys for the table. All existing data sets with a matching key will be updated.

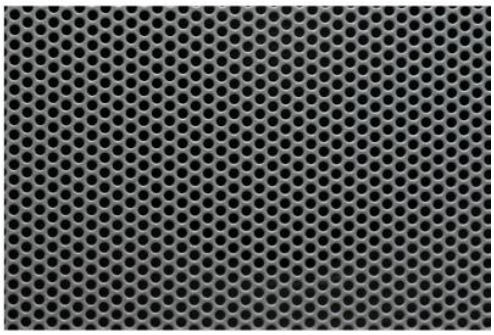
B.3.7. Read TIS Table Information

Idea	For several tasks it might be helpful to get the information which TIS Tables belong to a certain project or can be found in a certain folder.
Getting started	Start with an empty data node an add the operation "Read TIS table information".

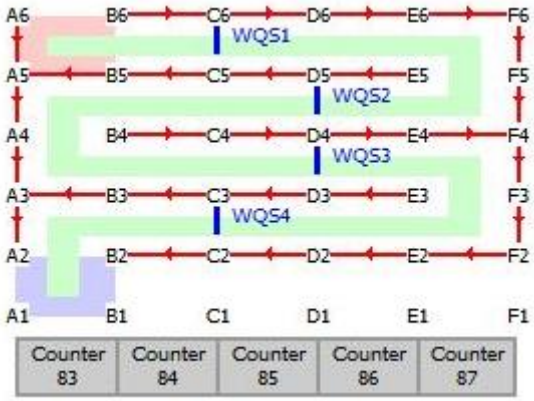
Settings	 Choose if you want to get the information about existing TIS Tables from the current project or from a specified folder. Optional the operators can be displayed instead of the TIS tables.
Result	 « Back Forward » Go to page 1 Total 1 Number of rows: 5 | Columns: 8

No.	A Path	B Tablename	C # Rows	D # Cols	E Catalogname	F Project	G Datanode	H Operation
1	\Version 55 \	Demo EdGrid	2	5	XT8AA668703E300000	TIS Version 5.5 New Feaures v01jg	E_13 Import from DB	Import data from SQL sources 3.0
2	\Version 55 \	Demo EdGrid	2	5	XT8AA668703E300000	TIS Version 5.5 New Feaures v01jg	P_10 Prepare EdGrid	[TIS]Board - Generate editable data table 2.0
3	\Version 55 \	Demo EdGrid	2	5	XT8AA668703E300000	TIS Version 5.5 New Feaures v01jg	P_11 Get Back edGrid	[TIS]Board - Read editable data table 3.0
4	\Version 55 \	Formula Interpreter	6	7	XT451D4ED233931000	TIS Version 5.5 New Feaures v01jg	E_31 Formula Interpreter Prepare	[TIS]Board - Generate editable data table 2.0
5	\Version 55 \	Formula Interpreter	6	7	XT451D4ED233931000	TIS Version 5.5 New Feaures v01jg	E_32 Formula Interpreter Retrieve Data	[TIS]Board - Read editable data table 3.0

B.3.8. Scaling Operator

Aim	Helps to calculate values for intervals by transforming potentially unscaled interval (e.g. 08:22 – 17:34) into a series of scaled intervals (e., 08:30 – 09:00, 09:00 – 09:30 …)
Introduction	To decide whether such a scaled interval is considered to be a interval caused by the original interval is surprisingly tricky. A nice analogy (by Wolfgang Aigner) is a mesh and the question whether each hole is filled or not.  This problem can be further refined by two aspects: 1. When do short intervals fill larger holes *E.g. if a customer waits from 8:02 to 8:05 …* *is this to be counted as a waiting customer in the interval 08:00 – 08:30* 2. How many holes of the mesh are filled by a long interval *E.g. how many 30' intervals are covered by the interval 08:17 – 17:14* *is 08:00 to 08:30 and 17:00 – 17:30?* *Are both considered, one …?*

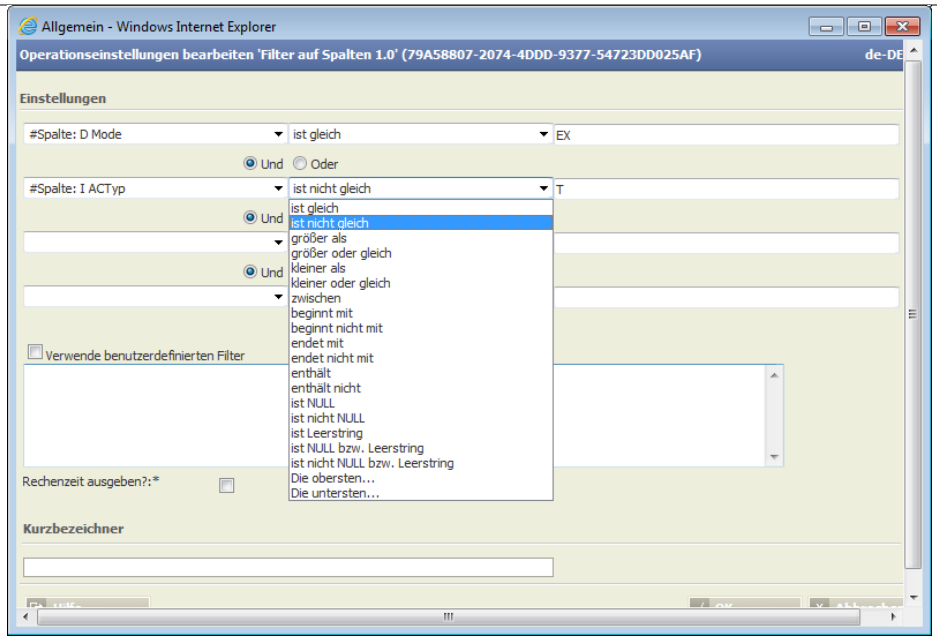
B.3.9. Qmetrix Operators

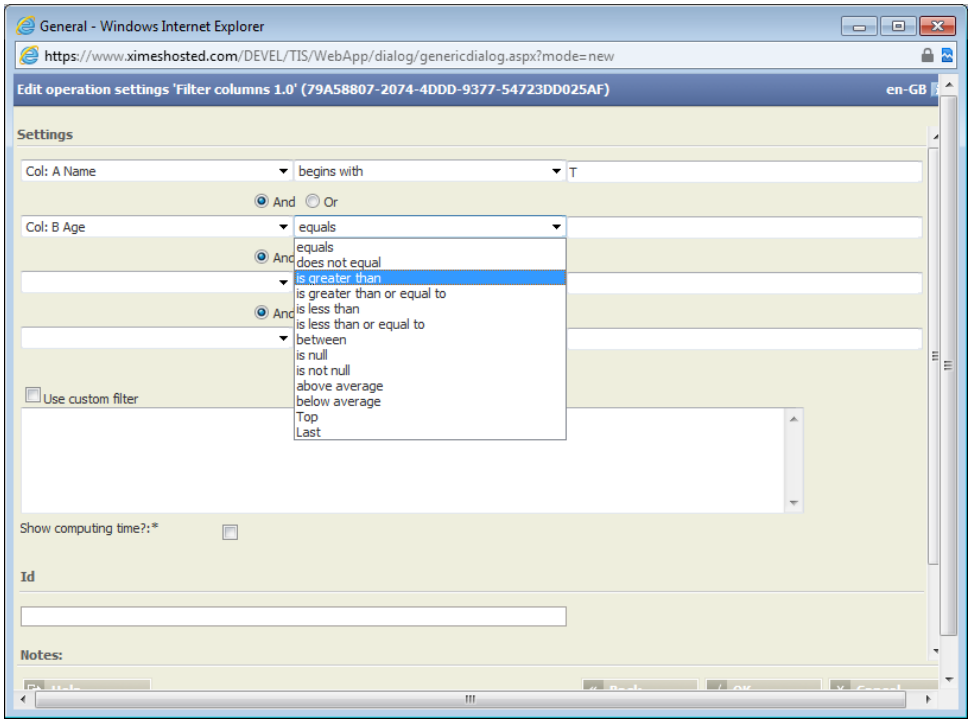
Qmetrix Operators	In [TIS]Editor there are three special operators for Qmetrix: • QMTERIX Visualization Lining • QMETRIX Definition Lining • QMETRIX Waiting time calculation These operators are processing data on Qmetrix solutions.
QMTERIX Visualization Lining	This operator draws a picture of a queuing system based on different variables, such as: • Size of the waiting queue system • Position and direction of guidance belts • Position of entrance and exit of the queue • Position and direction of Qmetrix Wireless Queue Sensors • Definition of bypasses and short cuts. • Position of working counters Example: 
QMETRIX Definition Lining	This operator defines the parameter of a waiting queue and neighbourhood relations of the Qmetrix Wireless Queue Sensors (WQS).
QMETRIX Waiting time calculation	This operator calculates waiting time in a queue to a certain time with given premises: • Passenger access rate • Queue length • Service rate

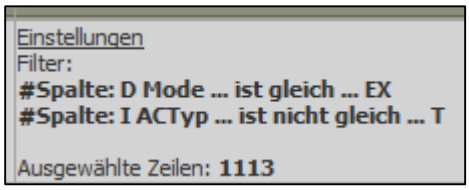
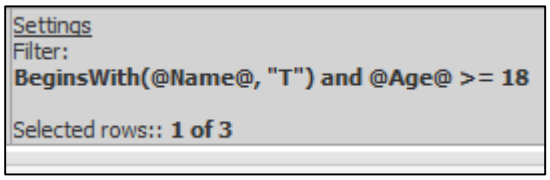
B.3.10. Filter on Columns

Simple Filters

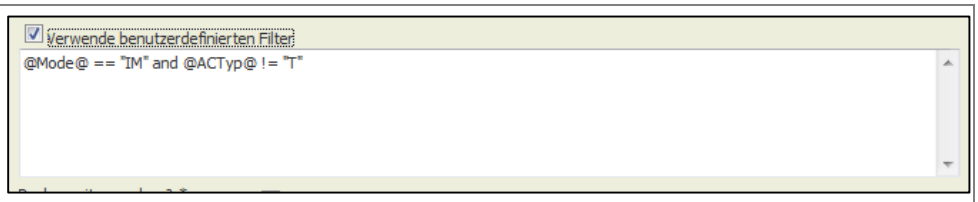
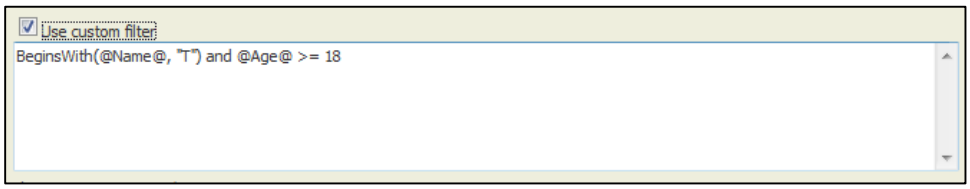
1. Choose the column with the criterion to filter.
2. Choose the filter condition.
3. If necessary, define the value for filtering
4. If choosing more than one, define whether the conditions are regarded separately or together (AND/OR).





In the operations view you can see now the defined filters and number of chosen lines.	 

User Defined Filters

Filters can also be created manually. 1. Activate the checkbox for using the user defined filter. 2. Type in the filter statement.	 

Filter Statement	• Define the columns always with encircling "`@`"
	• Use definitions such as
	  o `==, !=`
	  o `<, >`
	  o `<=, >=x`
	  o `BeginsWith(@...@, "x"), NotBeginsWith(@...@, "x")`
	  o `EndsWith(@...@, "x"), NotEndsWith(@...@, "x")`
	  o `Contains(@...@,"x"), NotContains(@...@,"x")`
	  o `IsNull(@...@), NotIsNull(@...@)`
	  o `IsEmpty(@...@)`
	  o `IsNullOrEmpty(@...@), NotIsNullOrEmpty(@...@)`
	  o `Top(@...@, 10), Bottom(@...@, 5)` – Example delivers the Top 10 or Bottom 5 values
	  o `AboveAverage(@...@), BelowAverage(@...@)`
	  o `OneOf(@POSITION@, 8.0, 3, #XI.TISPar("F1")#,4)` – Here in column "Position" the comma separated values are being chosen.
	
	• For several conditions use "`and`" and "`or`".

Parameter Controlled Filter Conditions

For filtering tables via [TIS]Board and parameters, define filter parameters.	Parameter aktualisieren / Zurücksetzen / Editieren / Löschen Name (eindeutig) / Überschrift / Beschreibung / Datentyp / Aktueller Wert Abgrenzung Tag 6... / Abgrenzung Tag 6:00-6:0... / Ja/Nein-Wert / Nein Betrachtungszeitr... / Ende Betrachtungszeitraum / Datum/Zeit / 01.03.2012 00:00 Betrachtungszeitr... / Beginn Betrachtungszeitr... / Datum/Zeit / 01.02.2012 00:00 Filter Sonderwoch... / Filtern von Sonderwochen / Ja/Nein-Wert / Ja Planungszeitraum ... / Ende Planungszeitraum / Datum/Zeit / 03.12.2012 00:00 Planungszeitraum ... / Beginn Planungszeitraum / Datum/Zeit / 29.10.2012 00:00 Startdatum SPX-Ex... / Frühestes erlaubtes Datu... / Datum/Zeit / 04.02.2013 00:00 Filter 1 / Text / Wien Add Parameter / Clear / Edit / Delete Unique name / Caption / Description / Data Type / Current Value Filter 1 / Text / Vienna
Now define a statement, which includes the filter	`#XI.TISPar("Filter 1")# == @City@`
Controller portlet	Now make a controller portlet for [TIS]Board, where you can type in the condition for your filter.

Parameter Controlled Filters for Columns

Create a parameter for defining column names	Parameter hinzufügen / Zurücksetzen / Editieren / Löschen Name (eindeutig) / Überschrift / Beschreibung / Datentyp / Aktueller Wert Abgrenzung Tag 6... / Abgrenzung Tag 6:00-6:0... / Ja/Nein-Wert / Nein Betrachtungszeitr... / Ende Betrachtungszeitraum / Datum/Zeit / 01.03.2012 00:00 Betrachtungszeitr... / Beginn Betrachtungszeitr... / Datum/Zeit / 01.02.2012 00:00 Filter 1 / Text / AI Filter Sonderwoch... / Filtern von Sonderwochen / Ja/Nein-Wert / Ja Planungszeitraum ... / Ende Planungszeitraum / Datum/Zeit / 03.12.2012 00:00 Planungszeitraum ... / Beginn Planungszeitraum / Datum/Zeit / 29.10.2012 00:00 Startdatum SPX-Ex... / Frühestes erlaubtes Datu... / Datum/Zeit / 04.02.2013 00:00 Spaltenname / Text / Airline Add Parameter / Clear / Edit / Delete Unique name / Caption / Description / Data Type / Current Value Filter 1 / Text / Vienna Column name / Text / Airline
Now define a statement, which includes the filter	`BeginsWith(#XI.TISPar("Column name")#,"A")`
Controller portlet	Now make a controller portlet for [TIS]Board, where you can type in the column for your filter. Of course you can define several portlets for one filter. So one for the column itself, and another one for the condition.

B.3.11. Optimizer: Sequence Simple

<table>
<tr><td>Getting Started</td><td>This operator allows to find an ideal time interval for a task or shift in a given possible and a given preferred time interval. This could help to find the optimal time interval for breaks or service tasks which are not too time critical.

For this operator you need two data grids:

• One containing the information for the task like preferred from and to, the planned from and to and the duration of the task.
• One grid containing the shift data</td></tr>
<tr><td>Input data</td><td>This is the data containing the task information. This data is provided by the parent data node or by the data node itself.
<table>
<tr><th>Column</th><th>Value</th><th></th><th>Description</th></tr>
<tr><td>Identifier</td><td>Any</td><td>opt.</td><td>Which columns should be analysed as identifier?</td></tr>
<tr><td>Column Planned From</td><td>Date</td><td></td><td>Column containing begin of valid period.</td></tr>
<tr><td>Column Planned To</td><td>Date</td><td></td><td>Column containing the end of valid period.</td></tr>
<tr><td>Column Preferred From</td><td>Date</td><td></td><td>Column containing begin of preferred period.</td></tr>
<tr><td>Column Preferred To</td><td>Date</td><td></td><td>Column containing the end of preferred period.</td></tr>
<tr><td>Column Ratio</td><td>Text</td><td></td><td>This field describes how many tasks one person can do at the same time. The ratio is defined like: 1:1 (one person can do one task) or 1:2 (one person can do two tasks at the same time)</td></tr>
<tr><td>Column Duration</td><td>Integer</td><td></td><td>Duration of the Task or Shift</td></tr>
</table></td></tr>
<tr><td>Parameter with Shift Information</td><td>The first five settings are linked to another data node, which contains information about shift types, such as identifier and shift length (from/to).
<table>
<tr><th>Parameter</th><th>Value</th><th></th><th>Description</th></tr>
<tr><td>Data node containing shifts</td><td></td><td></td><td>Node with Shift Times.</td></tr>
<tr><td>Column(s) Shift Identifier</td><td>Text</td><td>opt.</td><td>Shift Identifier</td></tr>
<tr><td>Column Shift From</td><td>Date</td><td></td><td>Shift Beginning</td></tr>
<tr><td>Column Shift To</td><td>Date</td><td></td><td>Shift End</td></tr>
<tr><td>Column Shift Persons</td><td>Number with decimal places</td><td></td><td>Shift Number of Persons</td></tr>
</table></td></tr>
</table>

Other Parameters	The other parameters contain:

Weight Hours	Number with decimal places		Weight on Hours
Weight Continuous	Number with decimal places		Weight on Continuous
Weight Peak	Number with decimal places		Weight on Peaks
Weight Shift	Number with decimal places		Weight within the shift
Weight Preferred	Number with decimal places		Weight within the shift preferred
Optimization Runs	Integer		Number of optimization runs

Example

In this example from a hospital, patients should be transported from a place to another one. The times are normally given by the beginning or the end of a treatment, but have some flexibility at the end. So the optimizer calculated the ideal time period for these transports.

No.	A Planned From	B Preferred From	C Preferred To	D Planned To	E Transport Time in min	F Res_From	G Res_To
1641	20.01.2012 09:22:00	20.01.2012 09:22:00	20.01.2012 09:30:00	20.01.2012 09:33:00	4	20.01.2012 09:22:00	20.01.2012 09:26:00
1642	20.01.2012 09:26:00	20.01.2012 09:26:00	20.01.2012 09:34:00	20.01.2012 09:37:00	4	20.01.2012 09:29:00	20.01.2012 09:33:00
1643	20.01.2012 09:26:00	20.01.2012 09:26:00	20.01.2012 09:35:00	20.01.2012 09:38:00	4	20.01.2012 09:27:00	20.01.2012 09:32:00
1644	20.01.2012 09:29:00	20.01.2012 09:29:00	20.01.2012 09:40:00	20.01.2012 09:43:00	7	20.01.2012 09:30:00	20.01.2012 09:37:00
1645	20.01.2012 09:40:00	20.01.2012 09:40:00	20.01.2012 09:48:00	20.01.2012 09:51:00	4	20.01.2012 09:42:00	20.01.2012 09:46:00
1646	20.01.2012 09:41:00	20.01.2012 09:41:00	20.01.2012 09:49:00	20.01.2012 09:52:00	4	20.01.2012 09:45:00	20.01.2012 09:49:00
1647	20.01.2012 09:41:00	20.01.2012 09:41:00	20.01.2012 09:52:00	20.01.2012 09:55:00	7	20.01.2012 09:46:00	20.01.2012 09:53:00
1648	20.01.2012 09:43:00	20.01.2012 09:43:00	20.01.2012 09:51:00	20.01.2012 09:54:00	4	20.01.2012 09:47:00	20.01.2012 09:51:00
1649	20.01.2012 09:43:00	20.01.2012 09:43:00	20.01.2012 09:51:00	20.01.2012 09:54:00	4	20.01.2012 09:46:00	20.01.2012 09:50:00
1650	20.01.2012 09:44:00	20.01.2012 09:44:00	20.01.2012 09:52:00	20.01.2012 09:55:00	4	20.01.2012 09:44:00	20.01.2012 09:48:00
1651	20.01.2012 09:46:00	20.01.2012 09:46:00	20.01.2012 09:54:00	20.01.2012 09:57:00	4	20.01.2012 09:52:00	20.01.2012 09:56:00

Attention

Pleases be aware that the Optimizer can only deal with a minimum interval of one minute.

B.3.12. XIH Functions

Main Idea

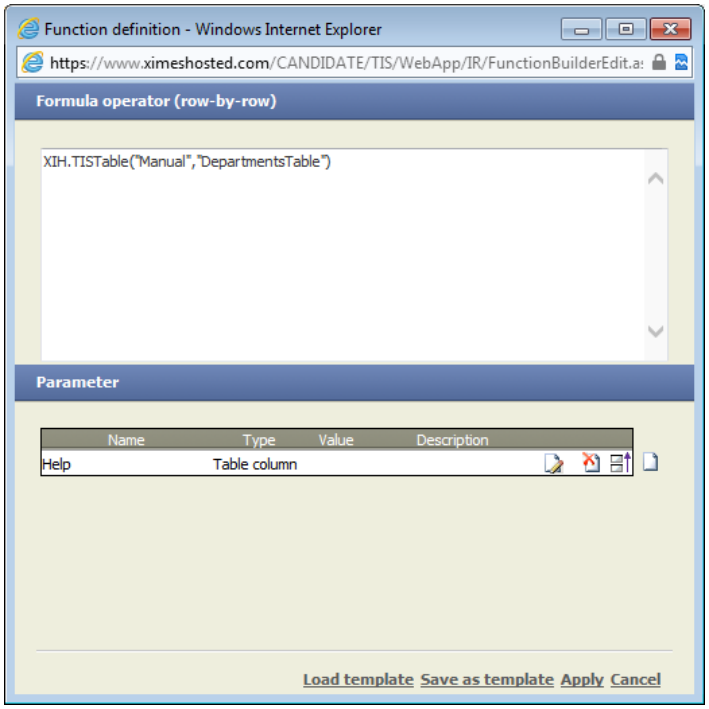
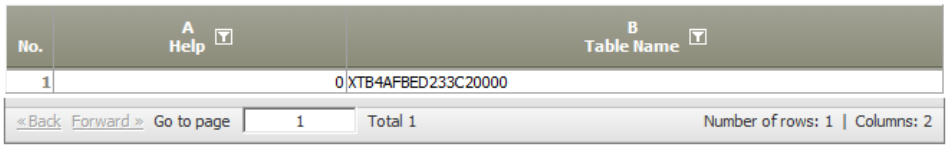
While regular functions in the Formula Operator allow only calculations within the row, XIH functions enable calculations beyond.

These include:

- calculations with other rows
- setting values in other columns of the same or a different row
- setting parameters
- getting information about TIS Tables, the current data node and users

Wiki	Most of the functions can be found in the XIMES Wiki (German): http://wiki.ximes.com/index.php?title=TIS:Formeloperator_(zeilenweise)#tab=Hilfsfunktion_XIH A few other XIH functions are described below.

TIS Table Info

Getting started	The name of TIS tables in the database is normally not the same as in TIS table directory. To get the database name you have to use the XIH function.
Preparation	Create a data node without reference to another node. Add the operation "Create Table" with one column and one row. Header and input for this table are temporary and don't influence the operation itself.
Formula Operator	Add an operation to the node and choose formula operator with an Text as result column type. The input for the TIS table information is: `XIH.TISTable("string TISTablePath", "string TISTableName")` 
Result	
Additional possibilities	You can also get the information for one or more TIS tables by • by using TIS Parameter for the path and/or table names. • or by using the operator "Read TIS Table information" as parent operation

Generating Passwords

Getting started	XIH allows generating random passwords with given parameters, such as length, necessary characters.

Function	`string XIH.Password(int length)`
	`string XIH.Password(int seed, string alphabet, int length)`
	`string XIH.Password(int seed, int length)`
	`string XIH.Password(int seed, string alphabet, int length)`
	
	`length` (int): length of the password
	`alphabet` (string): characters that should be included in the password (eg: `123, abc, ABC, !"§, …`)
	`seed` (int): number that defines which password should be generated

Encryption and Decryption

Getting started	This function encrypts a text string. The result can be decrypted later again.
Function	`string XIH.Encrypt(string text)` `string XIH.Decrypt(string encryptedText)`

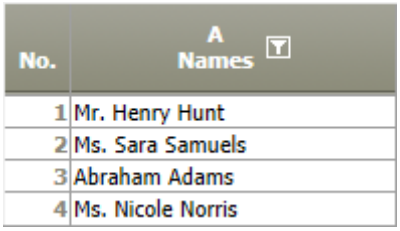
Check Email Address

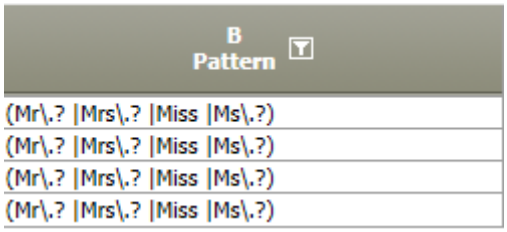
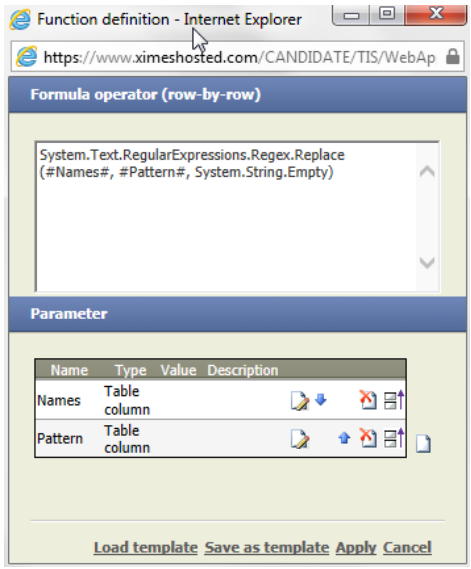
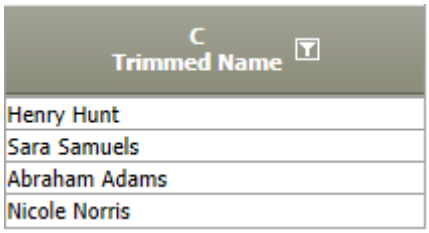
Getting started	This XIH functions checks whether an email address is formally correct.
Function	`bool XIH.IsValidEmail(string emailAddress)`

User Name of Account User

Getting started	If a higher number of users get access to the [TIS]Board Account Users are generated. The normally get activated only if they are logged in to the [TIS]Board. If you need to find out the account user for a calculation this XIH function is essential.
Function	`string XIH.AccountID()`

B.3.13. Regular Expressions

Idea	Regular Expression are a sophisticated way of finding string patterns within strings.
Getting started	Prepare a table with the data where you want to find the patterns. In the example below we have a list of names incl. salutation. We want to remove the salutations. 

Create the Statement that should be found	 This statement looks for all Mr, Mrs, and Ms (each with "." and without) and Miss
Replace the found Strings	
Result	
Help	Additional help on Regular Expression can be found in the internet: http://msdn.microsoft.com/en-us/library/hs600312(v=vs.110).aspx http://msdn.microsoft.com/en-us/library/system.text.regularexpressions.regex(v=vs.110).aspx

B.3.14. Formula Interpreter

Getting started	This operator helps the user with working with huge amount of data. It allows testing a solution and makes calculations and results visible.

Define a table for the formula interpreter.

For the formula interpreter you need a table with the following columns:

- Identifier
- Variable
- Formula
- Value

This table can origin from several other tables which will be merged or from an Editable Grid from the [TIS]Board.

Example:

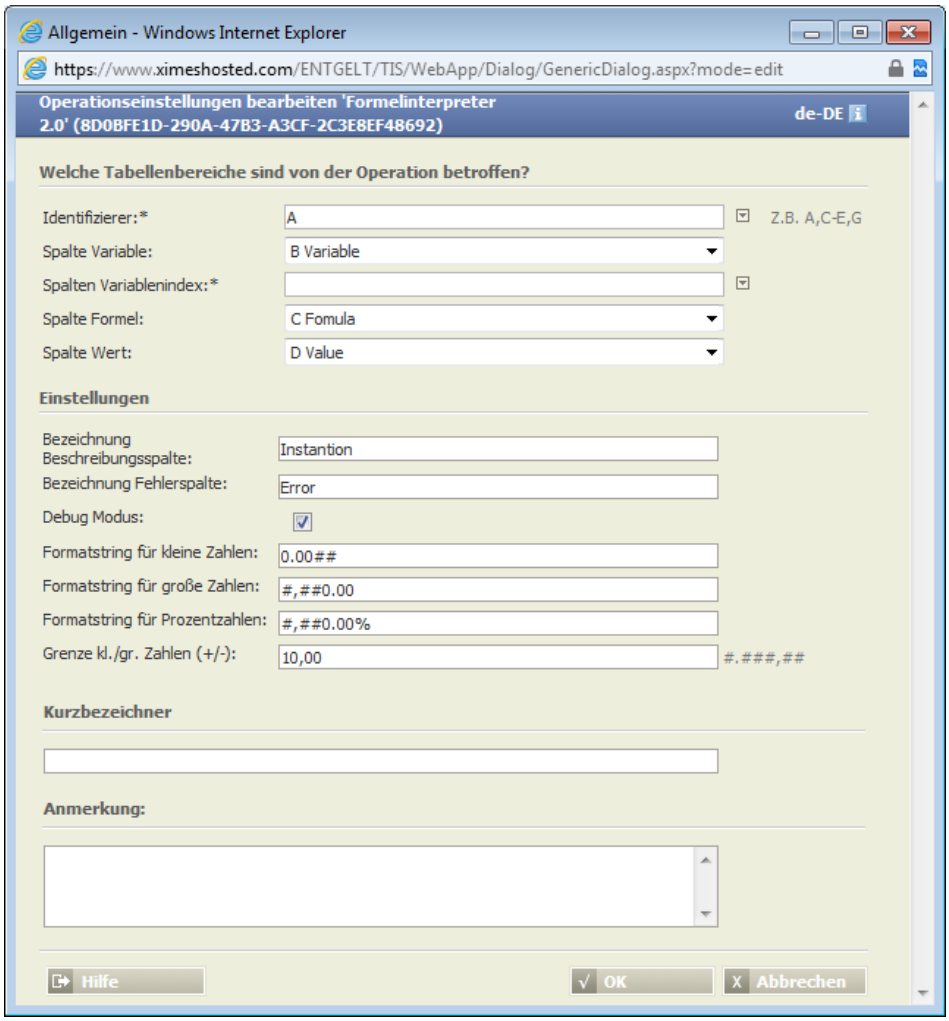
No.	A Group	B Variable	C Fomula	D Value	E Remarks
1	A	Length		3,00	
2	A	Depth		4,00	
3	A	Height		2,00	
4	A	Area	[Length] * [Depth]	0,00	
5	A	Volume1	[Length] * [Depth] * [Height]	0,00	
6	A	Volume2	[Length] * [Depth] * [Height2]	0,00	

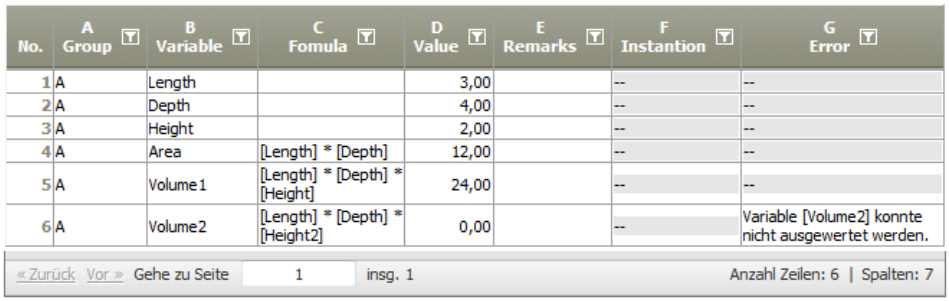
« Zurück Vor » Gehe zu Seite 1 insg. 1 Anzahl Zeilen: 6 | Spalten: 5

Here we have defined three variables (Length, Depth and Height) which should be multiplied (Rows 4, 5 and 6).

Additionally several columns representing indices can be defined.

Insert the operation, choose the suitable columns, define names for the description column and the error column and define the formatting of the number values.



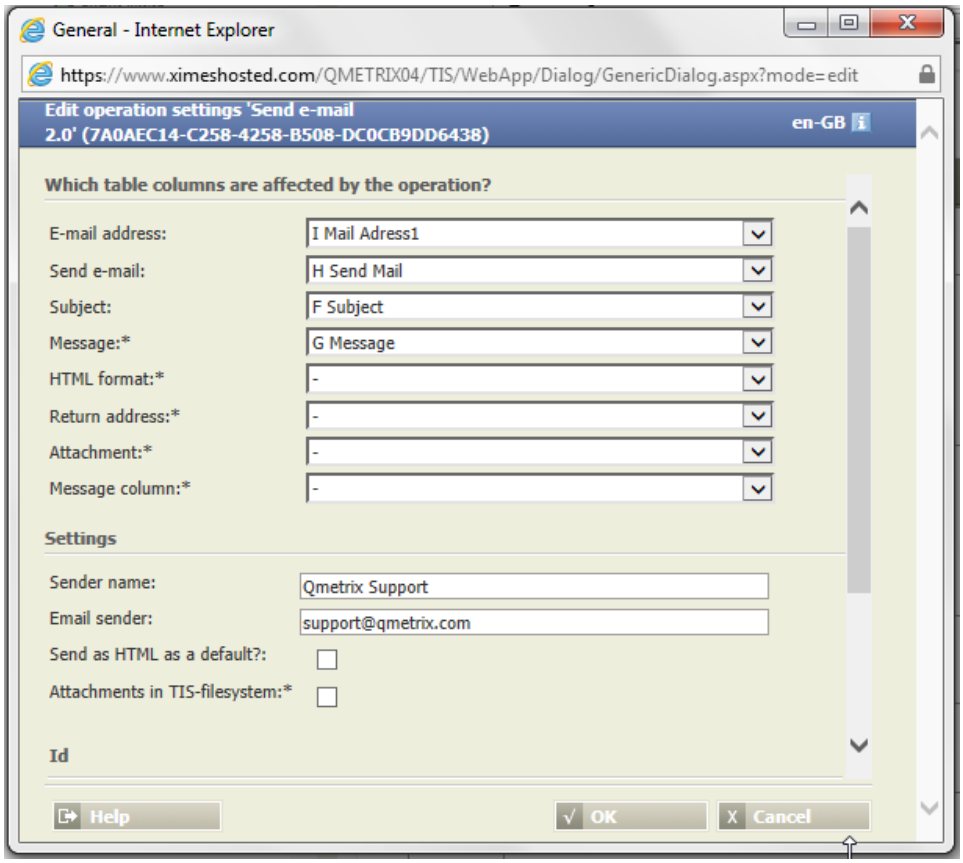
Calculation	As soon as the formula field is defined, the formula interpreter tries to solve the formula and overwrite the value filed. The formula itself can hold the names of one or several variable names and/or numbers. The following formula inputs can be made: • Variables are defined by square brackets: `[variable name]` • if-then formulas are defined like that: `IF ([V1] == [V2], 1, 2)` • AND and OR is defined like in the formula operator: `&&` and `||` • `MIN([V1], [V2])` for minimum value • `MAX([V1], [V2])` for minimum value • `ABS([V1])` for absolute values • `ROUND([V1])` for rounding to an integer • `ROUND([V1], x)` for rounding to an defined number of decimals (x). • `MOD([V2], 3)` for Modulo calculations
Result	 As mentioned before, the value fields in rows holding a formula were calculated. Two additional columns were generated. The description column gives information about the calculation steps. The error column shows errors within the calculations. In the example the variable Height2 does not exist.

No.	A Group	B Variable	C Fomula	D Value	E Remarks	F Instantion	G Error
1	A	Length		3,00		--	--
2	A	Depth		4,00		--	--
3	A	Height		2,00		--	--
4	A	Area	[Length] * [Depth]	12,00		--	--
5	A	Volume1	[Length] * [Depth] * [Height]	24,00		--	--
6	A	Volume2	[Length] * [Depth] * [Height2]	0,00		--	Variable [Volume2] konnte nicht ausgewertet werden.

« Zurück Vor » Gehe zu Seite 1 insg. 1 Anzahl Zeilen: 6 | Spalten: 7

B.3.15. Send Email

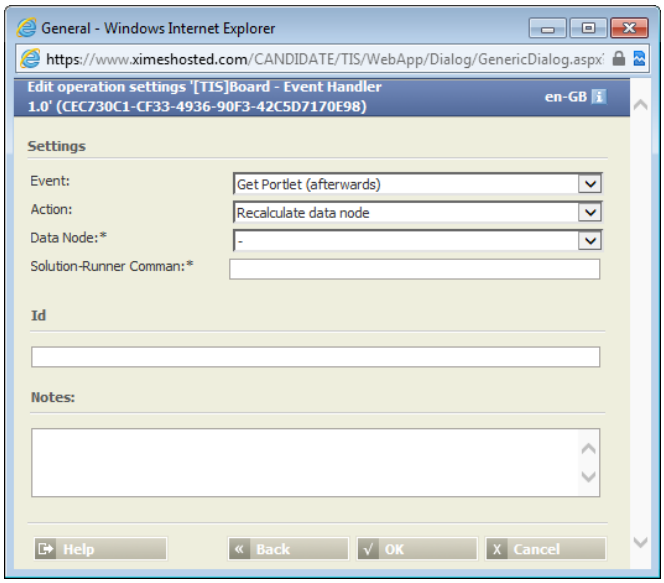
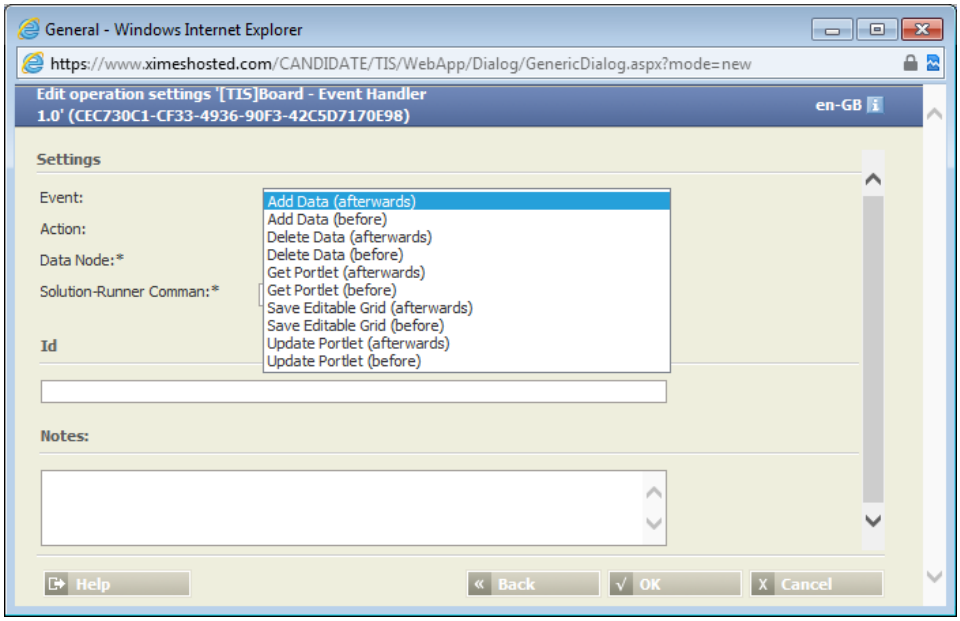
Getting started	Prepare a table which has the following columns: • Recipient email address (string) • Send email (bool) – Should the mail be sent? • Subject (string) • Message (string) Optional the following columns can be provided: • HTML format (bool) • Different return address (bool) • Path and filename of attachment (string) • Message column (string) – Has the message be sent?

Settings	 The setting within the operator are the sender name and the sender email. Additionally it can be chose whether the mail should be sent as HTML as default and if the attachments are in the TIS file system.

Configuration Settings	The operator „Send E-Mails" needs a configuration file named XimesEmailConfig.xml. It defines the following:
	
	• Which mail server should be used
	• Which settings/credentials are necessary to send mails
	
	The content of XimesEmailConfig.xml has the following structure:
	
	`<?xml version="1.0" encoding="utf-8" ?>`
	
	`<XimesEmail>`
	
	`<!—List of entries for different email server -->`
	
	`<SMTP HOST="172.23.42.1" PORT="25" SSL="0" AUTHENTICATION="0" USERNAME="N/A" PASSWORD="N/A" Active="1"/>`
	
	`<SMTP HOST="47.11.08.15" PORT="25" SSL="0" AUTHENTICATION="0" USERNAME="N/A" PASSWORD="N/A" Active="0"/>`
	
	`</XimesEmail>`
	
	HOST: IP adress of mail server
	PORT: default for SMTP is 25
	SSL: 0 or 1 depending if secured
	AUTHENTICATION: 0=without or 1=with authentification
	ACTIVE: 1 = yesl, 0 = no
	
	Addiotionally there are two config files web.config for [TIS]Editor and TIServiceWindowsService.exe.config for the TIS Service. There the folder of XimesEmailConfig.xml needs to be defined.
	
	In the TIS standalone these filescan be found in:
	
	`C:\inetpub\wwwroot\<web>\TIS\WebApp\web.config`
	`C:\inetpub\wwwroot\<web>\TIService\bin\TIServiceWindowsService.exe.config`
	
	These files have a appSettings section where the following entry must be available and direct to the correct folder
	
	`<appSettings>`
	`<add key="XimesEmailConfigPath"`
	`value="C:\inetpub\wwwroot\XIMES\TIService\config" />`

B.3.16. [TIS]-Board Event Handler

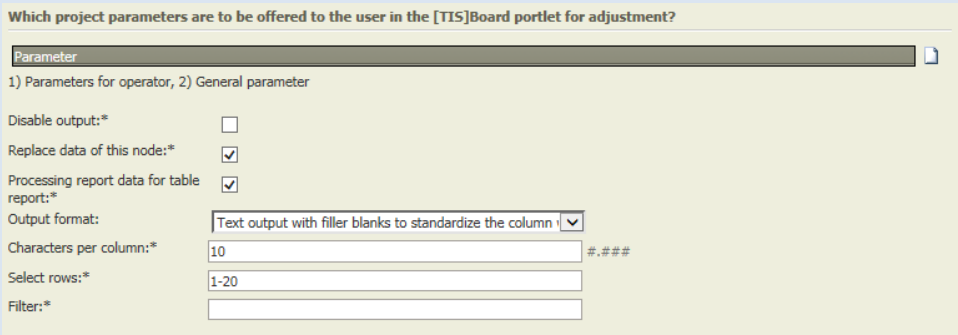
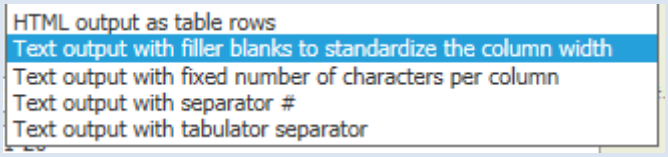
Getting started	The [TIS]-Board Event Handler defines actions that are applied when a specified event from the [TIS]Board occurs. That means that e.g. pressing the save button in an editable grid triggers another data node (recalc) or starts a solution runner. This operator is normally placed directly after a [TIS]Board operations.

Settings	
Events	Select the event on which an action should be triggered. The options are shown in this picture.  The options depend on the portlet type.
Action	Select the type of action that should be executed when the event occurs. you can choose from: • Recalculate data node • Start solution runner
Data Node (optional)	Choose the data node that should be recalculated if the event is triggered.

B.3.17. Collect Report Data

Getting started	The Collect Report Data operator allows to store sample data of operations in a TIS table. Data can be collected after each operation in a data node. One gets information on timing and duration and may use it to explore the sequence an update process took.

Table ranges	**Which table ranges are affected by the operation?** Which columns are to be output?:* A,B,C,D,E Definition which columns should be in the report.
Settings	**Settings** Delete existing report data first: ☑ Select folder: TIS\Version 58 oder enter folder:* Create folder if it does not exist: ☑ Table: ReportData Heading:* RawData Chapter:* Description:* Ordinal number:* 0.00 #.###,## Select the folder and the TISTable were the report data should be stored. Very often there is a "first" node in the chain to be analyzed. By selecting this option, one has a clean report and avoids the need for manual clean up. Heading, Chapter and Description are fields where you may add text that is the used in a larger report (similar to a book). Leave it empty for short reports. Order number has two usages: 1. If you use the operator several times in one node, the time stamp may be identical. By using 1,2,3… as order number it is easy to sort your report rows. 2. You may give numbers that allow to reference specific records in a report later to be built with Stimulsoft.

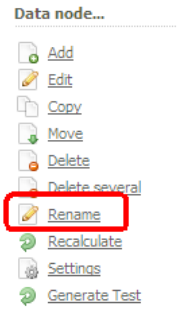
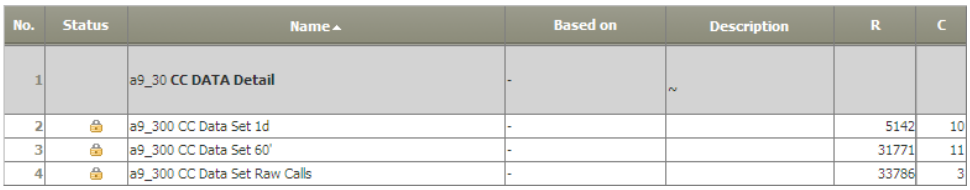
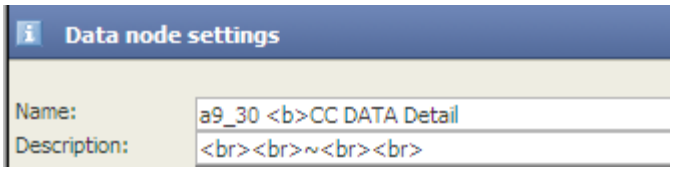
	 Output formats:  Characters per column: limits the number of characters for better display Select rows: shows only a sample of the defined rows Filter: filter what should be display (see: Filter on Columns) Please note: a) The first row is denoted by the number 0. b) If you combine Filter and Select rows, the latter must refer to the number of data rows figuring Filter values. Eg. if you filter on all rows with ID = 3 and the first row in the total data table figuring ID = 3 has the rownumber 64, then you must enter in Select rows: 63 to show the data. If you want to have also information on the value of specific parameters list the here. E.g. you will see the name and value in the table Disable allows you to switch on and off reporting with a central parameter.
Next Steps	The data can be processed in Stimulsoft reports or as Simple Grids in the [TIS]Board.

B.4. How to Minimize Errors?

Be careful about the data-type at import	Especially for columns that are used as Keys in Data-Merge be careful when importing them. If use different data types (e.g., string, integer) for the same data you will have to come back and redo many nodes. The same holds true for • different writing of numbers that are imported as text (e.g., 1,078.00 versus 1078.00). • different writing of Cases *Use* `#name#.ToUpper()` *to transform it to Uppercase* • blanks at the beginning or end of strings *Use* `#name#.Trim()` *to remove them*

Build checks	Build additional check nodes whenever there is small chance of error. E.G. • Check for duplicate records • Check for missing records
Watch the number of rows of your data nodes	[TIS]Editor provides information on the number of rows (and columns) a data node has. This allows identifying drops of rows (e.g. a filter works stronger than expected). It also allows to identify and unintended increase of rows (e.g., data merge has not only unique values and causes and increase in the number of rows).
Use "deactivate" only temporarily	Deactivate is a feature of [TIS]Editor to deactivate operations within a node. As a general rule it causes error to use deactivate as feature outside of debugging, as it is hard to see whether a deactivation is intended or has been forgotten to switch back.

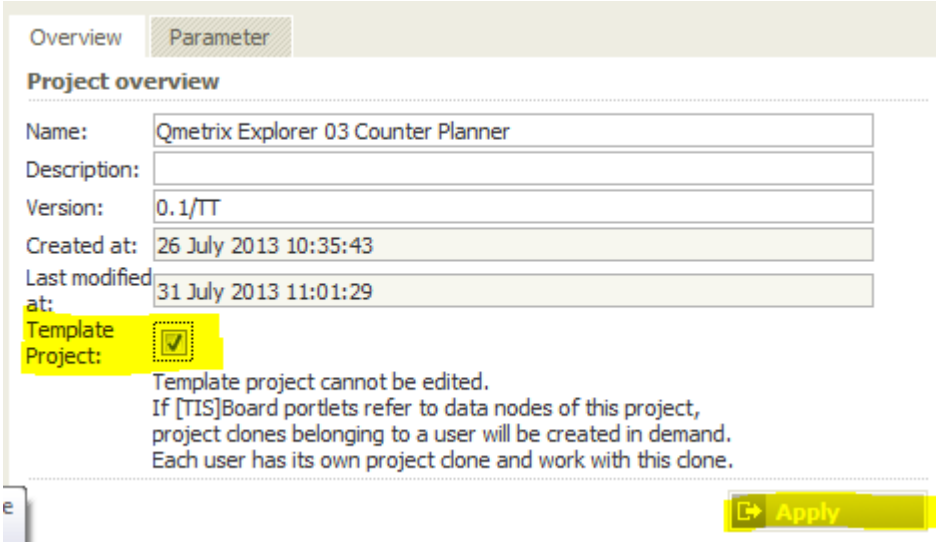
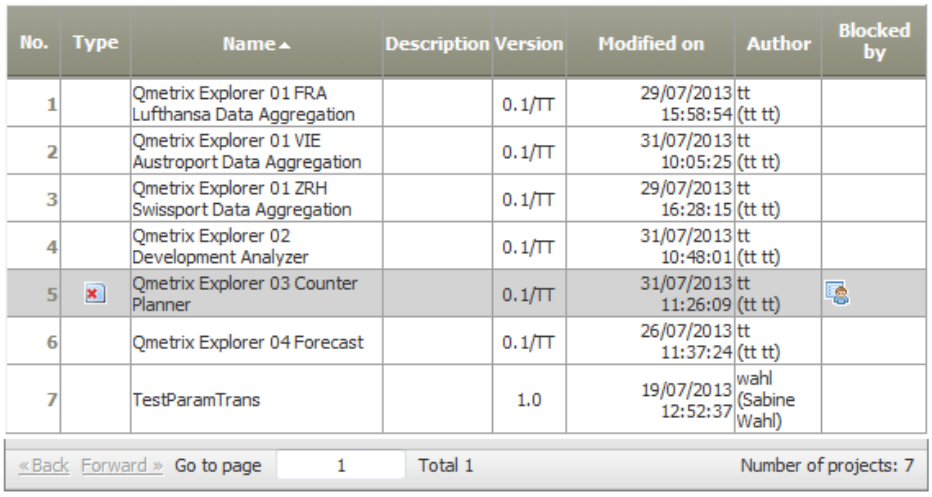
B.5. How to Keep the Overview in Large Projects?

Background	Very large projects tend to stretch over many folders and nodes. The following ides help to keep the overview.
Design principles	The following design principles may help: 1. Calculate top down and avoid references to nodes further down 2. Using short numbers (or letters and numbers to) to sequence your nodes. The button rename helps you to easily change this numbering by changing several nodes of a folder in one step  3. Avoid sparse folders (folder tree gets too long) and overpopulated folders (easy to lose overview)
Group nodes	You may use empty nodes to separate groups of nodes. E.g.  This is done by adding <b> after the node-Number and a ~ in the description: 

Group Folders	You may group folders by adding a folder with bold letters and a "underline" symbol and in addition group by selecting he same icons for all folders in a group. … **Export** e1 TestData for FC e2 TestData for FC Euroshop **Results FC** r1 Results Hörmann 110219 r2 Results FC 110301 r3 Results Hörmann 110322 You get bold names by adding <b> in front of the name.

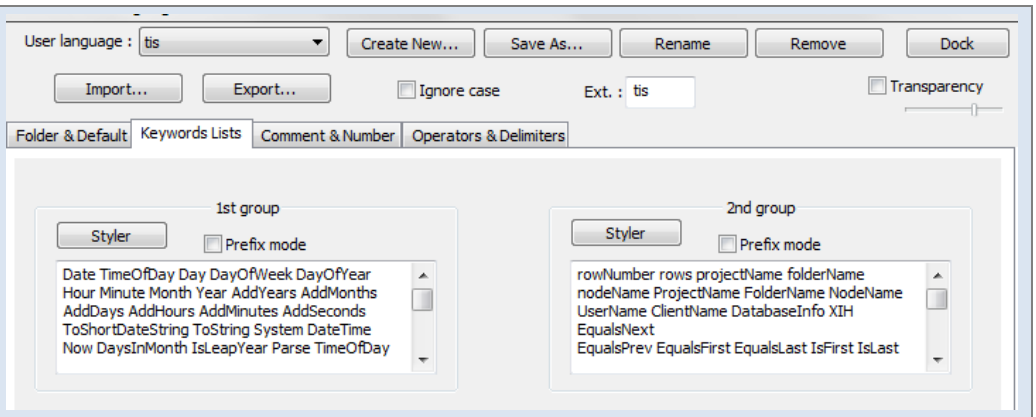
B.6. Working with Template Projects

Background	If multiple [TIS]Board users are entitled to work on one project, normally conflicts occur because users are working with the same operators. To avoid these conflicts projects are exported and reimported by the "other" user. As of Version 5.5 it is possible to define a project as a Template project. If a second user logs in to one certain project, a clone of the project will be made. This clone remains even after logging out, so that that user can continue working on "his" or "her" project.
Ordinary Project vs. Template Project	The difference between an classical ordinary project and a template project is that when working in [TIS]Board on a page that refers to a template, each user gets his own copy of this project and can work independently from the other users. This copy, further denoted as clone, remains even after logging out, so that that user can continue working on "his" or "her" project. The clones are created on demand during the first access to the project and are completely isolated from the original project regarding parameters, data nodes and operators. Note that TIS tables and files are not cloned, thus changes made to these resources are visible to all other users working on that project.

Activating the Template	Go to the project overview of the project which should be the Template and activate the "Template Project" button and click on apply. 
Type of a Template project	 No. | Type | Name | Description | Version | Modified on | Author | Blocked by 1 | Qmetrix Explorer 01 FRA Lufthansa Data Aggregation | 0.1/TT | 29/07/2013 15:58:54 | tt (tt tt) 2 | Qmetrix Explorer 01 VIE Austroport Data Aggregation | 0.1/TT | 31/07/2013 10:05:25 | tt (tt tt) 3 | Qmetrix Explorer 01 ZRH Swissport Data Aggregation | 0.1/TT | 29/07/2013 16:28:15 | tt (tt tt) 4 | Qmetrix Explorer 02 Development Analyzer | 0.1/TT | 31/07/2013 10:48:01 | tt (tt tt) 5 | Qmetrix Explorer 03 Counter Planner | 0.1/TT | 31/07/2013 11:26:09 | tt (tt tt) 6 | Qmetrix Explorer 04 Forecast | 0.1/TT | 26/07/2013 11:37:24 | tt (tt tt) 7 | TestParamTrans | 1.0 | 19/07/2013 12:52:37 | wahl (Sabine Wahl) « Back Forward » Go to page 1 Total 1 Number of projects: 7
ATTENTION	After cloning the project, changes in the TIS[Editor] can't be made. When creating Master-Portlets in [TIS]Designer, all Portlets refer to the original project, even if the designer is working with the Clone. If the Template Project is set back to an "ordinary" project all clones are automatically deleted. Parameters are stored for each user in their own copy of the template. Portlet information about the data node is always connected to the original project.

B.7. Help for Formula Operator

Background	Inputs in the formula operator can edited more convenient in a text editor.
Notepad++	Notepadd++ allows to customized languages. With this customization it is possible that inputs can be highlighted, which make the editing even more convenient.

Language Settings	

Result	`/* ========== */`
	`/* TimeSpan umwandeln */`
	`/* ========== */`
	
	`/* Pos1 = Position des Punktes */`
	`#Typ# == "TimeSpan" && #Wert#.Contains(".") ?`
	`#Wert#.IndexOf(".") :`
	`0`
	
	`/* Pos2 = Position des ersten Doppelpunktes */`
	`#Typ# == "TimeSpan" ?`
	`#Wert#.IndexOf(":") :`
	`0`
	
	`/* Wert1 = Tage in Stunden */`
	`#Typ# == "TimeSpan" && #Wert#.Contains(".") ?`
	`System.Math.Abs(`
	`System.Convert.ToInt32(#Wert#.Substring(0, #Pos1#)) * 24`
	`) :`
	`0`
	
	`/* Wert2 = Stunden */`
	`#Typ# == "TimeSpan" ?`
	`System.Convert.ToInt32(#Wert#.Substring(#Pos2# - 2, 2)) :`
	`0`
	
	`/* Wert3 = Minuten */`
	`#Typ# == "TimeSpan" ?`
	`System.Convert.ToInt32(#Wert#.Substring(#Pos2# + 1, 2)) :`
	`0`

XML	The language settings can also be defined in an xml file:
	
	`<?xml version="1.0"?>`
	
	`-<NotepadPlus>`
	
	`-<UserLang udlVersion="2.1" ext="tis" name="tis">`

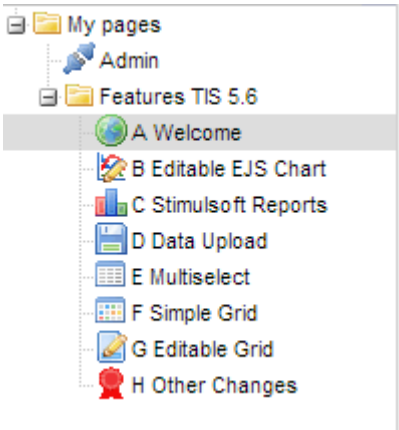
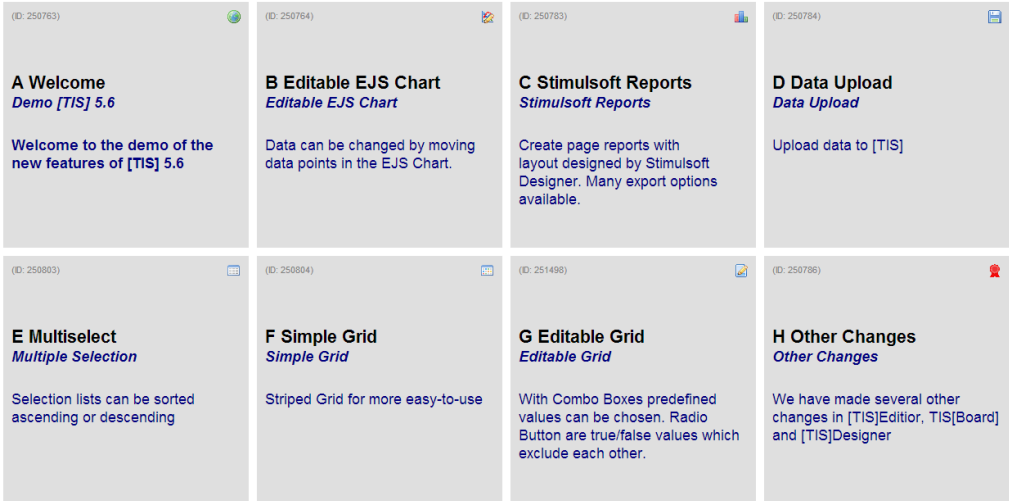
```
-<Settings>

<Global decimalSeparator="0" forcePureLC="0" foldCompact="no" al-
lowFoldOfComments="no" caseIgnored="no"/>

<Prefix Keywords8="no" Keywords7="no" Keywords6="no" Keywords5="no"
Keywords4="no" Keywords3="no" Keywords2="no" Keywords1="no"/>

</Settings>

-<KeywordLists>

<Keywords name="Comments">00/* 01 02*/ 03/* 04*/</Keywords>

<Keywords name="Numbers, prefix1"/>

<Keywords name="Numbers, prefix2"/>

<Keywords name="Numbers, extras1"/>

<Keywords name="Numbers, extras2"/>

<Keywords name="Numbers, suffix1"/>

<Keywords name="Numbers, suffix2"/>

<Keywords name="Numbers, range"/>

<Keywords name="Operators1">! & ? : ( ) [ ] . , ^ | + - * / < = > % ==
!= && </Keywords>

<Keywords name="Operators2"/>

<Keywords name="Folders in code1, open"/>

<Keywords name="Folders in code1, middle"/>

<Keywords name="Folders in code1, close"/>

<Keywords name="Folders in code2, open"/>

<Keywords name="Folders in code2, middle"/>

<Keywords name="Folders in code2, close"/>

<Keywords name="Folders in comment, open"/>

<Keywords name="Folders in comment, middle"/>

<Keywords name="Folders in comment, close"/>

<Keywords name="Keywords1">Date TimeOfDay Day DayOfWeek DayOfYear Hour
Minute Month Year AddYears AddMonths AddDays AddHours AddMinutes
AddSeconds ToShortDateString ToString System DateTime Now DaysInMonth
IsLeapYear Parse TimeOfDay TotalSeconds TotalMinutes TotalHours Total-
Days Math Abs Floor Ceiling Round IEEERemainder Log Log10 Max Min Pow
Sqrt Sign Sin Cos Length StartsWith EndsWith IndexOf LastIndexOf Re-
place Substring Contains ToLower ToUpper TrimBegin Trim TrimStart
TrimEnd Convert ToDouble ToInt32 ToString</Keywords>



<Keywords name="Keywords2">rowNumber rows projectName folderName node-
Name ProjectName FolderName NodeName UserName ClientName DatabaseInfo
XIH EqualsNext EqualsPrev EqualsFirst EqualsLast IsFirst IsLast Get-
```

```
Double GetInt GetLong GetString GetDateTime GetBool SetDouble SetInt
SetLong SetString SetDateTime SetBool IsNull Count HasRole GetParam
SetParam ColumnIndex ColumnCaption TISTable IsNumber CleanString Get-
Part Set Encrypt Decrypt XimesData GenTable GenRow2 ColumnType dataRow
Parent CountCols</Keywords>

<Keywords name="Keywords3"/>

<Keywords name="Keywords4"/>

<Keywords name="Keywords5"/>

<Keywords name="Keywords6"/>

<Keywords name="Keywords7"/>

<Keywords name="Keywords8"/>

<Keywords name="Delimiters">00# 01 02# 03" 04 05" 06 07 08 09 10 11 12
13 14 15 16 17 18 19 20 21 22 23</Keywords>

</KeywordLists>

-<Styles>

<WordsStyle name="DEFAULT" nesting="0" fontStyle="0" bgColor="FFFFFF"
fgColor="000000"/>

<WordsStyle name="COMMENTS" nesting="0" fontStyle="0" bgColor="FFFFFF"
fgColor="008000"/>

<WordsStyle name="LINE COMMENTS" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="008000"/>

<WordsStyle name="NUMBERS" nesting="0" fontStyle="1" bgColor="FFFFFF"
fgColor="FF8000"/>

<WordsStyle name="KEYWORDS1" nesting="0" fontStyle="1" bgCol-
or="FFFFFF" fgColor="0000FF"/>

<WordsStyle name="KEYWORDS2" nesting="0" fontStyle="1" bgCol-
or="FFFFFF" fgColor="800080"/>

<WordsStyle name="KEYWORDS3" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="KEYWORDS4" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="KEYWORDS5" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="KEYWORDS6" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="KEYWORDS7" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="KEYWORDS8" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="OPERATORS" nesting="0" fontStyle="1" bgCol-
or="FFFFFF" fgColor="FF0000"/>

<WordsStyle name="FOLDER IN CODE1" nesting="0" fontStyle="0" bgCol-
```

```
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="FOLDER IN CODE2" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="FOLDER IN COMMENT" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="DELIMITERS1" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="DELIMITERS2" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="6A6A6A"/>

<WordsStyle name="DELIMITERS3" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="DELIMITERS4" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="DELIMITERS5" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="DELIMITERS6" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="DELIMITERS7" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

<WordsStyle name="DELIMITERS8" nesting="0" fontStyle="0" bgCol-
or="FFFFFF" fgColor="000000"/>

</Styles>

</UserLang>

</NotepadPlus>
```

C. [TIS]BOARD

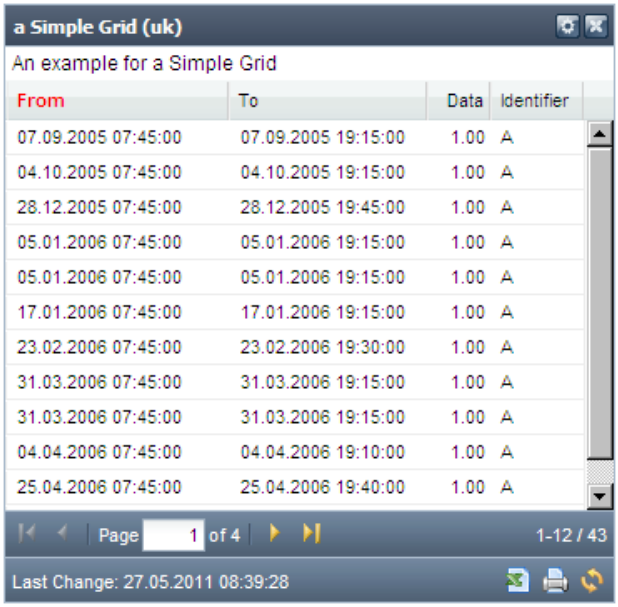
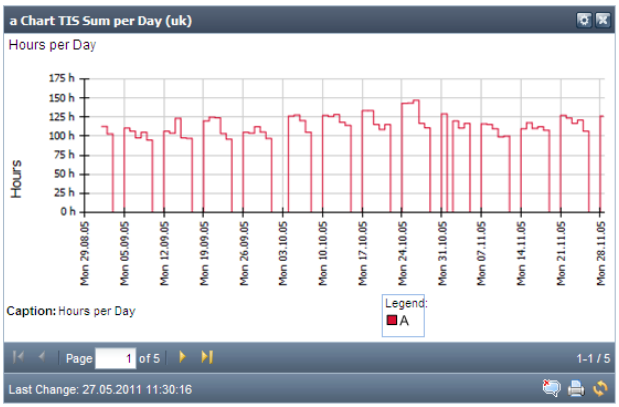
C.1. Navigation Pane

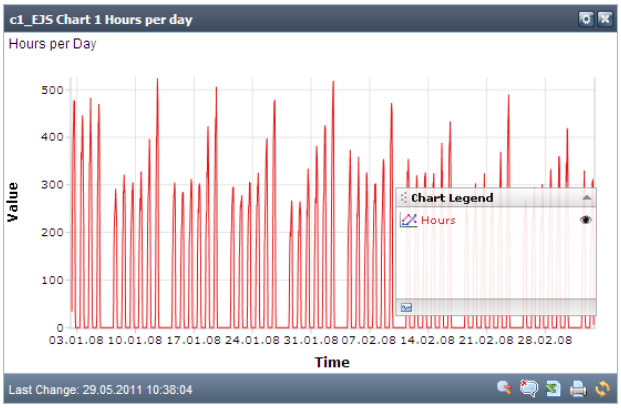
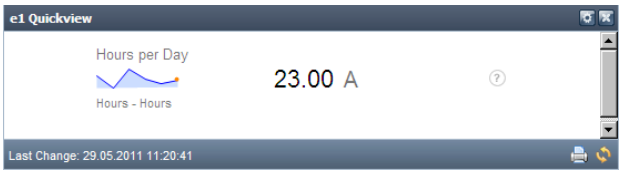
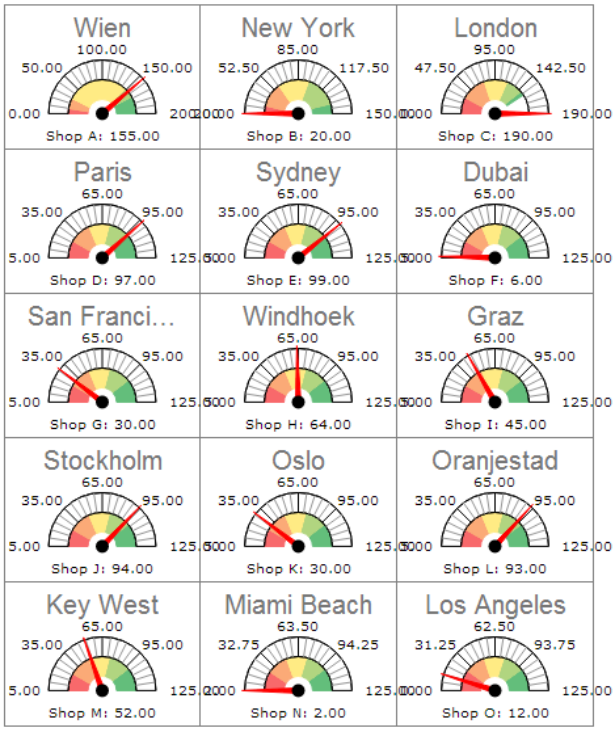
Navigation Pane	In the Navigation Pane all Pages with its Portlets are listed in a typical folder structure. 
Overview Pages in one Folder	If you click onto the folder, you get an overview of all pages within this folder **Contents of folder Features TIS 5.6** 

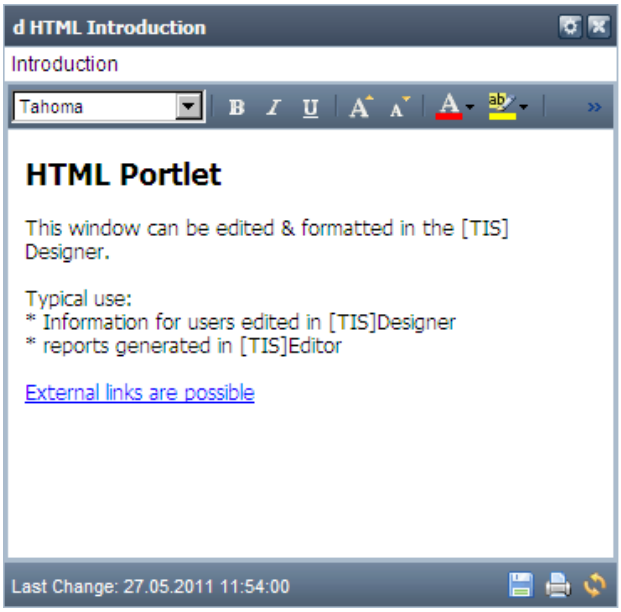
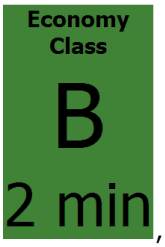
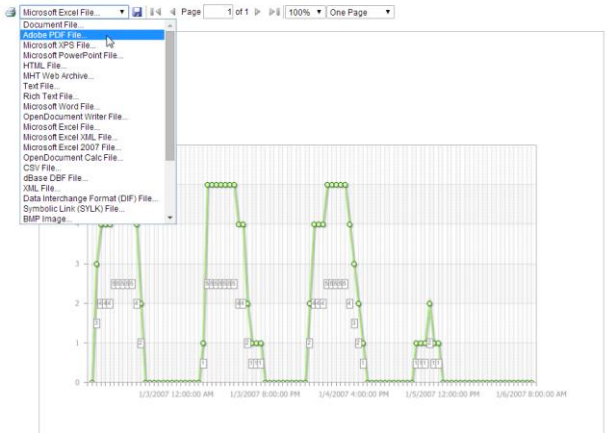
C.2. General Portlets

	Description
Icons	As of version 5.8.2 icons are more discreet. The automatically hide and only appear when moving the mouse over it.

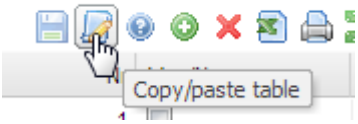
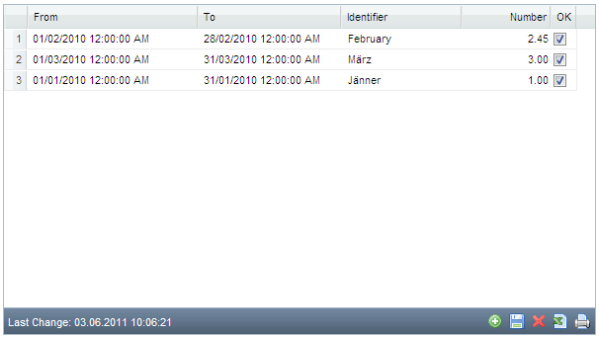
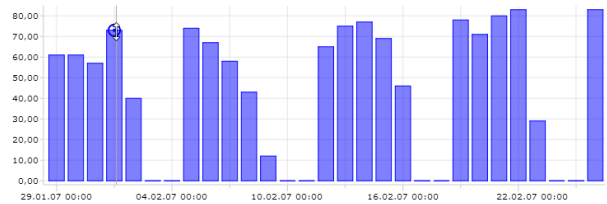
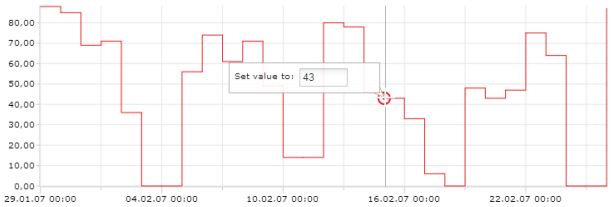
C.3. Display Portlets

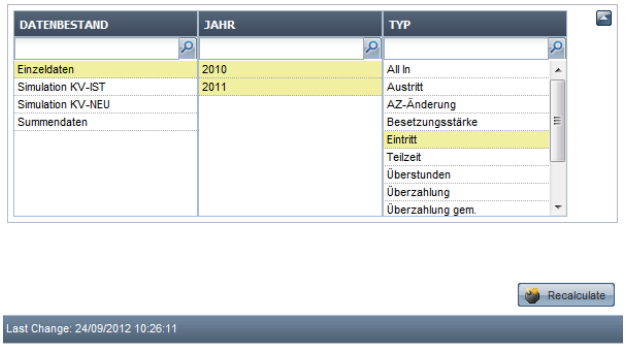
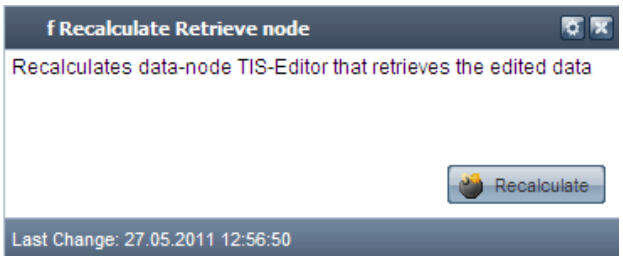
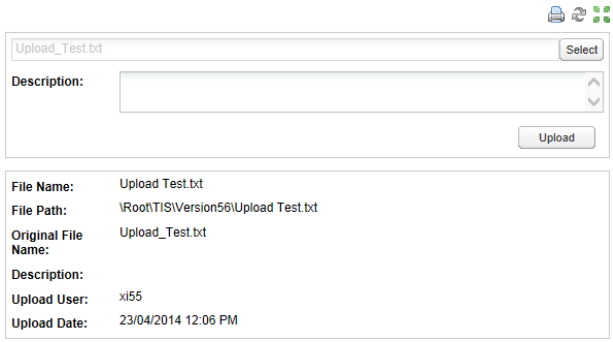
Notion	Short Description	Examples
SimpleGrid	A Grid Portlet to display values in a grid. *USED for:* *Displaying column data*	 Please note the option of conditional formatting for grids:
Chart	Displays a generated TIS-graph (image) *USED for:* Get a graphic you have already created in [TIS]Editor or with features only available in [TIS]Editor into [TIS]Board.	

Notion	Short Description	Examples
EJS-Chart	An interactive Chart (line, bar, area) *USED for:* Build an **interactive graphic** for [TIS]Board. EJS-Chart is the ideal Portlet to provide data in an interactive and sophisticated way. Individual data series can be switch on and off easily. An interactive zoom allows for further investigations of specific regions within your depicted data series. Moreover, you can export the data as.xls-file and process the information further.	
	Attention: rendering problems might occur if the zoom function of the browser is used!	
Map	Map Portlet to display geographic regions *(Prototype – not completely implemented yet)*	
QuickView	Generates an overview Portlet *USED for:* **Overview graphic** for [TIS]Board and on small screens – e.g. smartphones.	
Gauge	Generates a display for a (current) value which can be compared to certain ranges or other identifier.	

Notion	Short Description	Examples
HTML	Displays (generated) HTML content *USED for:* *Displaying Information easily edited in [TIS]Designer* *OR* *For HTML reports*	**VIEW in [TIS]Designer.**  SHOW REPORT WITH DATA COMING from [TIS]Editor  ,
Stimulsoft	These Portlets are designed by Stimulsoft Designer. The reports which can be exported to different kind of program files.	

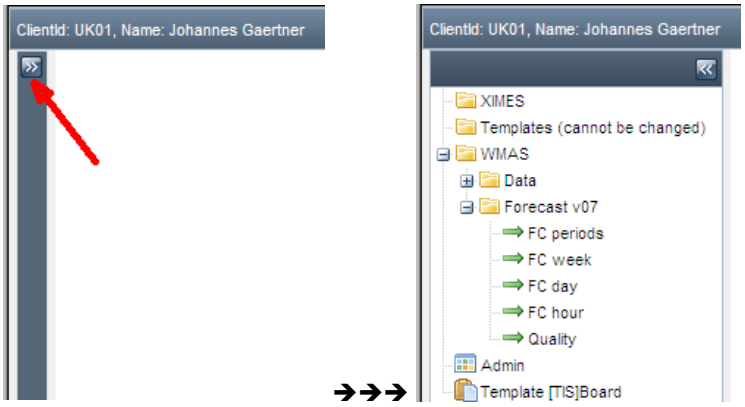
C.4. Interaction Portlets

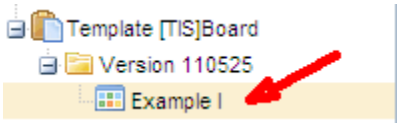
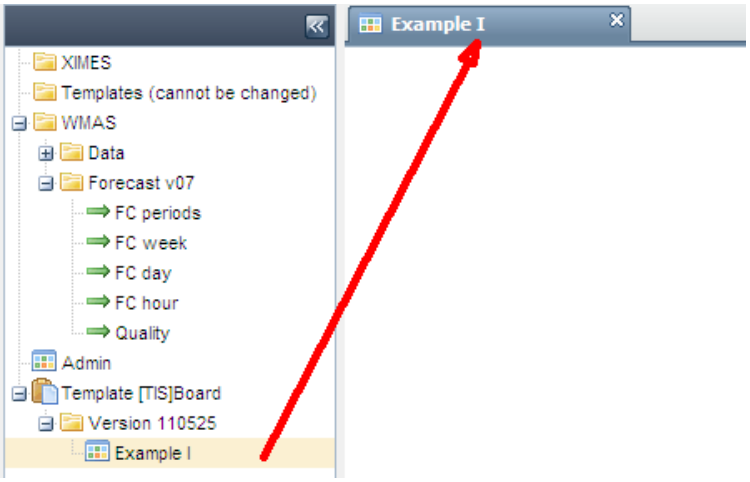
Editable Grid	An editable grid Portlet *USED for:* *Editing information in [TIS]Board. E.g. changing values, adding or deleting rows or sorting rows manually.* As of version 5.5 data can be copied from MS Excel into the editable grid:  How to copy data between excel and [TIS]?	 Please note the option of conditional formatting for grids:
Editable EJS-Chart	Editing data on a graphical interface. **Moving single data points with drag & drop:** Go to the data point till the circle appears, click and move the point up or down. **Changing data points with value input:** Double-click on a data point. Then a small window appears, where you can input the new value. **Change several data points:** 1. Click at some point in the chart (outside a selection) to drop earlier selections. 2. Press Shift key and hold it. 3. Move mouse to the point where range should start (a second grey line shows up to indicate start position). Without movement no additional line appears. 4. Click left mouse button and hold it. 5. Move mouse to the point where range should end (a grey area grows). 6. Release mouse key. 7. Release shift key. 8. Change values parallel with drag & drop, set all to 0 ("Set to 0") or make linear changes ("Lin").	 

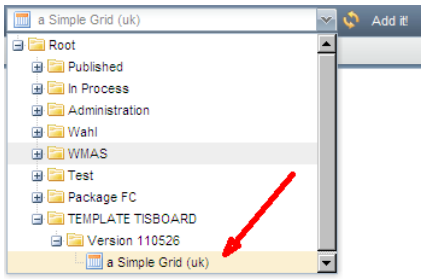
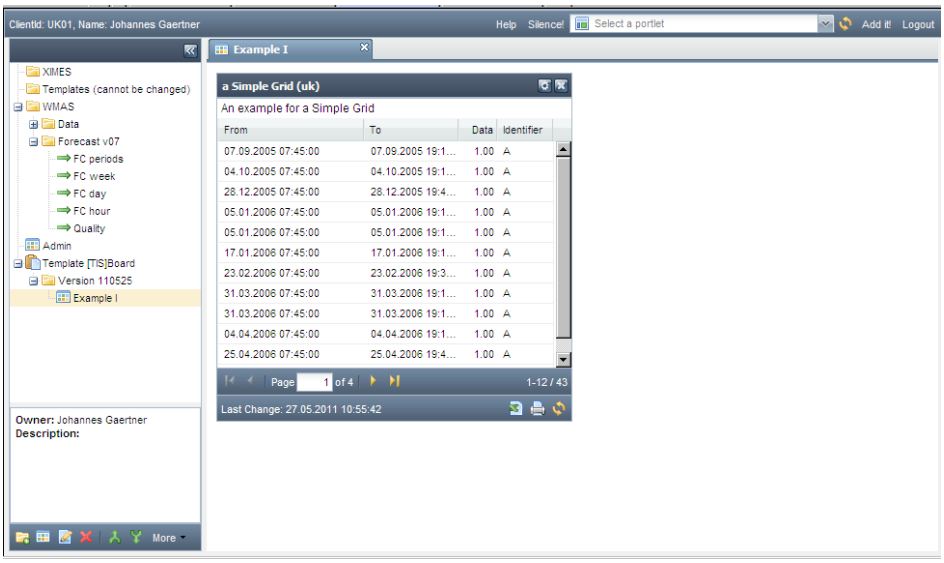
Multiple Selection	Select data in up to three columns. For each column it is predefined if one or more selections can be made. If selection can be done in more than one column, after selecting the first entries only possible combinations are shown.	
Controller	Recalculate and control solutions. *USED for:* *Controlling update process in [TIS]Editor from [TIS]Board* *e.g. after entering some information in an editable GRID a user might want to recalculate a project in [TIS]Editor*	
Upload	Data can be directly uploaded to [TIS]. Click select, choose your file and upload. Please note, that the upload can be restricted to a certain type of files and to a certain size.	

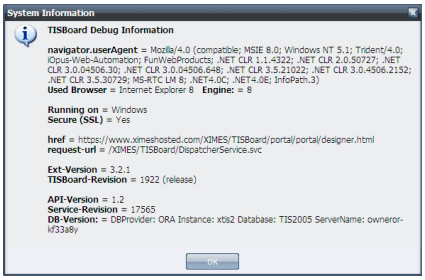
C.5. Working with Portlets and Pages

C.5.1. Creating & filling pages

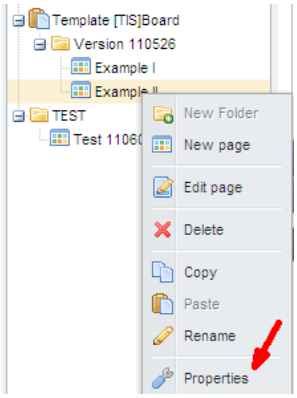
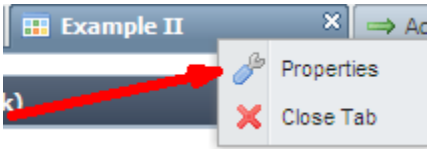
Steps	Description
Log On in [TIS]Board	Logon with your credentials
If the Navigation explorer is closed – open it	

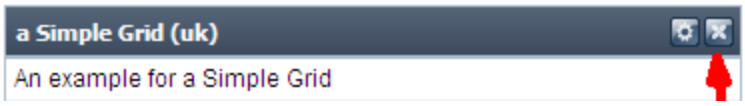
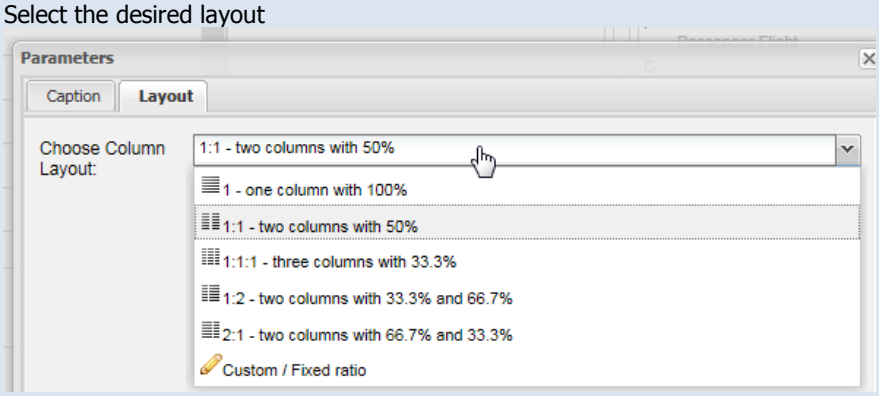
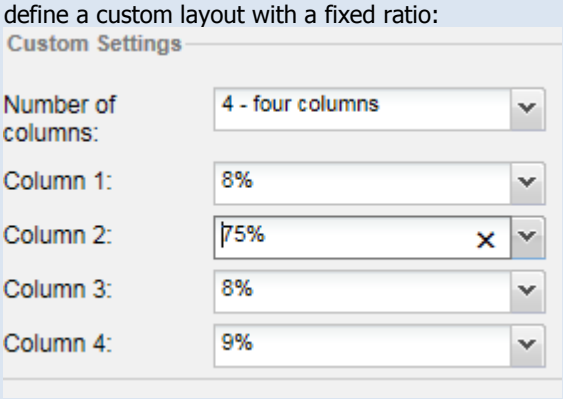
Steps	Description
CLICK on a page or create a new page (or new folders) to open the page	Click on existing page  Create a new folder or new page (bottom left) Do not forget to Click on the page after creating it in order to open it. 

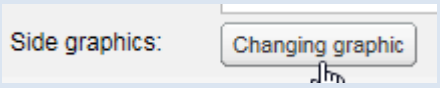
Steps	Description
Add Portlets to pages (requires granted user access rights)	1. Select the Portlet you want to add:  2. Press ADD-IT The result in this case is: 
Publish Pages and Folders (needs corresponding rights)	With the necessary rights you can publish pages for others by moving them in the corresponding section: These pages are then visible to all users (with the corresponding rights) but can not be changed by them.

Steps	Description
Version number of [TIS]Board	You get the Version Number of [TIS]Designer & [TIS]Board with the short-Cut Ctrl-Shift-L  Please include this information if you find and submit a bug.

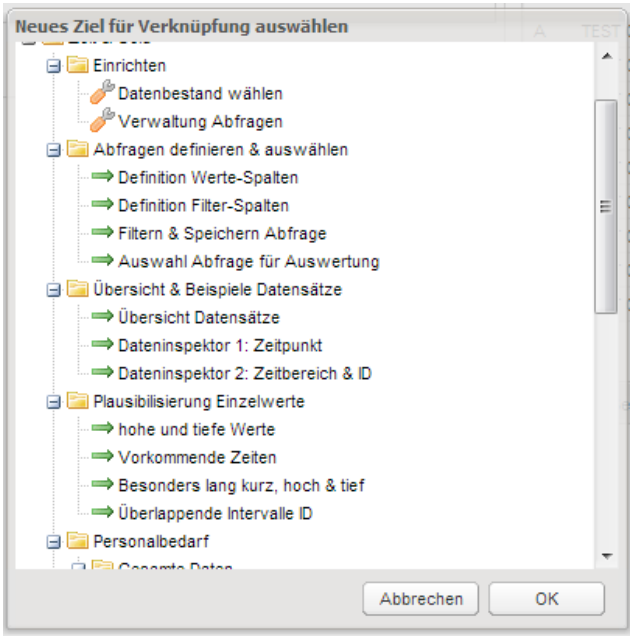
C.5.2. Managing & Formatting single pages

Element	Description of options
Selection of Icon & properties	The icon and other properties can be selected, with the right mouse from the tree:  Or with right mouse from the tab. View (for open pages) 
Properties of a single page	Select the page (either in the Navigation-tree explorer or via tab) Adjust the layout of the page (Portlets are displayed as either 1, 2, or 3 columns.) Change name and icon
Navigation-tree explorer	Pages and Folders can be renamed in the Navigation-tree explorer and moved up and down with (left, bottom of [TIS]Board with open Navigation tree). Rearrangements can also be done with Drag & Drop.

Element	Description of options
Deleting pages	(left, bottom of [TIS]Board with open Navigation tree) or right mouse-button.
Deleting Portlets	Click on the delete Sign  If the header of the Portlet is not visible, switch [TIS]Editor in "Edit-Mode" by clicking the (left, bottom of [TIS]Board with open Navigation tree).
Show & hide the Portlet names	Press the (left, bottom of [TIS]Board with open Navigation tree).
Layout of a Page	As of Version 5.8.2 the definition of layouts has improved. 1. Go to the parametre of the page 2. Switch to tab "Layout" 3. Select the desired layout  or define a custom layout with a fixed ratio: 

Element	Description of options
	As of version 5.8 indivdual logos can be applied for each page. Go to the page properties.  Select the logo which has been uplaoded to C:\

C.5.3. Navigation Button

Element	Description
Background	The navigation buttons allow to define workflows for users within the [TIS]Board (from 5.5). These workflows can have a homepage for the user and defined next pages.
Define a Homepage	Switch to the editing mode and choose the home Symbol on the top right. A window opens allowing choosing one of your pages.  Choose your desired page and click OK.

Element	Description
Define the next page	Press the button to the right. The window opens again. Now choose the page which the user should reach when he clicks on the right button. Now repeat this step for the next from the second page. Like that you can define a workflow for your users.
Example	Homepage – Page: Data input → Next Page – Page: Setting Parameter → Next Page – Page: Calculation → Next Page – Results and Charts

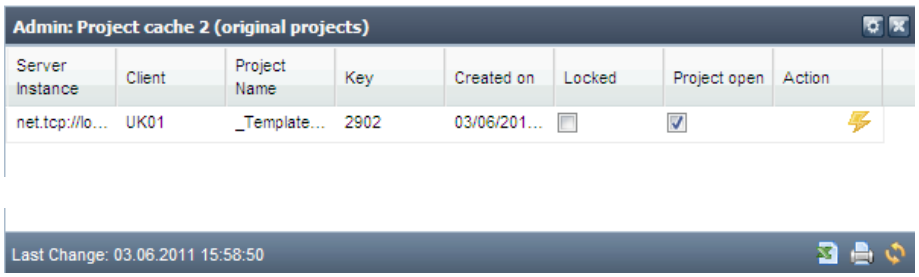
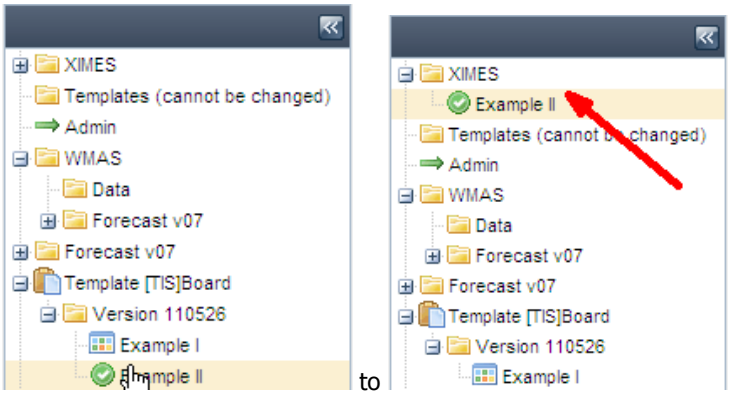
C.5.4. Functions

Element	Description of options
Function Buttons	Starting from version 5.5 there are several buttons on the top right which allow an easy access to several functions
Page Properties (Editing Mode only)	
Print Page	
Refresh Portlets	 Simple pressing recalculates the portlets of the page. Pressing CTRL and clicking onto it closes and reopens the page.
Log-off	

C.6. Managing Pages and Projects

C.6.1. Visibility & Publication of Pages

Element	Description of options
Background	When working with [TIS]Board as planning solution the visibility of Portlets & pages is influenced by several factors which are discussed here. The following rights can be given for users in the User-Management for the Client (e.g. in .... XIMES/TIS/UserManagement/Overview.aspx for Client UK01), provided one has the necessary administrative access rights: 1. [TIS]BoardUser … access to predefined pages & Portlets 2. [TIS]BoardDesigner … create new Portlets 3. [TIS]BoardAdmin … add & remove administrative pages 4. [TIS]BoardMasterDesigner … publish pages

Element	Description of options
Add & remove administrative pages	Given the users have the necessary access rights, he/she can work with administrative Portlets, i.e. predefined Portlets that provide information on the state of the server, open projects etc.  A detailed description is given in Ownership of projects & Administration Portlets and in Further administration Portlets.
Publishing	Given users have the necessary access rights, users can publish their pages to become visible to (many) other users by moving them to the top folder:  Thereby they become visible to other users (with [TIS]Board user rights). NOTE: Published pages cannot be changed directly. The have to be moved back into the domain of a specific user. This user can change them then and publish again.

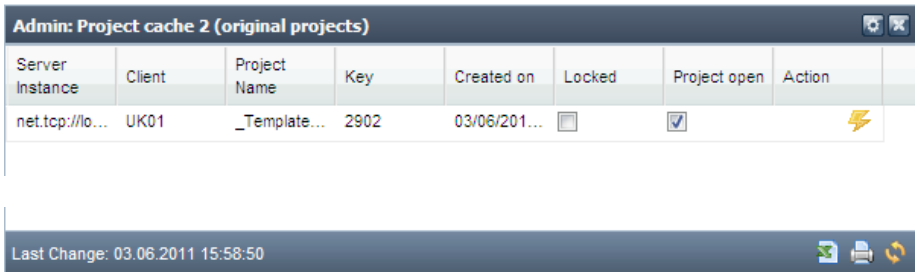
C.6.2. Ownership of Projects & Administration Portlets

C.6.3. Introduction & Mechanisms

Element	Description
Background	• In [TIS]Editor opening of a project leads to a "locking", i.e. no other user can change the project in parallel to obtain consistent data. – Otherwise crashes and inconsistent information would occur. • If a user presses RECALCULATE on the corresponding Portlet again, a locking takes place and ownership is taken. This section describes locking and releasing of projects.

Element	Description

Internal mechanisms	**RECALCULATION BY USER:**
	• In the background – a created system user
	  ○ Opens the project "on behalf" of [TIS]Board-users. I.e. like a virtual other user.
	  ○ This system user can open the project only if the project is not locked.
	• If the system user can activate the project he holds the lock.
	• The system user can execute orders of different users. If one order is finished, the procession of the next order can be started. So several users can actually refer to the same project.
	• If the system user runs a job (e.g. recalculation), an incoming new job is ignored.
	CONSEQUENCES:
	• It is possible that several "normal" users work with the project (apparently parallel). The system user keeps a list of his "callers". If a caller logs out, he will be removed from the list.
	• If no user is left on the list, the project will be closed and the system user will be destroyed. (i.e., the project is free to work in [TIS]Editor again)

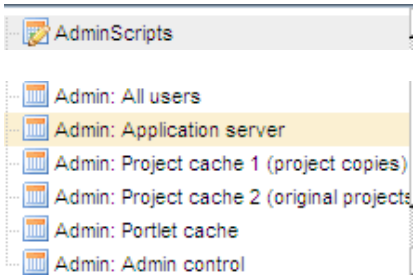
Manual release	Ownership of a planning project can be manually released with the following Portlet brought into the page with the mechanism described in Creating & Filling pages. By pressing on the symbol LIGHTNING the project is released.  NOTE: Please refresh the Portlet by pressing the Refresh symbol to see whether it worked. It is a known bug, that the Portlet does not refresh itself after pressing the Lightning symbol. NOTE: Very long jobs are automatically stopped after reaching the time out. – Typically 30' to 60' of processing time. The actual value is configured by the administrator.

C.6.4. Actions and their consequences - Overview

Action	[TIS]Editor	[TIS]Board	[TIS]Designer
Logon	User is logged on – no projects locked		
Project open	Project is exclusively owned by user. No access for others		

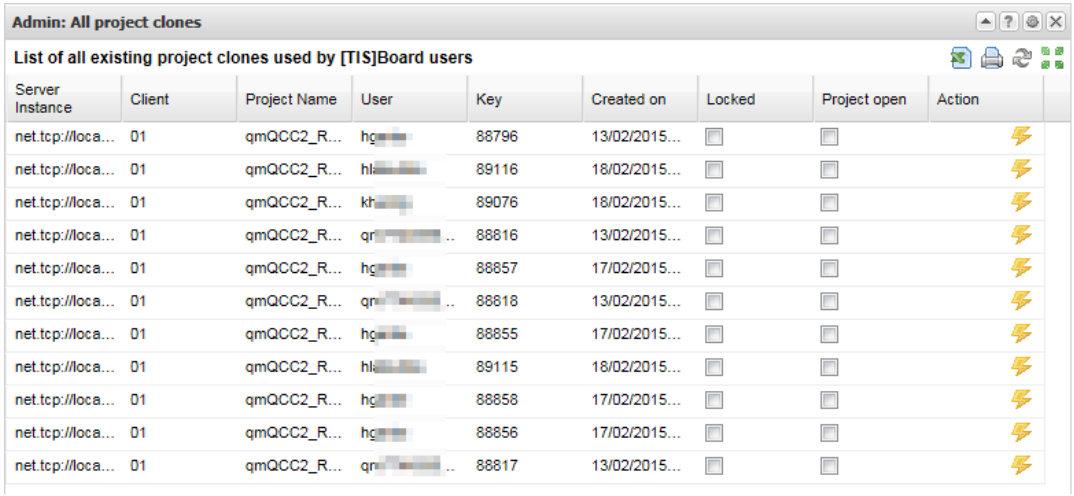
Action	[TIS]Editor	[TIS]Board	[TIS]Designer
Press of Recalculate Button		Project is exclusively owned by user. No access for others and NOT released after end of calculation	
Portlet Refresh content		Existing result will be presented. • If the result-data is not up to date, then the system-user tries to recalculate it. • If this is not possible, the last data is shown.	
Release Project	Is caused by • Log Off of user • Session time-out • Relogon with same user account (without prior log off)	Is caused by • Logoff of ALL users who sent recalc orders to the system user • Time out because no recalculation took place for a long time • Manual release – via the admin Portlet: Project cache 2	

C.6.5. Further administration Portlets

Introduction	There are a number of Portlets that facilitate administrative tasks. These Portlets typically are not visible to "normal" [TIS]Board-Users but require special rights.
Access to Admin Portlets	Admin-Portlets are added like other Portlets and can be found in the folder structure: 
[TIS]Board or [TIS]Designer user list	 [TIS]Board Users can be logged out by pressing the red cross. NOTE: [TIS]Editor users are NOT shown in this list.

Admin Scripts for the Solution Runner	Admin Scripts can be used to configure the service run by the Solution Runner. **AdminScripts** T... Solution B/D Datanode N... C... S... W... O... Action T... O... C... 1 W.. WMAS_FC 0 k1 10 Control DB Recalculate 0 Last Change: 08.06.2011 22:25:12
Workload of Server	To see the workload (CPU, Memory, …) of the server use the following Portlet **Admin: Application server** Server Instance | Online | Status | Requests/s | CPU Charge | Memory | Max. memory | Threads net.tcp://lo... | true | Running | 0.00 | 62.50 | 436916224 | 3144609792 | 15 This allows for checking whether a task is finished and how the overall workload is.
Portlet Cache FOR DEVELOPERS	Cached Data: **Admin: Portlet cache** Server Instance | Rows/... | Size (Bytes) | Expiry Date | Portlet No. | Portlet Name | Page No. | Page Name | Name | Action net.tcp:... | 1/15 | 0 | 09/06/2... | 500,00.. | AdminS... | 25 | Admin | 5171D6...
Admin Scripts FOR DEVELOPERS	**Admin: Admin control** Server Instance | Client | Name | Action net.tcp://localhost:21020/... | WMAS | AdminScripts
Stop Solution Runner	Active Solution Runners can be via the Admin Portlet "Project cache 1" **Admin: Project cache 1 (project copies)** **List of cached project clones used by solution runners** Server Instance | C... | Project Name | Key | Created on | Locked | Action net.tcp://localhost... | 01 | (XP4A2039F6AFC8C000)qmQCC... | 531 | 18/02/2015 08:19... net.tcp://localhost... | 01 | (XP688943B5C2D30000)qmQCC... | 681 | 17/02/2015 17:44... net.tcp://localhost... | 01 | (XP74902BCFF5B46000)qmQCC... | 681 | 17/02/2015 17:44... net.tcp://localhost... | 01 | (XP33131E4CDDB48000)qmQCC... | 681 | 18/02/2015 01:09... net.tcp://localhost... | 01 | (XP817110A37AA90000)qmQCC2... | 682 | 18/02/2015 00:25... net.tcp://localhost... | 01 | (XP3D537B2CB6A00000)qmQCC... | 682 | 17/02/2015 17:44... net.tcp://localhost... | 01 | (XP7249B1F3D0B98000)qmQCC... | 701 | 18/02/2015 11:28... net.tcp://localhost... | 01 | (XP60CA03BDAB362000)qmQCC... | 702 | 18/02/2015 08:19... net.tcp://localhost... | 01 | (XP874E2F209E3C0000)qmQCC... | 702 | 18/02/2015 08:20... net.tcp://localhost... | 01 | (XPB1EFA8F105CD4800)qmAdmi... | 800 | 18/02/2015 12:33... net.tcp://localhost... | 01 | (XPDA74C9C7FD9B4000)qmQCC... | 825 | 18/02/2015 09:30... net.tcp://localhost... | 01 | (XP73388F822CC0000)qmQCC2_... | 825 | 19/02/2015 00:25... net.tcp://localhost... | 01 | (XP60B1357400000000)qmQCC2... | 825 | 19/02/2015 01:10... net.tcp://localhost... | 01 | (XP383CEFDF87996000)qmQCC... | 828 | 17/02/2015 17:47...

Templates	Project copies can be deleted via the Admin portlet "All project clones"

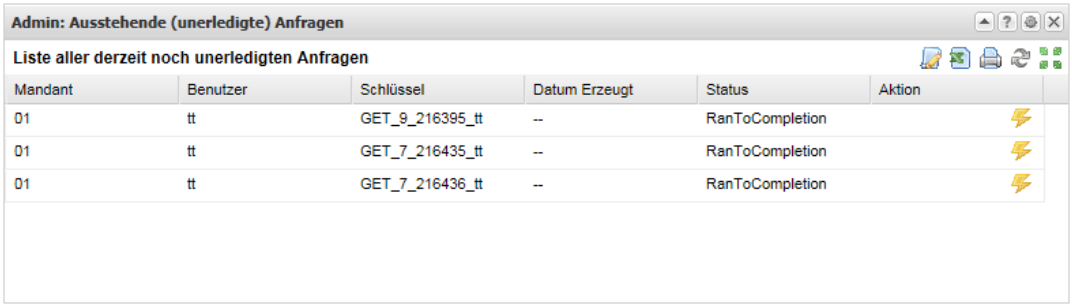


Admin: All project clones

List of all existing project clones used by [TIS]Board users

Server Instance	Client	Project Name	User	Key	Created on	Locked	Project open	Action
net.tcp://loca...	01	qmQCC2_R...	hg[redacted]	88796	13/02/2015...			
net.tcp://loca...	01	qmQCC2_R...	hl[redacted]	89116	18/02/2015...			
net.tcp://loca...	01	qmQCC2_R...	kh[redacted]	89076	18/02/2015...			
net.tcp://loca...	01	qmQCC2_R...	qr[redacted]	88816	13/02/2015...			
net.tcp://loca...	01	qmQCC2_R...	hg[redacted]	88857	17/02/2015...			
net.tcp://loca...	01	qmQCC2_R...	qr[redacted]	88818	13/02/2015...			
net.tcp://loca...	01	qmQCC2_R...	hg[redacted]	88855	17/02/2015...			
net.tcp://loca...	01	qmQCC2_R...	hl[redacted]	89115	18/02/2015...			
net.tcp://loca...	01	qmQCC2_R...	hg[redacted]	88858	17/02/2015...			
net.tcp://loca...	01	qmQCC2_R...	hg[redacted]	88856	17/02/2015...			
net.tcp://loca...	01	qmQCC2_R...	qr[redacted]	88817	13/02/2015...			

Stop Requests	Running requests can be deleted via the Admin portlet 'Open requests'

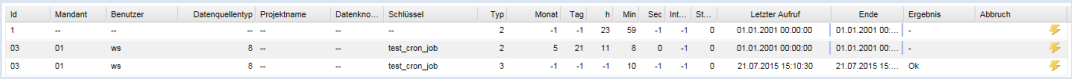


Admin: Ausstehende (unerledigte) Anfragen

Liste aller derzeit noch unerledigten Anfragen

Mandant	Benutzer	Schlüssel	Datum Erzeugt	Status	Aktion
01	tt	GET_9_216395_tt	--	RanToCompletion	
01	tt	GET_7_216435_tt	--	RanToCompletion	
01	tt	GET_7_216436_tt	--	RanToCompletion	

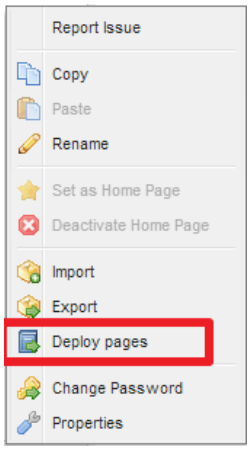
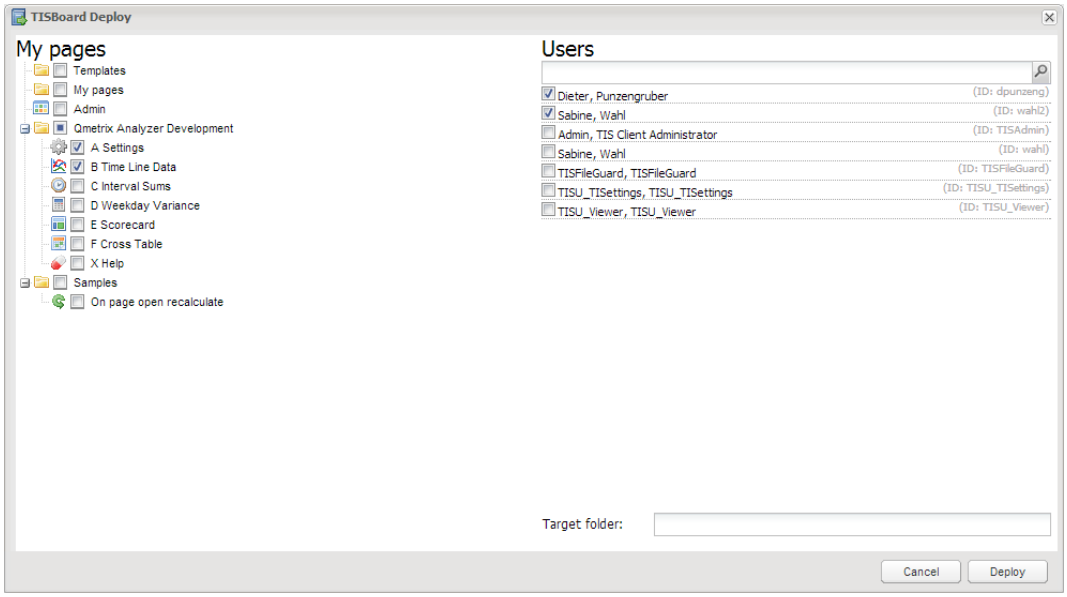
Cron Jobs	As of version 5.8.2 cron jobs can be created an stopped in the Cron Jobs Administration Portlet.



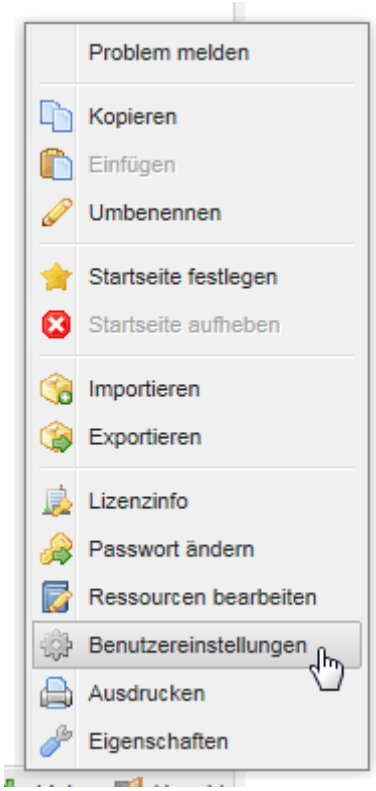
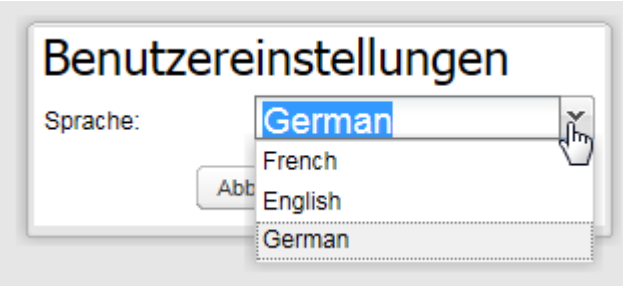
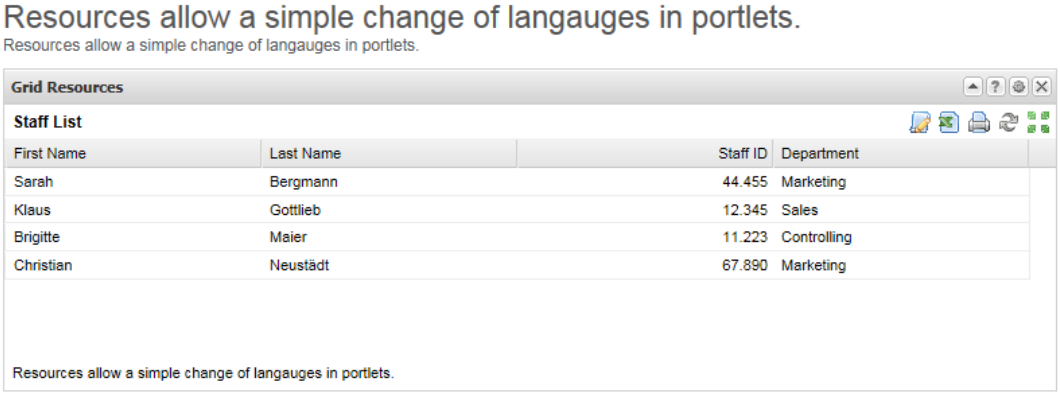
Id	Mandant	Benutzer	Datenquellentyp	Projektname	Datenkno...	Schlüssel	Typ	Monat	Tag	h	Min	Sec	Int...	St...	Letzter Aufruf	Ende	Ergebnis	Abbruch
1	--	--	--	--	--	--	2	-1	-1	23	59	-1	-1	0	01.01.2001 00:00:00	01.01.2001 00:...	-	
03	01	ws	8	--	--	test_cron_job	2	5	21	11	8	0	-1	0	01.01.2001 00:00:00	01.01.2001 00:...	-	
03	01	ws	8	--	--	test_cron_job	3	-1	-1	-1	10	-1	-1	0	21.07.2015 15:10:30	21.07.2015 15:...	Ok	

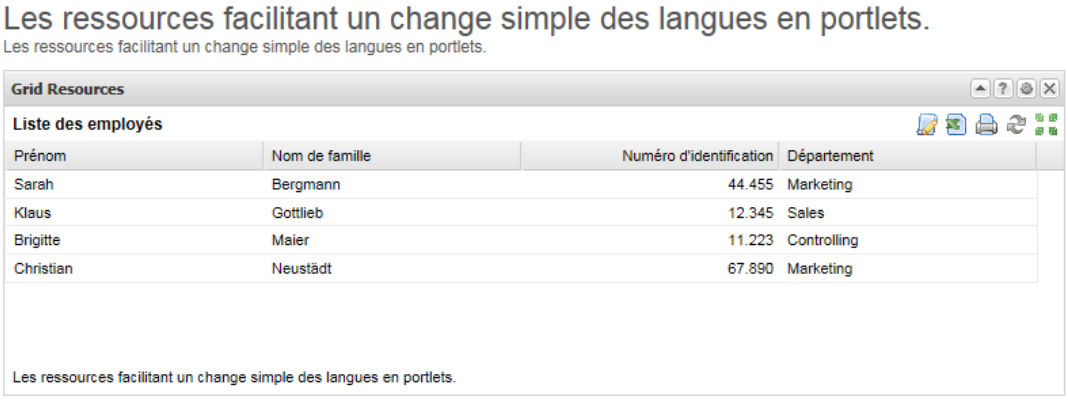
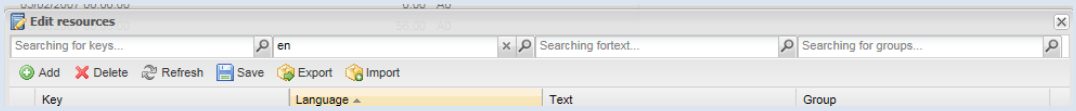
C.6.6. Deploy Pages

Element	Description
Background	[TIS]-Board now allows to deploy pages only to certain users.

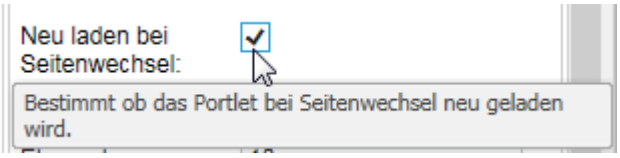
Element	Description
Open Deploy Pages	Go to "Deploy Pages" in the [TIS]-Board. 
Window Deploy Pages	A new window opens where you can choose which pages should be distributed to which users. 
Deployed Pages	After deploying, each chosen user gets a copy of the page and is entitled to use the portlets of the page.
ATTENTION	The following steps can avoid problems when deploying pages: 1. If you have newly created the user you want to deploy the pages to, pleases log in as the user first. 2. When creating the user in [TIS]Admin, please give the respective user rights on TIS tables as well. 3. Normally the user has three roles: TISBoard Admin, TISBoard User and the role for the rights on the TIS project and the TIS tables. 4. For defining the homepage apply the role TISBoard Designer to the user. Then log in to the TIS-Board and set the homepage. After that remove the rights for the TISBoard Designer from the user.
Improvement	When deploying pages with tiles the setting on TISBoard Admin rights is no longer needed.

C.6.7. Changing Resources

Element	Description
User Settings	In Admin Mode go to user settings 
Choose Language	There you will find a pull-down menu with all defined languages.  Chose the language and confirm. All defined resources are changing their texts.
Example English	

Element	Description
Example French	
Search/Filter Options	As of version 5.8.2 resource entries canbe searches or filtered: 

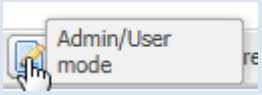
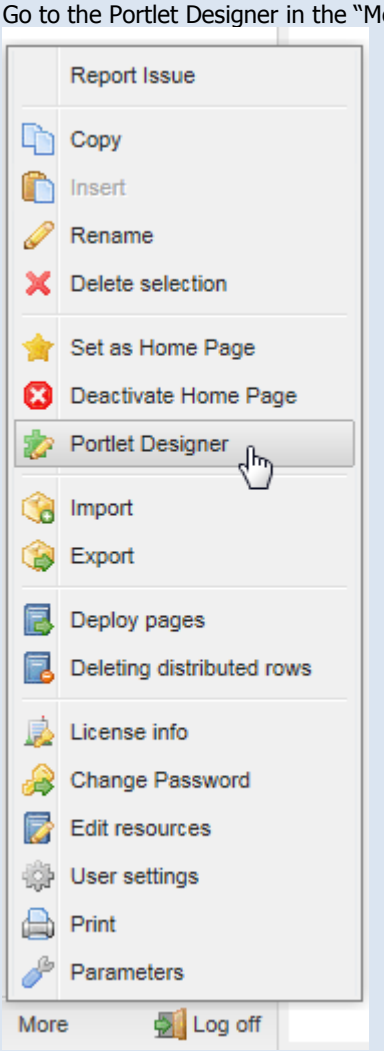
C.6.8. Refreshing Portlets on Tab Change

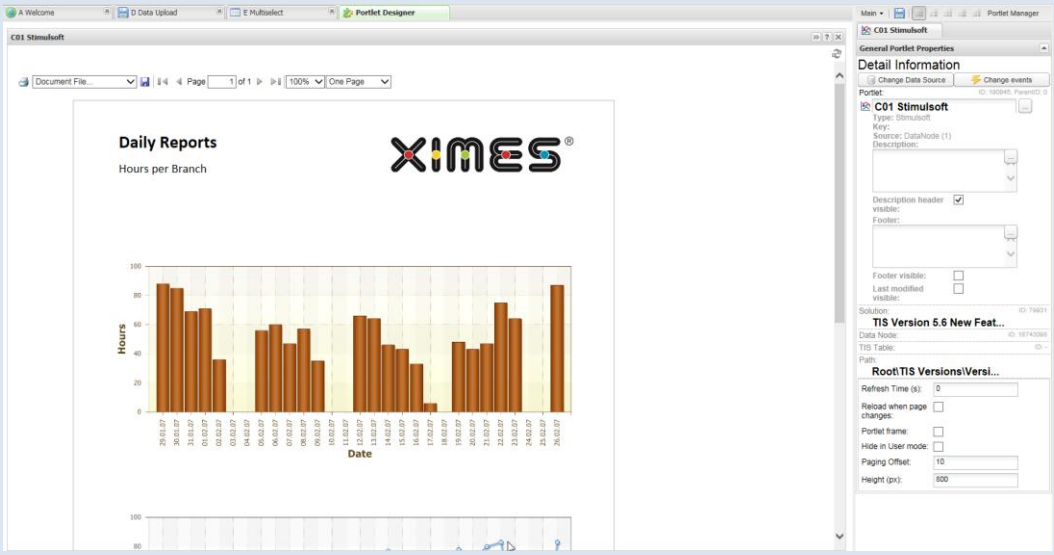
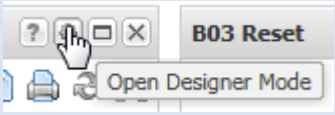
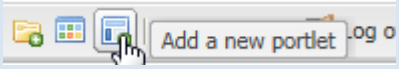
Element	Description
User Settings	Normally pages and their portlets are only refreshed if they are opened. Standard settings are that only one page is open, so that they are reloaded each time a pages is switched. For some users the settings are different so that more than one page can be open at a time. When the pages are switched (tab change) the pages and the portlets will not be refreshed. By setting the option "refresh on tab change" for each portlet this can be avoided. 

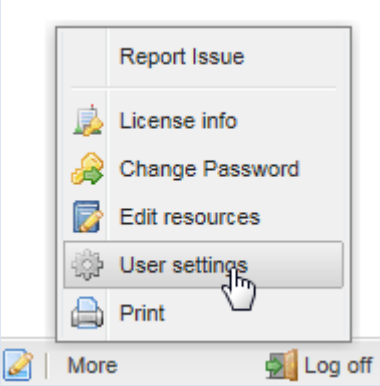
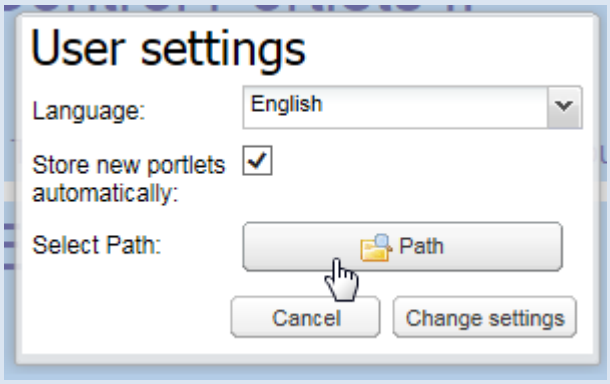
D. [TIS]DESIGNER

D.1. Creating Portlets

D.1.1. Portlet Designer

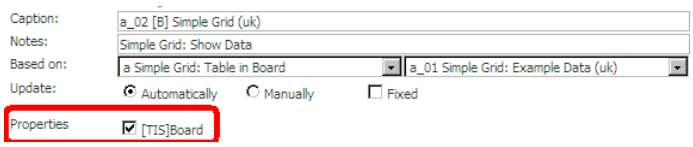
Task	
Background	As of Version 5.8.2 the [TIS]Designer is integrated into the [TIS]Board and is now the Portlet Designer
Activate the Designer	1. Switch to the admin mode by pressing the button or by the shortcut ALT-SHIFT-A.  2. Go to the Portlet Designer in the "More" button 

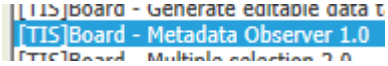
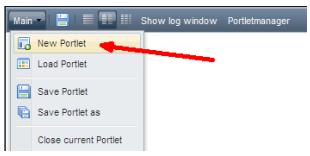
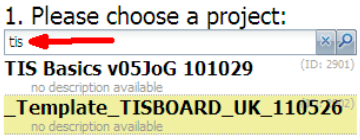
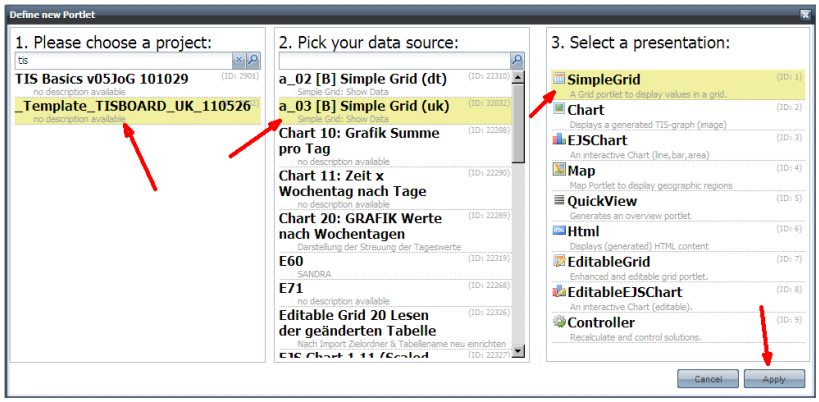
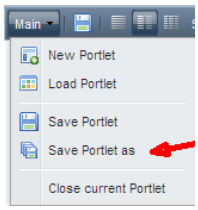
Task	
Portlet Designer	A new tab opens with all the known features of the [TIS]Designer 
Direct Editing pro Portlet	The portlet can be directly opened from the Portlet itself. 
Creating a new Portlet	Portlets can be created directly from a button click: 

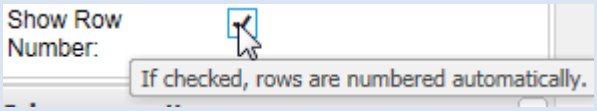
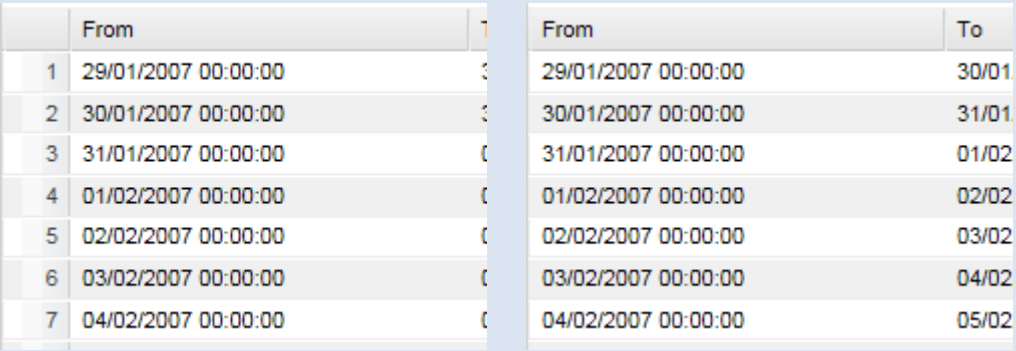
Task	
Automatically Saving Portlets	Optional new portlets can be saved automatically. 1. Select the user settings  2. Select the option "store new portlets automatically" and select the path, where the portlets should be saved.  3. When creating a new portlet and saving it, the portlet will be saved into the selected folder with a created portlet name. **SimpleGrid xi58 20150803 112444**

D.1.2. Display Portlets

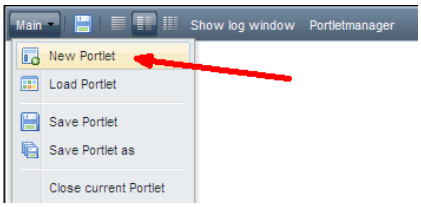
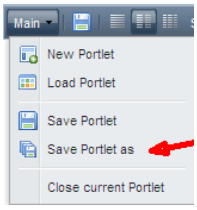
Create Simple Grid Portlets

Task	Actions
Prepare in [TIS]Editor	1. Prepare the data in a [TIS]Editor data node 2. Switch on the symbol for [TIS]Board connection 

Task	Actions
Option in [TIS]Editor	If the content of the table is dynamic – such as deviating number of columns or different column names – an additional operator is necessary: Metadata Observer  Set this operator as the last operator in the data node for the Simple Grid.
Create in [TIS]Designer	1. Select New Portlet  2. Select the [TIS]Editor project, the data node, and select the type of Portlet The search box  helps to find things easily.  3. SAVE PORTLET 
Format in [TIS]Designer	See Description in [Formatting Elements for all/most Portlets]().
SAVE & Close	Save the changes of this Portlet and close it in [TIS]Designer.

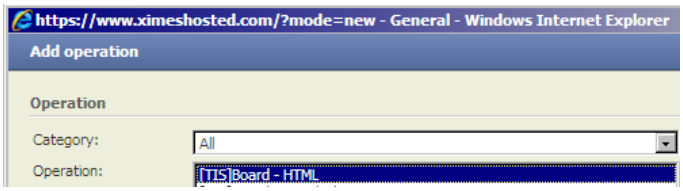
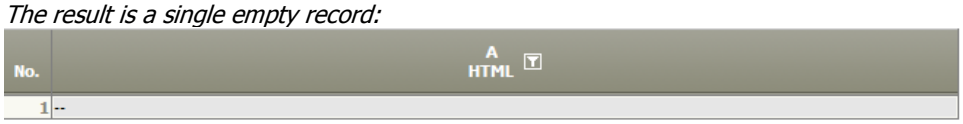
Task	Actions
Row Numbers	As of version 5.8.2 row numbers of grids can be shown/hidden.  

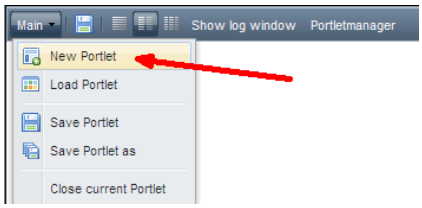
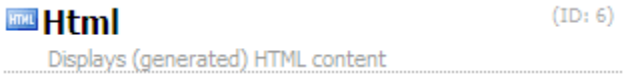
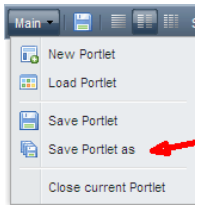
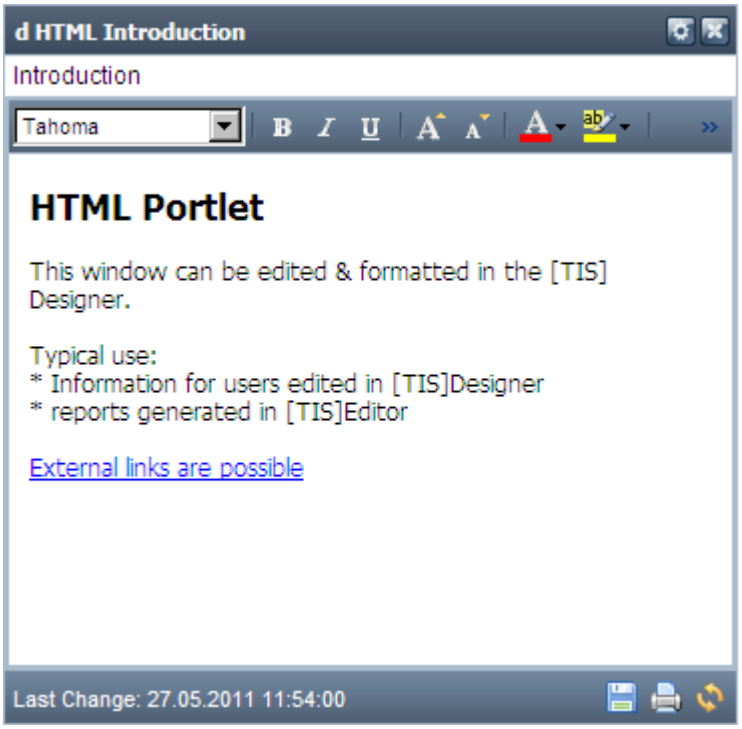
Create Chart Portlets

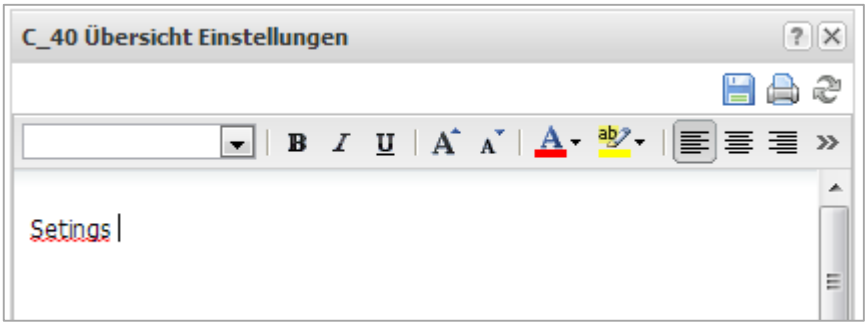
Task	Actions
Prepare in [TIS]Editor	1. Prepare the data in a [TIS]Editor data node 2. Format the Chart in [TIS]Editor. 3. Switch on the symbol for [TIS]Board connection in [TIS]Editor
Create in [TIS]Designer	1. Select New Portlet  2. Select the [TIS]Editor project, the data node, and select the type of Portlet (see Create SIMPLE GRID Portlets for a description of these steps) 3. SAVE PORTLET 
Format in [TIS]Designer	See Description in [TIS]Designer – HOW TO FORMAT & WORK WITH PORTLETS?.

Task	Actions
SAVE & Close	Save the changes of this Portlet and close it in [TIS]Designer.
TIPS	TIS-chart can have pages as in [TIS]Editor.

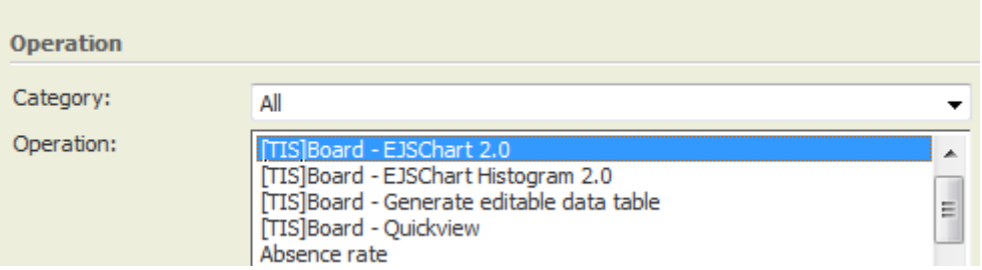
Create HTML Portlets

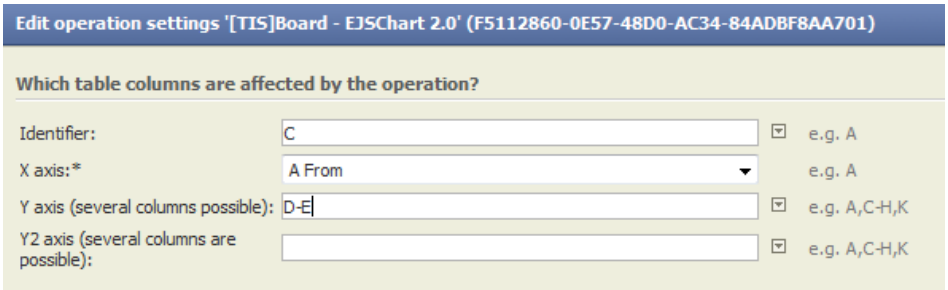
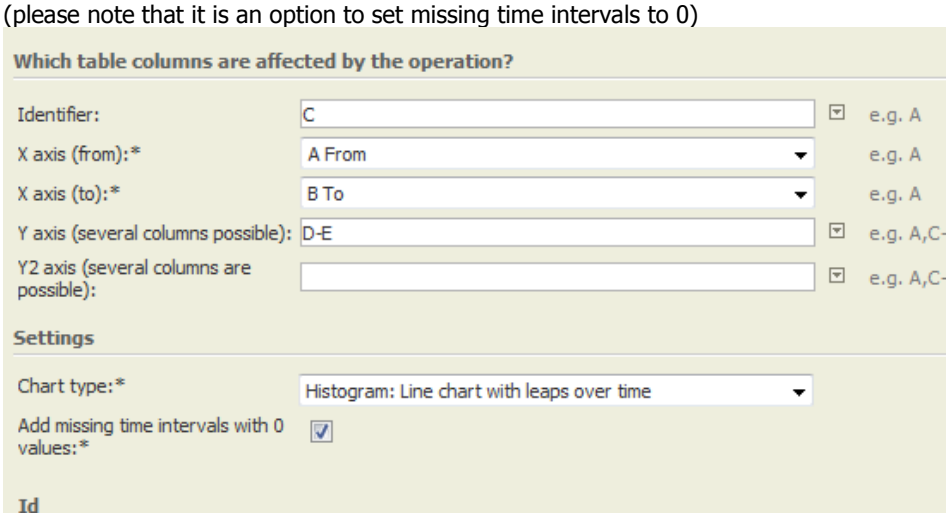
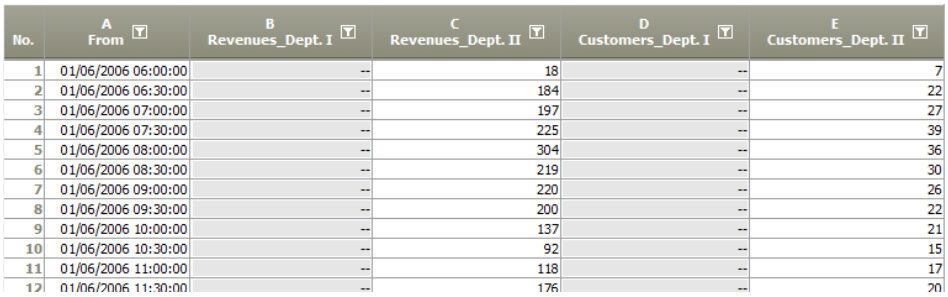
Task	Actions
Prepare in [TIS]Editor Option 1:	**Preparing for text editing in [TIS]Designer.** 1. Create an empty data-node in [TIS]Editor. 2. Add the [TIS]Board friend operator – HTML  *This operator prepares everything for the connection in [TIS]Board and manages the update processes. There are no special settings to be selected JUST click OK.* *The result is a single empty record:*  3. Switch on the symbol for [TIS]Board connection in [TIS]Editor Properties ☑ [TIS]Board
Prepare in [TIS]Editor Option 2:	**Preparing the texts in [TIS]Editor only to be shown in [TIS]Board** 1. Create the data-node in [TIS]Editor with one column and one row with HTML-Content *EXAMPLE: You can integrate pictures or results in nice HTML pages:* 2. Switch on the symbol for [TIS]Board connection in [TIS]Editor Properties ☑ [TIS]Board

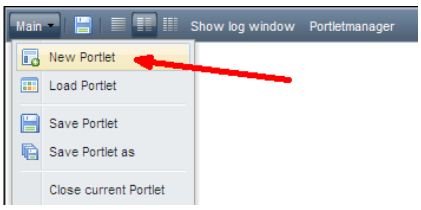
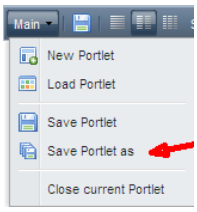
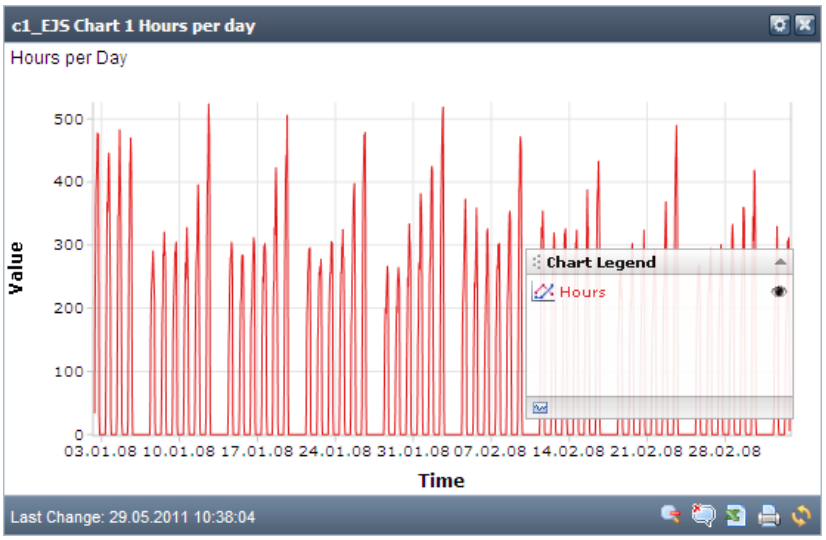
Task	Actions
Create in [TIS]Designer	1. Select New Portlet  2. Select the [TIS]Editor project, the data node, and select the type of the Portlet (see Create SIMPLE GRID Portlets for a description of these steps)  3. SAVE PORTLET 
Edit in [TIS]Designer	See Description in [TIS]Designer – how to format Portlets? Do not forget to save The result will look similar to this: 

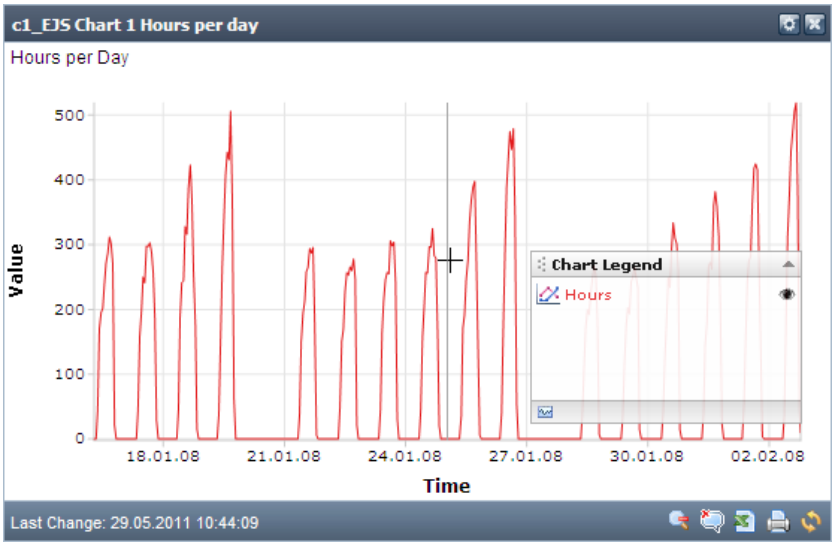
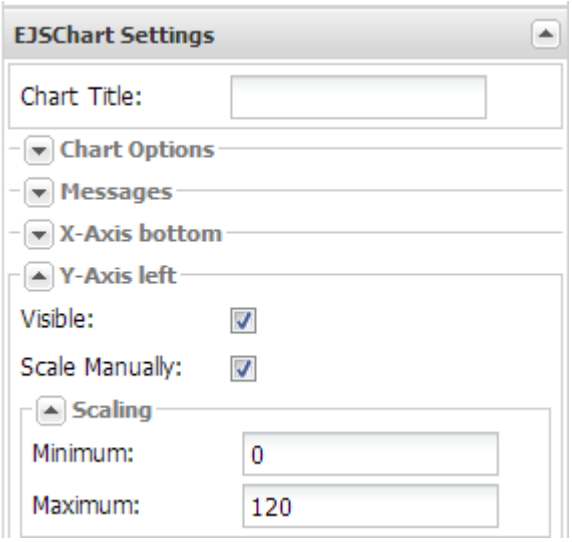
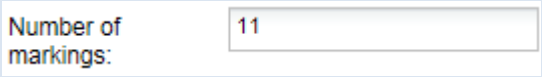
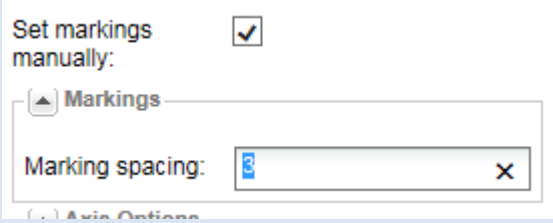
Task	Actions
SAVE & Close	Save the changes of this Portlet and close it in [TIS]Designer.
Tips	Using pictures and icons in HTML Portlets.
NEW	HTML-Portlets can be edited within the [TIS]Board from version 5.5.
Tip	Use Google Chrome and enable the Spell check. This might help you with your inputs. 

Create EJS Chart Portlets

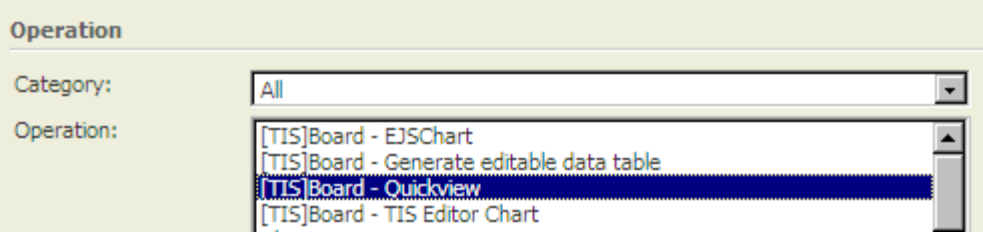
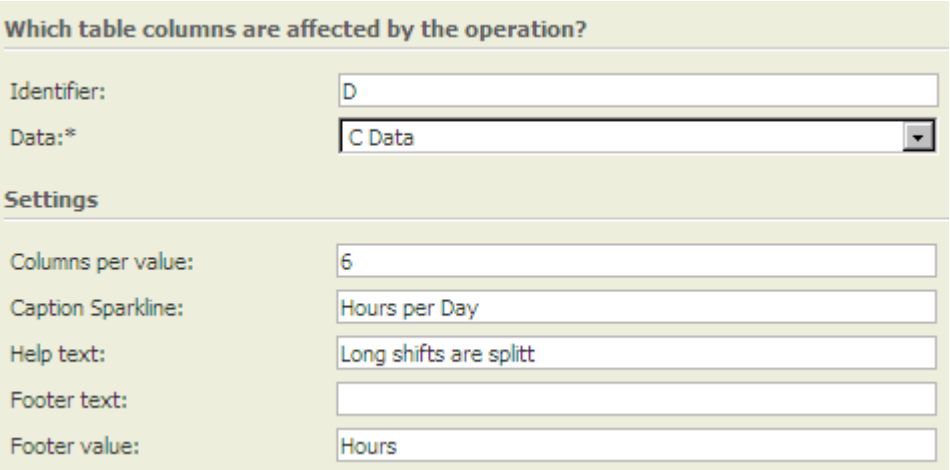
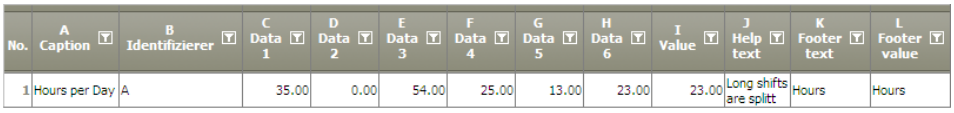
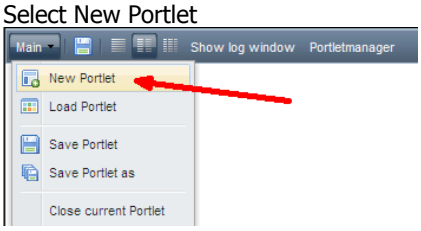
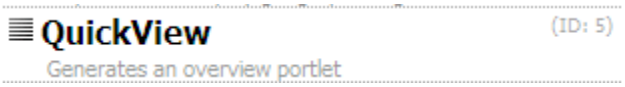
Task	Actions
Create in [TIS]Editor Step 1	Prepare the data in a [TIS]Editor data node
Create in [TIS]Editor Step 2	Add the Operation EJS-Chart 2.0 (regular chart with values attached to time points) or EJSChart Histogramm 2.0 (time-spans with the same value are represented as horizontal lines) 

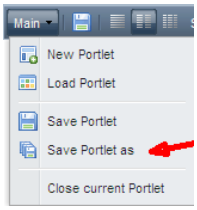
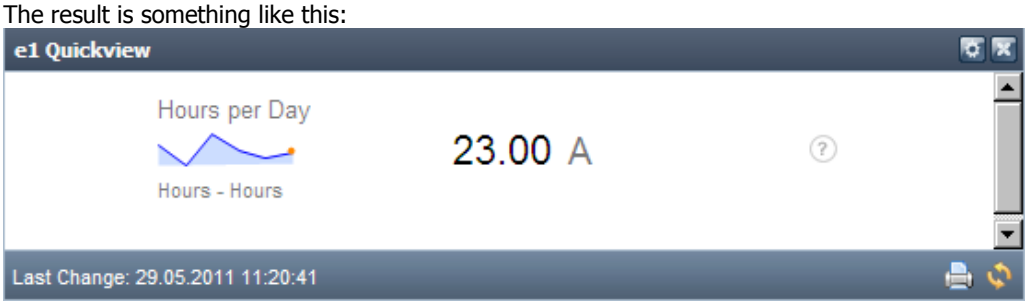
Task	Actions
Create in [TIS]Editor Step 3	Select the time column & one or several data columns  **Edit operation settings '[TIS]Board - EJSChart 2.0' (F5112860-0E57-48D0-AC34-84ADBF8AA701)** **Which table columns are affected by the operation?** Identifier: C e.g. A X axis:* A From e.g. A Y axis (several columns possible): D-E e.g. A,C-H,K Y2 axis (several columns are possible): e.g. A,C-H,K or EJSChart Histogramm 2.0 (please note that it is an option to set missing time intervals to 0)  **Which table columns are affected by the operation?** Identifier: C e.g. A X axis (from):* A From e.g. A X axis (to):* B To e.g. A Y axis (several columns possible): D-E e.g. A,C- Y2 axis (several columns are possible): e.g. A,C- **Settings** Chart type:* Histogram: Line chart with leaps over time Add missing time intervals with 0 values:* ☑ **Id** As of version 5.6 the number of data sets can be limited to avoid errors with the portlet **Settings** Limit amount of data points.: ☑ Maximal amount of data points.: 1000 e.g. 10000
Create in [TIS]Editor Step 4	This will lead to a data-node like this  No. | A From | B Revenues_Dept. I | C Revenues_Dept. II | D Customers_Dept. I | E Customers_Dept. II 1 | 01/06/2006 06:00:00 | -- | 18 | -- | 7 2 | 01/06/2006 06:30:00 | -- | 184 | -- | 22 3 | 01/06/2006 07:00:00 | -- | 197 | -- | 27 4 | 01/06/2006 07:30:00 | -- | 225 | -- | 39 5 | 01/06/2006 08:00:00 | -- | 304 | -- | 36 6 | 01/06/2006 08:30:00 | -- | 219 | -- | 30 7 | 01/06/2006 09:00:00 | -- | 220 | -- | 26 8 | 01/06/2006 09:30:00 | -- | 200 | -- | 22 9 | 01/06/2006 10:00:00 | -- | 137 | -- | 21 10 | 01/06/2006 10:30:00 | -- | 92 | -- | 15 11 | 01/06/2006 11:00:00 | -- | 118 | -- | 17 12 | 01/06/2006 11:30:00 | -- | 176 | -- | 20
Create in [TIS]Editor Step 5	Switch on the symbol for [TIS]Board connection in [TIS]Editor in the RETRIEVAL data node Properties ☑ [TIS]Board

Task	Actions
Create in [TIS]Designer Step 1	Select New Portlet 
Create in [TIS]Designer Step 2	Select the [TIS]Editor project, the data node, and select the type of Portlet (see Create SIMPLE GRID Portlets for a description of these steps)
Create in [TIS]Designer Step 3	Save Portlet 
Edit in [TIS]Designer	See general Description in [TIS]Designer – HOW TO FORMAT & WORK WITH PORTLETS? The result is something like this: 
SAVE & Close	Save the changes of this Portlet and close it in [TIS]Designer.

Task	Actions
TIPS	Please note the possibility of drilling down (zoom in) which allows to see the details (see Working with EJS-Chart). 
Scalable Y-Axis	From 5.5 Y-Axis can be scaled manually. Go to the EJSChart Settings within the [TIS]Designer, check the box next to "Scale Manually" and defines the minimum and maximum value. 
Markings	The markings can be defined by the number of markings  … or by the spacing between each marking: 

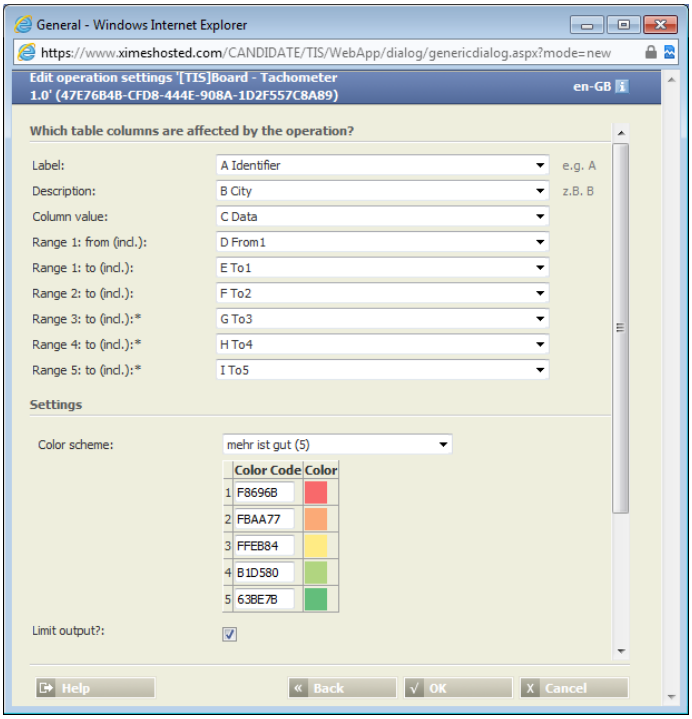
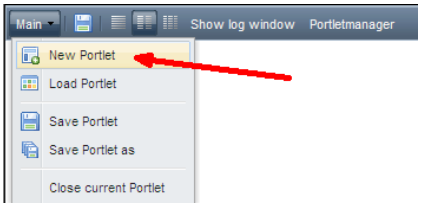
Create Quickview Portlets

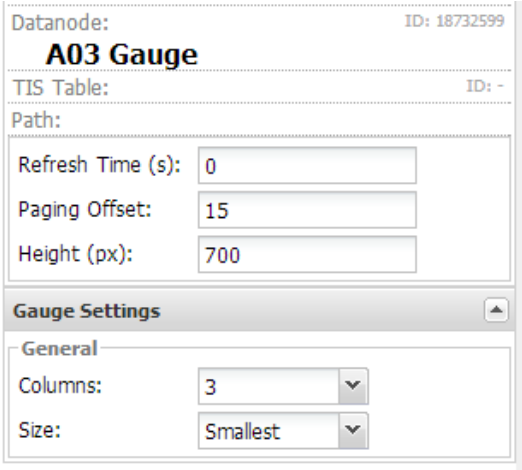
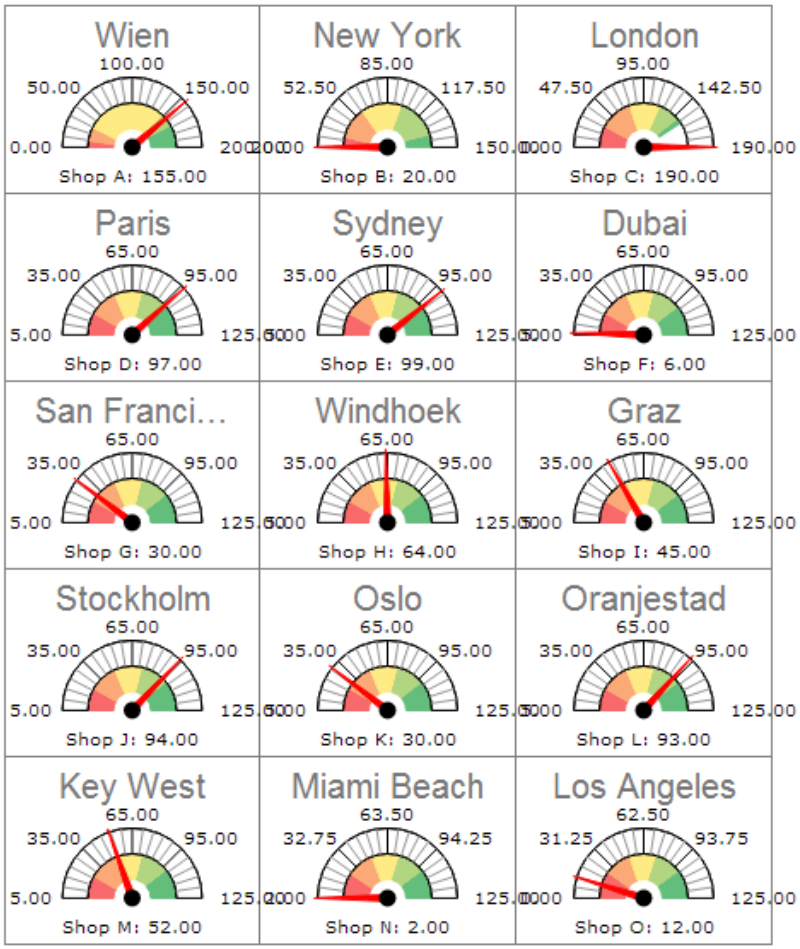
Task	Actions
Prepare in [TIS]Editor Step 1	Prepare the data in [TIS]Editor and add the operation 
Prepare in [TIS]Editor Step 2	This will allow you to select data and time and add texts. 
Prepare in [TIS]Editor Step 3	You will get something like  No. | A Caption | B Identifizierer | C Data 1 | D Data 2 | E Data 3 | F Data 4 | G Data 5 | H Data 6 | I Value | J Help text | K Footer text | L Footer value 1 | Hours per Day | A | 35.00 | 0.00 | 54.00 | 25.00 | 13.00 | 23.00 | 23.00 | Long shifts are splitt | Hours | Hours
Prepare in [TIS]Editor Step 4	Switch on the symbol for [TIS]Board connection in [TIS]Editor in the RETRIEVAL data node
Create in [TIS]Designer Step 1	Select New Portlet 
Create in [TIS]Designer Step 2	Select the [TIS]Editor project, the data node, and select the type of Portlet (see Create SIMPLE GRID Portlets for a description of these steps) 

Task	Actions
Create in [TIS]Designer Step 3	Save Portlet 
Edit in [TIS]Designer	See Description in [TIS]Designer – HOW TO FORMAT & WORK WITH PORTLETS? The result is something like this: 
SAVE & Close	Save the changes of this portlet and close it in [TIS]Designer.
TIPS	This portlet allows for showing the development of many values on small screens (e.g. on an smartphone)

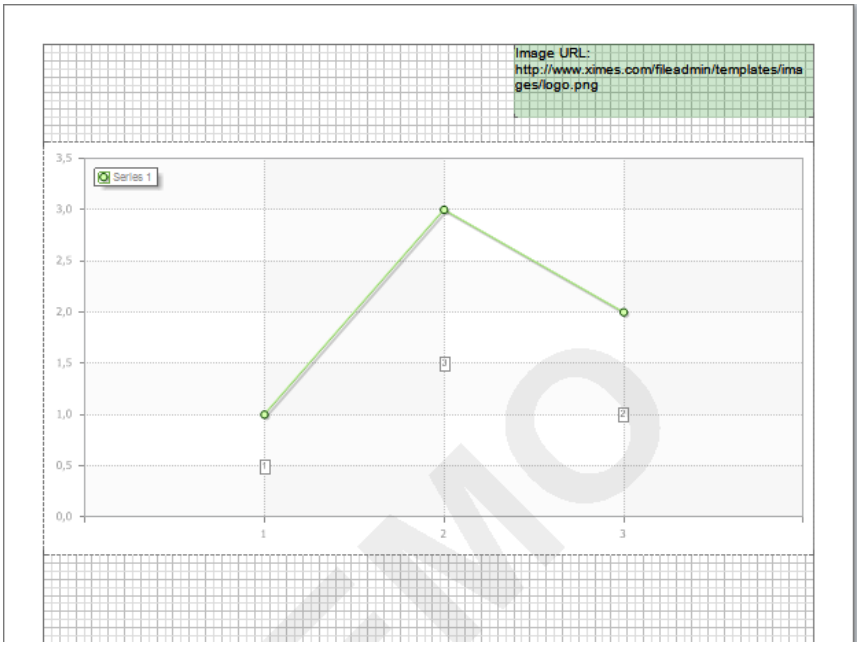
Create Gauge Portlets

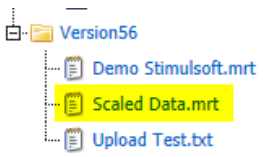
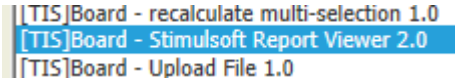
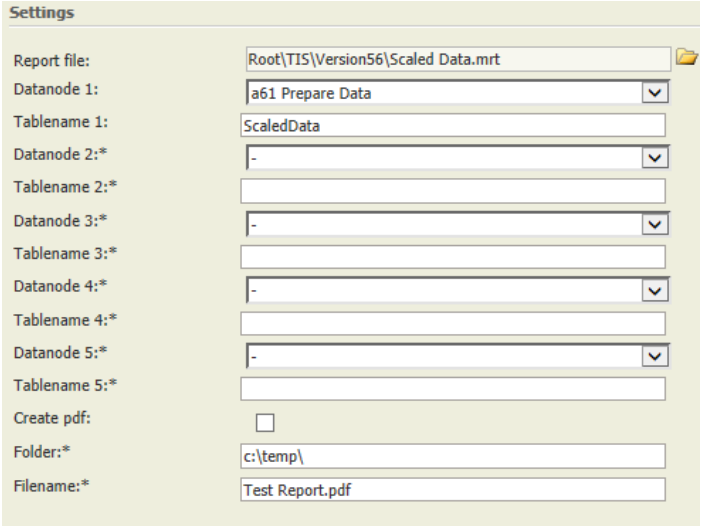
Task	Actions
Prepare in [TIS]Editor Step 1	Prepare the data that should be the input/start data for the editable grid in a data-node in [TIS]Editor with the following columns: No. | A Identifier | B City | C Data | D From1 | E To1 | F To2 | G To3 | H To4 | I To5 1 | Shop A | Wien | 155.00 | 0.00 | 10.00 | 30.00 | 150.00 | 170.00 | 200.00 2 | Shop B | New York | 20.00 | 20.00 | 30.00 | 60.00 | 100.00 | 140.00 | 150.00 3 | Shop C | London | 190.00 | 0.00 | 30.00 | 76.00 | 120.00 | 150.00 | 155.00 4 | Shop D | Paris | 97.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 5 | Shop E | Sydney | 99.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 6 | Shop F | Dubai | 6.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 7 | Shop G | San Francisco | 30.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 8 | Shop H | Windhoek | 64.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 9 | Shop I | Graz | 45.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 10 | Shop J | Stockholm | 94.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 11 | Shop K | Oslo | 30.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 12 | Shop L | Oranjestad | 93.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 13 | Shop M | Key West | 52.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 14 | Shop N | Miami Beach | 2.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 15 | Shop O | Los Angeles | 12.00 | 0.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 16 | Shop P | Dublin | 57.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 17 | Shop Q | Maribor | 18.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 18 | Shop R | Kuala Lumpur | 41.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 19 | Shop S | Singapore | 88.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 20 | Shop T | Bangkok | 7.00 | 5.00 | 25.00 | 50.00 | 75.00 | 100.00 | 125.00 Create a Column which is the identifier for the data and add an additional information column. The column data marks the value with should be displayed. While column From1 is the minimum value on the gauge, the columns To1 through To4 represent the sections. Column To5 is the maximum value on the gauge.

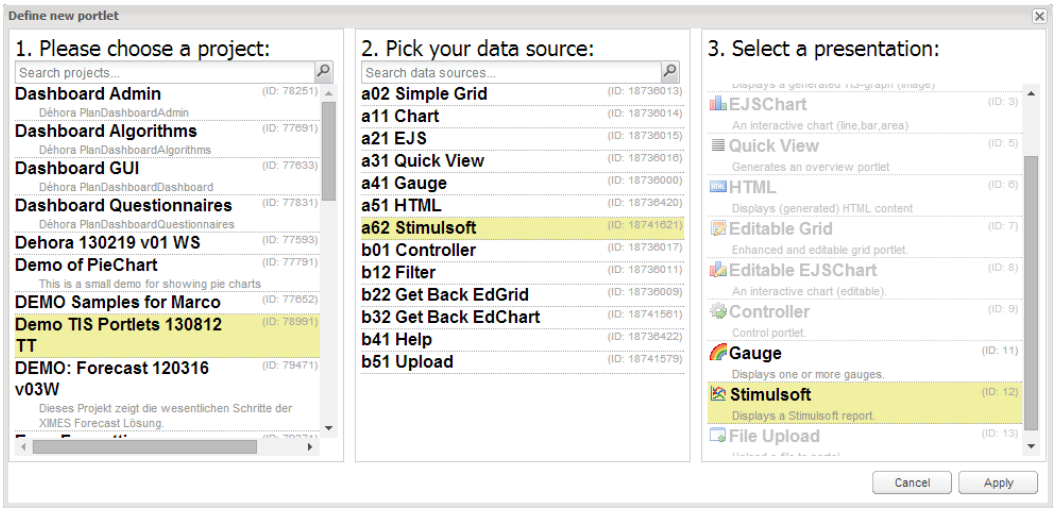
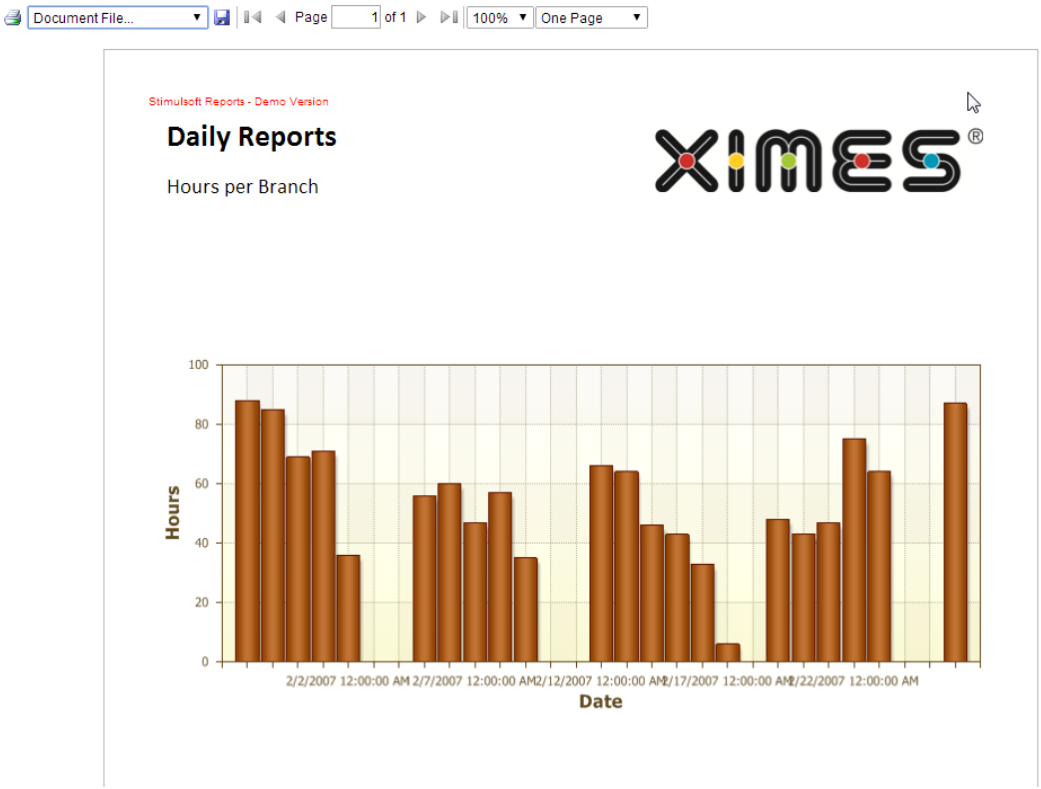
Task	Actions
Prepare in [TIS]Editor Step 2	Add the operation [TIS]-Board – Tachometer 1.0  Choose now which column are being used in the operation. Below it you can choose colours for each data range. Please be aware, that the number of rows is litied to 15. In the example the last 5 rows were deleted. You will also get a warning if data is outside the give ranges.
Prepare in [TIS]Editor Step 3	Switch on the symbol for [TIS]Board connection in [TIS]Editor in the RETRIEVAL data node Properties ☑ [TIS]Board
Create in [TIS]Designer Step 1	Select New Portlet 

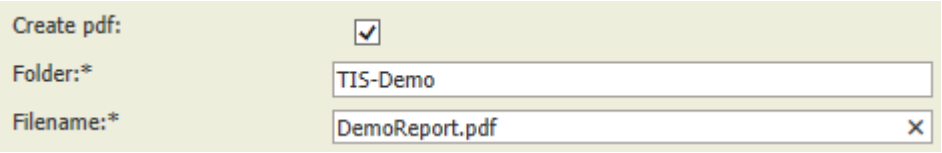
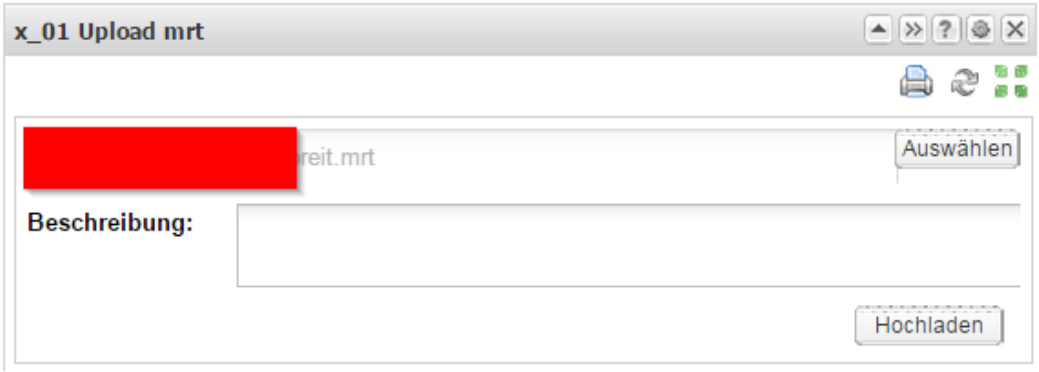
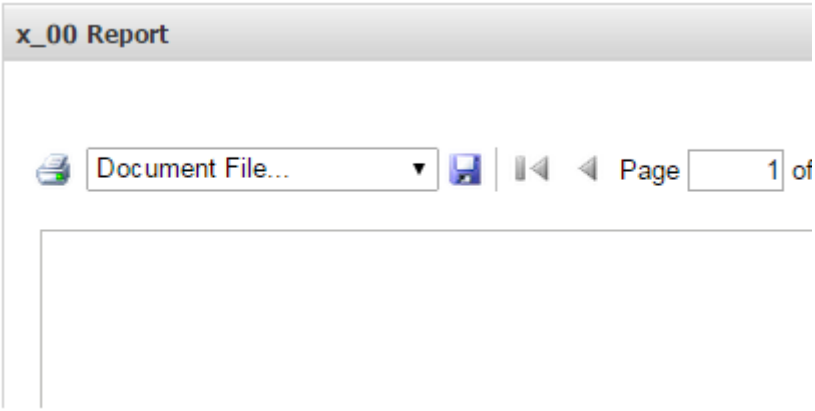
Task	Actions
Create in [TIS]Designer Step 2	Define how many gauges should be on one side (here 15) and the number of columns where the gauges should be placed (here 3). 
Edit in [TIS]Designer Step 3	See general Description in [TIS]Designer – HOW TO FORMAT & WORK WITH PORTLETS? The result is something like this: 

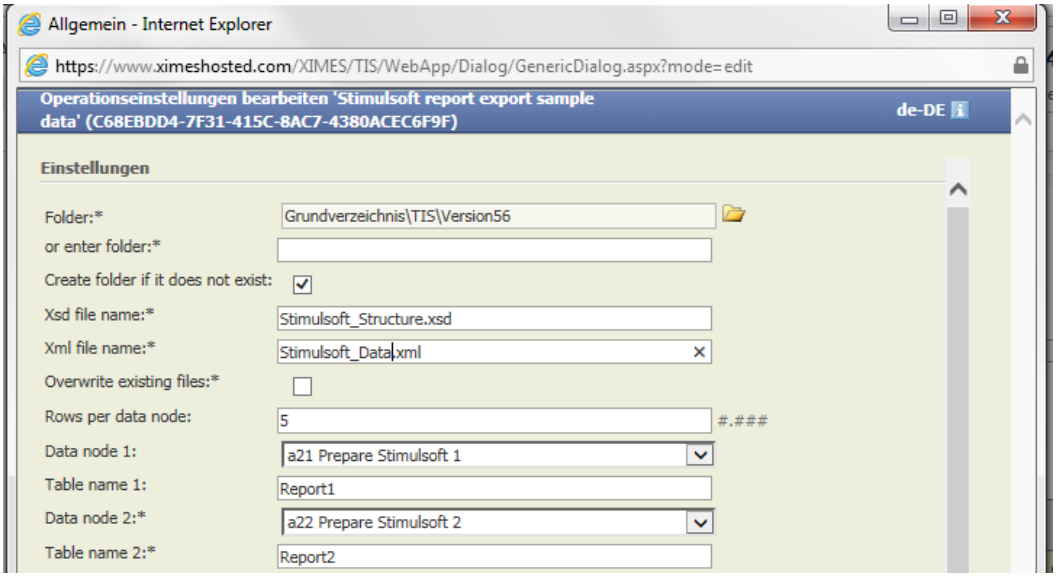
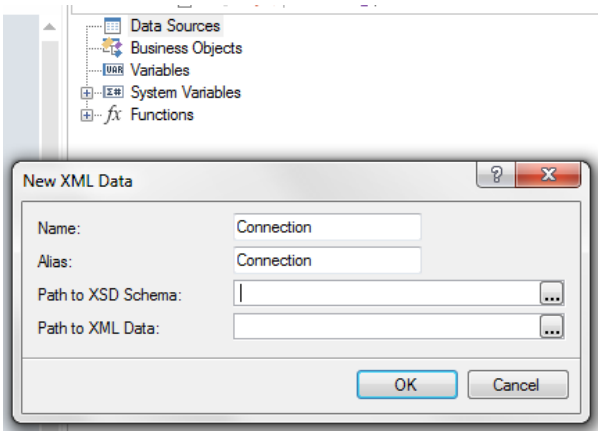
Create Stimulsoft Report Portlets

Task	Actions
Idea	With Stimulsoft Reports pdf reports can be created. They can be stored locally or be displayed in the [TIS]Board.
Prepare Reports in Stimulsoft Design Client	For designing the report it is necessary to download and install the client Stimulsoft Reports.Net which can be found on www.stimulsoft.com In the client pages can be designed that include data from different nodes. Additionally, different pictures, texts and much more can be placed on the page.  Save the report to a mrt file.
Prepare in [TIS]Editor Step 1	Create a table whose data should be displayed in the reports. No. | A From | B To | C Data | D Group 1 | 02/01/2007 05:00:00 | 02/01/2007 06:00:00 | 0.00 | A0 2 | 02/01/2007 06:00:00 | 02/01/2007 07:00:00 | 3.00 | A0 3 | 02/01/2007 07:00:00 | 02/01/2007 08:00:00 | 4.00 | A0 4 | 02/01/2007 08:00:00 | 02/01/2007 09:00:00 | 4.00 | A0 5 | 02/01/2007 09:00:00 | 02/01/2007 10:00:00 | 4.00 | A0 6 | 02/01/2007 10:00:00 | 02/01/2007 11:00:00 | 5.00 | A0 7 | 02/01/2007 11:00:00 | 02/01/2007 12:00:00 | 5.00 | A0 8 | 02/01/2007 12:00:00 | 02/01/2007 13:00:00 | 5.00 | A0 9 | 02/01/2007 13:00:00 | 02/01/2007 14:00:00 | 5.00 | A0 10 | 02/01/2007 14:00:00 | 02/01/2007 15:00:00 | 5.00 | A0 11 | 02/01/2007 15:00:00 | 02/01/2007 16:00:00 | 4.00 | A0 12 | 02/01/2007 16:00:00 | 02/01/2007 17:00:00 | 2.00 | A0 13 | 02/01/2007 17:00:00 | 02/01/2007 18:00:00 | 0.00 | A0 14 | 02/01/2007 18:00:00 | 02/01/2007 19:00:00 | 0.00 | A0 15 | 02/01/2007 19:00:00 | 02/01/2007 20:00:00 | 0.00 | A0 16 | 02/01/2007 20:00:00 | 02/01/2007 21:00:00 | 0.00 | A0 17 | 02/01/2007 21:00:00 | 02/01/2007 22:00:00 | 0.00 | A0 18 | 02/01/2007 22:00:00 | 02/01/2007 23:00:00 | 0.00 | A0 19 | 02/01/2007 23:00:00 | 03/01/2007 00:00:00 | 0.00 | A0 20 | 03/01/2007 00:00:00 | 03/01/2007 01:00:00 | 0.00 | A0 « Back Forward » Go to page 1 Total 5 Number of rows: 100 | Columns: 4

Task	Actions
Prepare in [TIS]Editor Step 2	Upload the mrt file to the [TIS] data management. 
Prepare in [TIS]Editor Step 3	Create an empty node and add the operator:  Define the report file and each data node that should be used incl. the table name in the Stimulsoft report.  At the bottom you can choose if a pdf report should be created and where it should be saved.
Prepare in [TIS]Editor Step 4	Switch on the symbol for [TIS]Board connection in [TIS]Editor in the RETRIEVAL data node

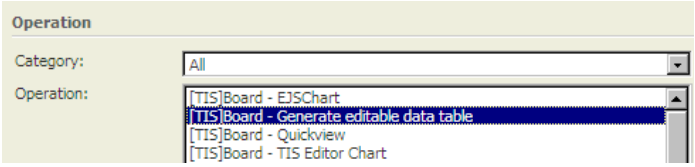
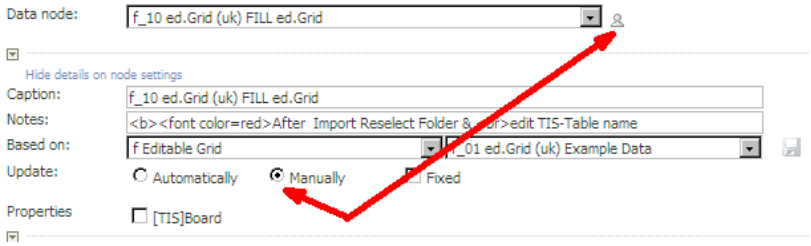
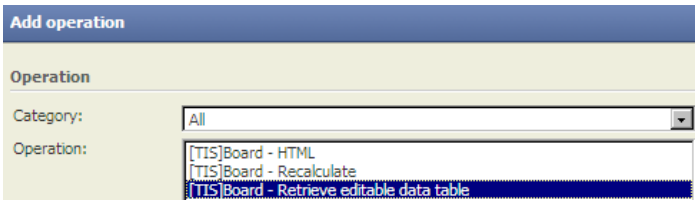
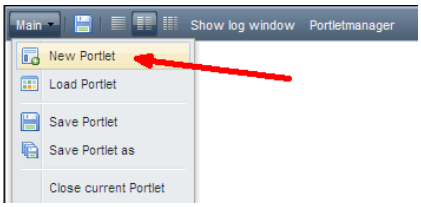
Task	Actions
Edit in [TIS]Designer Step 1	Select a new portlet 
Edit in [TIS]Designer Step 2	See general Description in [TIS]Designer – HOW TO FORMAT & WORK WITH PORTLETS? You should see something like this: 

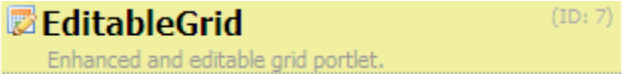
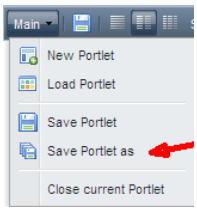
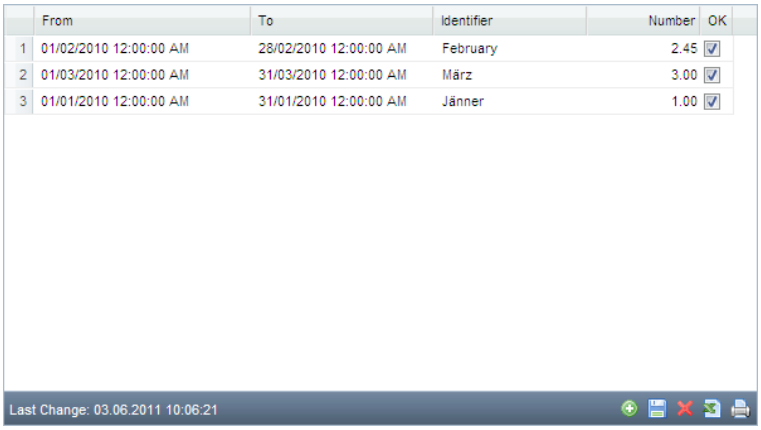
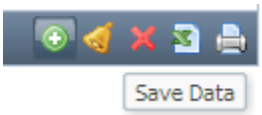
Task	Actions
Additional Functionality in [TIS]Editor	The designed reports can be directly saved to the [TIS] Datamanagement. Type in the Folder name and the filename.  This report can automatically be sent with email. See more: Send Email
Report Picture Resolution	As of version 5.8 the resolution of the reports can be defined by the user in the operator in dpi.
Upload Function	With the Upload Portlet that uploads the mrt-file side by side with the Stimulsoft Portlet new reports can easily be checked in the [TIS]Board.  

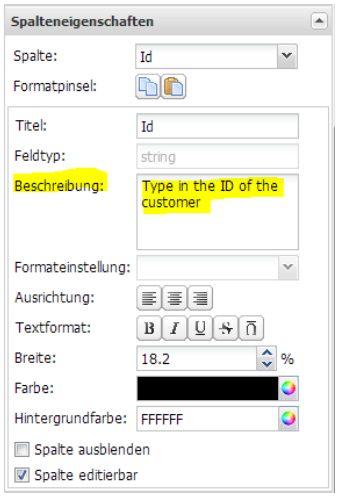
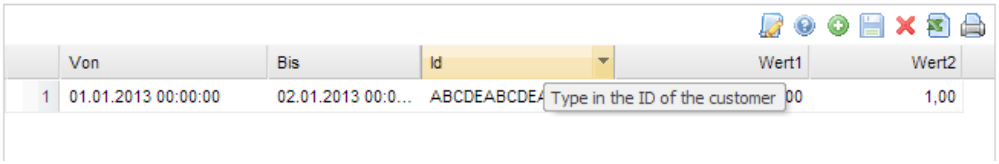
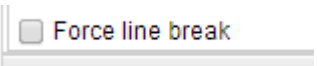
Task	Actions
Create Test Data	As of version 5.8 test data can be created to design the Stimulsoft reports in the Stimulsoft Designer. Create a new data node without parent node and choose the operation "Stimulsoft Reports – Example Data Export".  Choose a folder in the data management where the files should be saved. Then define names for the structure file (.xsd) and the data file (.xml) including the file extension. Define the number of rows per data node that shall be used as export example, chose the data node(s) and the table name(s). After executing the operation the two files can be downloaded to your computer. In the Stimulsoft Designer the two files can now being used as data source. 

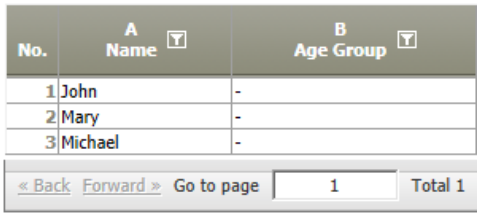
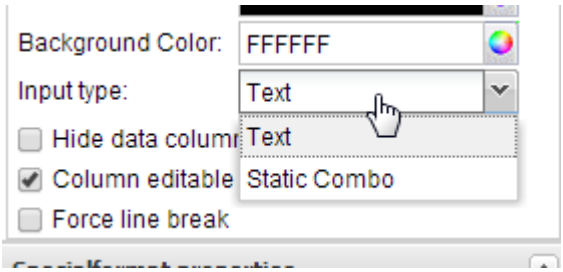
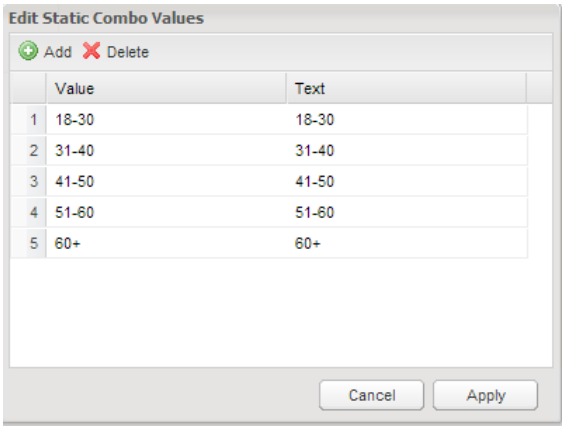
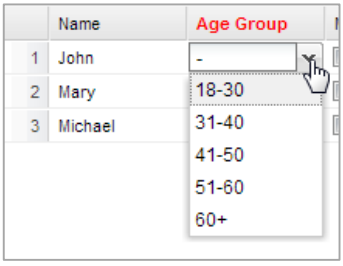
D.1.3. Interaction Portlets

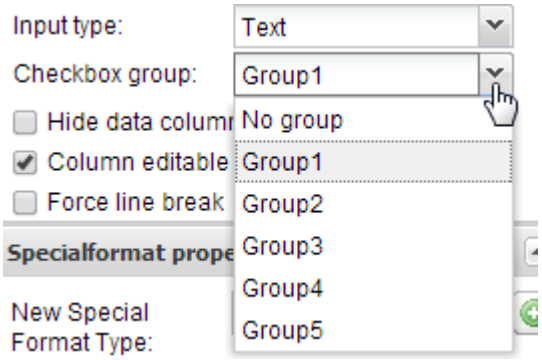
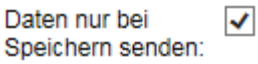
Create Editable Grid Portlets

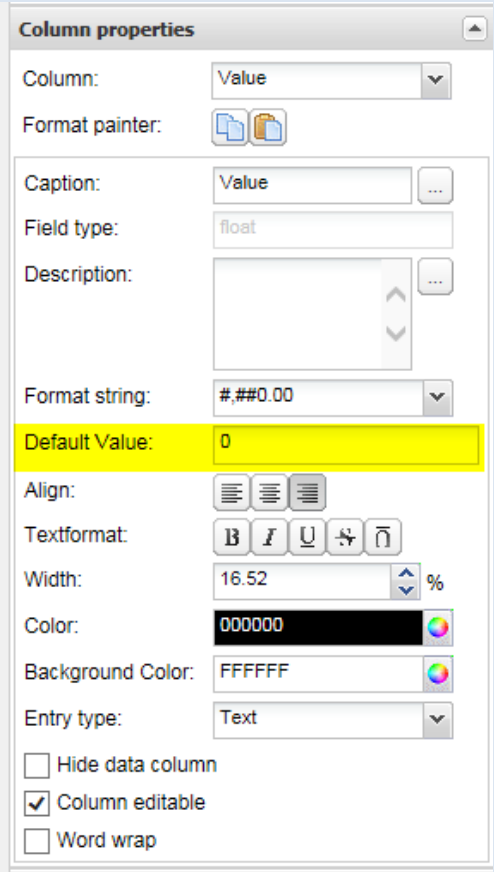
Task	Actions
Prepare in [TIS]Editor Step 1	Prepare the data that should be the input/start data for the editable grid in a data-node in [TIS]Editor and write it in a TIS-Table with the operator:  **WARNING:** Think carefully whether you want automatic or manual update of this data-node. AUTOMATIC leads to a loss of all changes edited via [TIS]Board whenever the project is calculated. Manual update makes interaction via [TIS]Editor or via a Controller Portlet necessary. 
Prepare in [TIS]Editor Step 2	CREATE a NEW EMPTY DATA-node in [TIS]Editor and add the operation  As of Version 5.6 an additional option allows to display the row ID in an extra column. This option is only necessary for Editable EJS Chart.
Prepare in [TIS]Editor Step 3	Switch on the symbol for [TIS]Board connection in [TIS]Editor in the RETRIEVAL data node
Create in [TIS]Designer Step 1	Select New Portlet 

Task	Actions
Create in [TIS]Designer Step 2	Select the [TIS]Editor project, the data node, and select the type of Portlet (see Create SIMPLE GRID Portlets for a description of these steps) 
Create in [TIS]Designer Step 3	SAVE PORTLET 
Edit in [TIS]Designer	See Description in [TIS]Designer – HOW TO FORMAT & WORK WITH PORTLETS? Do not forget to save whenever you have edited something. The result is something like this:  DO NOT FORGET TO SAVE the changes! NOTE: With a new Portlet in the [TIS]Designer you CANNOT EDIT the Portlet unless you have given it a name and saved it with the SAVE AS Dialog.  Please note that you can navigate with TABS & Cursor.
SAVE & Close	Save the changes of this Portlet and close it in [TIS]Designer.
TIPS	The controller Portlet allows for managing the update and retrieval of data from an editable grid. Boolean values in the Portlet are represented by Check-Boxes.

Task	Actions
TIPS	If you want to have an empty table that should be filled by the user do the following: 1. Create a table with the columns you need with their respective data type and create one line with dummy data. 2. Delete all rows. 3. Created the Editable Data Grid.
Column description	From Version 5.5 for each data column a description can be given that appears as a tool tip in the [TIS] Board.  
Forced Line Break	As of version 5.6 a forced line break is possible. The input "`\n`" converts the string to a HTML line break "<\br>". Make sure that the Force Line Break option is activated. 

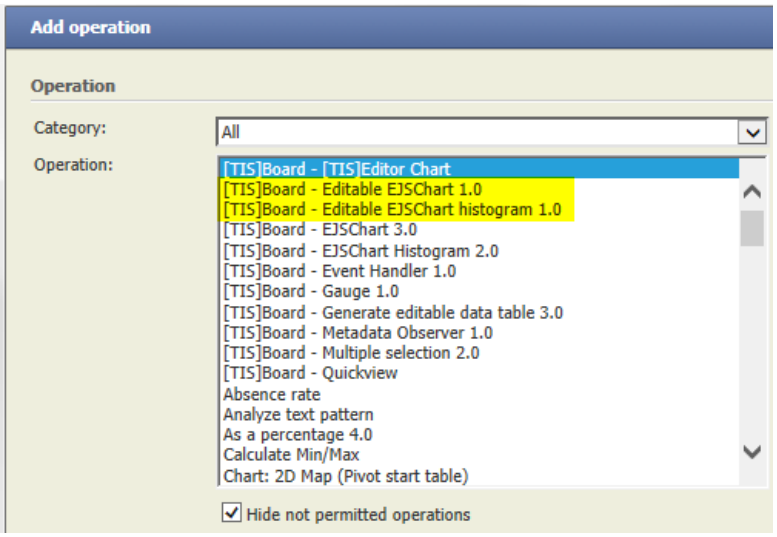
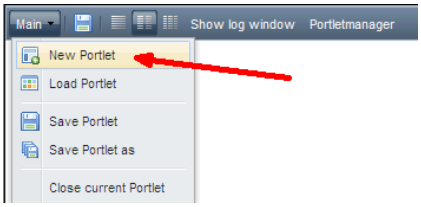
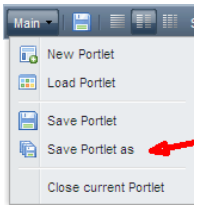
Task	Actions
Combo Boxes	From Version 5.6 Combo Box allow the inputs of predefined values. Prepare a table that should be edited:  In this grid users should only type in their age group. In the [TIS]Designer choose the column and go to the column properties and choose "Static combo"  Click on Edit Static Combo Values, so that a new window opens:  Define the values that can be chosen and the text that should be displayed. Finally the user can only choose the predefined values: 

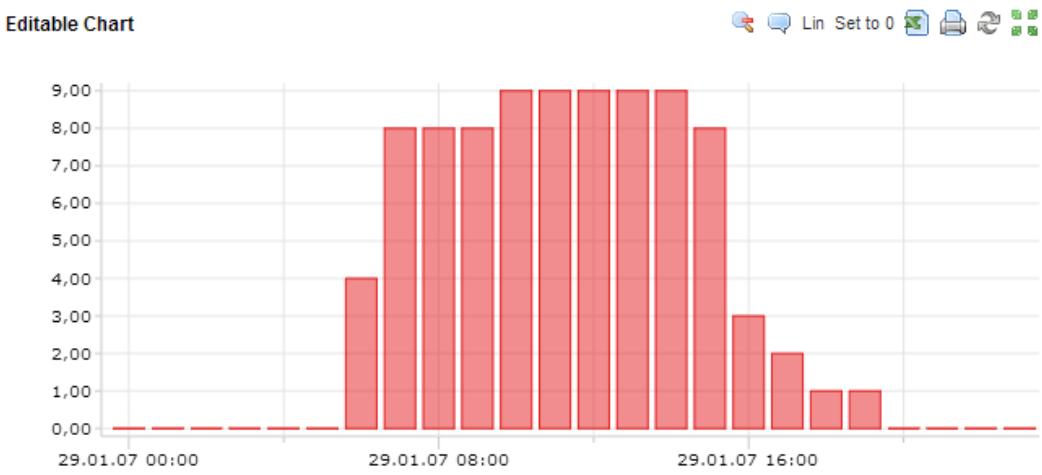
Task	Actions
Radio Buttons	This is the functionality if two columns with true/false values exclude each other (e.g. male/female) Prepare a table with the two or more columns. In the [TIS]Designer mark the first column (e.g. male) and go to the Column Properties. There choose a group, which defines which columns belong together.  Now repeat this step for the second column (e.g. female). Now in the Editable Grid only one of the two columns can be chosen.
Automatically or manually Save	As of version 5.8 users can choose if data is automatically sent to the database or if it is sent only at clicking the save button. This settings can be made in the [TIS]Designer.  The standard setting is “automatically”. The advantage of manual sending the data is that several inputs in the Editable Grid can be done quicker. Sending the data to the database must not be mixed up with saving the table.

Task	Actions
Default Values	As of version 5.8.2 default values can be defined for new rows in the Portlet Designer. 
Static Combo	As of version 5.8.2 content that will be pasted via copy/paste will be checked if there is a static combo in one of the columns.

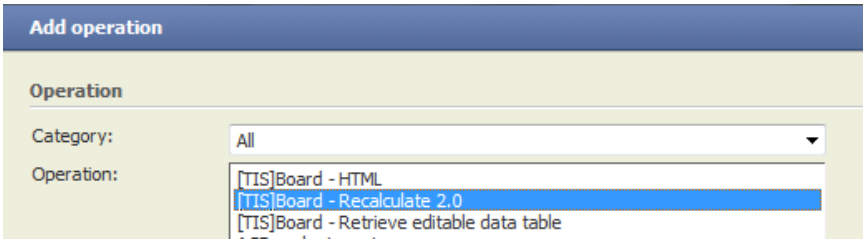
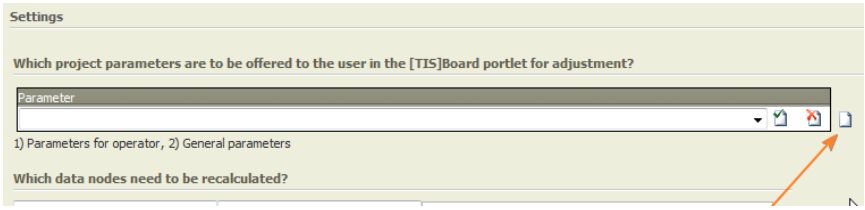
Create Editable EJS Chart Portlets

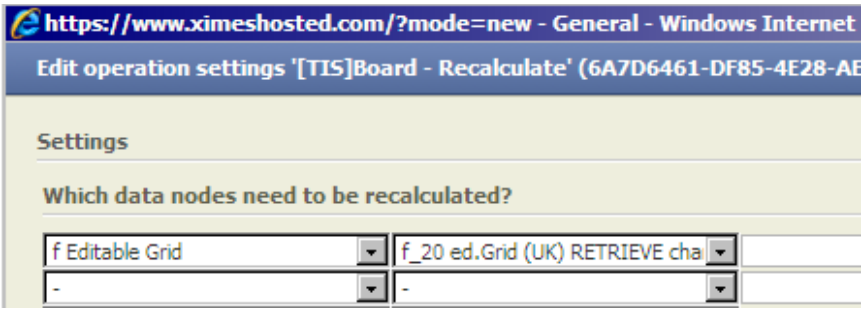
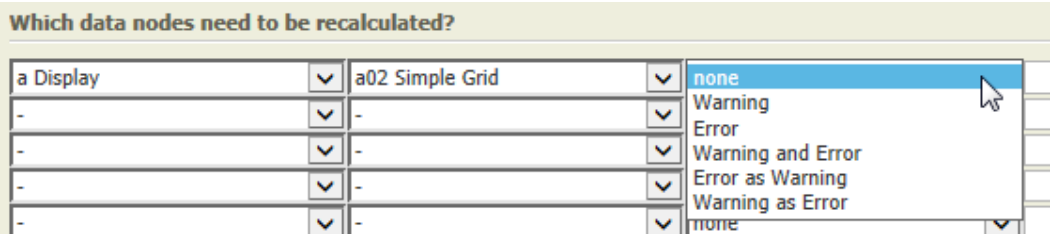
Task	Actions
Prepare in [TIS]Editor Step 1	Prepare a data node with the operator "Retrieve Editable Grid" (see above). Be sure that the option "Display row ID" is activated.

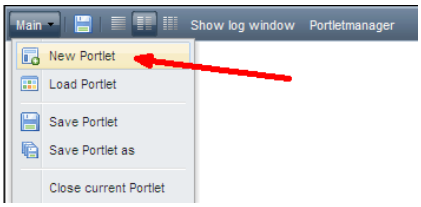
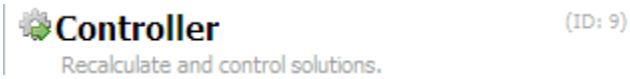
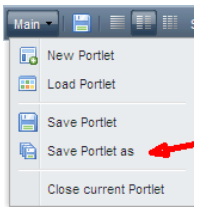
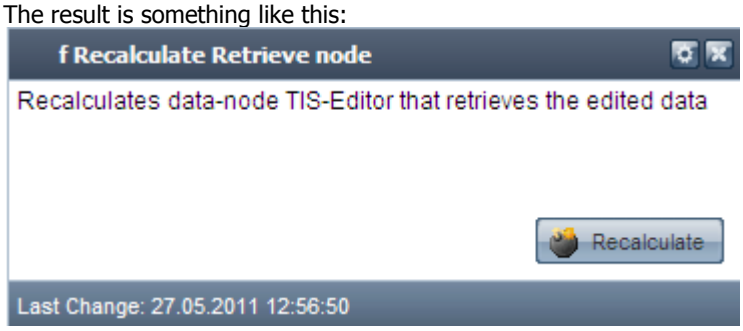
Task	Actions
Prepare in [TIS]Editor Step 2	In the same data node add a the operator: Editable EJSChart or Editable EJSChart Histogram 
Prepare in [TIS]Editor Step 3	Switch on the symbol for [TIS]Board connection in [TIS]Editor in the RETRIEVAL data node
Create in [TIS]Designer Step 1	Select New Portlet 
Create in [TIS]Designer Step 2	Select the [TIS]Editor project, the data node, and select the type of Portlet (see Create SIMPLE GRID Portlets for a description of these steps)
Create in [TIS]Designer Step 3	Save Portlet 

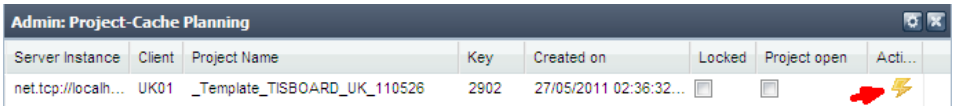
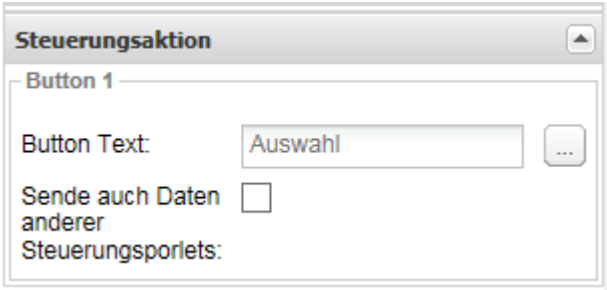
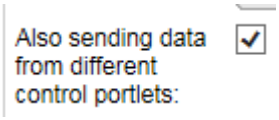
Task	Actions
Edit in [TIS]Designer	See Description in [TIS]Designer – HOW TO FORMAT & WORK WITH PORTLETS? The result is something like this:  The chart itself can also be bar charts or line charts. By moving the mouse onto the data point (which is the top of the column of the column chart) the value of the data point can be changed. By selecting an area (with holding the Shift key) the data points can be set to zero or set to linear fields. Note: Changed data is directly stored to the TIS-Table. Please note that you can navigate with TABS & Cursor.
SAVE & Close	Save the changes of this Portlet and close it in [TIS]Designer.

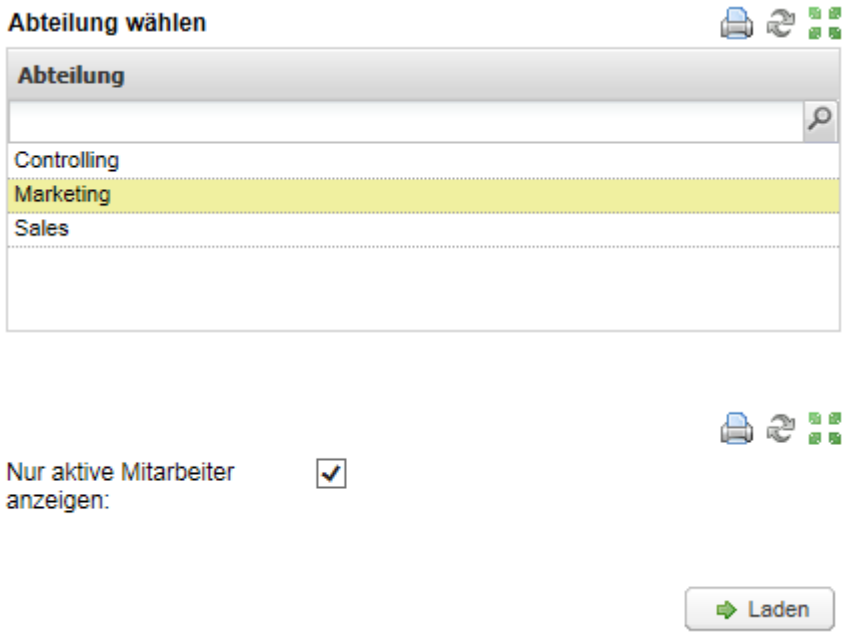
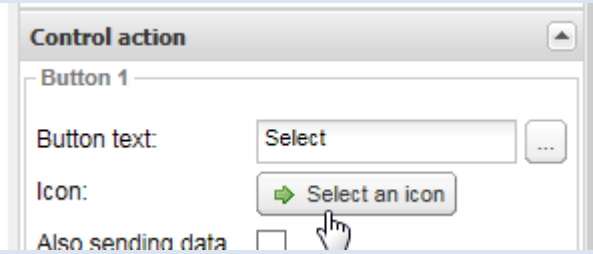
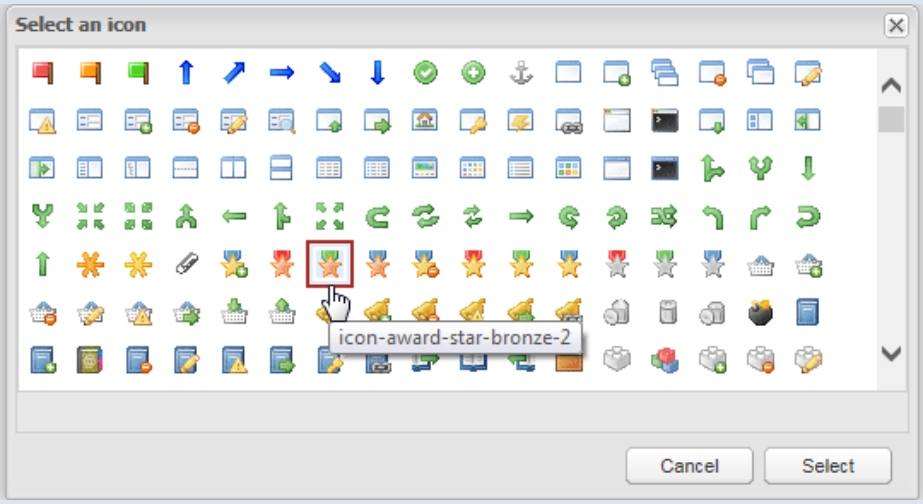
Create Controller Portlets

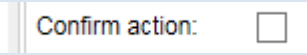
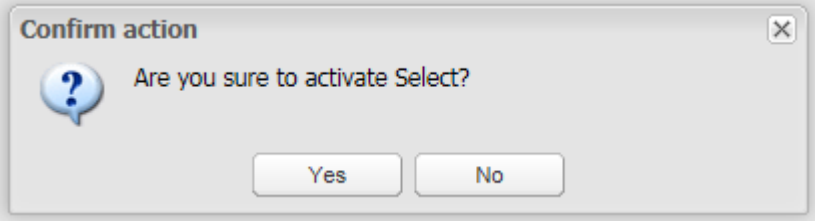
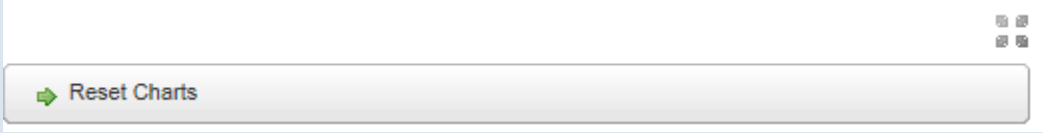
Task	Actions
Prepare in [TIS]Editor Step 1	CREATE a NEW EMPTY DATA-node in [TIS]Editor and add the operation 
Prepare in [TIS]Editor Step 2	Open the recalculate operator and add a new line for a Parameter (repeat if necessary for each Parameter) 

Task	Actions
Prepare in [TIS]Editor Step 3	Select the Parameters you want to be visible in the Portlet
Prepare in [TIS]Editor Step 4	This will allow you to select data-nodes that should be recalculated. E.g. the retrieve data node of an editable Grid  NOTE: Only import nodes and final nodes have to be listed in this list and those that need manual updates. Others should update themselves. EXAMPLE: • [TIS]Board Portlet Editable Grid that changed • [TIS]Board Charts depending indirectly on them UPDATE POLICY Controller tells [TIS]Editor to retrieve the data from the Editable Grid. Portlets on the same page "know" that the corresponding nodes have to be recalculated because they "know" that they are descendants from that node. So it is NOT necessary to add the node-charts in the list above. Portlets on other pages do not update automatically by such a recalculate. They update however, by manual pressing the update symbol on the Portlet, by closing and opening the page or time-triggered (if refresh time is set > 0 for that Portlet). As of version 5.6 the operator returns information, if a node produced a warning and an error during calculation. 
Prepare in [TIS]Editor Step 5	Optionally add Parameters – see: How to work with Project-PARAMETERS? and How to work with Parameters in [TIS]Board?

Task	Actions
Prepare in [TIS]Editor Step 6	Switch on the symbol for [TIS]Board connection in [TIS]Editor in the RETRIEVAL data node
Create in [TIS]Designer Step 1	Select New Portlet 
Create in [TIS]Designer Step 2	Select the [TIS]Editor project, the data node, and select the type of Portlet (see Create CONTROLLER Portlets for a description of these steps) 
Create in [TIS]Designer Step 3	SAVE PORTLET 
Edit in [TIS]Designer	See Description in [TIS]Designer – HOW TO FORMAT & WORK WITH PORTLETS? The result is something like this: 
SAVE & Close	Save the changes of this Portlet and close it in [TIS]Designer.
TIPS	The controller Portlet allows for managing the update and retrieval of data from an editable grid.

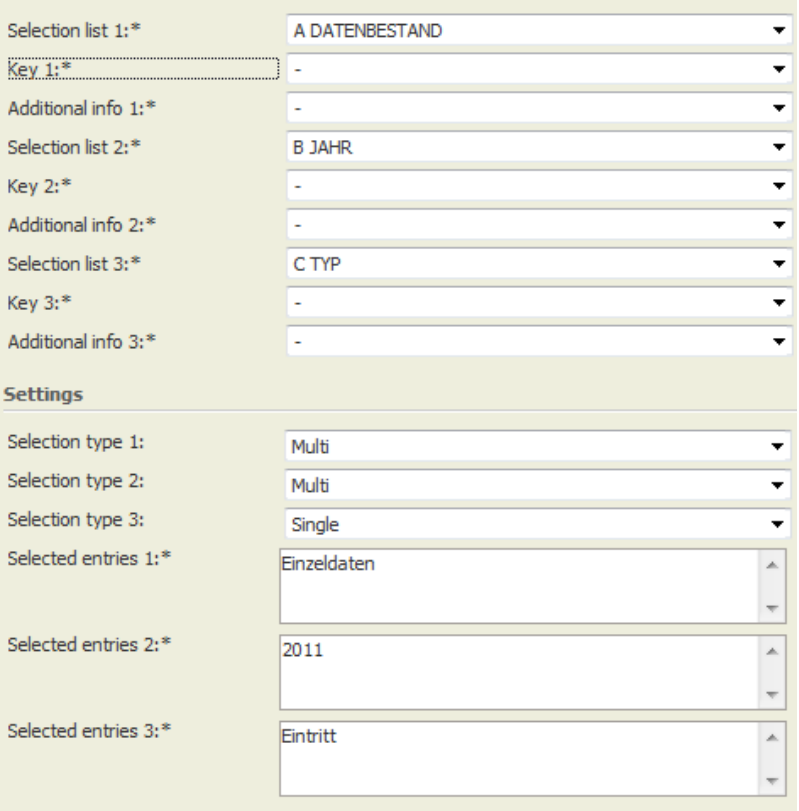
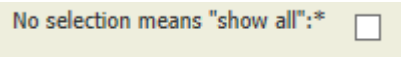
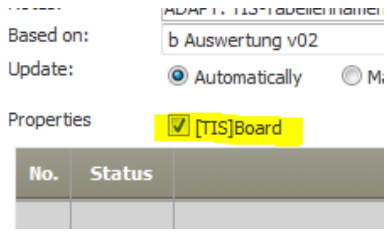
Task	Actions
NOTE	As soon as you USE the Recalculate Button, [TIS]Board takes exclusive control of the corresponding project. • You cannot open the project in [TIS]Editor as long as you do not logoff in [TIS]Board or free the project from an Admin—Page in [TIS]Board. The later requires corresponding rights and is described in Ownership of Projects & Administration Portlets.  Press the Lightning Symbol when the LOCKED switch is off. (see Further trouble-shooting for details) • Refresh to see whether it worked. • You cannot Recalculate if the project is opened in [TIS]Editor.
Change Button Name	As of version 5.8 the button text for Control Portlets can be changed in the [TIS]Designer. 
Combine Control Portlets	As of version 5.8 several control portlets (incl. Multi-Select) can combined so that only one calculate button needs to be clicked. Open the control portlet that should have the only control button in [TIS]Designer. Activate the button "Send also data of other control portlets". 

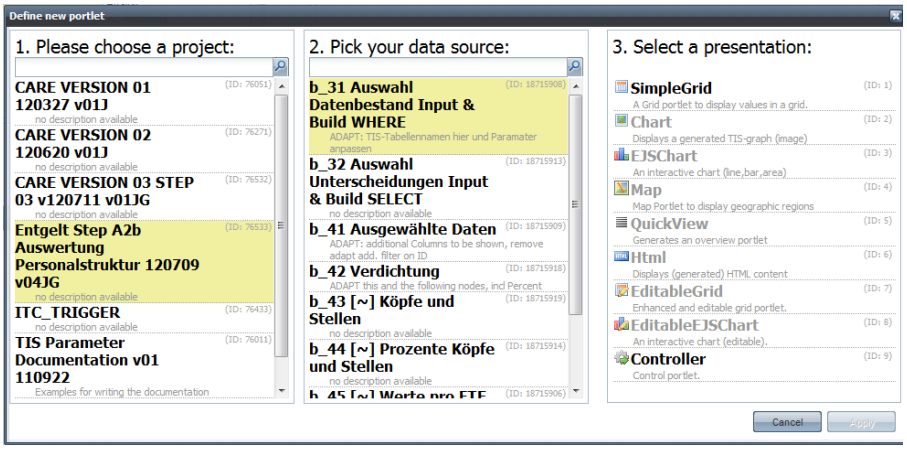
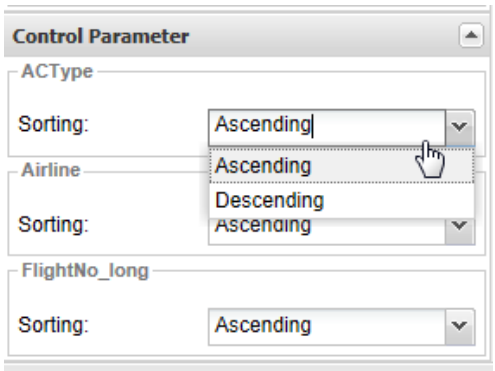
Task	Actions
Example Combined Control Portlets	An example for a Multiple Selection portlet combined with a Control portlet. 
User defined Icons	As of version 5.8.2 the symbol of the control button can be defined in the Portlet Designer.  

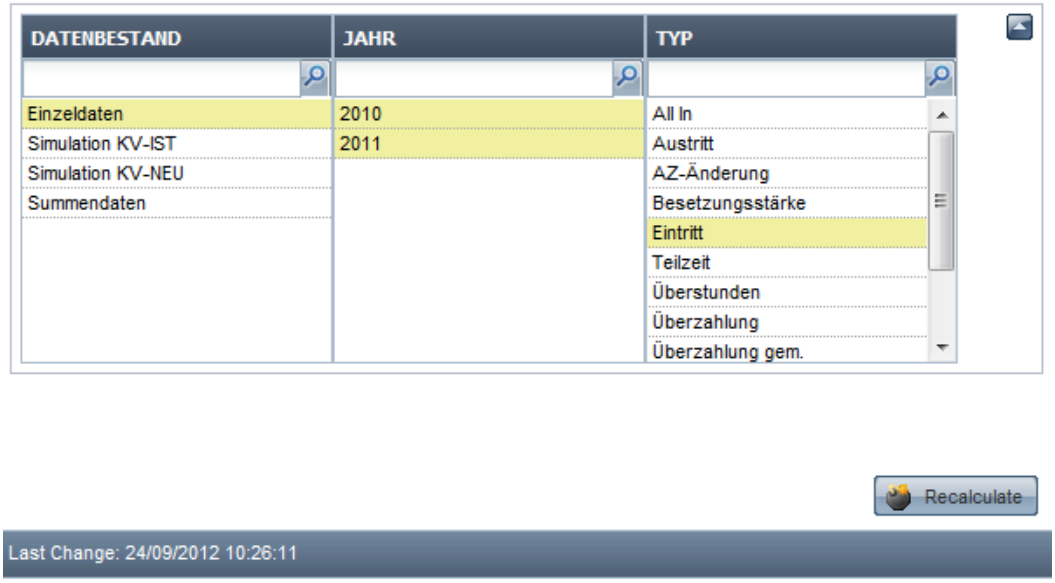
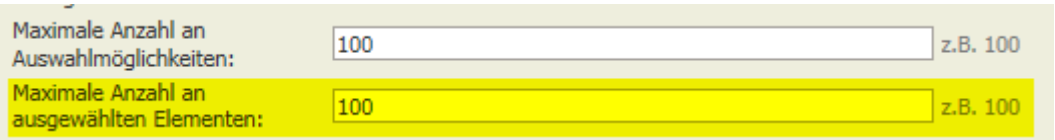
Task	Actions
Confirmation of Recalculation	As of version 5.8.2 it can be chosen if the recalculation needs to be confirmed by the user:  
New Design	As of version 5.8.2 the design for the portlet has changed if no parameters are in use: 

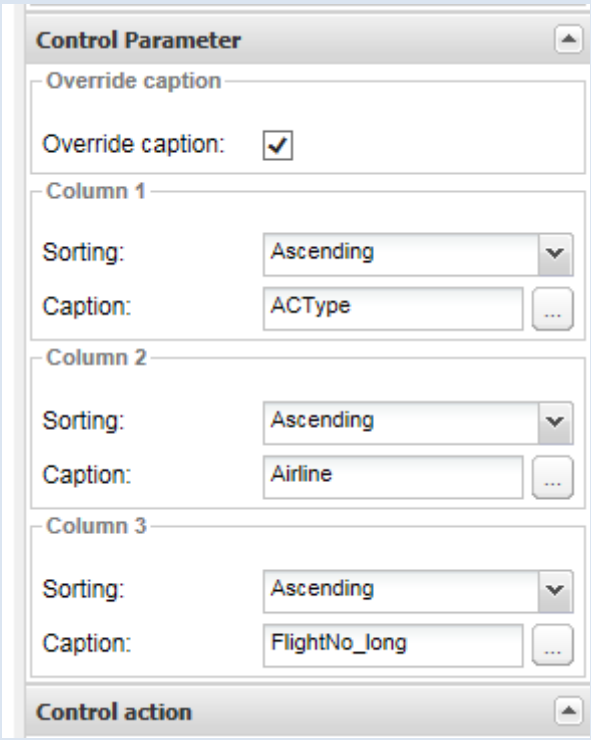
Create Multiple Selection Portlets

Task	Actions
When can Multi-Select be used?	The Multi-Select allows to filter vast data. These filters can be applied for up to three types (columns). Within these columns it is possible to filter one or more data entries. Multi-Select might be necessary for displaying data in grids and charts or for ongoing calculations with the filtered data only.
[TIS]Editor Step 1:	Add a new node in [TIS]Editor and choose the data source. No. | A DATENBESTAND | B JAHR | C TYP | D ANZAHL 1 | Einzeldaten | 2,010 | All In | 846 2 | Einzeldaten | 2,011 | All In | 1,306 3 | Einzeldaten | 2,010 | Austritt | 846 4 | Einzeldaten | 2,011 | Austritt | 1,306 5 | Einzeldaten | 2,010 | AZ-Änderung | 672 6 | Einzeldaten | 2,010 | Besetzungsstärke | 846 7 | Einzeldaten | 2,011 | Besetzungsstärke | 1,306 8 | Einzeldaten | 2,010 | Eintritt | 846 9 | Einzeldaten | 2,011 | Eintritt | 1,306 10 | Einzeldaten | 2,010 | Teilzeit | 846 11 | Einzeldaten | 2,011 | Teilzeit | 1,306 12 | Einzeldaten | 2,010 | Überstunden | 846 13 | Einzeldaten | 2,011 | Überstunden | 1,306 14 | Einzeldaten | 2,010 | Überzahlung | 846 15 | Einzeldaten | 2,011 | Überzahlung | 1,306

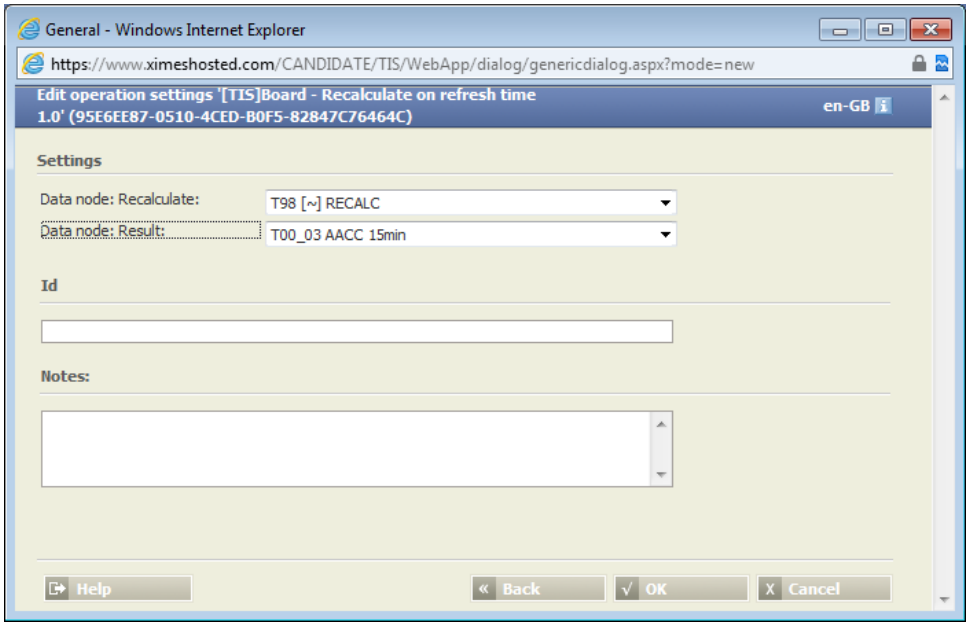
Task	Actions
[TIS]Editor Step 2:	Add a new opeartor and choose "[TIS]Board – Multi selection lists". You can now choose for up to three selection. For each selection (type) you can choose now: • The Selection list, which is the column containing the data you want to filter • The Key • Addintional info, where you can give detailed informtion on your data. This information must be defined in an own column. Finally, define for each type wheater you like a single or a multiple selection. Multiple selection means, that you can filter several data from one column. In Settings you can predefine the data that should be filterd. Later on you can see here the last filters that were applied in [TIS]Board.  As of version 5.6 the user can decide that no selection means "select all", which is a good feature while developing and to avoid errors. 
[TIS]Editor Step 3:	Finally set the [TIS]Board check box! 

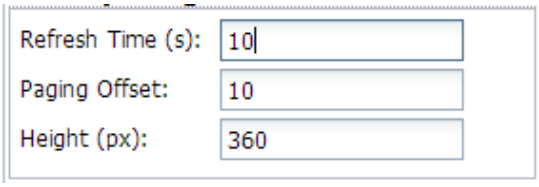
Task	Actions
Create a Portlet in [TIS]Designer	Choose the project, the node and the controller portlet.  Define a name for the portlet, its size and save the portlet. As of version 5.6 the sorting om the columns can be defined: 

Task	Actions
Applying the Multiple selection in [TIS]Board	Add the portlet to your prefered dashboard. Now you can chosse see your chosen types from left to the right.  If you have chosen single selection you can only choose one entry per type. If you have chosen multi entries you can now choose one or more entries by using the CRTL key. When you have chosen at least one entry per type, you can press the Recalculate button. Now all followig data nodes/portlets will be calculated with the filtered data.
Limit Number of Records	As of version 5.8 the number of allowed values to choose can be limited. In the operation "[TIS]Board – Multi selection lists" the option "multiple" must be chosen for the specific column. At the bottom of the operator, a value can be defined for the maximum allowed number of chosen elements. 

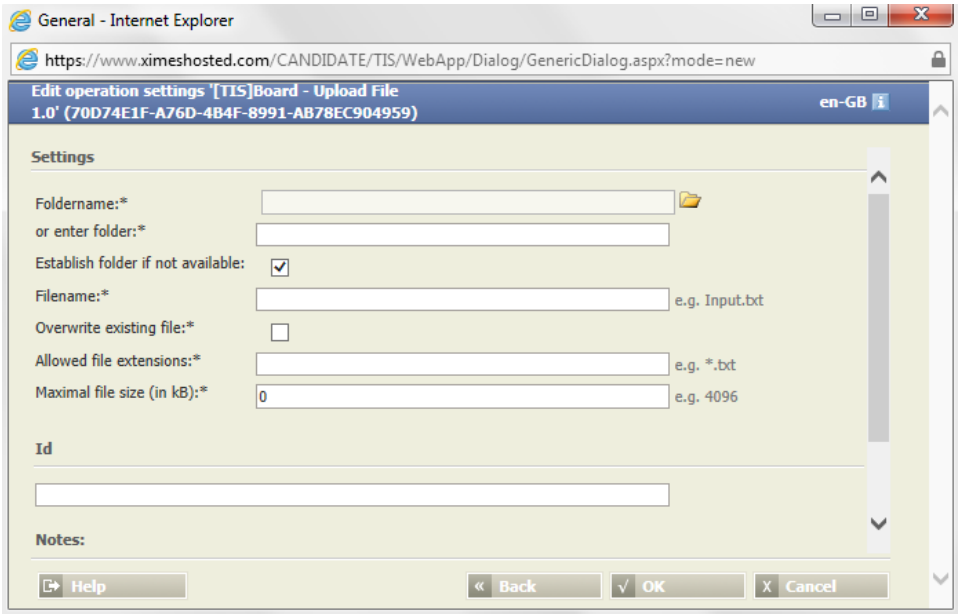
Task	Actions
Edit Caption	As of version 5.8.2 the caption of the columns can be changed in the Portlet Designer.  There can also be replaced with resources.

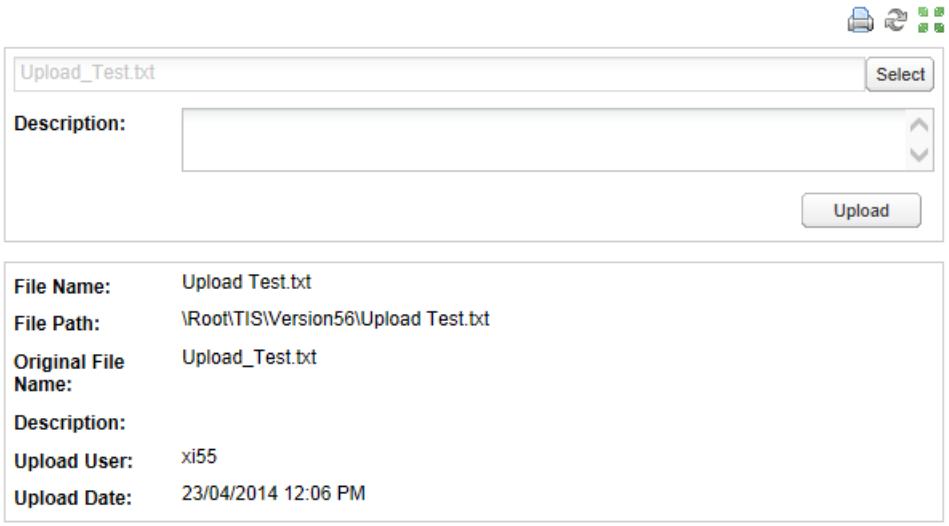
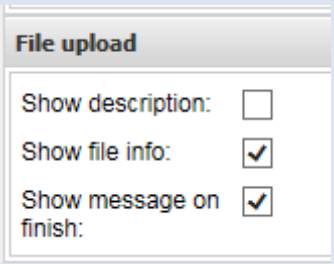
Create Automatically Recalculate Portlets

Idea	This Portlet allows an automatically recalculation on one or several data nodes and immediate display in the [TIS]Board.
Prepare in [TIS]Editor	Create a new empty data node, add an operation and choose [TIS]Board
Choose one node (regular node or recalculate node) whose data should be recalculated. Choose another node which is defined like the way you want to show the new result in the [TIS]Board, such as grids, charts, EJS-Charts…	

Press OK and activate the [TIS]Board button.	[TIS]Board
Create a new Portlet in the [TIS]Designer with reference to the data node which was just created.	Define the apperance of your choice and and fill in the time in seconds, how often the recalculation should be done.  Save the portlet and place it your [TIS]Board.

Create Upload Portlets

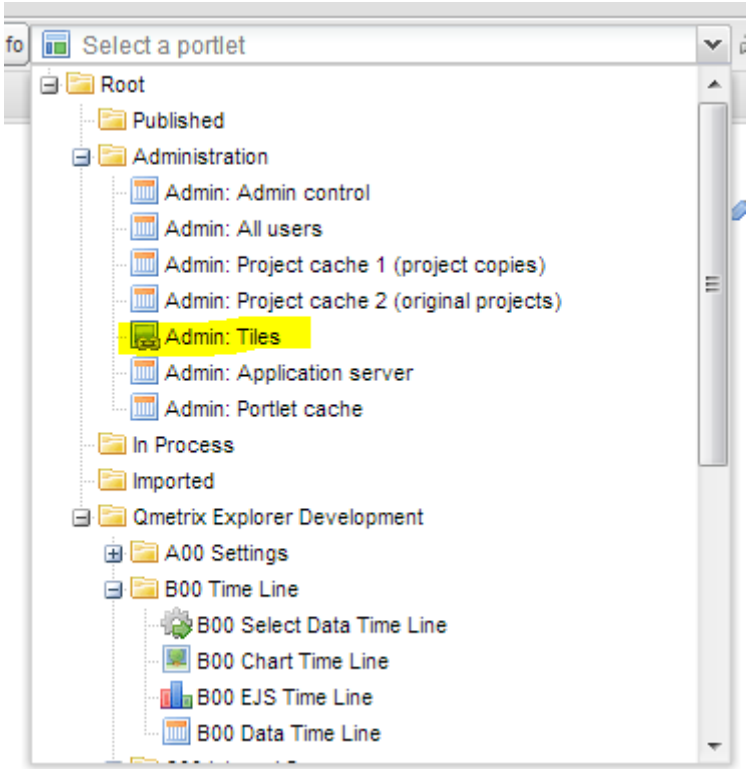
Idea	With this Portlet you can upload directly from the user interface in the [TIS]Board. This uploaded data can be the resource for new calculations. The files will be stored in the [
Prepare in [TIS]Editor	Create a new empty data node, add an operation and choose [TIS]Board.
Choose the Operation "[TIS]Board – Upload File" and define the folder name and the file name. Both can also referenced by a parameter. Then choose the option if a file may be overwritten, which file extensions are allowed and the maximum size of the file.	

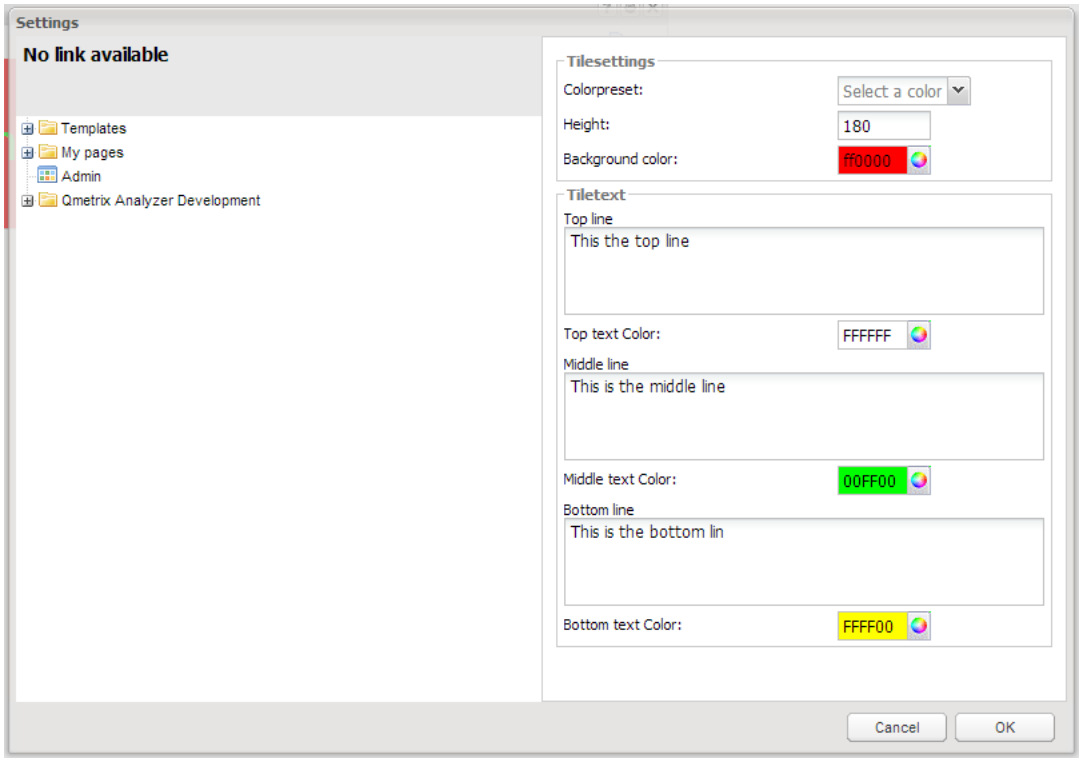
Create the Portlet in [TIS]Designer and place it on the page in [TIS]Board.	
Option	As of Version 5.8 you can choose if the description and the file info should be displayed. Additionally a confirmation information can be shown. 

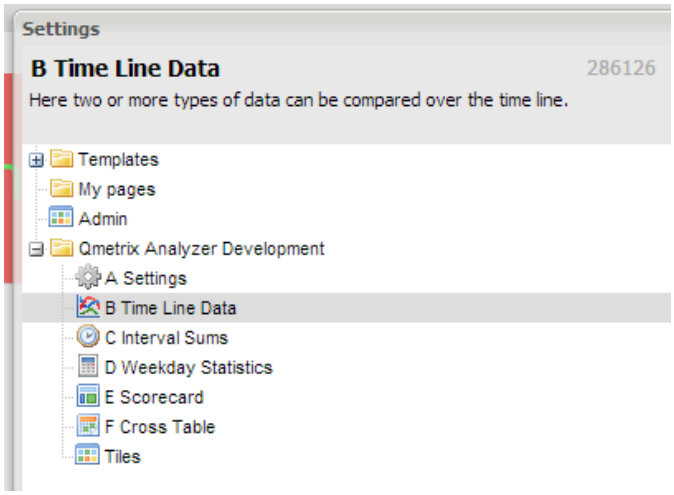
D.1.4. Navigation Portlets

Create Tiles

Element	Description
Background	Tiles allow to create shortcuts within your [TIS]Board, so that users can directly switch from the homepage to the desired page.

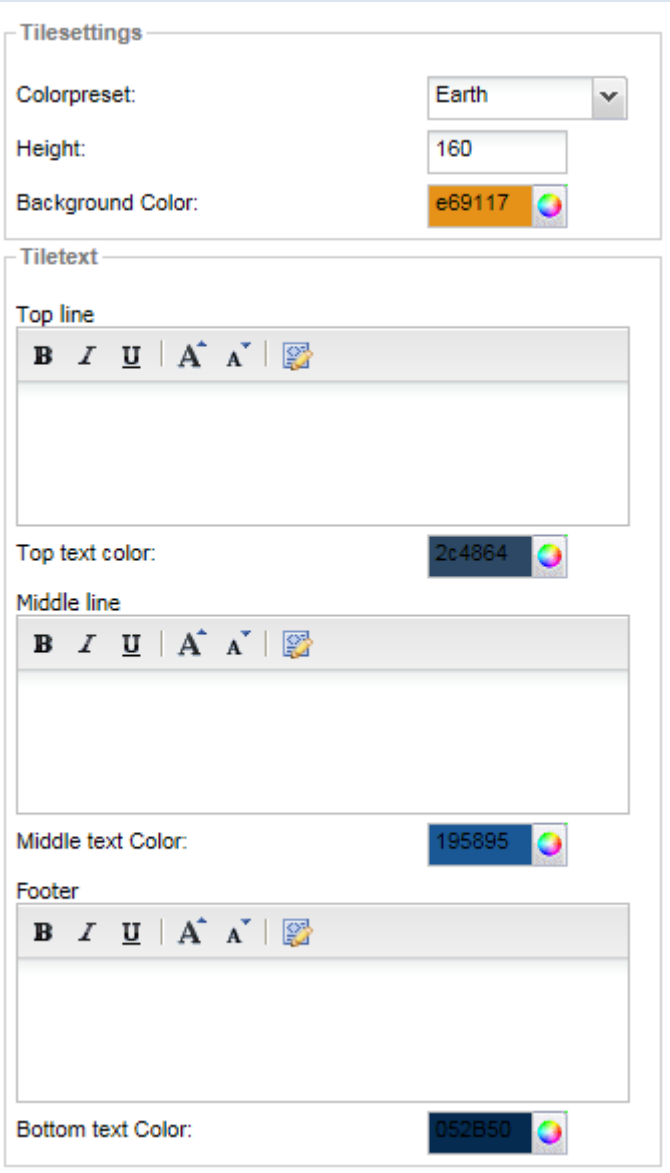
Element	Description
Place the Tile on the page	Go to "Select a Portlet", choose "Admin: Tiles" in the Administration folder and clck "Add it!". 

Element	Description
Format the tile	Click the editing button Now you can define the height of the portlet and the background colour. It is possible to write a text in the top line, in the middle line and in the bottom line. For each line you can choose its own colour. But you can also choose a colour pre-set in the top. 
A Simple Tile	That is the tile we have designed in the step before:

Element	Description
Creating Links	To place a link in the tile choose a page in the Settings window on the left:  The tile is now linked with the chosen page.
Example with Several Tiles	A good use of tiles is on the homepage. If you have several tiles it will be helpful if you use different colours and header tiles without links, like in the example. The green tiles a headers describing the tiles below them and are not linked to a page. The tiles below do link to their respective page.

Element	Description
Example Designed Tiles	Tiles can be designed with different fonts, sizes and colours: 1) Tabellenstruktur einstellen Define table structure ` ` `<p style="text-indent:1em;">` `<font face="Verdana">1) Tabellenstruktur einstellen</font>` `</p><p style="text-indent:2.5em;">` `<font face="Verdana" size="2em;" color="6E6E6E">Define table structure</font>` `</p>`
Using HTML codes for symbols	Symbols can be added to tiles by using HTML codes. `I will display ✈` ... will generate the following tile: I will display ✈ A full list of HTML codes can be found at w3schools.com: General punctuation: http://www.w3schools.com/charsets/ref_utf_punctuation.asp Currency symbols: http://www.w3schools.com/charsets/ref_utf_currency.asp Letterlike Symbols http://www.w3schools.com/charsets/ref_utf_letterlike.asp Arrows: http://www.w3schools.com/charsets/ref_utf_arrows.asp Mathematical Operations: http://www.w3schools.com/charsets/ref_utf_math.asp Geometric Shapes: http://www.w3schools.com/charsets/ref_utf_geometric.asp Misc Symbols: http://www.w3schools.com/charsets/ref_utf_symbols.asp Dingbats: http://www.w3schools.com/charsets/ref_utf_dingbats.asp

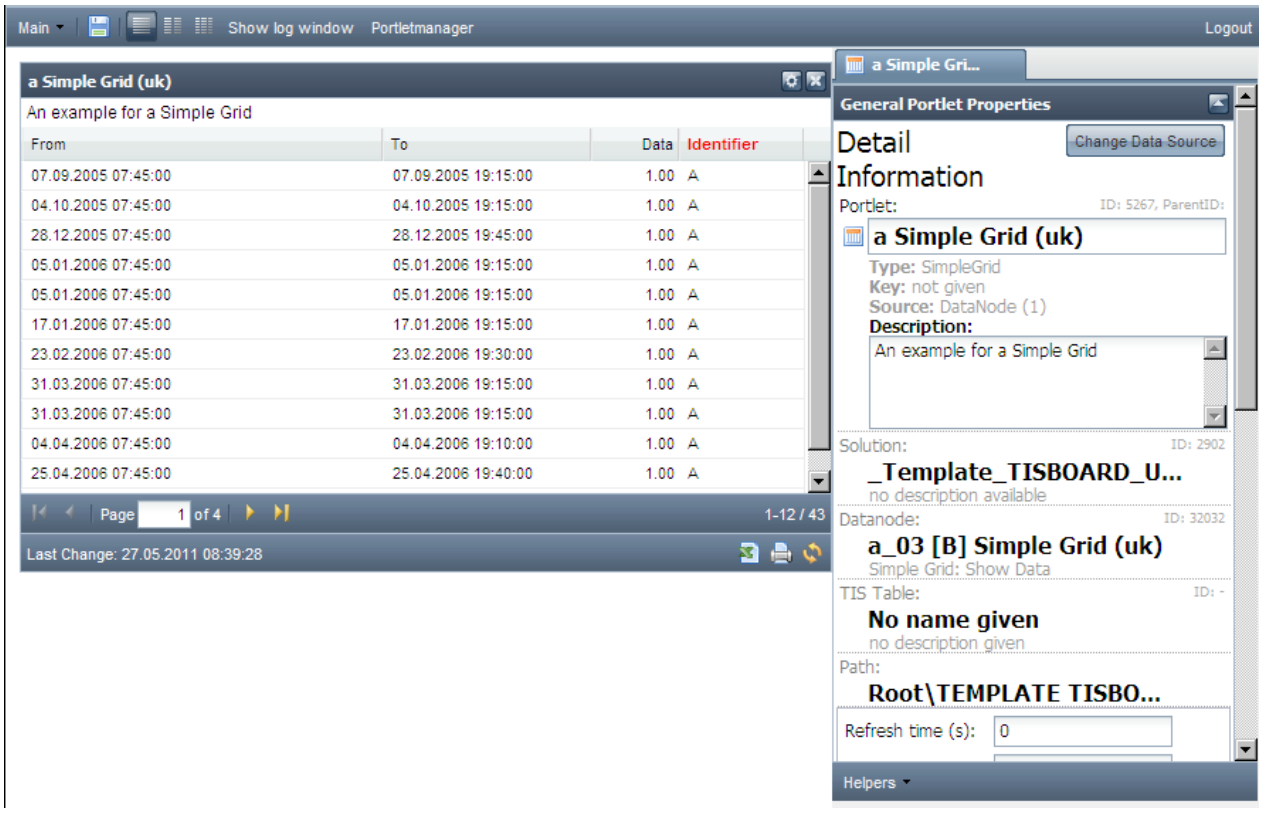
Element	Description
Using different font sizes	Using just the top line and the bottom line with a suitable font size crates nice tiles: KV-Erfassen Neue KV-Daten eingeben Datenqualität Daten prüfen, korrigieren, säubern Analyse Z.B. Fluktuation, Umreihungen, ... Top line: `<font size=6>` Bottom line: `<font size=2>`
Duplicating Tiles	Tiles can be easily duplicated by using the "Duplicate Portlet" button in the editing mode. This makes it easier if you have to create multiple tiles in the same style.

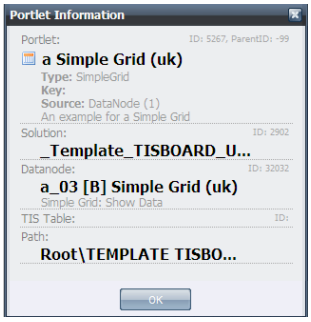
Element	Description
New Standard Design	As of version 5.8.2 a new standard set of colours is being defined. 

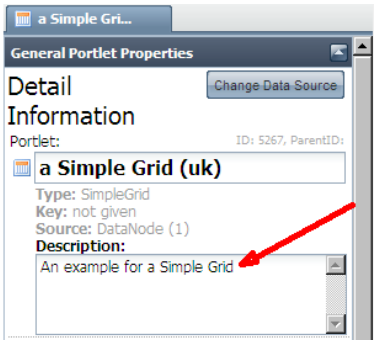
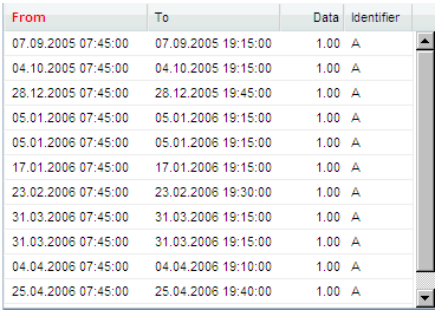
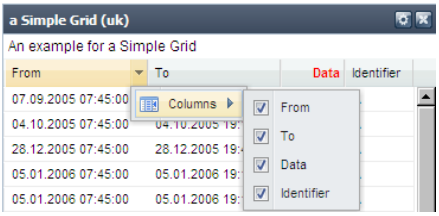
D.2. Formatting and Working with Portlets

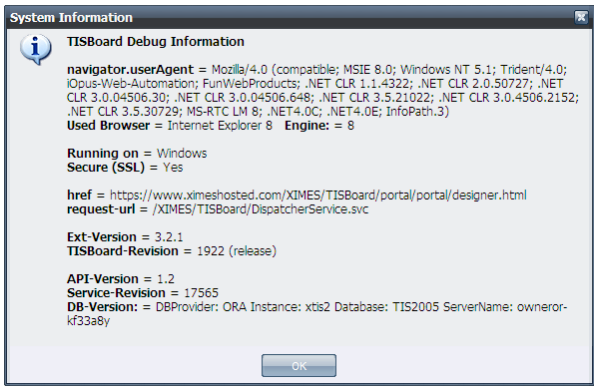
D.2.1. General Elements for all/most Portlets

The following example is based on the following Portlet opened in the [TIS]Designer.



Element	Description
a Simple Grid (uk)	This is the Portlet-Name that shows up in all Dialogs regarding Portlet Management.
	provides information on where a Portlet refers to  It can be also seen on the right hand side of the [TIS]Designer window.

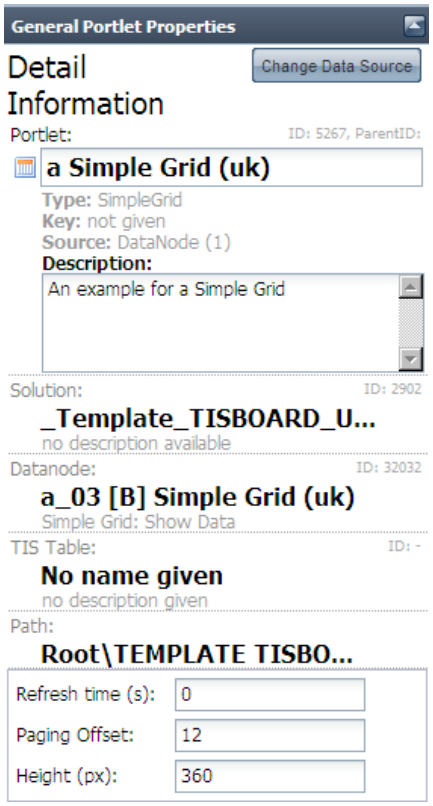
Element	Description
An example for a Simple Grid	This is an informative text for users (e.g. what is the content of the data). It can be changed on the right hand side in the [TIS]Designer. 
Main Area	E.g. a table or a graph (depending on the Portlet chosen and on the data)  The selected column is highlighted. E.g.
Selection of columns with main Area	On the very right of column a dialog appears that allows for show/hide of columns. 
 	Paging information and information on number of records.
	When was the last time that data was fetched from the [TIS]Editor.
	Export to Excel Or Print

Element	Description
	Update … fetch new data from the corresponding [TIS]Editor project.
	Show or hide the legend of a graph. NOTE: Legends can be moved around.
Version number of [TIS]Designer	You get the Version number of [TIS]Designer or the [TIS]Board with the short-Cut Ctrl-Shift-L  System Information TISBoard Debug Information **navigator.userAgent** = Mozilla/4.0 (compatible; MSIE 8.0; Windows NT 5.1; Trident/4.0; iOpus-Web-Automation; FunWebProducts; .NET CLR 1.1.4322; .NET CLR 2.0.50727; .NET CLR 3.0.04506.30; .NET CLR 3.0.04506.648; .NET CLR 3.5.21022; .NET CLR 3.0.4506.2152; .NET CLR 3.5.30729; MS-RTC LM 8; .NET4.0C; .NET4.0E; InfoPath.3) **Used Browser** = Internet Explorer 8 **Engine:** = 8 **Running on** = Windows **Secure (SSL)** = Yes **href** = https://www.ximeshosted.com/XIMES/TISBoard/portal/portal/designer.html **request-url** = /XIMES/TISBoard/DispatcherService.svc **Ext-Version** = 3.2.1 **TISBoard-Revision** = 1922 (release) **API-Version** = 1.2 **Service-Revision** = 17565 **DB-Version:** = DBProvider: ORA Instance: xtis2 Database: TIS2005 ServerName: owneror-kf33a8y OK Please include this information if you find and submit a bug.

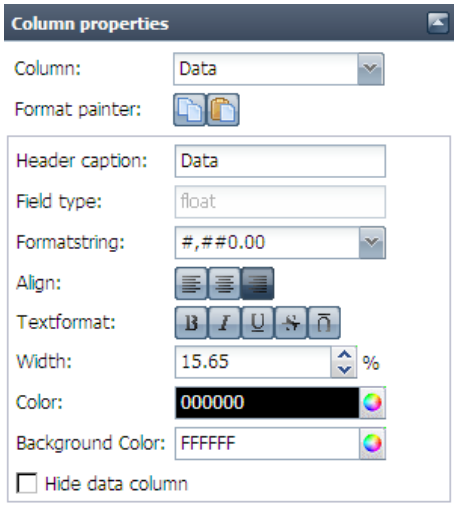
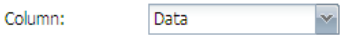
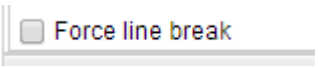
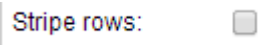
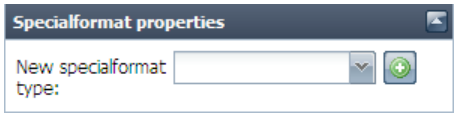
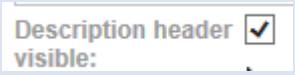
D.2.2. Formatting Elements for all/most Portlets

Element	Description of options
	Selection whether Portlets should be organized in 1, 2 or 3 columns. NOTE: While the actual decision regarding the number of columns is made in [TIS]Board, setting the number of Portlet-columns in the [TIS]Designer helps in properly formatting the Portlet.
Close Open	Allows for closing and opening sections of the [TIS]Designer.

Element	Description of options

	TOP
	
	• Change Data source allows changes regarding the referenced project
	• Portlet name
	• Description of users – free text
	
	MIDDLE
	
	• Referenced project and node / or table
	
	DOWN:
	
	• Refresh time for updating in seconds:
	  ○ 0 … no automatic update
	  ○ 300 … update every 300 seconds
	  (if the referenced node is dirty it will recalculate)
	• Number of rows per page (only works with tables)
	• Height of the Portlet in pixel.
	
	NOTE Short Refresh time(s) cause a lot of update processes and should be used seldom.

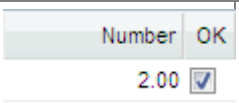
	Setting how changes of the column width should be treated. Reasons for changes of the column width: • Different screen sizes (e.g. working with a projector) • Changing the number of columns to be used • Change of width of one column MODES: • ABSOLUTE: a change of screen size or of the width of another column does not influence the width of other columns. • RELATIVE: Changes of one column or screen size change the width of all others as 100% of the available space is used in the Portlet.

Element	Description of options
Formatting Columns  	The corresponding column has to be selected either by selecting the column in the Portlet or with the column selection within the column properties section of the [TIS]Designer. Select the column you want to edit with the selection dialog:  Formatting options: • Formatting with the format painter (allows for reusing formats) • Caption • Formatting of numbers • Alignment & Text format • Width • Colours • Shall the column be hidden?
 	In Grid portlets a line break for text strings is possible.
 	This option turns every second row grey.
 	Allows for conditional formatting
Show/hide Icons	As of version 5.8.2 the description and the icons can be hidden. 

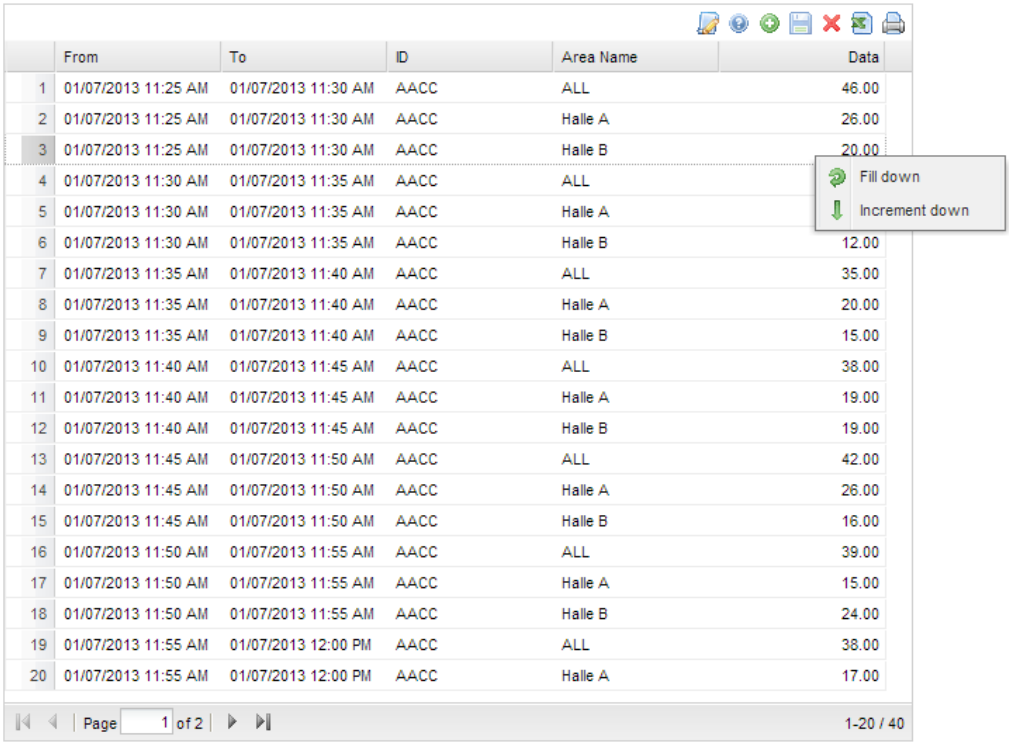
D.2.3. Further Elements for specific Portlets

HTML and Editable Grid

Element	Description of options
	Save data.
	Data has changed by editing. Do not forget to save before leaving the application otherwise changes will be lost.
	Add rows or delete rows
	Allows to copy and paste data from/to an Editable Grid. As of Version 5.5.

Element	Description of options
Drag & Drop to SORT ROWS	• Rows of editable Grid can be moved with Drag & Drop. • Keeping the CTRL button pressed allows for the selection of several rows.
Input Checks	Data is checked for correct format – E.g., whether it is a number
	Boolean values in the Portlet are represented by Check-Boxes.

Element	Description of options
Filling Down Data	Value or Strings can be easily filled down in an Editable Grid: Click with the right mouse button into cell which should be copied to all other cells in the column below and choose "Fill down":



	From	To	ID	Area Name	Data
1	01/07/2013 11:25 AM	01/07/2013 11:30 AM	AACC	ALL	46.00
2	01/07/2013 11:25 AM	01/07/2013 11:30 AM	AACC	Halle A	26.00
3	01/07/2013 11:25 AM	01/07/2013 11:30 AM	AACC	Halle B	20.00
4	01/07/2013 11:30 AM	01/07/2013 11:35 AM	AACC	ALL	
5	01/07/2013 11:30 AM	01/07/2013 11:35 AM	AACC	Halle A	
6	01/07/2013 11:30 AM	01/07/2013 11:35 AM	AACC	Halle B	12.00
7	01/07/2013 11:35 AM	01/07/2013 11:40 AM	AACC	ALL	35.00
8	01/07/2013 11:35 AM	01/07/2013 11:40 AM	AACC	Halle A	20.00
9	01/07/2013 11:35 AM	01/07/2013 11:40 AM	AACC	Halle B	15.00
10	01/07/2013 11:40 AM	01/07/2013 11:45 AM	AACC	ALL	38.00
11	01/07/2013 11:40 AM	01/07/2013 11:45 AM	AACC	Halle A	19.00
12	01/07/2013 11:40 AM	01/07/2013 11:45 AM	AACC	Halle B	19.00
13	01/07/2013 11:45 AM	01/07/2013 11:50 AM	AACC	ALL	42.00
14	01/07/2013 11:45 AM	01/07/2013 11:50 AM	AACC	Halle A	26.00
15	01/07/2013 11:45 AM	01/07/2013 11:50 AM	AACC	Halle B	16.00
16	01/07/2013 11:50 AM	01/07/2013 11:55 AM	AACC	ALL	39.00
17	01/07/2013 11:50 AM	01/07/2013 11:55 AM	AACC	Halle A	15.00
18	01/07/2013 11:50 AM	01/07/2013 11:55 AM	AACC	Halle B	24.00
19	01/07/2013 11:55 AM	01/07/2013 12:00 PM	AACC	ALL	38.00
20	01/07/2013 11:55 AM	01/07/2013 12:00 PM	AACC	Halle A	17.00

Fill down
Increment down

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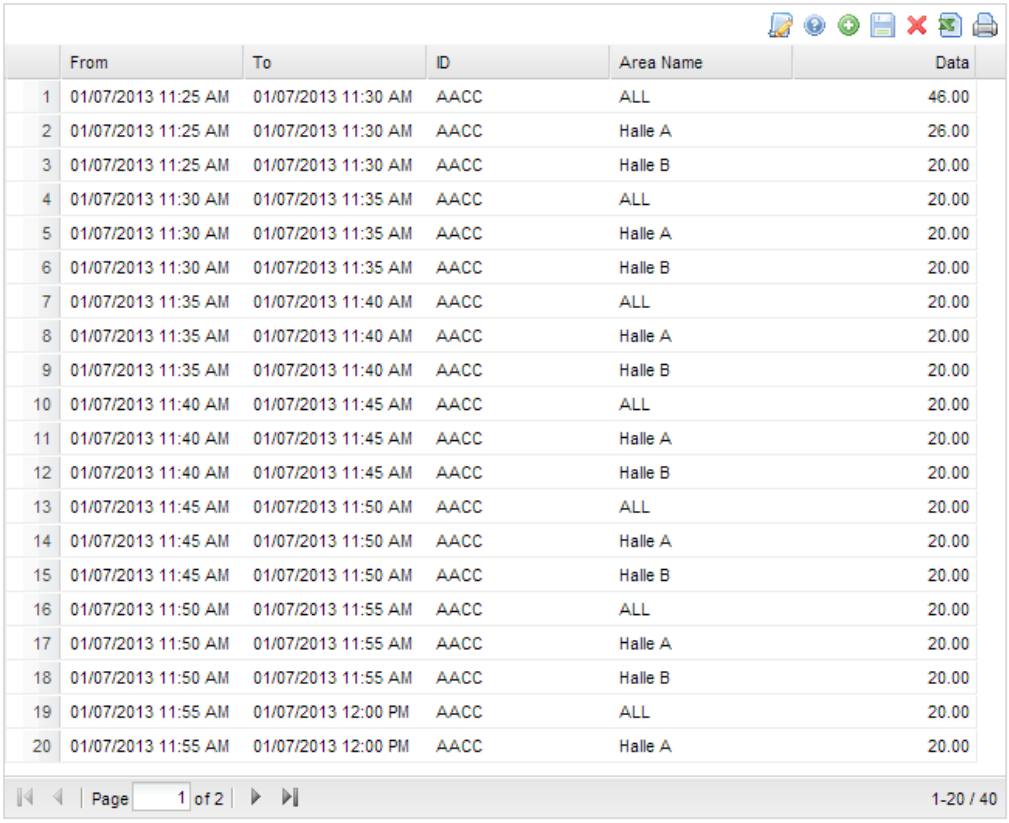

	From	To	ID	Area Name	Data
1	01/07/2013 11:25 AM	01/07/2013 11:30 AM	AACC	ALL	46.00
2	01/07/2013 11:25 AM	01/07/2013 11:30 AM	AACC	Halle A	26.00
3	01/07/2013 11:25 AM	01/07/2013 11:30 AM	AACC	Halle B	20.00
4	01/07/2013 11:30 AM	01/07/2013 11:35 AM	AACC	ALL	20.00
5	01/07/2013 11:30 AM	01/07/2013 11:35 AM	AACC	Halle A	20.00
6	01/07/2013 11:30 AM	01/07/2013 11:35 AM	AACC	Halle B	20.00
7	01/07/2013 11:35 AM	01/07/2013 11:40 AM	AACC	ALL	20.00
8	01/07/2013 11:35 AM	01/07/2013 11:40 AM	AACC	Halle A	20.00
9	01/07/2013 11:35 AM	01/07/2013 11:40 AM	AACC	Halle B	20.00
10	01/07/2013 11:40 AM	01/07/2013 11:45 AM	AACC	ALL	20.00
11	01/07/2013 11:40 AM	01/07/2013 11:45 AM	AACC	Halle A	20.00
12	01/07/2013 11:40 AM	01/07/2013 11:45 AM	AACC	Halle B	20.00
13	01/07/2013 11:45 AM	01/07/2013 11:50 AM	AACC	ALL	20.00
14	01/07/2013 11:45 AM	01/07/2013 11:50 AM	AACC	Halle A	20.00
15	01/07/2013 11:45 AM	01/07/2013 11:50 AM	AACC	Halle B	20.00
16	01/07/2013 11:50 AM	01/07/2013 11:55 AM	AACC	ALL	20.00
17	01/07/2013 11:50 AM	01/07/2013 11:55 AM	AACC	Halle A	20.00
18	01/07/2013 11:50 AM	01/07/2013 11:55 AM	AACC	Halle B	20.00
19	01/07/2013 11:55 AM	01/07/2013 12:00 PM	AACC	ALL	20.00
20	01/07/2013 11:55 AM	01/07/2013 12:00 PM	AACC	Halle A	20.00

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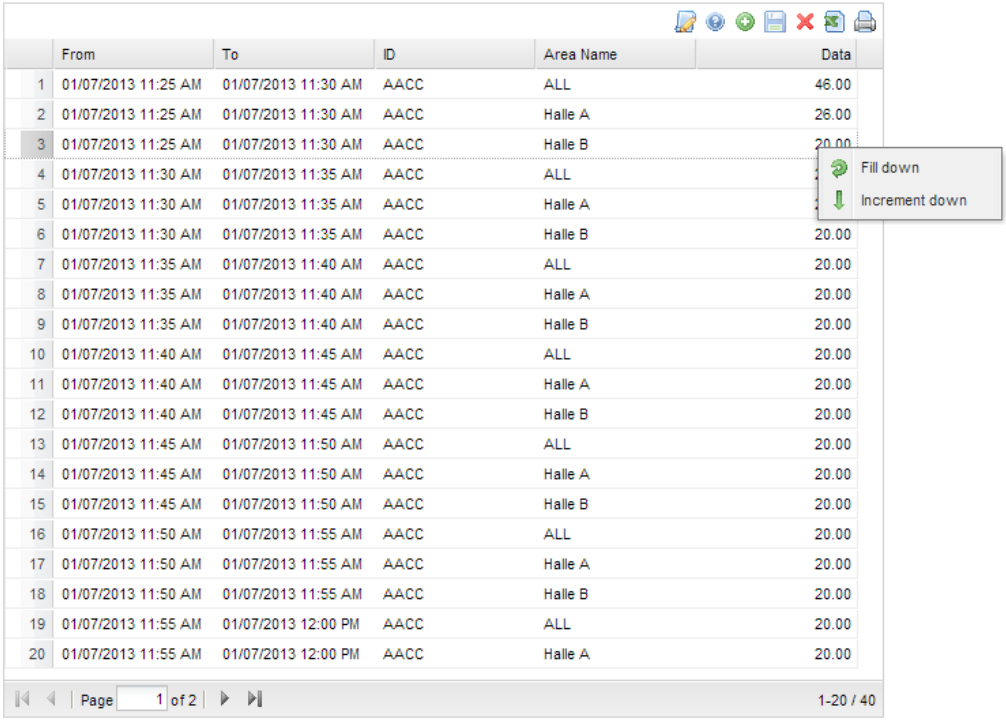
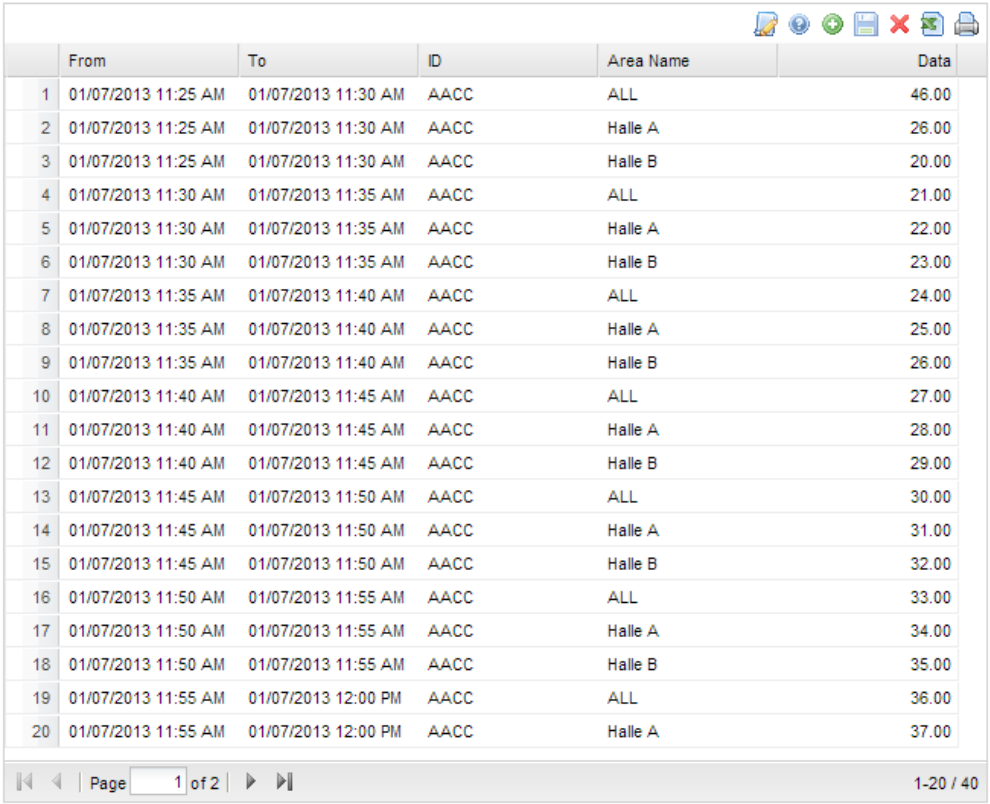
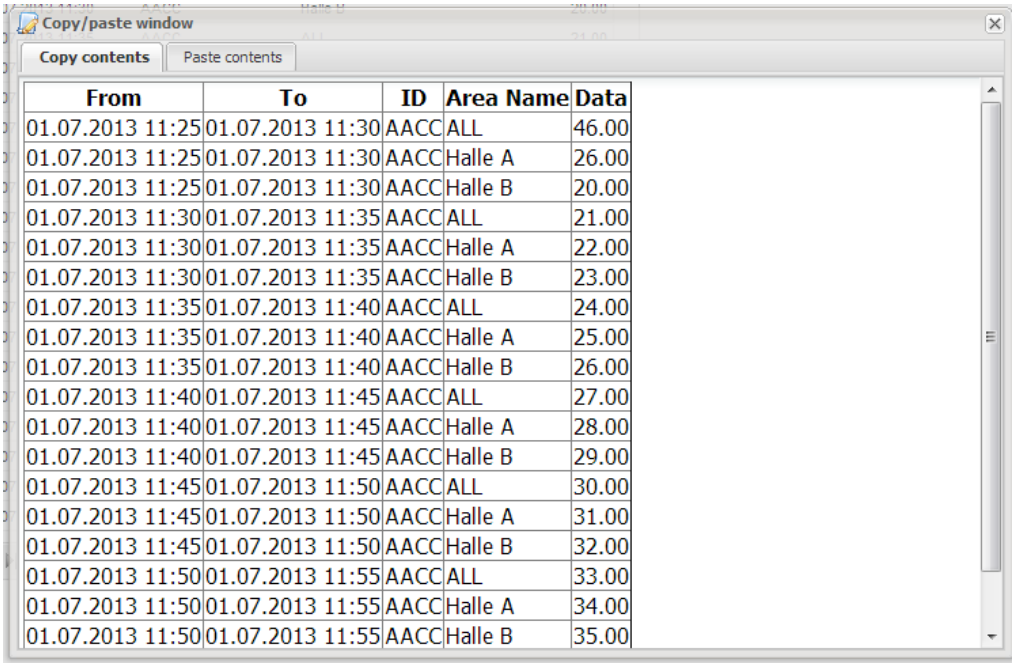
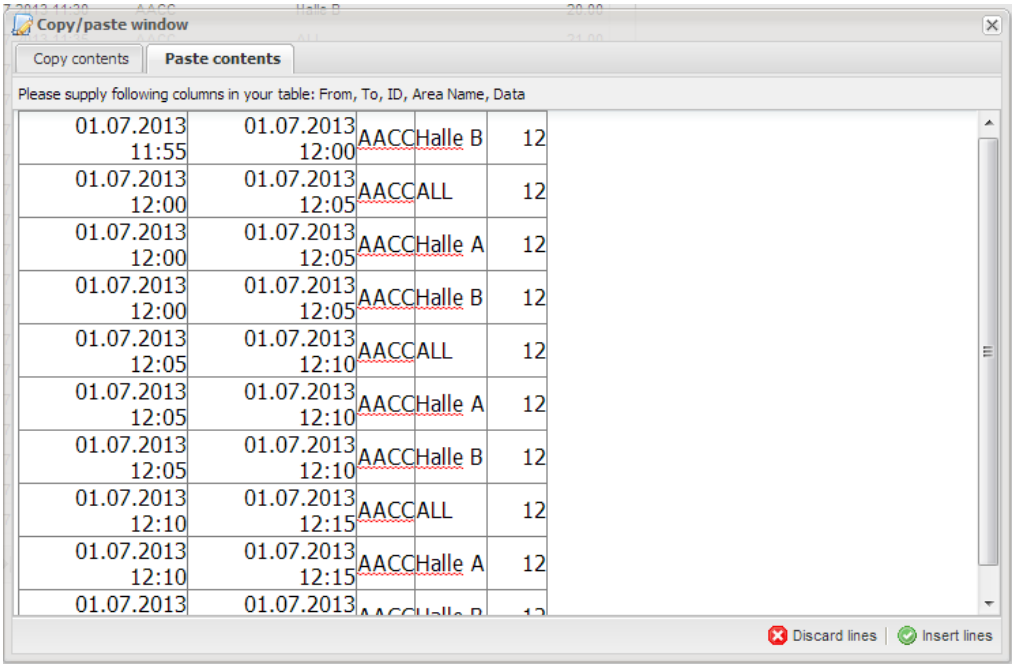
Element	Description of options
Increment Down	You can also choose a value which should be increased in each row. Choose the value, make a right-click and choose "Increment down"



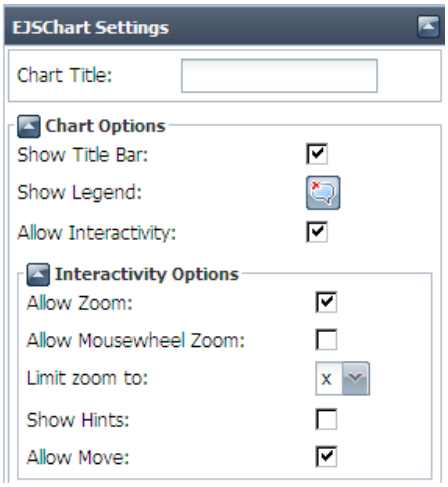
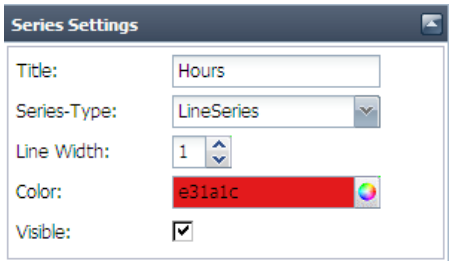
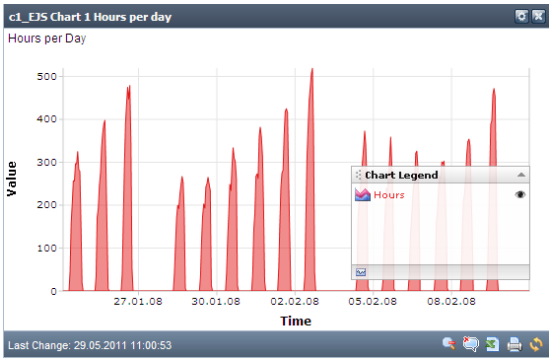
	From	To	ID	Area Name	Data
1	01/07/2013 11:25 AM	01/07/2013 11:30 AM	AACC	ALL	46.00
2	01/07/2013 11:25 AM	01/07/2013 11:30 AM	AACC	Halle A	26.00
3	01/07/2013 11:25 AM	01/07/2013 11:30 AM	AACC	Halle B	20.00
4	01/07/2013 11:30 AM	01/07/2013 11:35 AM	AACC	ALL	
5	01/07/2013 11:30 AM	01/07/2013 11:35 AM	AACC	Halle A	
6	01/07/2013 11:30 AM	01/07/2013 11:35 AM	AACC	Halle B	20.00
7	01/07/2013 11:35 AM	01/07/2013 11:40 AM	AACC	ALL	20.00
8	01/07/2013 11:35 AM	01/07/2013 11:40 AM	AACC	Halle A	20.00
9	01/07/2013 11:35 AM	01/07/2013 11:40 AM	AACC	Halle B	20.00
10	01/07/2013 11:40 AM	01/07/2013 11:45 AM	AACC	ALL	20.00
11	01/07/2013 11:40 AM	01/07/2013 11:45 AM	AACC	Halle A	20.00
12	01/07/2013 11:40 AM	01/07/2013 11:45 AM	AACC	Halle B	20.00
13	01/07/2013 11:45 AM	01/07/2013 11:50 AM	AACC	ALL	20.00
14	01/07/2013 11:45 AM	01/07/2013 11:50 AM	AACC	Halle A	20.00
15	01/07/2013 11:45 AM	01/07/2013 11:50 AM	AACC	Halle B	20.00
16	01/07/2013 11:50 AM	01/07/2013 11:55 AM	AACC	ALL	20.00
17	01/07/2013 11:50 AM	01/07/2013 11:55 AM	AACC	Halle A	20.00
18	01/07/2013 11:50 AM	01/07/2013 11:55 AM	AACC	Halle B	20.00
19	01/07/2013 11:55 AM	01/07/2013 12:00 PM	AACC	ALL	20.00
20	01/07/2013 11:55 AM	01/07/2013 12:00 PM	AACC	Halle A	20.00



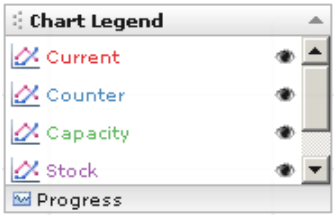
	From	To	ID	Area Name	Data
1	01/07/2013 11:25 AM	01/07/2013 11:30 AM	AACC	ALL	46.00
2	01/07/2013 11:25 AM	01/07/2013 11:30 AM	AACC	Halle A	26.00
3	01/07/2013 11:25 AM	01/07/2013 11:30 AM	AACC	Halle B	20.00
4	01/07/2013 11:30 AM	01/07/2013 11:35 AM	AACC	ALL	21.00
5	01/07/2013 11:30 AM	01/07/2013 11:35 AM	AACC	Halle A	22.00
6	01/07/2013 11:30 AM	01/07/2013 11:35 AM	AACC	Halle B	23.00
7	01/07/2013 11:35 AM	01/07/2013 11:40 AM	AACC	ALL	24.00
8	01/07/2013 11:35 AM	01/07/2013 11:40 AM	AACC	Halle A	25.00
9	01/07/2013 11:35 AM	01/07/2013 11:40 AM	AACC	Halle B	26.00
10	01/07/2013 11:40 AM	01/07/2013 11:45 AM	AACC	ALL	27.00
11	01/07/2013 11:40 AM	01/07/2013 11:45 AM	AACC	Halle A	28.00
12	01/07/2013 11:40 AM	01/07/2013 11:45 AM	AACC	Halle B	29.00
13	01/07/2013 11:45 AM	01/07/2013 11:50 AM	AACC	ALL	30.00
14	01/07/2013 11:45 AM	01/07/2013 11:50 AM	AACC	Halle A	31.00
15	01/07/2013 11:45 AM	01/07/2013 11:50 AM	AACC	Halle B	32.00
16	01/07/2013 11:50 AM	01/07/2013 11:55 AM	AACC	ALL	33.00
17	01/07/2013 11:50 AM	01/07/2013 11:55 AM	AACC	Halle A	34.00
18	01/07/2013 11:50 AM	01/07/2013 11:55 AM	AACC	Halle B	35.00
19	01/07/2013 11:55 AM	01/07/2013 12:00 PM	AACC	ALL	36.00
20	01/07/2013 11:55 AM	01/07/2013 12:00 PM	AACC	Halle A	37.00

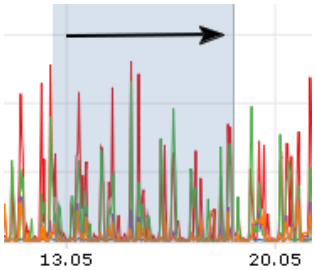
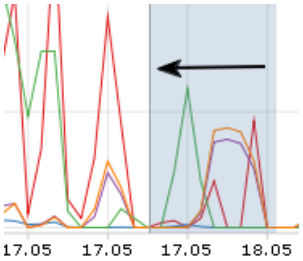
Element	Description of options
Copy and Paste Data from/to an Editable Grid	The displayed data in an Editable Grid can be copied into a spreadsheet, such as MS Excel. There data can be edited and added. Click the Copy/Paste button and a new window will open, where you can see the data from the current page of the grid. From there all the data can be easily copied to the spreadsheet. Use CTRL-A, CTRL-C and paste it.  Copy/paste window Copy contents Paste contents From; To; ID; Area Name; Data 01.07.2013 11:25; 01.07.2013 11:30; AACC; ALL; 46.00 01.07.2013 11:25; 01.07.2013 11:30; AACC; Halle A; 26.00 01.07.2013 11:25; 01.07.2013 11:30; AACC; Halle B; 20.00 01.07.2013 11:30; 01.07.2013 11:35; AACC; ALL; 21.00 01.07.2013 11:30; 01.07.2013 11:35; AACC; Halle A; 22.00 01.07.2013 11:30; 01.07.2013 11:35; AACC; Halle B; 23.00 01.07.2013 11:35; 01.07.2013 11:40; AACC; ALL; 24.00 01.07.2013 11:35; 01.07.2013 11:40; AACC; Halle A; 25.00 01.07.2013 11:35; 01.07.2013 11:40; AACC; Halle B; 26.00 01.07.2013 11:40; 01.07.2013 11:45; AACC; ALL; 27.00 01.07.2013 11:40; 01.07.2013 11:45; AACC; Halle A; 28.00 01.07.2013 11:40; 01.07.2013 11:45; AACC; Halle B; 29.00 01.07.2013 11:45; 01.07.2013 11:50; AACC; ALL; 30.00 01.07.2013 11:45; 01.07.2013 11:50; AACC; Halle A; 31.00 01.07.2013 11:45; 01.07.2013 11:50; AACC; Halle B; 32.00 01.07.2013 11:50; 01.07.2013 11:55; AACC; ALL; 33.00 01.07.2013 11:50; 01.07.2013 11:55; AACC; Halle A; 34.00 01.07.2013 11:50; 01.07.2013 11:55; AACC; Halle B; 35.00 You can now adapt the data. If you are done, copy the data out of the spreadsheet without the header, switch to the tab "Paste contents" and paste the data into the blank area. It is inevitable that the pasted data has the same structure as grid. Click "Insert Lines". The data will now be appended to the current data grid. Do not forget to save the grid afterwards!  Copy/paste window Copy contents Paste contents Please supply following columns in your table: From, To, ID, Area Name, Data 01.07.2013 11:55; 01.07.2013 12:00; AACC; Halle B; 12 01.07.2013 12:00; 01.07.2013 12:05; AACC; ALL; 12 01.07.2013 12:00; 01.07.2013 12:05; AACC; Halle A; 12 01.07.2013 12:00; 01.07.2013 12:05; AACC; Halle B; 12 01.07.2013 12:05; 01.07.2013 12:10; AACC; ALL; 12 01.07.2013 12:05; 01.07.2013 12:10; AACC; Halle A; 12 01.07.2013 12:05; 01.07.2013 12:10; AACC; Halle B; 12 01.07.2013 12:10; 01.07.2013 12:15; AACC; ALL; 12 01.07.2013 12:10; 01.07.2013 12:15; AACC; Halle A; 12 01.07.2013; 01.07.2013 Discard lines Insert lines

EJS-Chart - Formatting

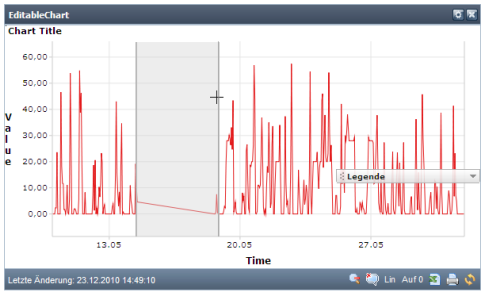
Element	Description of options
	General properties of the chart. What is shown and what interaction is allowed. Select with mouse while left mouse button is pressed: • Left to right: Zoom In • Right to left: Zoom Out
	Formatting of axis (e.g., number style)
	Formatting of a specific line, E.g. Area  TIP: Areas and bars are semi-transparent – try the combined use.

Working with EJS-Chart

Element	Description
Legend 	To visualize only a selection of series you can switch on each series by clicking the eye-symbol in the legend. The legend-window itself can be moved within the chart via Drag & Drop of the legend window. To minimize the legend, click the small triangle in the header of the legend. It is also possible to hide the legend completely by using the "hide-legend" button in the status-bar of the Portlet. /

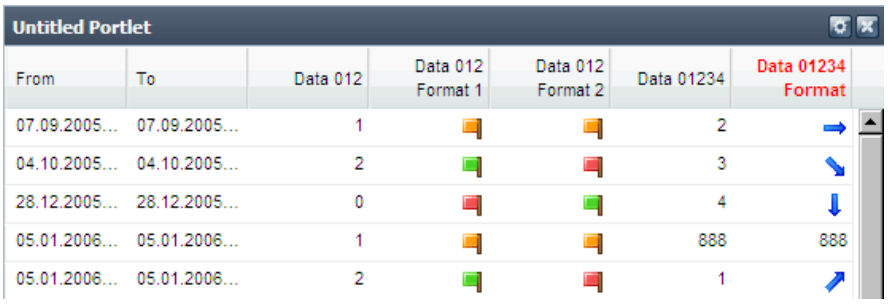
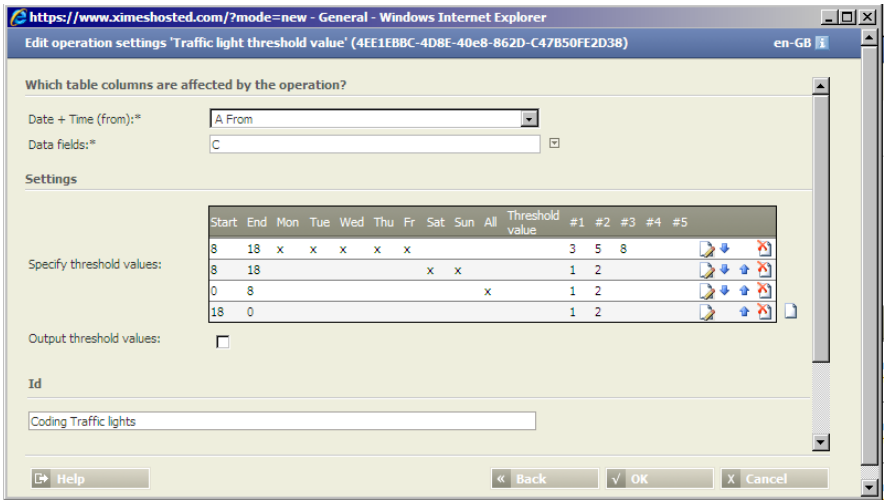
Element	Description
Zoom In  	**Click-and-hold** the **left mouse** button and move you pointer to the right, to select the region you want to **zoom in**. **Click-and-hold** the **right mouse** button to **pan the chart** within the chart window. To explore data efficiently, use first the zoom function and subsequently move the chart.
Zoom out  	**Click-and-hold** the **left mouse** button and **move your pointer to the right clears the zoom** and displays your data at full scale. To clear the zoom level, there is also a clear button in the status-bar
Note	Depending on the configuration of the Portlet, the zoom-functionality can be restricted to either the x-axis or the y-axis or it can be switched off completely. Ask your [TIS] Administrator for further information.

Working with Editable Chart (Next Version)

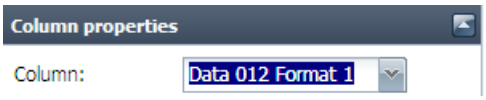
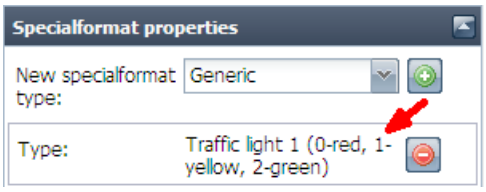
Description of options	Actions
 	Select area: • Press shift & left mouse click and move (similar to selecting several files in the explorer) • Borders of an area can be selected and moved (shift + left mouse click + move) • Select single values – click on a value and move it. Change data: • Straighten out, *i.e. draw a direct connection between the first and the last point of the selected area.* • Set to zero *i.e. set all values in the selected area to zero.* • Move Up & down *e.g. move all values in the selected area up & down.*

D.2.4. Conditional Formatting for Grids

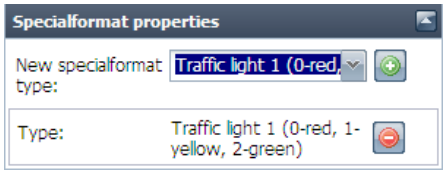
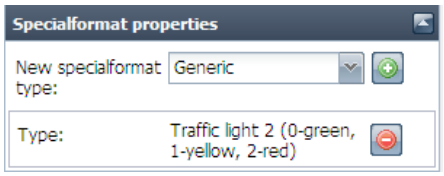
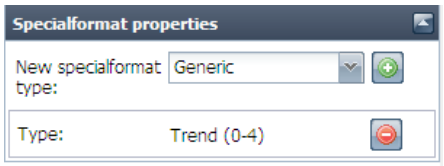
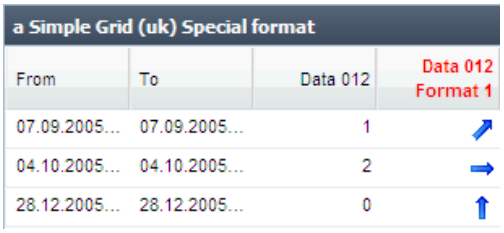
Introduction

Element	Description
Introduction	[TIS]Board supports the conditional formatting (e.g., application of colour-schemes, the use of symbols for specific values) of columns in a number of ways: 1. Standard colour schemes (e.g. traffic colour lights) 2. Generic colour schemes This is possible in: 1. Simple Grid 2. Editable Grid
Example	The following example shows 3 standard color-schemes: 1. Traffic light (0=red) 2. Traffic light (0=green) 3. Coded Trend (01234) 
Tips I	• To see the original values add an additional column of data. • Conditional formattings can be combined.
Tips II	The operator Traffic lights helps you to define treshold values depending on the time of day & the day of week with up to 5 ftresholds.  More complex codings can be made with the formula operator or the merge tables operator.

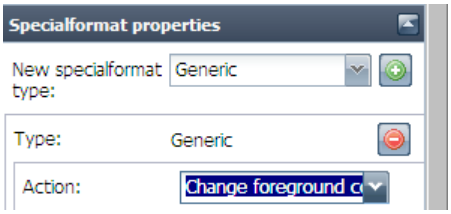
Steps to use the special formats

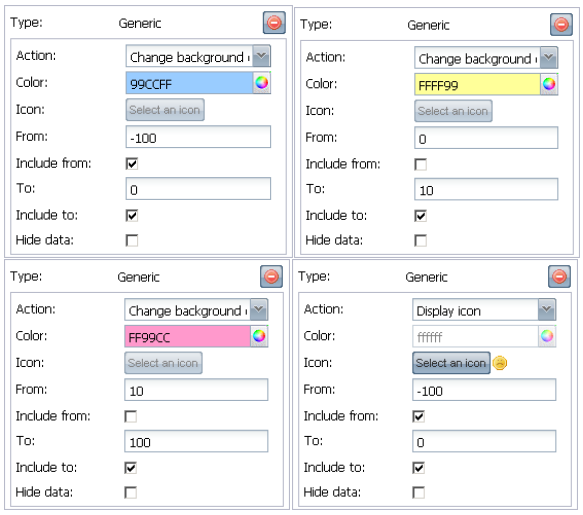
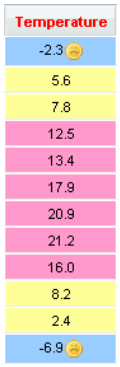
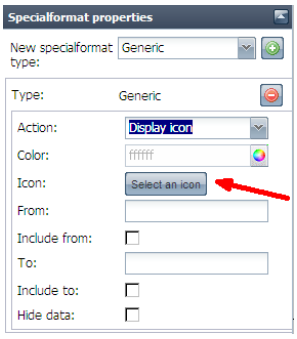
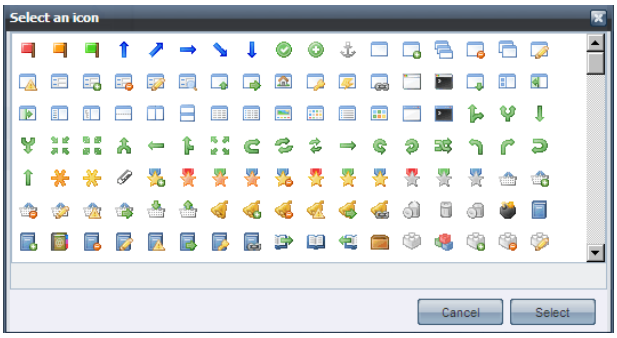
Steps	Description
Prepare	In [TIS]Editor prepare the data. In the [TIS]Designer create a simple grid or an edtiable grid
Select column	In the [TIS]Designer select a column on the right hand side of the window: 
Select format	Select format: Clicking the Button will add a special format  Causes the column to be formatted differently
Notes	• Special formats are removed by pressing the symbol. • Special formats can be combined. The following example shows traffic lights and trend used in one column.

Standard special format types

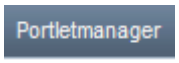
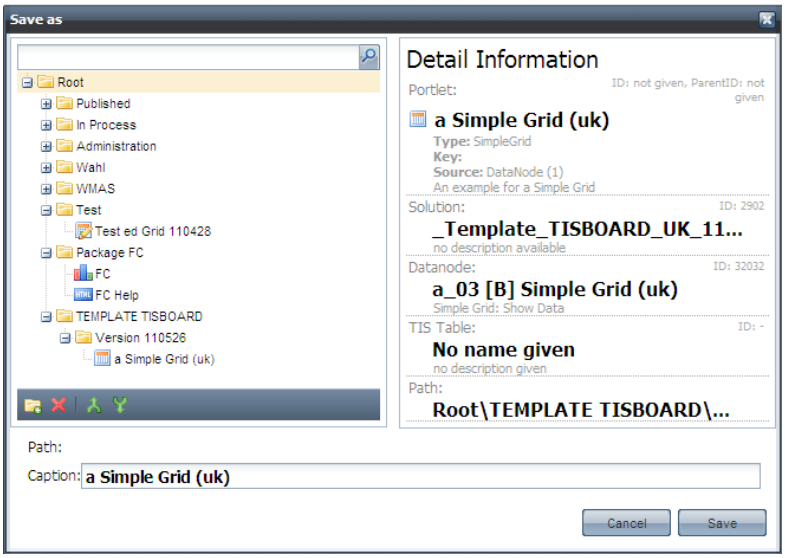
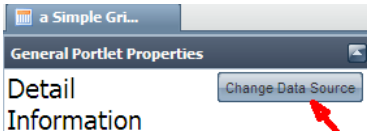
Element	Description
	Results in a coding of 0 = red traffic light.
	Results in a coding of 2 = red traffic light.
	Results in a coding trends (0 = strongest) 

Generic special format types

Steps	Description
Select the action for a generic element	Select specialformat GENERIC and the  e.g. add action change of foreground colour

Steps	Description	
Conditional colour - Example	The following settings: 	Produce: 
Conditional formatting selection of icon	You can choose from a large set of existing icons or upload your own icons (needs administrative rights).  	

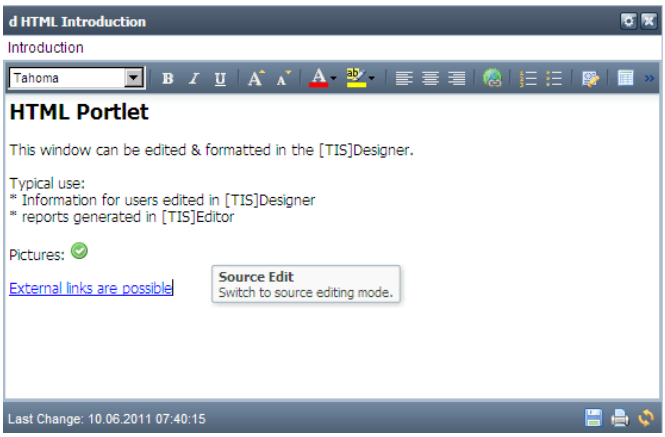
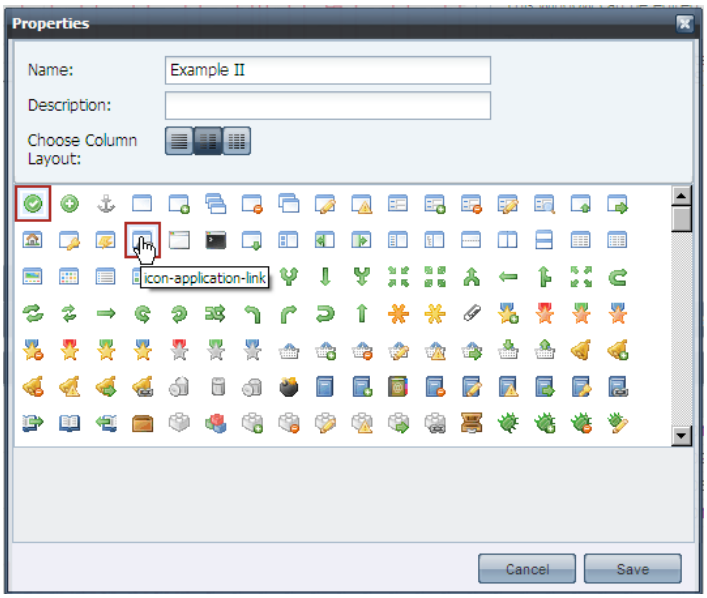
D.2.5. Managing Portlets

Task	Description
Save, open, select, rename, reorder, delete Portlets e.g. with  	This can be either done via the Portlet Manager, or directly in the Save As dialog  Please note the provision of additional information about the Portlet on the right hand side. Rearrangements can be done with Drag & Drop.
Changing the reference to a [TIS]Editor project	This can be done in [TIS]Designer by using the dialog on the right hand side of the [TIS]Designer.  By pressing this button, a dialog similar to the one used for generating a Portlet will appear.

D.2.6. Working with HTML Portlets

Using pictures in HTML or conditional formatting

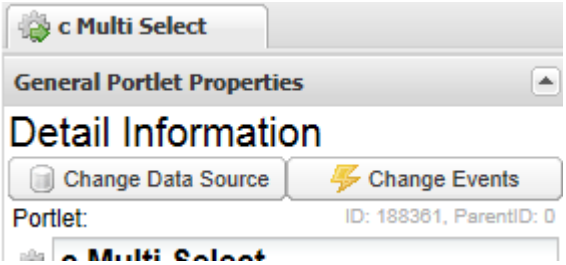
Steps	Description
Referencing in HTML	You can refer to pictures in your HTML by placing the images on the server and referring to them via plain HTML. (The HTML mode of the editor can be switched by using the according button in the toolbar) <img src="https://www.ximeshosted.com/XIMES/bilder/picturename.jpg"> This will make the picture appear in the Portlet. To load up pictures on the server you need administrative rights.

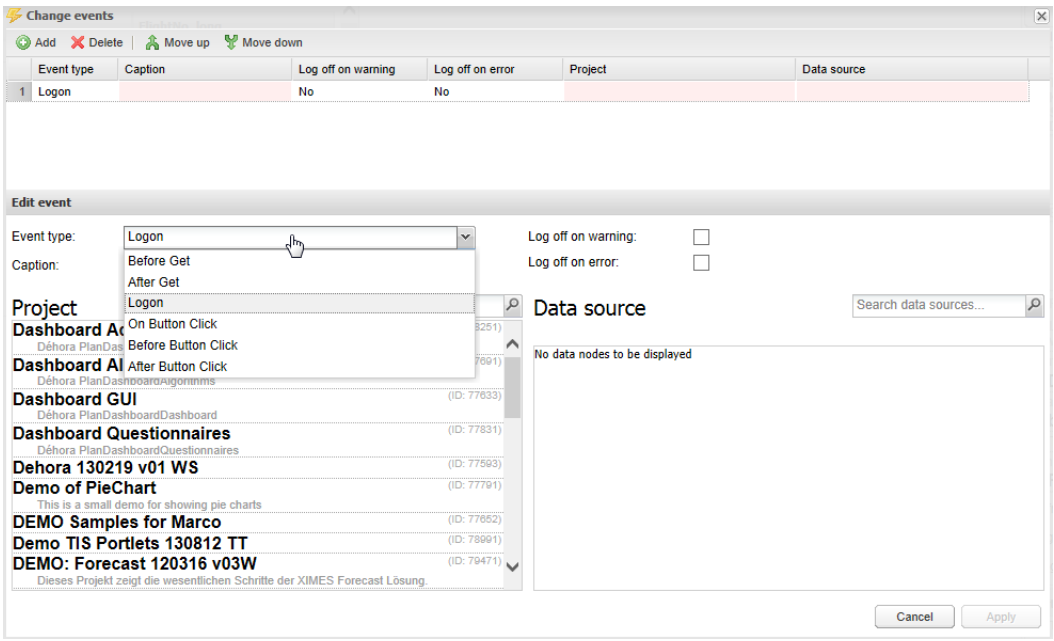
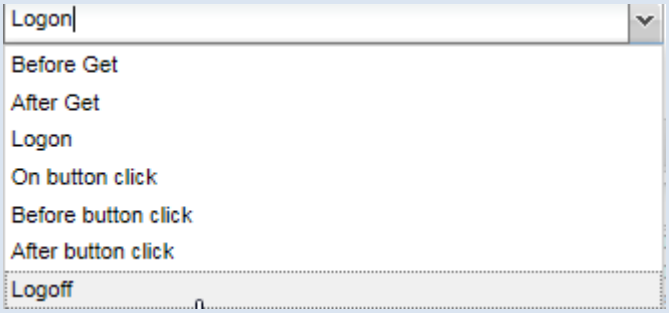
Steps	Description
Note	You can use existing icons by referring from HTML in the following way: In HTML Pictures: <IMG src="https://www.ximeshosted.com/XIMES/TIS/webapp/images/Tree/Icons/accept.gif"> 
Existing pictures	To get an overview over existing icons the easiest way is to to go [TIS]Board, choose the properties of a page, and note the names of the icon you are interested in provided by tool-tips:  The translation is: NAME USED IN PROPERTIES: `icon-application-link` NAME TO BE USED IN HTML: `application_link.gif` And correspondingly the complete path: Pictures 2: <IMG src="https://www.ximeshosted.com/XIMES/TIS/webapp/images/Tree/Icons/application_link.gif">

Using Videos in HTML portlets

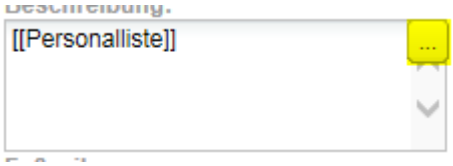
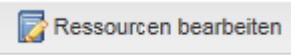
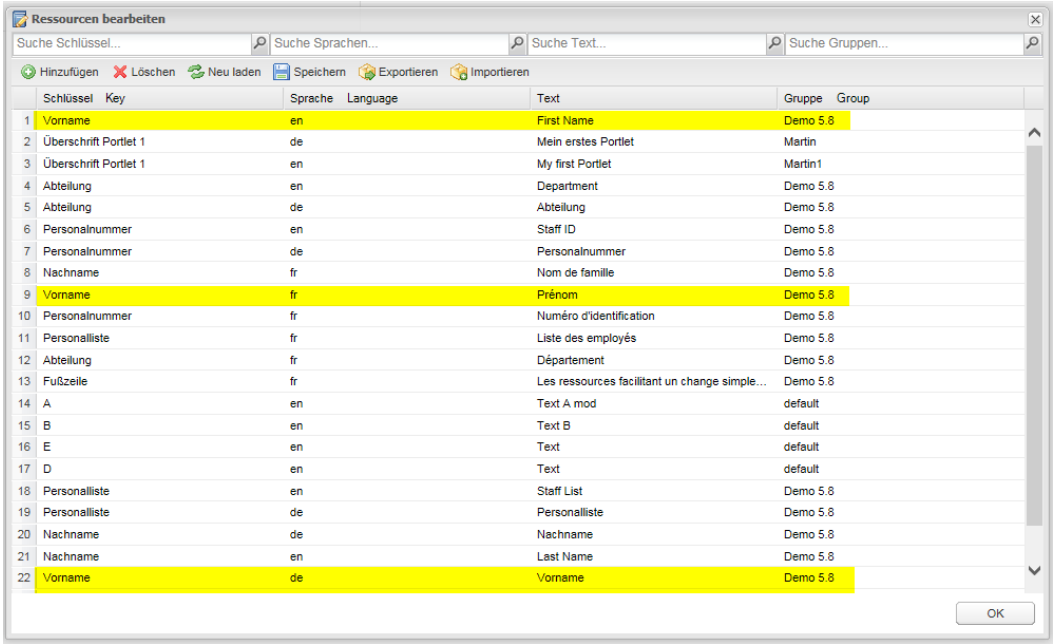
Steps	Description
Embedded Video	If you want to play a video in the portlet define the hyperlink in the HTML as follows: `http://www.youtube.com/v/VIDEOID?version=3&loop=1&playlist=-VIDEOID&autoplay=1&controls=0` The VIDEOID represents the ID of the YouTube video.
Video in new tab	If you want to run the video in a new tab define the hyperlink as shown above. Afterwards switch to the Source Edit Mode and add define link to the video as follows: `<html><body><A style="target-new: " href="http://www.youtube.com/watch?v=VIDEOID" target=_blank tab;>Video</A></body></html>`

D.3. Event Handling with Portlets

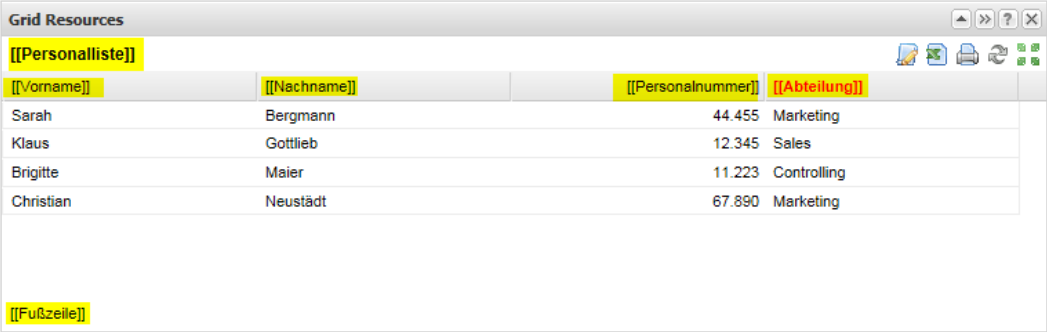
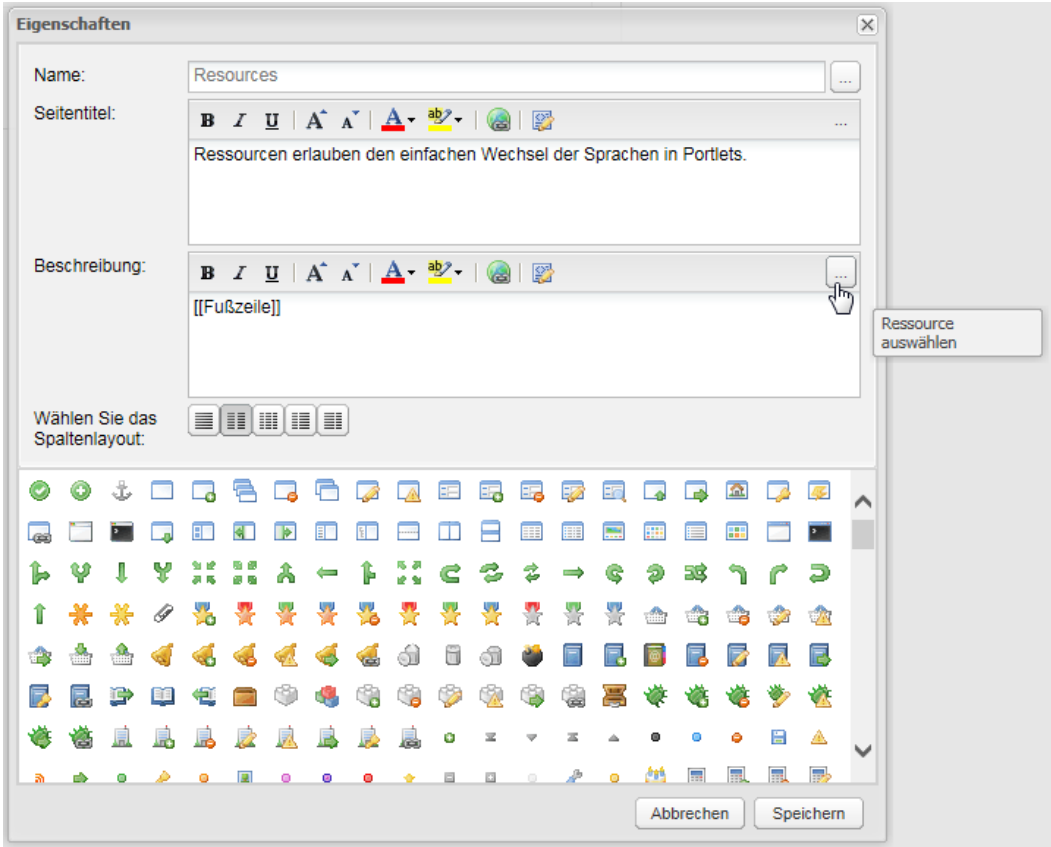
Steps	Description
Idea	When changing something in a Portlet it is often necessary to start a certain event – recalculation, initializing of a solution runner.
Event Handling in [TIS]Designer	As of version 5.6 each Portlet has an additional button:  "Change Events" will open a new window.

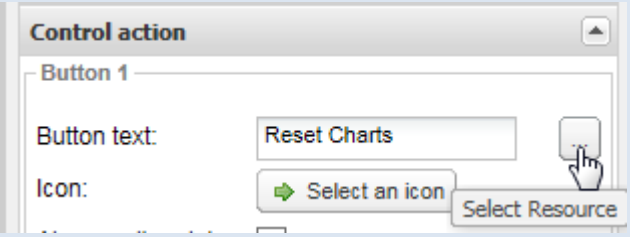
Steps	Description
Change Events	 There events can be managed. Choose an event type for the portlet and then the project and the node which such be recalculated. If there are more than on event, the sequence of the events can be chosen.
Log-off Event	As of version 5.8.2 logging off from the [TIS]Board can also initiate new recalculations. 

D.4. Resources

Steps	Description
Idea	With Resources it is possible to manage several languages in the [TIS]Board. Resources can be set in the [TIS]Designer where the following symbol can be found:  Among them are: • Portlet name • Description • Footer • Portlet title • Column headings • Button texts (in control portlets)
Creating Resources	  For creating a resource add a new line and define a key for the resource. Add the first language with ISO 639-1 code. Examples for the code are: en for English, de for German, fr for French. A full list can be found here: http://en.wikipedia.org/wiki/List_of_ISO_639-1_codes Then fill in the text in the chosen language. Finally you can add a group to mark coherent inputs. For adding a second language use the same key, the different language and the text. With Import and Export the resources of one language can be exported and imported again.

	Schlüssel Key	Sprache Language	Text	Gruppe Group
1	Vorname	en	First Name	Demo 5.8
2	Überschrift Portlet 1	de	Mein erstes Portlet	Martin
3	Überschrift Portlet 1	en	My first Portlet	Martin1
4	Abteilung	en	Department	Demo 5.8
5	Abteilung	de	Abteilung	Demo 5.8
6	Personalnummer	en	Staff ID	Demo 5.8
7	Personalnummer	de	Personalnummer	Demo 5.8
8	Nachname	fr	Nom de famille	Demo 5.8
9	Vorname	fr	Prénom	Demo 5.8
10	Personalnummer	fr	Numéro d'identification	Demo 5.8
11	Personalliste	fr	Liste des employés	Demo 5.8
12	Abteilung	fr	Département	Demo 5.8
13	Fußzeile	fr	Les ressources facilitant un change simple...	Demo 5.8
14	A	en	Text A mod	default
15	B	en	Text B	default
16	E	en	Text	default
17	D	en	Text	default
18	Personalliste	en	Staff List	Demo 5.8
19	Personalliste	de	Personalliste	Demo 5.8
20	Nachname	de	Nachname	Demo 5.8
21	Nachname	en	Last Name	Demo 5.8
22	Vorname	de	Vorname	Demo 5.8

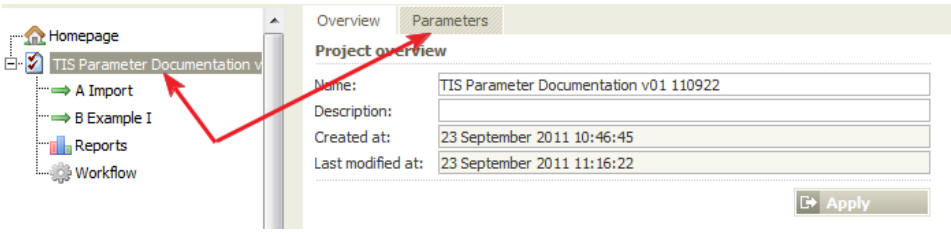
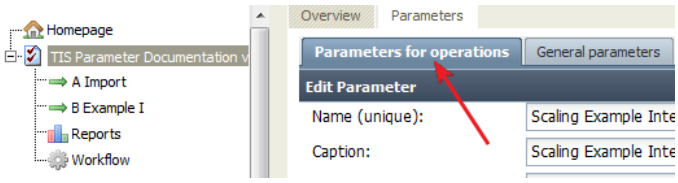
Steps	Description
Setting Resources for Portlets	Where ever a resource should be set, click the Resource button. Then choose the resource that should be set. In the field the key of the resource in double square brackets. 
Setting Resources for Pages	On [TIS]Board pages resources can be set in the pages properties for folder names, page names, page titles and descriptions. 

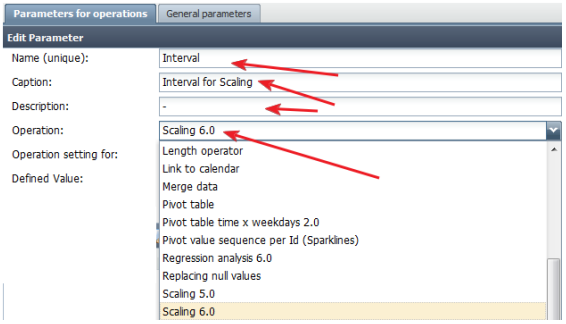
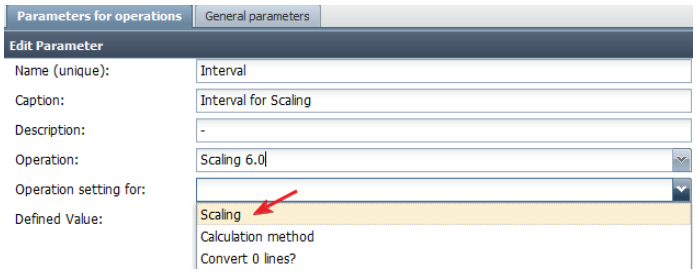
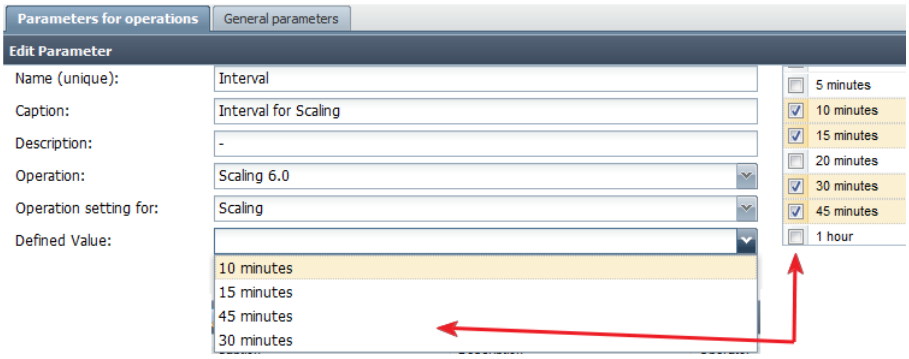
Steps	Description
Control Portlets	As of version 5.8.2 resources are available for control portlets. 

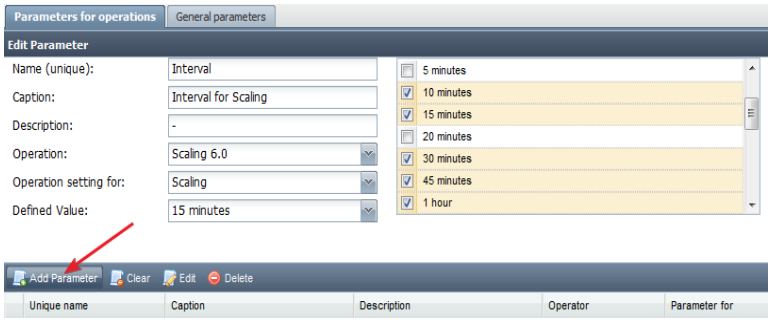
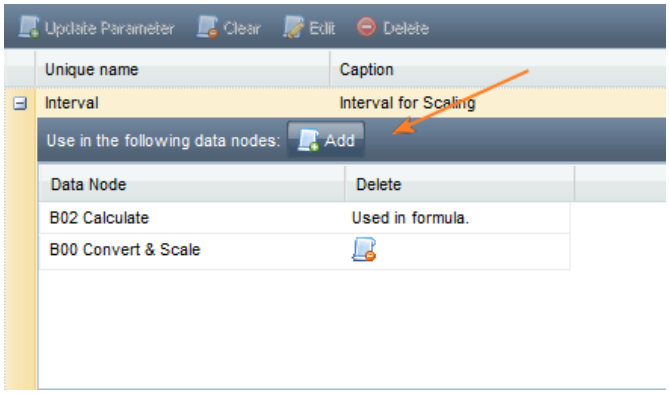
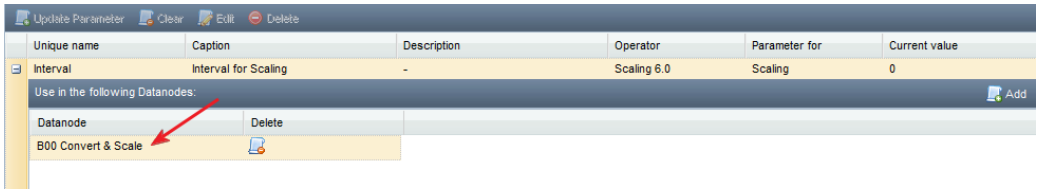
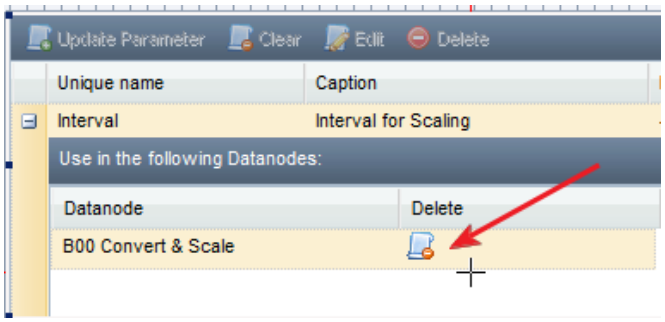
E. [TIS] PARAMETERS

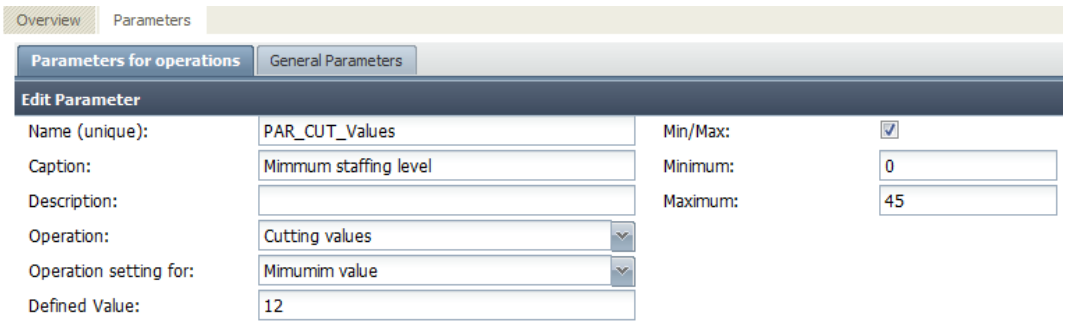
Introduction	Parameters allow to change values and settings of Operators (http://wiki.ximes.com/index.php?title=TIS:Operationen) from • Outside of the project • For several operators at once This allows for easier changes of settings, without going into the specific operator of a node of a [TIS]Editor – Project. IMPORTANT NOTE: Parameters work only within projects (i.e., the scope of a Parameter is the project where it was defined). A Parameter from one project is not visible to other projects (however, via TIS-Tables values van be shared by several projects).
What kinds of Parameters can be changed?	There are two types of Parameters 1) Parameters of operators (e.g. the interval for scaling can be picked out of a list) 2) General Parameters (e.g., a text or a number to be entered)
Good naming Policy	If you use several parameters it may be helpful to apply a naming policy, e.g. • Using PAR at the beginning of the name of the Parameter • Using the content as part of the name E.g. PAR_Scaling_Interval

E.1. How to use Parameters for Operations?

Task	Actions
Prepare in [TIS]Editor	1. Prepare the data and calculations in a [TIS]Editor data node 2. Select the project in the left pane. Then you will see a Parameter-tab  3. Go to the tab "Parameters for operations": 

Task	Actions
Select the operation	1) Give the Parameter a unique name, that allows to distinguish this Parameter from others (in the same project) 2) Define the caption and description that will be used in [TIS]Board for users. 3) Select the Parameter 
Select which setting should used	E.g. we would like to change Scaling 
Select the values allowed and pick one	On the right hand side all possible values are shown. Those marked are shown in field of the defined value. 

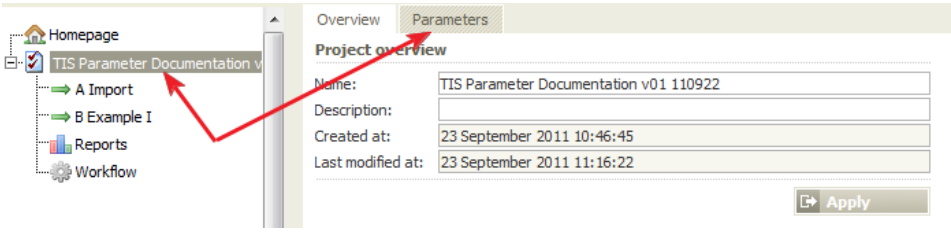
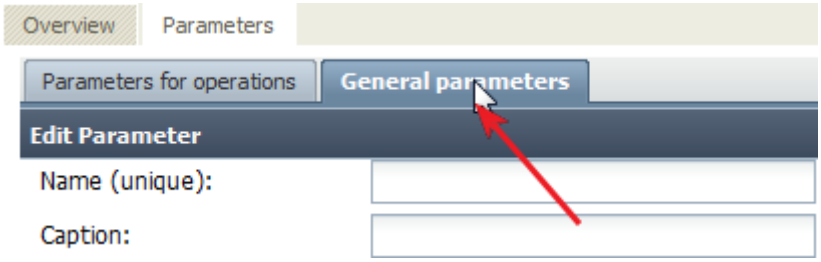
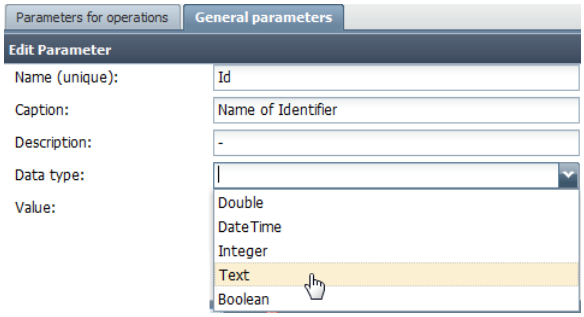
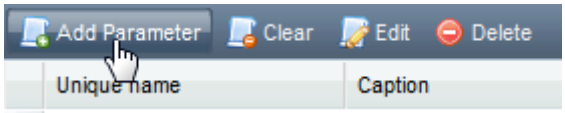
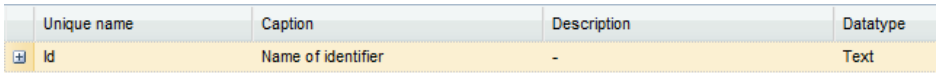
Task	Actions
Add the Parameter and bind it to a secific operator used in a node	Add the Parameter to the list of Parameters by pressing the "Add Parameter" button below:  Then select the Parameter from the list and press ADD. This brings up a drop-down list of possible nodes & operations to be selected.  A selection of the node and pressing SAVE leads to the binding of the Parameter to the operation. 
How to remove a binding of an Parameter to an operation	Go to the place where the binding was made and delete the binding. 

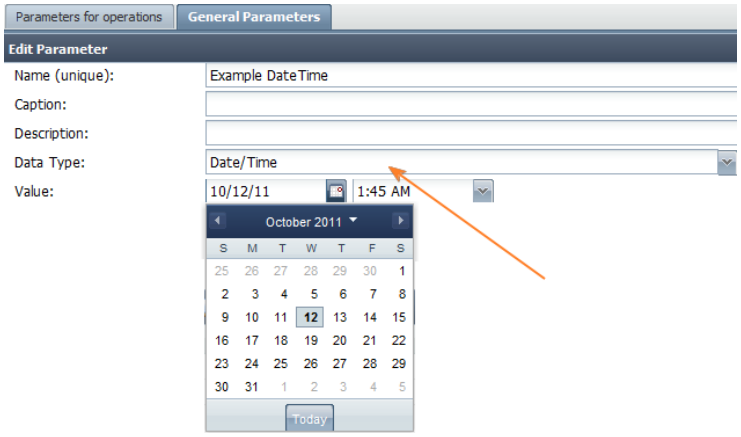
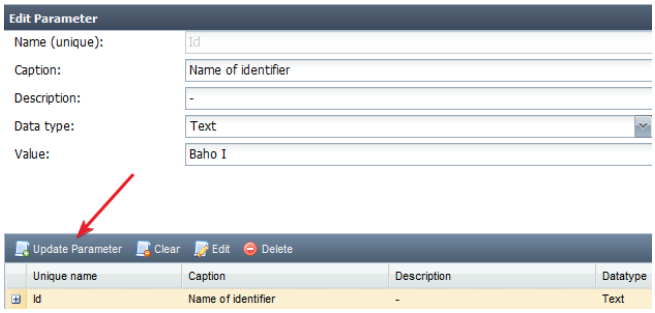
Task	Actions
Operations that can be addressed	Absence rate Analyze text pattern As a percentage 4.0 Calculation Conversion "String -> Date 2.0" Conversion "String -> Date" Conversion "String -> Double" Conversion of time pattern Copy or delete TIS tables Cutting values Daily or weekly profiles Day or week profiles 2.0 Delete duplicated data records Export in CSV file (server file system) 2.0 Export to CSV file (TIS file system) 2.0 Filter text and numeric columns Formula Interpreter Generate Shifts Group time Identifier instances Length operator Link to calendar Merge data Merge data 3.0 Optimizer: Sequence Simple Pivot table Pivot table time x weekdays 2.0 Pivot value sequence per Id (Sparklines) QMETRIX XML Export Qmetrix XML Writer Read TIS table 3.0 Read TIS table 4.0 Read TIS table information Regression analysis 6.0 Replacing null values Scaling 5.0 Scaling 6.0 Scaling 7.0 Seasonal ARIMA analysis 5.0 Send e-mail Send e-mail 2.0 Sum and count Thread column values Time grouping 2.0 Time interval between rows Trigger shift generation 1.0 Trigger shift generation 2.0 Write TIS table Write TIS table 3.0 [TIS]Board - Editable EJSChart histogram 1.0 [TIS]Board - EJSChart 3.0 [TIS]Board - EJSChart Histogram 2.0 [TIS]Board - Event Handler 1.0 [TIS]Board - Gauge 1.0 [TIS]Board - Generate editable data table 2.0 [TIS]Board - Generate editable data table 3.0 [TIS]Board - Multiple selection 1.0 [TIS]Board - Multiple selection 2.0 [TIS]Board - Read editable data table 3.0 [TIS]Board - Read editable data table 4.0 [TIS]Board - Stimulsoft Report Viewer 2.0 [TIS]Board - Upload File 1.0
Note	For some operators – e.g. Min/Max – you can specify the range of values that can be entered by users. 

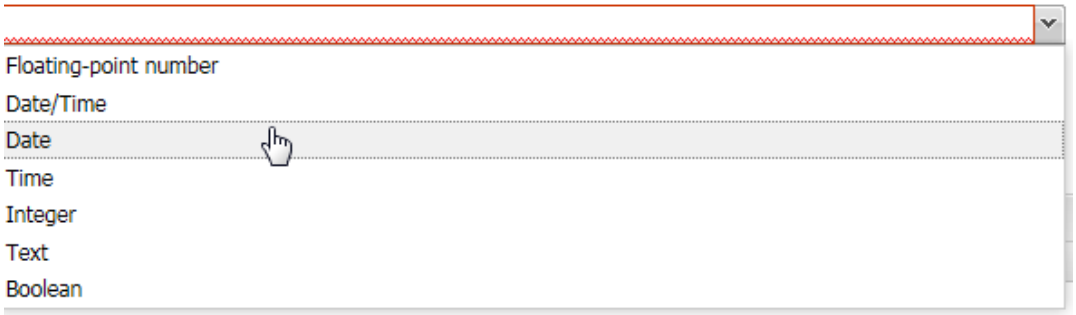
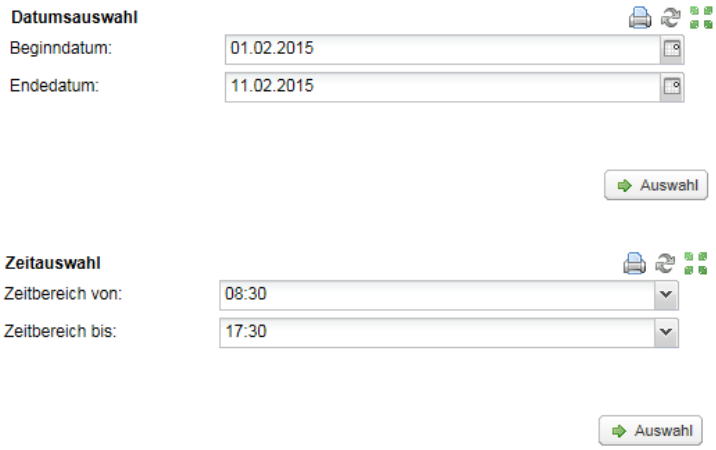
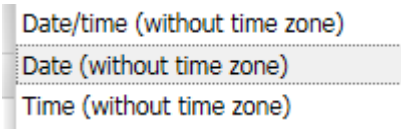
E.2. How to use General Parameters?

E.2.1. Introduction

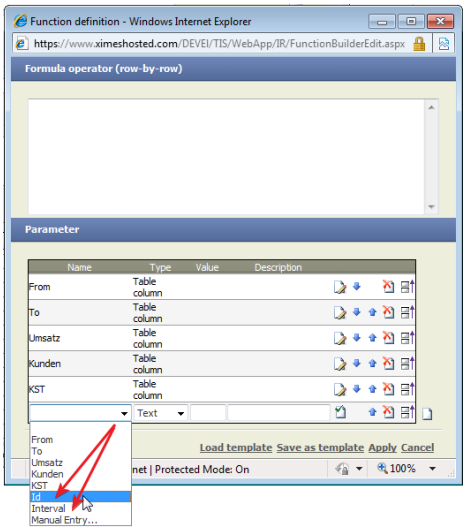
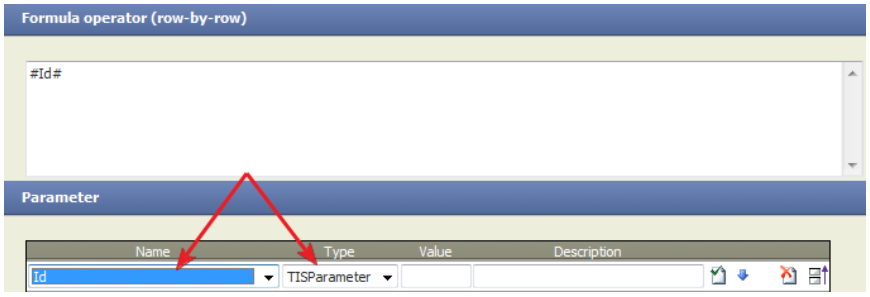
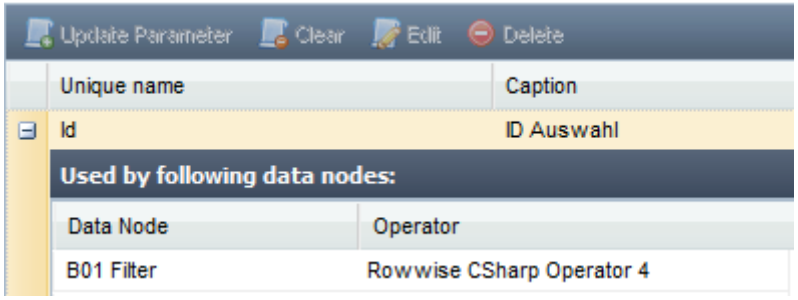
Introduction	For the time being general Parameters are used with two kinds of operators 1. The Formula Operator 2. The IMPORT-SQL Operator

Prepare in [TIS]Editor	1. Prepare the data and calculations in a [TIS]Editor data node 2. Select the project in the left pane. Then you will see a tab "Parameter"  3. Go to the tab "General Parameters": 
Enter the information	1. Give the Parameter a unique name, that allows to distinguish this Parameter from others (in the same project) 2. Define the caption and description that will be used in [TIS]Board. 3. Select the kind of value the Parameter should have:  4. Enter the value 5. Add this Parameter to the list of Parameters  The result looks like this 

Note	If you select Date Time as Data Type you get an interface shown below with a calendar to select from. 
Don't forget to update the Parameter	After changing a value, do not forget to update the Parameter. 

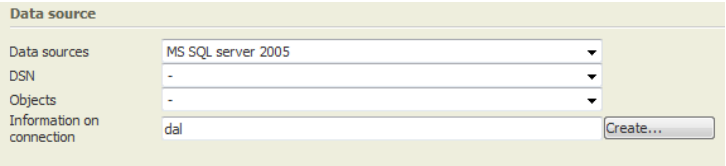
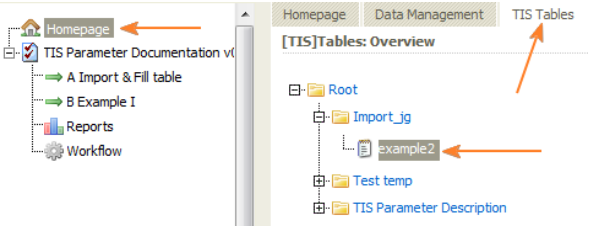
Date and Time only	As of version 5.7 parameters can be defined as date or time only.  This allows the user in the [TIS]Board to choose dates or times only. Be aware that the values in the calculations in [TIS]Editor are always in a DateTime format, so that wildcards are used for times (00:00:00) and dates (01.01.1970). 
Time Zones	As of version 5.8.2 DateTime, Date and Time parameters can be selected without respect to the time zone of the server. 

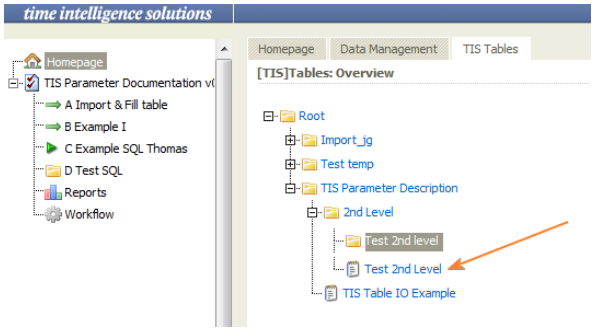
E.2.2. General Parameters in the "Formula Operator v04"

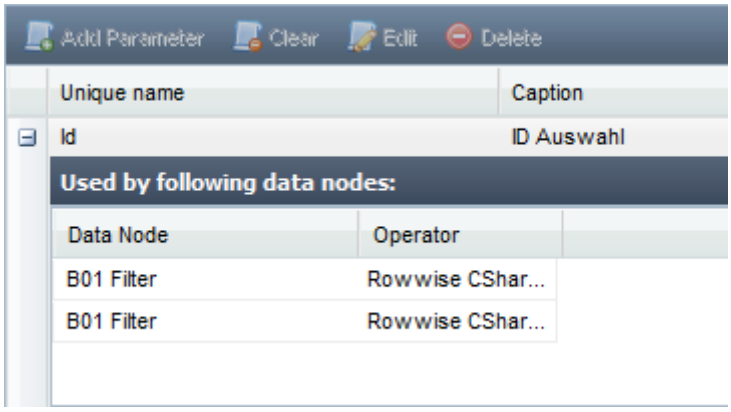
How to use Parameters in the **Formula Operator** Step 1	In the Formula Operator introduce the Parameter by adding a new Parameter (icon on the bottom right) and selecting it from the list 
How to use Parameters in the **Formula Operator** Step 2	AND by selecting "TIS Parameter" in the second column "Type"  Then you can use it in the normal way. You see which data nodes use this Parameter also in the Parameter-list: 

E.2.3. General Parameters in the "Import data from SQL sources v03" Operator

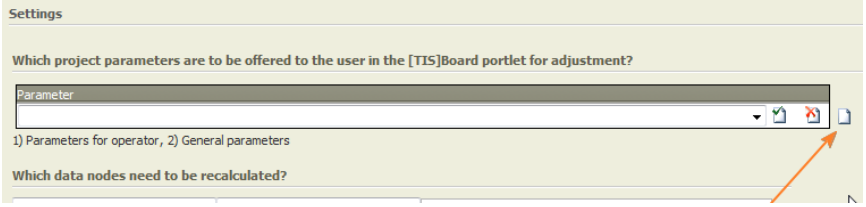
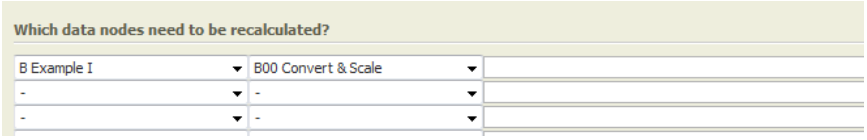
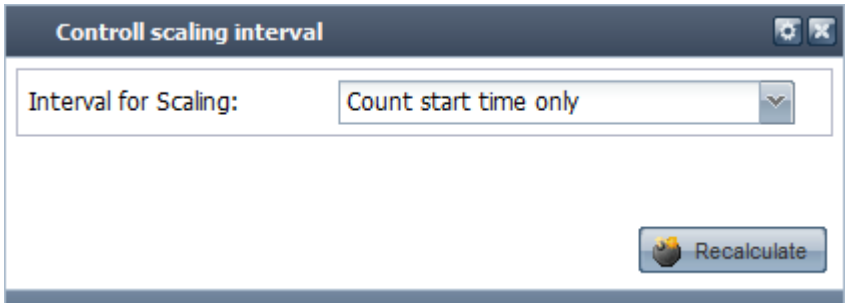
Introduction	This operator allows for importing data e.g. from a database but also from text files, MS-Excel files … In the following we explain how to use with Parameters. There are three mayor improvements in the Import-Operation: • One can define criteria in the WHERE statements using general Parameters • One can use address TIS-Tables much easier than before *IN WORK: also with general Parameters.* Accessing current date and time without using syntax that is MS-SQL or oracle specific
Using Parameters in the WHERE Statement	PARAMETERS in the statement are used in the following way: An Example `where projectid = #XI.TISPar('Parameter_ID')#`

Adressing TIS-Tables	If you want to use TIS-Tables or other database tables that are on the same database as you work with your [TIS]Editor-Projects than it is enough to enter
	
	`dal`
	
	in the field for the connection
	
	 
	
	If you want to access a TIS-Table build a statement with the following structure:
	
	`select * from #XI.TISTable('Folderpath_name','Table_Name')#`
	
	E.g.
	
	`select * from #XI.TISTable('Root\Import_jg','example2')#`
	
	reads the table:
	
	 

	More complex addressing takes place like this:
	 
	
	`select * from`
	
	`#XI.TISTable('TIS Parameter Description\2nd Level','Test 2nd Level')#`

ACCESS the current Date & Time	Independent of specific database one gets the current date and time with `#XI.SysDate()#`
Note regarding Parameter management	Different to the formula operator, the use of a Parameter within the IMPORT Data from SQL-sources" operator does not cause a listing of the data-node in the following list: 

E.2.4. How to work with Parameters in [TIS]Board?

Task	Actions
Define a Controller Portlet and bind the Parameter	1. Make a new Controller – see Create CONTROLLER Portlets (allows for recalculation of nodes in [TIS]Editor) 2. Open the recalculate operator and add a new line for a Parameter (repeat if necessary for each Parameter)  3. Select the Parameters you want to be visible in the Portlet 4. Select the nodes to be updated 
Create the Portlet with the corresponding interface to change the values of the Parameter	The steps are the same as described in: Create CONTROLLER Portlets (allows for recalculation of nodes in [TIS]Editor). As in the Recalculate operator a Parameter was selected, this Parameter (and other selected Parameters) is/are visible in the Portlet. 

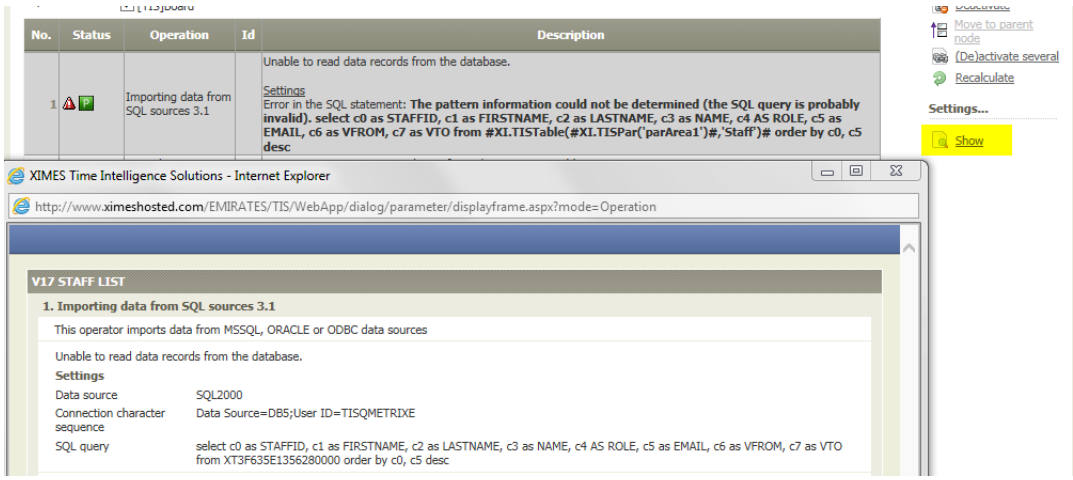
E.2.5. Creating Formatted Controller Portlets

Task	Actions
Introduction	Sometimes it might be necessary that a Controller Portlet should be created with bold font or indents.

Task	Actions
Define Format of Parameters	For formatting font in a portlet, go to the parameters. In the section column where you define the text for the portlet you can use HTML formatting. `<b>` allows the write bold text. `<i>` allows to write italic text.
Using Indents	For using intends we recommend to use placeholders before the text, such as: "`---`" or " ".
Example	

E.2.6. Trouble Shooting

Task	Actions
Background	In operations [TIS]Editor you can't normally see the values of parameters used.

Task	Actions
Show Settings	Select the operation and choose "Show Setting" on the right. A new window opens with the statement of the operations. The parameters are either replaced with the database name of the TIS Table or the number of the parameter. 

F. WORKING WITH [TIS]

F.1. How to deal with many data and several variables?

Task	Actions
	You have a set of many data with different variables. You want to make an easy solution where you can summarize and filter the data depending on one or several variables. Example for the data:

No.	A Staff ID	B From	C To	D ID1	E ID2	F ID3	G ID4	H Hours	I Units	J rowNum
1	301	01/02/2012 06:00:00	01/02/2012 15:00:00	A	M	NT	3 Wed	9.00	191.00	1
2	301	02/02/2012 06:00:00	02/02/2012 15:00:00	A	M	NT	4 Thu	9.00	92.00	2
3	301	03/02/2012 09:00:00	03/02/2012 21:00:00	A	D	NT	5 Fri	12.00	242.00	3
4	301	04/02/2012 00:00:00	04/02/2012 00:00:00	A	-	-	6 Sat	0.00	0.00	4
5	301	05/02/2012 00:00:00	05/02/2012 00:00:00	A	-	-	7 Sun	0.00	0.00	5
6	301	06/02/2012 09:00:00	06/02/2012 21:00:00	A	D	NT	1 Mon	12.00	230.00	6
7	301	07/02/2012 13:00:00	07/02/2012 23:00:00	A	L	NT	2 Tue	10.00	142.00	7
8	301	08/02/2012 13:00:00	08/02/2012 23:00:00	A	L	NT	3 Wed	10.00	202.00	8
9	301	09/02/2012 00:00:00	09/02/2012 00:00:00	A	-	-	4 Thu	0.00	0.00	9
10	301	10/02/2012 13:00:00	10/02/2012 23:00:00	A	L	OT	5 Fri	10.00	192.00	10
11	301	11/02/2012 00:00:00	11/02/2012 00:00:00	A	-	-	6 Sat	0.00	0.00	11

Prepare everything in TIS-Editor Step 1	Create a table with one column for the variable and four columns of your ID (1-4). The columns with the variables will be the identifier of the (set of) variables (e.g. V1-V5). In the fields of ID1-4 you can now define the standard values. Place one or a combination of variables in the grid. Empty fields are being defined with a "*". Now make an Editable Grid out of it.

No.	A Variable	B ID1	C ID2	D ID3	E ID4
1	V1	A	*	*	*
2	V2	B	*	*	*
3	V3	C	*	*	*
4	V4	*	*	NT	*
5	V5	*	*	OT	*

Back Forward » Go to page 1 Total 1 Number of rows: 5 | Columns: 5

Prepare everything in TIS-Editor Step 2	Reimport your TIS-table again (Retrieve editable data table)
Prepare everything in TIS-Editor Step 3	Merge it with your data (Cartesian product) and calculate in the Formula Editor if the ID in the data matches with the defined variables. Then filter all relevant data.

No.	A Variable	B From	C To	D ID1	E ID2	F ID3	G ID4	H Staff ID	I Hours	J Units	K rowNum
1	V1	01/02/2012 06:00:00	01/02/2012 15:00:00	A	M	NT	3 Wed	302	9.00	92.00	30
2	V1	01/02/2012 06:00:00	01/02/2012 15:00:00	A	M	NT	3 Wed	313	9.00	137.00	349
3	V1	01/02/2012 06:00:00	01/02/2012 15:00:00	A	M	NT	3 Wed	301	9.00	191.00	1
4	V1	01/02/2012 09:00:00	01/02/2012 21:00:00	A	D	NT	3 Wed	314	12.00	194.00	378
5	V1	01/02/2012 13:00:00	01/02/2012 23:00:00	A	L	NT	3 Wed	307	10.00	212.00	175
6	V1	01/02/2012 13:00:00	01/02/2012 23:00:00	A	L	NT	3 Wed	319	10.00	122.00	523

Prepare everything in TIS-Editor Step 4	4. Scale your data according to your entered variables

No.	A From	B To	C Hours	D Units	E Variable
1	01/02/2012 00:00:00	01/03/2012 00:00:00	1,363.00	21,122.00	V1
2	01/02/2012 00:00:00	01/03/2012 00:00:00	1,197.00	19,624.00	V2
3	01/02/2012 00:00:00	01/03/2012 00:00:00	1,036.00	16,925.00	V3
4	01/02/2012 00:00:00	01/03/2012 00:00:00	3,413.00	54,755.00	V4
5	01/02/2012 00:00:00	01/03/2012 00:00:00	183.00	2,916.00	V5

Back Forward » Go to page 1 Total 1 Number of rows: 5 | Columns: 5

Task	Actions
Prepare everything in TIS-Editor Step 5	5. Match the variables with data and the definition grid from [TIS]Board (intersection). Bring the data to the TIS-Board again.

No.	A Variable	B ID1	C ID2	D ID3	E ID4	F Hours	G Units	H Units/Hour
1	V1	A	*	*	*	1,363.00	21,122.00	15.50
2	V2	B	*	*	*	1,197.00	19,624.00	16.39
3	V3	C	*	*	*	1,036.00	16,925.00	16.34
4	V4	*	*	NT	*	3,413.00	54,755.00	16.04
5	V5	*	*	OT	*	183.00	2,916.00	15.93

Back Forward » Go to page 1 Total 1 Number of rows: 5 | Columns: 8

Task	Actions
Prepare everything in TIS-Editor Step 6	6. Create a table where you define the caption of you ID columns. ID1 = …, ID2 = …
What you can do in the [TIS]Board Step 1	You can see your standard data like you have defined in the [TIS]Board including a caption for the IDs.

Input Variables

	Variable	ID1	ID2	ID3	ID4
1	V1	A	*	*	*
2	V2	B	*	*	*
3	V3	C	*	*	*
4	V4	*	*	NT	*
5	V5	*	*	OT	*

Last Change: 15/05/2012 15:46:02

Hours and Units per Varaible

Variable	ID1	ID2	ID3	ID4	Hours	Units	Units/Hour
V1	A	*	*	*	1,363.00	21,122.00	15.50
V2	B	*	*	*	1,197.00	19,624.00	16.39
V3	C	*	*	*	1,036.00	16,925.00	16.34
V4	*	*	NT	*	3,413.00	54,755.00	16.04
V5	*	*	OT	*	183.00	2,916.00	15.93

Last Change: 15/05/2012 15:46:01

ID Caption

ID	Content	Possible Entries
ID1	Team	A, B, C
ID2	Shift Type	M (= Morning), D (= Day), L (= Late)
ID3	Day Code	NT (=Normal Time), OT (= Overtime)
ID4	Weekday	1 Mon, 2 Tue, 3 Wed, 4 Thu, 5 Fri, 6 Sat, 7 Sun

Last Change: 15/05/2012 15:46:01

Task	Actions
What you can do in the [TIS]Board Step 2	2. Change the parameters, save them and press the recalculate button

Controller Definition Period

Time filter - from: 01/02/2012 00:00

Time filter - to: 01/03/2012 00:00

Recalculate

Last Change: 15/05/2012 15:50:58

Task	Actions
What you can do in the [TIS]Board Step 3	3. After a few seconds you all the relevant information for the data you defined. **Input Variables** Last Change: 15/05/2012 15:50:59 **Hours and Units per Varaible** Last Change: 15/05/2012 15:50:58

Input Variables

	Variable	ID1	ID2	ID3	ID4
1	V1	*	M	*	*
2	V2	*	D	*	*
3	V3	*	L	*	*
4	V4	*	*	*	1 Mon
5	V5	*	*	*	2 Tue

Hours and Units per Varaible

Variable	ID1	ID2	ID3	ID4	Hours	Units	Units/Hour
V1	*	M	*	*	1,044.00	16,855.00	16.15
V2	*	D	*	*	1,392.00	22,264.00	15.99
V3	*	L	*	*	1,160.00	18,552.00	15.99
V4	*	*	*	1 Mon	496.00	7,864.00	15.86
V5	*	*	*	2 Tue	496.00	7,729.00	15.58

F.2. Updating of Edited Data

When you are dealing with several datasets, which you need to "save" and "load" again, [TIS] offers some possibilities to enable "saving" and "loading". These are described on the following pages.

F.2.1. Join before Init

Task	Actions
Background	You don't want to lose changes from EdGrid but have to bring in new values.
Node 1	Init values.
Node 2	Merge with edited values from 3, throw out deleted values Prepare EdGrid
Node 3	Get Back EdGrid
Update	Recalc 2
Pro & Con	PRO: Simple and easy to implement. CON: For small datasets that are not stored.

F.2.2. Method csv

Task	Actions
Background	In long lists it is difficult to add several related rows. A specialized entry table makes this easier.
Node 1	Read CSV and prepare Ed Grid1.

Node 2	Get results from Ed Grid1
Node 3	Prepare additional Ed Grid2 with Default Values
Node 4	Get results from Ed Grid2
Node 5	Concatenate Results 1 & 2 & Store in CSV
Update	Store new entries: Series => 4,5,1,2
Pro & Con	PRO: For large datasets

F.2.3. Method TIS-Table

Task	Actions
Background	E.g. there are definitions for each team. If a team-name is removed from team-list also these additions should be removed.
Node 1	Create team list
Node 2	Prepare definition for team members with Multiselect
Node 3	Get back Multiselect & store as update in TIS-Table
Node 4	Read TIS-Table, Merge with team list and overwrite complete TIS-Table
Update 1	Store single entry
Update 2	Clean list
Pro & Con	PRO: For large datasets

F.2.4. Method Append

Task	Actions
Background	Have default values even if there was no selection made
Node 1	List initial values for Multiselect for all keys
Node 2	Get initial values and update TIS-Table
Node 3	Read TIS-Table, append initial values and remove double values. Merge with keys to remove deleted values.

F.3. Hiding Zero Values

Task	Actions
Background	If you are working with larger tables with several 0 values it might help you hiding the zeros. There are two simple ways – one in the [TIS]Editor, one in the [TIS]Board – to get them hidden.

[TIS]Editor Step 1

We start with the table with some zeroes.

No.	A Day	B Shop 1	C Shop 2	D Shop 3	E Shop 4
1	Mon	1	0	0	4
2	Tue	0	0	2	2
3	Wed	2	0	0	0
4	Thu	0	1	1	1
5	Fri	2	2	0	1
6	Sat	1	1	1	0
7	Sun	2	0	0	0

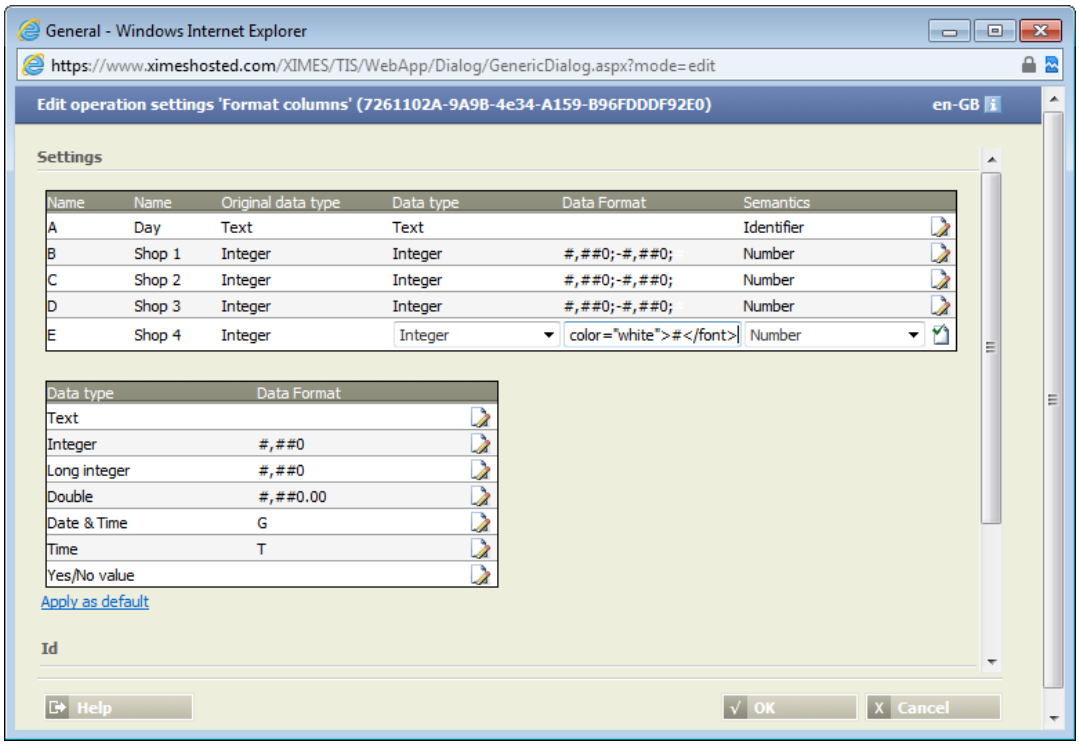
Back Forward » Go to page 1 Total 1 Number of rows: 7 | Columns: 5

[TIS]Editor Step 2

Add the operation "Format Columns" and change the Data Format in each column to:

`<font color="black">#,##0</font>;<font color="black">-#,##0</font>;<font color="white">#</font>` - for integer values.

`<font color="black">#,##0.00</font>;<font color="black">-#,##0.00</font>;<font color="white">#</font>` - for double values.



[TIS]Editor Step 3	You will finally get the following result:

No.	A Day	B Shop 1	C Shop 2	D Shop 3	E Shop 4
1	Mon	1			4
2	Tue			2	2
3	Wed	2			
4	Thu		1	1	1
5	Fri	2	2		1
6	Sat	1	1	1	
7	Sun	2			

Back Forward » Go to page 1 Total 1 Number of rows: 7 | Columns: 5

[TIS]Board Step 1

Dealing with this problem in [TIS]Board is different. Formatting the columns in the [TIS]Editor has no effects on data in [TIS]-Board.

Create a SimpleGrid and chose it when creating a new Portlet in [TIS]Designer.

Untitled Portlet

Day	Shop 1	Shop 2	Shop 3	Shop 4
Mon	1	0	0	4
Tue	0	0	2	2
Wed	2	0	0	0
Thu	0	1	1	1
Fri	2	2	0	1
Sat	1	1	1	0
Sun	2	0	0	0

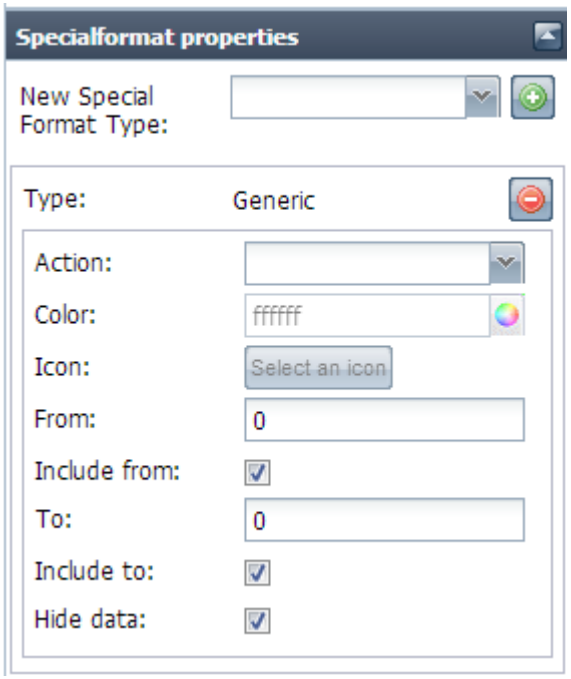
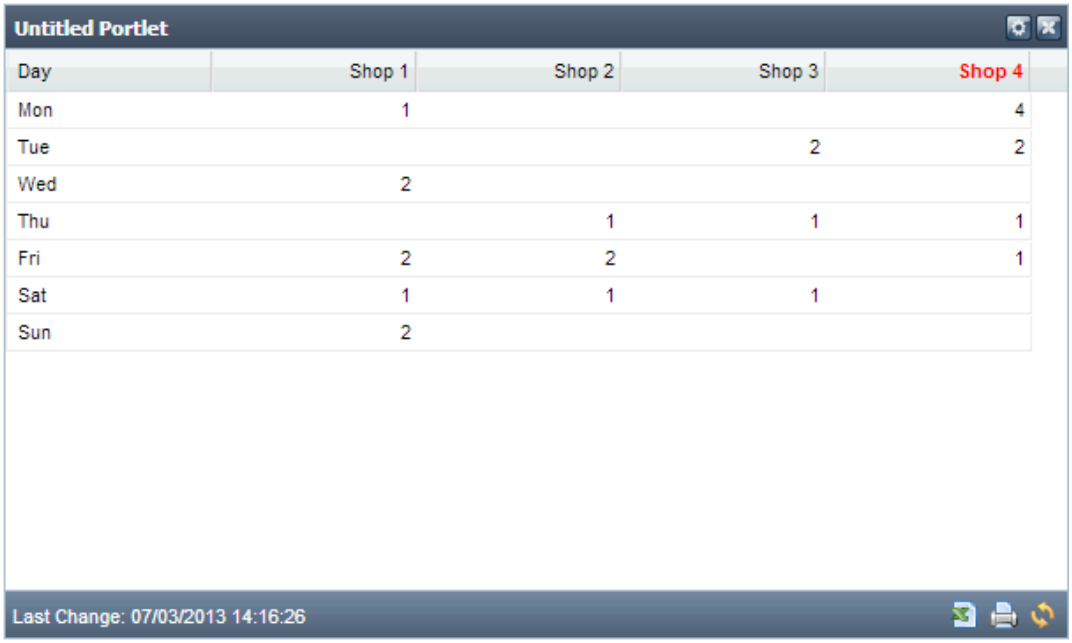
Last Change: 07/03/2013 14:16:26

[TIS]Board Step 2

Now chose the column where you want to hide the zero. On the right hand side scroll to the bottom and add new Special Format Type by clicking onto the green plus.

Specialformat properties

New Special Format Type:

[TIS]Board Step 3	Then choose in the fields "From" and the "To" value 0 and check the boxes "Include from", "Include to" and "Hide data". 
[TIS]Board Step 4	You will get a table like this: 

Untitled Portlet

Day	Shop 1	Shop 2	Shop 3	Shop 4
Mon	1			4
Tue			2	2
Wed	2			
Thu		1	1	1
Fri	2	2		1
Sat	1	1	1	
Sun	2			

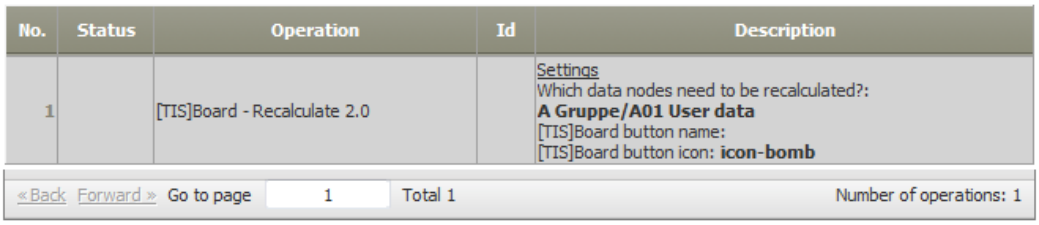
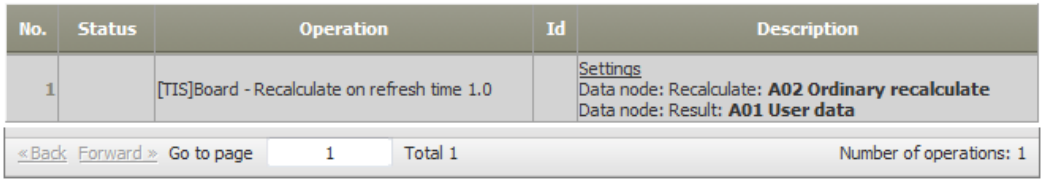
Last Change: 07/03/2013 14:16:26

F.4. Finding Empty Strings in Parameters

Task	Actions
Background	Sometimes users can define empty strings in Parameters. These might end up in problems when calculating. Therefore it is necessary to find empty strings in Parameters.

Solution	Get the data field from the Parameters in to a table an choose an formula operator.
	
	The Parameter has the name: par_WHERE1_ADD_MANUAL
	
	`#par_WHERE1_ADD_MANUAL# == null ? "xxxx":`
	`(((string)#par_WHERE1_ADD_MANUAL#).Trim() == "" ? "yyy": "ok")`
	
	So if the Parameter is a Null-Value "xxxx" will be returned, if it is an empty string, "yyy", if everything is fine "ok".

F.5. Updating Pages on Opening

Task	Actions
Background	If it is necessary that a [TIS]-Board page is being refreshed on opening. In this case it is necessary to build the following helper.
Prepare in [TIS]Editor	In the example the data node A01 User data should be recalculated. 1. Create a data node with [TIS]Board – Recalculate, which recalculates the data node A01.  2. Create a second data node with [TIS]Board – Recalculated on Refresh Time. This node should recalculate the recalculate node from before, the result will be A01. 
Prepare in [TIS]Designer	Create a portlet out of the automatic refreshing node and set the refresh time to 0 seconds. Then minimize the height of the portlet to minimum so that it becomes nearly invisible.
Prepare in [TIS]Board	Place portlet with the table from data node A01 and the portlet with automatic refresh onto the same page. If possible you can hide the refresh portlet in the bottom. Now the refresh portlet recalculates after opening, which initiates a refresh of the grid portlet.

F.6. [OPA] in [TIS]

Task	Actions
Background	It is possible to use [OPA] – Operating Hours Assistant by XIMES – with in the [TIS].

User Interface	The functions of [OPA] can directly be used in the [TIS]Board. The functionality is closely the same to the client version.

Characteristics of cover

	Property	Description 1	Value 1	Description 2	Va... 2	Low	1	2	3	4	5	6	7	8	9	Very high
1	Keep high cover to a minimum	--	--	--	--						✓					
2	Keep low cover to a minimum	--	--	--	--						✓					
3	Keep number of types of shifts t...	--	--	--	--				✓							
4	Prefer same shift ends	--	--	--	--	✓										
5	Prefer shifts of length equal or gr...	--	4	hours	--											✓
6	Keep number of duties per week...	weekly working hour...	36	desired maxim...	5	✓										
7	Maximum number of working hou...	in normal shifts	1668	in stand by shi...	0	✓										
8	Maximum number of employees s...	in normal shifts	100	in stand by shi...	0	✓										
9	Minimum workforce requirements	--	--	--	--	✓										
10	Maximum workforce requirements	--	--	--	--	✓										
11	Similarity between cover and op...	--	--	--	--	✓										

Demand of staff

	From	To	Stan...	Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	06:00	08:00	No	50	50	50	50	50	10	10
2	08:00	10:00	No	100	60	70	100	100	20	20
3	10:00	12:00	No	120	70	80	120	105	40	30
4	12:00	14:00	No	130	90	90	130	110	40	40
5	14:00	18:00	No	80	80	80	80	80	10	10
6	18:00	22:00	No	40	40	40	40	40	0	0

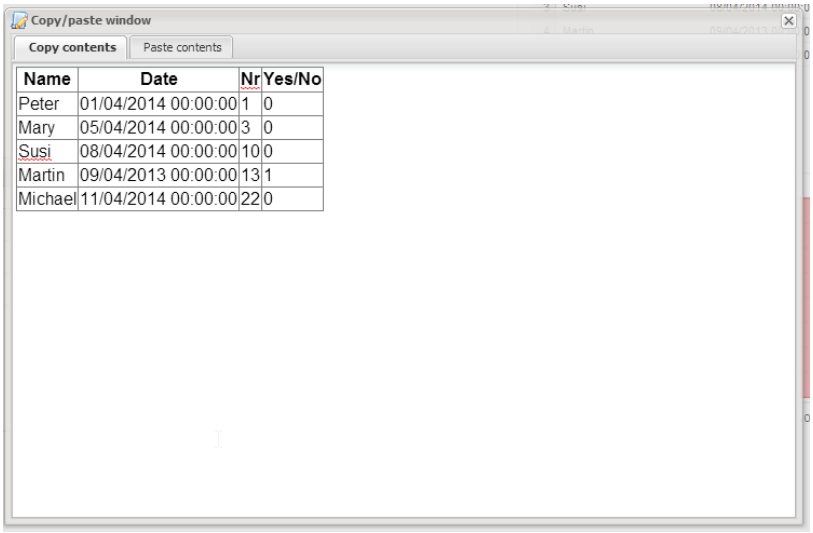
Shift Types

	Shift types	Abbr.	Earliest	Best	Latest start	Minimum	Optimum	Maximum duration
1	Morning	M	05:00	08:00	10:00	05:00	08:00	12:00
2	Day	D	09:00	12:00	14:00	04:00	07:00	12:00
3	Evening	E	15:00	17:00	18:00	07:00	08:00	10:00
4	Night	N	20:00	20:00	21:00	06:00	08:00	09:00

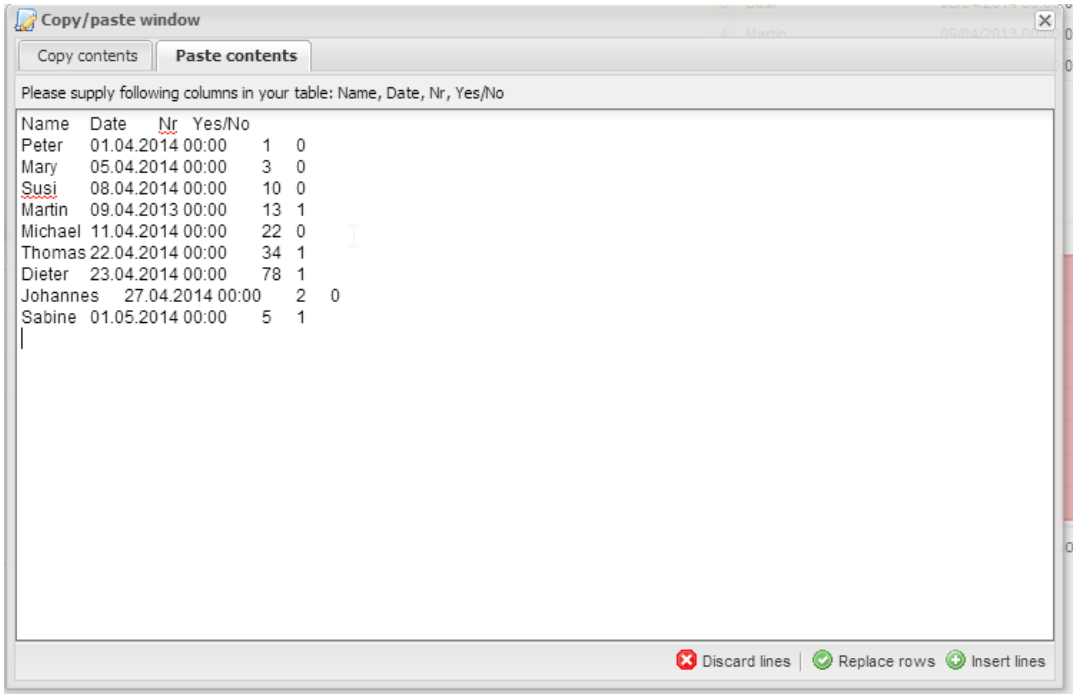
Editor Settings	In [TIS]Editor some specialized operators are used. These include: • Trigger shift generation 2.0

F.7. Copy Data between Excel and [TIS]

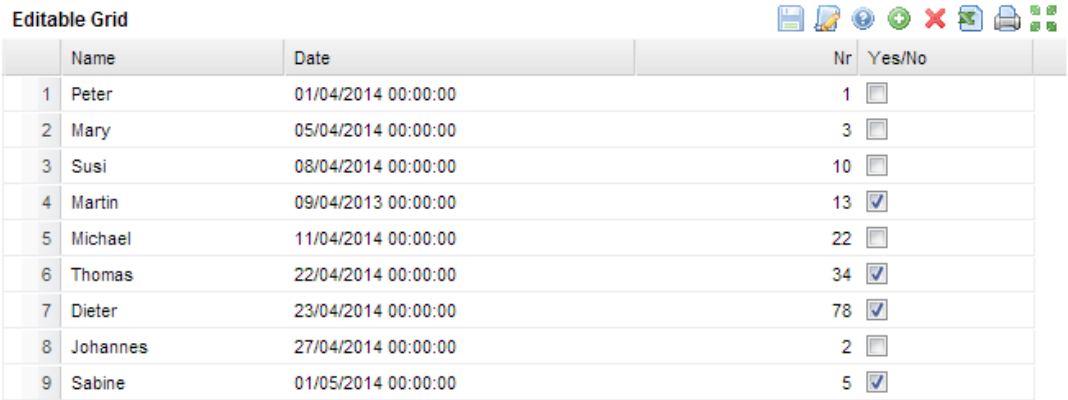
Task	Actions
Background	Data from an Editable Grid can easily be copied to MS Excel. After editing there The data can be copied back to the Editable Grid.

Copy Data to Excel	Click the button Copy/paste data: A new window opens:  Mark the data and copy the data and paste it to Excel. There you can edit the data.

Copy Data to [TIS]	In the same window, switch to "Paste contents" and paste the data from Excel without the header.



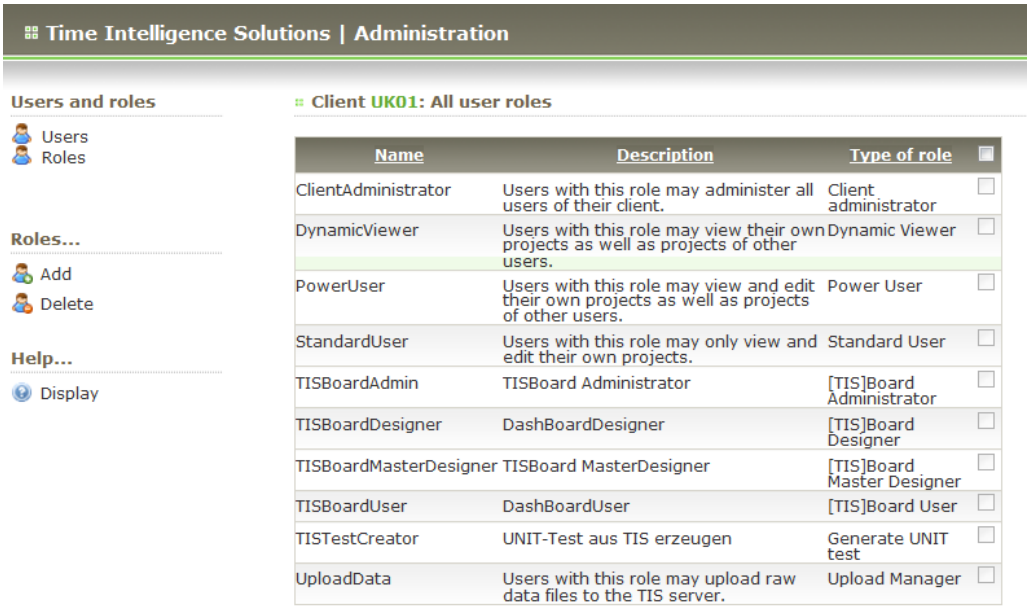
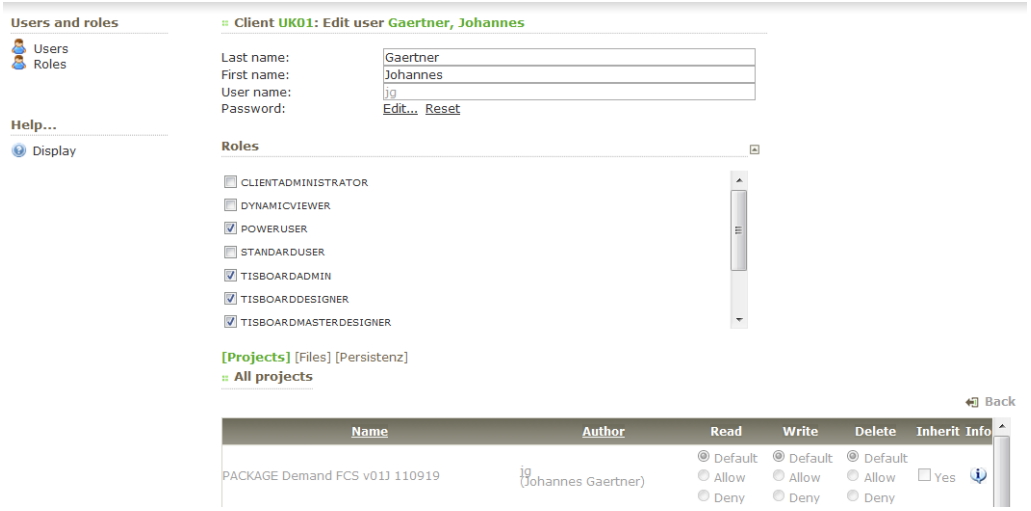
Depending on your data, choose now "Replace rows" – all previous data in the Editable Grid will be deleted – or "Insert lines" – the pasted data will be appended to the existing data.



	Name	Date	Nr	Yes/No
1	Peter	01/04/2014 00:00:00	1	☐
2	Mary	05/04/2014 00:00:00	3	☐
3	Susi	08/04/2014 00:00:00	10	☐
4	Martin	09/04/2013 00:00:00	13	☑
5	Michael	11/04/2014 00:00:00	22	☐
6	Thomas	22/04/2014 00:00:00	34	☑
7	Dieter	23/04/2014 00:00:00	78	☑
8	Johannes	27/04/2014 00:00:00	2	☐
9	Sabine	01/05/2014 00:00:00	5	☑

G. [TIS]ADMIN

G.1. What is [TIS]Admin all about?

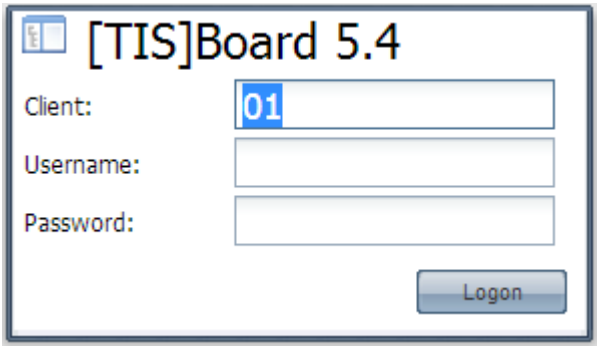
Background	[TIS]Administrator supports the definition of roles and users
Role	Roles are groups of rights that refer to roles of persons as users. Predefined roles are:  Additional roles can be defined.
Users	Users are assigned to roles and get the corresponding rights.  They have all rights on their own projects and can be given/denied additional rights that go beyond the assigned roles.
Definition of rights	Rights can be defines on various levels regarding Read/Write/Delete and visibility, down to level of being able to change a specific input.

G.2. How to set up a new User?

Create user	Define first name and name, username and password
Assign roles	☑ TISBOARDADMIN ☑ TISBOARDUSER
[TIS]Board	Sign in that user is initialized there.
Tables	Assign tables to user (incl. inherit) [Projects] [Files] **[TIS Tables]** [Persistenz] :: **All TIS tables** Touren Stopps Tresor WochenstundenDetails
Projects	Assign projects to user (incl. inherit) **[Projects]** [Files] [TIS Tables] [Persistenz] :: **All projects** Zeit und Geld Step I ABFRAGE 130821 V21JG | jg (Johannes Gaertner) | Standard / Erlaubt / Verboten | Standard / Erlaubt / Verboten | Standard / Erlaubt / Verboten | ☑ Ja
Assign roles	Remove ☐ TISBOARDADMIN

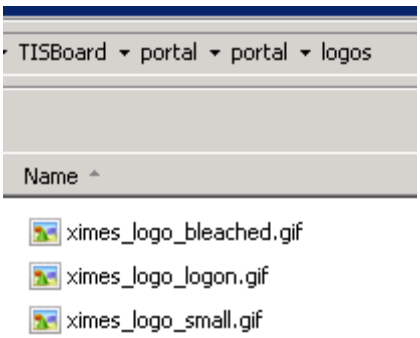
H. ADVANCED USAGE

H.1. Change the Default Client

Element	Description
Background	The default client automatically appears when you come to the login page of the TIS-Board. This client can be set to another client in the TIS-Board setting. 
Open TISBoardSettings.js	This file can be found on the server where TIS has been installed: C:\inetpub\wwwroot\XIMES\TISBoard\portal\portal Open the file with a notepad.

Change here the settings for the Default Client	`TISBoard.MAINCONNECTURL = '/XIMES/TISBoard/DispatcherService.svc';`
	`// Base language setting`
	`TISBoard.lang = "en";`
	
	`// TISBoard Settings`
	`TISBoard.AddPortletTreeHeight = 350;`
	`TISBoard.ControllerLabelWidth = 150;`
	`TISBoard.MaxOpenedTabs = 1;`
	
	`//TISBoard.ReportStyle = "background: #F7FBFF;";`
	`//TISBoard.OMTPStyle = "background: #FFFFCC;";`
	`TISBoard.tokenPleaseWait = _("Please wait.");`
	`TISBoard.defaultClient = "01";`
	`TISBoard.initialEditMode = false;`
	
	`TISBoard.MinHeight = 60;`
	`TISBoard.MaxHeight = 2000;`
	`TISBoard.MinRefreshTime = 0;`
	`TISBoard.MaxWestTreeWidth = 355;`
	`TISBoard.MinWestTreeWidth = 200;`

H.2. Setting a different Logo

Element	Description
Background	Normally on the top of the TIS-Board pages there is XIMES logo. For certain solutions it might be necessary to replace it with a different logo
Go to the right folder	There where TIS was installed on the server there should be a path like that: TISBoard\portal\portal\logos
Replace files	There you will find at least the following files:  Replace all of them with the new logo.

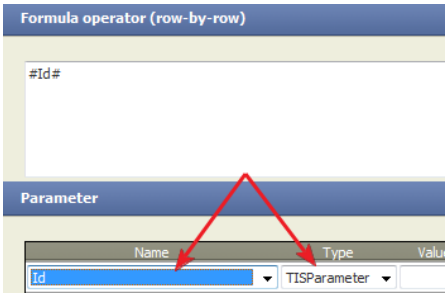
I. APPENDIX

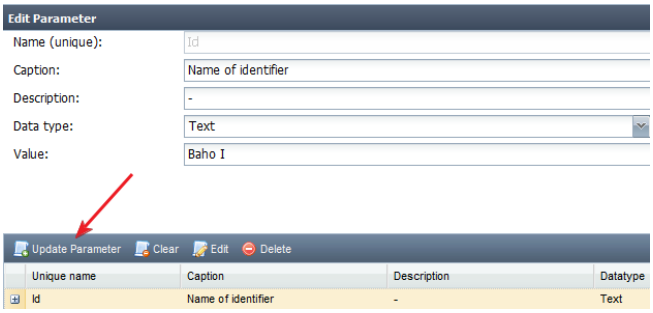
I.1. Trouble Shooting

I.1.1. The five most important issues for [TIS]Board

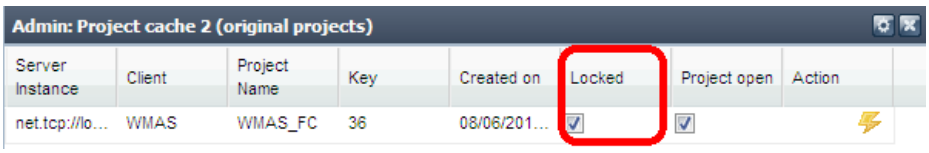
Problem	Possible Reasons	Trouble Shooting
Cannot open a project in [TIS]Editor anymore or cannot Recalculate from [TIS]Board	Another User has opened the projects in [TIS]Editor	• Go to [TIS]Editor Overview – there should be a symbol and the information who has exclusive rights • Contact that person
	[TIS]Board is used as planning tool and locked the project or vice versa.	The lock has to be released. See Locking and releasing projects for details.
I am logged out of [TIS]Designer when logging on in [TIS]Board or vice versa.	Contact your Administrator to get a second account. It is planned to remove this problem in [TIS]Editor version 5.2.	
Cannot find a data-node in [TIS]Designer	Forgot to switch on the symbol for [TIS]Board connection in [TIS]Editor	In [TIS]Editor at the data-node Properties ☑ [TIS]Board
Cannot see a newly designed Portlet in [TIS]Board	The tree in [TIS]Board only updates after a new logon or a refresh (F5)	Press F5
Portlets/pages do not come together with the project	Right now Portlets & pages are not exported/imported.	Please build them manually. We work on this issue to be sorted out - presumably in Version 5.2.

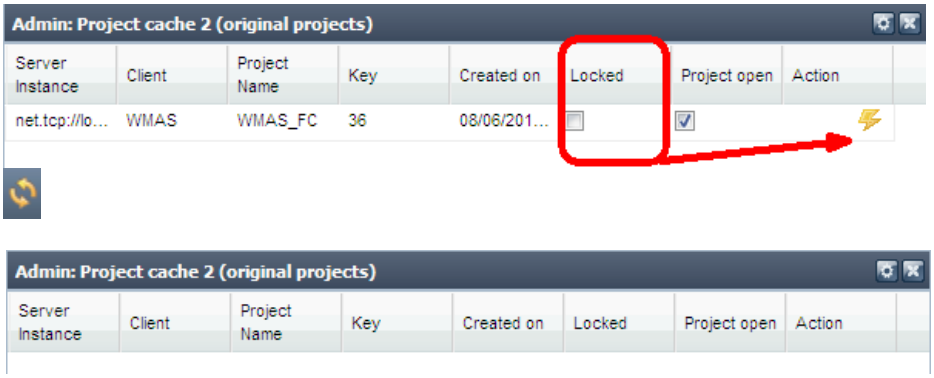
I.1.2. The two most important issues for Parameters

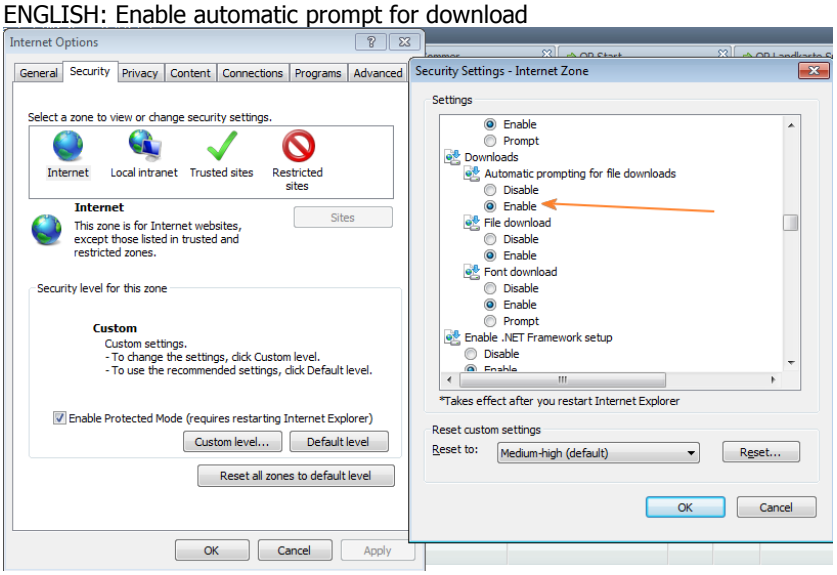
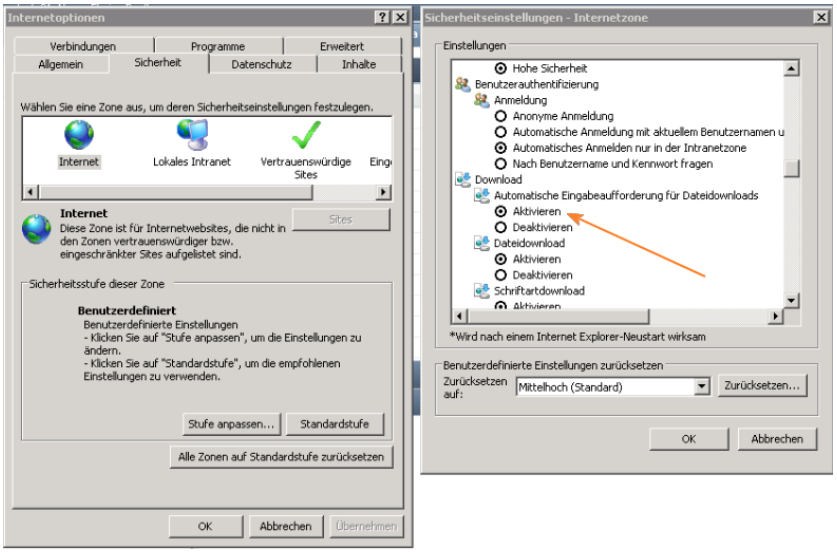
Problem	Possible Reasons	Trouble Shooting
General Parameter does not work	The setting in the second column of the formula-operator is not a TIS-Parameter.	Change it here 

Problem	Possible Reasons	Trouble Shooting
Cannot change values of Parameters	After changing a value, do not forget to update the Parameter.	

I.1.3. Further Troubleshooting

Problem	Possible Reasons	Trouble Shooting
Editable Grid does not work	Instead of the RETRIEVAL node the FILL node has the property 	Switch on the other node.
	Several operations follow immediately after Retrieval	Make separate nodes.
Cannot edit editable GRID	If you are in the [TIS]Designer please save the Portlet. If you are in the [TIS]Board it might be a question of user rights.	
Project is not released after pressing the lightning symbol in the Admin page	KNOWN BUG: Page does not update itself automatically so it looks like it is not released.	Please refresh the Portlet by pressing the Refresh with to see whether it worked.
	(While the locked sign is there the calculation still goes on. Correspondingly it cannot be release and the project cannot be used by other [TIS]Board users. Pressing the Lightning symbol does not result in release.	Refresh with to see whether the Lock-Sign disappeared and then press the lightning symbol.
	Lightning does not result in release of project: 	

Problem	Possible Reasons	Trouble Shooting
	Lightning does result in release of project:  	
Job does not finish	NOTE: Very long jobs are automatically stopped after reaching the time out. – Typically 30' to 60' of processing time. The actual value is configured by the administrator in the server settings.	Try to improve speed, reduce data or make several steps.

Problem	Possible Reasons	Trouble Shooting
Download TO EXCEL from [TIS]Board does not work	Possible reason: Size	Test with a smaller number of rows.
	Possible reason: Security	Standard settings for security may prevent download. Please change them to the following values ENGLISH: Enable automatic prompt for download  GERMAN: Aktivieren Eingabeaufaufforderung für Dateidownloads 

I.1.4. Trouble Shooting Parameter

Problem	Possible Reasons	Trouble Shooting
Parameter cannot update settings in an operation	Another parameter already is set to this operation.	Edit the operator and change the setting manually. If the settings remain with the old setting, another parameter is controlling the settings.

I.1.5. Trouble Shooting Regression Analysis

Problem	Possible Reasons	Trouble Shooting
Regression Analysis returns an error	If the option "Select all numeric columns is set", the semantics of each column needs to be set to "Number"	Use the operator "Format columns" and change the semantics.

I.2. Training

I.2.1. Basic training: Content

Notion	Exercise	*Bonus exercise:*
Unit - Start	• Importing SOLUTION: Training examples • Exporting Solutions • Add new data node • Naming of nodes (see Wiki: „TIS:Benennung_von_Knoten") • HTML-Formatting (Wiki: „TIS:HTML-Formatierung") • Conversions– why (Convert From Date/From-Time/To-Time) • Node references (create and change), hide, show, and change details → work with node A00 • Add operations • Sum on days and weeks (Sum and count) • Chart „Histogram Time Pattern", formatting the chart	• *change time scale in chart* • *different sum interval in new node* • *Different sum rule (i.e. start time in interval)*
Unit II	• Get familiar with the data → data from A01 • Scaling node working time • Pivot table time x weekdays • Chart „Histogram time pattern" • Set reference to node A00 • Link to calendar • Pivot table time x weekdays • Deactivate / activate operations	• Set reference to node A01 • Analyse the new data (is it possible?)
Unit III	• Create new folder B03, and new node B03_01 • Data management on server / local installation • Data management on server & prepare import data (txt, csv) • ... Download a node into EXCEL, save a *.txt file on your desktop, upload it to data management & import it with import CSV operator • Understand the implications of zero-values, empty data fields, and value „0" • … Difference 0 & missing value. • … When you import data with the "Import CSV operator" there are different options to deal with missing values • Create new node B03_02 • Connect with „General Calendar" • Scale data • Create new node B03_03 • Scale data • Connect with „General calendar"	• Find difference between B03_02 and B03_03 • Explain the differences

Notion	Exercise	*Bonus exercise:*
Unit IV	• Create new folder B04 and new node B04_01 – based on A01 • Create new column with „General calendar" containing „year, calendar week" • Create new column with „General calendar" containing „weekday" • Create auxiliary calendar date with „Formula operator" • … System.DateTime.ParseExact("20080225","yyyyMMdd",null) • Create new node B04_02 • „Formula operator (row-by-row)": write field with given value in calendar date format • „Formula operator (row-by-row)": extract part of a text field; • convert a number in text format into number format; add a given number of days to a field in calendar date format; „Formula operator (row-by-row)": add a given number of hours, minutes, and seconds to a field in calendar date format, create column „To_Aux" with „#From_Aux#.AddTicks((#To#-#From#).Ticks)" • Operator „Sort rows" • Operator „Delete columns" • Operator „Chart: 2D map (Start table list)	• Rename, reorder and delete columns • Manage number of identifiers

I.2.2. Excercises

Transform to 11U

Step 1:	1. Make new data-node Refer to data-node with raw data 2. Convert DateTIME	

Sums per type of time

Aim	We have a list of revenues, which revenues are not within the Opening hours?	
Annäherung	Ho to define : • Mo-Sa 9:00 – 18:00 • Mo … Tu … • from 1.1.2011 Mo … Tu from 1.3. 2012 Mo... Tu … • Filiale A: from 1.1.2011 Mo … Tu from 1.3. 2012 Mo... Tu … • Filiale B ….	

Approaches	• Formelaoperator • Zeitbereichsfilter (only applicable in some cases) • Merge data with some information, when a shop is open/or not in one of theses ways 1. If an intervall is defined over several raster intervalls: Test with Formula operator 2. If it is defined per raster interval: Work with Merge Data (Daten Zusammenfassen) Approaches: • Liste und Import CSV • Mache die Liste im TIS direkt: wann ist offen Filialnummer Wochentag Von Uhrzeit Bis Uhrzeit	