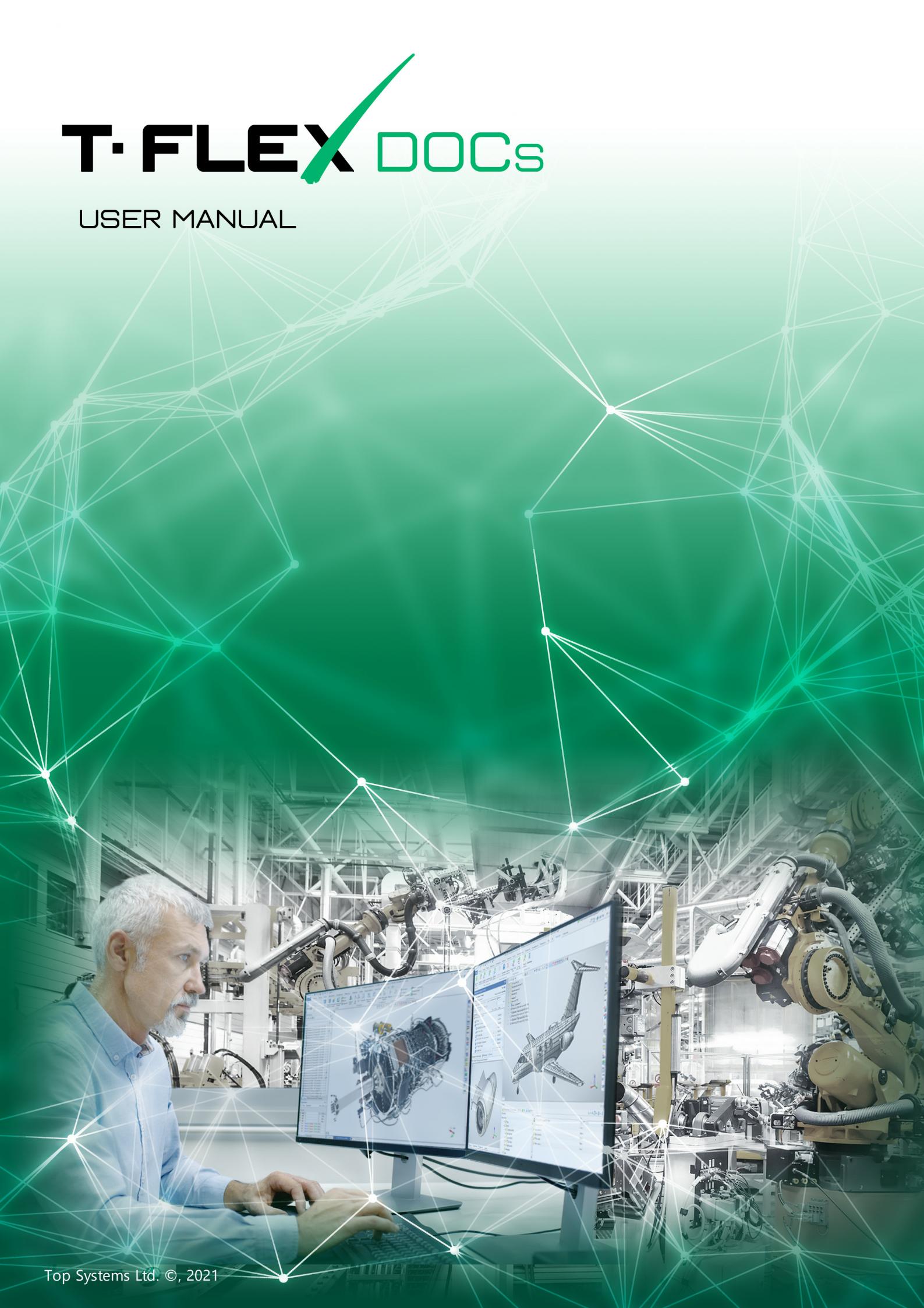


T-FLEX DOCS

USER MANUAL



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General information

This section is introductory and provides general information about T-FLEX DOCs software and basic facts about system's functionality, structure, and modes of operation.

T-FLEX DOCs objectives

Prompt reaction to the changes in customer preferences is a part of effective performance in modern companies. As competition is growing it is essential to introduce the product into the market as soon as possible and to provide support during its operation. This is possible by virtue of product lifecycle management concept which provides well-coordinated work of all the company's services in the shared information space. T-FLEX DOCs software solution developed by Top Systems Ltd. is an effective instrument for implementation of such concept.

T-FLEX DOCs – multi-purpose platform which allows to form company's shared information space and to monitor various phases of product lifecycle from identification of needs for a product on the market to disposal. T-FLEX DOCs allows to solve successfully multiple tasks for design and engineering documentation, organizational and management documentation, as well as integrated control of company's data at each of the main stages of product lifecycle, including project launch, preproduction stage, manufacture controls and post-sale support of the product.

Organization of technical document management

T-FLEX DOCs provides uniformity of design and engineering data and supporting information. During process and engineering design the system allows to receive information on material grades and range of sizes, equipment specifications, parts and assemblies' effectivity. It also provides access to current drawings and documents where one can monitor revision history. Due to ready-to-use integration modules for all popular CAD systems T-FLEX DOCs makes it possible to work with the product's structure, including its creation, editing, adding new assemblies and parts, assembling them into assembly units. During product's operation the system allows to monitor changes due to the product modernization and development of modifications to it.

Solving the tasks of office and organizational-administrative document flow

By virtue of T-FLEX DOCs instruments employees at various departments can work with electronic documents of any type. The system's database contains a set of ready and tunable templates of standard office documents. Standardized mechanism for document registration makes it possible to group them according to applicable operating instructions.

Project management, resources and costs scheduling

T-FLEX DOCs project management module allows to schedule all necessary works, set their sequence, deadlines and identify responsible executors. Schedules for various stages may be made with various levels of detail. Each task for the project may be created with a set of physical and labor resources and necessary expenditures.

Workflow processes automation

T-FLEX DOCs possibilities make it possible to computerize interaction between company's

employees by merging activities of all the departments. This helps to improve work process and prevent organizational mistakes. The system's instruments allow to analyze workflow processes, identify consequence for various tasks and automate transition from one to another. All these processes are logical and simple; users take minimum actions.

Customer relationship management

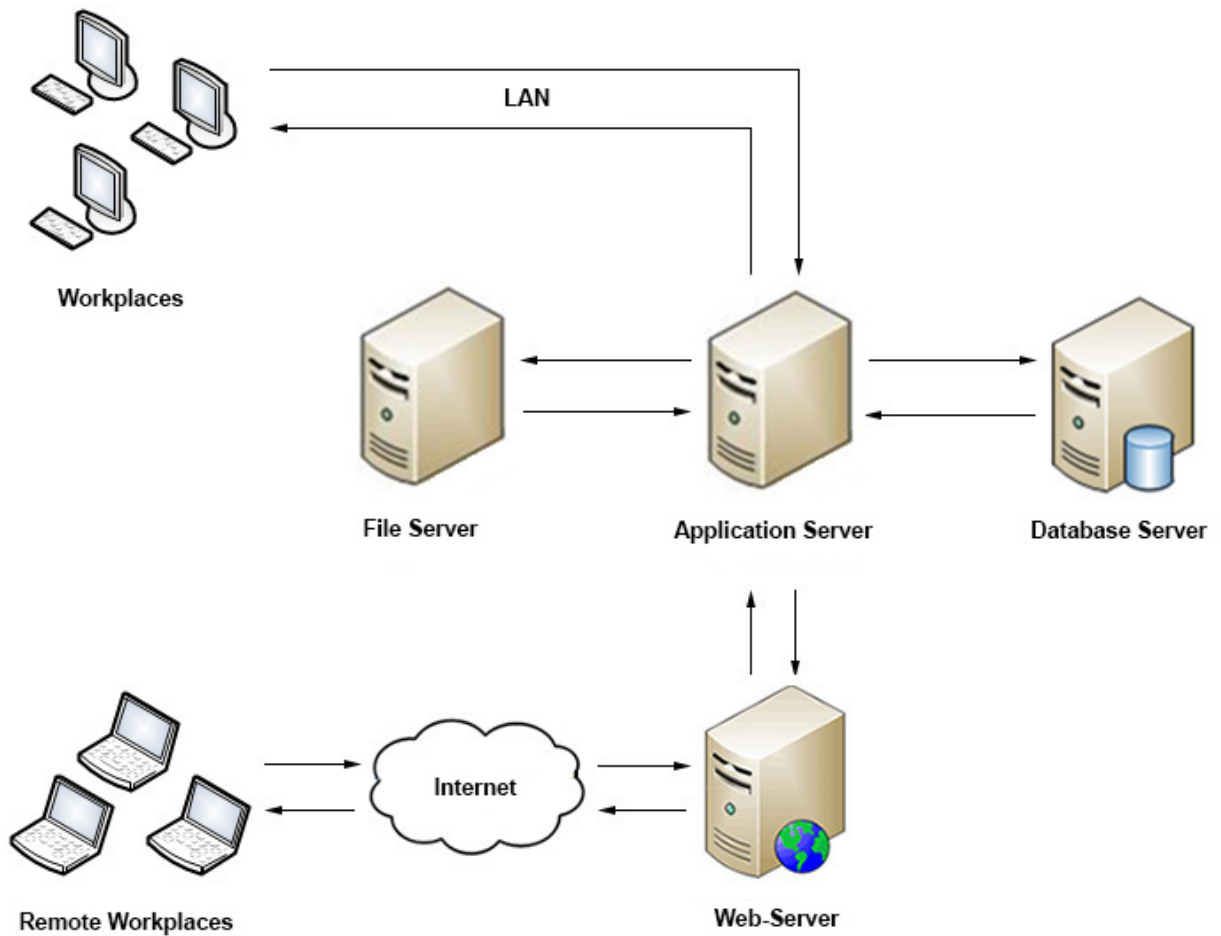
CRM module allows to monitor all actions taken for each party, including document execution, formation of a contract, business correspondence. Information collected in the single base of partners and customers allows to analyze relationships, improve marketing communication and workflow processes.

T-FLEX DOCs architecture

T-FLEX DOCs software solution is based on three-tier architecture. This means that all information is stored on the shared server (database), and interface and data processing operations are represented on computers (client application). Client application and database are connected via application server responsible for data processing. Such scheme provides high system operability, reliability of data transfer, unified protection and safety.

One can work in T-FLEX DOCs via company's local network or remotely via Internet. Latest it possible due to the system's web-client. Information safety in case of remote access is provided by reliable user identification/verification mechanisms, transmitted traffic encryption and access isolation to the elements of the system.

Access to T-FLEX DOCs client application is password-protected and each user have various access permissions for various operations. Amount of work places for T-FLEX DOCs users is identified depending on the company's needs.



T-FLEX DOCs data management

T-FLEX DOCs data structure is based on the hierarchy principle. It is consistent and user-friendly.

The system consists of datasets represented by data set. Object is a unit of storage in the dataset. It is easier to understand such structure if it is represented by the archive of scientific and technical documentation where various numerous storage media are stored in closets and racks. As in the case of T-FLEX DOCs, closets are datasets, and documents stored therein are data objects.

One closet may have documents of various types: manuals, pictures, videos, books and other documents with various parameters.

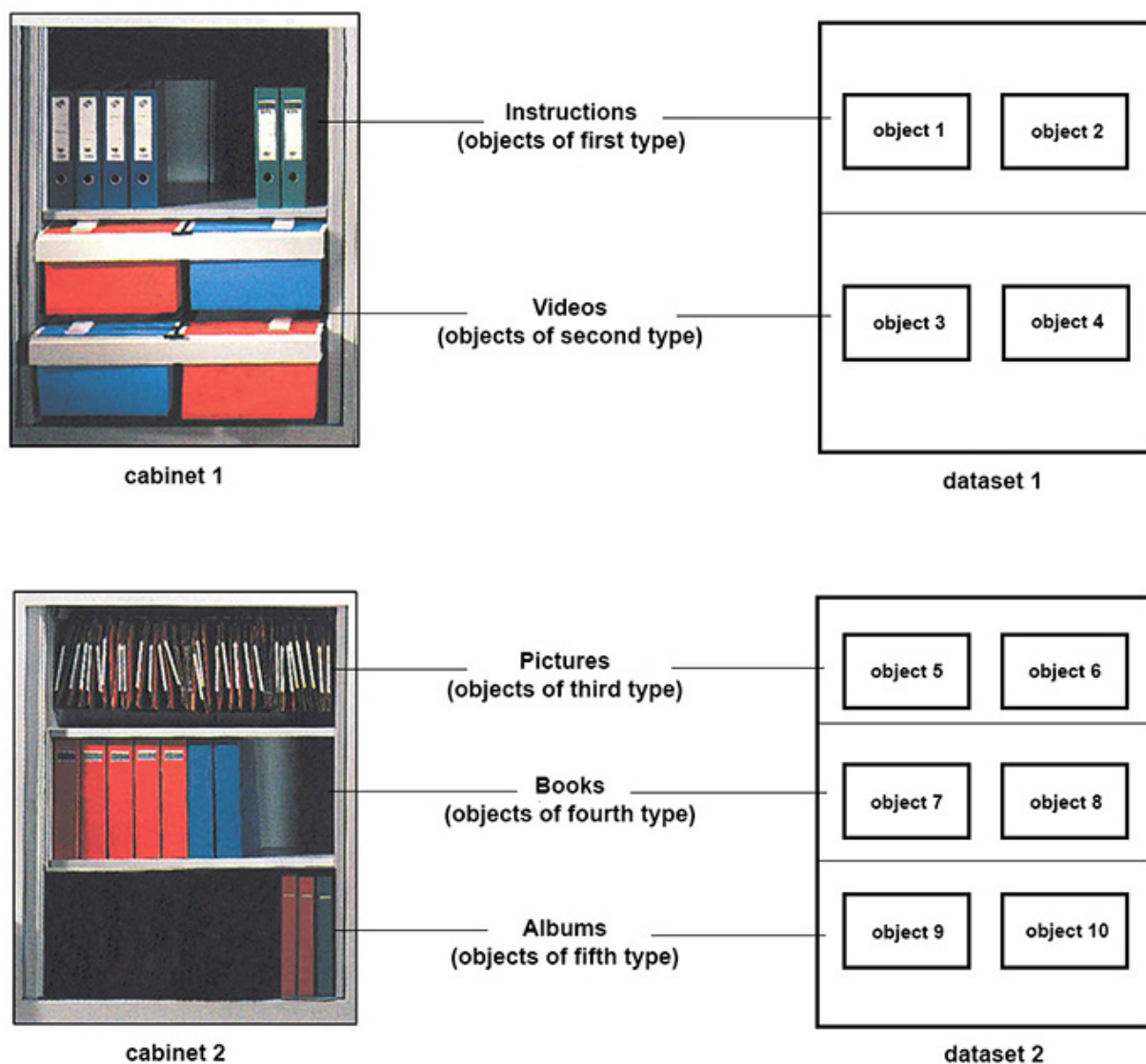
Example. In order to describe objects of "book" type, set of parameters may include following features: name, author, topic, publisher, publishing date, and number of pages. To describe objects of "picture" type set of parameters may correspondently include: name, shooting

date, author, type, etc.

In the same manner the objects of one T-FLEX DOCs dataset may differ in type, i.e. have various sets of parameters. Objects of the same type have the same set of parameters that differ in number.

The scheme below represents visual organization of data in T-FLEX DOCs, where, for the sake of simplicity, the system's dataset objects are correlated with documentation stored in the cabinets.

It should be remembered that objects of various datasets may be [connected](#) to each other. For example, pictures (object 5 and object 6) may be used in manuals (object 1 and object 2) and placed in albums (object 9 and object 10).



Quick start

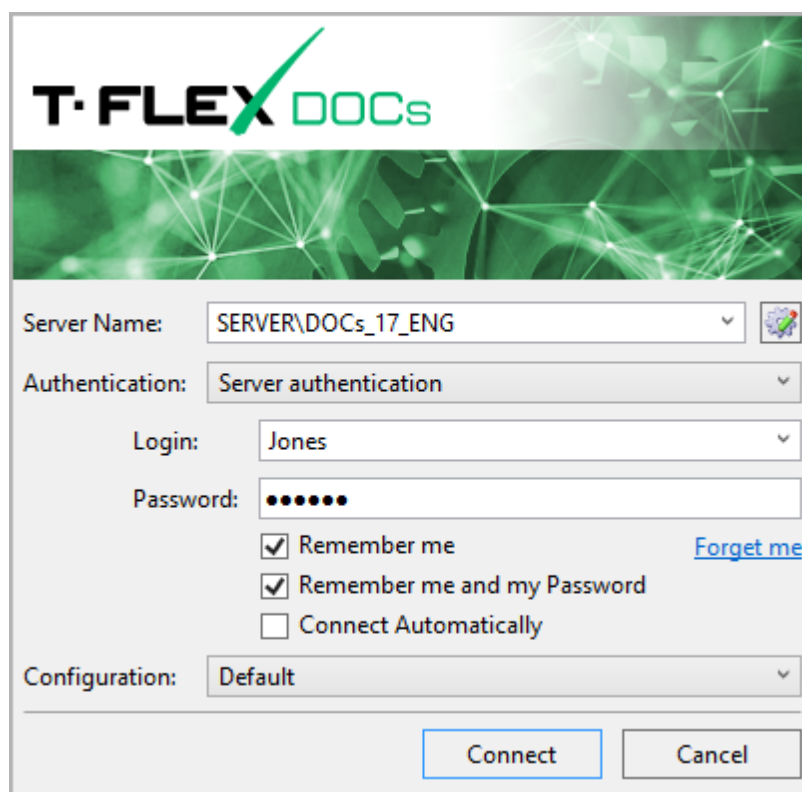
Getting started and shutdown

In order to work with T-FLEX DOCs user must authorize – enter his/her login and password to enter the system. Administrator user assigns login to each user during registration.

Start of T-FLEX DOCs

T-FLEX DOCs may be started via any of the following ways:

- double click on T-FLEX DOCs icon  on the Microsoft Windows desktop;
- choose T-FLEX DOCs in the **All apps** list (for Microsoft Windows 10), on **Apps** screen (for Microsoft Windows 8) or in the **All programs** list of the **Start Menu** (for earlier versions of Microsoft Windows).



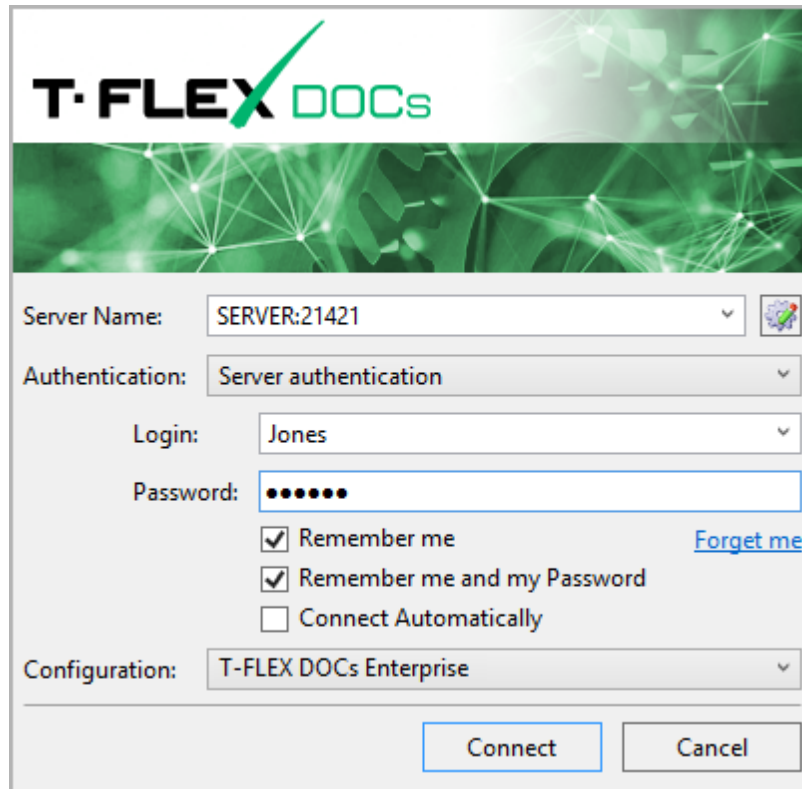
The screenshot shows the T-FLEX DOCs login dialog box. It features a green header with the logo. The main area contains the following fields and options:

- Server Name:** SERVER\DOCs_17_ENG
- Authentication:** Server authentication
- Login:** Jones
- Password:** Masked with dots
- Remember me
- Remember me and my Password
- Connect Automatically
- [Forget me](#)
- Configuration:** Default

Buttons at the bottom: **Connect** and **Cancel**.

Window for logging on to T-FLEX DOCs will appear on the screen. **Server Name** field requires the name of T-FLEX DOCs server.


If several copies of T-FLEX DOCs were installed on one server computer (for example, of different versions), the name of T-FLEX DOCs server will contain the name of the copy written with "\". For example, "SERVER\DOCs_15".

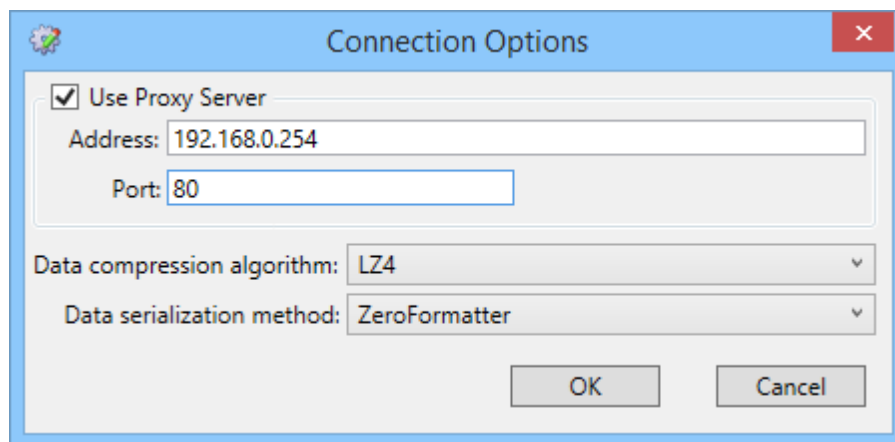


Server name can be written in a following way (in case connection port differs from "by default"): "computer name : connection port". For example, "SERVER:21421".

If any server name were put in this field, it would appear in the dropdown list.

Dropdown list also has **Browse** which allows to choose from one of the available T-FLEX DOCs servers.

Button  is intended to invoke connection setup for T-FLEX DOCs servers via proxy server with HTTP protocol. Connection via proxy server is tuned during installation of T-FLEX DOCs back-end.



In **Authentication** field two options are possible:

- Windows authentication – entry to the system is performed under Microsoft Windows user account. Thereby login and password are not required at the program startup. Only administrator user can align Microsoft Windows account and T-FLEX DOCs account.

Not recommended for public computer where several users have one account as it cannot guarantee safety of the data.

- Server authentication – one can entry the system using T-FLEX DOCs login assigned by administrator user for current user during registration.

One can sign in T-FLEX DOCs with password (set by administrator) or without.

Therefore, prior to first system entry user must turn to the system administrator to get additional instructions.

If the **Remember me** box is checked in the logging on T-FLEX DOCs window, login of the current user will be added to the list of **Login** field. Therefore, next time user will not have to enter login manually, he/she can just pick it from the list. **Remember me and my Password** allows to save entered login and password; in this case user can just click the **[Connect]** button to enter T-FLEX DOCs system. **Forget me** link removes the user connection information from the computer.

If the **Connect Automatically** box is checked, the system will not ask for login and password during T-FLEX DOCs startup, connection will be automatic with saved settings.

Connection settings may be changed with **Service > Connection Settings** menu option. New settings will be used for the next connection.

In the bottom of the window one can find list of T-FLEX DOCs configurations available to the current user.

Configuration – set of modules, each of which performs certain functions. For example, module "Administration" contains instruments for editing preset datasets structure and dialogs, workflow management, managing stages, user groups, access, etc. Moreover, there are separate modules for integration with various CAD systems.

A license is required for the T-FLEX DOCs module to work. Set of available modules is set by product key provided with the setup files for T-FLEX DOCs.

Separate modules may be combined into packages which form the basis for standard T-FLEX DOCs configurations.

For example, "Office" configuration includes:

- "T-FLEX DOCs Client";
- "CRM" module – provides special functions to manage assignments and office paper document flow and instruments for customer communications.

Moreover, T-FLEX DOCs allows to create customized configurations.

Administrator user sets up configuration parameters and access permissions for users to this configuration.

Configuration establishes set of displayed datasets. In addition, some interface elements (custom properties dialogs, working pages) and data display media in datasets may be bound to a configuration. One can set certain interface style for the configuration.

When exiting T-FLEX DOCs list and position of opened work windows is saved for the current configuration, as well as data display settings.

Therefore, configuration gives user access only to necessary functions and makes it possible to set the system suitably for solution of real-life tasks specific for the workplace.

For quick start of T-FLEX DOCs in the required configuration, one can create a shortcut on the Microsoft Windows desktop.

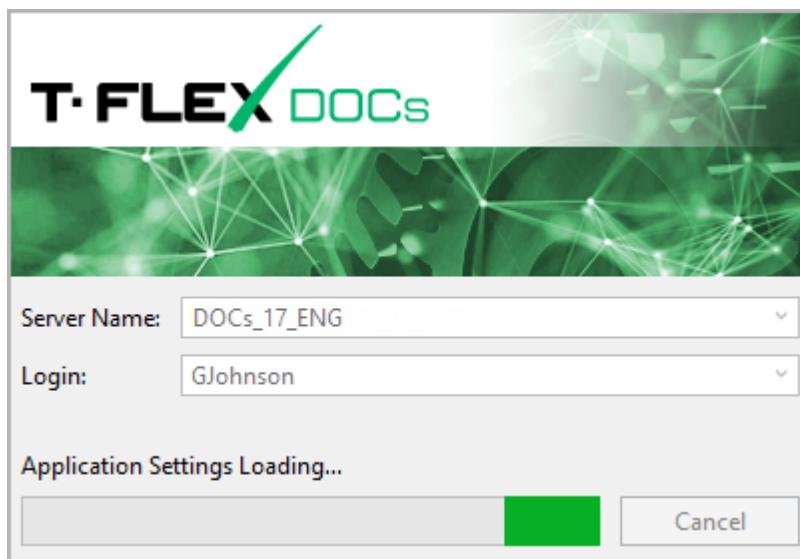
If the user during entry to the system leaves "Default" in the **Configuration** field, T-FLEX DOCs will start with configuration set for this user or group he/she is a part of and will use it as a startup configuration

In case user is a part of several groups and these groups have different startup configurations, the closest hierarchically group will be chosen.

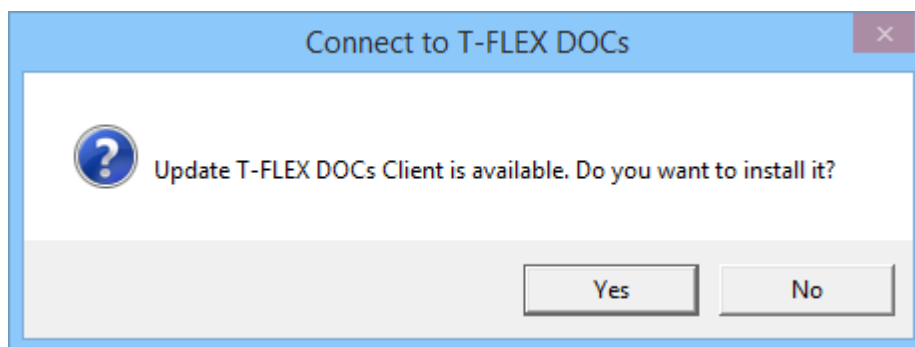
Only administrator user can set up configurations for system entry of separate users and user groups. If settings of configuration for system entry are not set, error message will be displayed.

When [**Connect**] button is clicked, a T-FLEX DOCs startup dialog box illustrated below will appear. This dialog box also appears in case of automatic connection.

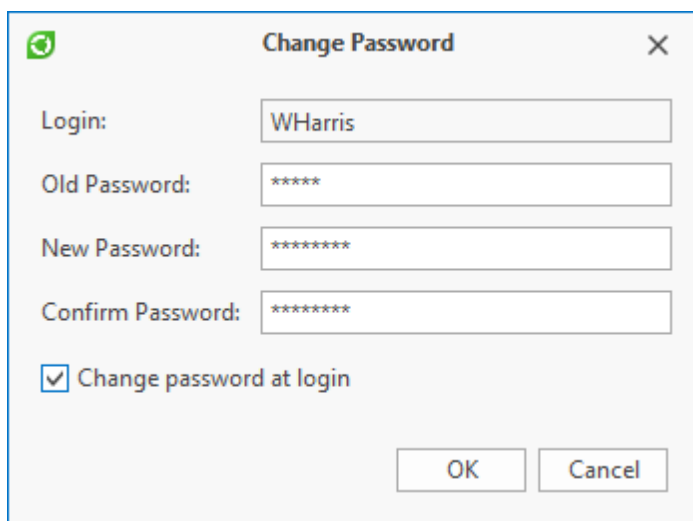
When [**Cancel**] button is clicked startup dialog box will appear where login and password are required to entry the system.



Automatic update of T-FLEX DOCs front-end may be set up during T-FLEX DOCs back-end installation. In this case front-end will automatically update during system startup, if its version is older than one the system administrator installed for automatic update.




To change the password to connect to T-FLEX DOCs main menu option **Service > Change password** is used. Old and new passwords are entered in the dialog box. **Change password at login** box calls **Change password** dialog box when the system is started up again.



T-FLEX DOCs also allows [to connect simultaneously to several servers in one window](#).

T-FLEX DOCs shutdown

There are several options for system shutdown:

- click on  button in the top right corner of T-FLEX DOCs window;
- choose main menu option **File > Exit**.

T-FLEX DOCs interface

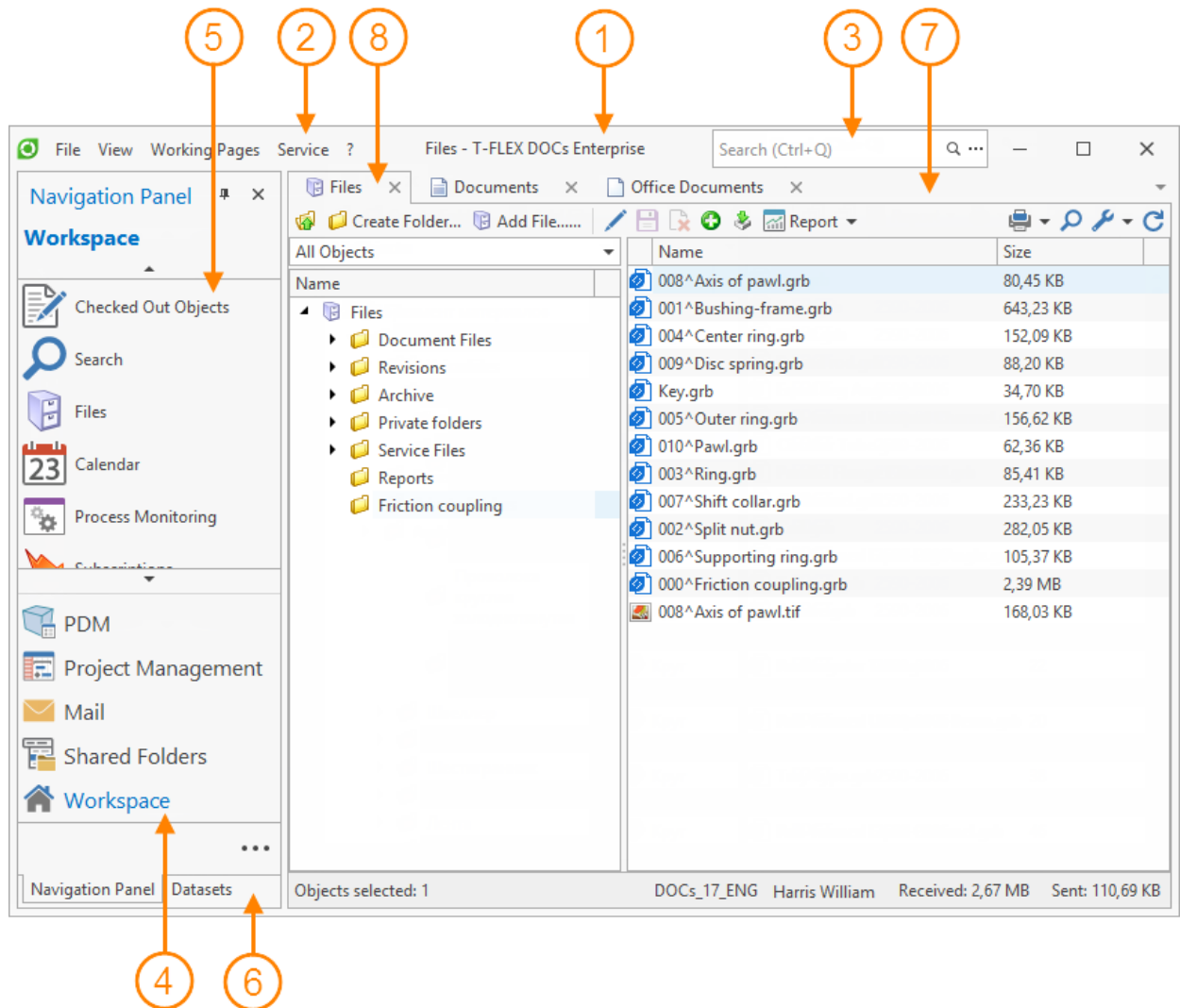
In this chapter T-FLEX DOCs main window and work windows in the workspace of the main window are described.

Main window

After entry into the T-FLEX DOCs system main window appears which consists of following components:


1. Title bar with change the window buttons – standard Microsoft Windows title bar with **Minimize, Restore Down** and **Close** buttons.
2. Main menu bar – located in the upper part of the T-FLEX DOCs main window and contains buttons that open lists of work options.
3. Instant search string – searches for dataset objects by the entered value.
4. Jump bar – located in the bottom part of **Navigation Panel** tab, contains list of shortcuts available to the current user.
5. The list of shortcuts selected in the jump bar – displayed in the upper part of **Navigation panel** tab. The shortcuts can lead to various system components (datasets, system windows, etc.).
6. **Datasets** window tab – contains tree view of datasets available to the current user.
7. Workspace – located in the right part of the main window. Tabs of opened T-FLEX DOCs windows are shown there.
8. Work window – window opened in the workspace. It may be dataset window, dataset object features window, mail and assignments window, calendar, search window, etc.


Main settings for the main window of the system will be described in the paragraph "[Main settings of window appearance](#)" in the Chapter "Interface components".



Work window

Work window of T-FLEX DOCs has following interface:

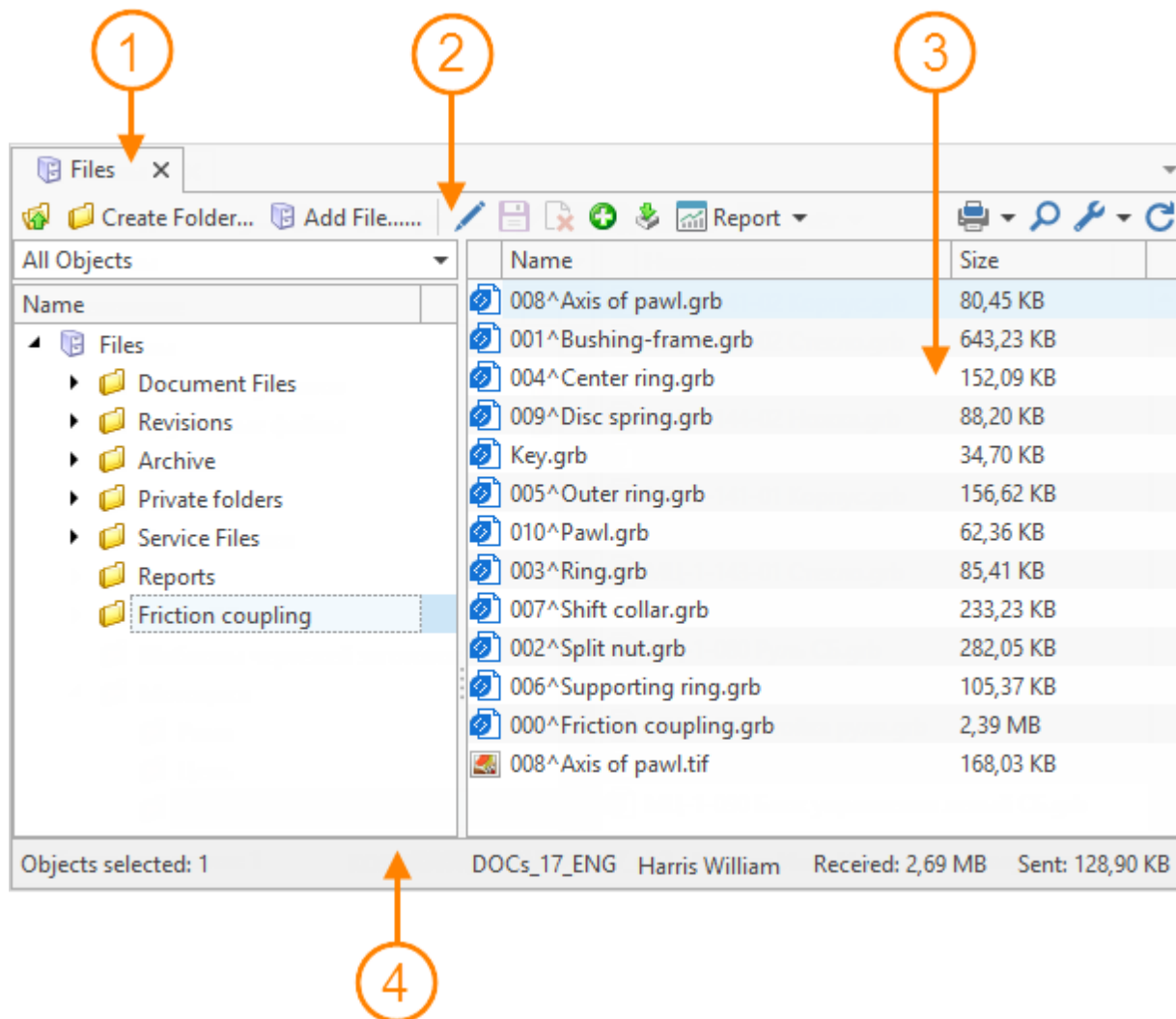
1. Work window tab – contains name of work window and  button which is used to close the window. To close the tab of the work window one can also click on it with middle mouse button or use option **Close** in the right-click menu. There are also additional options **Close all but this** (closes all tabs except for the active one) and **Close all** (closes all tabs).
2. Toolbar – contains buttons to work with work window data and data display settings buttons.

When T-FLEX DOCs window is resized to be smaller not all of the buttons can be seen on the toolbar. In this case  button is used to reach hidden buttons.

3. Data area – data of the work window are displayed here according to the display settings of the user.

4. Status bar – located in the bottom part of the work window. In this bar T-FLEX DOCs server name and current user name are displayed, as well as amount of received and sent data, total amount of list components, number of chosen components, and notifications of new mail messages and memos. Hover on the server name activates screen tip with information on server connection.

Main settings for the work windows of T-FLEX DOCs will be described in the paragraph "[Main settings of window appearance](#)" in the Chapter "Interface components".



Interface components

Interface of T-FLEX DOCs is standardized. This means that work windows of the same type have similar components which perform certain functions. Therefore, user's actions will be similar in all of the windows of the same type.

Following standard windows may be highlighted:

- Dataset window – displays data of the chosen dataset, allows to perform actions with its objects: create, delete, copy and move.
- Object features window – displays features values which describe the object and allows to edit them.

Moreover, component picker (dataset objects, features) dialog is also standard. It allows to choose components from the presented list and arrange them.

T-FLEX DOCs has also such special windows as:

- **Checked Out Objects** – contains list of objects to be edited.
- **History of Changes** – displays list of introduced changes to the objects.
- **Recycle Bin** – contains deleted objects.
- **Mail** – access to user's mailbox and assignment folders.
- **Calendar** – user's personal organizer.
- **Search** – allows to search for objects based on set criteria.

Unlike datasets windows special windows have another interface and perform special tasks.

In this chapter main window components, main settings of window appearance and some of the special T-FLEX DOCs windows are described.



"Datasets" window

In T-FLEX DOCs datasets are sorted out by folders (for example, "System datasets", "CRM Datasets", "Documents", etc.).

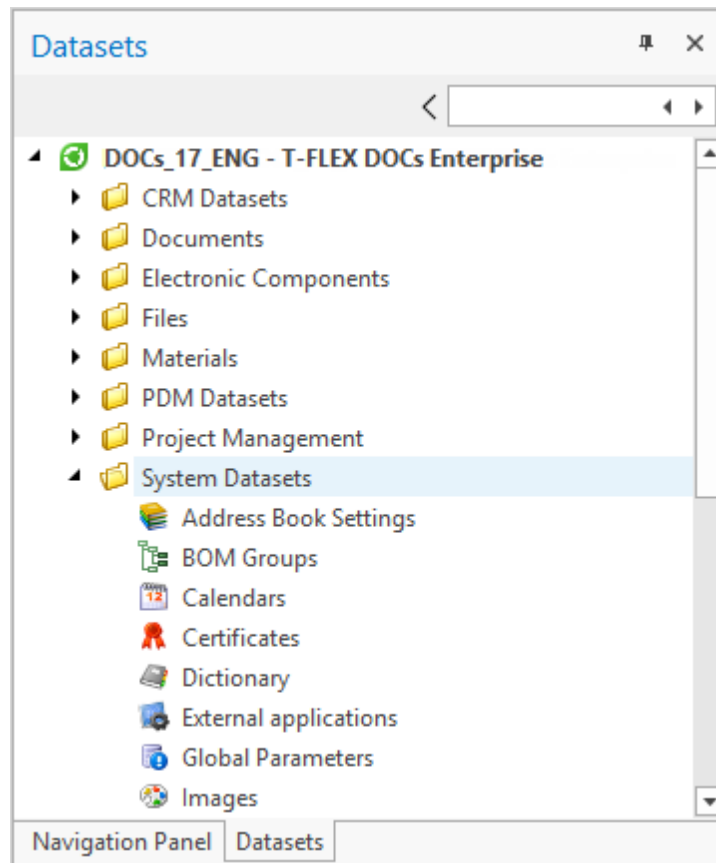
List of datasets displayed on the panel depends on the system configuration and on access permissions of the current user to use a dataset. Administrator user sets up access permissions.

Moreover, it is possible to create various custom datasets in T-FLEX DOCs depending on activities of the company.

Creation and setup of datasets is also performed by administrator user.

In the upper part of the window there is a search bar to look for a dataset by its name or its part. Switching between datasets is performed by  and  buttons.

To open the chosen dataset in the work window click twice with left mouse button on its name or use **Open dataset** option from the right-click menu.



Shortcut groups on the navigation panel

Navigation panel provides quicker access to commonly used data.

Contents of the navigation panel is created by groups of shortcuts which can form a tree-type hierarchy. Shortcuts can be private and common. Common shortcut groups are open to all users of the system, private – only to the current user.

By default, only administrator user can create common groups. But private groups with necessary shortcuts can be created by any user of the system.

Information about groups and shortcuts are stored in the "[Navigation Panel](#)" dataset. Therefore, there is a possibility in T-FLEX DOCs to create pre-installed groups and shortcuts for all users, as well as to exchange these settings with users.

Moreover, T-FLEX DOCs has standard shortcut groups, contents and functionality of which are further described below.

Contents of the standard shortcut groups can be edited only by the administrator user.

Display of a certain shortcut group depends on system settings and chosen configuration.

Contents of the shortcuts group selected on the jump bar is displayed in the upper part of the navigation panel. These can be both individual shortcuts and other shortcuts groups included in the selected one. Click on the shortcut activates [the configured action](#) (the system opens

dataset window tab or work page, properties window of the indicated dataset object, activates macro, etc.). Click on the shortcut group icon in the T-FLEX DOCs main window opens a separate tab of the "Navigation panel" dataset window displaying contents of this group. Action to be performed via double-click on the shortcut in the "Navigation panel" dataset window directing at the certain dataset object is configured in the [Customize Window](#) window.

By default, double-click opens the properties dialog of the dataset object to which the shortcut was made.

Moreover, contents of the dataset window, system window or work page, as well as parameters of the object to which the shortcut is made displays the properties panel located in the "Navigation panel" dataset.

Contents of the properties panel during selection of shortcut to the specific dataset object is determined by the settings of this shortcut: these can be either dataset object properties or its structure. By default, the panel displays object properties.

To open the window copy for the dataset to which the shortcut is made, select the **Open in Separate Window** right-click menu option.

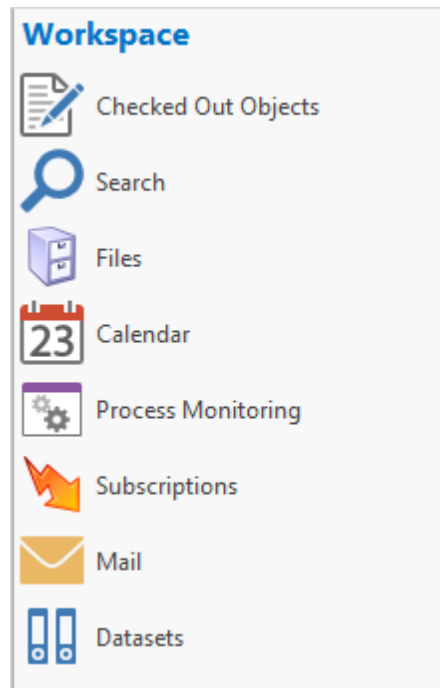
"Workspace" group

"Workspace" group is intended to store frequently used shortcuts. The group is personal; therefore, user can add shortcuts in this group and delete them.

Group has following shortcuts by default:

1. "[Checked Out Objects](#)" – opens the list of dataset objects which are to be edited.
2. "[Search](#)" – opens "Search" system window for new search query.
3. "[Files](#)" – opens "Files" dataset.
4. "[Calendar](#)" – opens calendar window.
5. "[Process Monitoring](#)" – opens window displaying workflows and their processes on the flow chart.
6. "[Subscriptions](#)" – opens window for management of custom subscriptions.
7. "[Mail](#)" – opens the window to work with T-FLEX DOCs mail service.

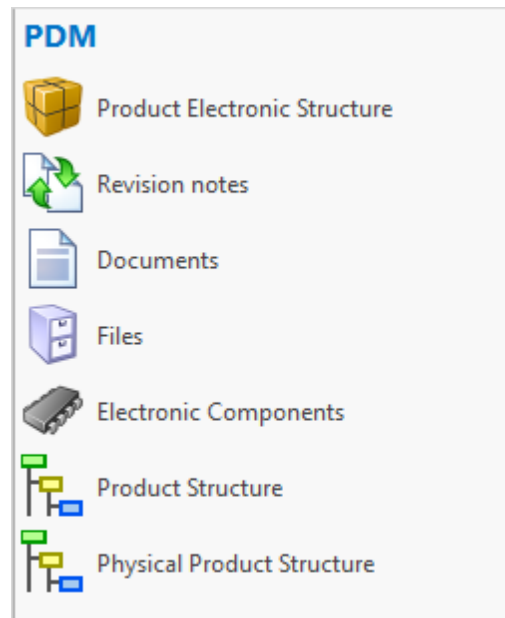
8. "Datasets" – opens **Datasets** window.



"PDM" group

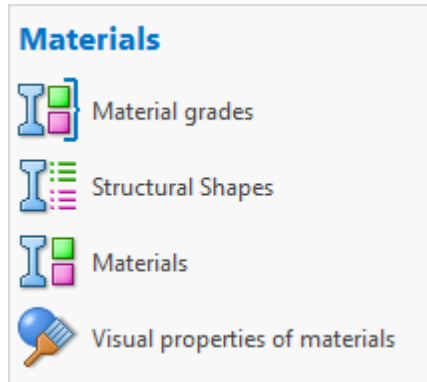
"PDM" shortcuts group is intended to manage data required at product design, production, operation, maintenance and disposal stages.

Main shortcuts are shortcuts for "Product Electronic Structure", "Documents" and "Files" datasets. They allow to work with nomenclature of the products manufactured by the company and with structure of separate item, as well as to maintain [technical document flow](#).



"Materials" group

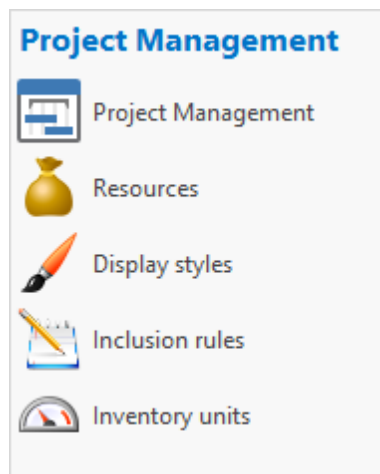
"Materials" group contains shortcuts for datasets which are intended to maintain limited [list of materials](#) used in the production.



"Project management" group

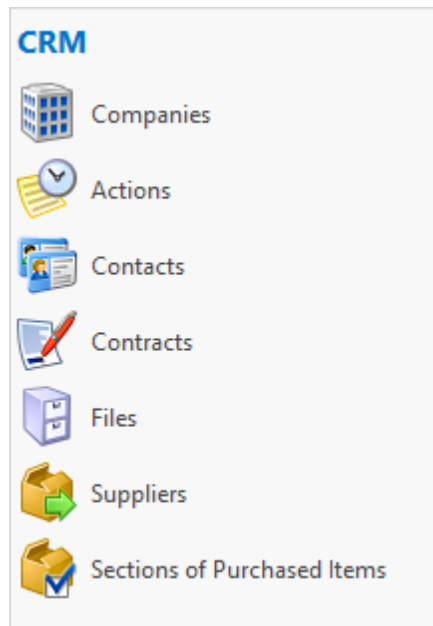
"Project management" group includes shortcuts for datasets to work with the projects.

Information on project management module is provided in the document "T-FLEX DOCs – Project management module".



"CRM" group

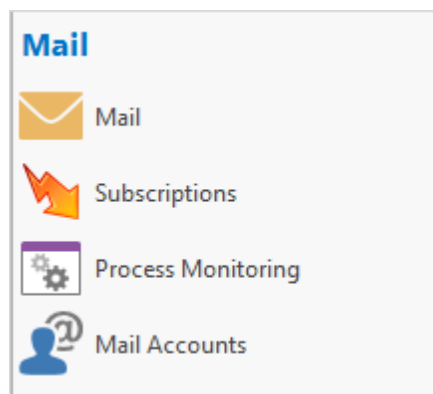
"CRM" shortcuts group provides user with instruments for maintenance single base of the company's parties, committing communications with them, as well as for processing contracts.



"Mail" group

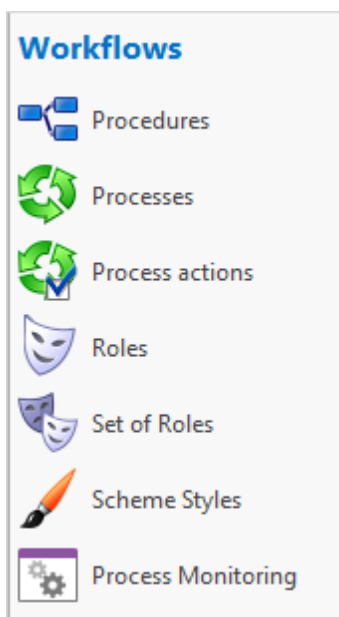
"Mail" shortcuts group is intended to help with work on T-FLEX DOCs [mail_service](#) and custom subscriptions.

This group also has a "[Process Monitoring](#)" shortcut. Process monitoring represents all workflows and their processes on the temporal chart.



"Workflows" group

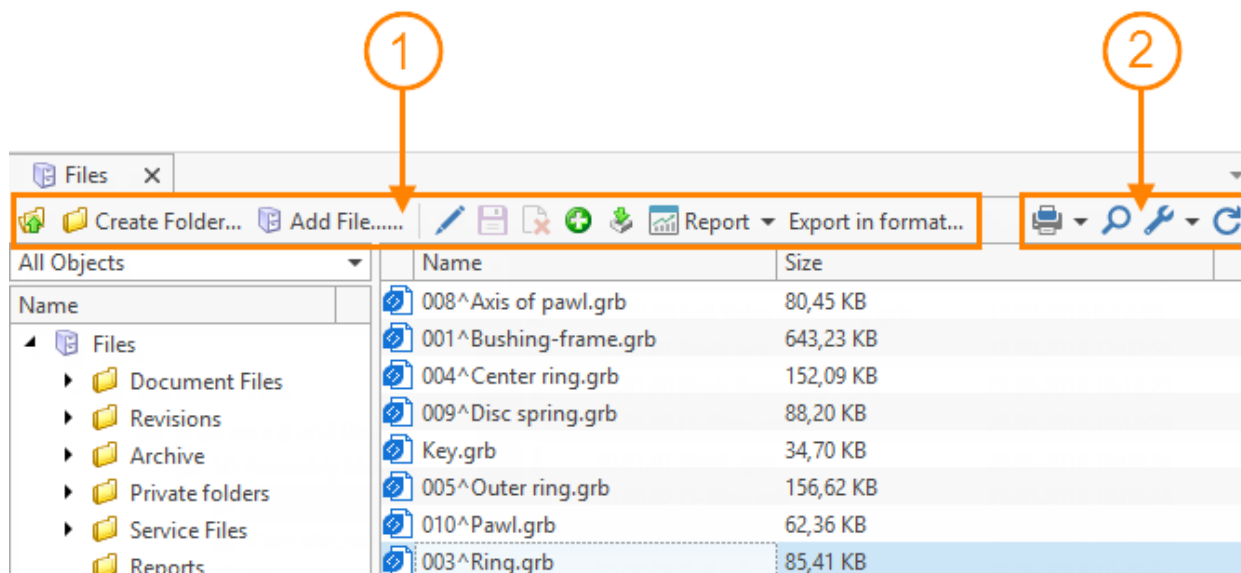
"[Workflows](#)" shortcuts group is intended to give access to instruments for automation of standard repeating procedures in the company.



Dataset window





Dataset window displays objects of the chosen dataset. There is a toolbar in the upper part of the window; it is separated into two groups:

1. Buttons for dataset contents.
2. Setup buttons for window appearance.



First group allows to perform actions with dataset objects: create objects, edit their properties, generate report based on database data, etc.

Second group contains following buttons:



-  – dataset information print and export menu;
-  – enables search bar in the work window;
-  – setup menu for work window appearance;
-  – update data in the window.

Data in the dataset window may be represented as [a table or as a set of cards](#).

Object properties window

Object properties window displays values of the parameters describing the object and allows to edit them. Parameter set depends on the object type.

Properties window appearance also depends on the object type and is set up by the administrator user. Parameter values may be located on several tabs.

To save or cancel the changes  and  buttons are used which are located on the toolbar above object.

Moreover, in this window objects of linked datasets may be connected to the current object.

Object 'Spectrum Group' Properties

OK Cancel

Information Additional Information for Documents

Company Name

Name for Documents

City ... X Company Code

Headquarters ... X

Phone Number 1 E-mail Address

Phone Number 2 Website

Phone Number 3 Fax

Mobile Number

Main Contact Person

Main Contact Person ... X

Phone Number E-Mail

Responsible ... X

Author Creation Date

Updated By Updated Date

Contacts Contracts (Responsible) Contracts (Customer) Actions







Add Detach Go to object Create

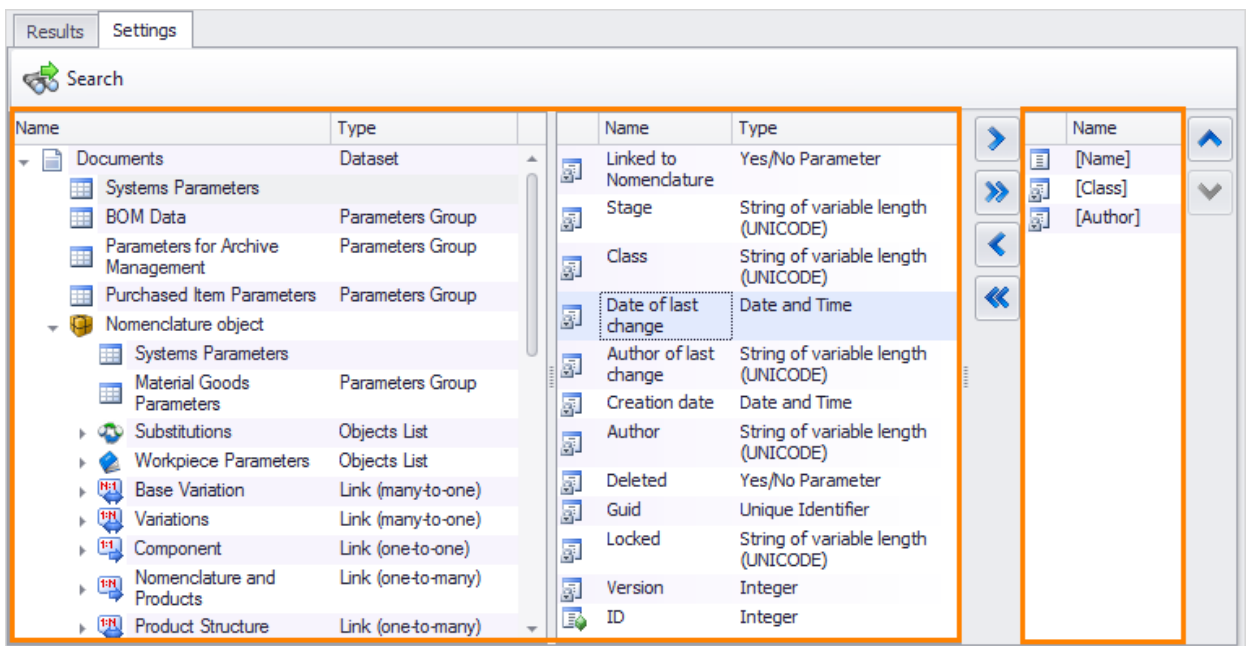
Name	Description	Result	Starting Time	Completion Time
Appointment			29.01.2019 16:47:28	
Cooperation agreement prolongation		Cooperation agreement will be prolonged for an year on the same terms	11.03.2019 16:20:43	
Contract details			29.01.2019 16:48:20	

Components picker dialog

Components (dataset objects, parameters) picker dialog allows to choose components from the displayed list and arrange them.

For example, this interface component is used to choose parameters that are required to be displayed in **Search** window or to choose object which will be attached to the mail message.

Dialog window is divided into two parts: left part contains all available components, right one – list of chosen components. To move the chosen component from one part of the window to the other use  and  buttons, and  и  buttons to move all components. User also can arrange the order of components via  and  buttons.



T-FLEX DOCs special windows

This paragraph describes some of the special windows in detail which are intended for work with important T-FLEX DOCs mechanisms, such as revision history and bin.

"History of Changes" window

One of the options of T-FLEX DOCs dataset is possibility to handle history of changes.

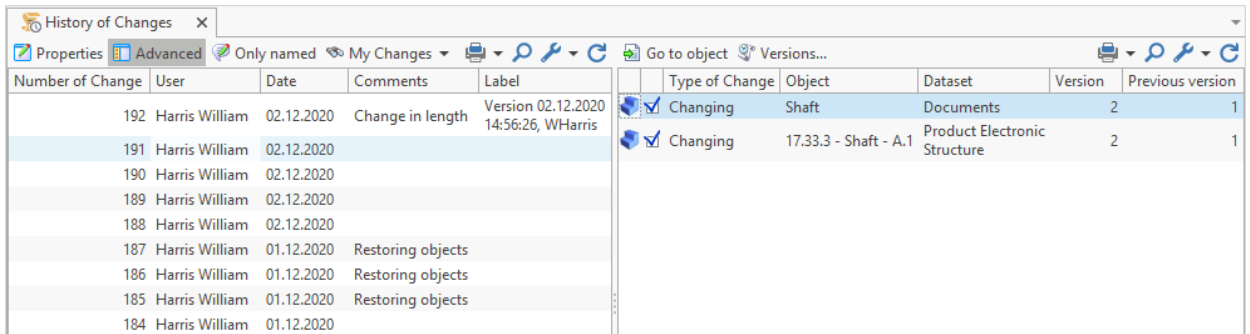
Only administrator user can enable and disable history of changes for certain dataset.

With history of changes option it is possible to cancel changes effected for the object, as well as to look through previous versions of the object and, if necessary, to change current version of the object with and earlier one.

The system maintains a revision log where all entries on changes to the dataset objects are made when revision history is enabled. Changes include the following:

- creation of the object;
- saving the changes to parameters of the object;
- removal of object;
- creation of an object version.


When dataset history of changes is enabled it is possible to edit its objects in a long-term period which is not limited by one session in the program.



Number of Change	User	Date	Comments	Label	Type of Change	Object	Dataset	Version	Previous version
192	Harris William	02.12.2020	Change in length	Version 02.12.2020 14:56:26, WHarris	Changing	Shaft	Documents	2	1
191	Harris William	02.12.2020			Changing	17.33.3 - Shaft - A.1	Product Electronic Structure	2	1
190	Harris William	02.12.2020							
189	Harris William	02.12.2020							
188	Harris William	02.12.2020							
187	Harris William	01.12.2020	Restoring objects						
186	Harris William	01.12.2020	Restoring objects						
185	Harris William	01.12.2020	Restoring objects						
184	Harris William	01.12.2020							

In the **History of Changes** window, a list of introduced changes is displayed.

User who does not have administrator access can see there only his/her changes; administrator user can display not only his/her changes but also changes made by other users with the help of filter, as well as he/she can filter them by date, number and name of user's workplace.

When the  **Advanced** button is clicked on the toolbar, **History of Changes** window is divided into two parts. When choosing one of the changes in the left part of the window the information about objects with such changes will be displayed in the right part of the window.

More information on working with object versions is provided in the Chapter ["Working with versions"](#) of the Section "System's special features for processing data".

"Checked Out Objects" window




Group work on datasets object is implemented with the help of T-FLEX DOCs desktop. Such mechanism allows to prevent simultaneous editing of the dataset object by several users.

Work on dataset objects with history of changes differs from work without it.


In case a dataset object is edited by one user without history of changes, it will have "Locked" status and it will have read only access.

In this case, if necessary, the object with correspondent access permission can unblock the object. To do this, select **Unblock** option in the object's right-click menu.

Dataset object with revision history may have following statuses:

-  Added – object is created by the current user but wasn't saved to the server. Available for reading and editing only to the user who created it.
-  Check out – object which was saved previously to the server is now taken for editing by the current user on its desktop. Other users have read only access to it. Changes made by the current user are not seen unless they are saved to the server.
-  Checked out by another user – object is on the desktop of another user. Current user

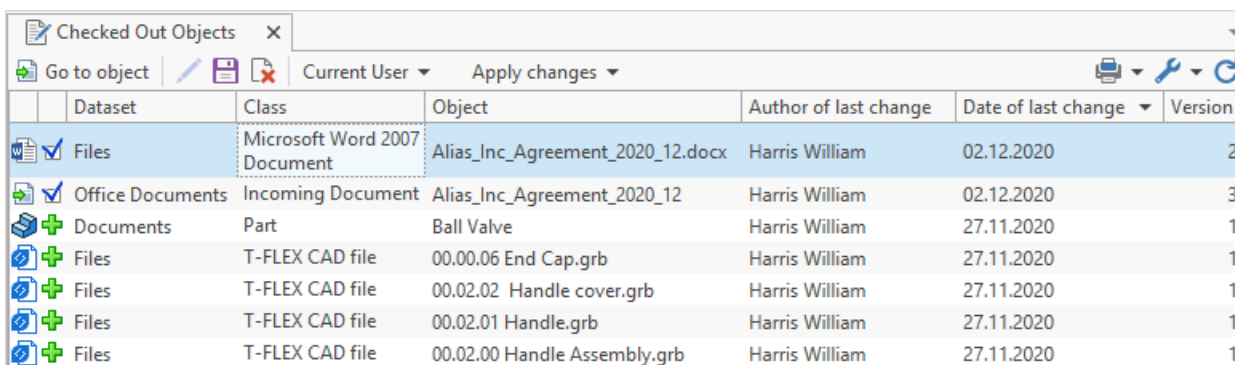
has read only access. Name of the user who edits the object is displayed in the screen tip.








4.  Deleted – current user deleted object on its desktop. Object is locked for editing, but it will be removed from the server only after the changes are introduced.
5. No status – object is not displayed at anybody's desktop and, hence, available for editing.

If necessary, the checked-out object can be unblocked by the administrator user by cancelling the introduced changes.

Dataset objects being edited are displayed in the **Checked Out Objects** window.

List of checked-out objects and objects being edited by specified user can be displayed in the **Checked Out Objects** window via menu located on the toolbar. "Current workplace" filter is enabled by default.



	Dataset	Class	Object	Author of last change	Date of last change	Version
	Files	Microsoft Word 2007 Document	Alias_Inc_Agreement_2020_12.docx	Harris William	02.12.2020	2
	Office Documents	Incoming Document	Alias_Inc_Agreement_2020_12	Harris William	02.12.2020	3
	Documents	Part	Ball Valve	Harris William	27.11.2020	1
	Files	T-FLEX CAD file	00.00.06 End Cap.grb	Harris William	27.11.2020	1
	Files	T-FLEX CAD file	00.02.02 Handle cover.grb	Harris William	27.11.2020	1
	Files	T-FLEX CAD file	00.02.01 Handle.grb	Harris William	27.11.2020	1
	Files	T-FLEX CAD file	00.02.00 Handle Assembly.grb	Harris William	27.11.2020	1

"Recycle Bin" window


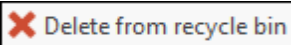
Recycle bin mechanism is implemented in T-FLEX DOCs. This mechanism operates in such a manner where object being removed from the dataset is not deleted completely but is moved to recycle bin – special place for temporal storage of removed objects. Object is deleted completely only if it's removed from the recycle bin (or in case the recycle bin is emptied). Unless it is done the object may be restored only to the dataset. Access to empty the recycle bin is set for each user via access permissions.

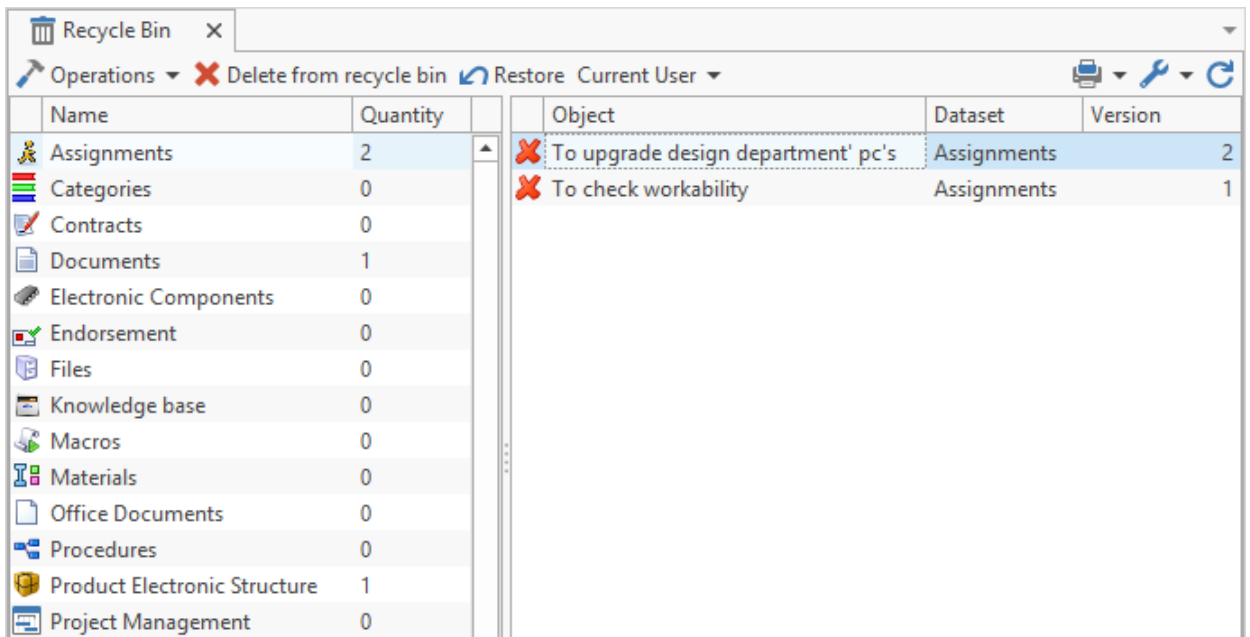
If dataset is with enabled history of changes, it automatically enables recycle bin. However, dataset with enabled recycle bin may have disabled history of changes.

Recycle Bin window is divided into two parts: left part displays list of datasets with enabled recycle bin and the number of objects removed from each of them, right part – list of removed objects from the selected dataset.

With the help of the menu on the toolbar, in the **Recycle Bin** window user can display the list of all deleted objects or objects which were deleted by the current user. By default, the "Current user" filter is enabled.

Actions for objects in the bin are performed by buttons on the toolbar:

-  **Restore** – restores object to dataset.
-  **Delete from recycle bin** – deletes object permanently.



If [the mode for displaying removed objects](#) in the dataset work window is enabled, it is possible to restore it with **Restore** option in the right-click menu.

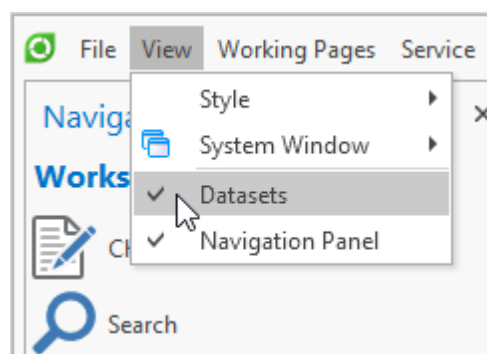
To delete all the deleted dataset objects from the bin selected in the left part of the **Recycle Bin** window, select the **Remove from recycle bin** option of its right-click menu.

Main settings of window appearance

T-FLEX DOCs provides flexibility in setting interface according to user's needs.

For the main window user can:

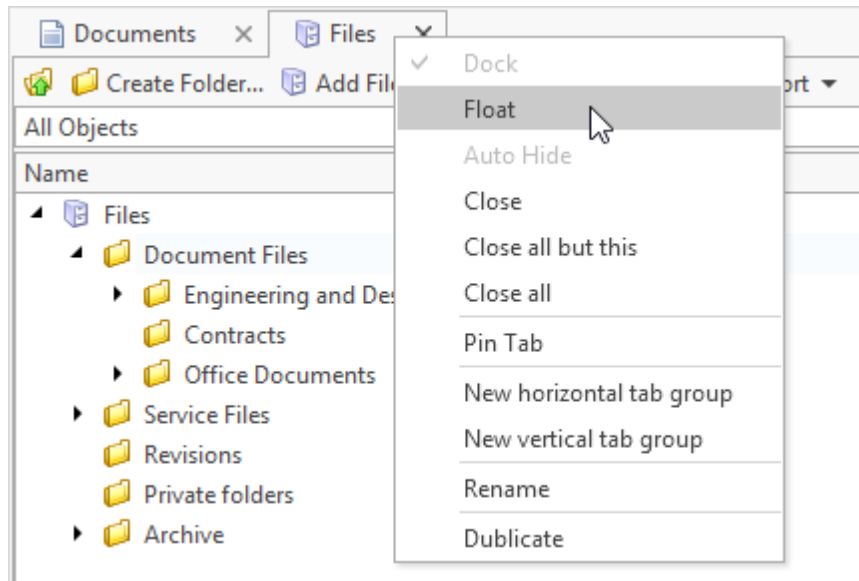
1. Change style (main menu option **View > Style**).
2. Enable or disable display of interface components – navigation panel and **Datasets** window (**Navigation Panel** and **Datasets** boxes in the **View** main menu).






3. [Set up location of navigation panel](#) and create [personal shortcuts groups](#).

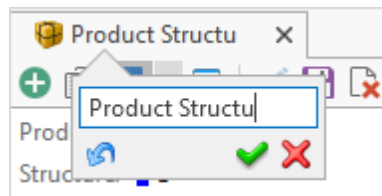
Following settings are provided for T-FLEX DOCs work window:

1. [Changing the location of the work window](#) in the workspace (right-click menu options of the tab **Dock, Float, Pin Tab**).

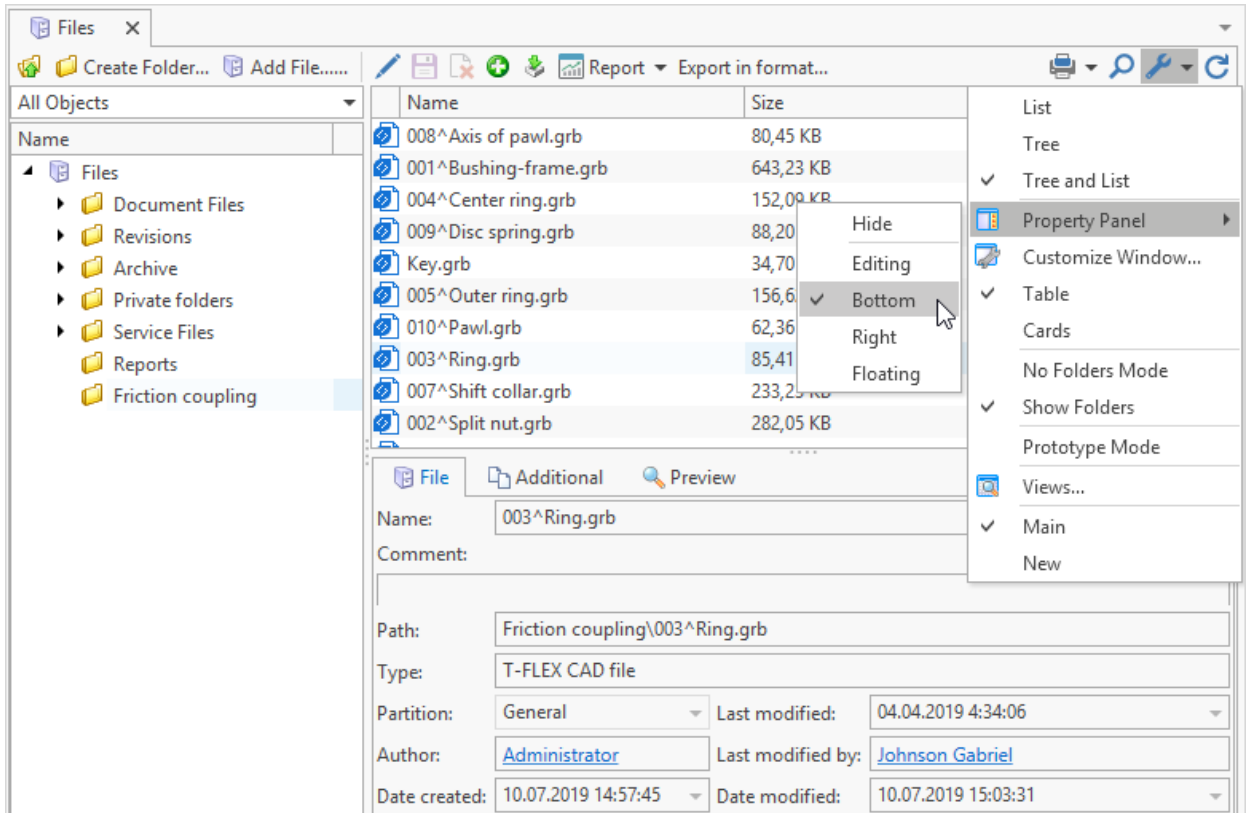


2. Renaming work window tabs (**Rename** right-click menu option of the tab). To confirm new name of the tab click  button, to cancel –  button. To return to the default name of the tab click .

New name of the tab is available only to the current user and is saved at dataset window reopening or connection to T-FLEX DOCs.



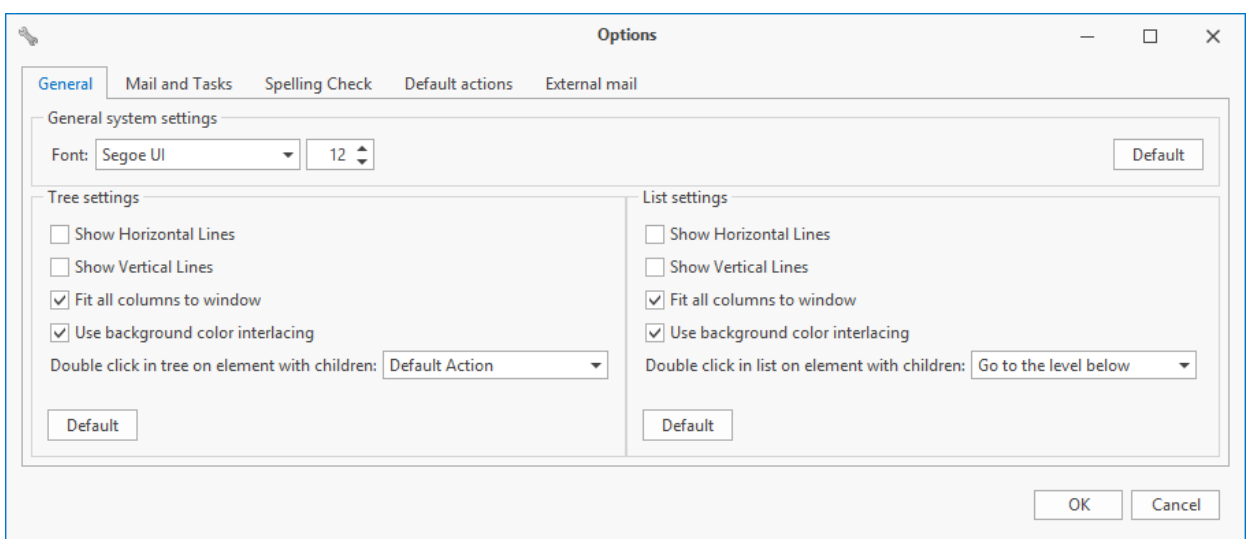
3. [Setup of properties panel display for dataset object](#) (**Customize > Property Panel**).



4. Dataset work window tab duplications (**Duplicate** option in the window tab right-click menu).


Dataset window duplicate is temporal and is available to the user only until it is closed. Name of the duplicate tab has * symbol in its name. After the duplicate is closed, all its settings are deleted.

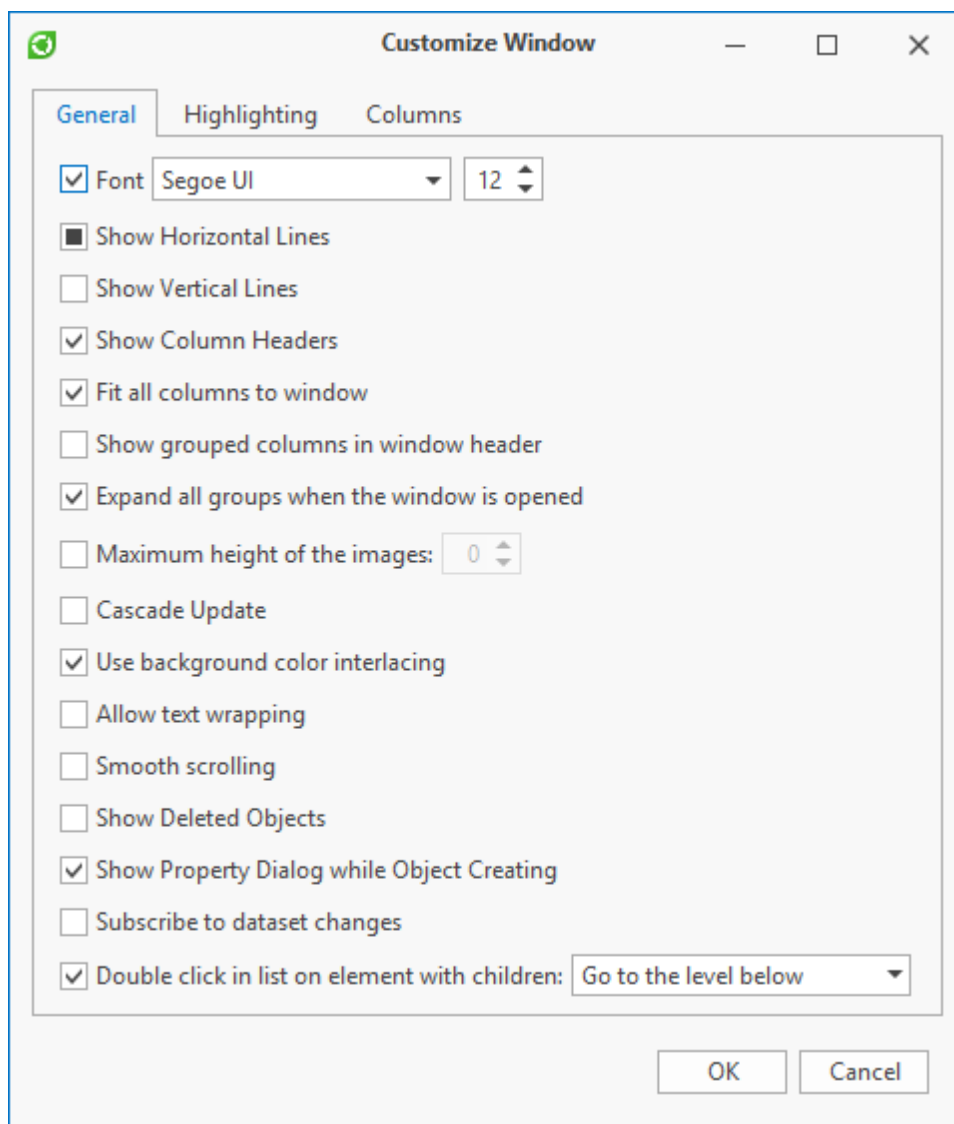
Moreover, T-FLEX DOCs allows to set data display parameters for all windows of the system. Setup dialog box may be opened by main menu option **Service > Options**. [Settings for "Tree" and "List" display modes](#) are made separately. **[Default]** button restores initial settings.



Menu option **Settings > Customize Window** ( button on the toolbar) allows to change data display parameters in the active work window, including:

- choose font;
- enable grid display in the work window;
- set up selection of data complying with set criteria;
- set up column display;
- enable cascade update of data in the work window;
- enable line breaks;
- enable display of removed objects;
- enable notifications on changes in a dataset.

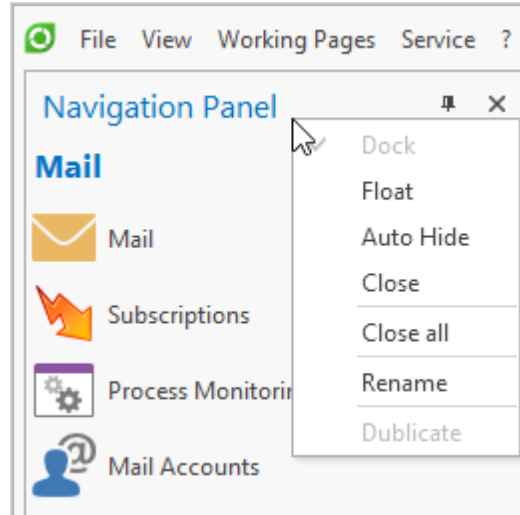
With box checked to  position, default value set in the **Setup** window.



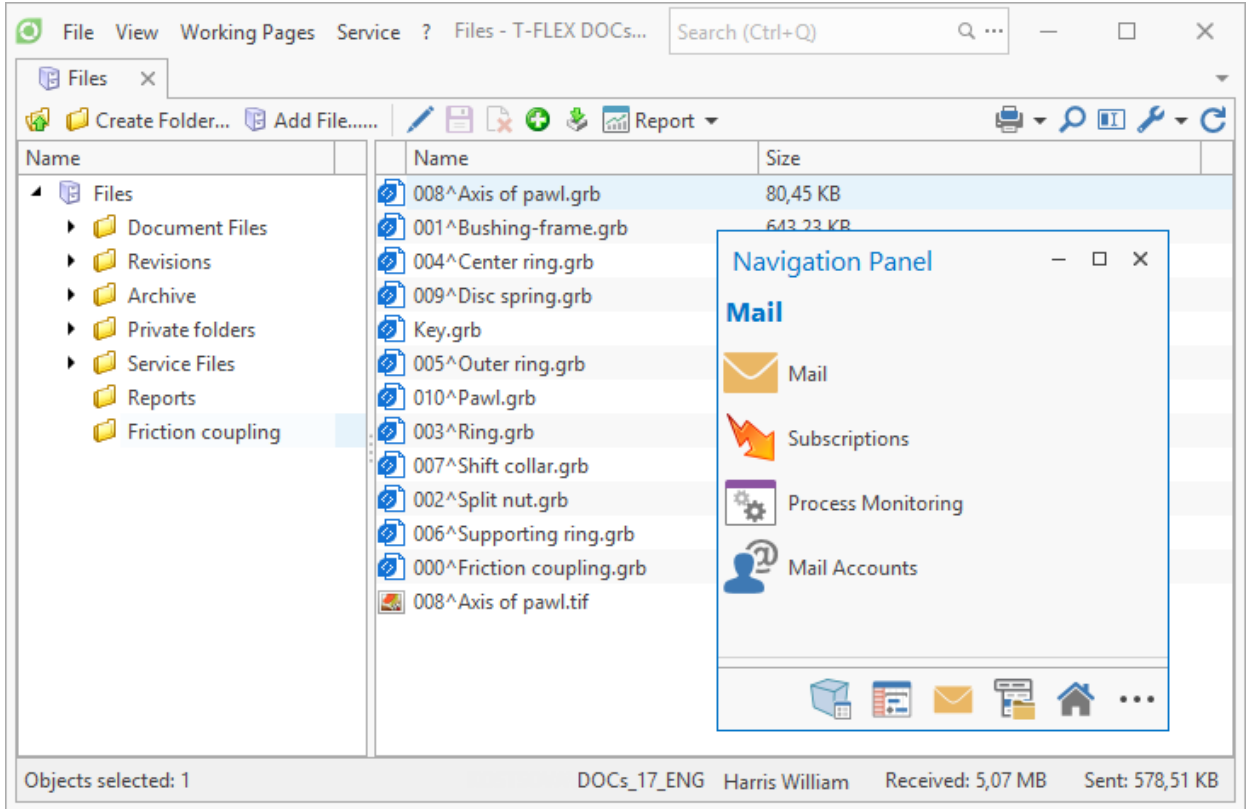
More information on data display settings for dataset window is provided in the Section ["Setup of data display in windows"](#).

Navigation panel location setup

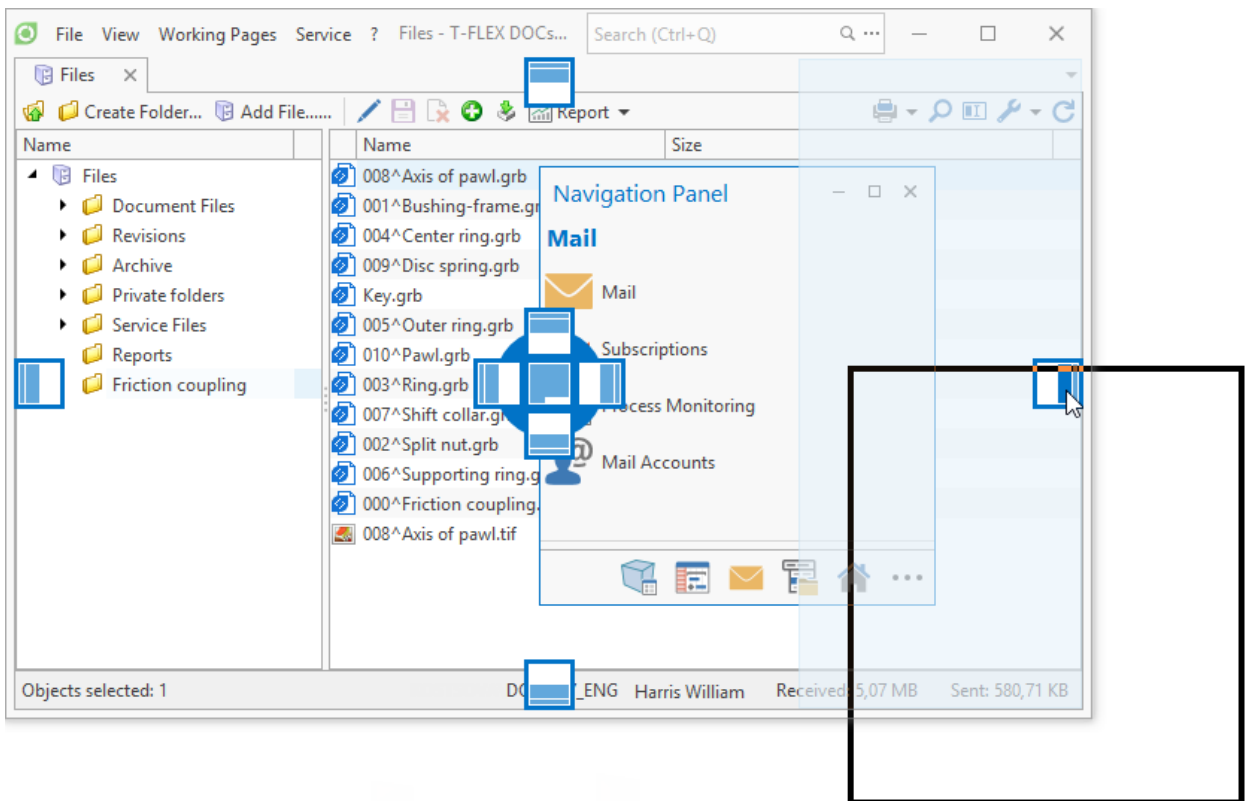
To set up navigation panel location in the main T-FLEX DOCs window right-click menu at the panel title bar is used.




Navigation panel is docked to the main T-FLEX DOCs window by default. To switch panel into float mode it is necessary to check **Float** box. In this mode navigation panel window may be placed above main T-FLEX DOCs window without being linked to it or by the main window if it's not in full-screen mode. To change the location of float window one needs to click left mouse button on the window title bar and move the window in the desired place by keeping the button pushed and then release the button.




Float navigation panel window may be docked to the main window of the program. To do this one must point to one of the appeared tags while moving the window. Each of the tags demonstrates the place to which the panel will be anchored. It will also be color-coded when tag is pointed. If the docking location is suitable one may release mouse button. Navigation panel will move to the selected position.






Width of navigation panel may be changed by moving the dividing line.

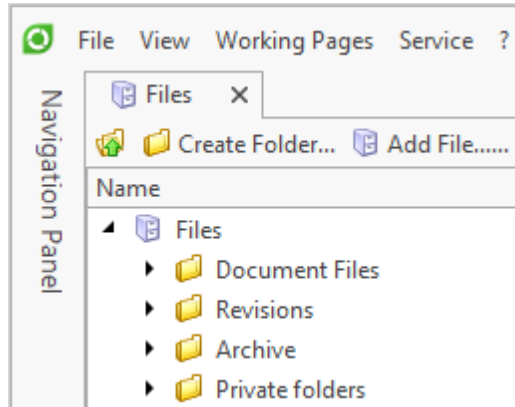
Moreover, anchored navigation panel may be minimized. To do this click the  button in the right upper corner of the panel or check **Auto Hide** box in the panel right-click menu.


To show the panel in this mode, click left mouse button on its tab. Second click will minimize the panel again.

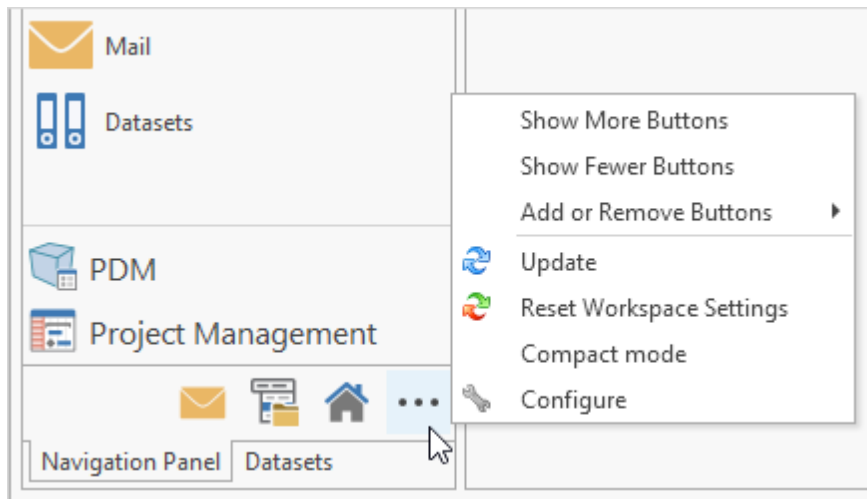
 button can also be used for this.

Moreover, navigation panel can be opened to the full width of the T-FLEX DOCs window by clicking  button. To return the panel to its initial position, click  button.

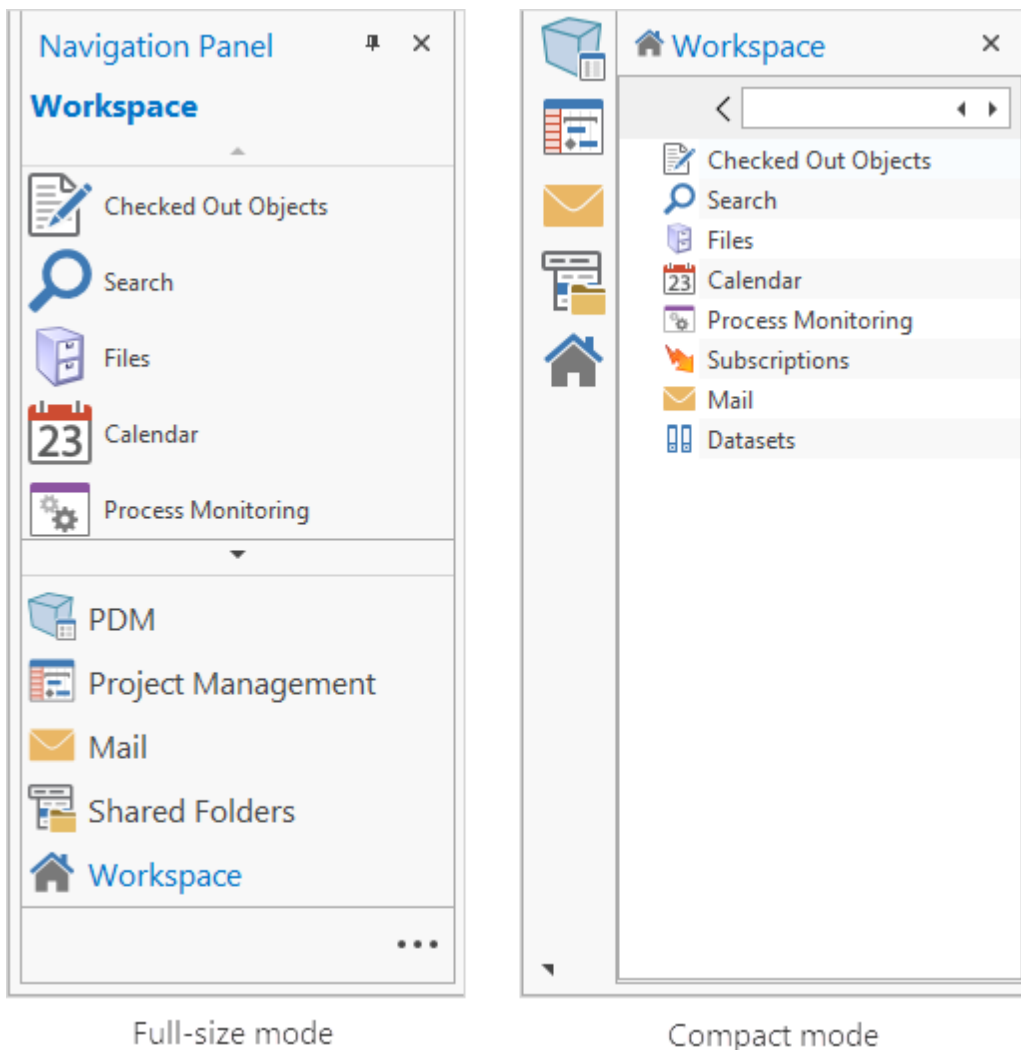
To anchor it again click  button or check **Dock** box in its right-click menu.



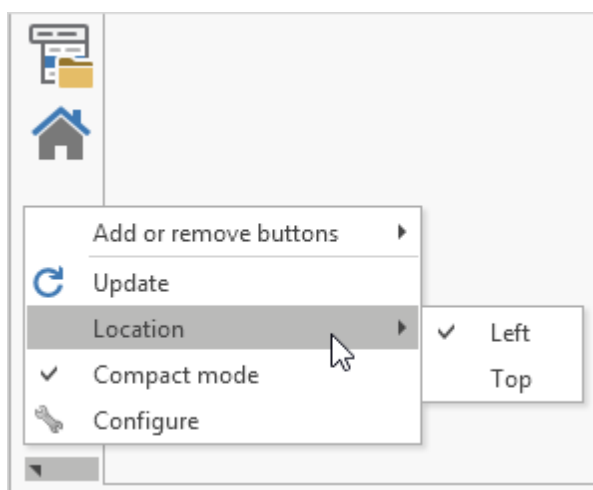
To switch the navigation panel to the reduced screen mode, check the **Compact mode** box in the navigation panel menu opened via  button in the bottom part of the panel.



In this mode only the icons of the shortcuts group and upper level shortcuts are displayed. Click on the shortcut activates the configured action: the system opens dataset window or system window, enables macro, etc. Click on the group icon opens the window with shortcuts of the selected group. For reference the picture below shows both display modes for the navigation panel.



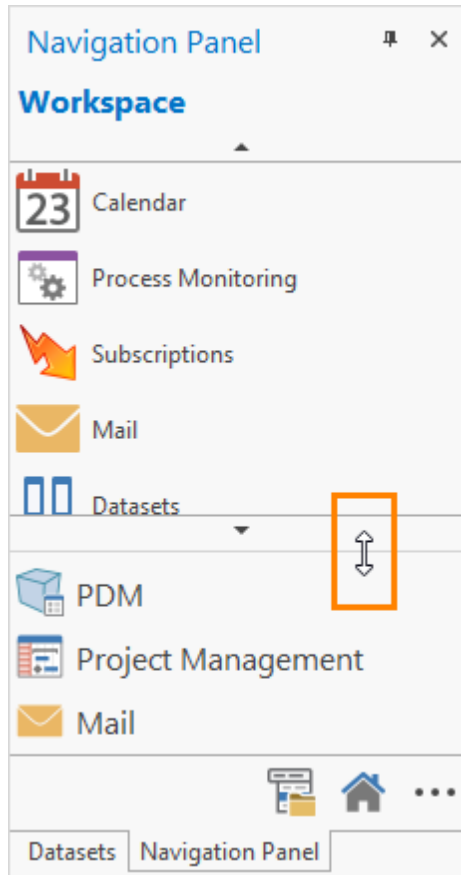
There are two position options for the navigation panel in the compact mode: on the left and in the top. Position is selected in the navigation panel menu.




To disable navigation panel display in the main T-FLEX DOCs window use option **Close** in its right-click menu. **Navigation Panel** box in **View** main menu also controls display of the navigation panel.

Moreover, user can change the size of jump bar on the navigation panel and choose which

buttons should be displayed there via submenu **Add or remove buttons** in the navigation panel menu.



"Datasets" window setup

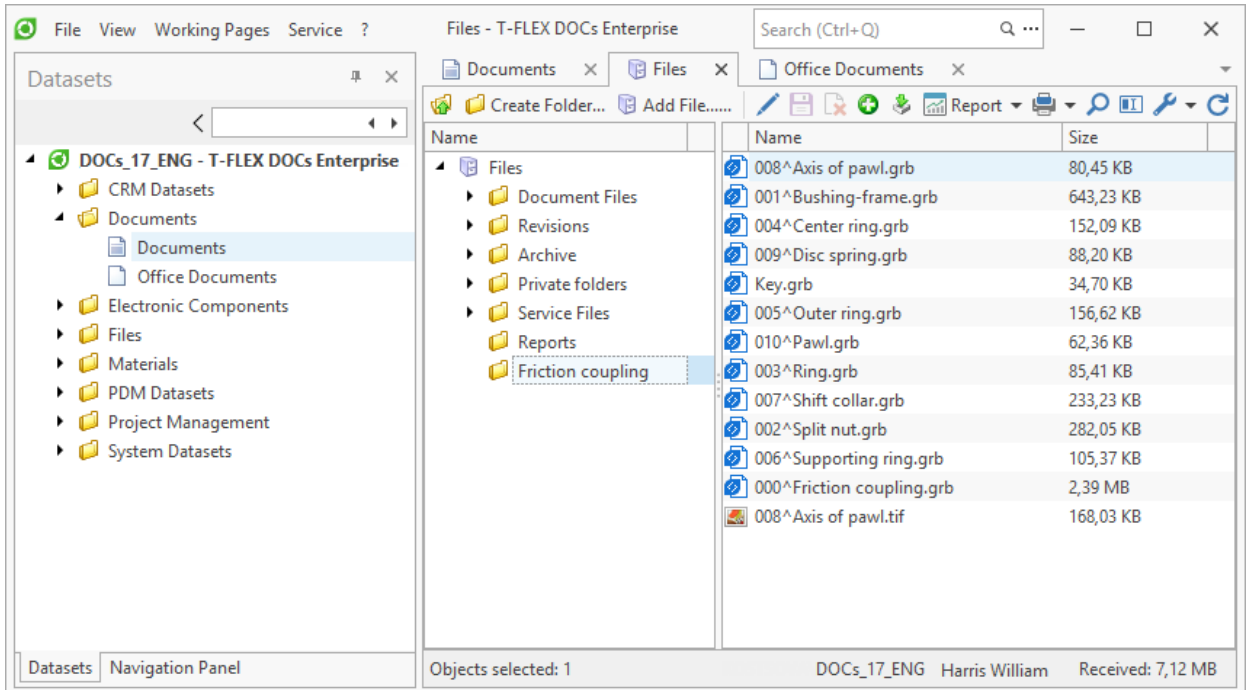
Datasets box in the **View** main menu is used to enable and disable display of **Datasets** window. To close **Datasets** window click  button in the right upper corner of the window, to reopen – main menu option **View** > **System window** > **Datasets**.

In addition, **Datasets** window has same [location settings](#) as navigation panel.

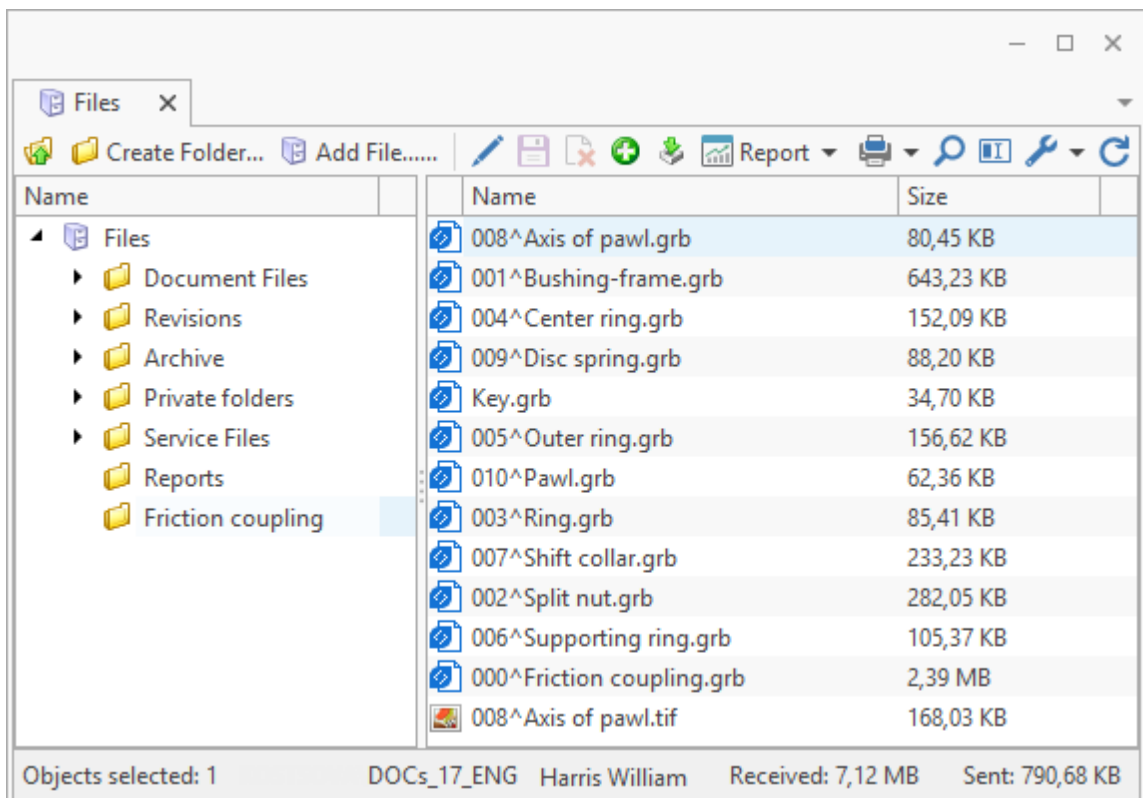
Work window location setup

In T-FLEX DOCs work window can be displayed in following ways:

1. Tab – this view is default. Workplace can have several work windows displayed as tabs. To switch between tabs, click on the required tab with left mouse button. Tabs can be arranged in the required order by moving the tab holding down the left mouse button.



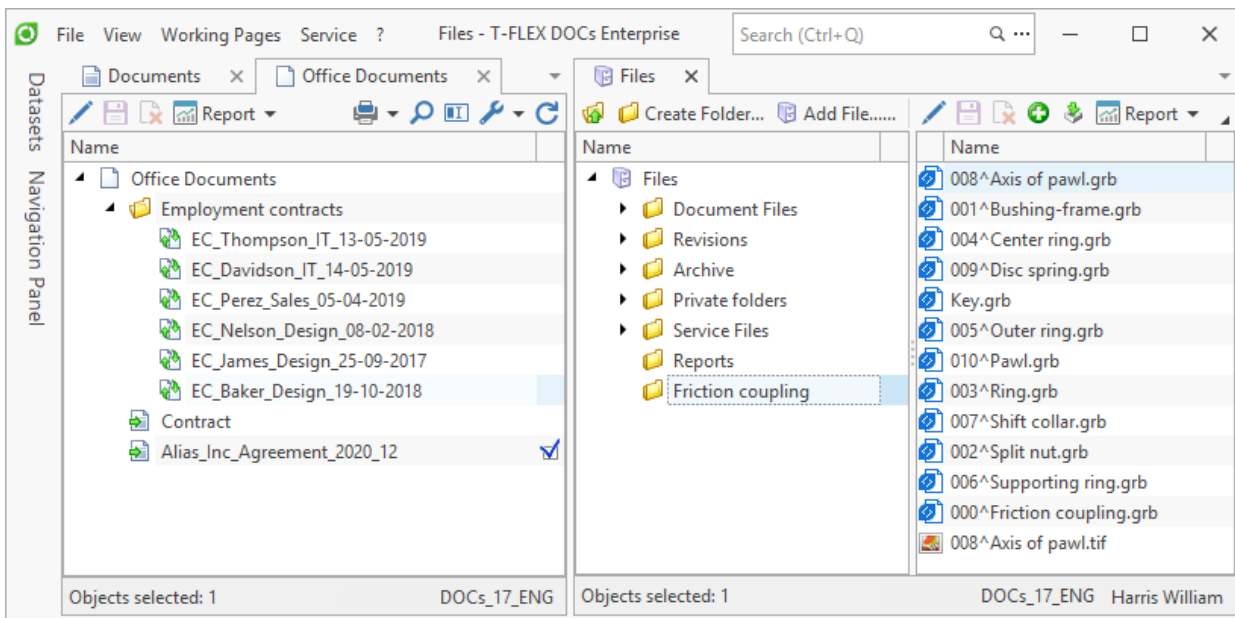
2. Float window – may be located above main T-FLEX DOCs window without being docked to it or by the main window if it is not full-size.





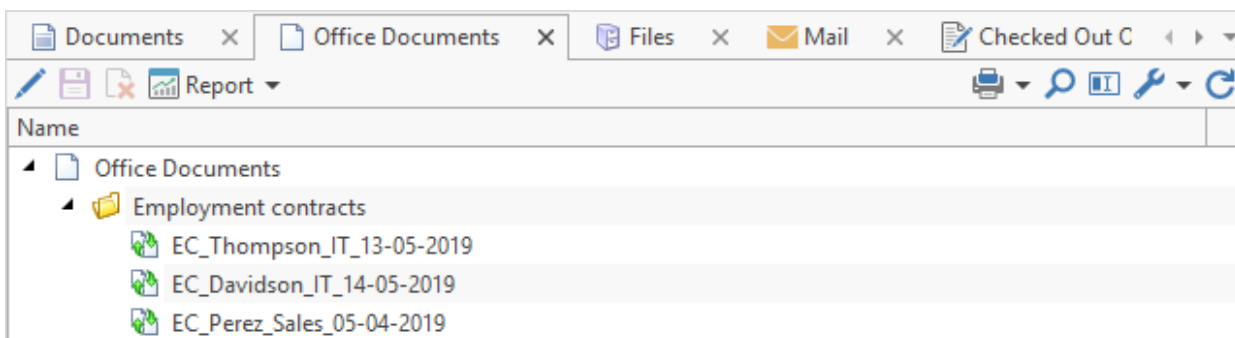
Setup of dataset float work window location and docking it to the main T-FLEX DOCs window is similar to [navigation panel location setup](#).


In addition, user can make tab groups located vertically or horizontally. To create a tab group, open right-click menu of the tab to be moved to the new group and choose option **New horizontal tab group** or **New vertical tab group**.


Tabs can be moved from one group to another with the help of right-click menu options **Move to the next tab group** and **Move to the previous tab group**.

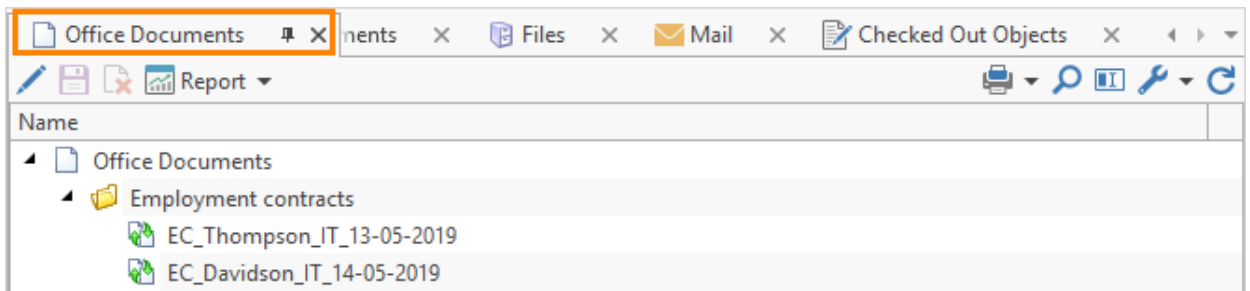


If there is not enough space to display all the tabs of opened work windows in the main window, part of them will be hidden. To find the required tab use  and  buttons.



 button deploys the list of opened tabs. The tab chosen in the list becomes active.

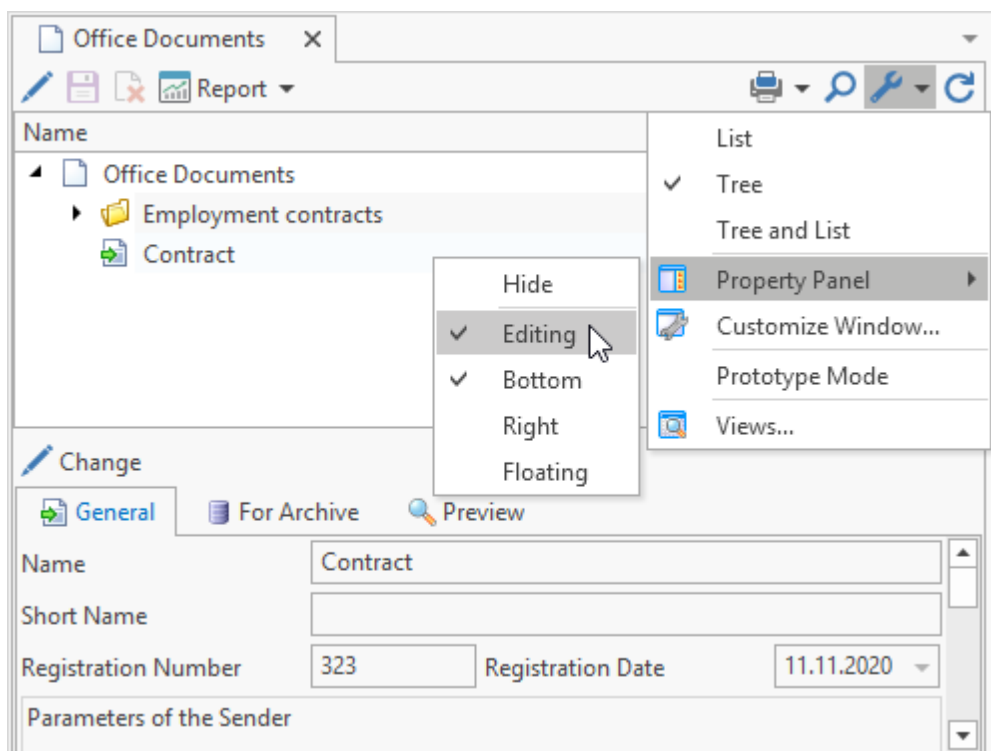
Checking the **Pin Tab** box in the right-click menu of the tab allows to anchor this tab. This means that the tab will be displayed in the beginning and will stay there during scrolling. Pinned tab will have  button on it. Press this button to detach the tab.



Dataset object properties panel

Display of object properties panel can be set up in the work window of dataset. To do this, choose one of the position options: menu **Customize > Property Panel > Bottom** or **Customize > Property panel > Right**. Panel size can be changed by moving the dividing line. To disable the panel, choose menu option **Customize > Property panel > Hide**.

Object properties panel can also be float.



If the **Editing** box is checked, it means that the properties panel is available only for editing. If the box is not checked – the panel is available only for viewing.

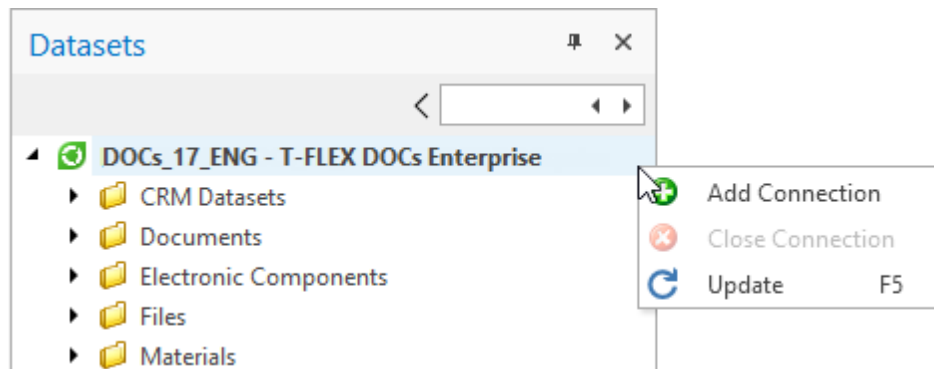
Multiple connections to T-FLEX DOCs

In T-FLEX DOCs it is possible to connect the client application to several servers simultaneously. This option is used for connected work of corporate users. Servers with various access levels can be used. Therefore, each connection will have its own set of available data.

Potentials of such connection:

- Connection to several servers in one window.
- Several configurations of one server are available.
- Data can be copied from one server to another.

Information about live connection is displayed in the top of the dataset tree in the **Datasets** window. To add another connection choose **Add Connection** option from the right-click menu of the live connection is used.



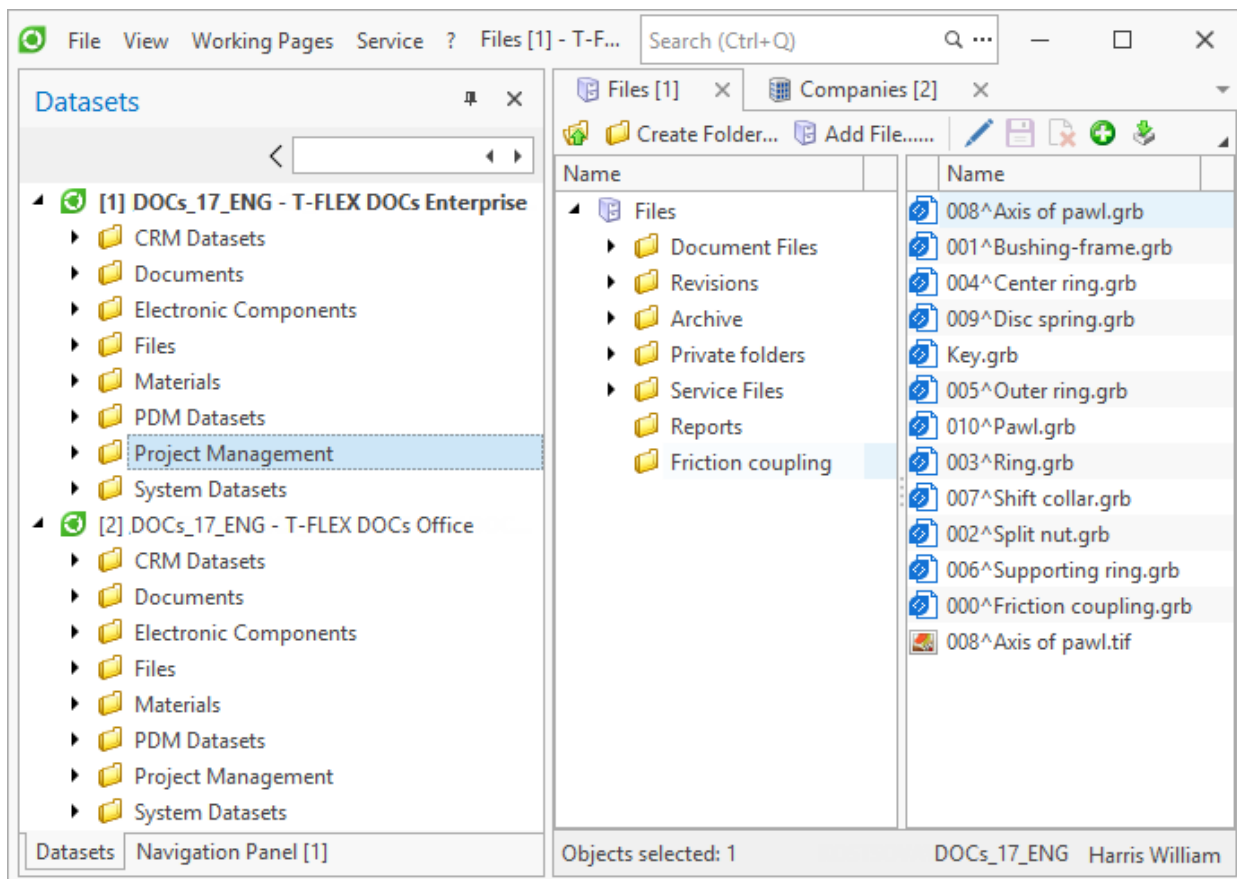
This option opens connection to T-FLEX DOCs window where server and configuration are required. After the server is connected, server's name and configuration will be displayed in the **Datasets** window in the datasets tree.


Main connection will be in bold.

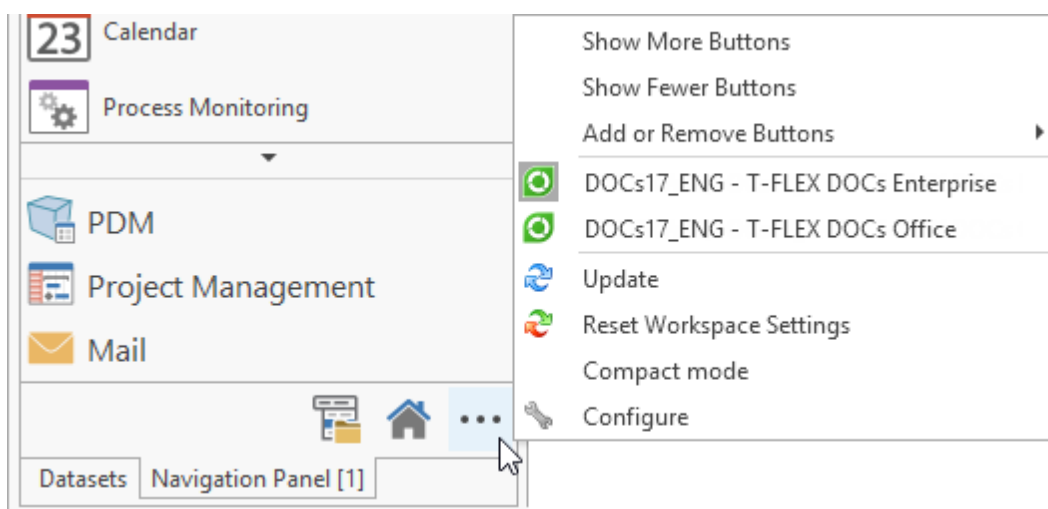
To close chosen connection choose **Close Connection** option from its right-click menu.

If there are several connections in the T-FLEX DOCs window, they are assigned with position numbers. Number is displayed in square brackets in the bar with information on connection in the **Datasets** window.

Number in the work window title allows to identify the connection to which the window is linked. Information on live connection is displayed in the status bar of the work window.



Navigation Panel tab displays number of the connection to which the panel is linked. To switch between connections use menu of panel settings which opens by clicking on  button.



As noted above, with several connections in the T-FLEX DOCs window user can copy data between the servers. To do that use options of **Edit** menu.

Data handling guidelines

T-FLEX DOCs user can perform following actions with a dataset object:

- create;
- edit (change parameters values);
- delete;
- copy, paste and move;
- borrow object structure;
- change type.

Actions set for each object depends on settings of the dataset to which it belongs.

Actions with the chosen object are performed with the help of toolbar buttons. Options are duplicated in the right-click menu of the object.

[Object search](#) is one more function intended for handling dataset. Search may be performed by set parameters of the object in one or in several datasets.

Data display modes in the dataset work window



Data in the dataset work window can be displayed in a mode chosen by the user. List of available display modes for the current dataset depends on hierarchy type of its objects.

There are following hierarchy types:

1. List – objects are equisignificant, on the same level.
2. Tree – one dataset object (child object) may be the part of another dataset object (parent object), i.e. there is a treelike architecture.
3. Complex hierarchy – one object may be the part of several other objects in one dataset. "Product Electronic Structure" is the dataset of this type – one item can be the part of several products and assemblies.

Moreover, with corresponding configuration of the dataset with complex hierarchy it is possible to connect its object multiple times to one parent object.

Therefore, user can look through the contents of the dataset in one of the following modes:

1. Tree – this mode is enabled in datasets with "Tree" and "Complex hierarchy" types of hierarchy. If the "Tree" mode is enabled, objects in the dataset can be reviewed at each logical structural level.  button is located by the objects which have other objects in their structure. Click this button to display child objects. To open the list of child objects click  button.

Buttons view depends on chosen style for the main T-FLEX DOCs window. Abovementioned button view is provided in "Office 2019 Colorful" style.

Object	Position	Quantity
Product Electronic Structure		
007 - Shift collar - A.1		
X1777 - Converter - A.1		
CM-1 - Cam Mechanism - A.1		
17.33 - Cam Mechanism - A.1		1
17.33.1 - Support - A.1	1	1
17.33.2 - Pushrod - A.1	2	1
17.33.3 - Shaft - A.1	3	1
17.33.4 - Cam - A.1	4	1
17.33.5 - Handle - A.1	5	1
17.33.6 - Knob - A.1	6	1
00.00.00 - Ball Valve - A.1		
00.01.00 - Body - A.1	2	1
00.01.01 - O-Ring - A.1	8	1
00.01.02 - Shaft - A.1	9	1
00.00.02 - O-Ring - A.1	3	1
00.00.03 - Bush - A.1	4	1
00.00.04 - Ball - A.1	5	1

Moreover, to configure display mode for the tree-type structure of the dataset objects, there is a **Tree** buttons group in the right-click menu of the object:




- – expands the dataset tree to the fullest nesting depth;
- – collapses the dataset tree;
- – expands the selected dataset tree branch to the fullest nesting depth;
- – collapses the selected dataset branch.

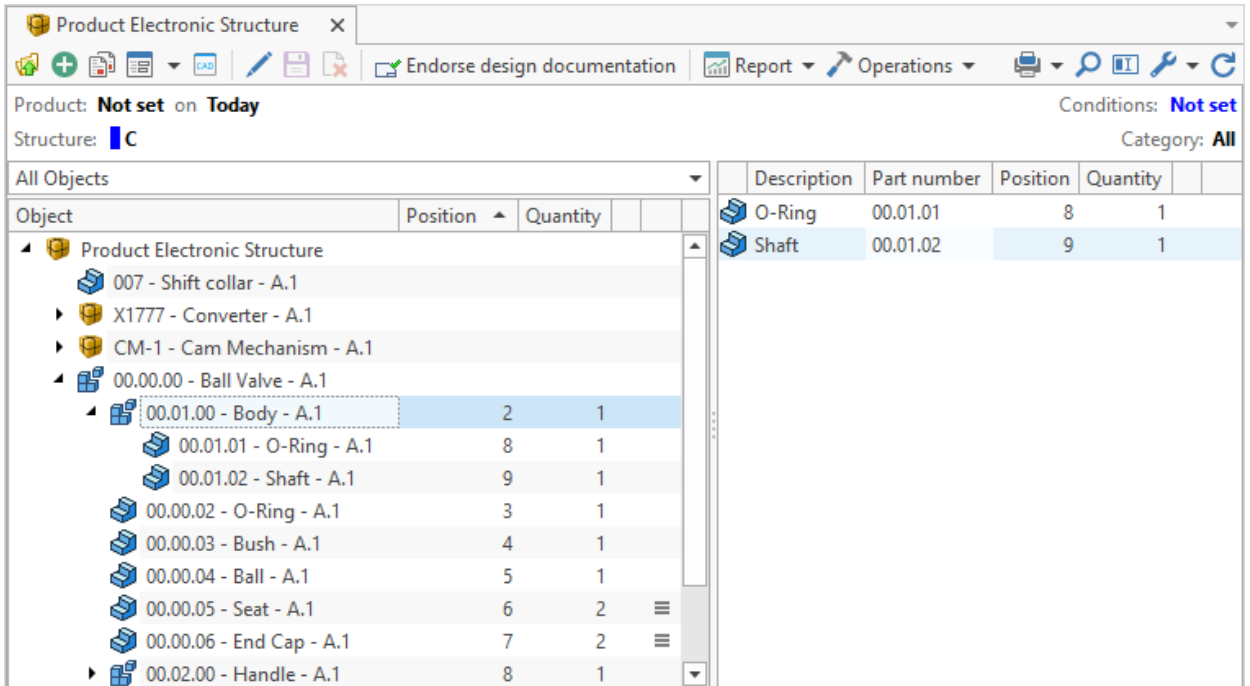
2. List – mode is enabled for datasets with any kind of hierarchy.

For datasets with "Tree" and "Complex hierarchy" types of hierarchy, list displays only first level of occurrence objects of the chosen object.

To look through child objects of the chosen parent object double click on its name or

press <Enter> key on the keyboard. To return to the previous level of hierarchy click  button on the toolbar.

3. Tree and List – enabled for all datasets and combines two abovementioned modes. In this case work window is divided into two parts. The tree to the left displays only those objects that include other objects. When one object in the tree is selected, the right part of the window displays list of its child objects of first level of occurrence.



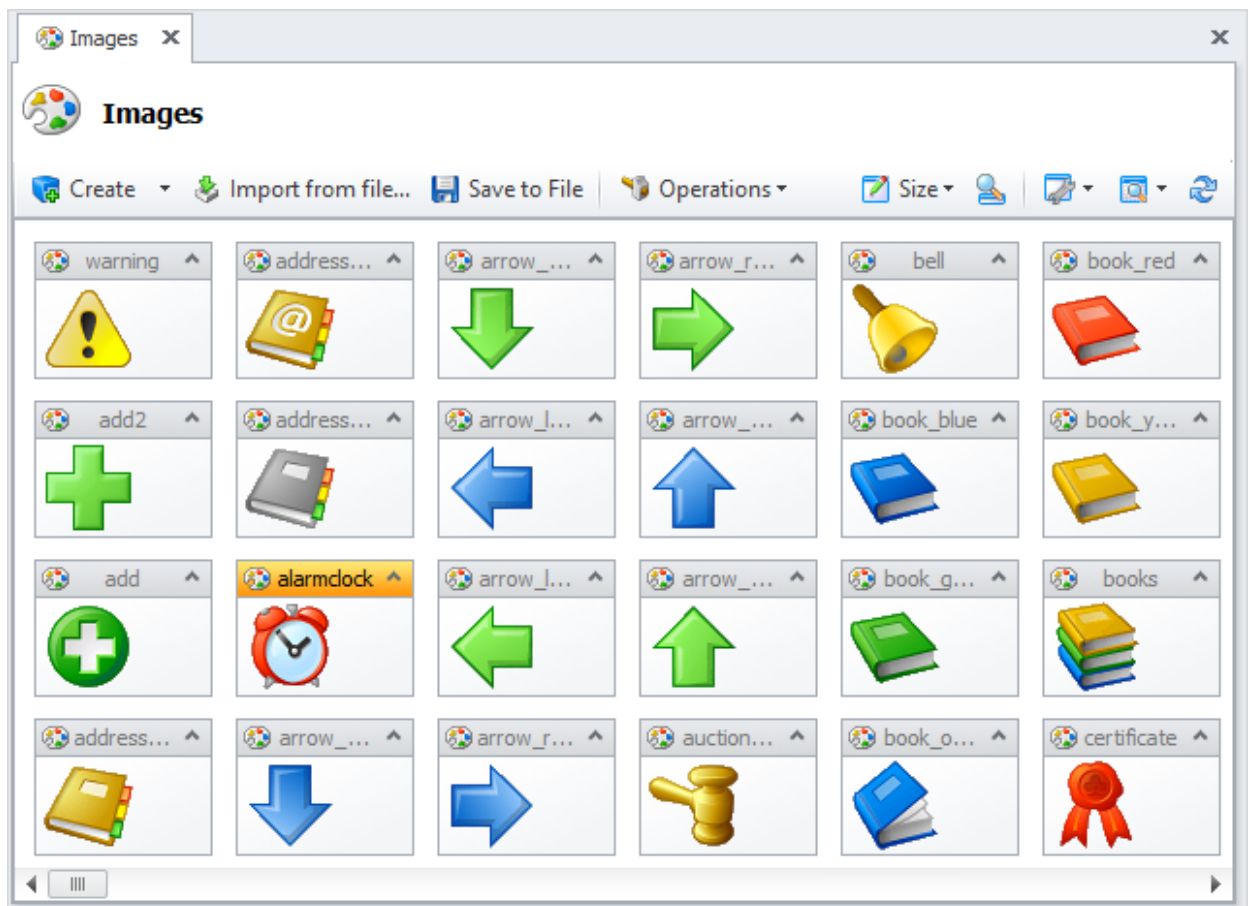
Hierarchy of the selected dataset object can be opened in a separate window via right-click menu option **Open in new window**.

As for the data in the "List" mode, they can be displayed in following views:

1. Table.


Name	Class	Date of last change	Size
008^Axis of pawl.grb	T-FLEX CAD file	7/10/2019 3:01:27 PM	80.45 KB
001^Bushing-frame.grb	T-FLEX CAD file	7/10/2019 3:01:47 PM	643.23 KB
004^Center ring.grb	T-FLEX CAD file	7/10/2019 3:02:46 PM	152.09 KB
009^Disc spring.grb	T-FLEX CAD file	7/10/2019 3:02:13 PM	88.20 KB
Key.grb	T-FLEX CAD file	7/10/2019 2:57:45 PM	34.70 KB
005^Outer ring.grb	T-FLEX CAD file	7/10/2019 3:03:03 PM	156.62 KB
010^Pawl.grb	T-FLEX CAD file	7/10/2019 3:03:18 PM	62.36 KB
003^Ring.grb	T-FLEX CAD file	7/10/2019 3:03:31 PM	85.41 KB
007^Shift collar.grb	T-FLEX CAD file	7/10/2019 3:03:45 PM	233.23 KB
002^Split nut.grb	T-FLEX CAD file	7/10/2019 3:03:57 PM	282.05 KB
006^Supporting ring.grb	T-FLEX CAD file	7/10/2019 3:04:11 PM	105.37 KB
000^Friction coupling.grb	T-FLEX CAD file	7/10/2019 3:04:29 PM	2.39 MB
008^Axis of pawl.tif	Raster Image (TIFF)	9/13/2019 2:09:48 PM	168.03 KB

2. Cards.



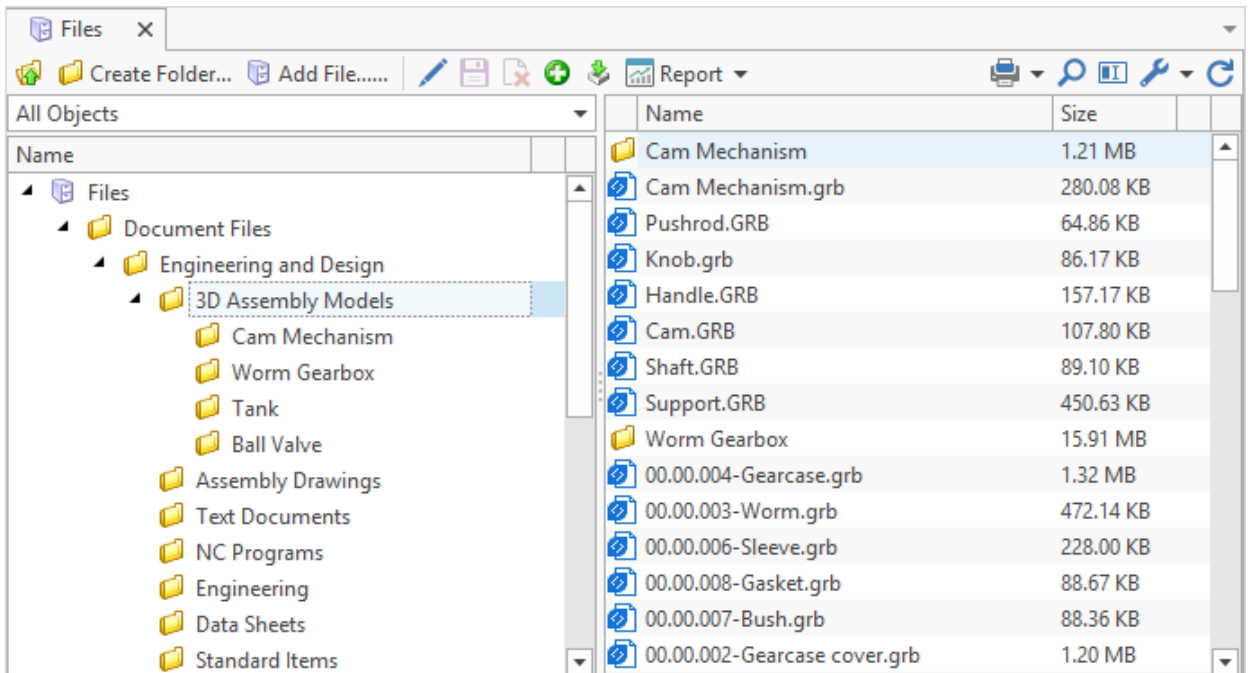
Cards mode is suitable, if a dataset object has a picture (**Picture** parameter) which displays its

appearance or explains some of its features. For example, it is suitable to look through various catalogs: products, tools, equipment catalogues, etc.

Data display mode in the work window may be changed with the help of **Customize** menu ( on the toolbar).

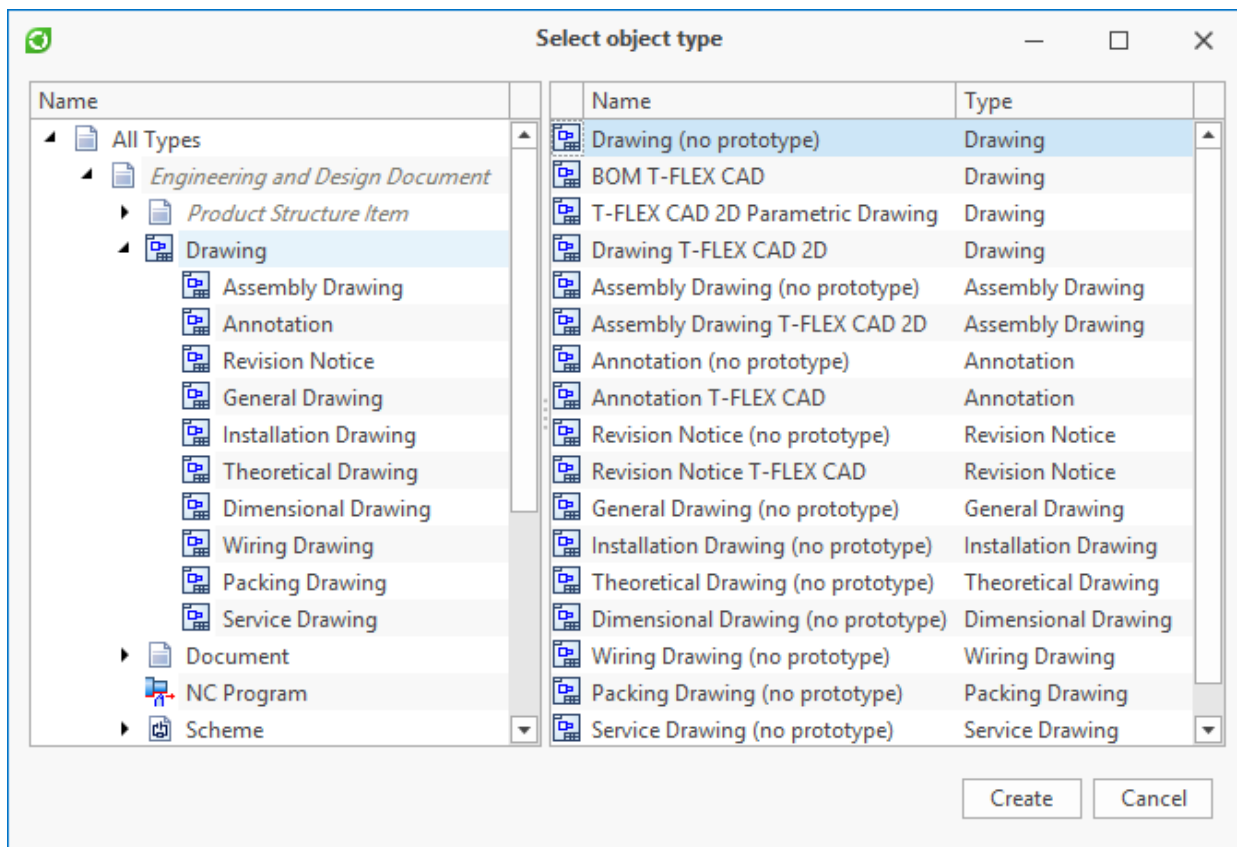
Also following boxes are available for setting up data display in "List" and "Tree and List" modes":

1. **No Folders Mode** – all child objects are displayed in one list regardless level of nesting.



2. **Show Folders** – box controls folders accessibility in the list. In this context, folders are objects of those types where one object can contain other objects.
3. **Show all occurrences** – box available only for datasets with complex hierarchy. In this case an object which is the part of several other objects will be displayed corresponding number of times.

4. **Prototype mode** – box is available only for datasets that handle work with [prototypes](#), List of prototypes is opened in separate window.

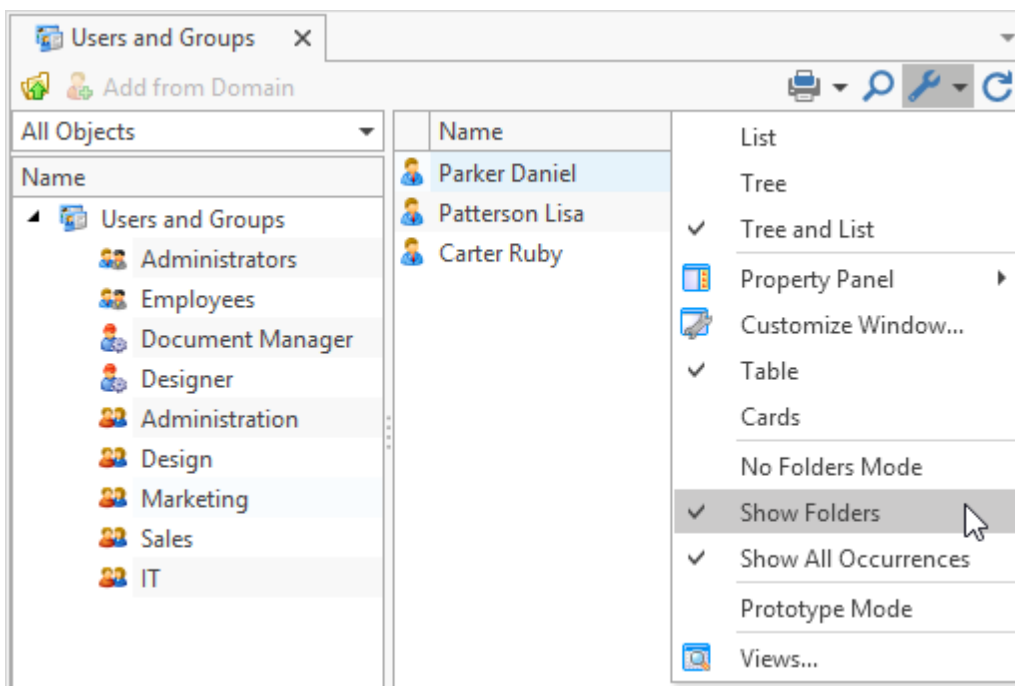


By default, multiple connections of the object in the dataset with complex hierarchy are displayed as grouped. Grouping configuration is via the icon in the column **Group multiple links**. On the picture below the connection of the object "Bolt ISO 4016 - M6x45" are displayed ungrouped, and the connections of the object "Hex Nut ISO 4034 - M6" – grouped.


To change the display mode for multiple connections, use the **Allow grouping of multiple links** box in the [Customize Window](#) window.

Object	Position ▲	Quantity	
Product Electronic Structure			
007 - Shift collar - A.1			
X1777 - Converter - A.1			
CM-1 - Cam Mechanism - A.1			
00.00.00 - Ball Valve - A.1			
00.01.00 - Body - A.1	2	1	
00.00.02 - O-Ring - A.1	3	1	
00.00.03 - Bush - A.1	4	1	
00.00.04 - Ball - A.1	5	1	
00.00.05 - Seat - A.1	6	2	☰
00.00.06 - End Cap - A.1	7	2	☰
00.02.00 - Handle - A.1	8	1	
Bolt ISO 4016 - M6x45 - A.1	9	1	—
Bolt ISO 4016 - M6x45 - A.1	9	1	—
Bolt ISO 4016 - M6x45 - A.1	9	1	—
Bolt ISO 4016 - M6x45 - A.1	9	1	—
Hex Nut ISO 4034 - M6 - A.1	10	5	☰

Data display mode is set up for each dataset separately and is saved for the current user.



Creating object

To create a new object in a dataset, use  button on the toolbar in the dataset work window.

List of available objects types for datasets with tree architecture will change depending on level of hierarchy.

Therefore, when creating an object, the user must follow the pointer position in the objects

tree.

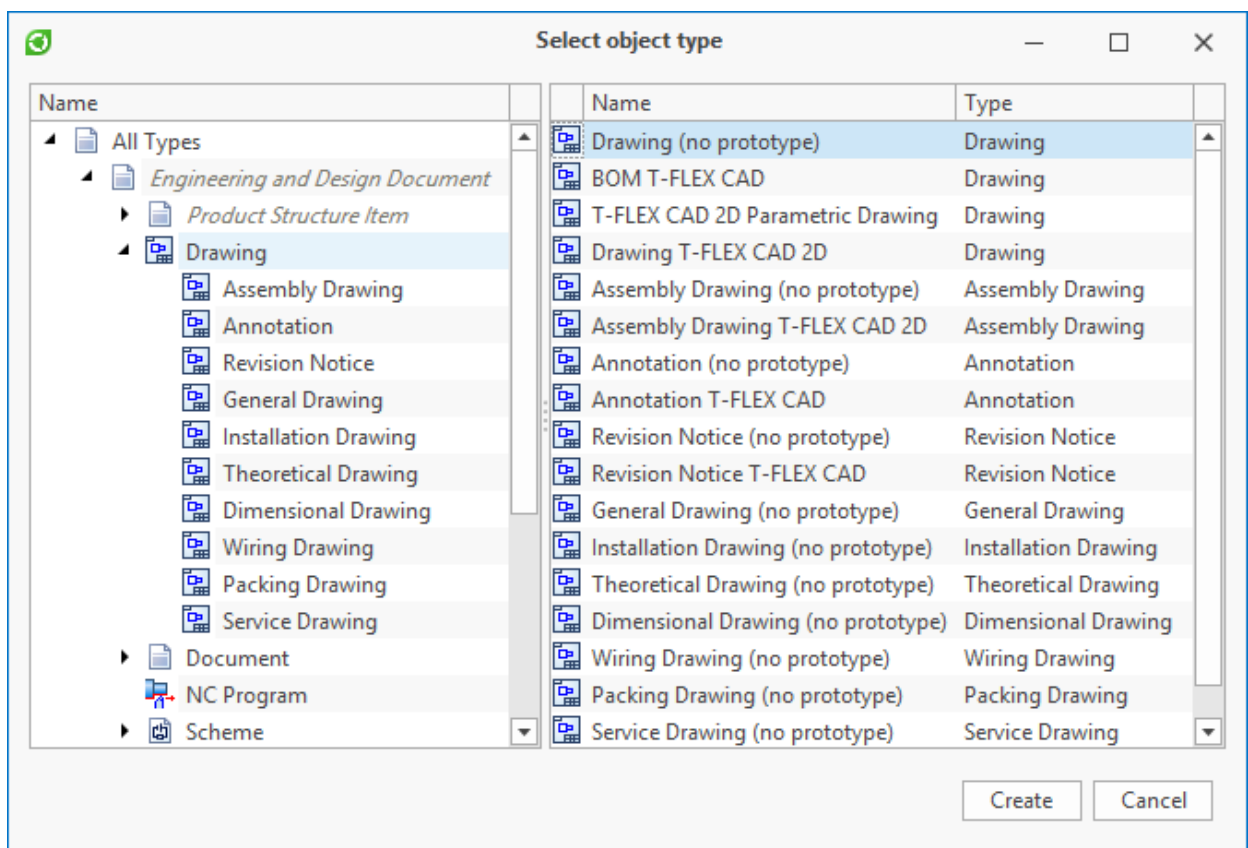
By clicking on the left, main, part of the button the type of the created object will be similar to the object last used in this dataset at this level of hierarchy. This facilitates sequenced creation of objects of the same type.

By clicking on the right part of the button (with an arrow) a list opens where five previously used object types are displayed. In case there is no required object type in this list, user can pick **Select type** option.

The left part of the opened window contains tree of types, built based on parent object type. The right part contains list of [prototypes](#) for the type chosen in the tree, as well as subtypes of this type and their prototypes.

Working with prototypes is enabled only for those datasets which were accordingly set up by the administrator user.

To create object without prototype, choose its type in the right part of the window.





Creation of new dataset object opens a window with object's properties. Parameters set depends on the object type.

Mandatory fields are highlighted in red.

After all the values are entered, the new object must be saved ( button).

If history of changes is enabled for the dataset, the created object will be available only to the

current user. To make it available to other users, the changes must be applied by  button. Up to this point the current user may edit object's properties and cancel its creation via  button.

Administrator user may establish condition of uniqueness for a dataset. This means, that there cannot be two objects with the same set of parameter values which are used in the condition of uniqueness.

Creating object's prototype

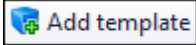
Prototype is an object of the required type for which some parameter values have already been set. This makes it possible to avoid entering the same data while creating new dataset objects.

Prototype is created in the window of a dataset opened in the [prototype mode](#); the procedure is similar to creating a common dataset object.

It is also possible to create prototypes with tree-type structure. When such prototypes are created, the occurrence of the objects is governed by the rules of occurrence for dataset object types.

If necessary, a file prototype can be attached to the object prototype. In this case, when new object is created on basis of this prototype, the system will automatically attach a file created on basis of the indicated file prototype.

The selected object type shall have option to attach a file via link.

To switch to file prototype selection window, click the  button.

Name	Class	Relative Path
Letter.doc	Microsoft Word Document	Templates\Letter.doc


Moreover, T-FLEX DOCs makes it possible to attach the required set of files from the "Files" dataset to the object prototype. When object is created on basis of such prototype, the indicated files will be automatically attached to it via link.




A prototype is deleted in the window of a dataset in the prototype mode; the procedure is similar to deleting a common dataset object.

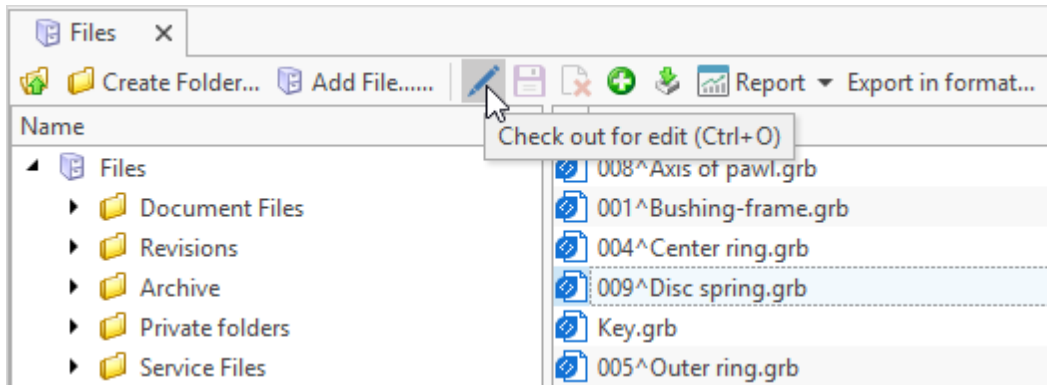
Reviewing and editing of object properties

To review object properties, use **Properties** option.

To edit object properties:

1. If history of changes is disabled for the dataset, editing object parameters values performed by opening its properties window and entering required values. To save them click  button.

- If history of changes is enabled for the dataset, it is important to take the chosen object for editing by clicking  on the toolbar or use menu option **Check out for edit**. After changes in the object properties are introduced, they can be applied ( button) or cancelled ( button).

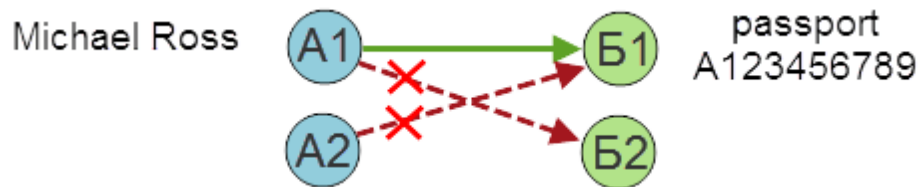


Connecting the objects

Current object can be linked to objects from other datasets.

There are following types of link:

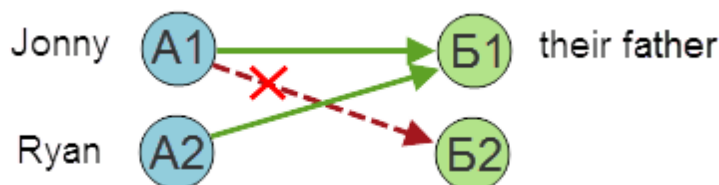
- 1:1 (one with one) – object of the first dataset corresponds only to one object of the second dataset, and vice versa. Case in point is "person and person's passport" link. Each person has one passport and one passport has information about only one person.



- 1:N (one with list) – one object of the first dataset may be linked to several objects of the second dataset and object of the second dataset may be linked to only one object of the first dataset. Case in point is "father and his children". One father can have several children but every child has only one father.



3. N:1 (list with one) – this type of link is reverse to the 1:N type link, i.e. one object of the first dataset can be linked to only one object of the second dataset and object of the second dataset may be linked to several objects of the first dataset. Case in point is "children and their father".



4. N:N (list with list) – any object of the first dataset may be linked to several objects of the second dataset and object of the second dataset may be linked to several objects of the first dataset. Case in point is "pupils and teachers". A pupil can study at different teachers and a teacher can teach several pupils.



Various management components are used to connect one object of the linked dataset to the current object in different properties windows. For example, special entry field with link displayed on the picture below.



button opens the window of the linked dataset to choose the required object. button clears the field. Clicking on the link opens properties window of the linked object.

To connect several objects of the linked dataset to the current object, click button which also opens dataset window to choose objects.

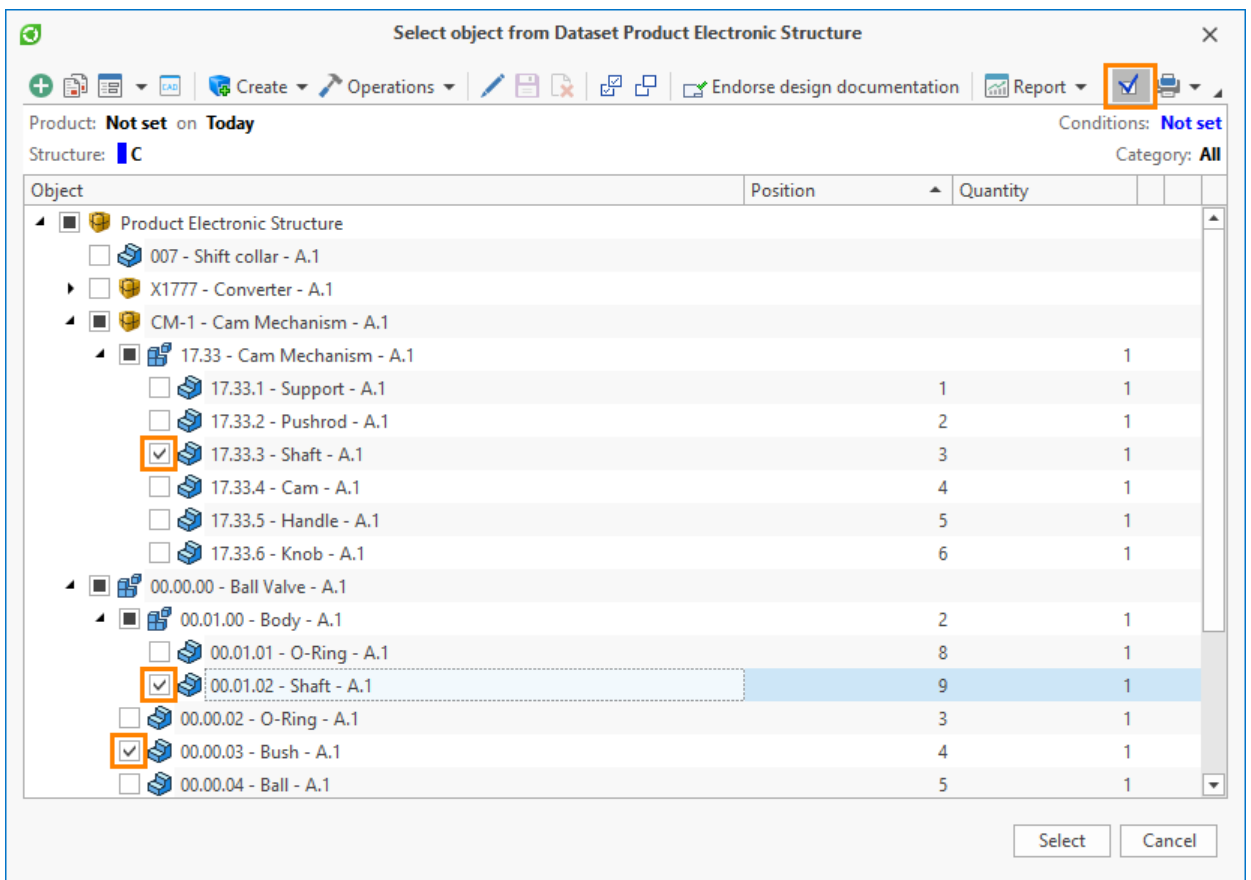
button on the toolbar of the **Object selection from dataset** window is used to switch between object selection modes. When user clicks the button, he/she selects object by checking boxes in the strings that correspond to the object.

The **Tree** buttons group in the object's right-click menu contains additional selection options:

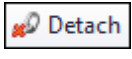


- – selected all dataset objects;
- – unselects all dataset objects;
- – selects the object and all of its child objects;
- – deselects the object and all of its child objects.

Some of the abovementioned options are on the window's toolbar.



Connected objects will be list-structured in the corresponding field.

 **Detach** button cancels the link with the chosen object.

Object 'Spectrum Group' Properties
— □ ×

✓ OK ✗ Cancel












Information
Additional
Information for Documents

Company Name	Spectrum Group		
Name for Documents			
City	Toronto	Company Code	
Headquarters	[empty] ... X		
Phone Number 1	+1 647-290-9781	E-mail Address	
Phone Number 2		Website	spectrumgroup.com
Phone Number 3		Fax	
Mobile Number			

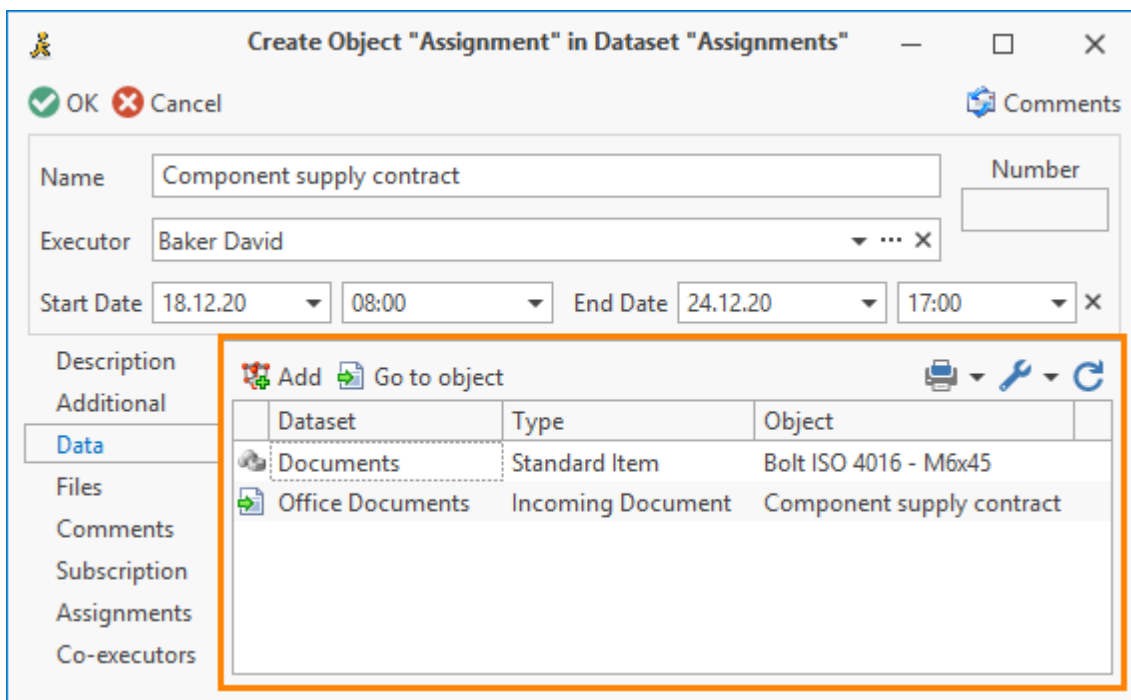
Main Contact Person			
Main Contact Person	Lee R. ... X		
Phone Number	+1 647-290-9780	E-Mail	robertlee@spectrumgroup.com

Responsible	Perez Mark ... X		
Author	Administrator	Creation Date	9/9/2019 10:02:59 AM
Updated By	Administrator	Updated Date	9/9/2019 10:02:59 AM

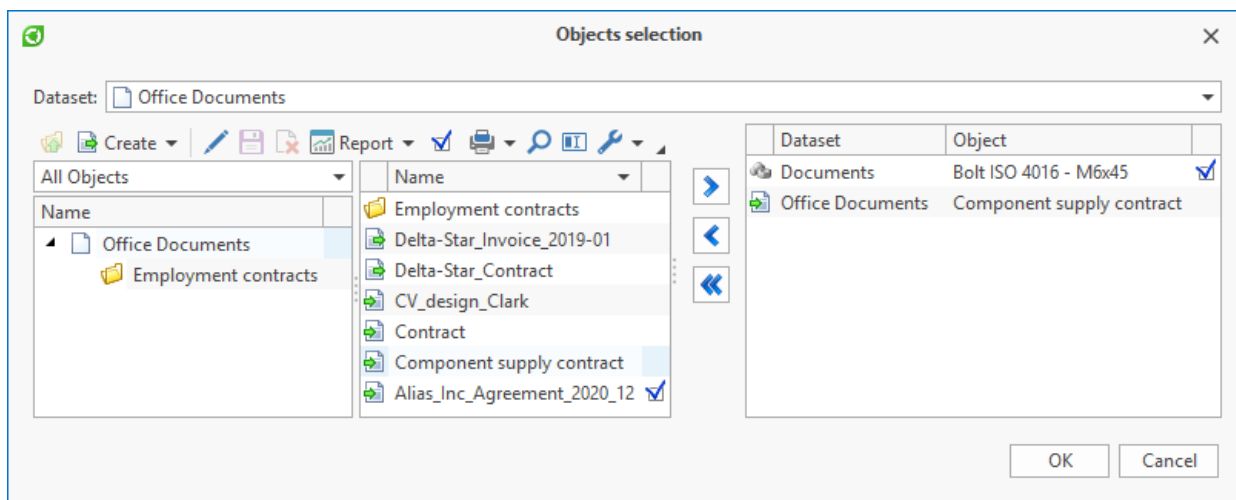
Contacts
Contracts (Responsible)
Contracts (Customer)
Actions

								
Name	Result	Starting Time	Completion Time					
	Appointment	1/29/2019 4:47:28 PM						
	Contract details	1/29/2019 4:48:20 PM						
	Cooperation agreement prolongation	Cooperation agreement will be prolonged for an year on the same terms	3/11/2019 4:20:43 PM					

Moreover, the current object may be linked with objects from various datasets.




In this case window for choosing objects will be as presented below. User will have to choose dataset and then the required object.



Deleting objects

To delete object, use **Delete** option.

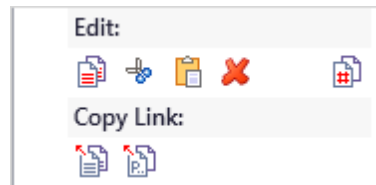
If bin is enabled for the current dataset – object will be removed to the bin. If bin is disabled – object will be deleted permanently.

In case revision history is enabled for the dataset, to delete an object user must confirm operation by the button that applies changes ().

Copying, pasting and moving object

T-FLEX DOCs makes it possible to both copy the object of the dataset and the values of separate parameters, as well as links to the object and its properties. Links may be used, for example, in the e-mail or in Microsoft Word document.

Edit options group on the window toolbar together with **Edit** and **Copy link** groups of buttons in the right-click menu of an object are used for copying, pasting and moving operations.



Therefore, **Edit** and **Copy link** options of the right-click menu contain following actions:

- **Copy** – copies values of the object parameters to paste them in the dataset as a new object or to replace data in the current objects.
- **Copy link to the record** – creates a link which opens the dataset work window focusing on the required object. If T-FLEX DOCs was not launched, first connection window appears, then, after login and password are entered, main T-FLEX DOCs window opens with the dataset work window.

The pasted link opens window for selection of app to open it. To save the selected option as default, check the **Remember choice** box. To reset this setting, use main menu option **Service > Reset hyperlink settings**.

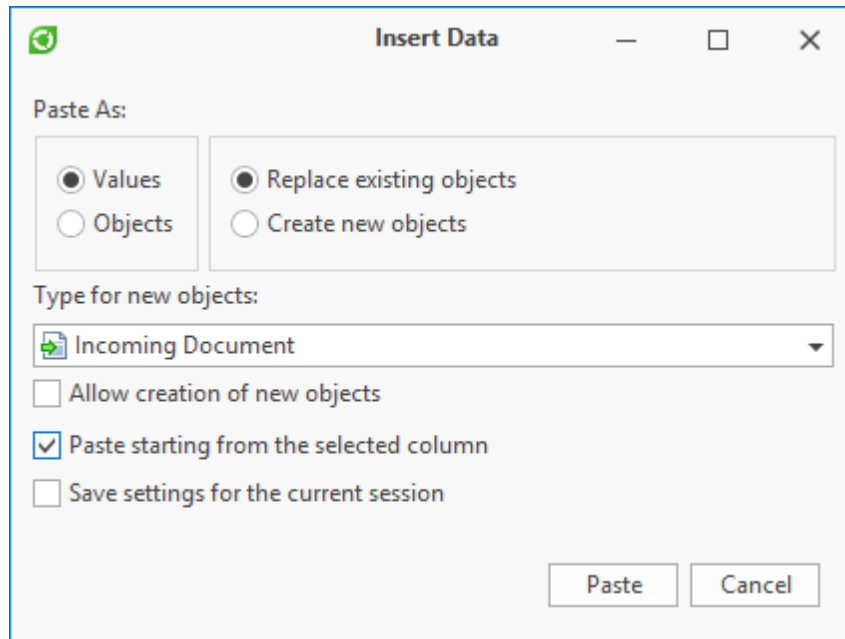
- **Copy link to properties** – creates link which opens properties window of the required object. Option is similar with the previous option.
- **Copy cell value** – copies value of the selected cell in order to move it to the cell of another object or to use it in external applications.
- **Cut** – copies the selected object to clipboard; when the copy of the object is pasted to some new place, initial object is deleted.
- **Move** – opens [Insert Data](#) window.
- **Delete** – this option was described in [the previous Section](#).

"Files" dataset also has **Copy link to file** which creates a link which opens the selected file.

Copy Guid option which allows to copy "Guid" parameter value for a dataset object to use it in the macro code is available in the "Developer tools" configuration.

To apply the required option to several objects, select them by left mouse button and holding down <Shift> or <Ctrl> key.

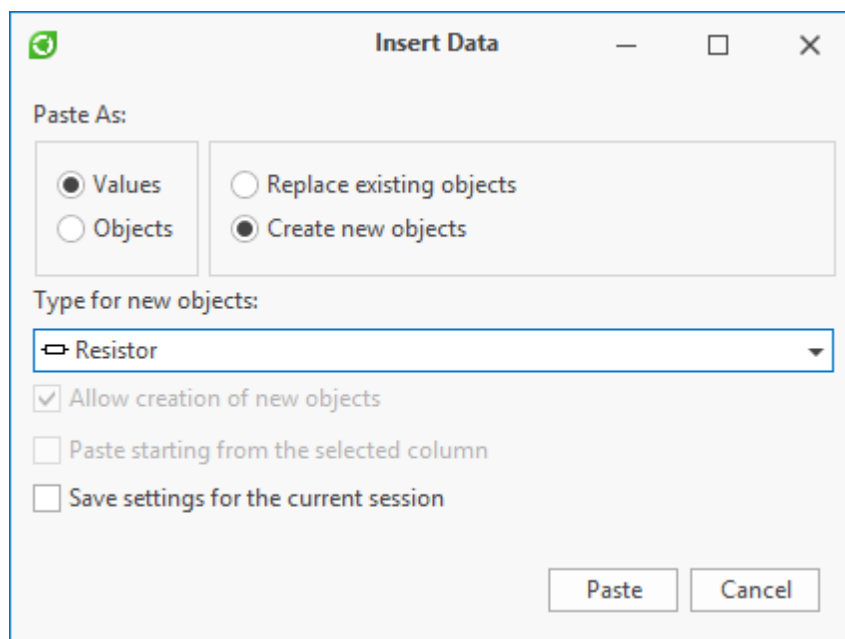
In the data paste window user has a choice: to create new objects in the dataset or to replace data of the current objects with copied data. If replaced, the copied data will be pasted starting from the first column displayed in the dataset. **Paste data starting from selected column** box allows to paste data starting from any column.



If the number of pasted strings exceeds the number of objects in the dataset, data will be pasted partially. To paste all the data, check **Permit creation of new objects** box.

T-FLEX DOCs allows to paste data through clipboard from external applications which handle tables, e.g. Microsoft Excel.

To paste tabular data, select the required values in another application, copy them and paste in the T-FLEX DOCs dataset by selecting right-click menu option: **Edit > Paste**.



The system will offer to select paste options and type of the created objects. Objects of only

one type can be pasted during one paste action.

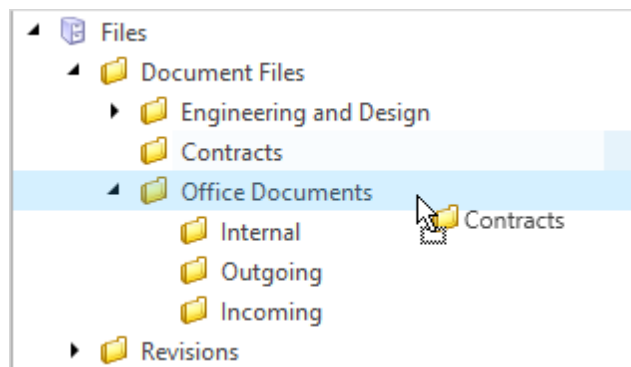
When information is pasted from the clipboard it is important to provide sharp compliance of column sequence in the initial table from which information is copied and column sequence of the T-FLEX DOCs dataset where the objects are added. Sequence of the columns in a dataset is performed by moving them: point at the selected column and while holding left mouse button move the column to the required position.

It is important to consider that values will not be copied to the columns with parameters which were set automatically. Hence, when preparing the dataset for pasting tabular data such columns must be removed from the list of [displayed columns](#).

When tabular data are pasted the objects are formed at one hierarchy level. After creating the objects, it is possible to edit their sequence and make the required architecture.

Except for **Cut** and **Paste** options there are other ways to move an object in the dataset hierarchy tree:

1. Drag-and-drop (if <Ctrl> button is held during operation, object will be copied).



2. <Up> or <Down> and <Ctrl> key combination (only within one parent object).

Borrowing object structure

T-FLEX DOCs has a function of borrowing the structure of the object in the treelike dataset which may be used, for example, to create a structure of an enterprise department or for design and engineering. Structure may be copied as a whole or partially; it is possible to change values of selected parameters during copying.

To carry over the structure, use menu option **Advanced > Borrow**.

In the window with copying the object structure settings it is required to state to which object of the data set the structure should be copied, as well as to select components to be copied.

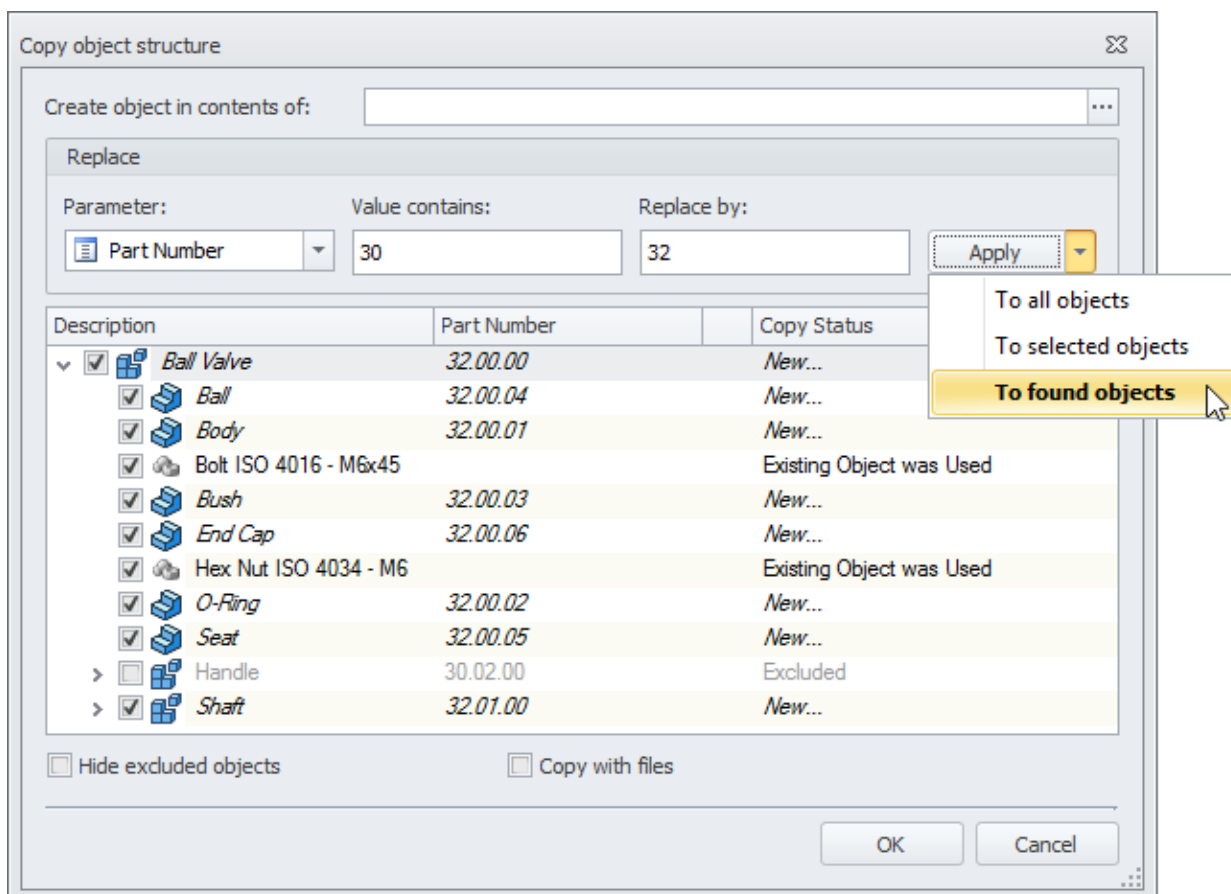
Apply list helps to assign the replacement scope for parameter values:

- To all objects – all objects of the structure tree that comply with set condition will be changed; in this case search is performed for all tree objects.
- To selected objects – objects which were selected by the user and which comply with condition will be changed.

- To found objects – all objects of the structure tree that comply with set condition will be changed; in this case search is performed only for opened nodes.

Hide excluded objects box allows to hide objects with "Excluded" status to make it convenient to review the objects.

If **Copy with files** box is unchecked, the object created by carrying over will get the file which is linked to the initial object. If the box is checked, only copy of the initial file will be attached.



Attaching and detaching object in the datasets with complex hierarchy

A dataset with complex hierarchy is a dataset where one object can be a part of the structure of several other objects in this dataset.

To attach a dataset object to the structure of another object, select right-click menu option **Advanced** > **Attach to**. The object to which current object will be attached is selected in the new window.

To attach two dataset objects to the current object, select right-click menu option **Attach objects**. The objects to be attached are selected in the new window.

The right-click menu option **Remove from structure** removes the selected object from the parent object structure. In this case the detached object remains in the dataset as an individual unit.

The **Connection properties** right-click menu option opens the window with parameters for attaching the object to the parent object.

Reviewing object relations

As a dataset object may be linked to object of this dataset or other datasets, T-FLEX DOCs has possibility to review object relations.

To do that use option **Advanced > Object Relations**.

Option opens the window with following items displayed:

- occurrence of object into other objects ("Owner" folder);
- list of included objects ("Connected objects" folder);
- list of linked objects with link type (other folders).

Object	Type	Dataset
00.02.00 - Handle - A.1	Assembly	Product Electronic Structure
Current revision	Link 1:1	Revisions
Initial document in revision	Link 1:1	Revisions
Base variation	Link N:1	Product Electronic Structure
Purchased item type	Link N:1	Sections of Purchased Items
Workpiece material	Link N:1	Materials
Component	Link 1:1	Resources
Suppliers	Link N:N	Suppliers
Nomenclature	Link 1:N	Endorsement
Revisions	Link 1:N	Revisions
DR.Harris-21.12.20	Revision	Revisions
Product Structure	Link 1:N	Product Structure
Product	Link 1:N	Physical Product Structure
Revision notes (applicability)	Link N:N	Revision notes
Nomenclature and Products	Link 1:N	Project Management
Products	Link 1:N	Products Classifier
Variations	Link 1:N	Product Electronic Structure
Substitutions	Objects List	Product Electronic Structure
Owner		
00.00.00 - Ball Valve - A.1	Assembly	Product Electronic Structure
Connected Objects		
00.02.02 - Handle cover - A.1	Part	Product Electronic Structure
00.02.01 - Handle - A.1	Part	Product Electronic Structure

Changing object type

Type of the T-FLEX DOCs dataset object can be changed, if the dataset handles such mechanism. To do that use option **Advanced > Change class**.

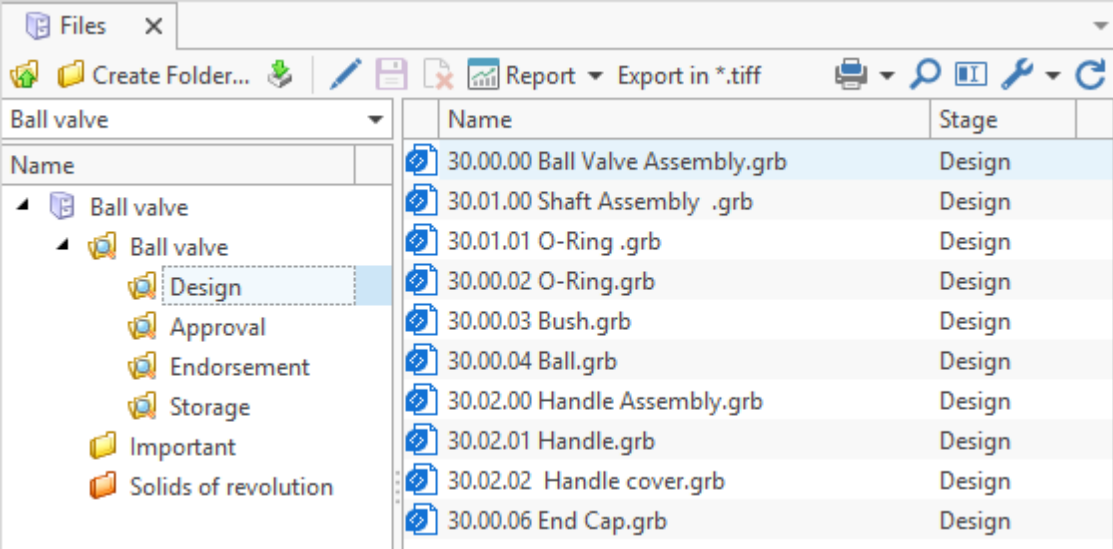
It should be noted that after the type is changed values of the parameters present at the

initial object type will not be included in the new object type.

Possibilities for data display setup in the dataset window

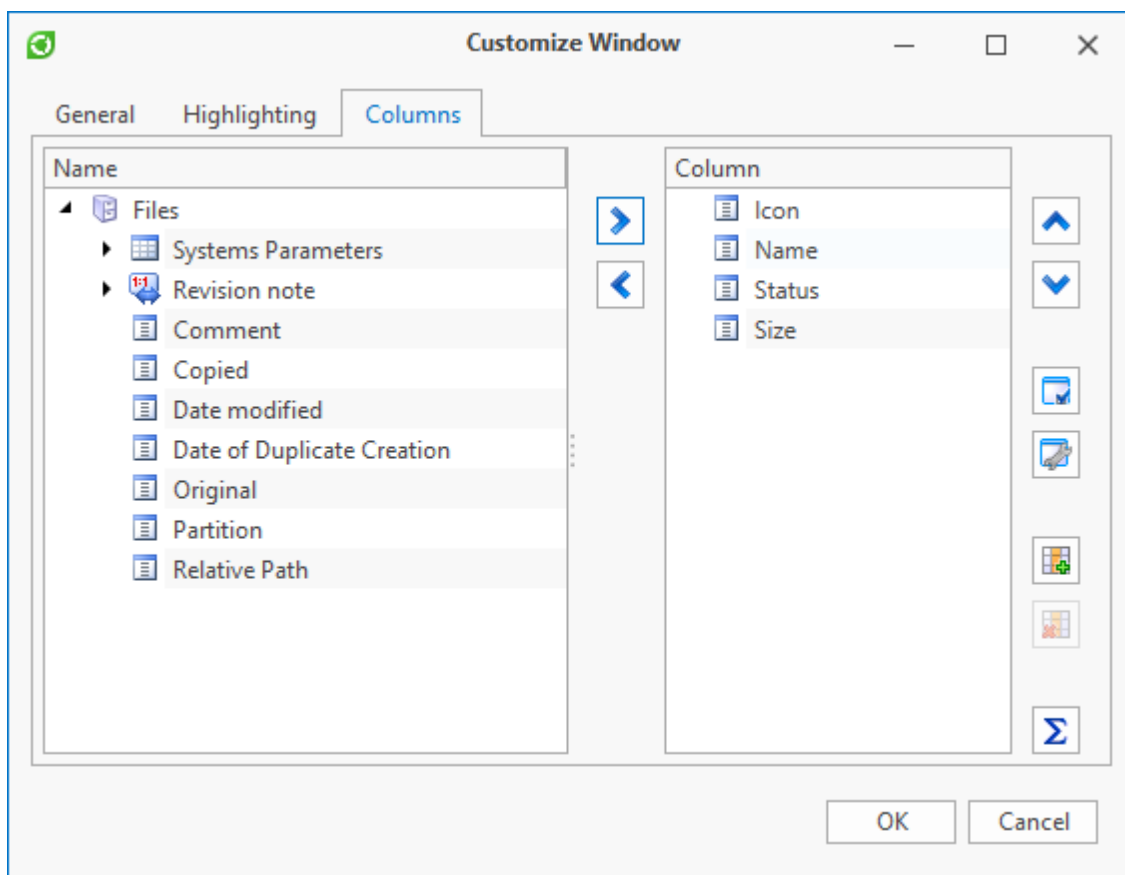
There are numerous possibilities to set up data display in the T-FLEX DOCs dataset window:

1. Create custom data structure – structure including folders and catalogs which allows to review contents of the dataset in any convenient for the user way. Folders may be manually or automatically filled with objects complying with predefined search condition.



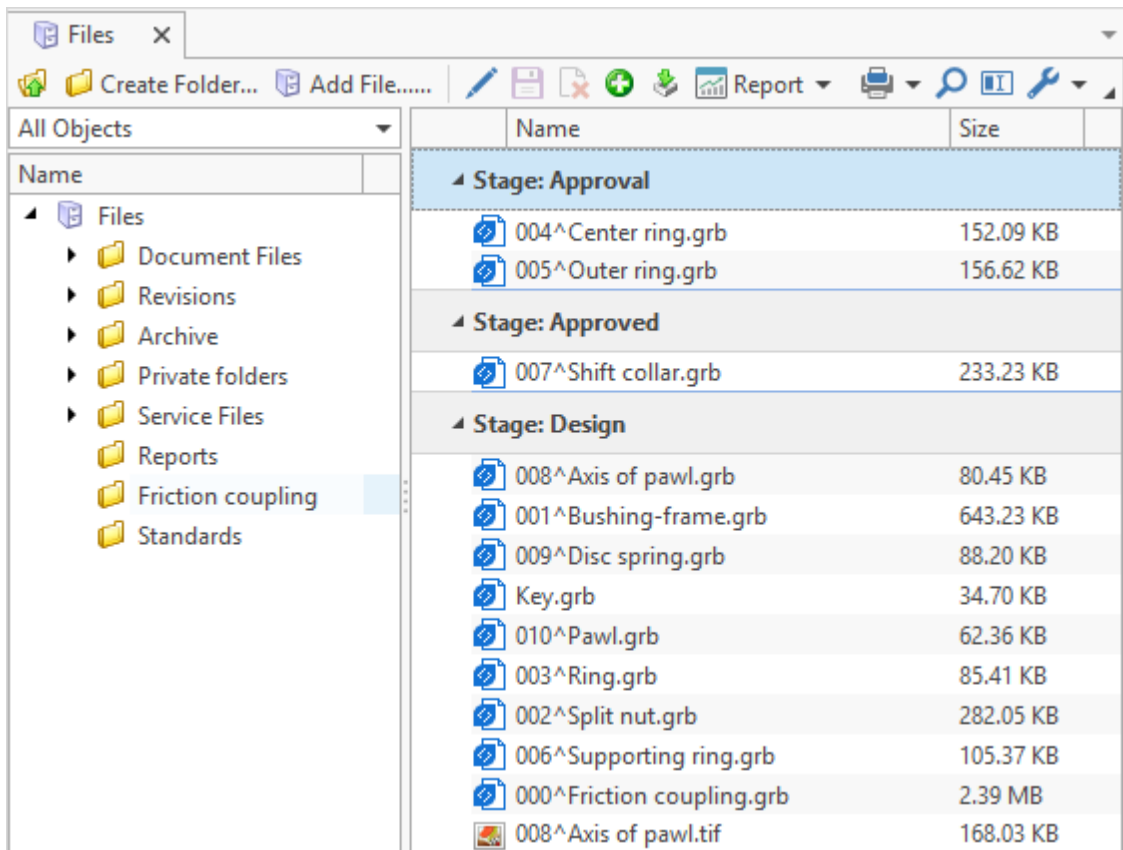
Name	Stage
30.00.00 Ball Valve Assembly.grb	Design
30.01.00 Shaft Assembly .grb	Design
30.01.01 O-Ring .grb	Design
30.00.02 O-Ring.grb	Design
30.00.03 Bush.grb	Design
30.00.04 Ball.grb	Design
30.02.00 Handle Assembly.grb	Design
30.02.01 Handle.grb	Design
30.02.02 Handle cover.grb	Design
30.00.06 End Cap.grb	Design

2. Set up column display, calculations in columns – user chooses which of the dataset object parameters must be displayed in the work window. He also can create custom columns.

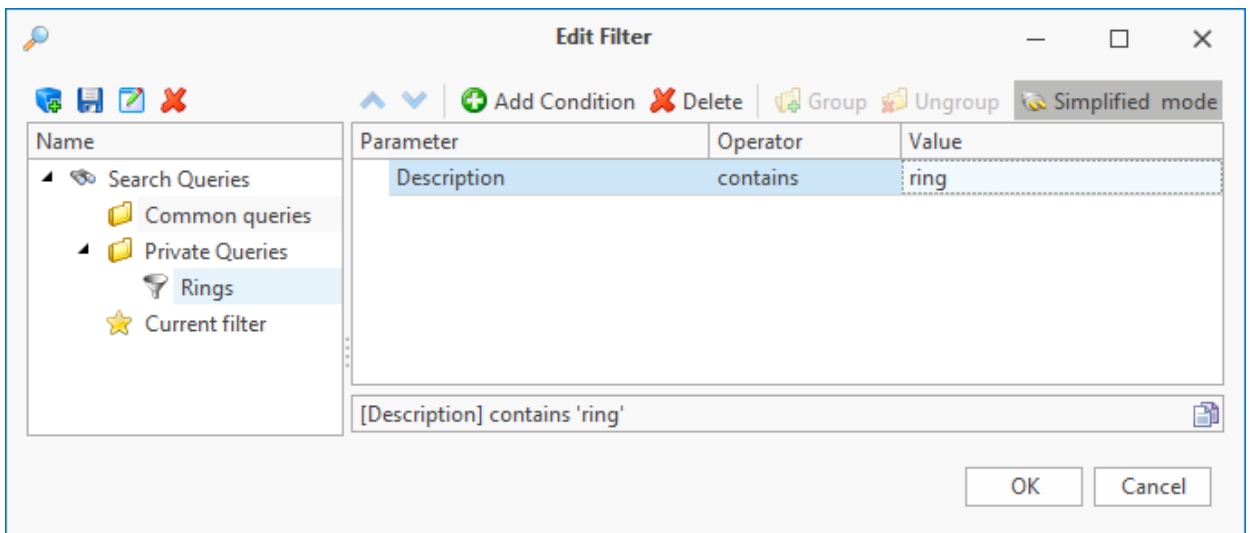


3. Sort the data – objects may be graded by ascending or descending values of one or several parameters.

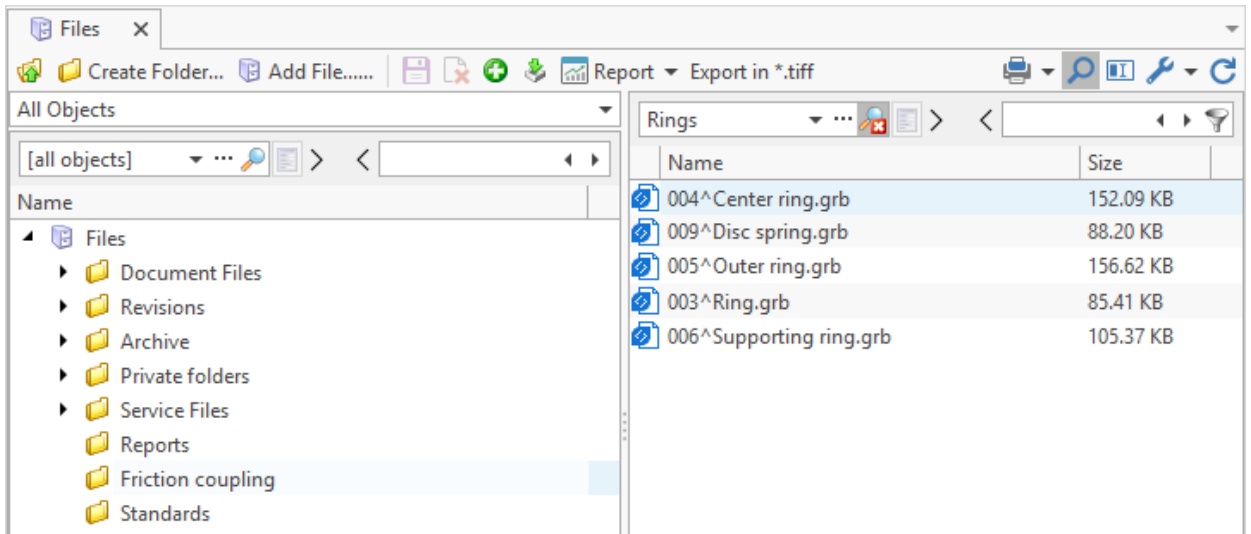
- Group the data – for convenience the objects of T-FLEX DOCs dataset may be classified by one or several parameters. As a result, the objects will be divided into groups by corresponding parameters values in the selected column.



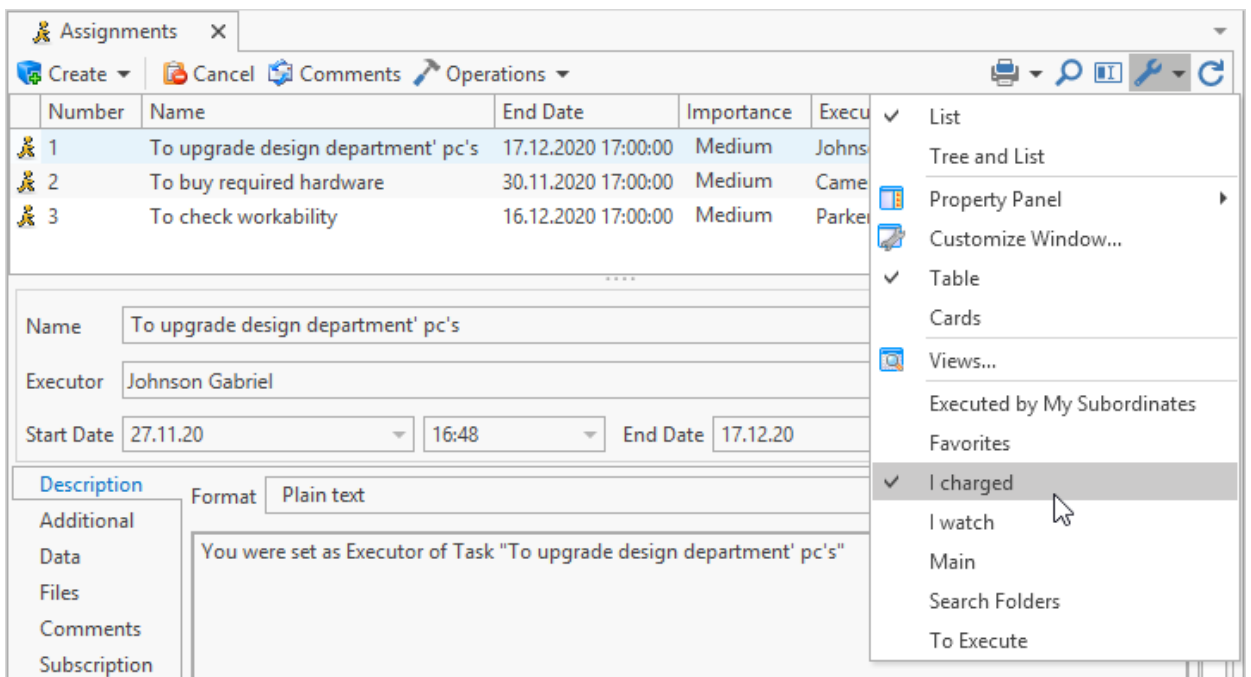
- Filter the data in various ways – objects in the dataset window may be filtered by set conditions.



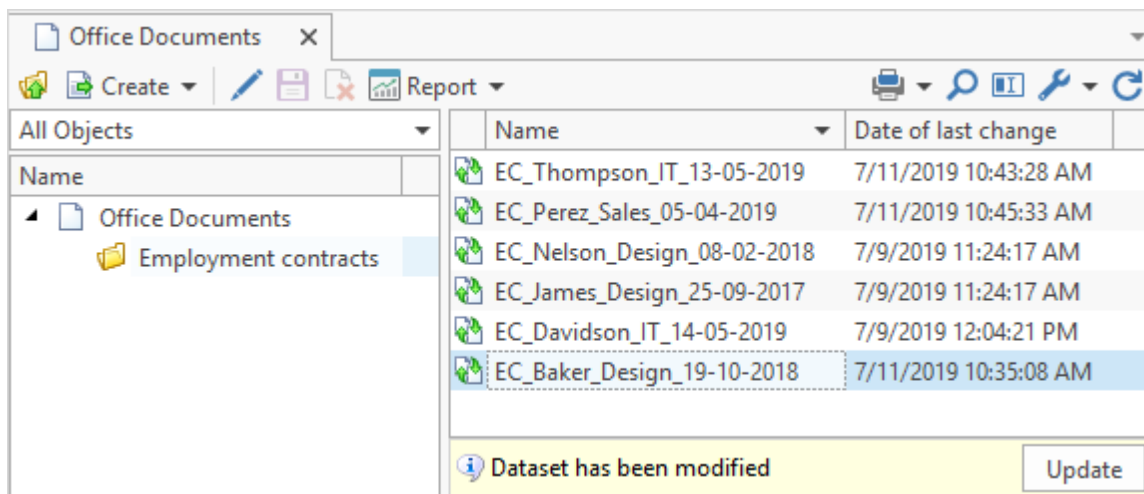
Objects can be filtered as the dataset opens or in the opened work window via automatic filters and search panel.



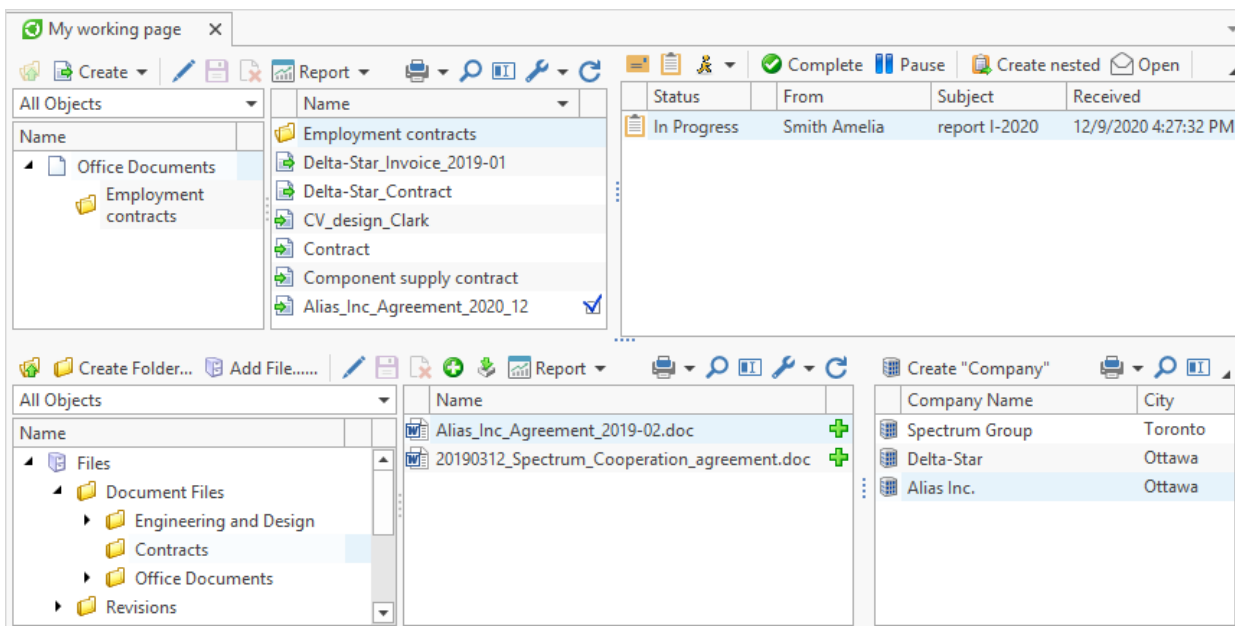
6. Save work window view – T-FLEX DOCs makes it possible to save data display settings in the work window for each dataset. To do that, use display views. Each dataset may have several views.



7. Setup notifications on changes in a dataset – any changes in a dataset (object creation, deleting or editing) made by other users of the system: the system displays a message to update the current window in the bottom part of it.



8. Create custom work pages – windows where all necessary data will be collected and located in a convenient for a user way. Moreover, work page is intended both for reviewing various data (text, pictures, dataset windows, mail, browser, etc.) and for management of these data (buttons, boxes).



More information on data display settings in dataset window is provided in the Section ["Setup of data display in windows"](#).

Typical system application for various business activities

Shared information space

T-FLEX DOCs makes it possible to manage data about a product in the company's shared information space which covers all business activities and company's services. Data about product means documents, product development processes and production startup, scheduling of production or fulfilment of an order, as well as product maintenance, introduction of changes into product's structure during maintenance.

Shared information space of the company managed by T-FLEX DOCs is:

- Single structure of departments and users.
- Unified management of users' access permissions which provides safe keeping and high security level for data.
- Unified administration tools for all systems and data management.
- Secure file storage.
- Data validity and actuality.
- Safety, reliability and fail-safe information management system.
- Centralized management of company's archive and single base of reference data.
- Decrease of losses due to expired or lost information.
- Multiple access to documents and files.
- Quick search and review of documents.
- Integrated mail service with possibility to connect accounts of external mail services.
- Single tool for distribution and execution control of assignments.
- Automation of work processes with any objects of the system.
- Integration with various CAD systems and Microsoft Office products.
- Possibility to promptly draw up reports of any kind based on standard and custom templates.

T-FLEX DOCs flexibility (customizability) provides users' work places with specialized interfaced which corresponds to tasks to be solved and substantially improves workability by guarding the user from excessive information which disturbs user's work.

Following chapters will describe typical system applications for various business activities.

Organizational and administrative document flow

Addressed tasks:

- organization of internal communication with reference to data about items and orders;
- distribution of assignments, including operations not requiring executive document;
- assignment execution monitoring;
- automatic distribution of notifications;
- drafting the project of executive document;
- document project endorsement;
- signing executive document;
- document registration;
- allocation of the document for execution by corresponding person in charge;
- document execution monitoring;
- storage of executed documents in compliance with file nomenclature approved in the company;
- generation of summary reports based on logs and groups of objects;
- automation of standard procedures for document flow in the company (issue and endorsement of documents, etc.);
- creation and automation of unique procedures for document and data flow, as well as handling subprocesses;
- convenient document search system.

T-FLEX DOCs creates company's shared information space and makes it possible to organize efficient communication between company's departments and employees, as well as to set reliable data exchange channels for important information.

Management process in the company may be performed in following ways:

- simplified scheme ("assigned – executed") is not intended to issue executive documents and is applicable in small companies;
- enhanced scheme includes drafting, endorsement and signing of executive documents, as well as their registration in special logs and storage in compliance with file nomenclature.

In T-FLEX DOCs the assignment mechanism is intended to handle the simplified scheme. This

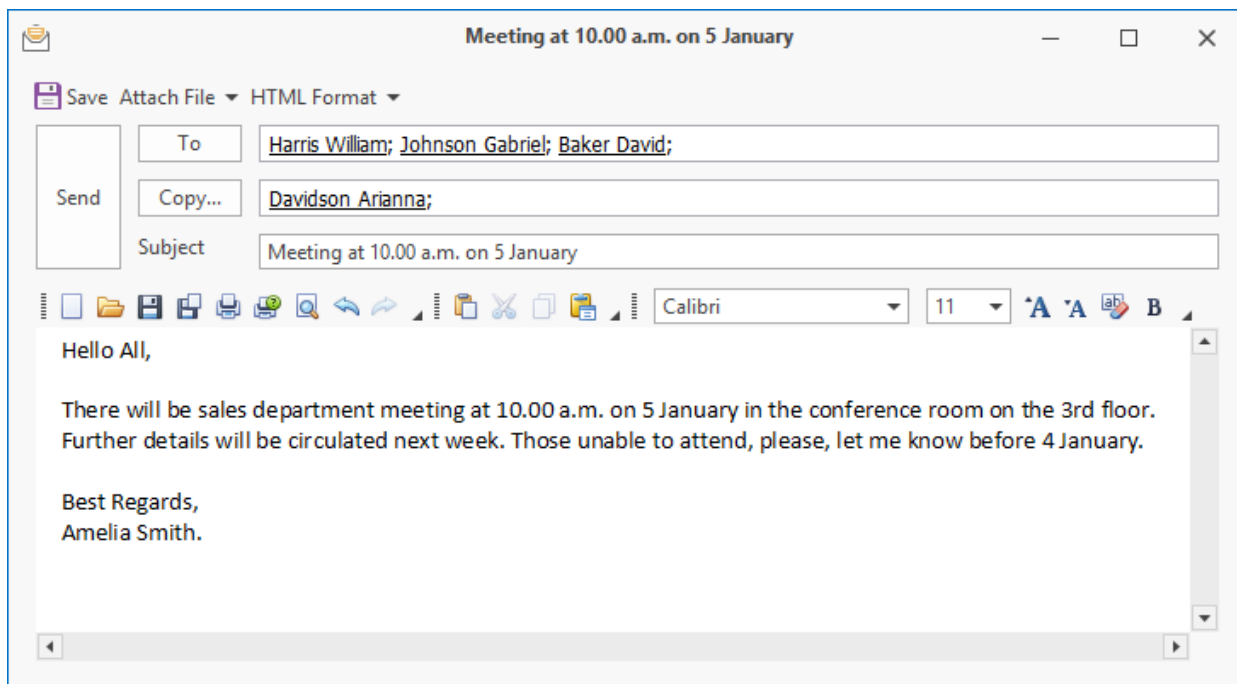
mechanism along with mail and tasks system is available to all the employees of the company.

Mail system window is used to review contents of users mail box.


Mail box contains following components:

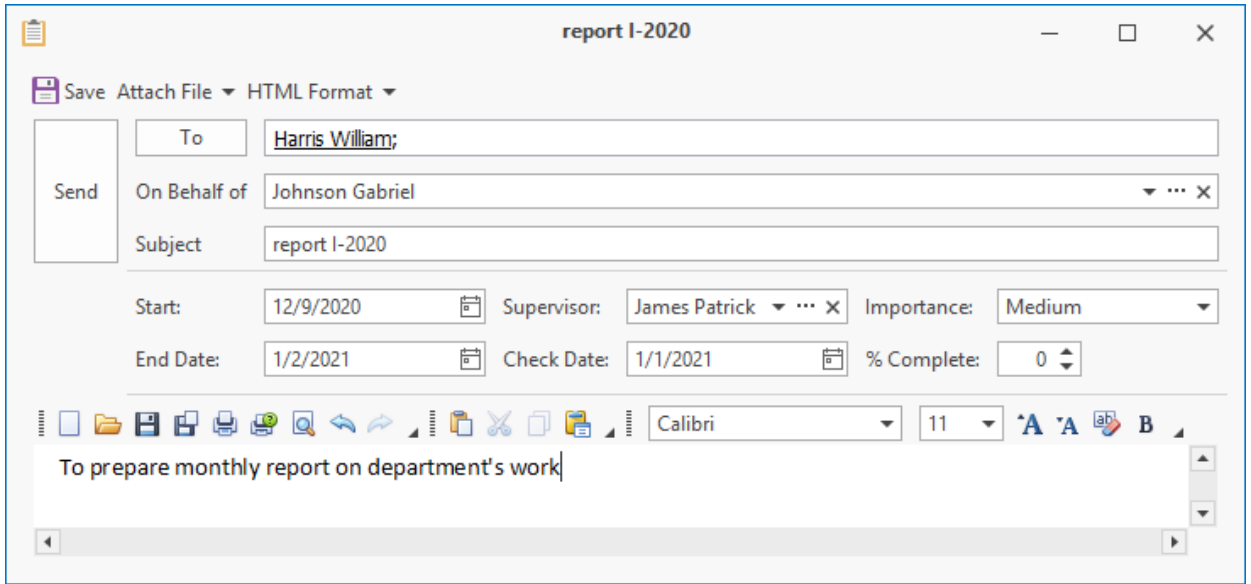
1. Message – used for internal communication and information exchange between users.

To create new message click  button on the window's toolbar.




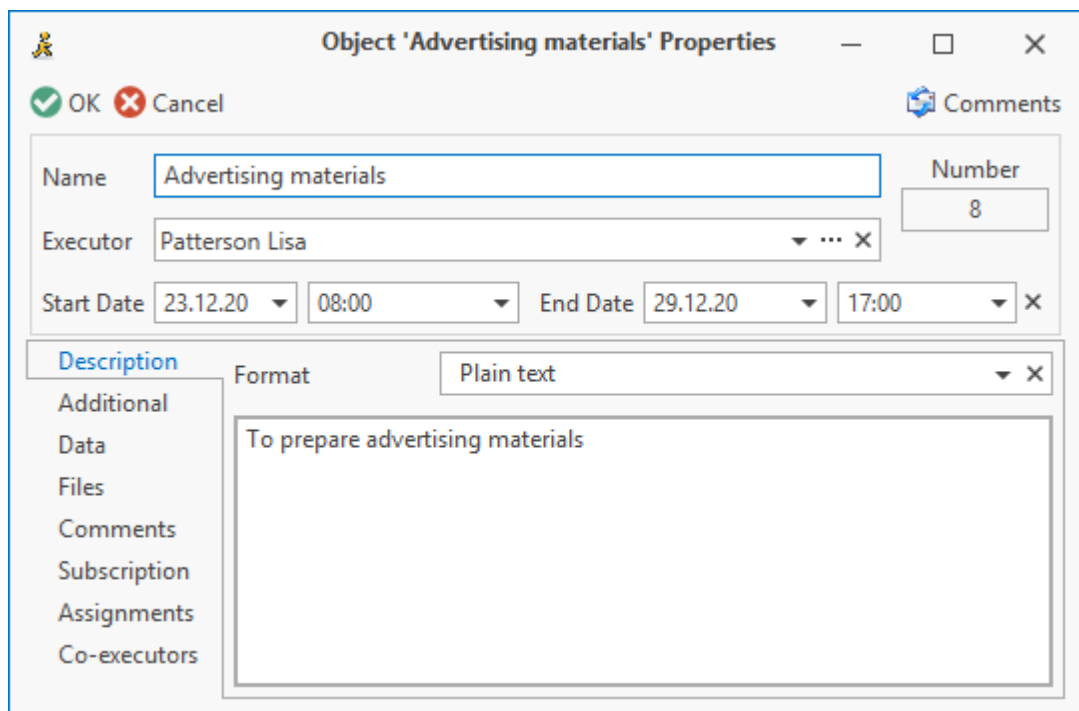
2. Task – unlike message requires to be executed. Contains time limit for execution and control period with inspector, if necessary. Only the person who assigned the task, executor and inspector can see the task. The person who assigned the initial task cannot see enclosed tasks.

To create new task, click  button in the window's toolbar.



3. Assignment – also requires to be executed. Unlike task the assignment is seen by all users of the system, not only the person who assigned it and executor. Any user of the system may add a comment to the assignment.

To create a new assignment, open the window of assignments tree, choose **Assignments** point on the **Mail** window toolbar and click  button on the window toolbar.

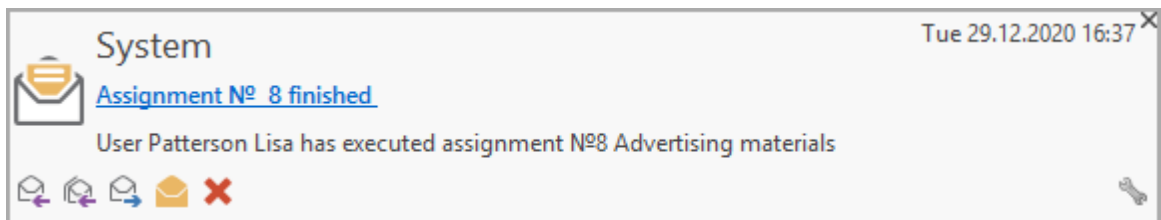


The advantage of the assignments mechanism is that the manager can monitor execution of the whole assignment chain.

To switch to browsing of assignments tree choose **Assignments** point on the **Mail** window toolbar.

Number	Name	End Date	Executor	State
6	Advertising in magazines	12/31/2020 5:00:00 PM	Smith Amelia	In progress
8	Advertising materials	12/29/2020 5:00:00 PM	Patterson Lisa	In progress
9	Advertising materials - text	12/29/2020 5:00:00 PM	Nelson Susan	In progress
10	Advertising materials - illustrations	12/29/2020 5:00:00 PM	Carter Ruby	New
12	Advertising materials - illustrations	1/21/2021 5:30:00 PM	Johnson Gabriel	New
13	Advertising materials - illustrations	1/21/2021 5:30:00 PM	Smith Amelia	Cancelled
14	Advertising materials - illustrations	1/21/2021 5:30:00 PM	Baker David	New
11	Advertising materials - illustrations	1/21/2021 5:30:00 PM		New
15	Problem with PC	12/30/2020 5:00:00 PM	Parker Daniel	New

Moreover T-FLEX DOCs automatically mails notifications concerning changes in the assignment status.

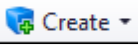


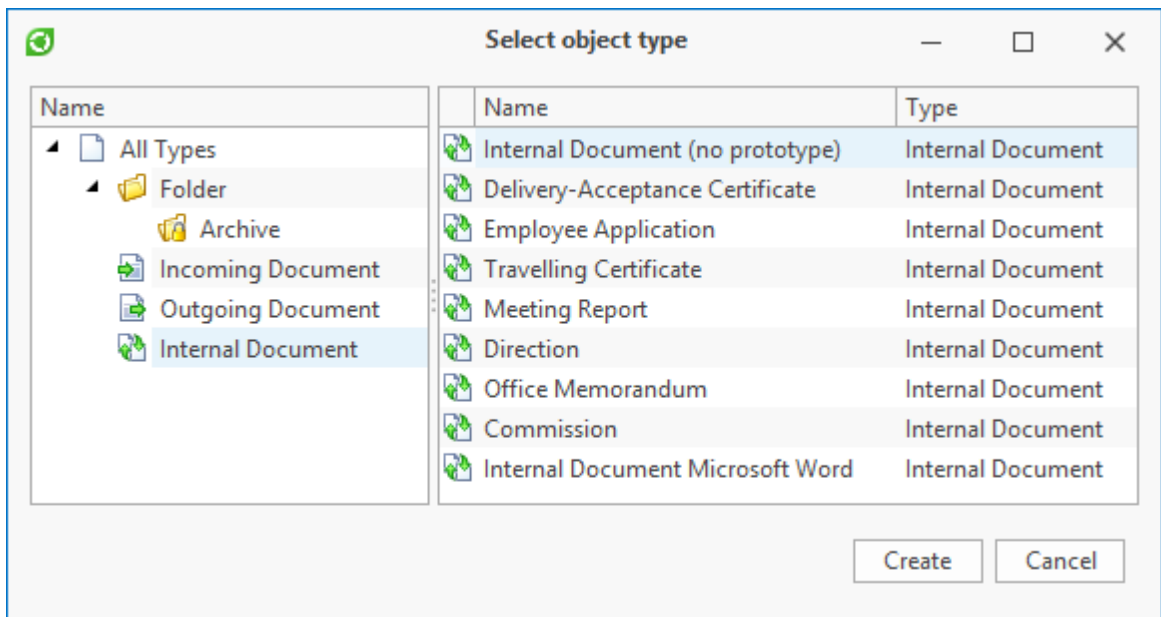
Additional materials, such as files or T-FLEX DOCs dataset objects may be attached to any of the mail components. This allows user to look through all materials required to execute assignment without wasting time on searching them in the system.

Organizations which maintain organizational and administrative document flow are offered with functions to manage documents from the moment they are received or created to execution or sending.

To draft internal and outgoing documents in T-FLEX DOCs, use "Files" and "Office Documents" datasets. "Office Documents" dataset contains particulates of the document, and "Files" dataset – content-based part of the document.

User can create document based on a prototype.

To create organizational and administrative document in the "Office Documents" dataset, click  button and choose the required type of the document.



In the window of document properties the particulars of the document are entered and the document file is attached from the "Files" dataset.

Object 'CV_design_Clark' Properties

OK Cancel

General For Archive Preview

Name: CV_design_Clark

Short Name:

Registration Number: 2020/1205-09 Registration Date: 12/22/2020

Parameters of the Sender

Sender Company:

Sender: Joshua Clark

Number of Sender: Date of Sender:

Number of Superior Office: Date of Superior Office:

Closing Parameters

Case Number:

Closing Number: Closing Date:

Mark about Execution:

Files

Name	Comment	Date modified
CV_design_Clark.docx	Joshua Clark. design engineer	12/22/2020 5:21:59 PM

The drafted document is transferred for endorsement and signing by mail system. T-FLEX DOCs allows to set e-signature on the document.

List of signatures set on the document may be reviewed by **Advanced > Signatures** option in the documents right-click menu.



Signature type	User	Signature Resolution	Signature date	Signature image
Agreed	Harris William		12/22/2020 5:46:20 PM	
Approved	Smith Amelia		12/22/2020 5:51:16 PM	

T-FLEX DOCs has tools which make it possible to automate standard document flow procedures at the company, e.g. document endorsement. In this case probability of organizational mistake decreases and participations of users in the process is minimal which allows to save time spend on performing repeatable actions.

In this case workflow is executed in compliance with preliminarily created and setup template (procedure) which includes statuses scheme, executors' assignments and introduction of works execution time limits, as well as custom dialogs to enter dynamic data.

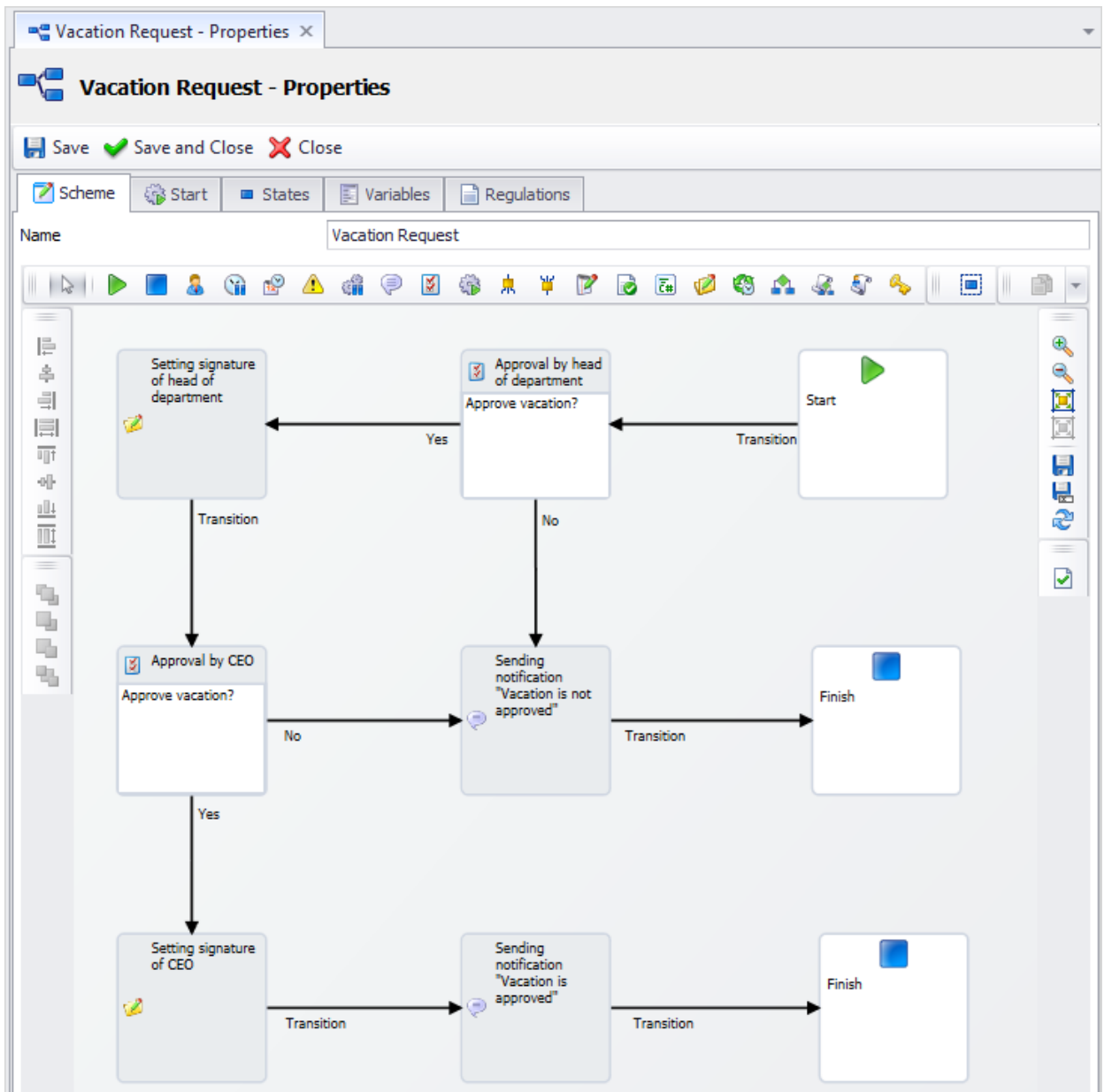
Development of schemes for workflows is performed in "Administrator" and "Developer" configurations.

Scheme of the procedure may include following statuses:

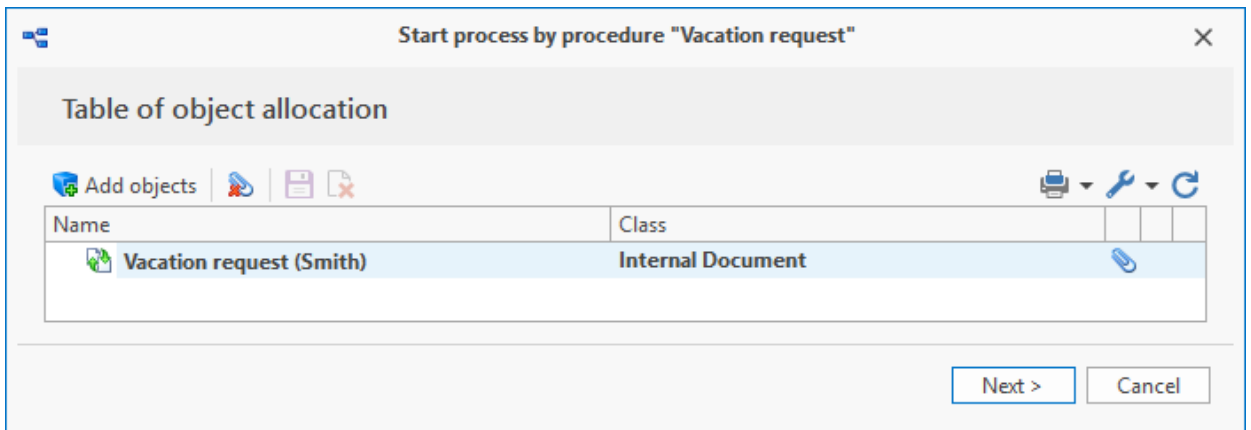
- execution of work by the executor,
- change of object's parameters,
- change of object's stage,
- change of access permissions to perform actions with an object,
- endorsement,
- signature,
- mailing of notifications,
- macro startup,
- subprocess startup, etc.

Corresponding tasks will be created and sent to executors within the statuses of a workflow which requires user's participation.

Regulatory documents (objects of various datasets) may be attached to the procedure as reference information.



Process can be launched by any user of the system who has corresponding access. To launch workflow for created procedure, a separate option of the right-click menu is set. Workflow can also be launched automatically depending on the system settings.

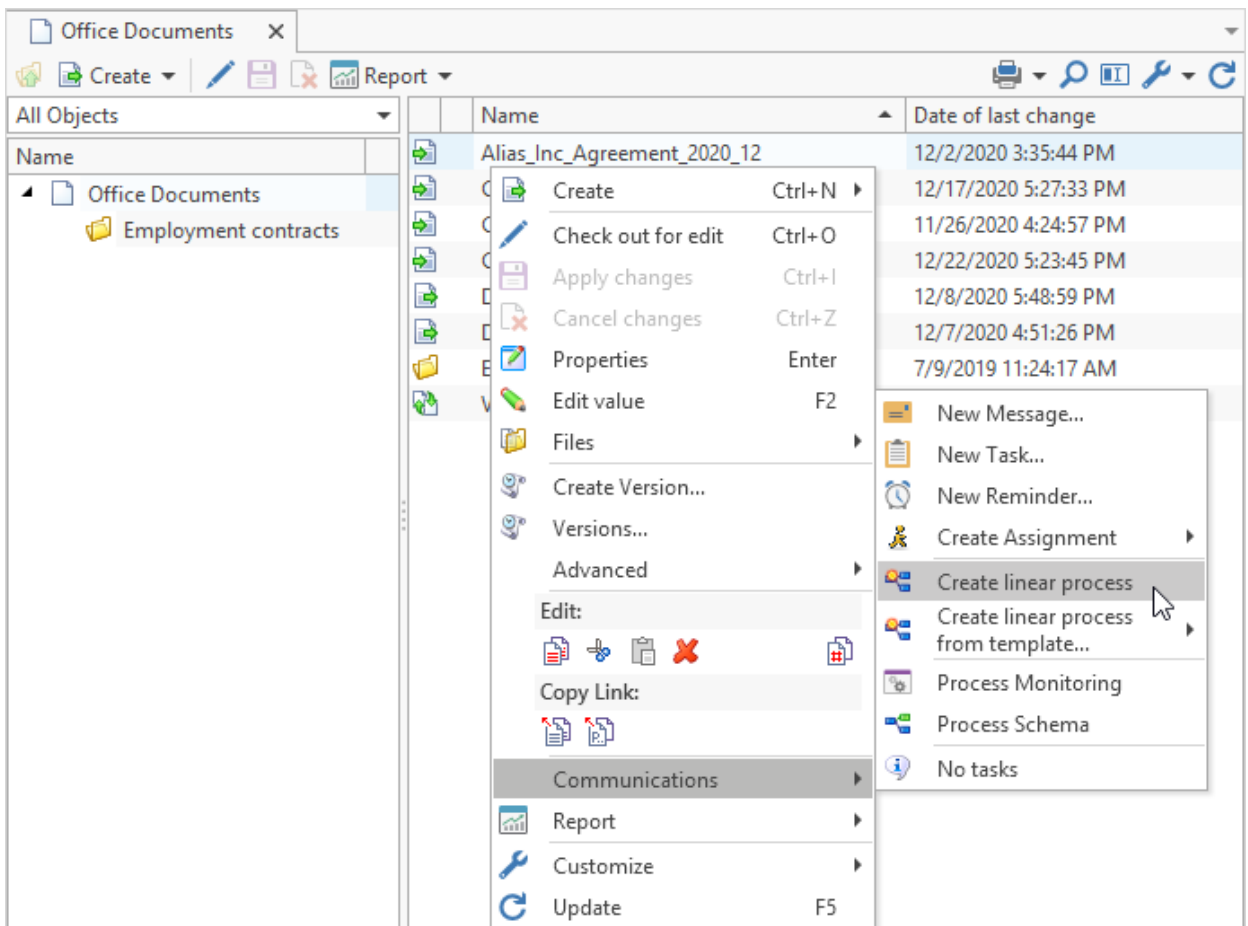


Simplified option of standard workflow procedure is linear workflow procedure. Any user can create linear procedure and launch execution of a workflow.

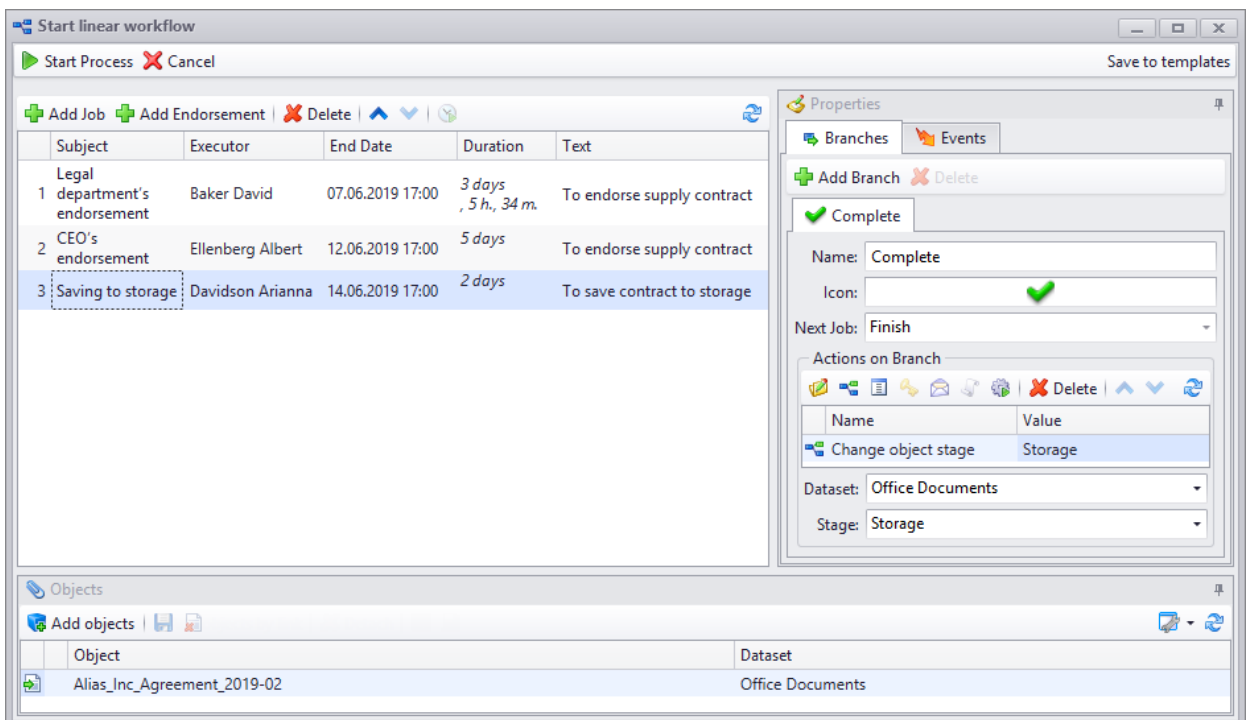
Created linear procedure is located in the "Procedures" dataset only until the workflow launched within it is executed. Then it is deleted. However, it can be saved as a prototype so it can be used again.

Linear process can be quickly created and launched via right-click menu of any object.

To do that, use option **Communications > Create linear process**.



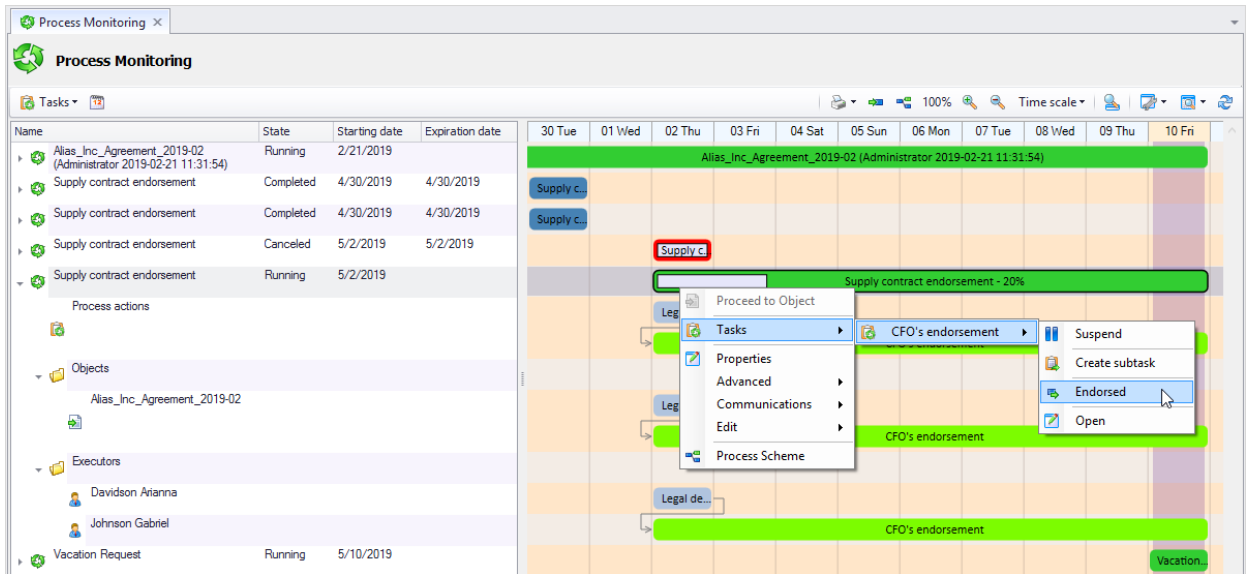
Unlike usual procedure, linear workflow procedure has simpler interface represented as a list of works with transitions.



There is a special control component to monitor workflow execution – process monitor. This

control component may be located on the user's work page.

Process monitor displays workflows and their works on the time-base diagram. It allows both to review information about current status of process components and to manage them via right-click menu options.



T-FLEX DOC's designer of reports make it possible to draft various reports based on custom templates.

"Reports Designer" module is required for creation and editing templates of reports.



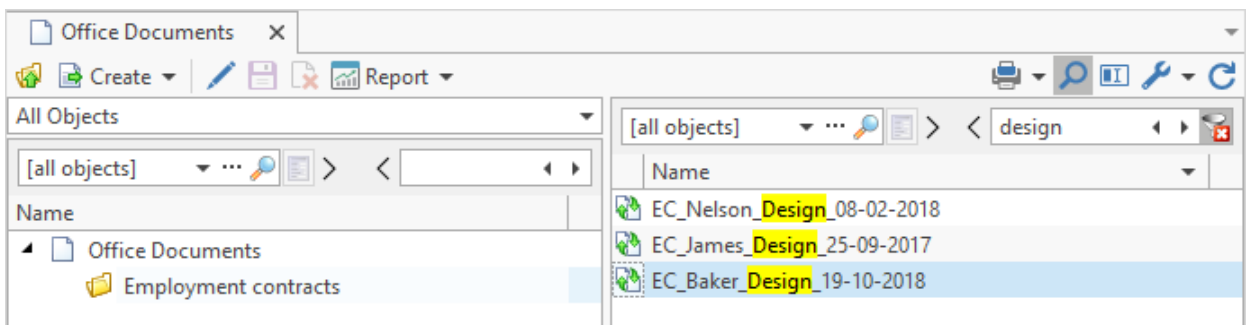
Hence, corresponding setup provided a user can draft reports based on logs or group of objects.

Name	List of employment contracts	Author of last change
EC_Thompson_IT_13-05-2019	7/11/2019 10:43:28 AM	Smith Amelia
EC_Perez_Sales_05-04-2019	7/11/2019 10:45:33 AM	Smith Amelia
EC_Nelson_Design_08-02-2018	12/22/2020 4:23:37 PM	Harris William
EC_James_Design_25-09-2017	12/22/2020 4:23:47 PM	Harris William
EC_Davidson_IT_14-05-2019	7/9/2019 12:04:21 PM	Johnson Gabriel
EC_Baker_Design_19-10-2018	7/11/2019 10:35:08 AM	Johnson Gabriel

T-FLEX DOCs also provides convenient search system for documents and various reference data. Following tools are used:

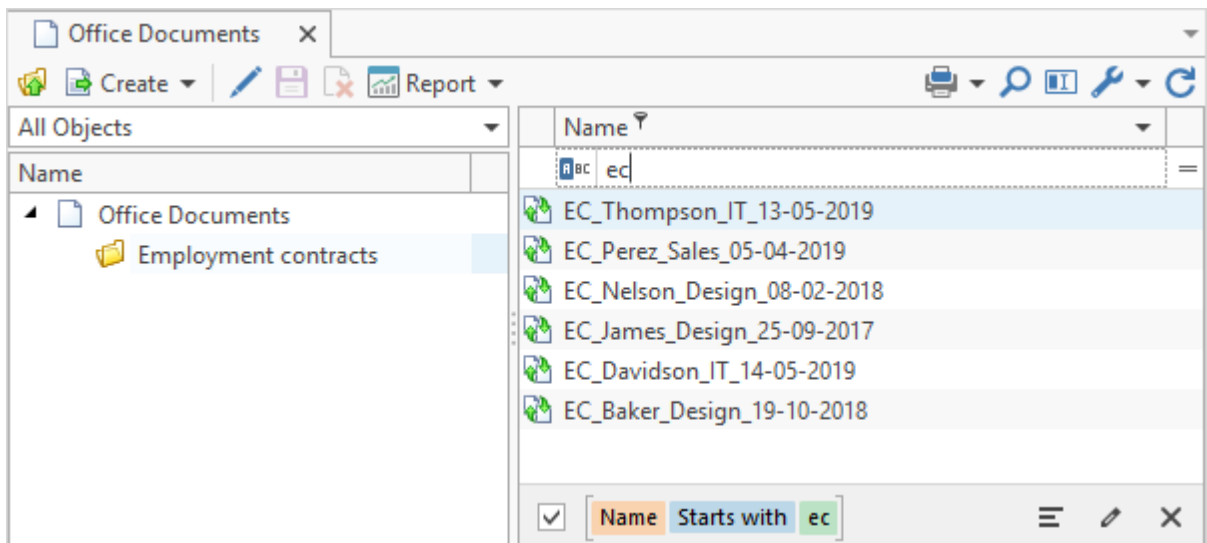
1. search bar in the dataset window;

To open search panel click button on the toolbar.



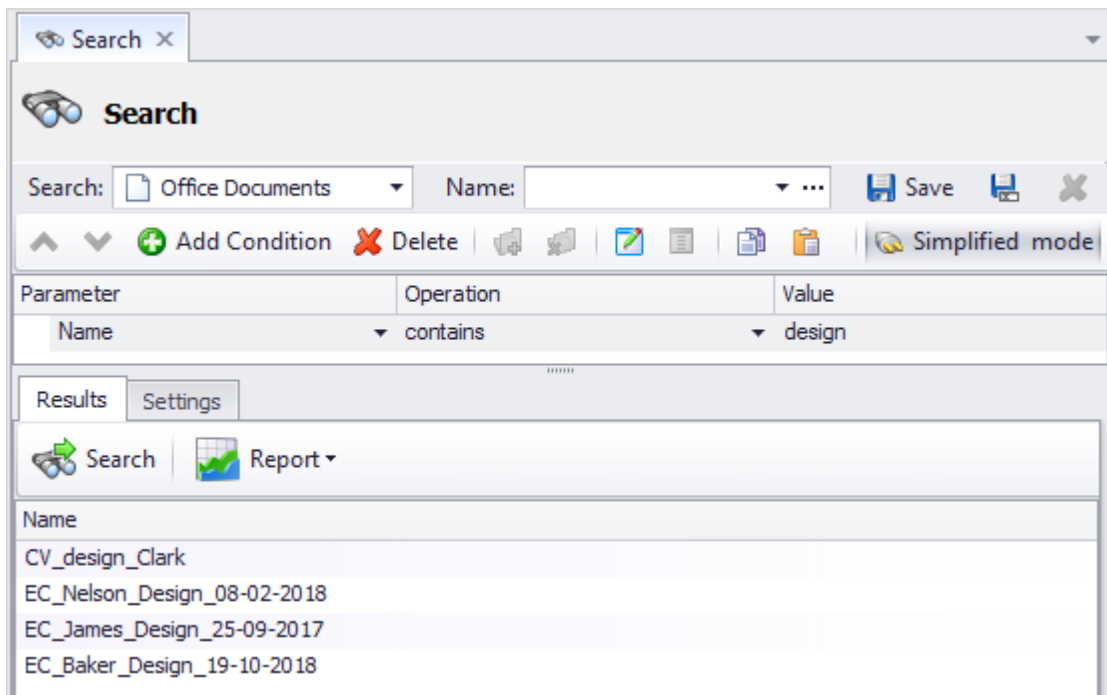
2. auto filter string in the dataset window;

To open, use option **Show auto filter toolbar** in the right-click menu of the data column titles string.



3. search query, etc.

To go to creation of search query, use main menu option **View > System window > Search**.



Thereby T-FLEX DOCs organizes single space for processing data at the company, contains single tool for distribution and control of execution of assignments, as well as simple and clear automation tools for workflows.

T-FLEX DOCs makes it possible to organize convenient processing incoming and outgoing correspondence, management of company's internal document flow in compliance with files management standards.

Reference information

Addressed tasks:

- simple and convenient work with reference information;
- uniformity of stored data and uniqueness control of key parameters;
- convenient search and review of the documents;
- assignment of permission accesses which excludes possibility to intentionally or accidentally damage the data;
- generation of reports.

Reference information – information which is not subject to substantial changes during routine activity of the company.

T-FLEX DOCs provides functions for management of reference information due to which all

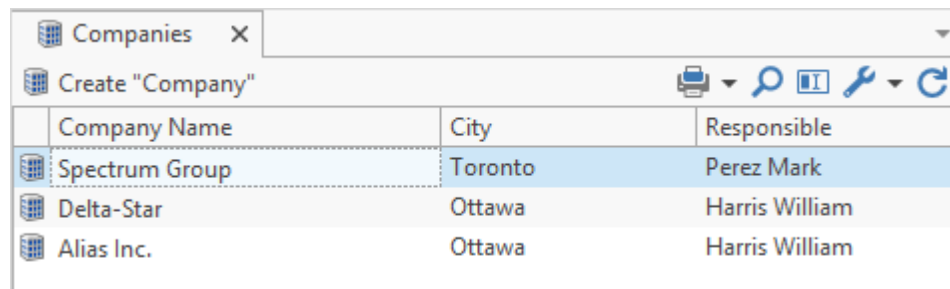
departments of the company have access to the same valid information and are able to take more efficient decisions.

Management of reference information entails all activities of the company and all stages of the product's lifecycle: development of product, calculations and analysis, pre-production, manufacture of product, its operation and disposal.

Reference information can be displayed both as datasets objects and as files.

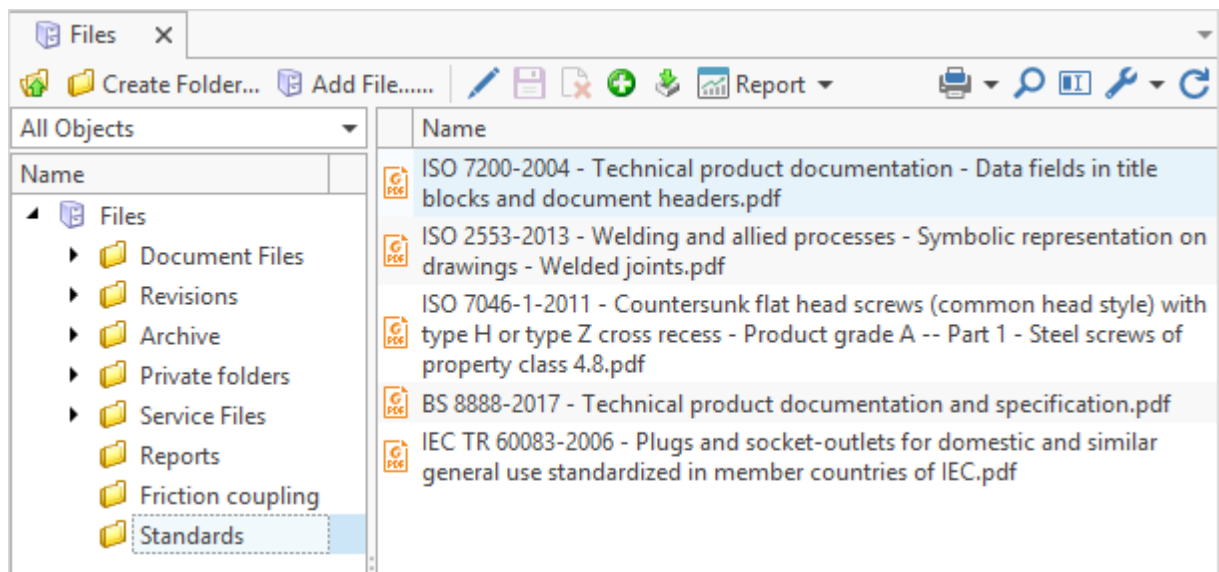
Examples of reference information are the following:

1. Single base of contractors.



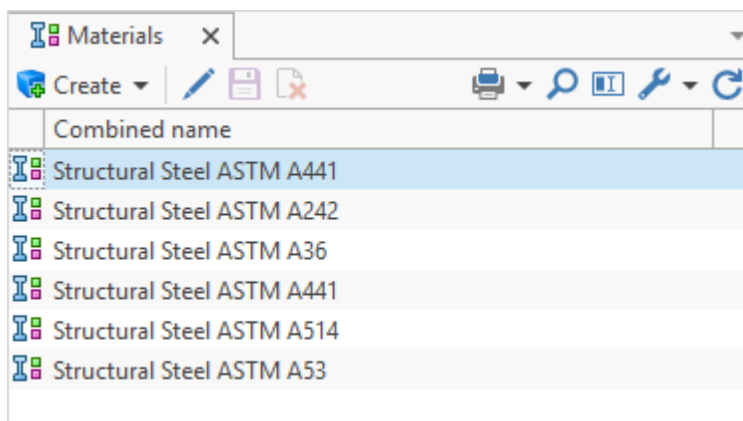
Company Name	City	Responsible
Spectrum Group	Toronto	Perez Mark
Delta-Star	Ottawa	Harris William
Alias Inc.	Ottawa	Harris William

2. Various standards and regulations.



Name
ISO 7200-2004 - Technical product documentation - Data fields in title blocks and document headers.pdf
ISO 2553-2013 - Welding and allied processes - Symbolic representation on drawings - Welded joints.pdf
ISO 7046-1-2011 - Countersunk flat head screws (common head style) with type H or type Z cross recess - Product grade A -- Part 1 - Steel screws of property class 4.8.pdf
BS 8888-2017 - Technical product documentation and specification.pdf
IEC TR 60083-2006 - Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC.pdf



3. List of employed materials at the company.



T-FLEX DOCs provides possibility of unified data entry and uniqueness conditions checkup during entry. This is convenient if user works with data and allows to avoid duplication of data and, hence, related mistakes.

Data in T-FLEX DOCs may be connected with each other and form shared information space where all users of the system work. Assignment of permission accesses excludes possibility to intentionally or accidentally damage the data.

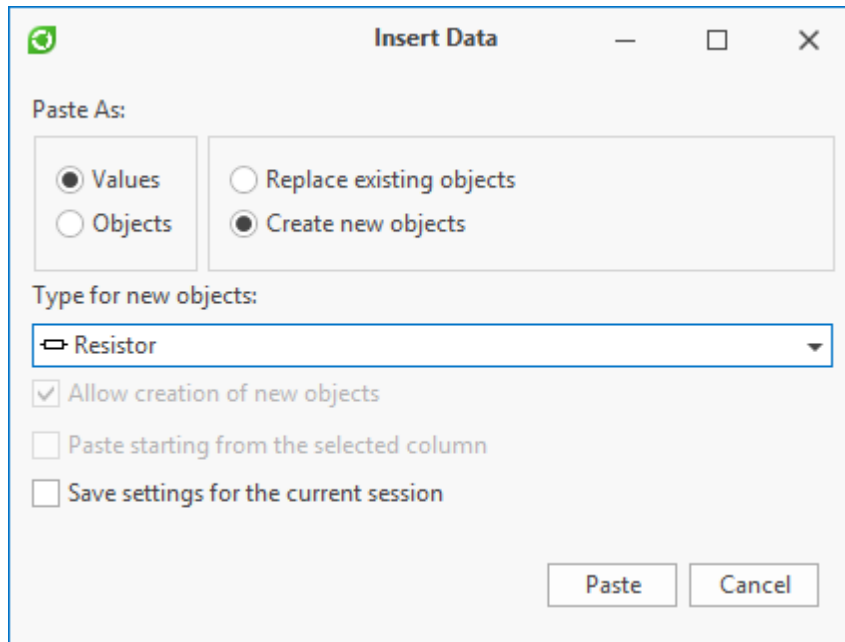
Import and paste of tabular data functions can be used during maintenance of reference data in T-FLEX DOCs.

To import files and folders from user's computer to the "Files" dataset, use  and  buttons on the toolbar of the dataset window.

Data from an external application which handles work with tables, e.g. Microsoft Excel, can be copied to T-FLEX DOCs via clipboard.


Select values to be copied and use right-click menu option **Copy**.

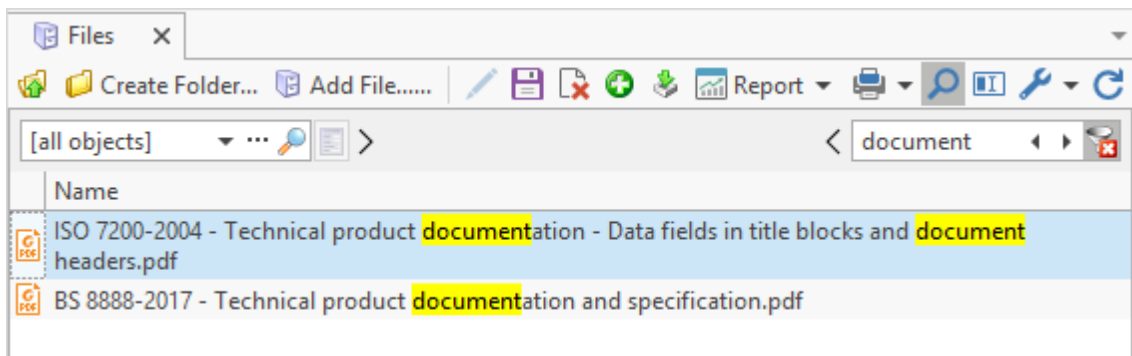
To paste data use right-click menu option **Edit > Paste**.



T-FLEX DOCs provides convenient search for documents and various reference information in the system. To do this, use following tools:

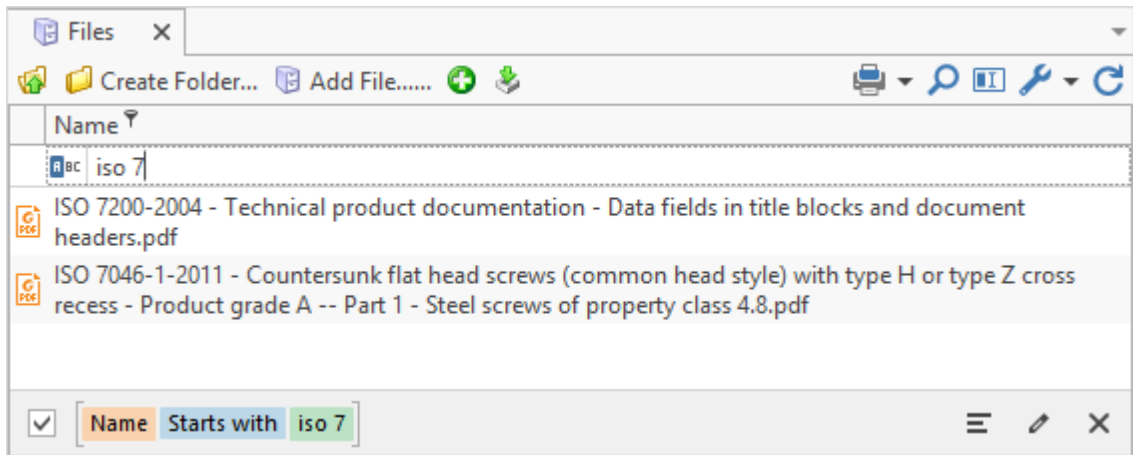
1. search panel in the dataset window;

To open search panel, click  button on the toolbar.



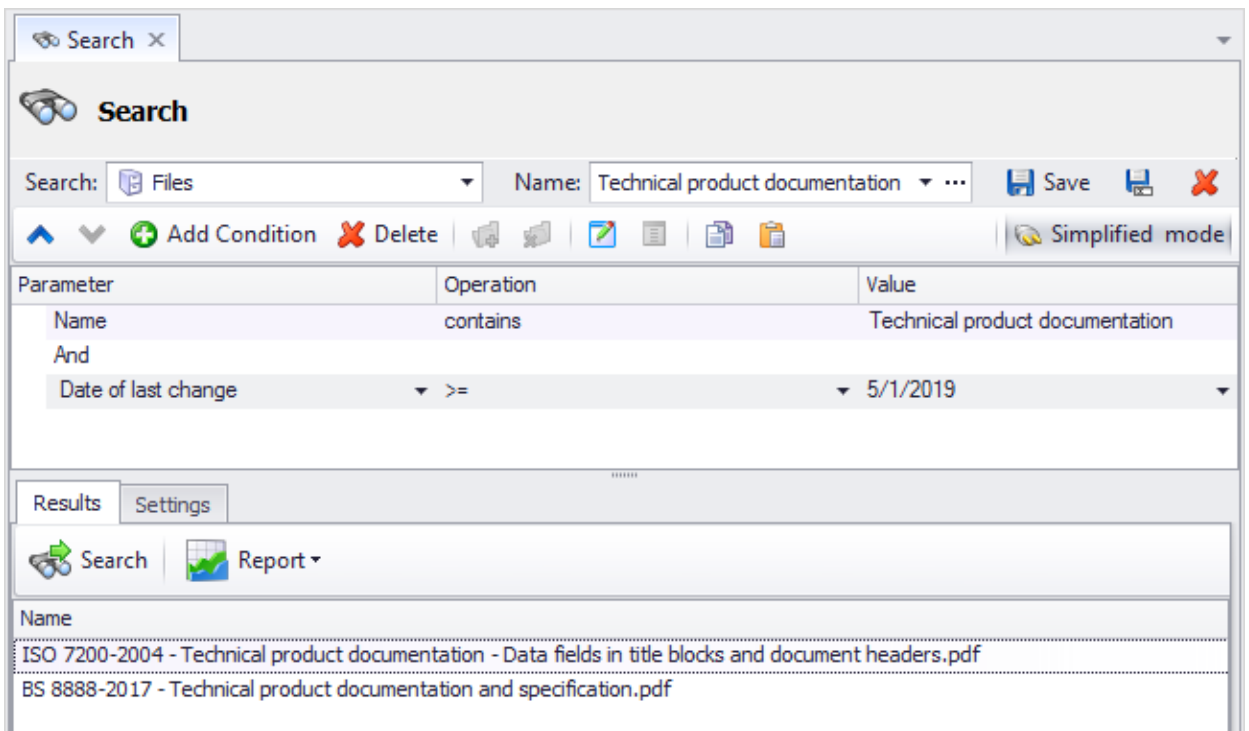
2. auto filter string in the dataset window;

To open, use option **Display auto filter** in the right-click menu of the data column titles string.



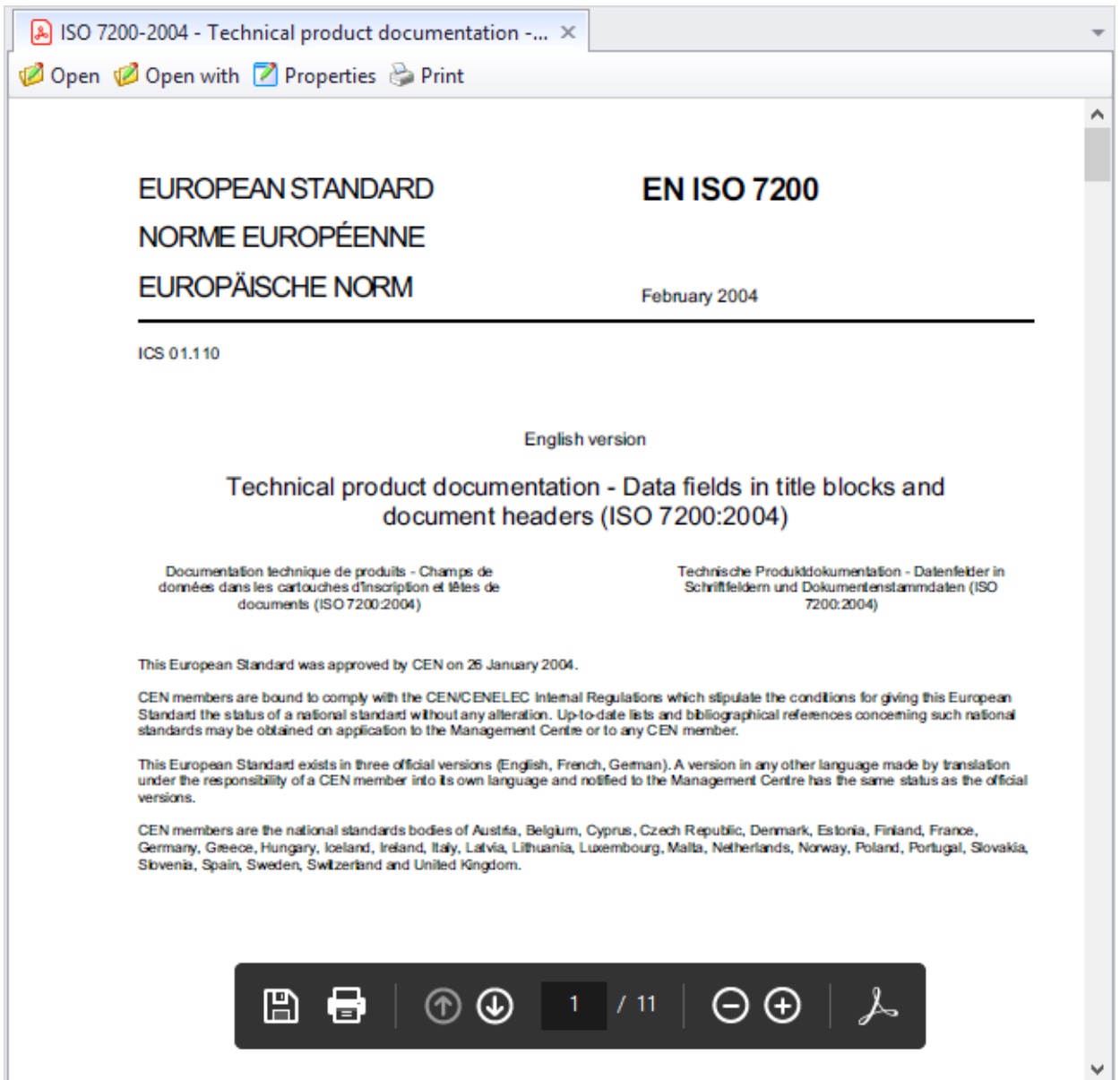
3. search query, etc.

To go to creation of search query, use main menu option **View > System window > Search**.



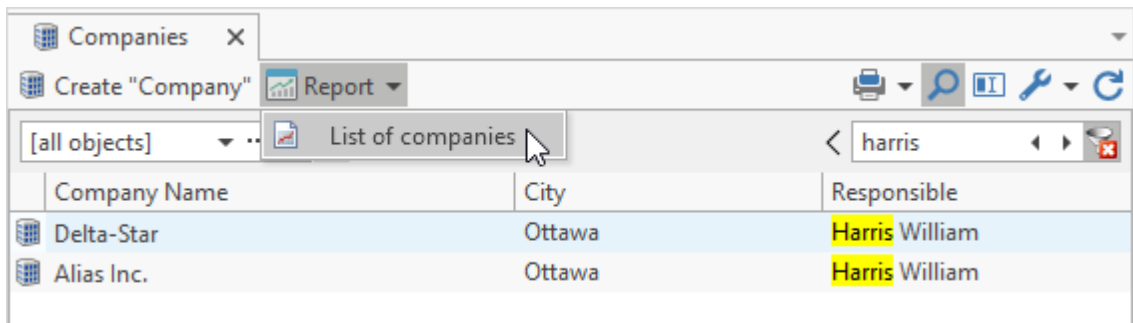
T-FLEX DOCs has in-built modules for browsing files of various formats. This allows to review quickly a file's contents from the "Files" dataset in the T-FLEX DOCs window. If necessary, file can be opened in external application installed on the user's computer.

To open T-FLEX DOCs browse window, use file's right-click menu option **Preview**.



T-FLEX DOCs Reports Designer makes it possible to draft various reports based on custom templates.

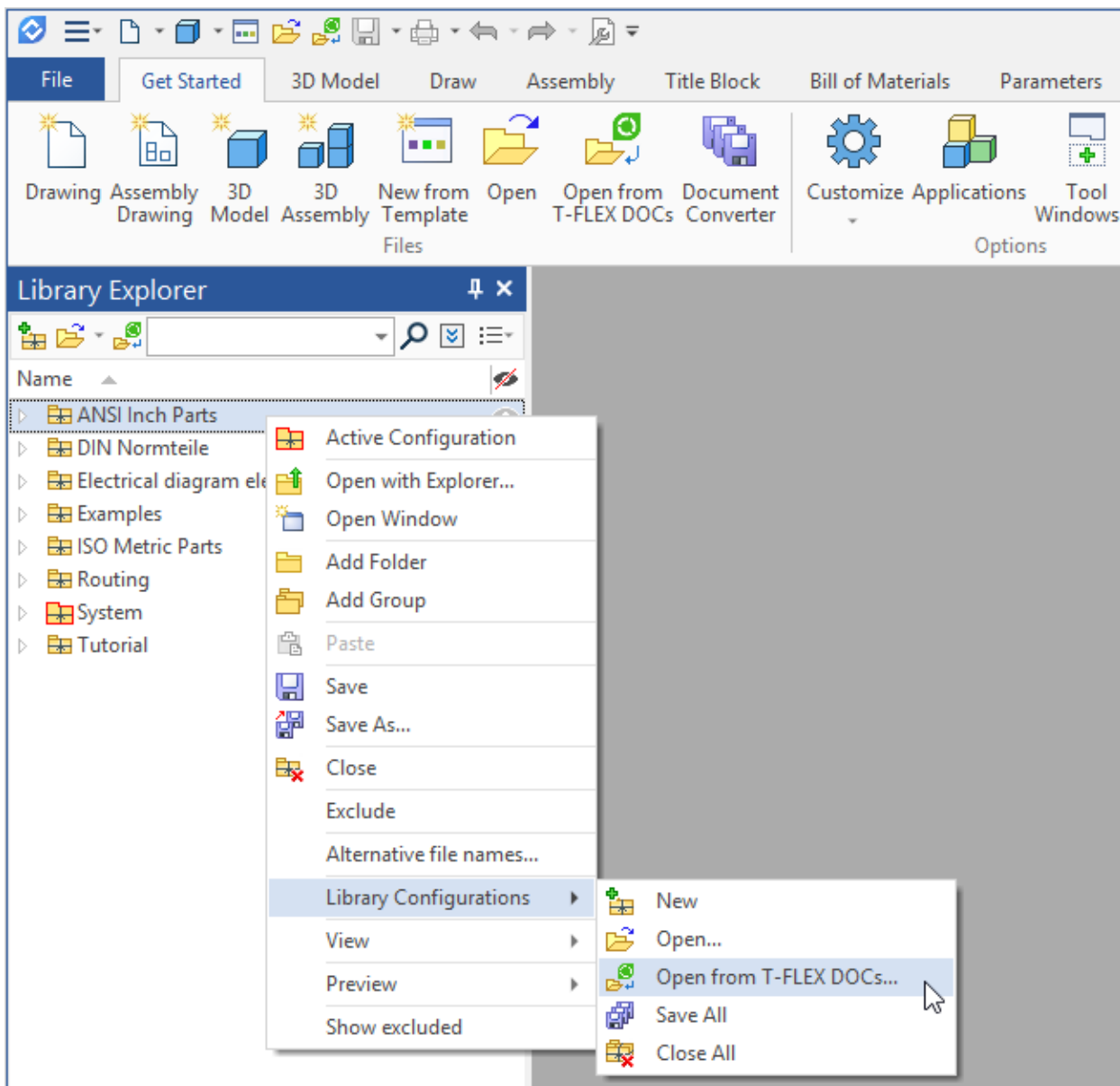
To develop and edit templates of reports "Reports Designer" module is required.



In the integration mode for T-FLEX CAD and T-FLEX DOCs reference information for structural engineer is represented by libraries of standard components and dataset of materials

employed at the enterprise.

It is necessary to download required libraries to T-FLEX DOCs first and connect them and dataset of materials to T-FLEX CAD.



After required libraries and the T-FLEX DOCs dataset of materials are connected, structural engineer can use them when creating T-FLEX DOCs parts and assemblies. In this case following transition of T-FLEX DOCs data from T-FLEX CAD will be correct.

Thereby, T-FLEX DOCs provides reliable storage, uniqueness and convenient controlled access to reference information.

CRM

Addressed tasks:

- maintenance of single base of contractors;

- possibility of prompt receipt of all the information connected with certain contractor: contact details, contracts, invoices, supplies, etc.;
- management of marketing and sales;
- prompt collection and review of any analytical information and convenient means for drafting reports;
- tools for automation of main workflows for communication with contractors;
- maintenance of office paper document flow;
- optimization of communications within company.

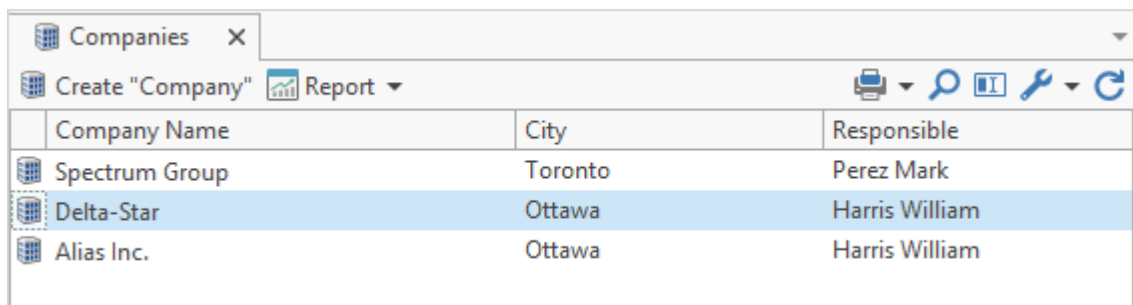
For Customer Relationship Management (CRM) T-FLEX DOCs offers solution which makes it possible to monitor quickly and efficiently all required information about business customers, contacts, contracts, issued invoices and products supplies.

This solution entails tasks concerning materials supplies to the company and all post-production stages of product's lifecycle. The solution is available for employees of marketing and sales departments, planning and economic department, as well as managers of the company.

T-FLEX DOCs "Office" configuration provides tools for customer relationship management.

"Companies" dataset is provided to maintain single base of contractors.

This dataset is located in the "CRM datasets" group.



Company Name	City	Responsible
Spectrum Group	Toronto	Perez Mark
Delta-Star	Ottawa	Harris William
Alias Inc.	Ottawa	Harris William

"Companies" dataset is connected to other datasets of the group. It provides possibility to get promptly all the information concerning certain company.

When new company is added to the base following information is required to be entered in its properties window:

- name and location,
- contact details,
- postal address,
- particulates used in documents, including banking details,

- various additional information.

To add new company click  Create "Company" button.

Object 'Spectrum Group' Properties

OK Cancel

Information Additional Information for Documents

Company Name

Name for Documents

City ... X Company Code

Headquarters ... X

Phone Number 1 E-mail Address

Phone Number 2 Website

Phone Number 3 Fax

Mobile Number

Main Contact Person

Main Contact Person ... X

Phone Number E-Mail


Responsible ... X

Author Creation Date

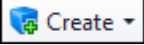
Updated By Updated Date

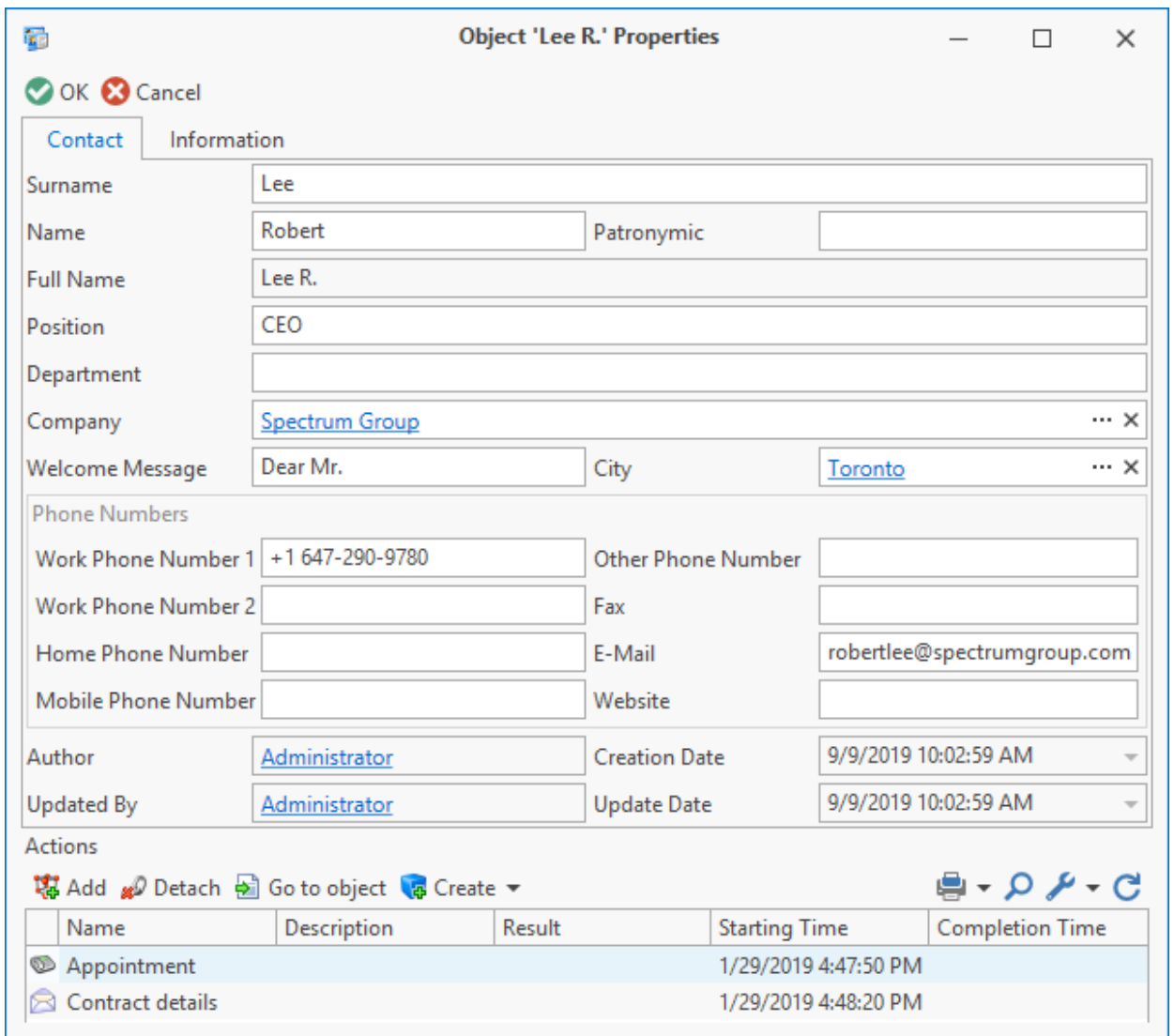
Contacts Contracts (Responsible) Contracts (Customer) Actions

Add Detach Go to object Create Print Search Tools Refresh

Full Name	Surname	Name	Patronymic	Position
 Lee R.	Lee	Robert		CEO

T-FLEX DOCs also allows to maintain list of contact persons of the company.

To do this, use **Contacts** tab in the window of company's properties. New contact's details can be added to the list by  button.



Object 'Lee R.' Properties

OK Cancel

Contact Information

Surname: Lee

Name: Robert Patronymic:

Full Name: Lee R.

Position: CEO

Department:

Company: [Spectrum Group](#) ... X

Welcome Message: Dear Mr. City: [Toronto](#) ... X

Phone Numbers

Work Phone Number 1: +1 647-290-9780 Other Phone Number:

Work Phone Number 2: Fax:

Home Phone Number: E-Mail: robertlee@spectrumgroup.com

Mobile Phone Number: Website:

Author: [Administrator](#) Creation Date: 9/9/2019 10:02:59 AM

Updated By: [Administrator](#) Update Date: 9/9/2019 10:02:59 AM

Actions

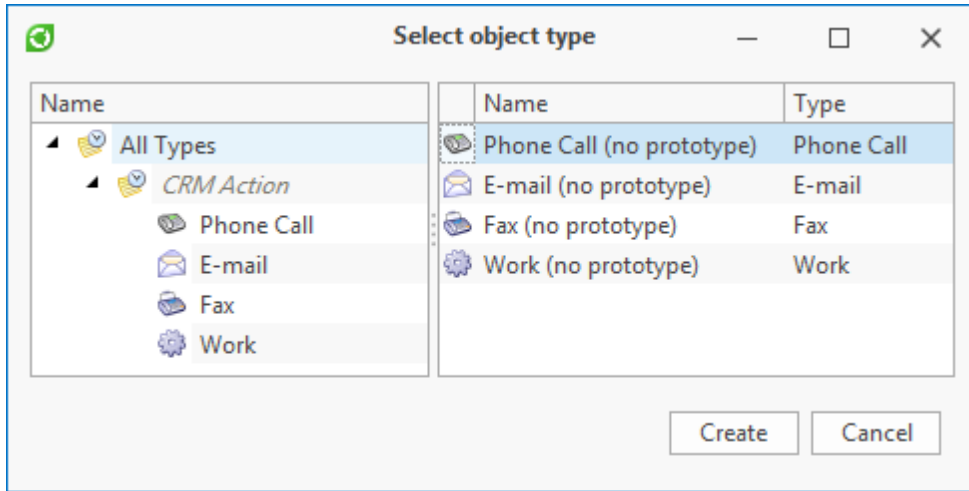
Add Detach Go to object Create

Name	Description	Result	Starting Time	Completion Time
Appointment			1/29/2019 4:47:50 PM	
Contract details			1/29/2019 4:48:20 PM	

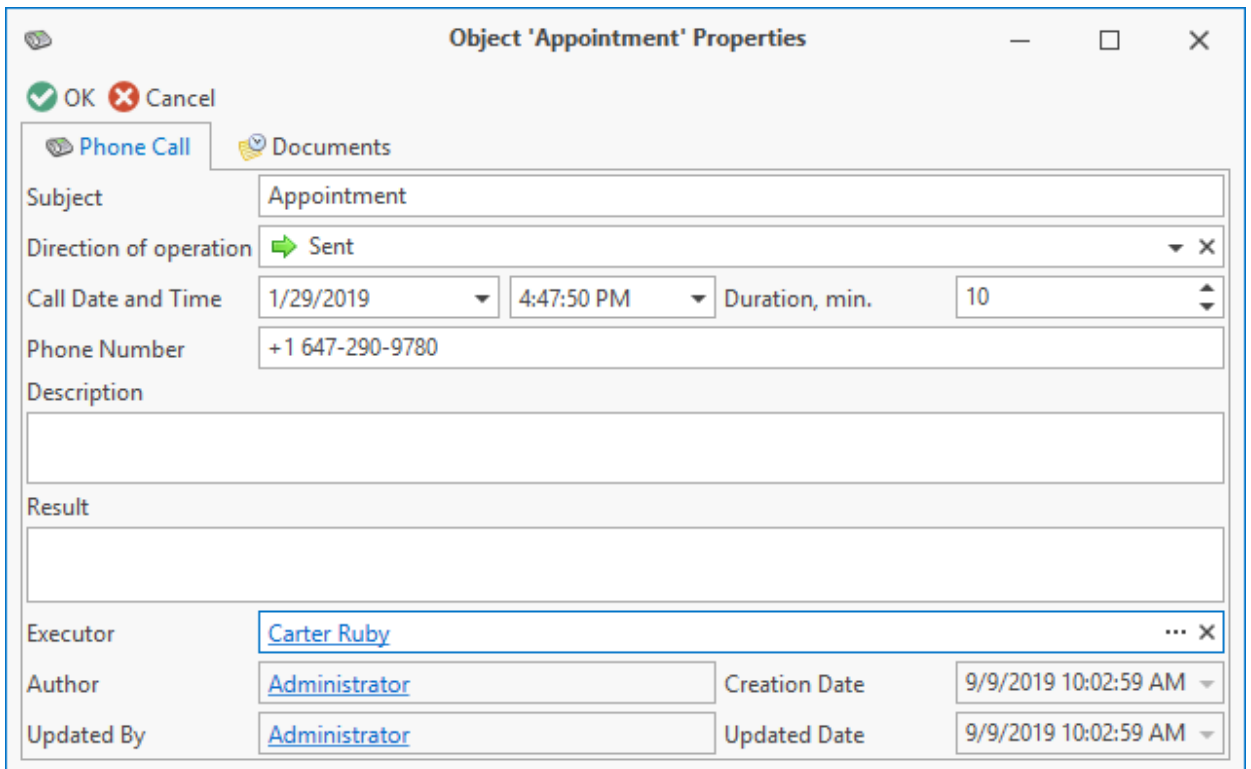
Later the "Companies" dataset can be used not only for search and browse of required information but also for keeping records of communications with contractors.

For example, incoming calls can be processed in the following way: at the incoming call manager finds the organization in the dataset and in the window of its properties, creates new object in the connected "Actions" dataset.

To do this, switch to **Actions** tab, click  button and select required type of object.




Contents and result of telephone conversation are entered in the opened window.

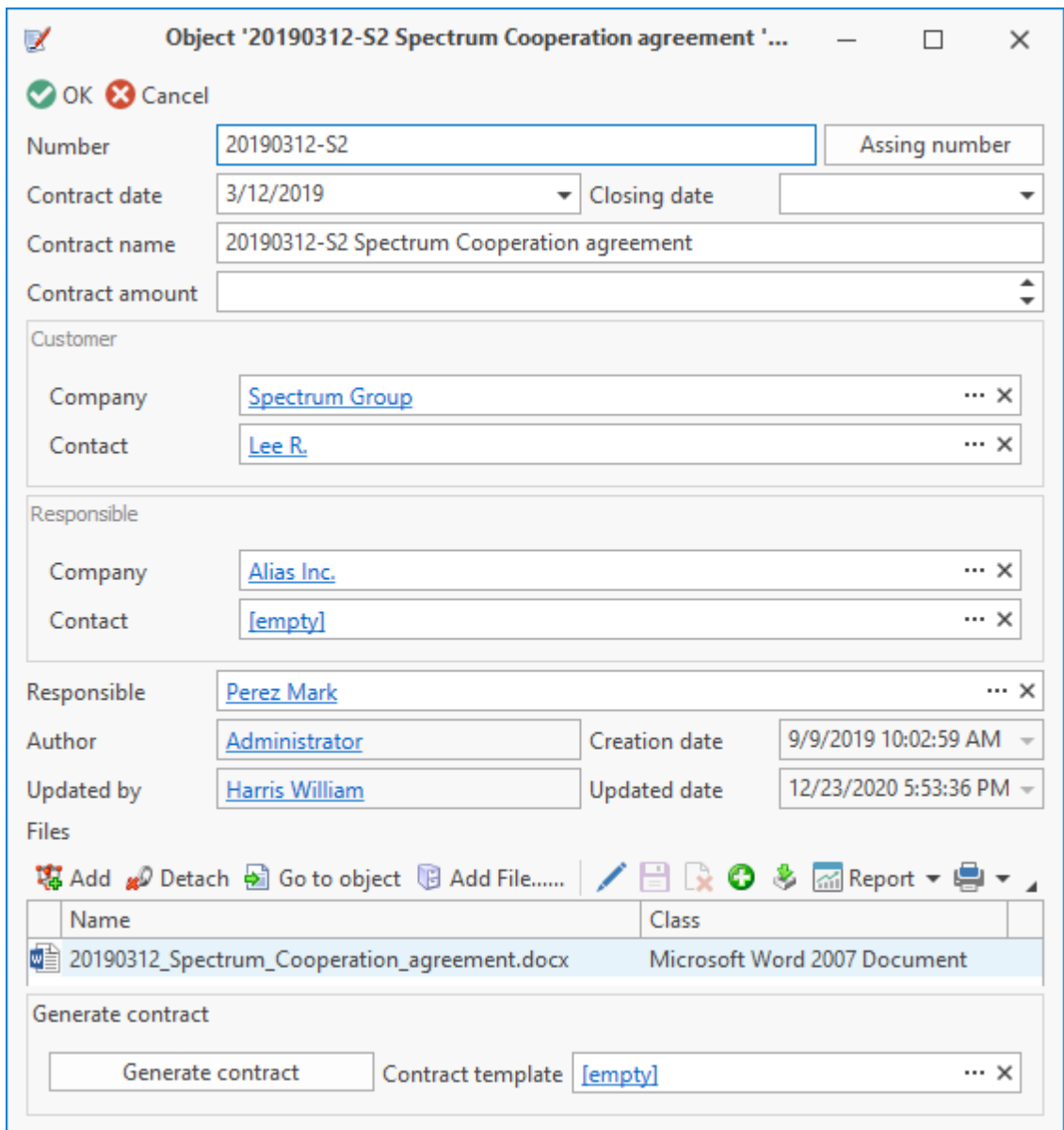


Information on concluded contracts with company can also be found in the window of its properties.

Contracts (Responsible) and **Contracts (Customer)** tabs are intended for these operations.

T-FLEX DOCs makes it possible to create contract file based on selected template; in this case information about company will be entered into the document automatically.

To create new contract click  button and select required type and prototype of the object.



The screenshot shows a software window for creating a contract. The title bar reads "Object '20190312-S2 Spectrum Cooperation agreement '...". At the top left, there are "OK" and "Cancel" buttons. The form contains the following fields and sections:

- Number:** 20190312-S2 (with an "Assing number" button to its right)
- Contract date:** 3/12/2019 (with a dropdown arrow)
- Closing date:** (empty field with a dropdown arrow)
- Contract name:** 20190312-S2 Spectrum Cooperation agreement
- Contract amount:** (empty field with a vertical scrollbar)
- Customer section:**
 - Company:** Spectrum Group (with a dropdown arrow and a close button)
 - Contact:** Lee R. (with a dropdown arrow and a close button)
- Responsible section:**
 - Company:** Alias Inc. (with a dropdown arrow and a close button)
 - Contact:** [empty] (with a dropdown arrow and a close button)
- Responsible:** Perez Mark (with a dropdown arrow and a close button)
- Author:** Administrator (with a dropdown arrow)
- Creation date:** 9/9/2019 10:02:59 AM (with a dropdown arrow)
- Updated by:** Harris William (with a dropdown arrow)
- Updated date:** 12/23/2020 5:53:36 PM (with a dropdown arrow)

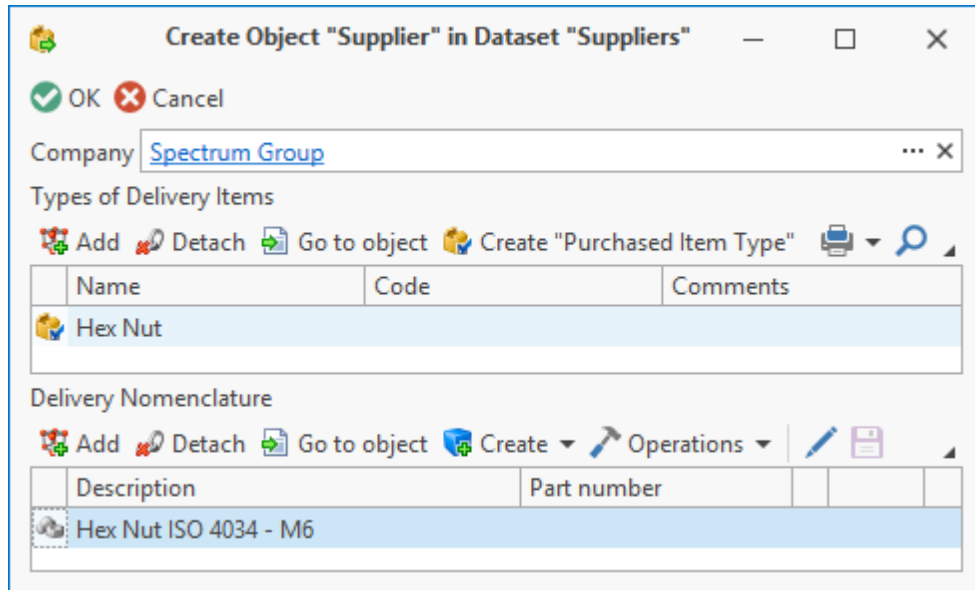
Below the form fields is a "Files" section with a toolbar containing icons for "Add", "Detach", "Go to object", "Add File.....", "Edit", "Delete", "Add", "Report", and "Print". A table below the toolbar shows the following file:

Name	Class
20190312_Spectrum_Cooperation_agreement.docx	Microsoft Word 2007 Document

At the bottom of the window is a "Generate contract" section with a "Generate contract" button and a "Contract template" dropdown menu set to "[empty]" (with a dropdown arrow and a close button).

To maintain base of supplier organizations, use "Suppliers" dataset. Properties of the supplier contain types of supplied products; a list of them is created. Supplied products are connected to the list from the "Product Electronic Structure" dataset.

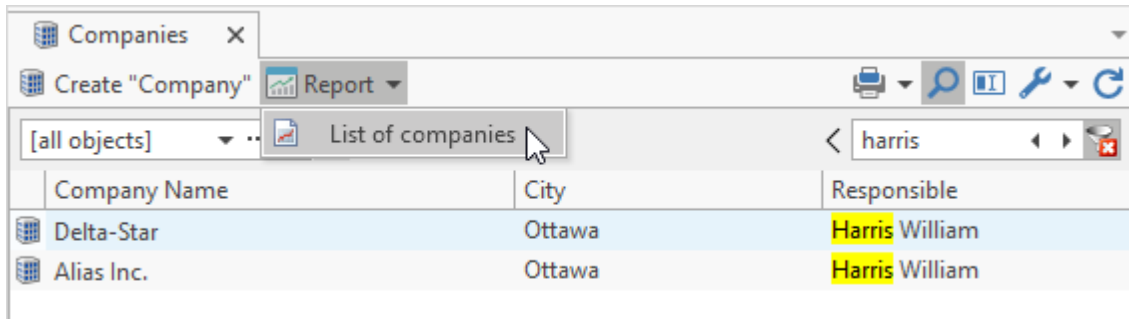
To open the window of supplier organization's properties, double click on its name in the "Suppliers" dataset.



Provided that the "Suppliers" dataset is also connected to the "Companies" dataset, properties window of the supplier company will display additional tab with information from the "Suppliers" dataset.

Using data from the contractors base and T-FLEX DOCs Reports Designer, user can draft various reports based on custom templates.

To develop and edit templates of reports "Reports Designer" is required.

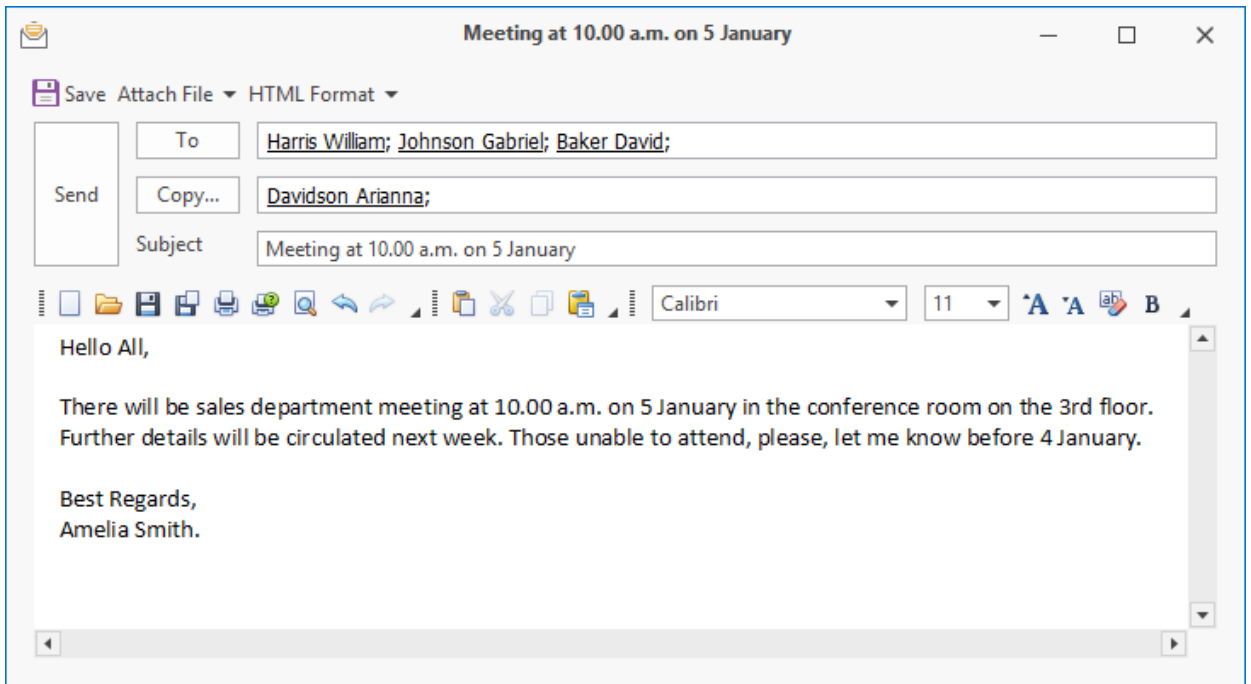


T-FLEX DOCs offers not only tools for contractors but also all essential tools for communication between employees within the company. These tools make it possible for employees to maintain correspondence and perform tasks assignment.

User's mail box located in the **Mail** window contains following components:

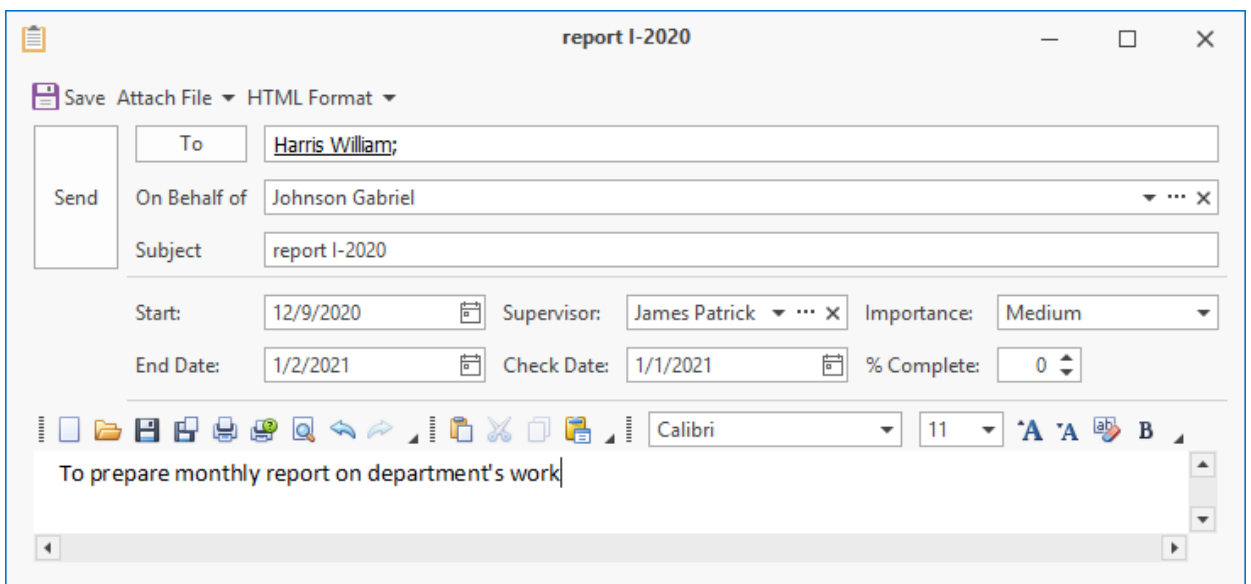
1. Message – used for internal correspondence, as well as for information communication between users.

To create new message, click  button on the window's toolbar.




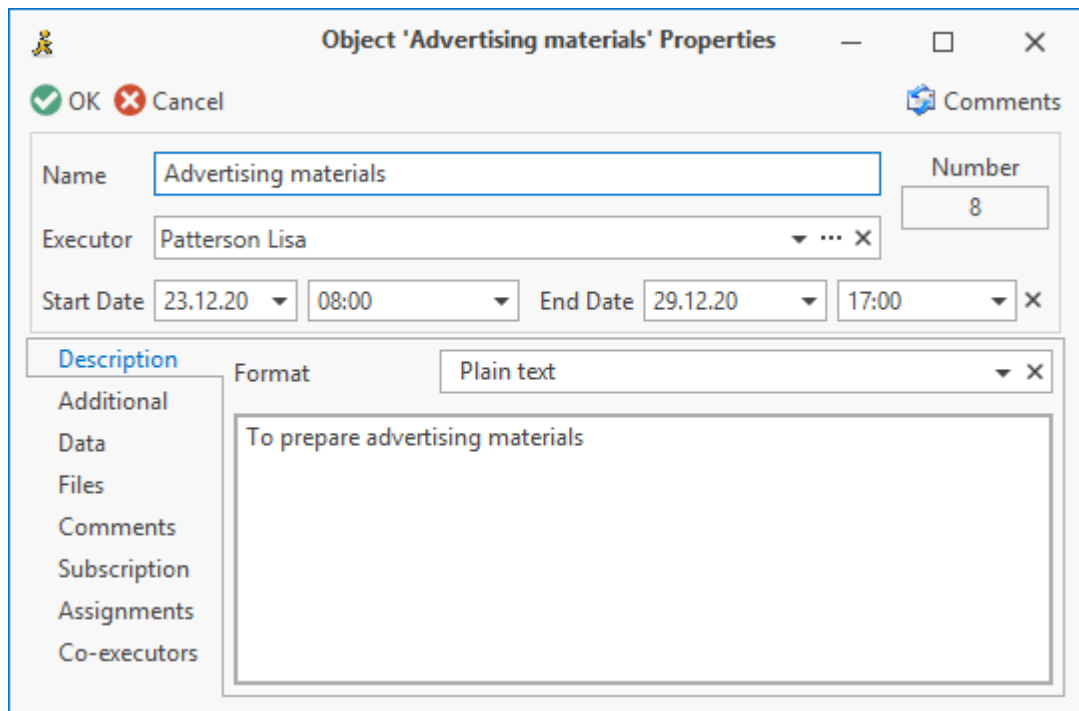
2. Task – unlike message requires to be executed. Contains time limit for execution and control period with inspector, if necessary. Only the person who assigned the task, executor and inspector can see the task. The person who assigned the initial task cannot see enclosed tasks.

To create new task, click  button in the window's toolbar.



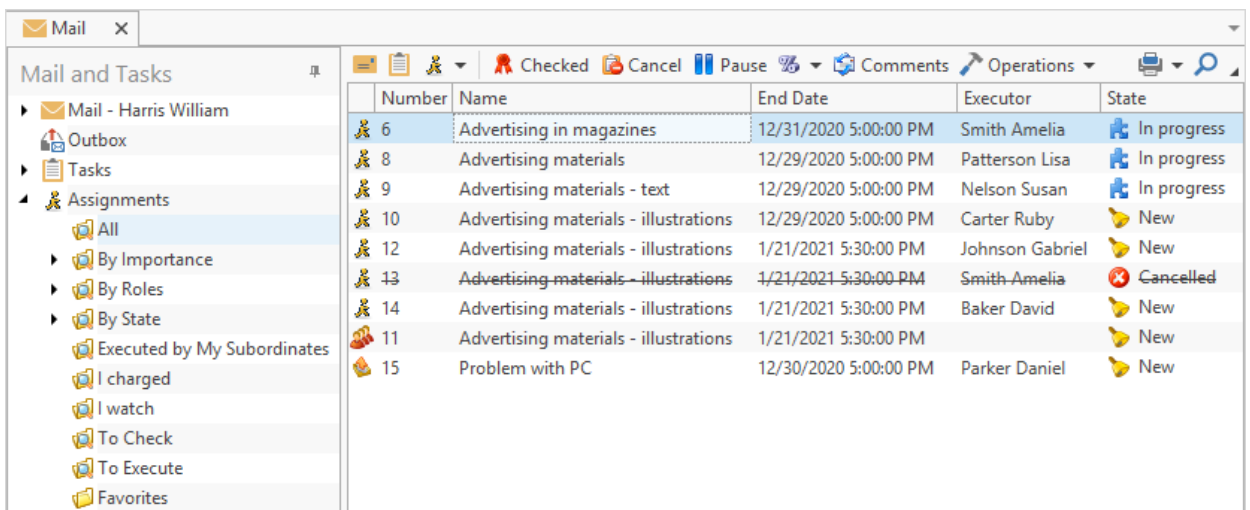
3. Assignment – also requires to be executed. Unlike task the assignment is seen by all users of the system, not only the person who assigned it and executor. Any user of the system may add a comment to the assignment.

To create a new assignment, open the window of assignments tree, choose **Assignments** point on the **Mail** window toolbar and click  button on the window toolbar.



The advantage of the assignments mechanism is that the manager can monitor execution of the whole assignment chain.

To switch to browsing of assignments tree choose **Assignments** point on the **Mail** window toolbar.



Typical system application for various business activities

Moreover T-FLEX DOCs automatically mails notifications concerning changes in the assignment status.

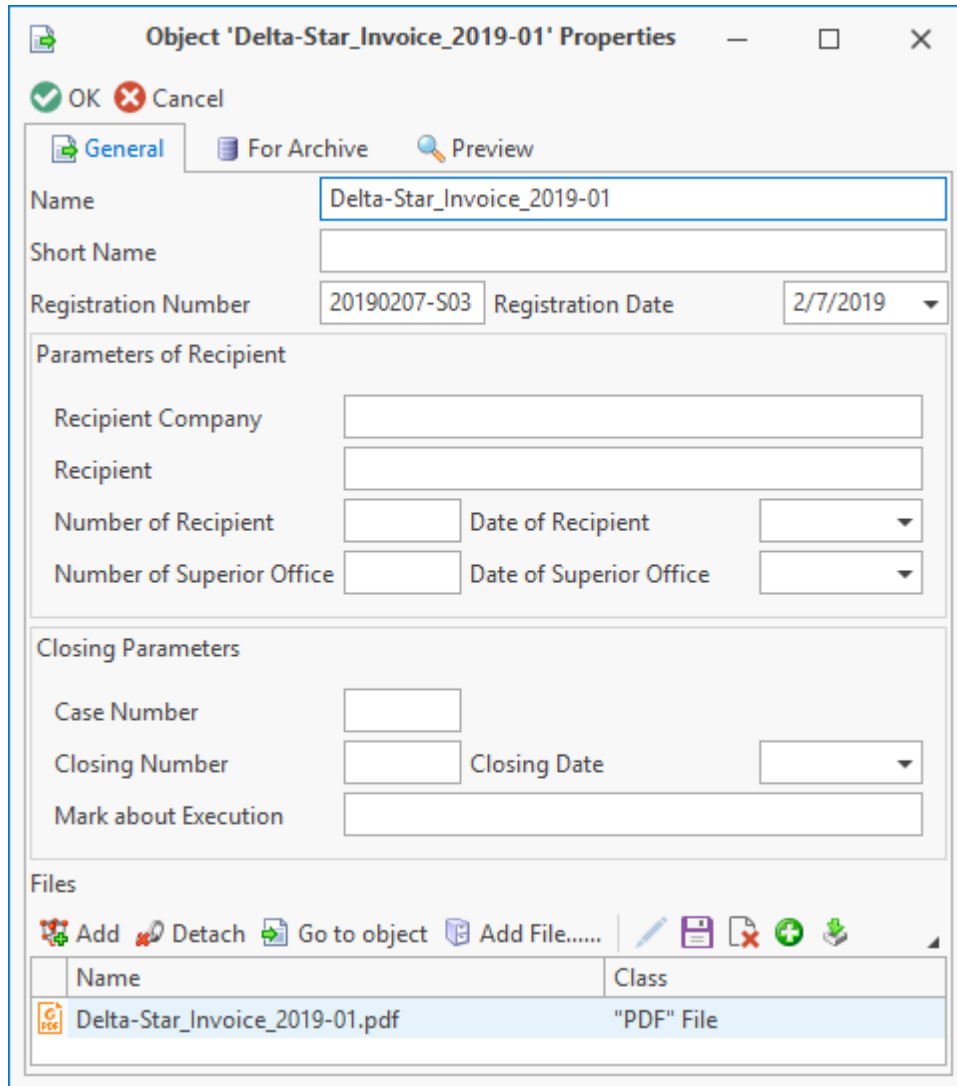


Additional materials, such as files or T-FLEX DOCs dataset objects may be attached to any of the mail components. This allows user to look through all materials required to execute assignment without wasting time on searching them in the system.

T-FLEX DOCs "Office" configuration also entails functions of office paper document flow, allows to manage document flow from the moment they are received or created to the moment they are executed or sent.

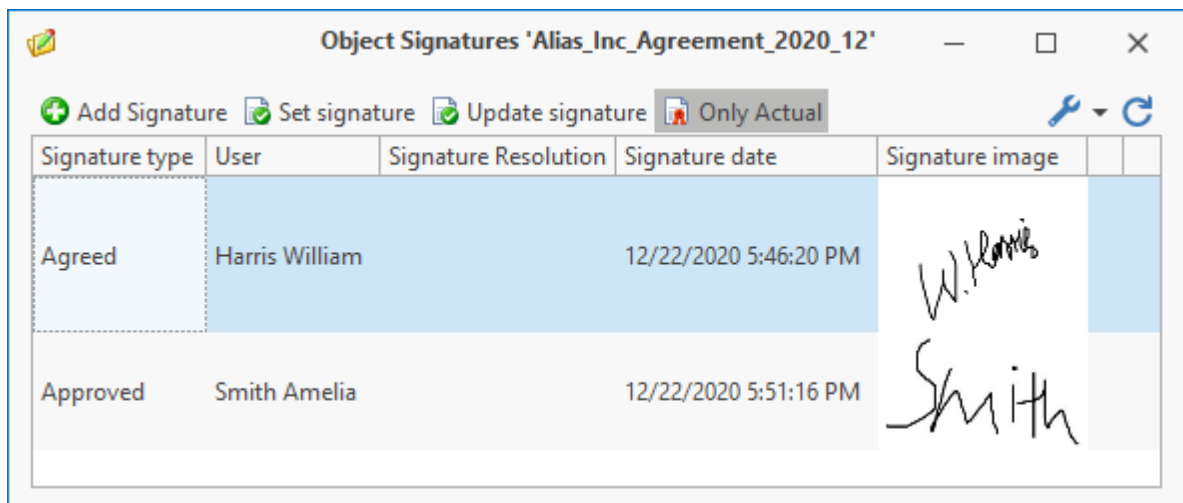
To store office documents (incoming, outgoing, internal) in T-FLEX DOCs, use "Files" and "Office Documents" datasets. "Office Documents" dataset contains particulates of the document, and "Files" dataset – content-based part of the document.

To review document's particulates, select it in the "Office Documents" dataset and double-click on it. Link to the document file is located in the bottom part of **General** tab.



T-FLEX DOCs allows to set e-signature on the document.

List of signatures set on the document may be reviewed by **Advanced > Signatures** option in the documents right-click menu.



T-FLEX DOCs has tools which make it possible to automate standard procedures for communication with contractors, as well as document flow procedures in the company, e.g. document endorsement. In this case probability of organizational mistake decreases and participations of users in the process is minimal which allows to save time spend on performing repeatable actions.

In this case workflow is executed in compliance with preliminarily created and setup template (procedure) which includes statuses scheme, executors' assignments and introduction of works execution time limits, as well as custom dialogs to enter dynamic data.

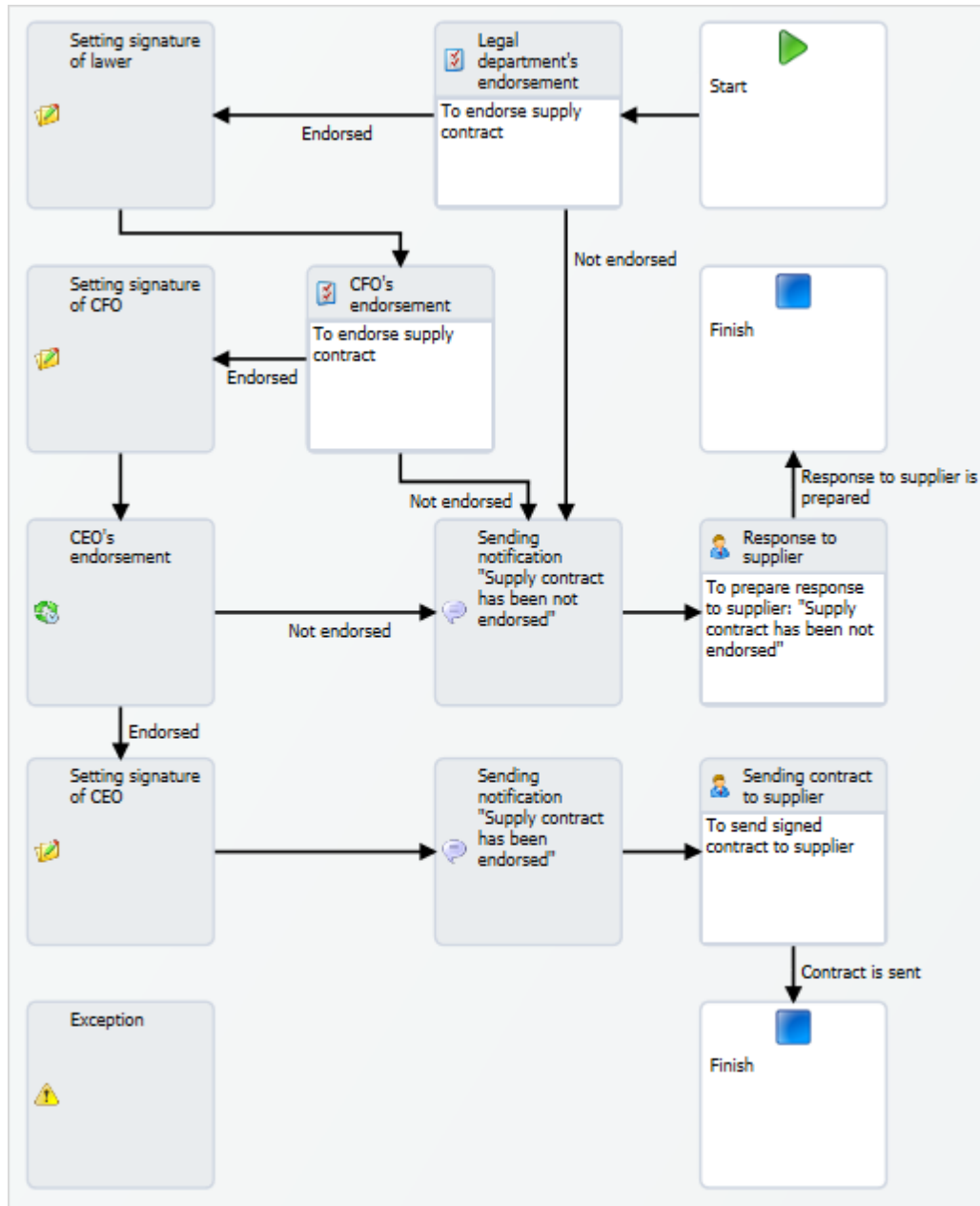
Development of schemes for workflows is performed in "Administrator" and "Developer" configurations.

Scheme of the procedure may include following statuses:

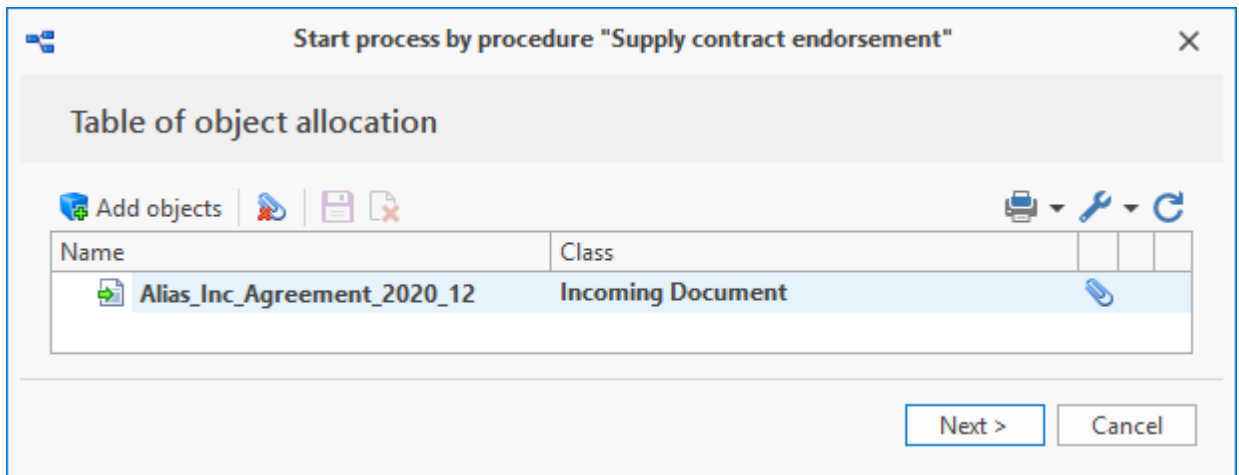
- execution of work by the executor,
- change of object's parameters,
- change of object's stage,
- change of access permissions to perform actions with an object,
- endorsement,
- signature,
- mailing of notifications,
- macro startup,
- subprocess startup, etc.

Corresponding tasks will be created and sent to executors within the statuses of a workflow which requires user's participation.

Regulatory documents (objects of various datasets) may be attached to the procedure as reference information.



Process can be launched by any user of the system who has corresponding access. To launch workflow for created procedure, a separate option of the right-click menu is set. Workflow can also be launched automatically depending on the system settings.

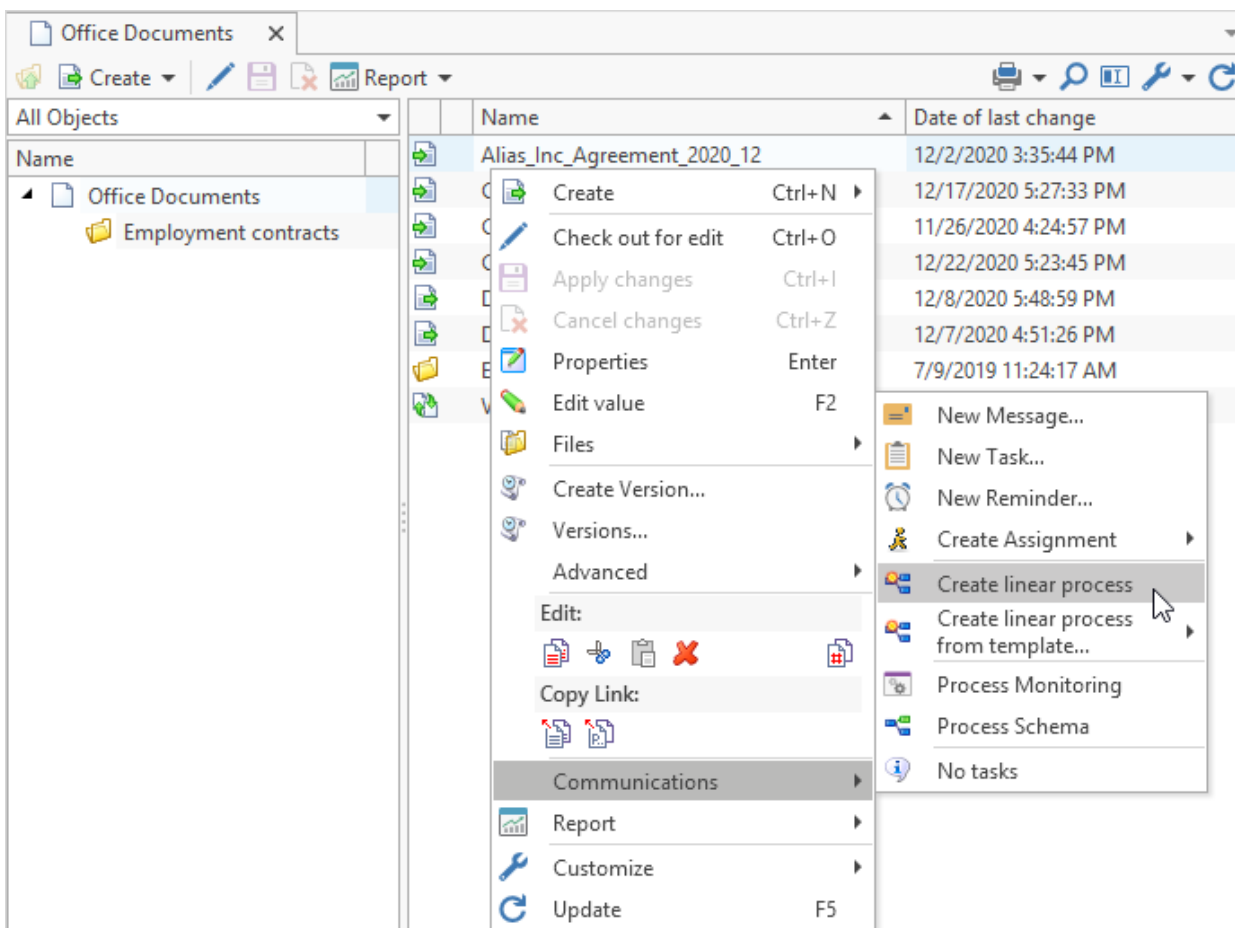


Simplified option of standard workflow procedure is linear workflow procedure. Any user can create linear procedure and launch execution of a workflow.

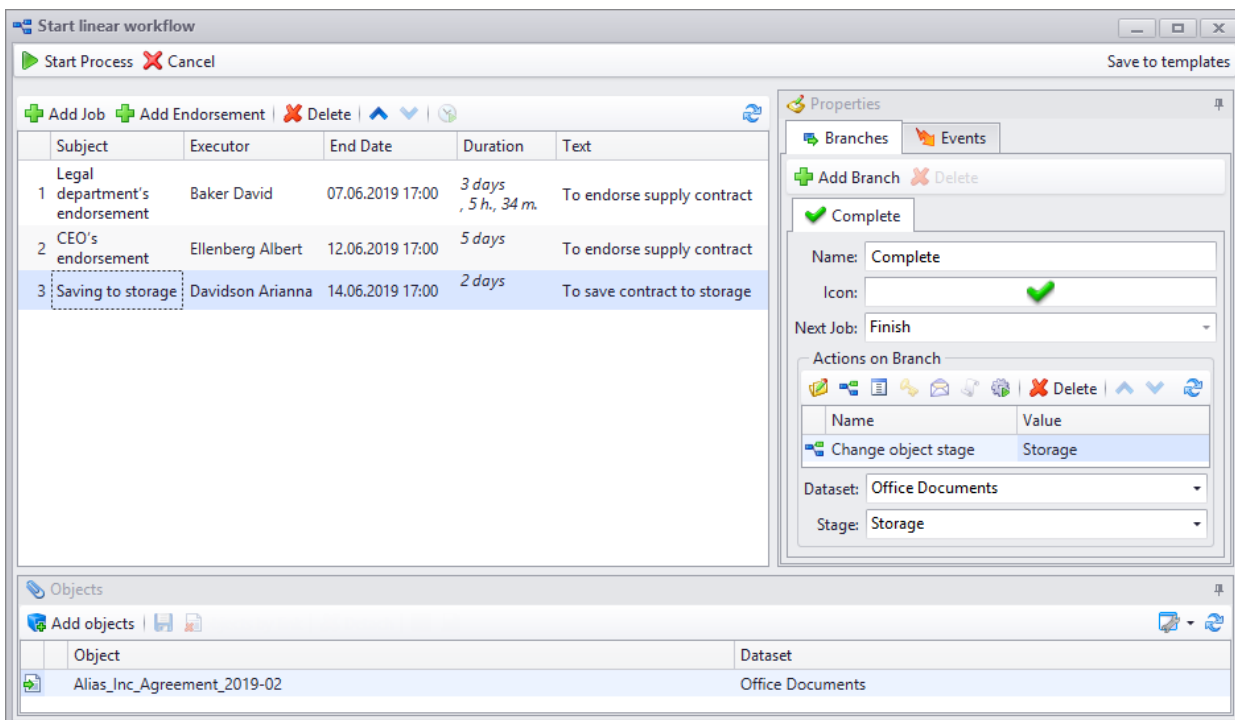
Created linear procedure is located in the "Procedures" dataset only until the workflow launched within it is executed. Then it is deleted. However, it can be saved as a prototype so it can be used again.

Linear process can be quickly created and launched via right-click menu of any object.

To do that, use option **Communications > Create linear process**.



Unlike usual procedure, linear workflow procedure has simpler interface represented as a list of works with transitions.

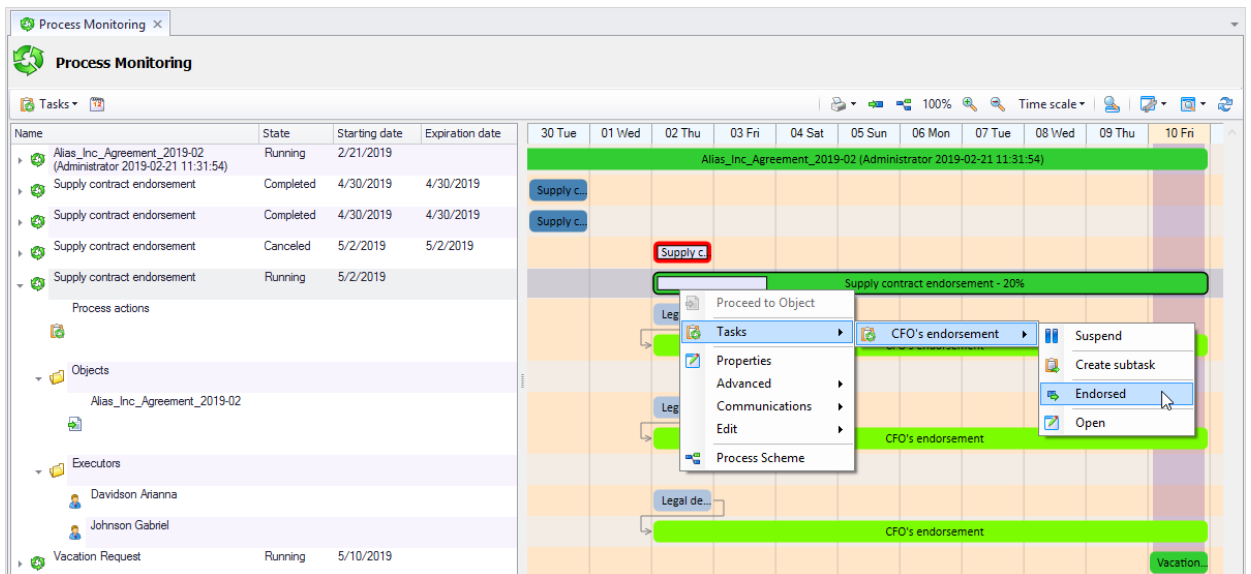


There is a special control component to monitor workflow execution – process monitor. This

Typical system application for various business activities

control component may be located on the user's work page.

Process monitor displays workflows and their works on the time-base diagram. It allows both to review information about current status of process components and to manage them via right-click menu options.



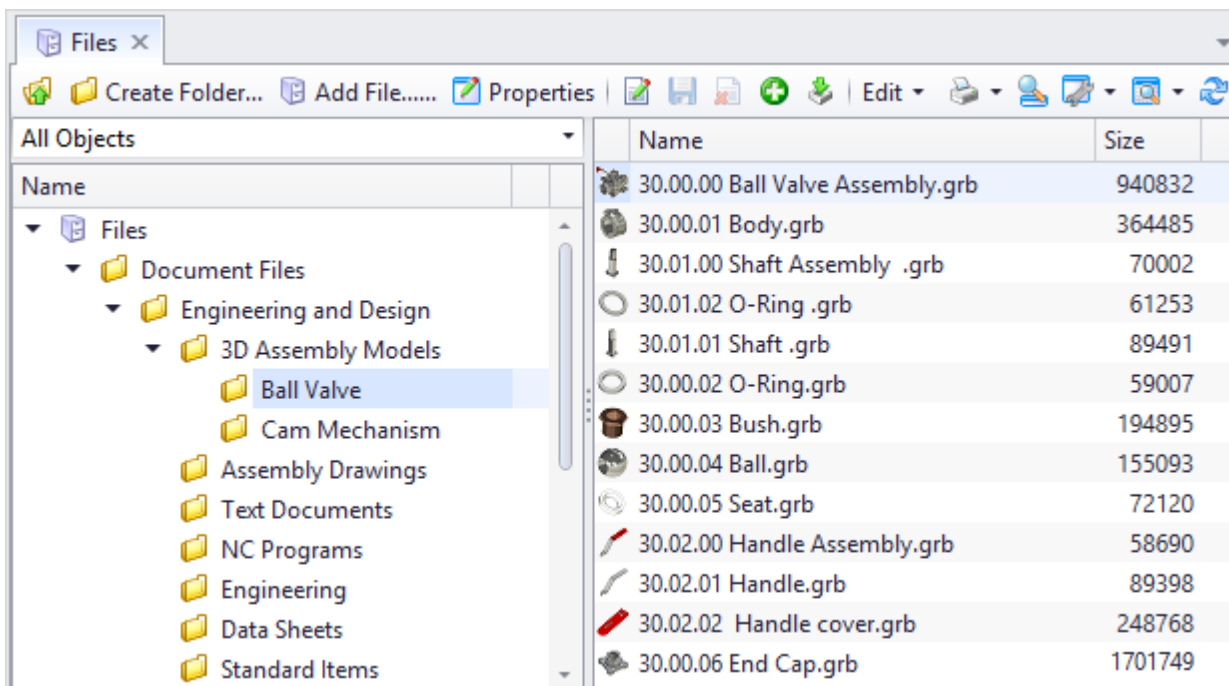
Thereby, T-FLEX DOCs tools described in this chapter make it possible to arrange database of company's contractors, maintain all incoming and outgoing calls and enquiries. This helps to monitor sales department work and maintain statistics of relationships with clients. Various reports can be drafted and marketing and sales department work can be analyzed based on received data.

File storage

"Files" dataset is intended to store files in the T-FLEX DOCs structure. At which point, physically files are stored on the file server.

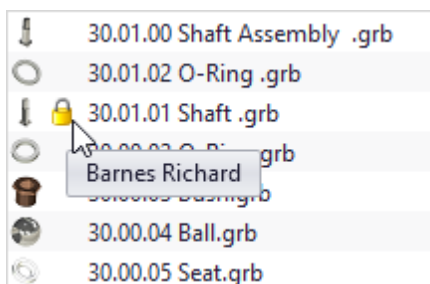
T-FLEX DOCs allows to store files of any formats.

"Files" dataset window view is generally similar to Microsoft Windows File explorer window view; therefore, it is easy to work with it. However, there are several aspects while working with files in case of group work.



When a file is opened it is downloaded from server to user's work folder on local computer and opened in application program selected by means of operational system. When file is reopened, the system checks its validation. If the file has been changed since it was opened last, it is replaced with current file downloaded from server. Thereby, the system provides validity of files and prevents double download from server if the file hasn't been changed.

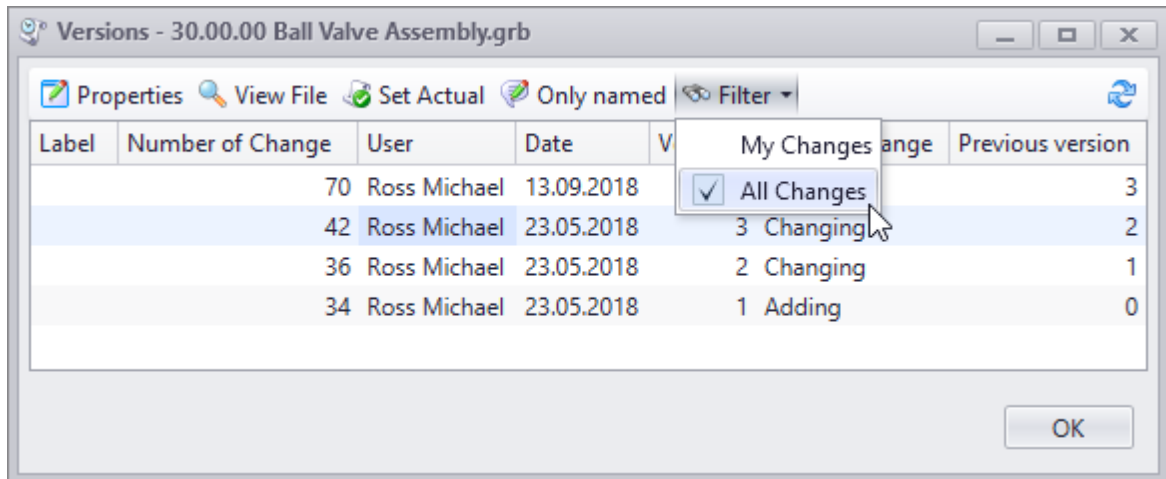
T-FLEX DOCs desktop mechanism provides group work with files. This mechanism makes it possible to edit file only by that user who took it for editing. Other users can only view file which is stored in the server. Restrictions in editing are displayed in the file status – Locked by another user (🔒 icon). If user points at this icon, he/she can get information about user who blocked the file for editing. In order to unblock it, user can turn either to the user who blocked it or to the administrator user.

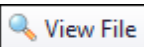



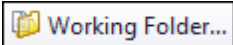
After user finishes editing the file, he/she must [apply changes](#). Upon that initial file located in the server becomes a version, and edited file will get to the file server from user's local computer and will become valid and available to other users.

User can review list of versions for the selected file by using **Versions** option of its right-click menu. By default, **Versions** window displays only changes introduced by the current user.

Display filter can be changed via  button on the toolbar.



Button  allows to open chosen [version](#) of the file in the window of application program. Current version of the file can be replaced with earlier version. To do this, click  button.

T-FLEX DOCs makes it possible for user to set up his/her work folder.  button on the toolbar of the "Files" dataset is intended to demonstrate path to the current user's folder on the local computer.

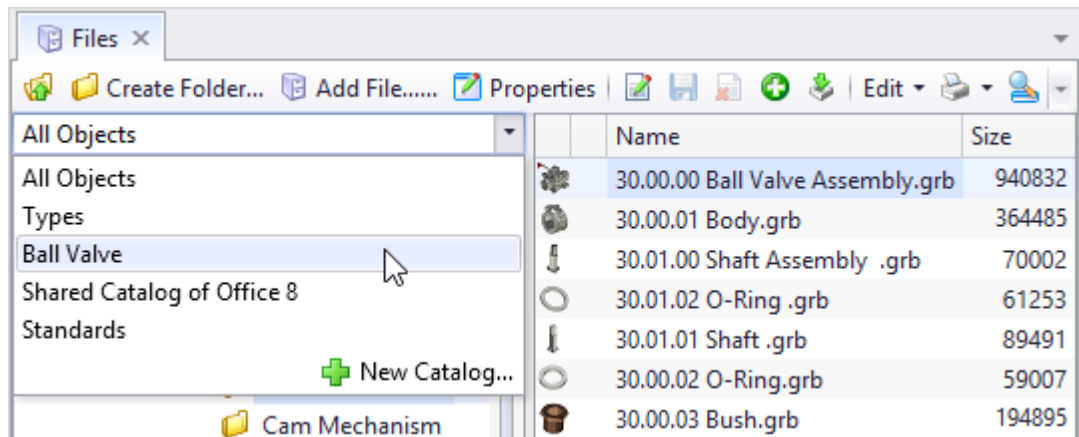
File's right-click menu option **Refresh Files in Working Folder** synchronizes user's work folder with the server, i.e. the system compares files modification dates, and if there is a later version, it copies this file to the user's work folder.

File's right-click menu option **Remove files from Working Folder** removes selected file from user's work folder.

Similar option is available for the selected folder of the "Files" dataset and whole dataset.

Files with "Added" or "Locked" status will not be deleted when the **Remove files from work folder** folder.

As any other dataset, the "Files" dataset handles catalogues mechanism. List of catalogues is available in the "Tree and List" mode of data display. It is located above dataset's data tree (left part of the dataset window). With this list user can also select form of a dataset.



In "All Objects" form the "Files" dataset contains folders for design and engineering and office documents, contracts files, as well as for clerk files (reports, drawings templates).

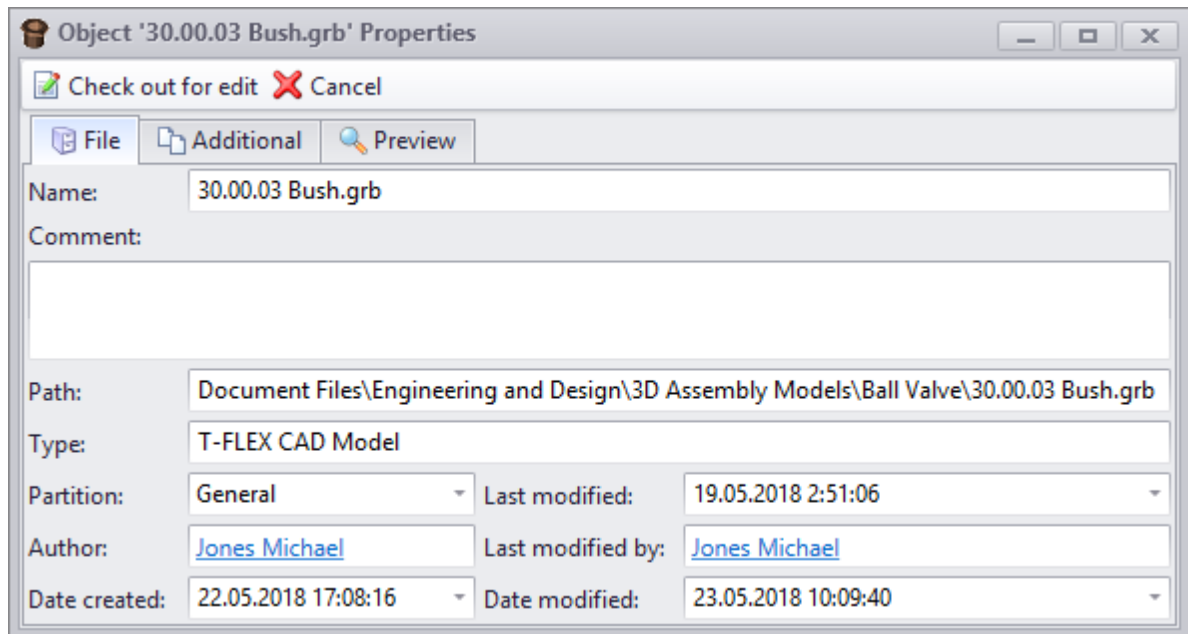
Set of root folders is determined by the administrator of the system. Groups of users or departments get [access](#) to the root folder. This access permissions are inherited to incoming objects. Thereby, folders are a convenient tool not only for objects but also for management of access permissions.

Recommended guidelines for data organization in the "Files" dataset:

1. By intended use, folders of the "Files" dataset are classified to storage folders and folders for operational activities. Storage folders are "Service Files" etc. Folders for operational activities include departments' folders, personal folders of employees, etc.
2. Archive is divided into original documents archive and source documents archive. Original documents archive contains document files in the initial format which is easily edited (e.g. GRB, DOCX, etc.). Source documents archive contains files in extended storage format (e.g. PDF, TIFF, etc.). In these formats information is represented regardless operational system and browsers.
3. Storage folders can be hidden by the administrator of the system from regular users. In this case, access to files in these folders is performed through other objects of the system, such as: documents, reports, materials, etc.
4. Each department's folder has a person in charge who creates subfolders and determines access to them. Subfolders can contain contextual folders, i.e. folders created for some work. After the work is finished and files are approved, their latest version is sent to archive, and the contextual folder is deleted (with intermediate versions of files).
5. Upon the decision of the administrator of the system, personal folders can be created when user account is added to the system. User gets access to the personal folder regardless of department he/she is working in. This simplifies reorganization of departments and transfer of employees from one department to another. Despite the fact that there are many personal folders, each user can see only his/her folder. By

linking file from the personal folder to a message, user makes it possible for another user to open this file (in case he/she has corresponding access permissions).

Each file in the "Files" dataset has its own unique parameter **Path** which demonstrates sequence of folders from the root one to the file.

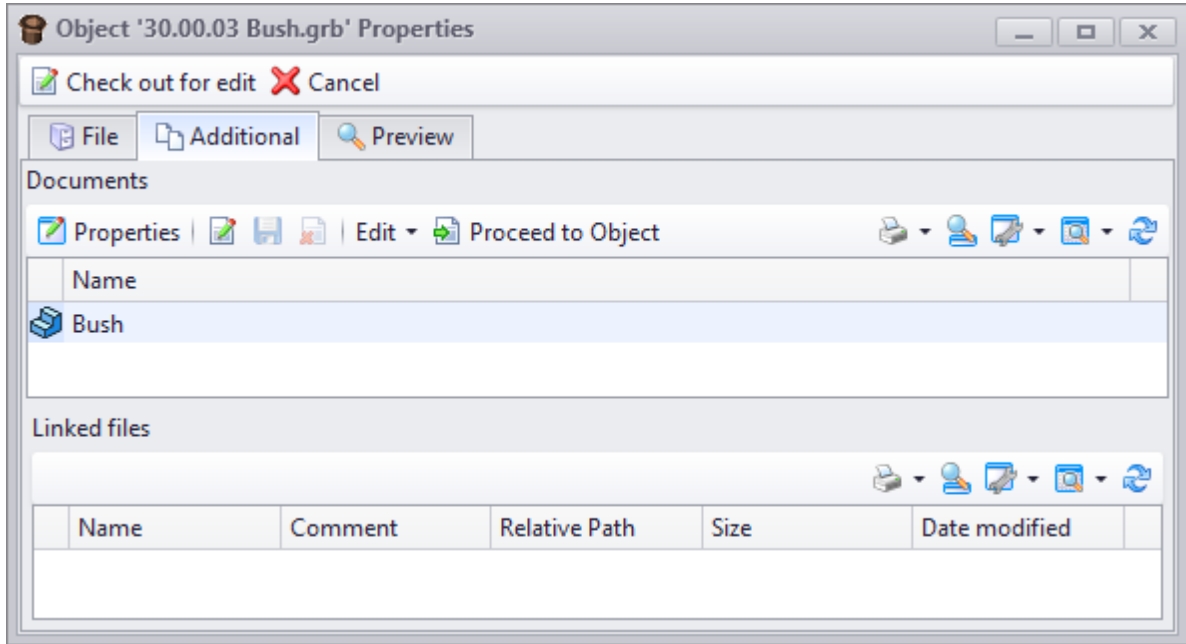


[Catalogues](#) mechanism allows to prevent controversies in setting file storage location in group work and to arrange files in groups by any convenient for the user way. For example, one and the same file of the system – "Axis" file – can be moved by user to various catalogues: design engineer can move to "Gearbox" catalogue, product engineer – to "Bodies of revolution" catalogue.

Catalogues do not inherit access permission and are not displayed in the **Path** parameter.

Files in T-FLEX DOCs can be both independent units and linked to objects of other datasets, such as "Documents" dataset. This connection user can find in the **Additional** tab in the file's properties window. Object of the "Documents" dataset is the document's particulates part, and object of the "Files" dataset – its content-based part.

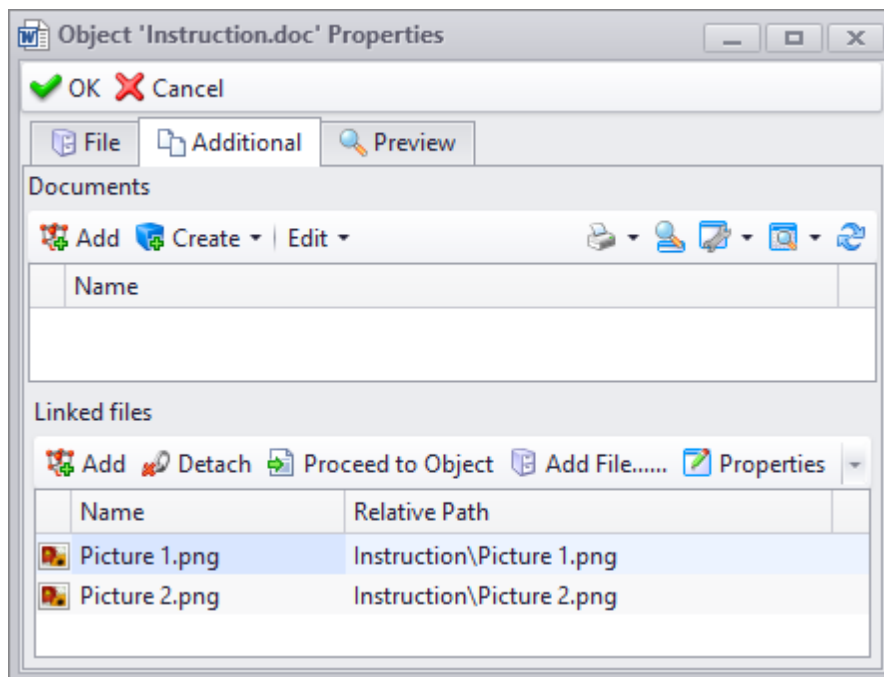
Parametric T-FLEX DOCs file or file from CAD library can be linked to many objects of "Document" type.




File also can be linked to other files of the "Files" dataset. As an example, main file of Microsoft Word document can contain hyperlinks to pictures which are separate files or to other documents. To make hyperlinks work correctly, linked files must be downloaded to the local computer with the main file.

In this case, a link must be created in the **Linked files** field in the **Additional** tab of the main file's properties windows. When user reviews main file, files in the **Linked files** field will be automatically downloaded to the user's work folder.

Hyperlink must contain relative path.

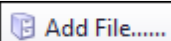


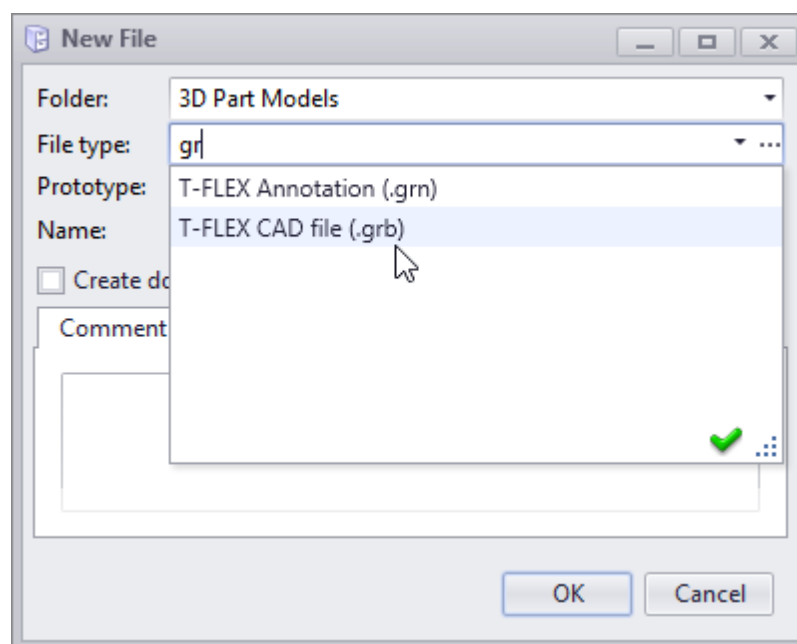
T-FLEX CAD assembly file does not require linked files as in the integration mode T-FLEX CAD determines the required files itself.

To create file in the "Files" dataset, click  button and in the opened window choose folder where the file will be saved and its type, set file's name and a comment, if necessary.

The **File type** field makes it possible to select file type by entering its name or extension.

If the **Create document** box is checked, "Documents" dataset automatically creates document linked to this file. In this case parameters of the new document are set in the file's properties window on the appeared **Document parameters** tab.

File can also be created when an object of the "Documents" dataset is created using  button in the document's properties window.




However, it is more convenient to create a file in the applied program and then save it to T-FLEX DOCs.

If the applied program is opened in the integration mode, this operation is performed using special save option in T-FLEX DOCs. In this case the folder of the "Files" dataset is defined where the file will be stored.

More information on integration mode is provided in the Chapter "Working in the integration mode with CAD systems" of the Section "Product structure management" and in the Chapter ["Integration with Microsoft Office"](#) of the Section "System's special features for processing data".


File created in the program which does not handle integration with T-FLEX DOCs must be preliminarily saved on the user's local computer and then follow on of the two options:

1. Import file by clicking  button on the toolbar of the "Files" dataset window.

2. Drag-and-drop file from Windows File browser to the "Files" dataset window by pressing left mouse button and leading the pointer to the required folder.

Dataset window must be opened in the "Folders" display view.


T-FLEX DOCs makes it possible to do the opposite – to export files from the file storage to the user's computer. To do that use file's right-click menu option **Export Files...** or drag-and-drop option.

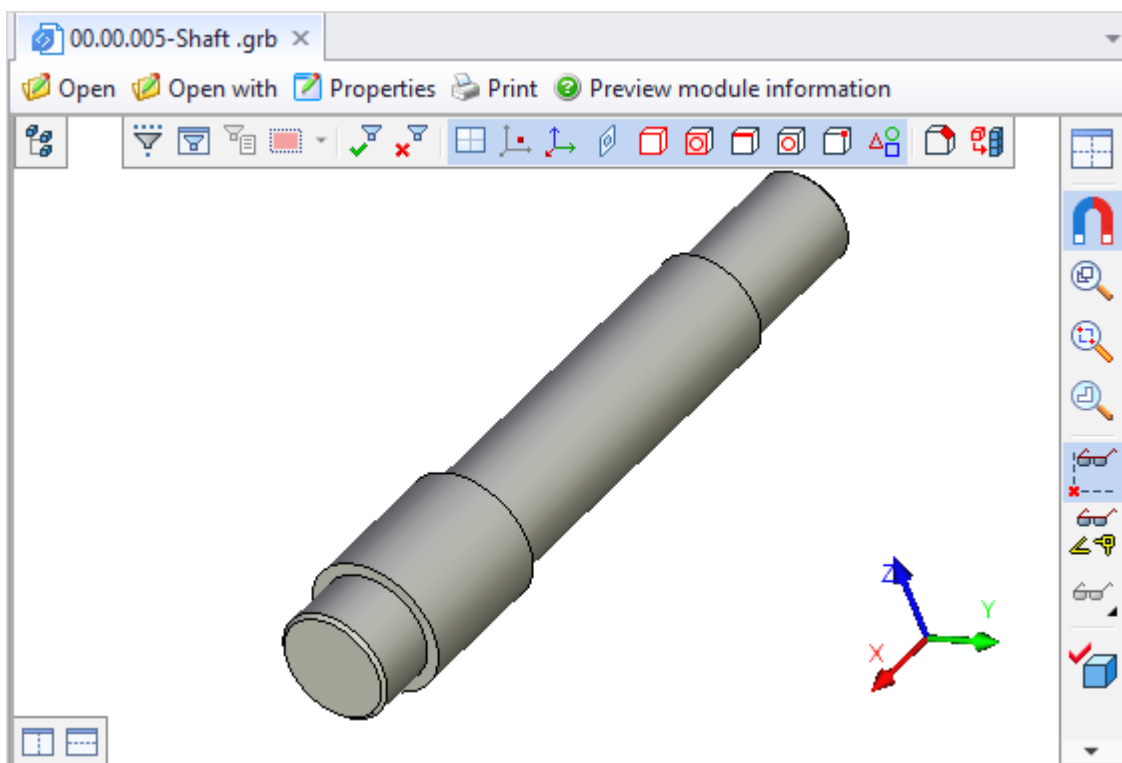
Import and export operations can also be performed with folders containing files. User's actions will be similar to those during import and export of separate files, with the exception that for import of folder a  button on the "Files" dataset window toolbar is used.

A file from T-FLEX DOCs file storage can be opened by double-click of the mice or by pressing <Enter> key (it will open in corresponding application); then file can be edited.

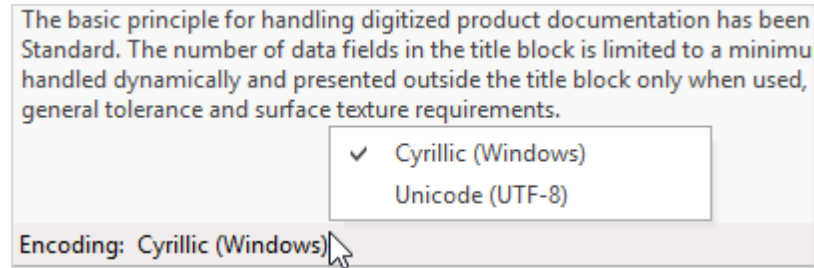
If necessary, user can choose application to open the file with from the list of installed applications on the computer by using file's right-click menu option **Open with**.

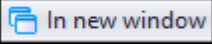
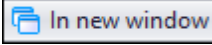
Moreover, a file can be opened in T-FLEX DOCs in Only View mode (right-click menu option **Preview**).


The  **Preview module information** button on the toolbar opens window with information about the viewer module used.



Information on text file coding is displayed in the bottom of the preview window. Right click on this string opens menu where coding could be changed.

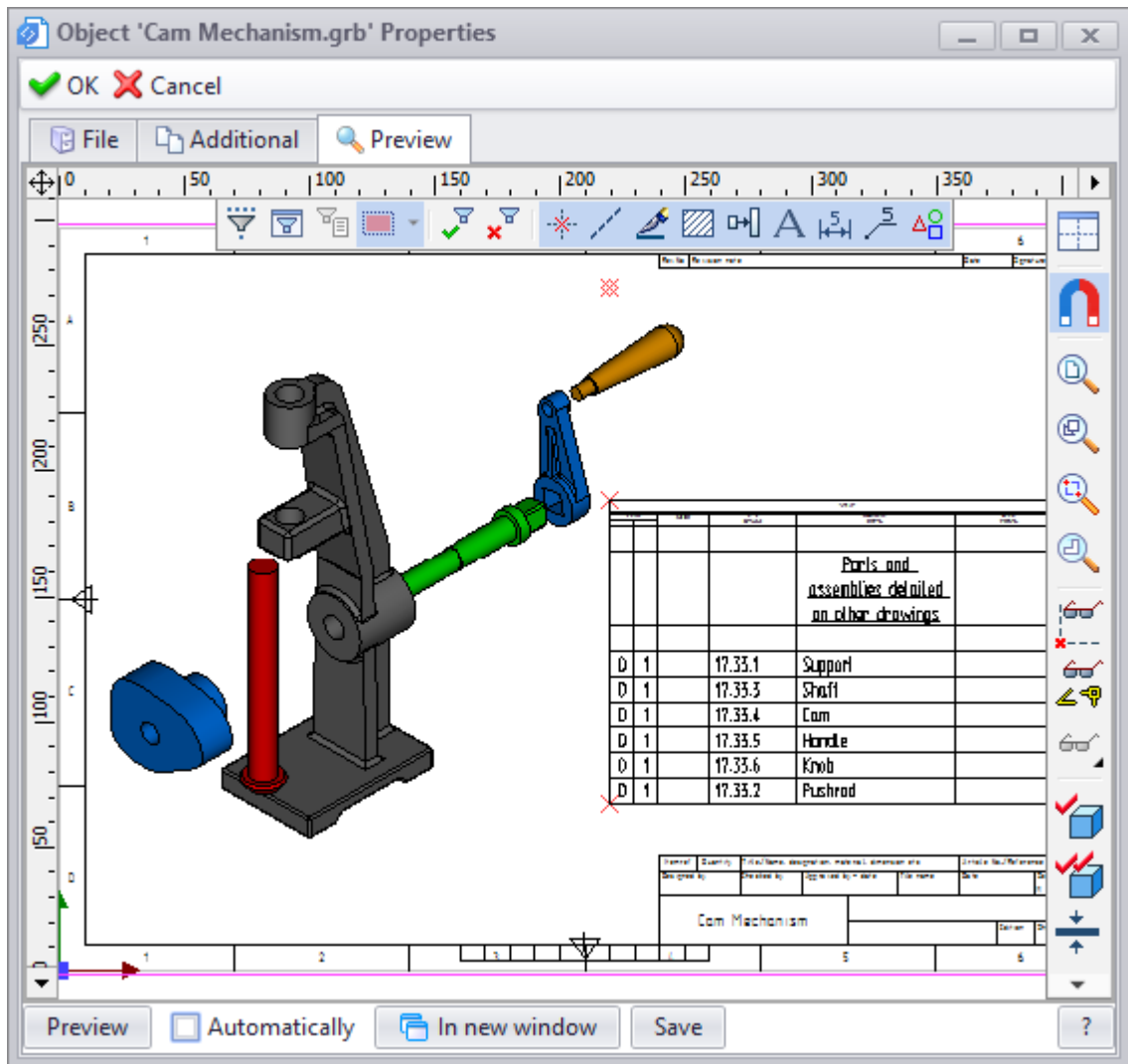


The **Preview** tab in the file properties window makes it possible to preview its contents. With the **Automatically** box checked the file contents opens when the tab opens; otherwise user should click the **[Preview]** or the  **In new window** button. When user clicks the **[Preview]** button, the contents is displayed in the preview tab; the  **In new window** button opens the file in a separate tab of the T-FLEX DOCs main window.

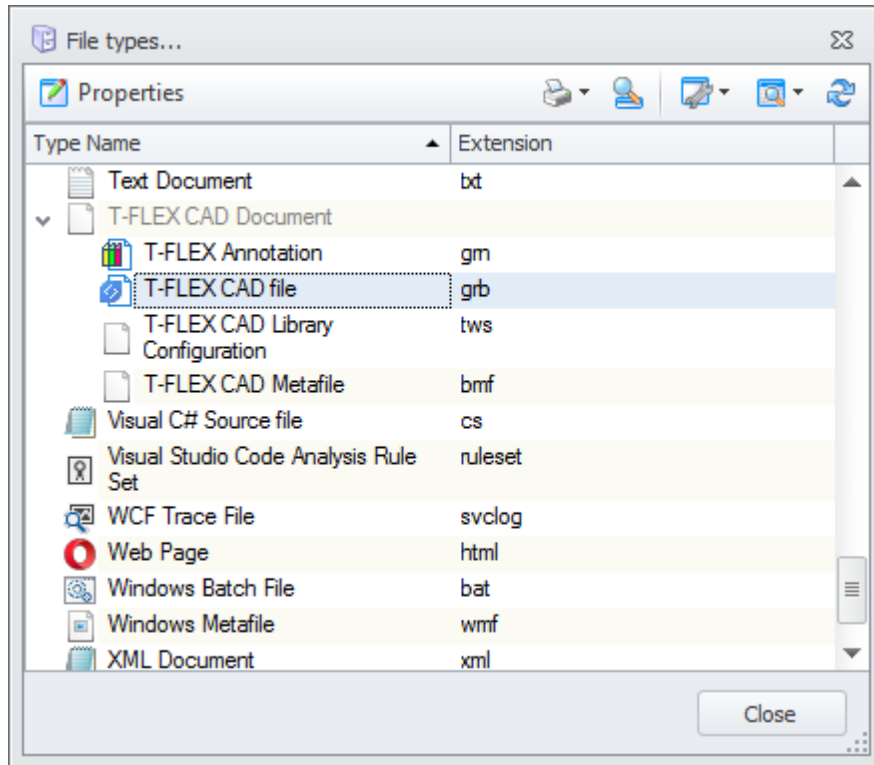
The  button opens the window with information about the viewer module used.

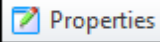
Information on text file coding is displayed in the bottom of the preview window. Right click on this string opens menu where coding could be changed.

In the preview mode user can use various options of the used preview module: document navigation, zooming, changing display mode, 3D model rotation, taking measurements, etc.



Main menu option **View > System Window > File types** opens a window with types of files handled by T-FLEX DOCs.



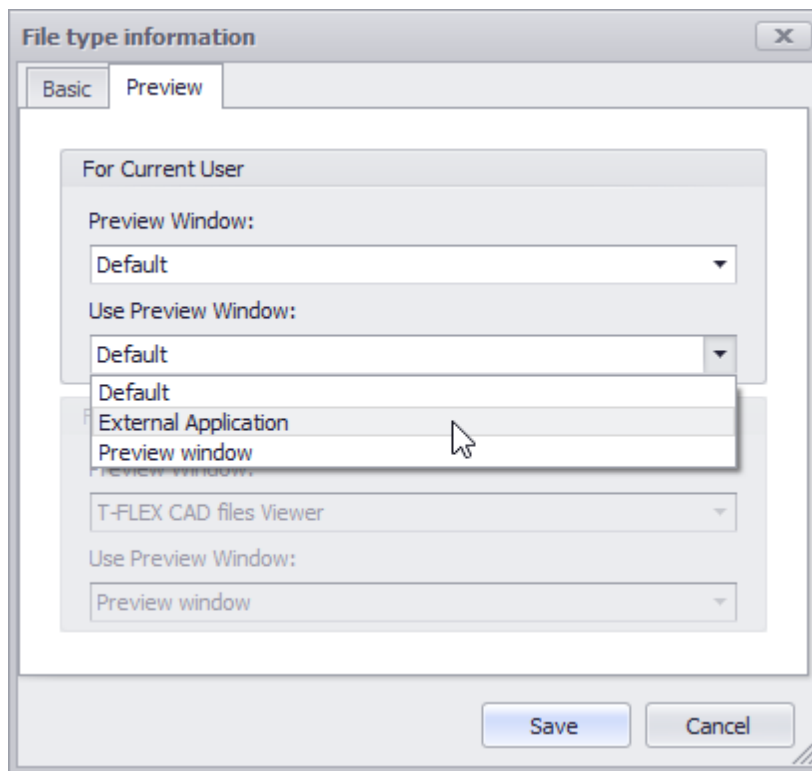
Properties of the chosen file type can be reviewed and edited by clicking  **Properties** button. **Basic** tab contains parameters of the file type: name, extension, base type. **Preview** tab is intended to setup display of the file contents to the current user.

Administrator user has access to setup review parameters for all users.

Preview Window list allows to select review module for selected type of files.

Use Preview Window list contains following options:

- Default – review depends on administrator user's settings,
- External Application – review in an external application,
- Preview window – review in T-FLEX DOCs window.



T-FLEX CAD file preview module allows to preview 3D files of all formats supported by T-FLEX CAD, including the files of other CAD systems.

By default, the "Files" dataset handles [stages](#) mechanism. Thereby, file in the T-FLEX DOCs system can be in several stages at the same time. Stage describes the object's state related to users' access to review and edit it. E.g. such stages as "Endorsement", "Approval", "Storage" restrict access to the file.

Mail and tasks

Inter-office mail service

T-FLEX DOCs makes it possible for users to communicate via mail messages, tasks and assignments. Interface of T-FLEX DOCs mail service is similar to targeted mail clients, such as Microsoft Outlook.

Messages exchange in T-FLEX DOCs is performed either via inter-office mail or via external postal addresses. Both messages and tasks can have various reference data and document files attached.

The system provides automatic sorting mechanism for messages according to determined rules, as well as automatic transfer of message to another user according to set conditions.

Unlike message, task requires to be executed. Executor and time limits are determined for this task. Assigner can monitor the execution process.


Peculiarity of assignment is that it is available for review to any user of the system with corresponding access, not only to author and executor. This makes it possible for the author of initial assignment to monitor assignments connected with the initial one.

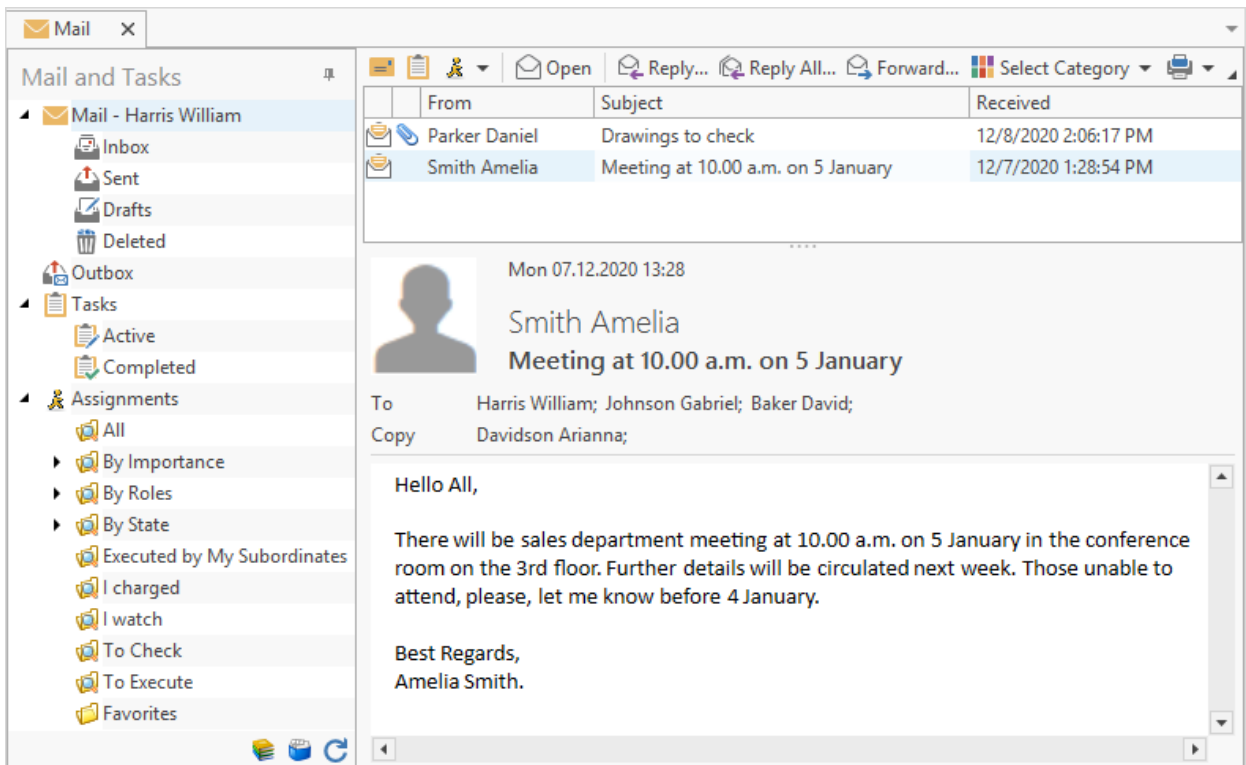
With T-FLEX DOCs user has possibility to create a reminder of any important event. Reminder may be linked to any object of a dataset, document, file, message or task.

Moreover, with T-FLEX DOCs inter-office mail service user can receive notifications on changes in parameters which are important for his/her dataset's objects. The system provides custom subscriptions mechanism to do that.

Messages

User can open mail window via "Mail" shortcut of the "Mail" group on the navigation panel or main menu option **View > System window > Mail**.

User's mailbox contains following system folders: "Incoming", "Sent", "Drafts", "Outbox" and "Deleted". Inside system folders user can create new folders via  button on the shortcut panel of "Mail and tasks". If there are unread messages in any of the folders, they are put in bold type and number or unread messages is displayed in brackets.



T-FLEX DOCs also allows to set access to other users to mailbox or tasks of the selected user. Such possibility can be used in connection to official duties, as well as in case the user is absent or ill.

Only administrator user can perform corresponding setup of the system.

There are following types of access:

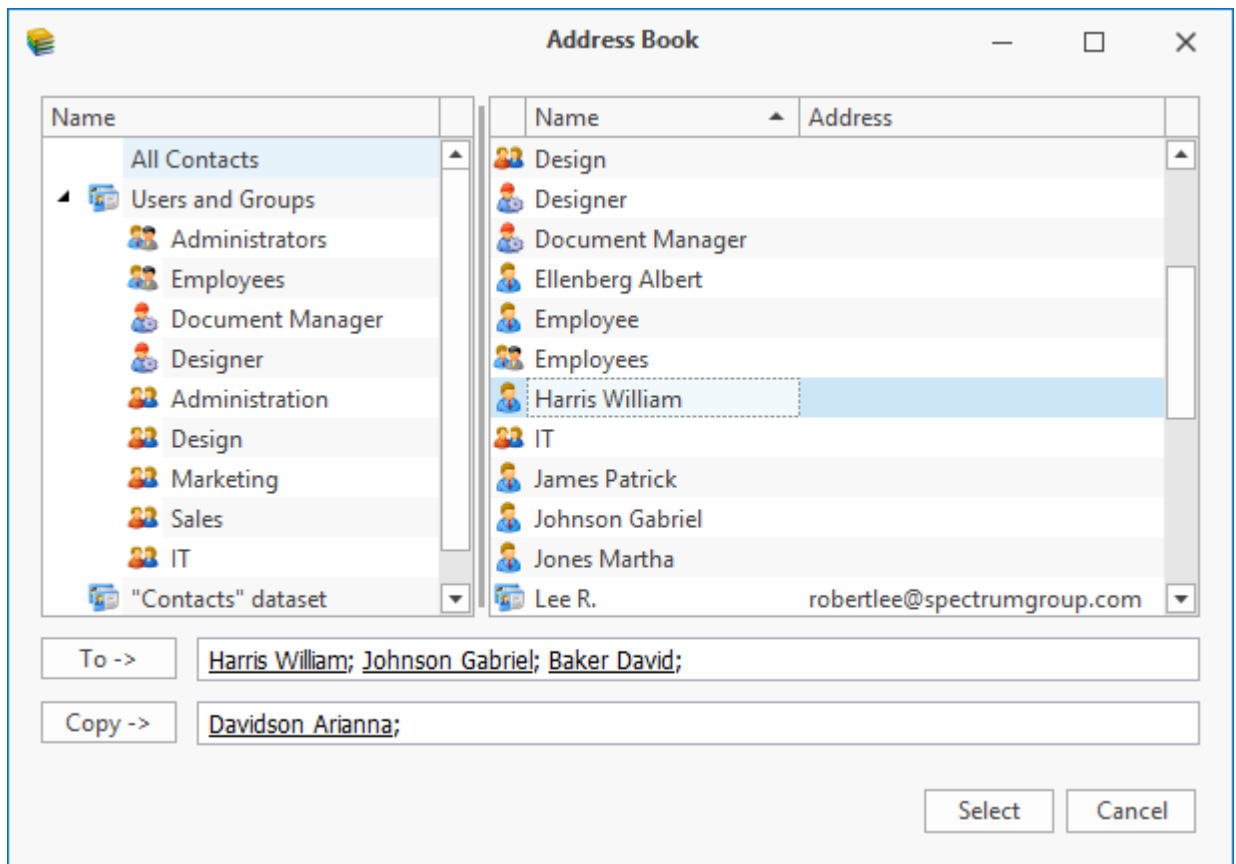
- review,
- review and replies (for tasks – review and execution),
- full access.

Thereby, if current user has access to the mailbox or tasks of the other user, **Mail** window will have additional mailbox.

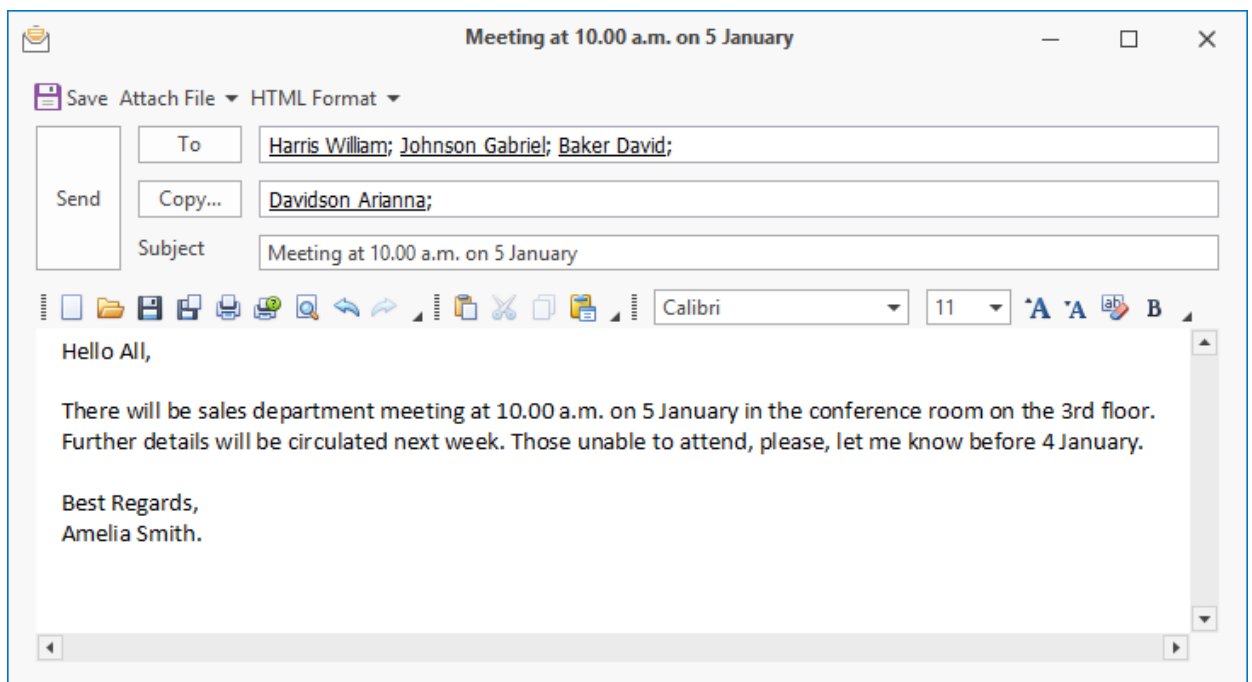
To create new mail message, click  button on the toolbar.

It is also possible to use option **Communications > New Message** of the dataset's object right-click menu. This object of the dataset will be attached to the created message as an attachment.

In the **To** field user writes recipient (or several recipients) of the message. Name of the user can be either selected from the [address book](#) or entered manually in the corresponding field (in this case the system will offer corresponding user name from the address book). It is also possible to set group of users. In this case, all members of the group will be stated in the **To** field, and the message will be sent to each of them.

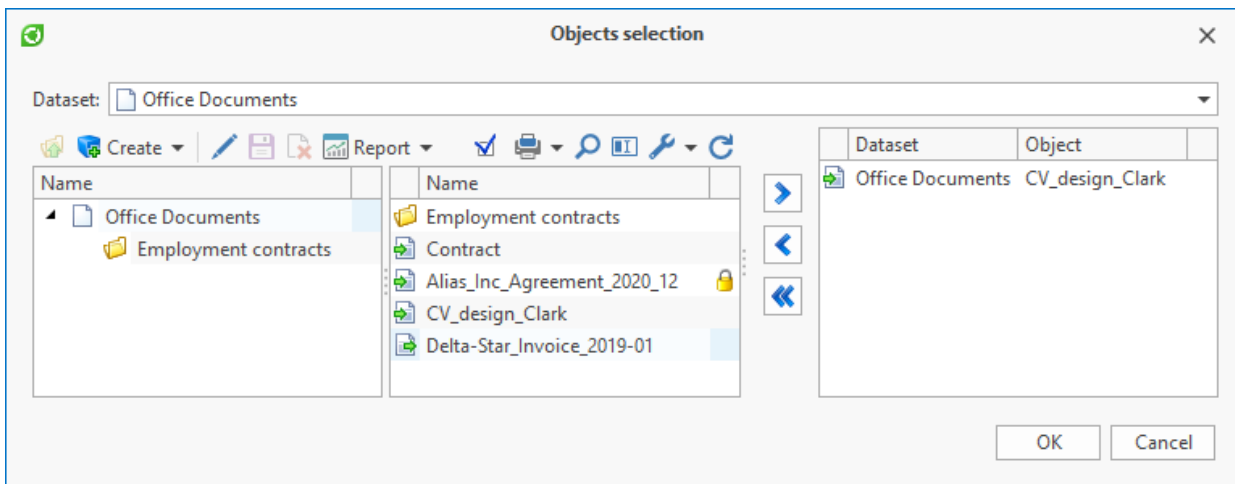


In the **Copy** field user writes names of users to whom message is not addressed but for whom it is important to read the message through.

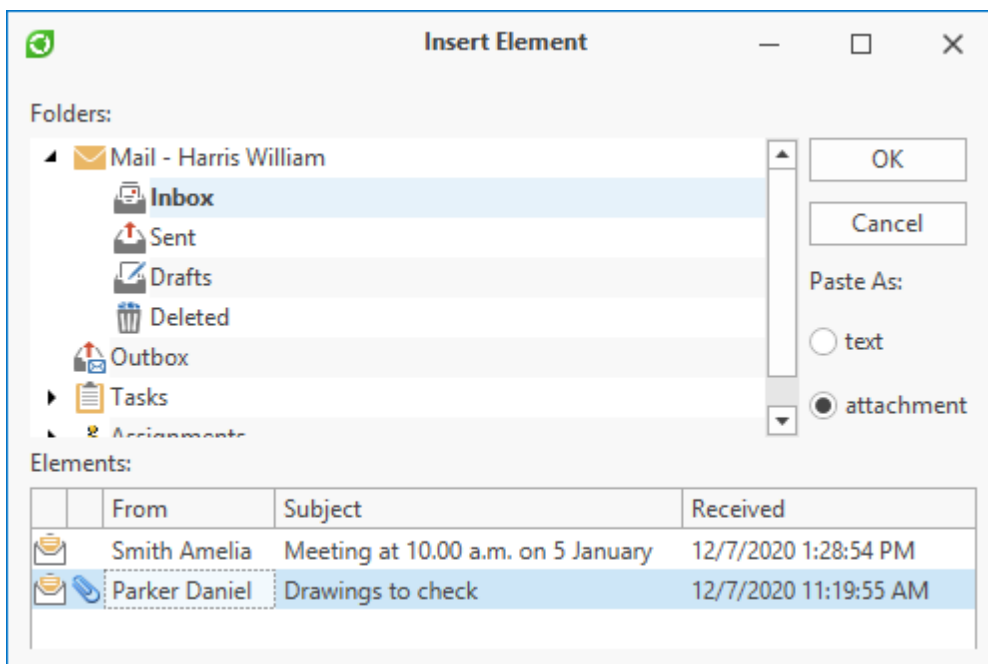


Subject field contains subject of the message and its summary. Typing area is in the bottom part of the window. Various objects can be attached to the message: file, dataset object, as well as another message or task. To do this, click **[Attach File/Object/Element]** button. Name of the attached object is displayed in the **Attachments** field.

To attach dataset objects, it is necessary to select required dataset from the list in the upper part of the window, and create list of attached objects in the selection dialog box.



To attach a component (other message or task) in the message, it is necessary to select folder where attached component is located in the upper part of the window, and to select the component in the bottom part of the window.




With the help of switch user can select paste method for the component:

- Paste as: text – text of the component will be pasted in the typing area of the created message. Objects attached to the component will not be pasted.
- Paste as: attachment – component will be attached to the message as a separate attachment which can contain other attachments.

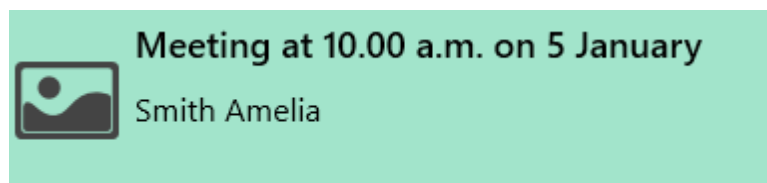
To attach file located on the user's computer, select **Attach file**; in the opened window state the name of the attached file and click **[Open]** button.

[HTML Format/Plain Text/RTF Format] is intended to change the format of the message text.



Toolbar above typing area of the message allows to edit text: change font, its size and style, register, text color. This toolbar also contains buttons to work with clipboard, buttons to open and save file with text of the message, as well as print button.


Unsent message can be saved to the "Drafts" folder via  button to edit it later. To send a message click **[Send]** button.

When new message or task is received, a balloon tip appears for several seconds in the upper right corner of the desktop. Display period of the balloon tip is set up by the user.






T-FLEX DOCs window can also have notifications panel where, depending on custom settings, information on unread messages, tasks and reminders can be displayed.

Notifications panel displays general number or unread notifications, to switch between them use  and  buttons.

Bottom part of the panel contains buttons which allow to perform [main actions with displayed mail component](#).  button allows to switch to [mail settings](#).




Moreover, if this notification panel displays notifications on unread messages, tasks or reminders, T-FLEX DOCs shortcut located on the Microsoft Windows toolbar has additional indicator. It has several types:

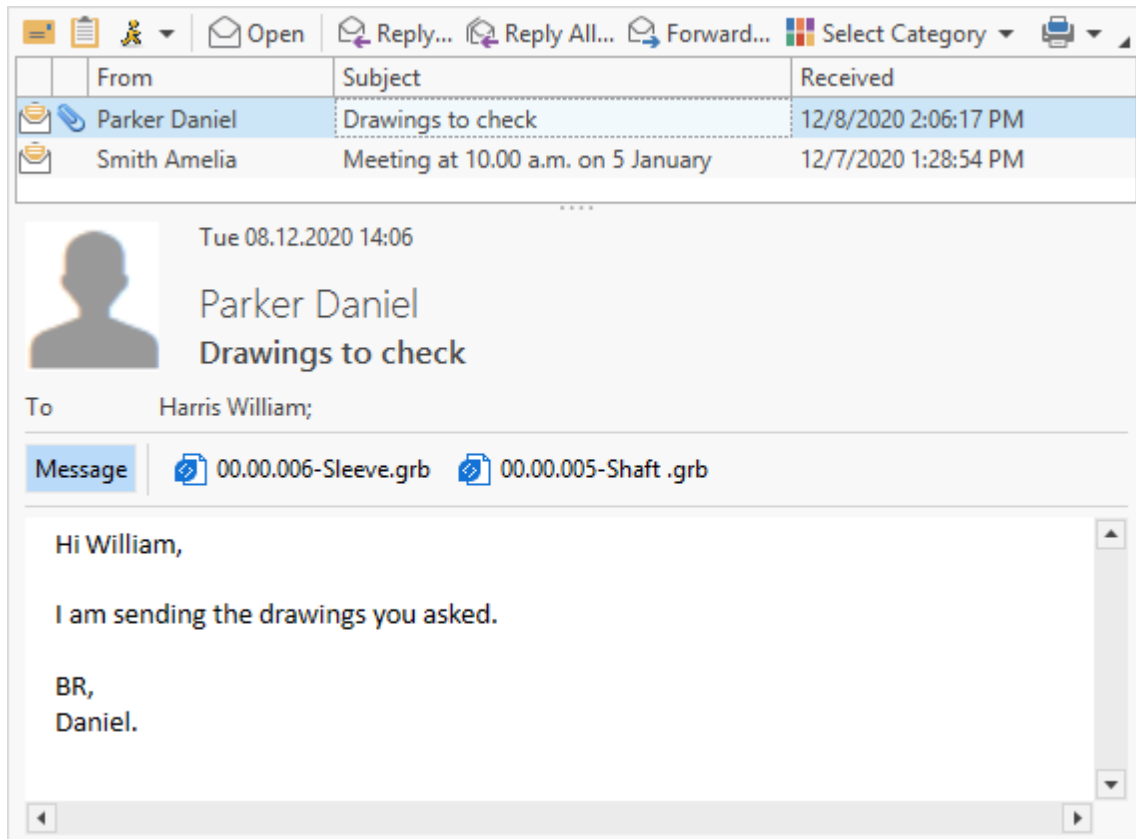
-  – there are notifications on unread reminders.
-  – no notifications on reminders, but there are notifications on unread tasks.
-  – no notifications on reminders and tasks, but there are notifications on unread messages.

When the notification panel is hidden, this indicator is not displayed.

Received messaged can be opened:

- by clicking balloon tip,
- from the notification panel,
- from the "Incoming" folder.

When a folder is selected on the **Mail and tasks** panel, upper part of mail window will display its contents and bottom part will display text of message selected from the list. Unread messages are put in bold font.  icon in the particulates string of the message means that the message contains attachments.




User can switch between text and attachments while reviewing the message.

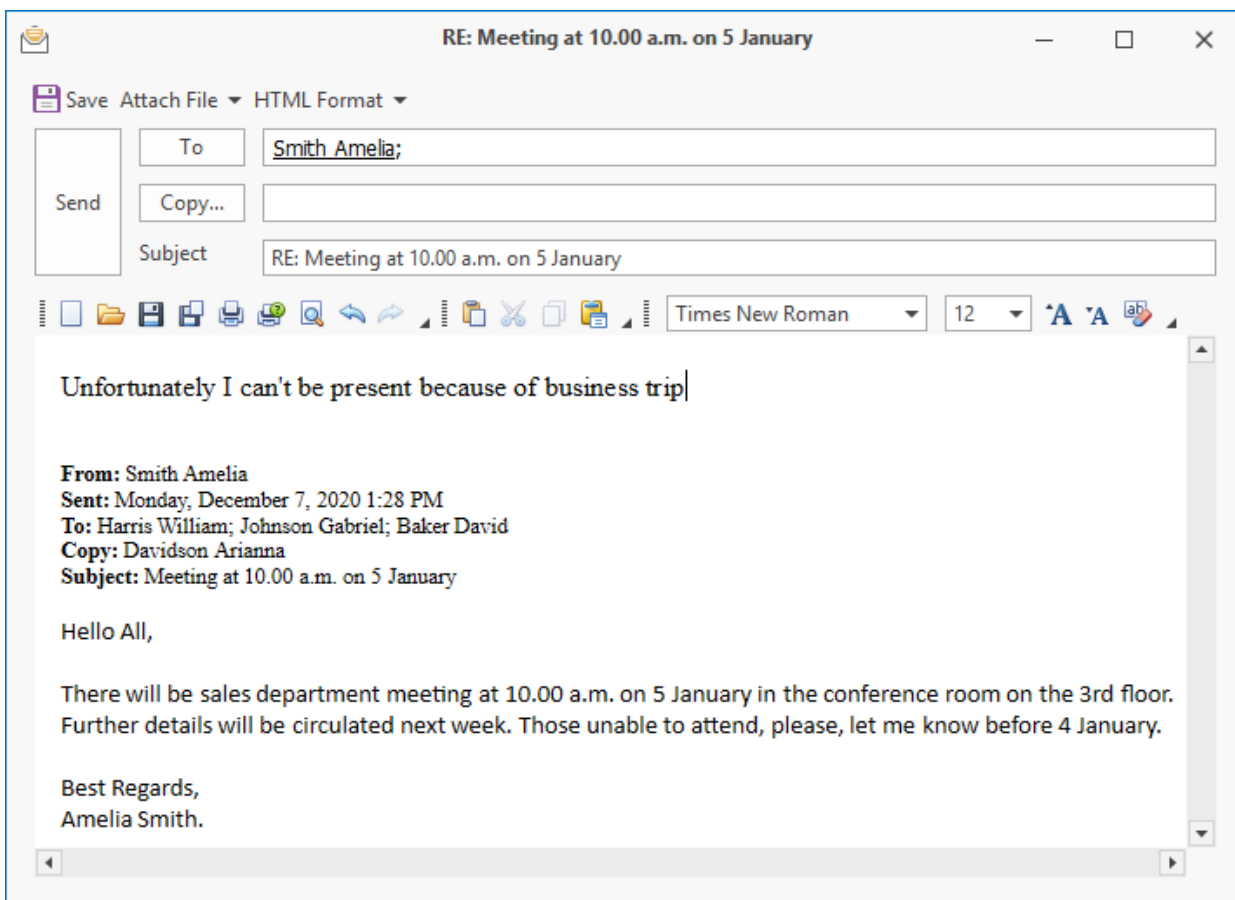
The screenshot displays an email client interface. At the top, there is a navigation bar with icons for home, list, and search, followed by action buttons: Open, Reply..., Reply All..., Forward..., and a 'Select Category' dropdown. Below this is a table of email messages:




	From	Subject	Received
	Parker Daniel	Drawings to check	12/8/2020 2:06:17 PM
	Smith Amelia	Meeting at 10.00 a.m. on 5 January	12/7/2020 1:28:54 PM

The selected message is from Parker Daniel, dated Tue 08.12.2020 14:06, with the subject 'Drawings to check'. The recipient is Harris William. The message content shows two attachments: '00.00.006-Sleeve.grb' and '00.00.005-Shaft .grb'. The '00.00.005-Shaft .grb' attachment is expanded, showing a technical drawing of a shaft assembly. The drawing includes a main view with dimensions and section lines (A-A, B-B, C-C, D-D, E-E, F-F), and several detail views labeled A, B, C, D, E, and F. The drawing is displayed in a window titled 'Drawing' with tabs for 'Top', 'Front', and 'WP 3'. A toolbar with various drawing tools and a coordinate system (x: -50 to 400, y: 150 to 250) are visible at the top of the drawing window.

With received message user can perform following actions:

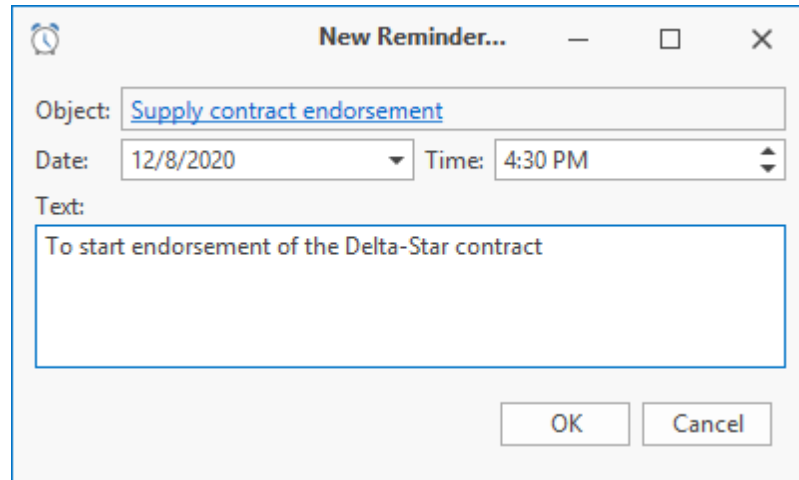
1.  **Reply...** – creates a reply which quotes the initial message. The message will be automatically addressed to the author of the initial message. It is also possible to add other recipients in the **To** field.



2.  **Reply All...** – is distinct from the previous action in that the reply will be addressed not only to the author of the initial message, but also to the users whose name where stated in the **To** and **Copy** fields. These fields can also contain other recipients.
3.  **Forward...** – creates message containing quote and attachments from the initial message. User enters recipient manually.
4.  **Move to Deleted** – moves message to the "Deleted" folder. When user removes message from the "Deleted" folder, the message is deleted permanently.

User can also select following options in the right-click menu of the message:



1. **Reminder** – creates a [reminded](#) linked to the message. User enters time and date when it should appear, as well as its summary.



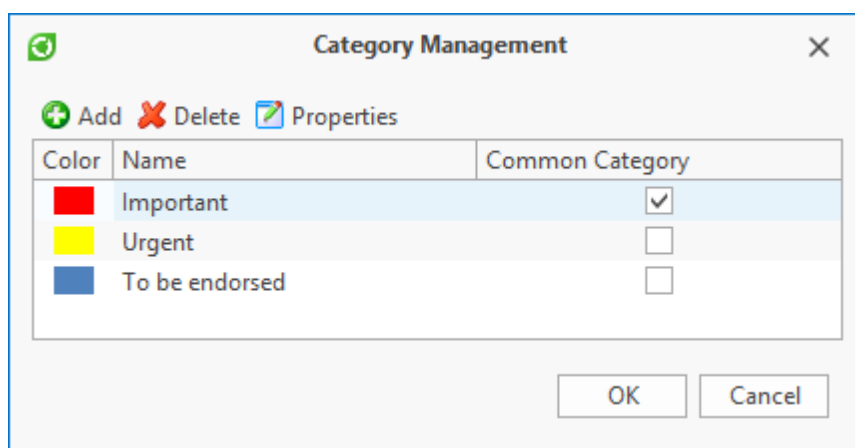
2. **Mark as Read** – marks the message as read.

3. **Mark as Unread** – marks the selected message as unread so that user can come back to it later.

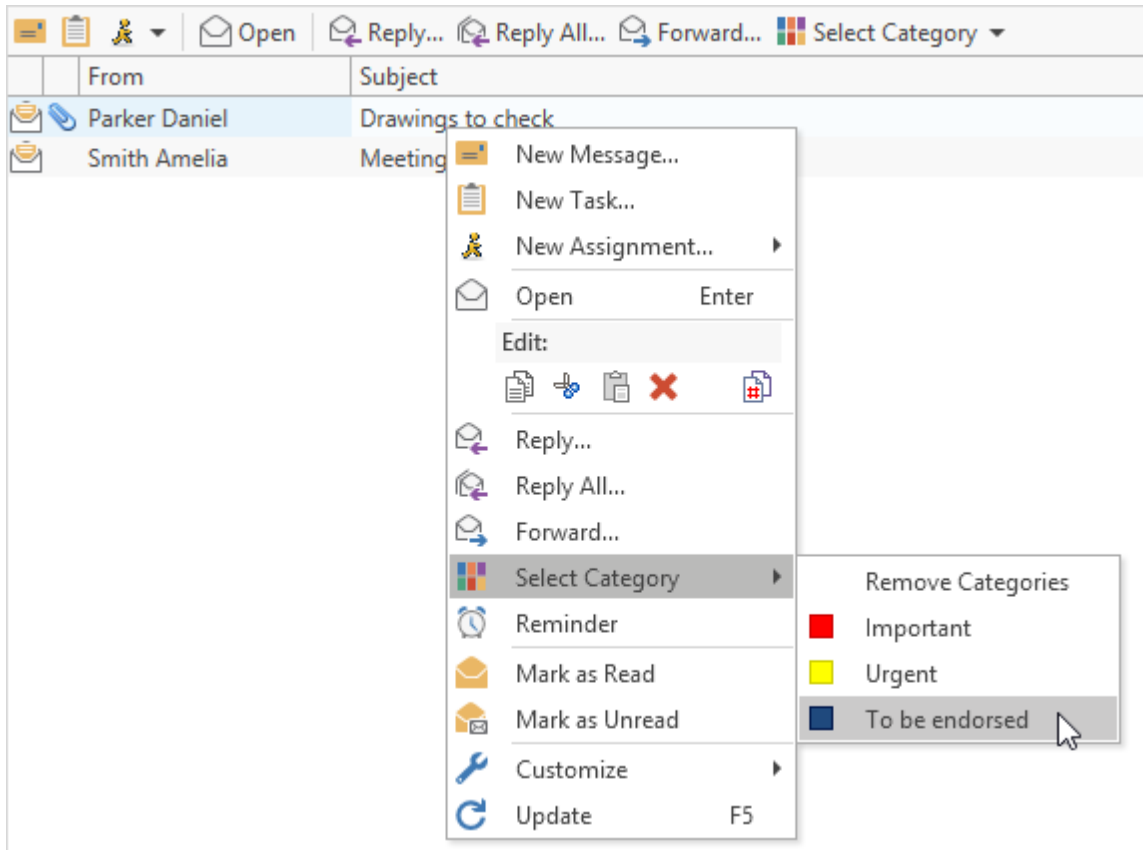
User can also divide messages into categories. For example, "Urgent", "Requires endorsement" etc. Each category can have its mark color.

To manage categories, use  button on the shortcut panel of "Mail and tasks". To create new category, click  button and enter its name and mark color. Category can be personal, available only to certain user, and common, seen to all users.

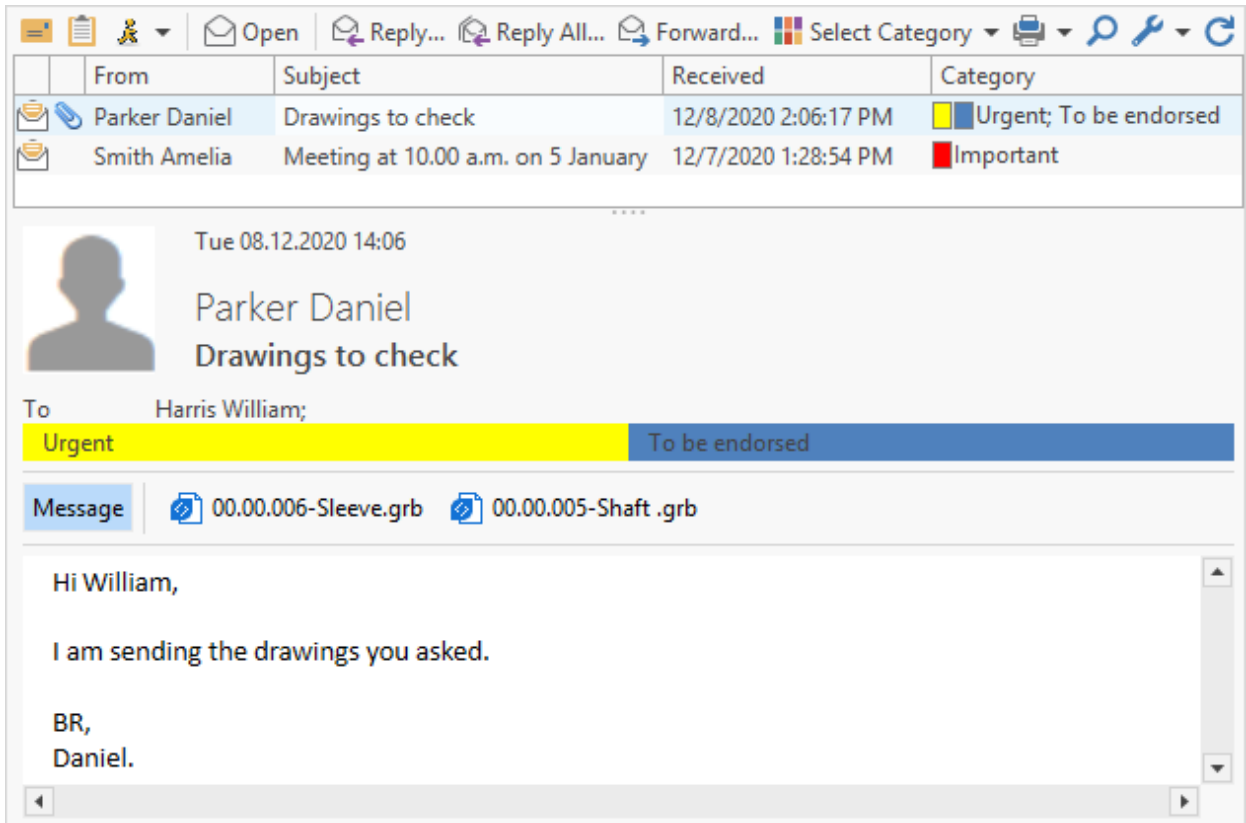
User without administrator access permissions can create only personal categories and administrator user can create both personal and common categories.



To set category for a message, use option **Select Category** in the right-click menu of the message and in the opened list select the required category.



The message will be marked with corresponding color and given the name of category. One message can belong to several categories.



To remove marks from selected message, select option **Select Category > Remove Categories** in its right-click menu.

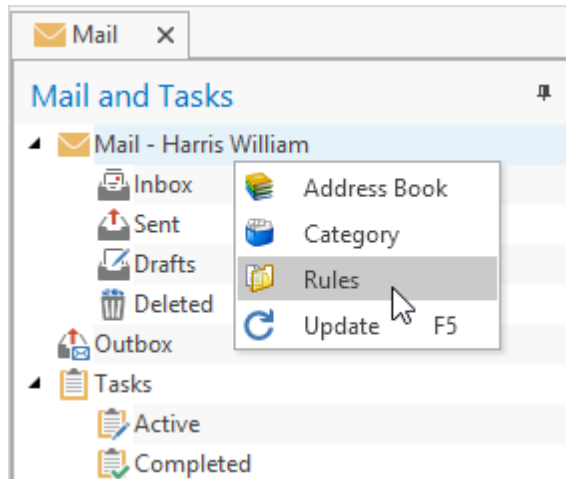
To make categories more convenient, it is recommended to set up the display of **Category** column for the folder with messages.

More information on setup of columns display is provided in the paragraph "[Setup of column display](#)" of the Chapter "Setup of columns" of the Section "Setup of data display in windows".


Rules for message transfer and sorting

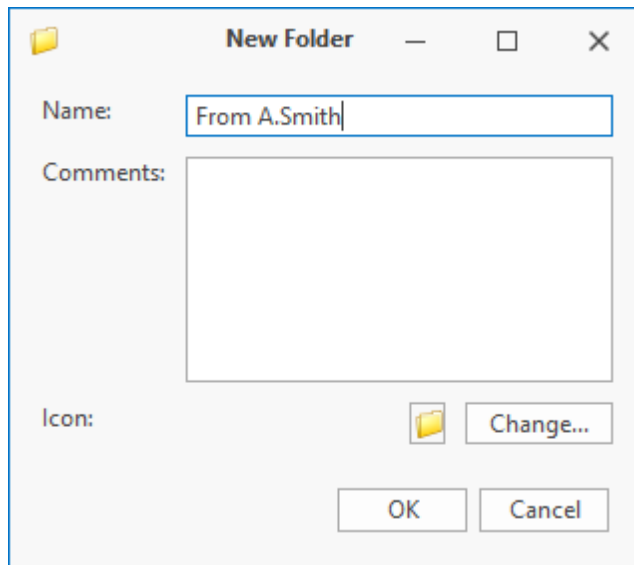
T-FLEX DOCs makes it possible for user to create rules for automated sorting of incoming messages in his/her personal folders, as well as rules for transfer to other users the messages which correspond to set conditions.

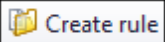
To open lists of rules for transfer and sorting, use option **Rules** of the right-click menu of the user's mailbox.



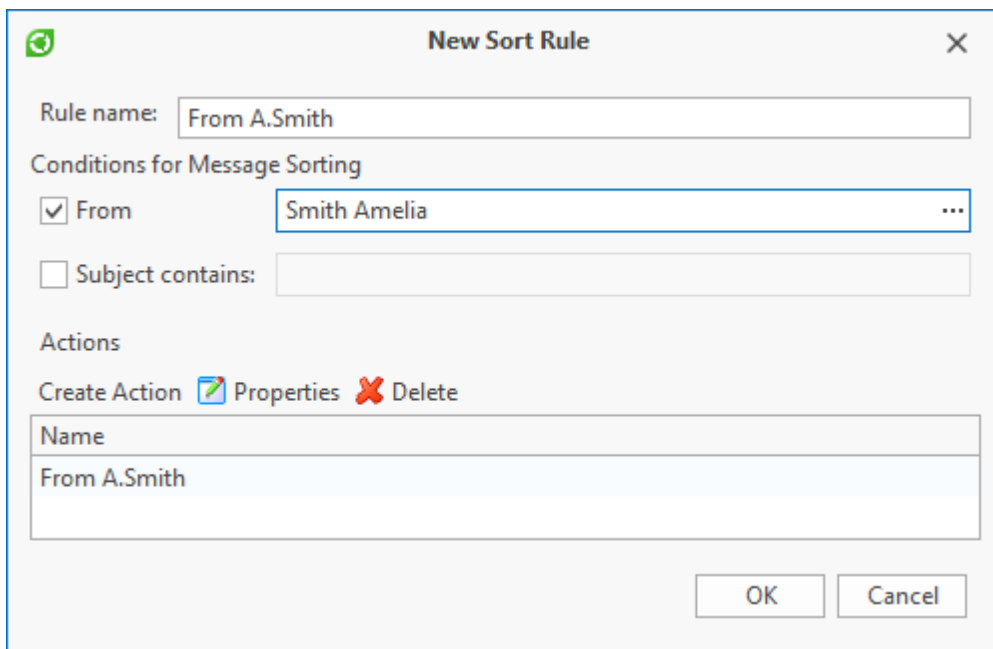
As an example, we describe creation of rule for sorting messages from user with surname Smith from "Inbox" general folder to separate folder.

1. Create new subfolder ( button on the shortcut panel of "Mail and tasks) in the "Inbox" folder, enter "From A.Smith" in the **Name** field.

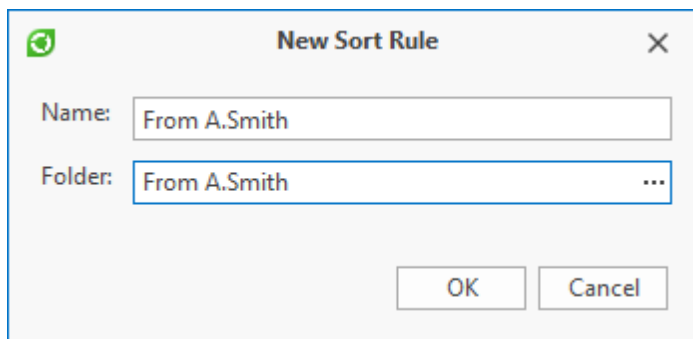


2. Select option **Rules** in the right-click menu of the mailbox. In the opened window go to **Sorting rules** tab and click  button.

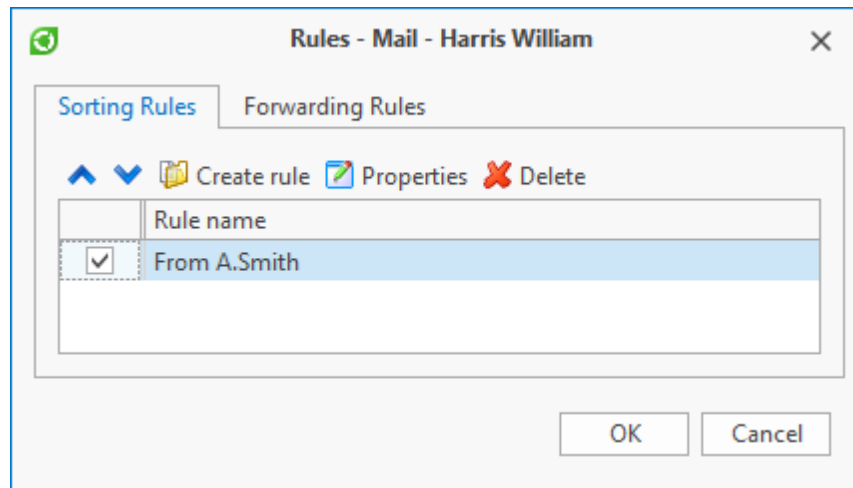
3. Enter name of the new rule and condition for message sorting. It is required that sorting is performed for **From** field, hence, check corresponding box and select required user from the "Users and Groups" dataset. Set name of new rule and conditions for the selection of messages.



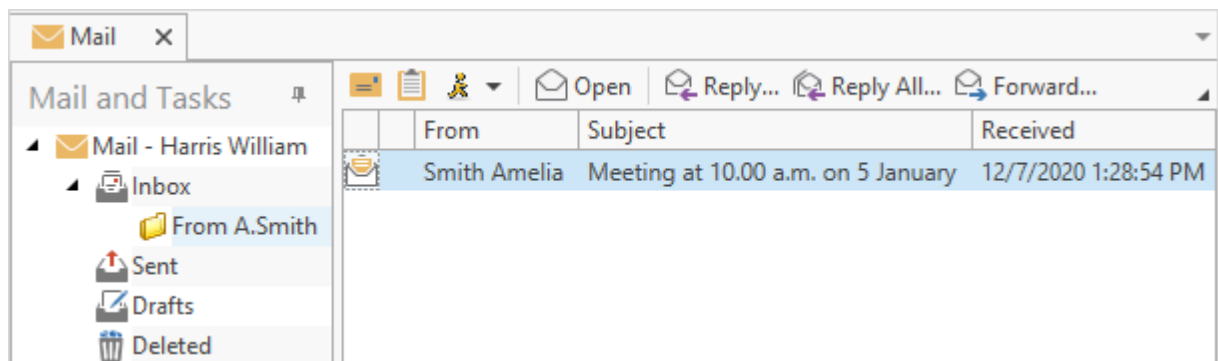
4. Below via [**Create action**] button set the action which will be performed with selected messages: enter its name, select previously created folder where the messages will be sent to.



5. Thereby, a new sorting rule is created. Save it via [OK] button.



6. Now, all messages from A.Smith will be sorted to the separate folder "From A.Smith".



User can sort out messages by sender's name (as was described above), by subject of the message or by both of the conditions simultaneously.

Redirect rules are created similarly. In the conditions for transfer user enters name of sender or subject of the message, and in the **Actions** field user enters name of the user to whom the copy of the message will be sent.

User can manage rules for redirect and sorting in the **Rules** window via toolbar buttons:

- and – move the selected rule up or down the list.
- – opens properties window of the selected rule.
- – removes rule.


By checking the box by the name of the rule user can enable and disable this rule.

Tasks

Unlike message, task requires to be executed; it is addressed to a certain executor (or executors), contains time limits, controller and control period.

Folder with user's tasks is displayed in the mail window which can be opened by "Mail"

shortcut in the "Mail" group on the navigation panel or by main menu option **View > System window > Mail**. It contains following system folders: "Active" and "Completed".

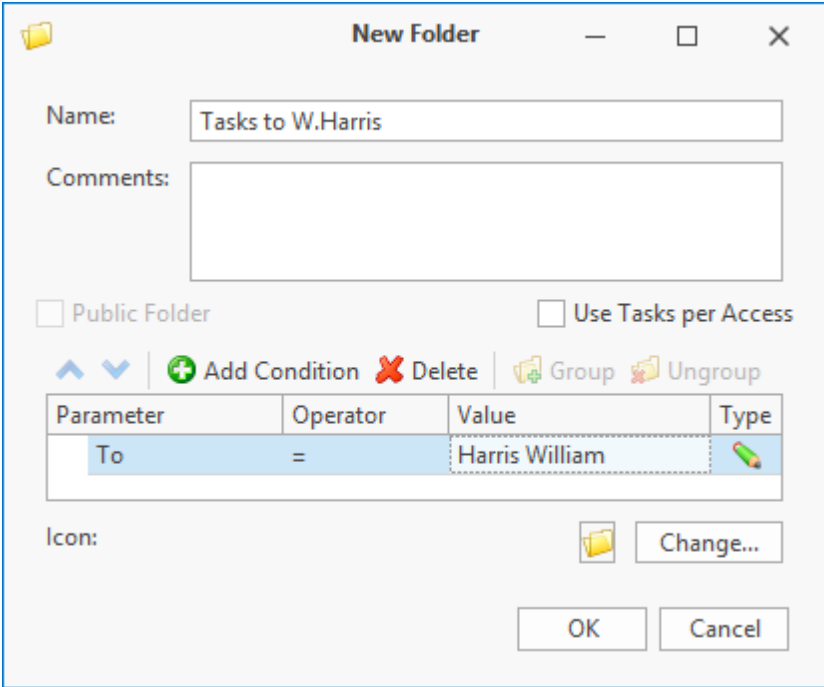
User can also create his/her own folders via toolbar button . When user clicks this button the properties window of new folder opens where user enters its name and [filter condition](#).

Moreover, user can enter a comment and change folder's icon.

If **Common folder** box is checked, created folder will be seen to all users. In this case each user has his/her own contents for this folder.

By default, only administrator user can create common folders.

If current user has access to the tasks of another user, the **Use Tasks per Access** box can be checked. In this case tasks from another user's mailbox will be displayed in the created folder. User can apply filter to the contents of the folder.



New Folder

Name:


Comments:

Public Folder Use Tasks per Access

Parameter	Operator	Value	Type
To	=	Harris William	

Icon:

"Active" folder contains tasks where user is either the person who assigns the task or the supervisor and which is executed at the moment. Completed, cancelled or declined tasks are moved to the "Completed" folder.

To create a task, click  button.

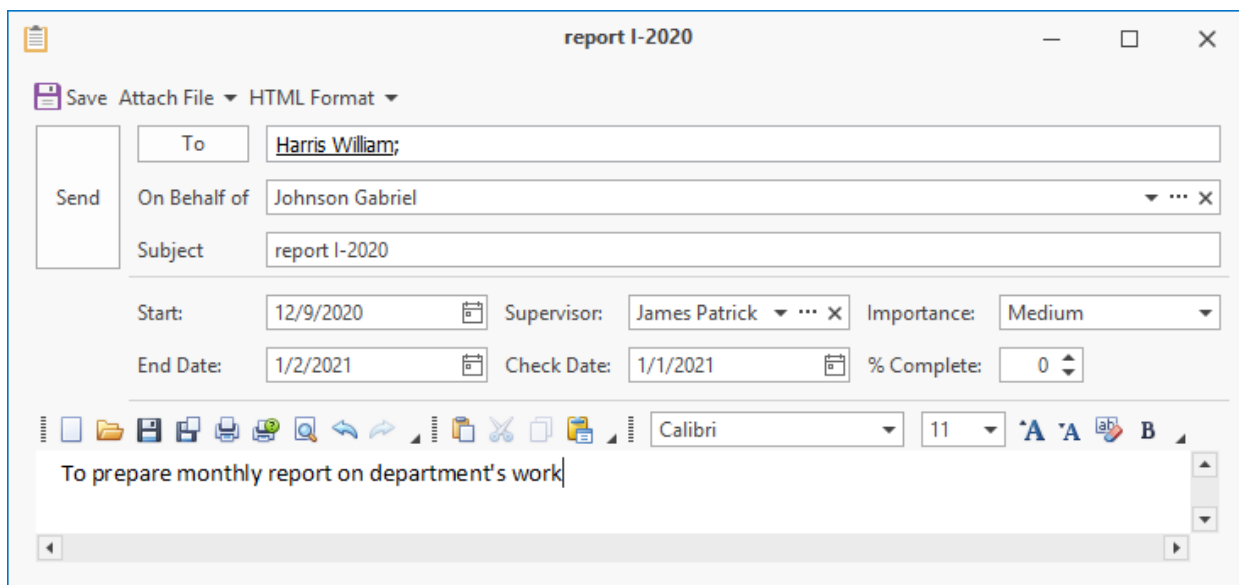
It is also possible to use option **Communications > New task** of the right-click menu of a dataset object. This object will be attached to the created task as an attachment.



In the **To** field user selects executor (or executors) of the task from the "Users and Groups" dataset. Similar to the mail message, user can enter a group of users in this field. If the task was assigned by another user, user enters his/her name in the **On Behalf of** field. Task subject and text are entered in the corresponding fields. Like message, task can contain [attachments](#).

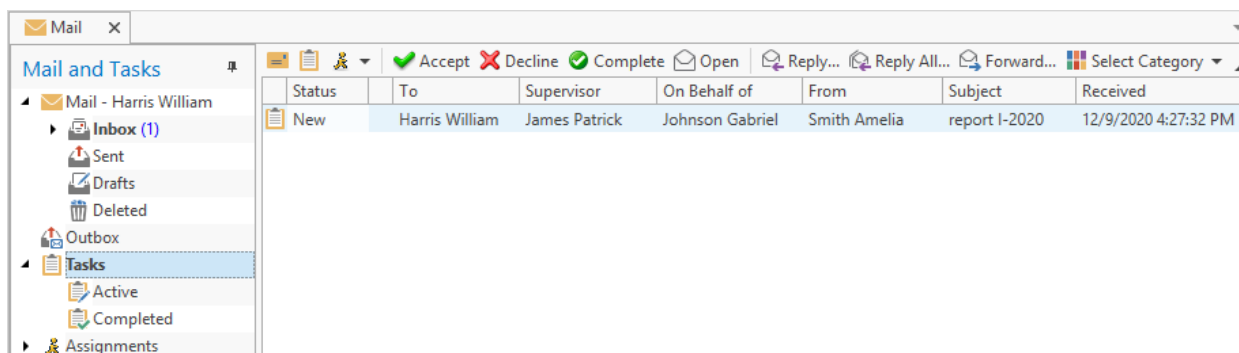
As a rule, user also enters start date for execution of works and end date. If necessary, user can

enter surname of the supervisor and check date.


In this case supervisor monitors the check date.



Assigner can cancel his/her task or reschedule it via  **Cancel** and  **Replan** buttons on the window's toolbar. To cancel means to finish works ahead of schedule, cancel this assignment. Rescheduling means changing any parameters of the task, e.g. deadlines or executor; in this case previous task is cancelled and a new one is created. Task supervisor has the same rights as the assigner.





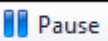
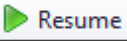
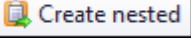
Toolbar can have following buttons:

1.  **Accept** – executor accepts task for execution; the task status changes from "New" to "In progress".

Task review does not mean it is accepted.

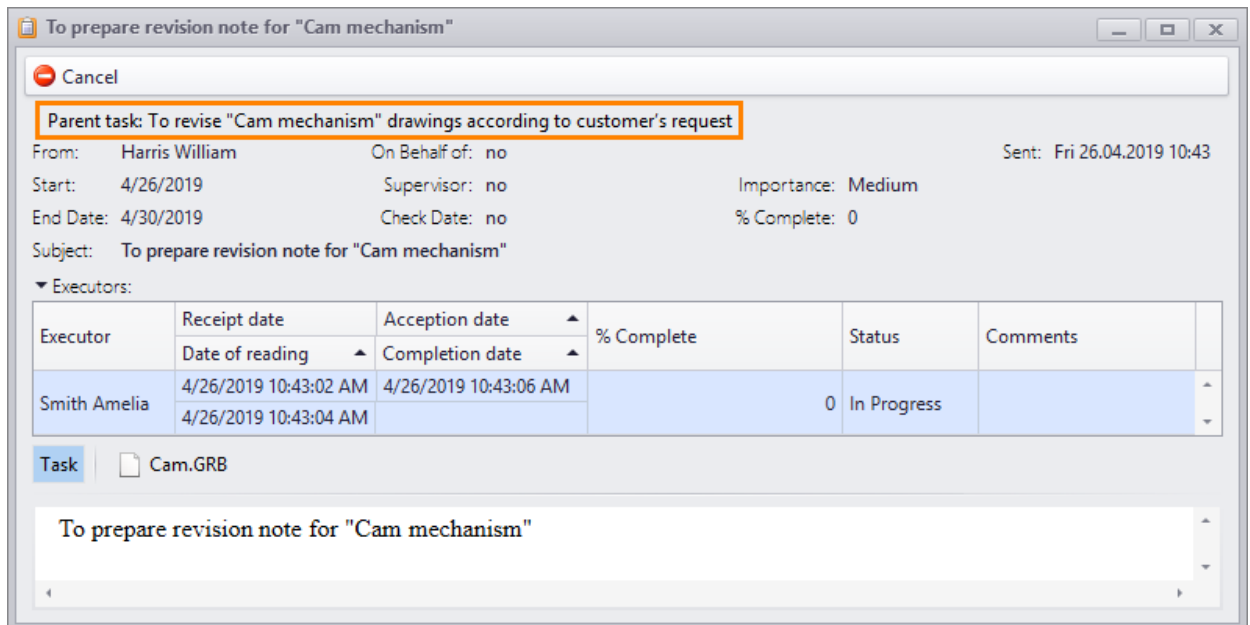
Task parameters fix time of receipt, time of read receipt and time when user accepted this task.


2.  **Decline** – executor refuses to accept the task for execution; user can leave a comment. Executor receives automatic notification that his/her task was declined.

3.  **Complete** – all works with the task stop and cannot be restarted. The task is moved to the "Completed" folder. Executor receives automatic notification that the task is completed.
4.  **Pause** – executor pauses work on the task; task status changes to "Suspended". Assigner receives a notification.
5.  **Resume** – executor resumes working with suspended task; task status changes to "In Progress".
6.  **Create nested** – when user accepts the task, he/she can reassign it to another user or to several users by splitting it to subtasks. By clicking this button, user creates embedded subtask for which user enters required parameters and executors.

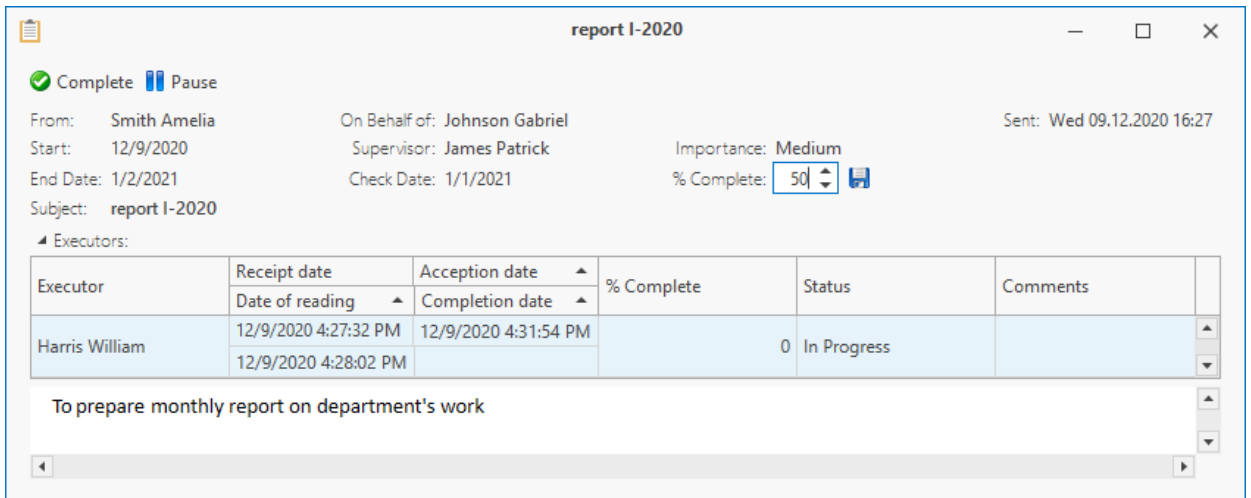
In such case, this user becomes assigner of new subtasks but at the same time stays the executor of the initial task. The properties window of a subtask has a link through which user can review properties of the initial task.

If user completes task which has subtasks, they will be automatically cancelled as completion of higher-level task means that subtasks do not require to be executed.



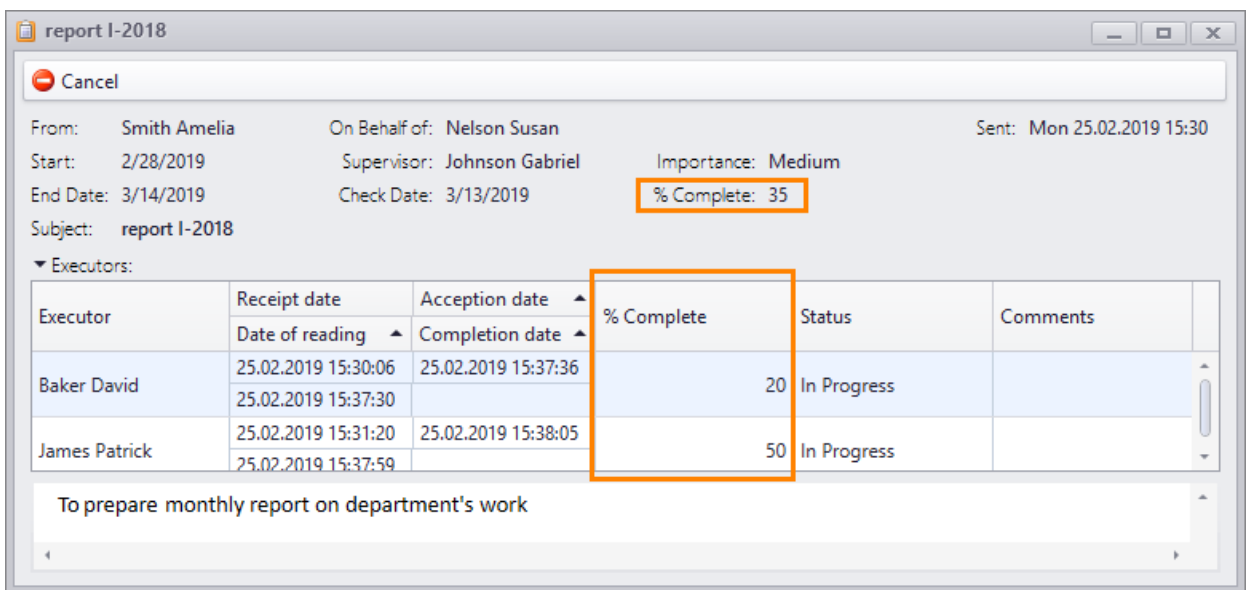
While performing the task, executor enters percent completed of this task manually and applies this parameter via  button.

Percentage can get higher or lower.





Assigner receives a message that the percent completed has changed. The assigner can monitor this parameter in the **Active tasks** tab.

If the task has several executors, the assigner's initial task will contain simple average of percent complete set by each of the executors.



When a task is complete, percent complete automatically turns to 100%.

The converse is false: even if executor entered 100% complete, it does not mean that the task is complete. Only when the  button is clicked, all works stop.

If the task does not require much time, after having it received, executor can complete it without clicking  button and entering 100% in the percent complete field. Such completion means automatic acceptance of the task.

Tasks from the "Completed" can be removed via right-click menu option **Edit > Delete**. They are deleted permanently.

In this case each user deletes only his/her copy of the task. Active task cannot be removed.

Similar to message, user can set [category](#) for a task.

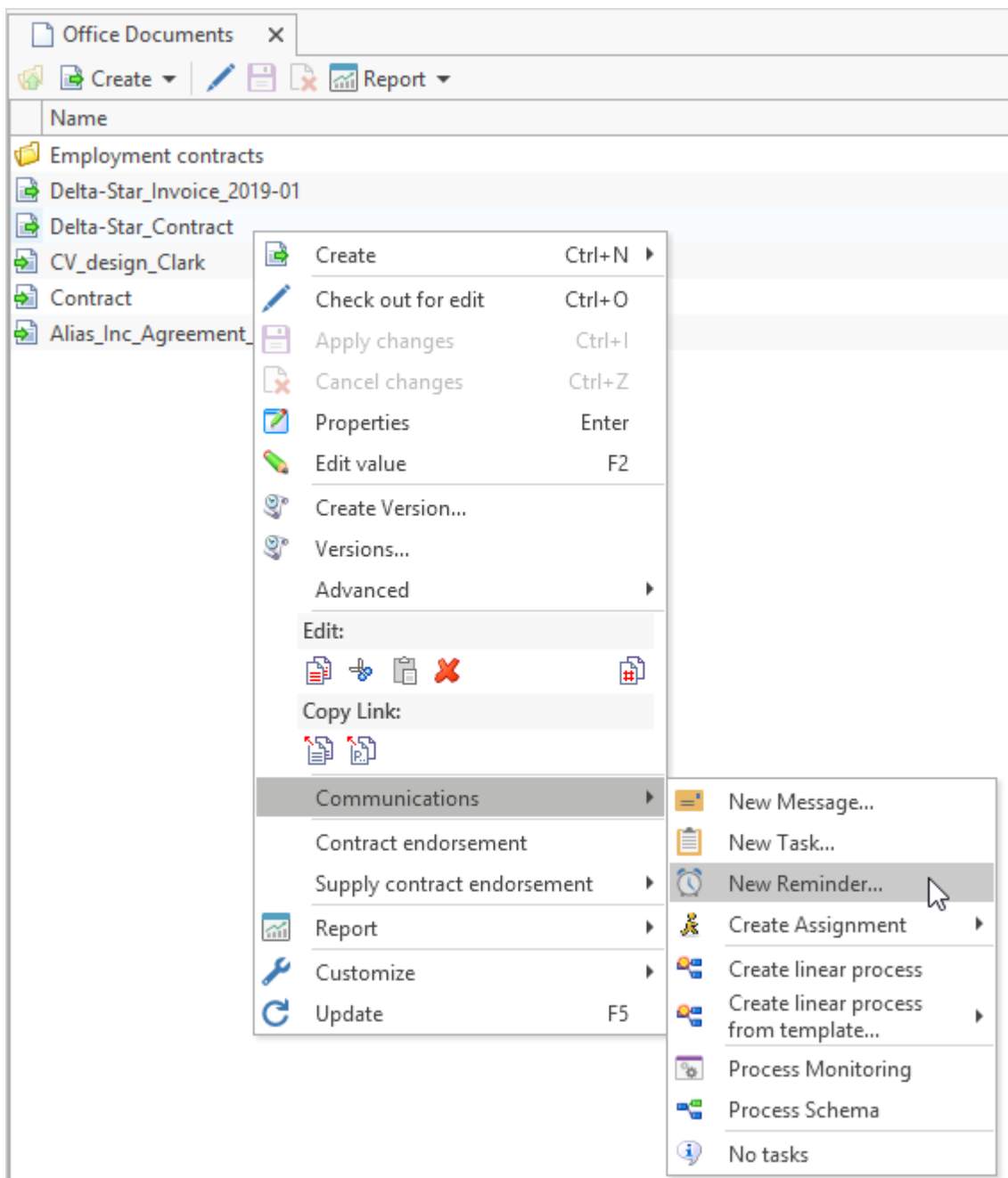
Apart from the assignment types described above, in T-FLEX DOCs there are assignments of two more types: workflow assignment and project assignment. Such assignments are given to the executor within a workflow or a project.

More information on workflow assignments is provide in the paragraph "[Workflows](#)" of the chapter "Workflow management" of the section "Document flow management", on project assignments of the section "Project start and execution" of the document "T-FLEX DOCs – Project management module".

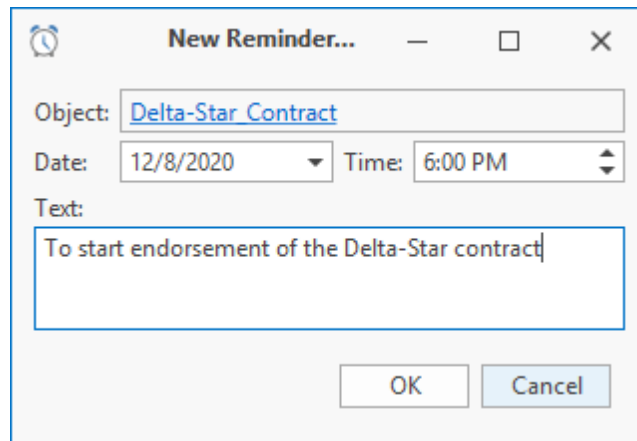
Reminders

In T-FLEX DOCs user can create a reminder about any important event. Reminder can be linked to any dataset object, document, file, message or task. Reminder's parameters contain link to the object which is connected to the reminder.

To create new reminder, select option **Communications > New Reminder** in the right-click menu of the object which will be connected with the reminder.





Link to the reminder object is created automatically. User needs to enter date and time for the reminder, as well as text of the reminder.

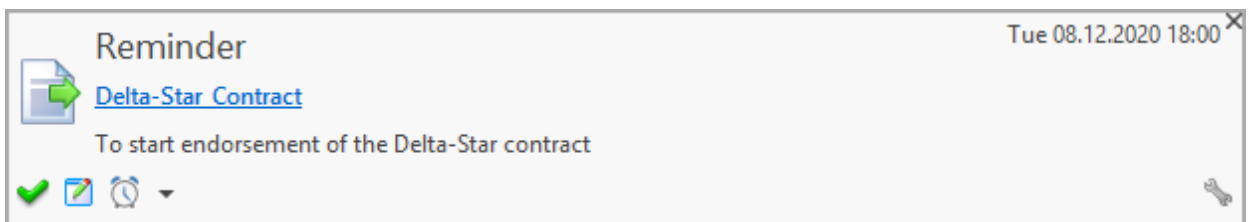



All reminders of the user (both expired and planned) can be reviewed by selecting main menu string option **View > System window > Reminders**. Separate tab with list of reminders opens; reminders can be deleted or edited.

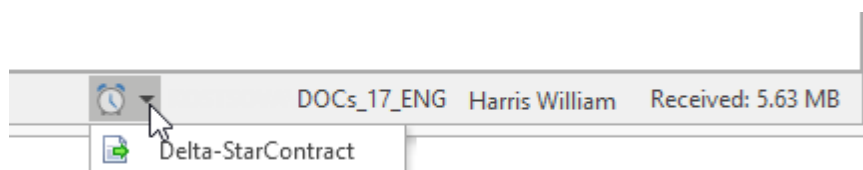
Expired reminders can be displayed:


1. On the notification panel – notification text and link to the object are displayed. To open the reminder's window, click  button. To complete reminder, click  button.

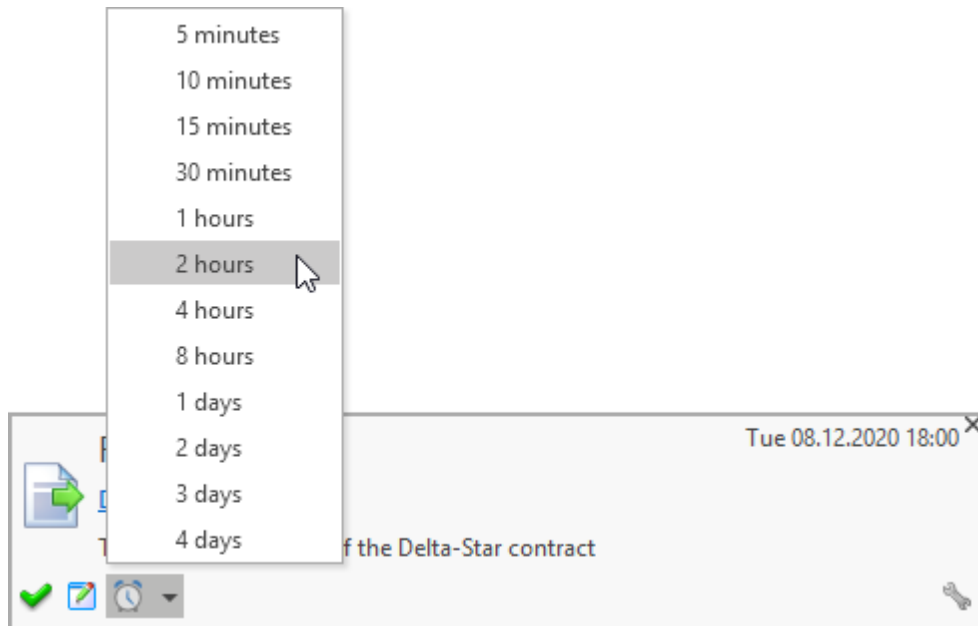
More information on this setting is provided in the paragraph ["Mail and tasks setup"](#).



2. In the status string – by clicking  icon, user opens list of expired reminders. To switch to the window to review individual reminder, select it from the list.




User can delay a reminder by changing time in its properties window or by selecting required time period in menu via  button on the notification panel for unread messages, tasks and reminders.

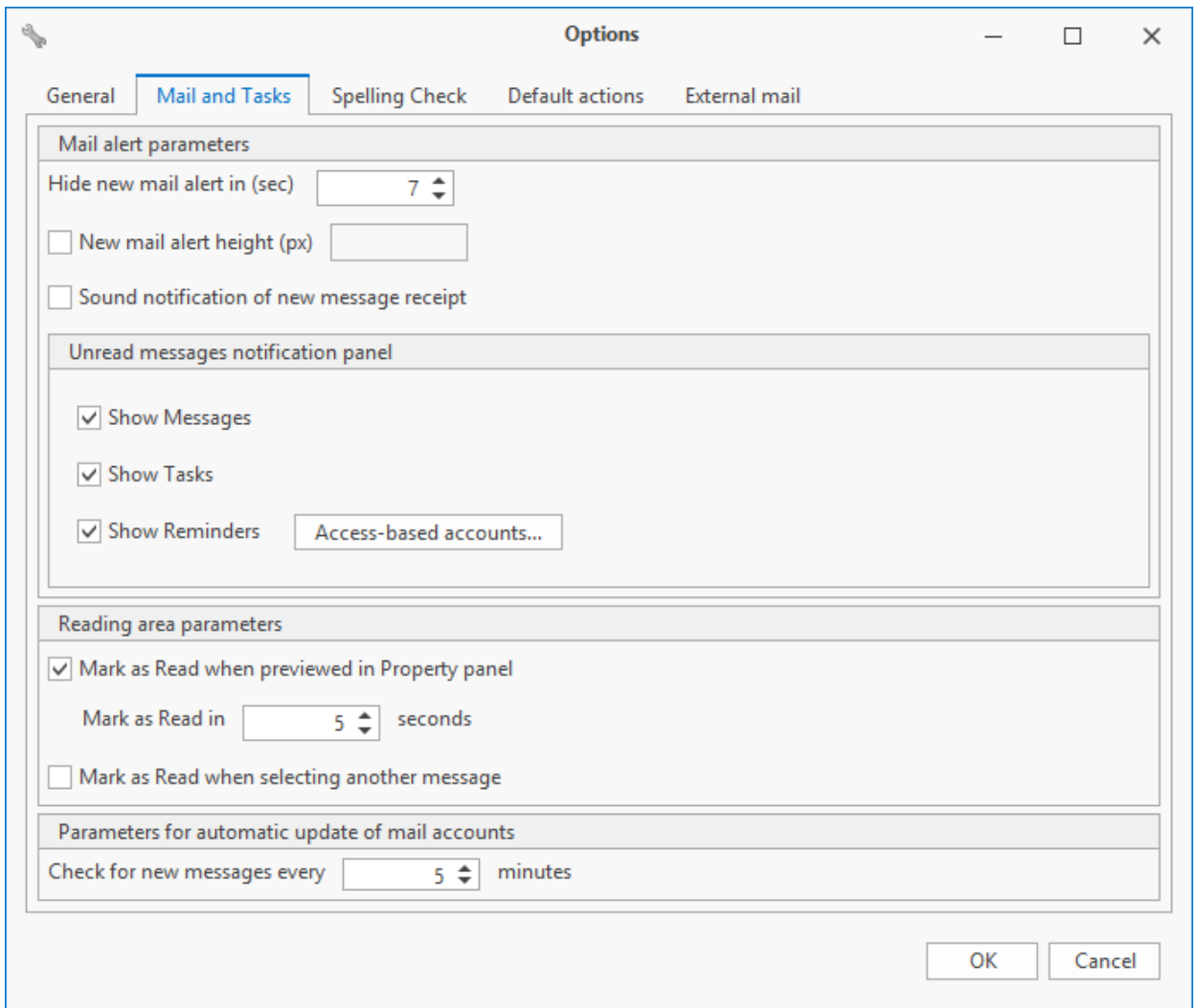



Mail and tasks setup

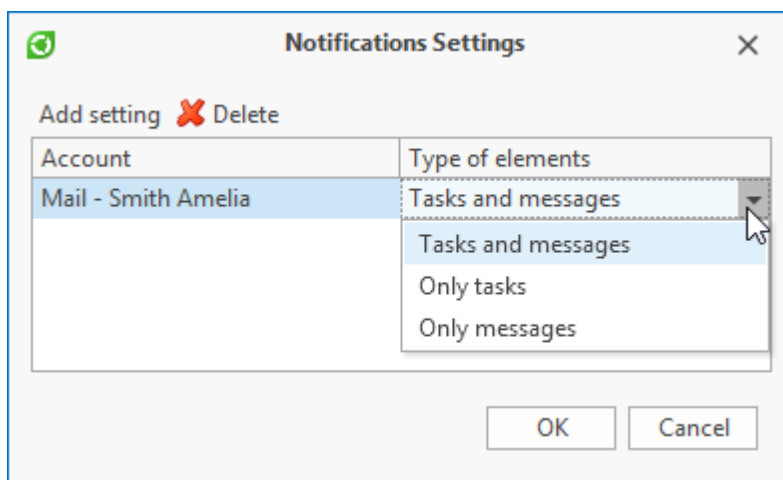
User can edit settings of the mail service on the **Mail and tasks** tab of the window opened by the main menu option **Service > Options**. It contains notifications and display parameters for mail messages.

User also can open mail settings via  button on the notification panel for unread messages, tasks and reminders.

On this tab user can setup sound notification for new messages, indicate which events shall be displayed on the notification bar, as well as to set time period to check for new messages and parameters for display of unread messages.



If current user has access to messages and tasks of another user, he/she can set up display of this user's unread messages and tasks on the notification panel. To do this, open the window via [Access-based accounts]. Click [Add setting] button, then select required mailbox in the **Account** field and components to be displayed on the notification board – in the **Type of elements** field. To remove setting click  Delete button.




Address book

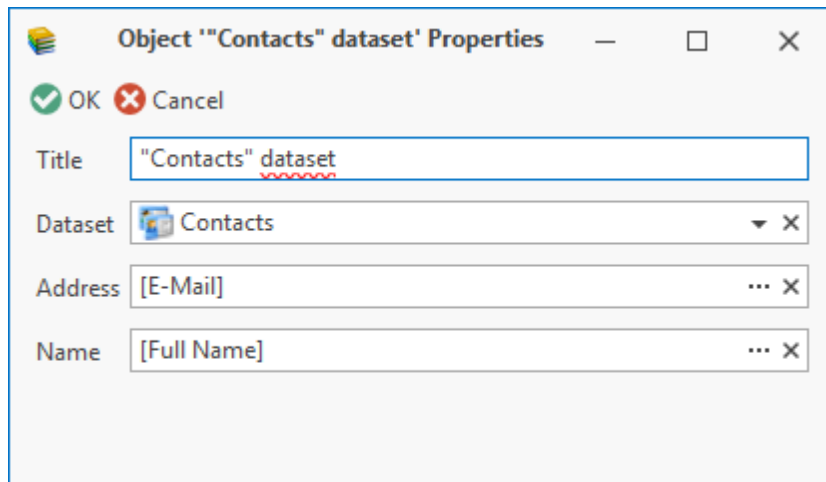
To open address book in T-FLEX DOCs, click  button on the toolbar of the **Mail and tasks** panel.

Address book displays objects of the "Users and Groups" and "Contacts" datasets. The "Users and Groups" dataset contains information on structure and employees of the company who are T-FLEX DOCs users. The "Contacts" dataset stores contact details of external companies' representatives.

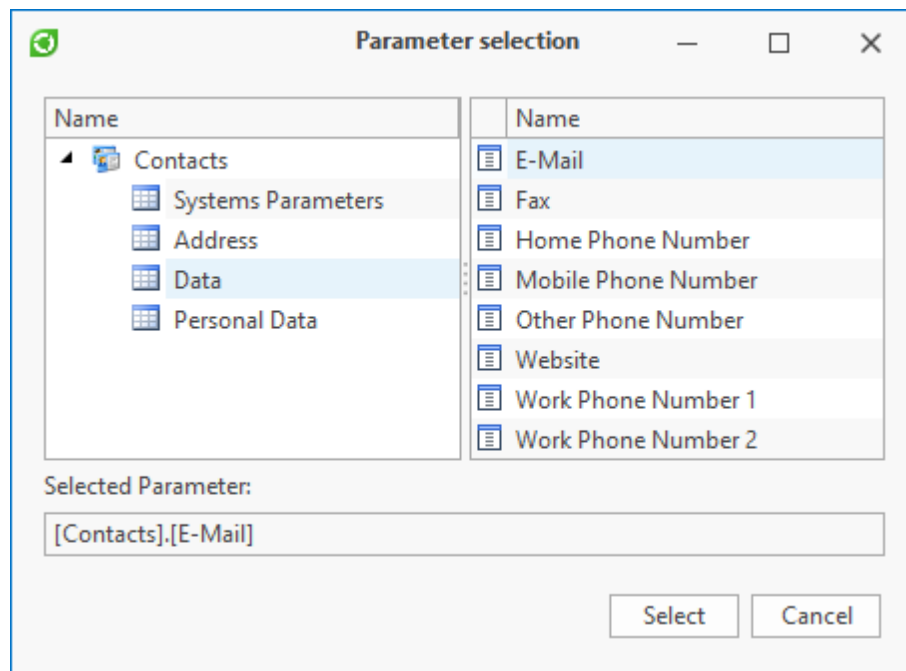
In such case contacts can be common ("Contact" object type) available to all users and personal ("Personal contact" object type) available only to the user who created them.

Moreover, user can add data to the address book from other datasets. To do this, use "Address Book Settings" dataset.

Similarly, user can create settings for other datasets.  button opens the window where user needs to enter name of the setting and select required dataset from the list.

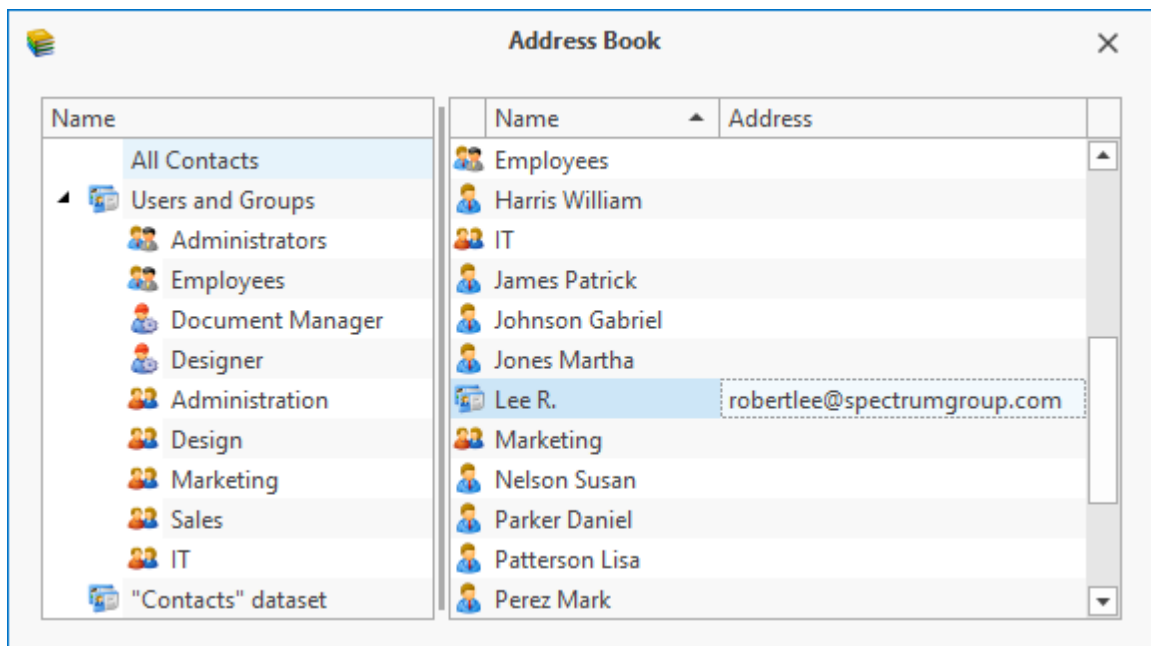


In the **Address and Name** fields user enters parameters of objects in the selected datasets values of which must be displayed in the address book.



Address book window is divided into two parts: the left part contains list of available datasets with hierarchy tree, the right one contains list of objects in the selected dataset. User can select **All Contacts** to display objects of all datasets in one list.

To search for required information in the address book use search panel which can be opened via option **Show search panel** in the right-click menu of the column title string. Information about a user can be reviewed by selecting user's name and pressing <Enter> key.





Assignments

Assignments mechanism is another part of T-FLEX DOCs internal mail service. It has simple interface and allows the manager to distribute assignments to employees promptly and then to monitor their execution. Moreover, executor of the initial assignment can split it into separate subtasks and assign it to other users. Thereby, a tree of assignments is created.

List of assignments and their properties are available to any user depending on their roles and access permissions. It is the mechanism's peculiarity, unlike tasks mechanism.

Assignments are stored in the same name dataset but user can also switch to it via **Mail and tasks** panel. This panel contains search folders and manually filled folders. Folders are intended to organize assignments. Each search folder contains assignments which correspond to the set filter.

Contents of the selected [search folder](#) can be opened in a separate tab in the T-FLEX DOCs main window via right-click menu option **Open in New Window**.

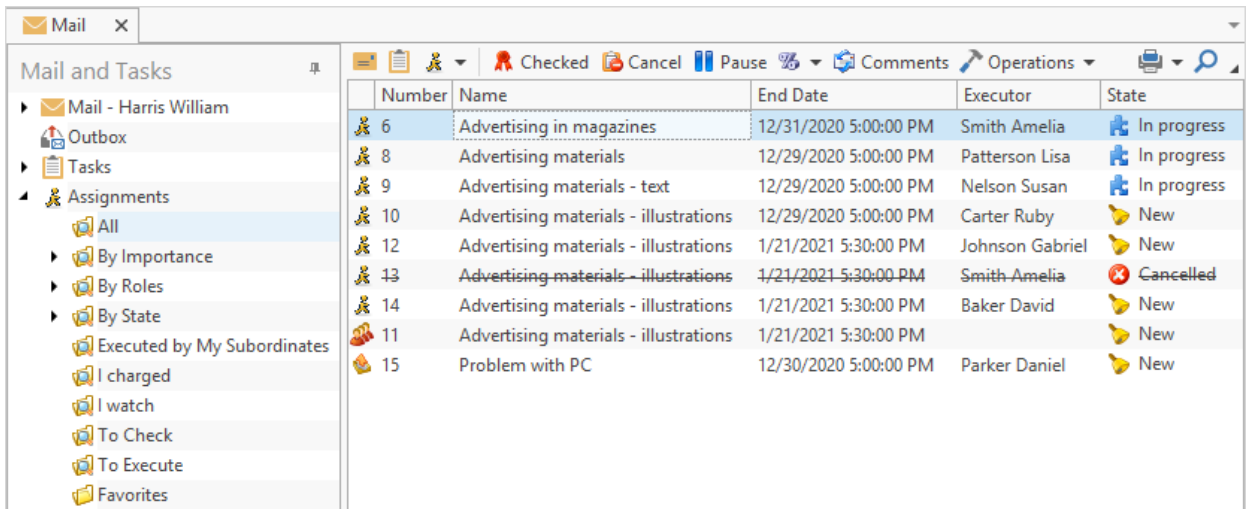
T-FLEX DOCs has also possibility to create custom search folders ( button) and manually filled folders ( button).

Contents of standard folders is provided [below](#).

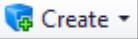

List of objects in the selected folder will be displayed in the work window.

To review the assignments tree in the work window, select option **Assignments** on the **Mail and Tasks** panel.

In this case links between assignments will be displayed.



Number	Name	End Date	Executor	State
6	Advertising in magazines	12/31/2020 5:00:00 PM	Smith Amelia	In progress
8	Advertising materials	12/29/2020 5:00:00 PM	Patterson Lisa	In progress
9	Advertising materials - text	12/29/2020 5:00:00 PM	Nelson Susan	In progress
10	Advertising materials - illustrations	12/29/2020 5:00:00 PM	Carter Ruby	New
12	Advertising materials - illustrations	1/21/2021 5:30:00 PM	Johnson Gabriel	New
13	Advertising materials - illustrations	1/21/2021 5:30:00 PM	Smith Amelia	Cancelled
14	Advertising materials - illustrations	1/21/2021 5:30:00 PM	Baker David	New
11	Advertising materials - illustrations	1/21/2021 5:30:00 PM		New
15	Problem with PC	12/30/2020 5:00:00 PM	Parker Daniel	New

To create new assignment, click  button on the toolbar of the "Assignments" dataset work window or  button on the toolbar of the **Mail** window.

User can also select option **Communications > Create Assignment** of the right-click menu of the dataset object. This dataset object will be attached to the created assignment in the **Data** tab or in the **Files** tab, if it is a file.

In similar way an assignment can be connected to [a theme or a task](#). In this case to display linked object, use **Task** field in the **Additional** tab of the assignment properties window.

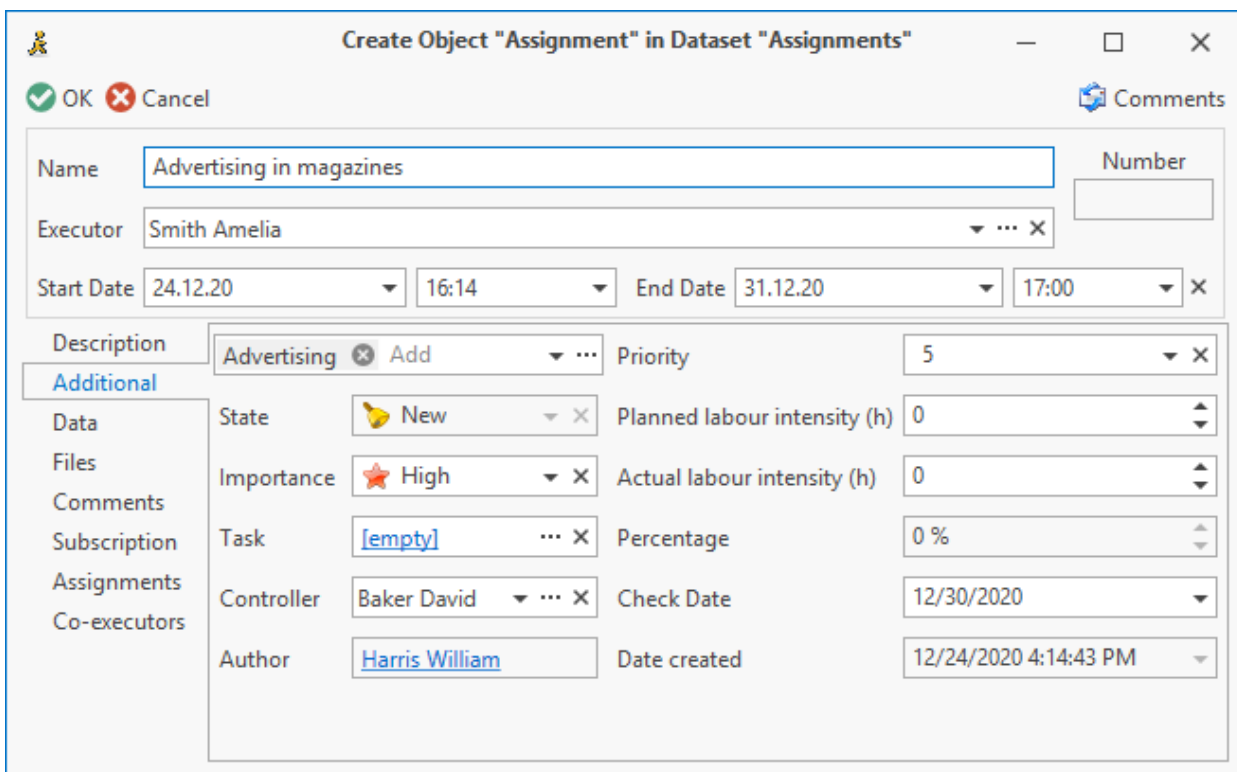
"Assignments" dataset has several object types available:

- assignment,
- assignment with the list of possible executors,
- assignment to executive team,
- office memorandum.


Assignment properties windows requires following parameters:

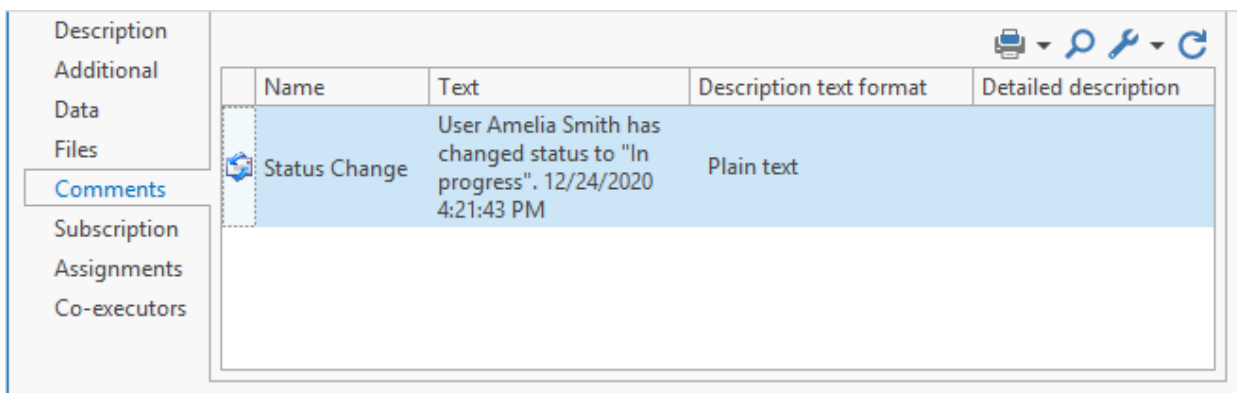
- name,
- executor,
- start date,
- end date.

Number is assigned automatically.



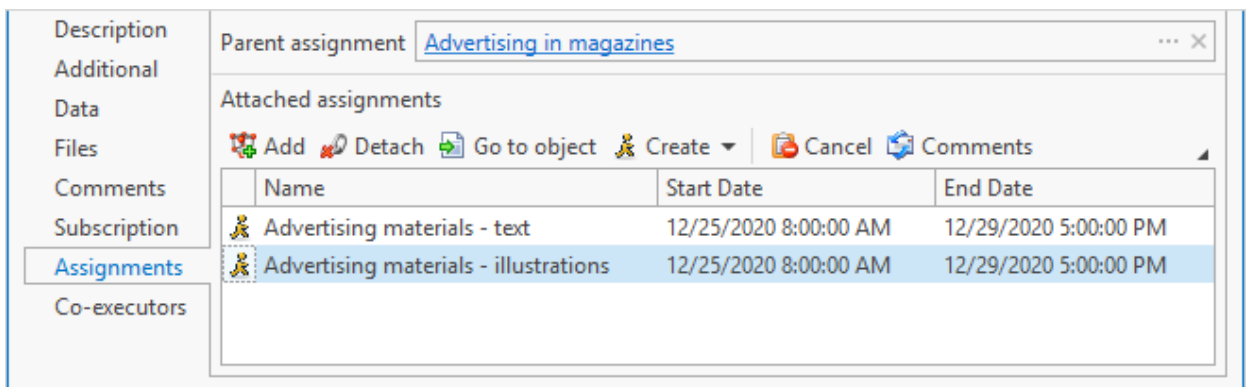
Bottom part of the properties window contains following tabs:

1. **Description** – user enters descriptive text in the selected format.
2. **Additional** – contains additional parameters which will be described below.
3. **Data** – creates link with an object of any dataset.
4. **Files** – allows to attach file from the "Files" dataset to the assignment.
5. **Comments** – displays comments to the assignments, both system and custom. To leave a comment, any user clicks  button on the toolbar above object. Added comments cannot be edited or removed.




6. **Subscription** – this tab forms a list of users who will receive notifications on actions for this assignment.

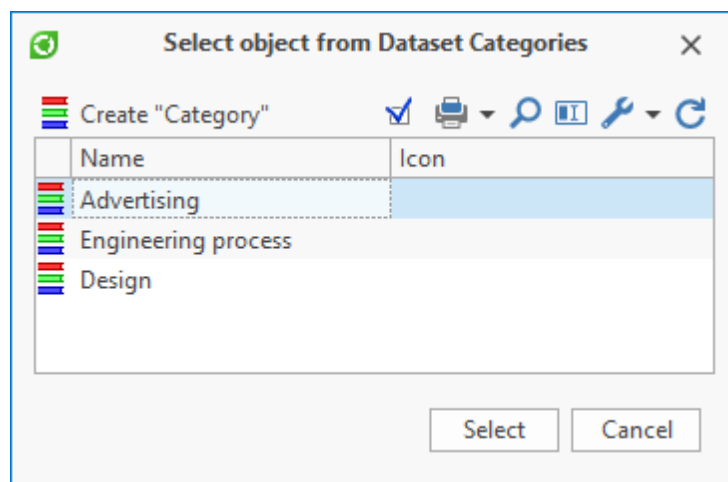
7. **Assignments** – displays link to parent assignments and list of embedded assignments. To open the properties window of embedded assignment, double click of the left mouse button on the string with assignment's name.




Additional parameters of an assignment can be its importance and priority, category, controller and check date, as well as planned and actual labour intensity.




If current assignment is linked to [theme or task](#), link to the task is displayed in the **Task** field of the **Additional** tab.

Assignment category is set in the field with "Add" text. Categories are stored in the corresponding dataset which is available via  button. In this dataset user can see only those categories he/she created.

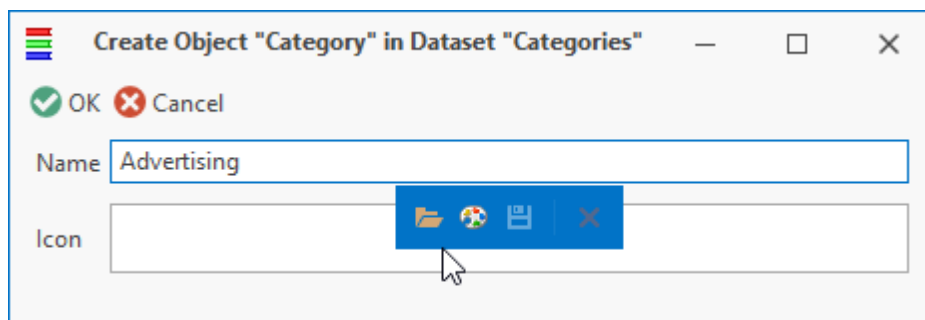


To add new category in the dataset, click  button. Category is assigned with a name and icon, if necessary.

When user points at the **Icon** field, control panel for icons appear with following buttons:

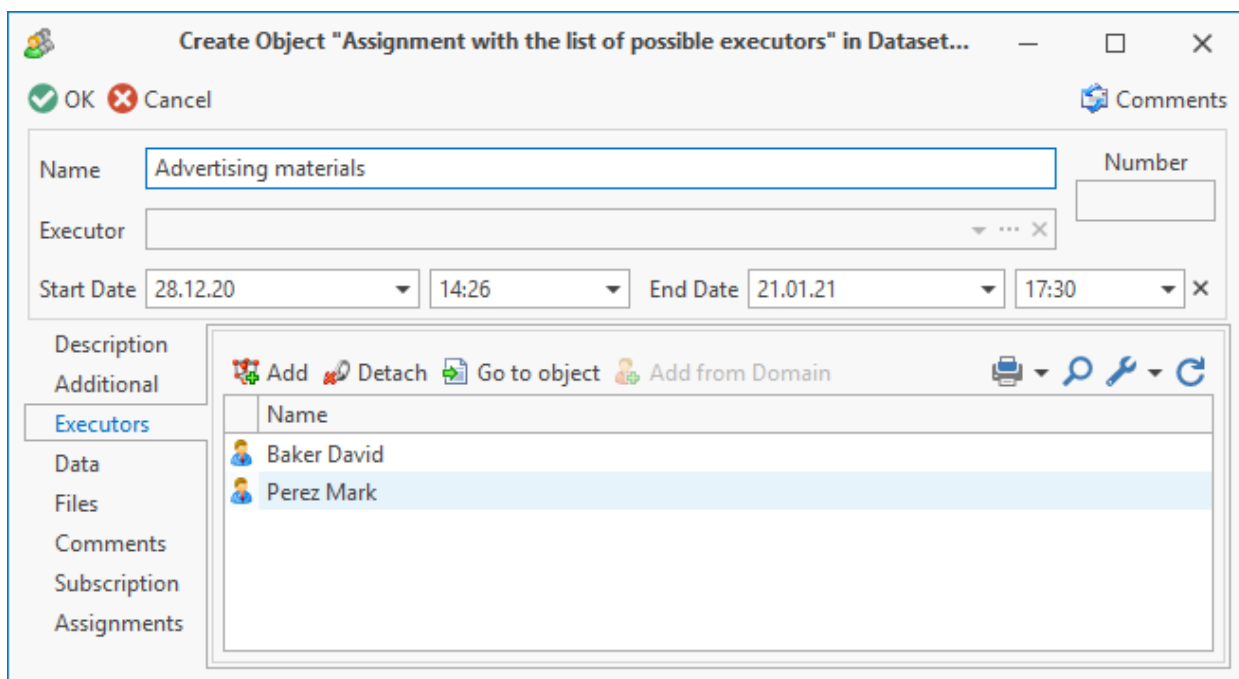
-  – selection of icon stored at user's local computer;
-  – selection of icon from the "Images" dataset;
-  – save icon to user's local computer;



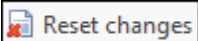
-  – clean the field.



For one and the same assignment each user can select his/her own category. Assignment can have several categories.

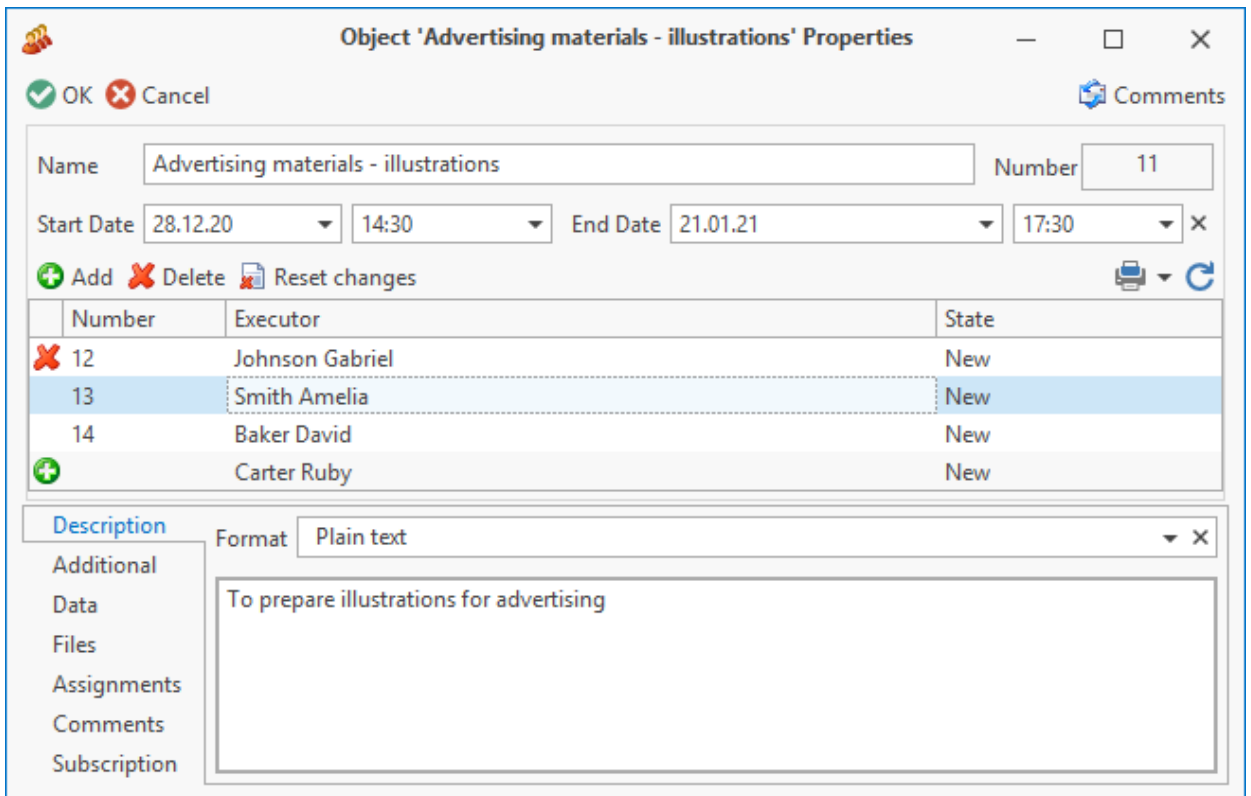
In the properties window for the assignment of "Assignment with the list of possible executors" type there is an additional **Executors** tab. This tab forms a list of possible executors for the assignment. Any user of this list who accepted the assignment first becomes the executor. Object type changes to "Assignment".



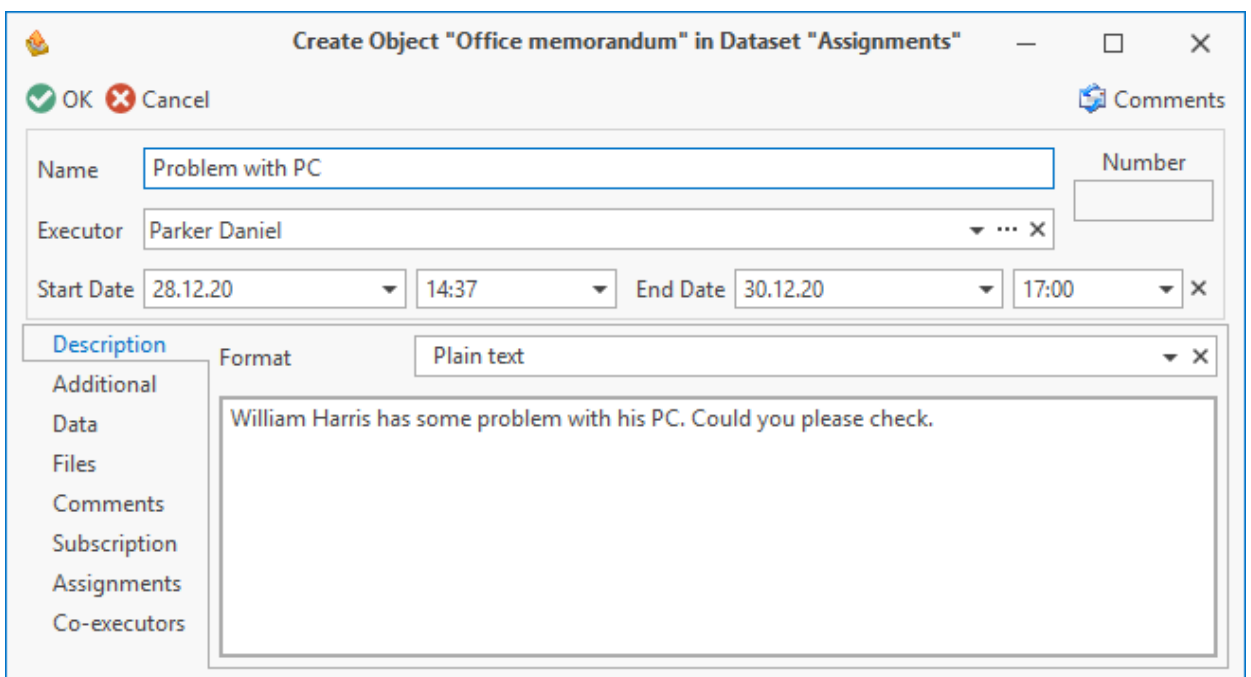
In case assignment is given to several executors, an "Assignment to executive team" type is used. The list of executors is made via buttons  **Add** and  **Delete** in the assignment properties dialog. To cancel the changes made in the list of executors, click the  **Reset changes**

Each executor from the generated list will automatically receive a separate assignment of the "Assignment" type with the same parameters as the initial one except for the number when this assignment is saved to the dataset.

In case the executor is removed from the list after he/she receives the assignment, it is cancelled.










T-FLEX DOCs also allows to create office memorandum and address it to the selected user. Office memorandum is a read only but user can create corresponding assignments on its basis.



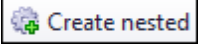

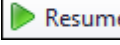

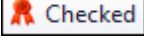
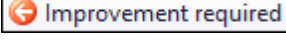


Assignments created in T-FLEX DOCs are available to all users of the system, not only to the author and executor. However, actions for this assignment are available only to certain users. Access to perform a given action depends on user's role and assignment's state.









Assignment can be in one of the following states:


1.  New – author created an assignment but executor has not accepted it yet.
2.  In progress – executor accepted the assignment; works are in progress.
3.  Suspended – author of the assignment temporarily suspended works on it. Only author of the assignment can edit its parameters. Executor cannot edit the assignment.
4.  Finished – executor completed working with the assignment. Author of the assignment checks it and either confirms it or sends it for elaboration.
5.  Elaboration required – executor performs additional works for the assignment.
6.  Closed – all works with the assignment are successfully finished. Assignment parameters cannot be edited. Users can add comments to the assignment.
7.  Cancelled – assignment was cancelled by its author. All works are stopped and cannot be continued. Assignment parameters cannot be edited. However, users can add comments to the assignment.

Actions which current user can performed with selected assignment are represented as buttons on the toolbar:

1.  Cancel assignment – author cancels assignment, switches it to "Cancelled" state.
2.  Accept assignment – executor accepts assignment and start working on it. Assignment switches to "In progress" state.
3.  Create attached assignment – executor can reassign current task to another executor or split it into several subtasks by creating separate assignments.
4.  Suspend execution of assignment – assignment switches to "Suspended" state, later works on assignment may be renewed.
5.  Resume works on assignment – works on assignment continue, it switches again to "In progress" state.
6.  Finish execution of assignment – executor finishes execution of assignment. It switches to "Finished" state.
7.  Confirm execution of assignment – author confirms that the assignment is executed. It switches to "Closed" state.
8.  Send assignment for elaboration – execution result is not

satisfactory, the author sends the assignment for elaboration. It switches to "Requires elaboration" state.

9.  **Comments** Add comment to the assignment – any user can add comment to the assignment. Comment text is entered in the **Text** field of the comment properties dialog, description in HTML, RTF or simple text format – in the **Detailed description** tab. User can attach T-FLEX DOCs dataset objects to the comment. Click on the  **Add materials from assignment** button in the **Materials** tab of the comment properties dialog opens the dialog for object selection from the list with contents of the **Data** and **Files** tabs of the assignment properties dialog. To select object from any T-FLEX DOCs dataset, click the  **Add** button. Comment added to the assignment with a group of executors will also be added to all assignments within this assignment.
10.  **Subscribe** Subscribe to notifications – user will receive notifications on actions for selected assignment. Any user can subscribe to receive notifications.
11.  **Unsubscribe** Unsubscribe from notifications – current user refuses to receive notifications about actions on the selected assignment.
12.  **Duplicate** Copy assignment – creates new assignment, copy of the selected assignment. Executor of new assignment is entered manually.
13.  **Attach** Add assignment to folder – assignment is connected to the selected folder, e.g. standard "Favorites" folder.
14.  **Detach** Remove assignment form folder – assignment is disconnected from the folder. This option is available in the folder's work window.

Some of the abovementioned options can be found in the menu opened via  **Operations** button.

Administrator user has access to all options for the assignment actions regardless of its current status, including acceptance and completion of the assignment on behalf of the user indicated in the assignment properties window. Cancelled assignment are the exception – they cannot be changed.

Actions available to the author of the assignment can be also performed by the user assigned by the person who controls the assignment. Actions available to the executor are also available to his/her superintendent.


Group assignment is complete when all assignments within it are complete. Subsequent to completion, it would not be possible to elaborate assignment of such type.

Action selected for the assignment influences its attached assignments:

1. If the parent assignment is cancelled, user is given possibility to select action for attached assignments (cancel or disconnect them).

2. When parent assignment changes its state, attached assignments do not change their state.
3. When the parent assignment is closed, actions for attached assignments are distributed depending on their state: new ones will be cancelled; those in progress, suspended, requiring elaboration and finished will be closed.

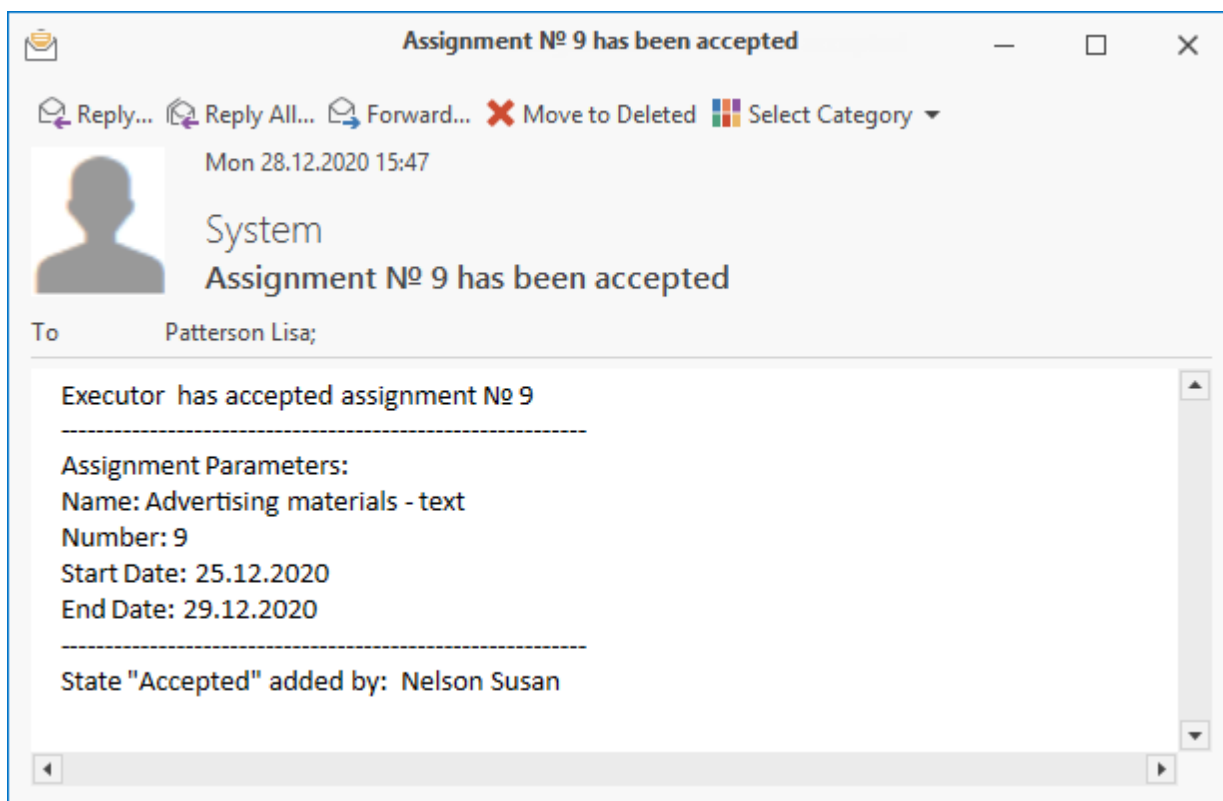
If necessary, an assignment with "New", "Finished", "Closed" or "Cancelled" status can be deleted by its author or the administrator user. An assignment with "In progress", "Suspended" or "Elaboration required" status can be deleted only by the administrator user.

While working on assignment the executor can change **Percentage** parameter in the **Additional** tab in the assignment properties window or via  button on the toolbar.

In case the **Automatic percentage calculation** box is checked in the **Additional** tab of the group assignment properties window, its completion percentage will be calculated by the system automatically based on the attached assignments percentage. Otherwise, group assignment completion percentage should be entered manually.

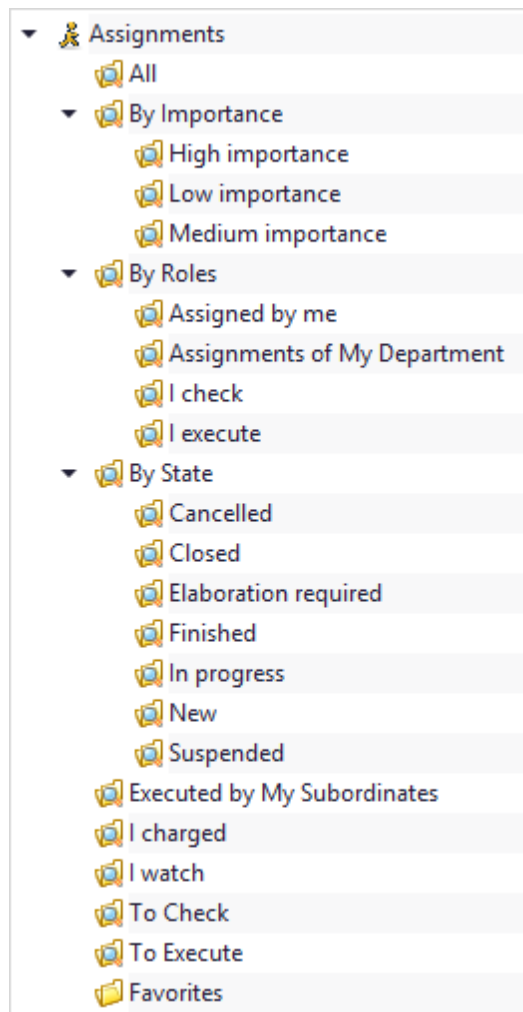
Assignments mechanism has notifications mailing about certain actions for assignments to users depending on their role (author, executor, controller). Moreover, users in the subscription list also receive notifications.

To enable notifications mailing, administrator user must enable corresponding server events.

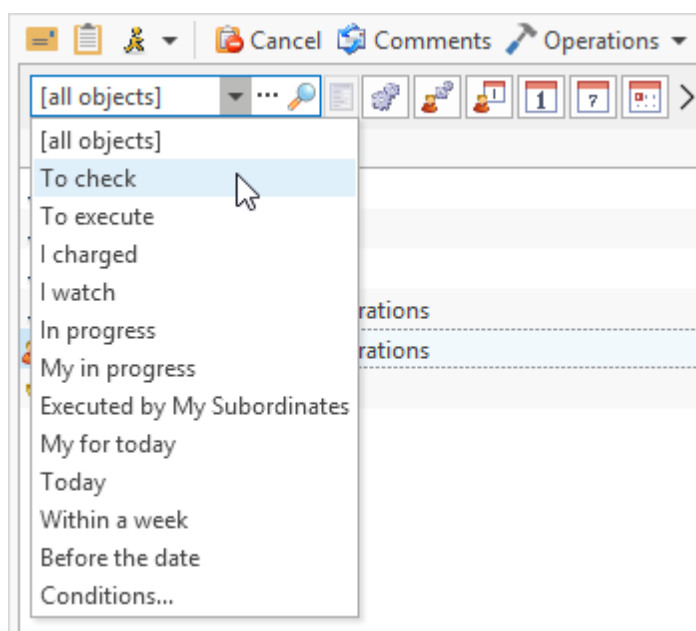


User can filter assignments in the T-FLEX DOCs work window in following ways:

1. via search folders in the assignments tree on the **Mail and Tasks** panel,



2. via [search panel](#) filters in the work window.



Mail and tasks panel contains following standard search folders:

1. "All" – all assignments of all users are displayed.
2. "By Importance" – assignments of all users are classified by attached folders depending on importance of the assignment. Cancelled and closed assignments are also displayed.
3. "By Roles" – assignments are classified depending on the role of the current user. Assignments of all states are displayed.
4. "Assigned by me" – contains all assignments where current user is the author.
5. "Assignments of My Department" – contains assignments of current user and users for whom he/she is the manager. Cancelled and closed assignments are also displayed.
6. "I check" – contains all assignments where current user is the controller.
7. "I execute" – contains all assignments where current user is the executor.
8. "By State" – assignments are classified into attached folders depending on their state.
9. "Executed by My Subordinates" – displays assignments of users for whom the current user is manager.
10. "I charged" – contains only active assignments where current user is the author, i.e. does not contain "Cancelled" and "Closed" assignments.
11. "I watch" – includes assignments where current user is the controller or is in the subscriptions list. Cancelled and closed assignments are not displayed.
12. "To Check" – contains finished assignments where current user is the author or controller.
13. "To Execute" – contains assignments where current user is the executor. This folder does not display cancelled and closed assignments.
14. "Favorites" – manually filled folder. Intended for creation of custom list of assignments.

Search panel filters are available in all folders and are used to narrow search scope in combination with search folders or to search for information in common folders.

T-FLEX DOCs offers following standard filters:

1. "To execute" – displays assignments where current user is the executor.
2. "To check" – displays finished assignments where current user is the author or controller.
3. "I charged" – displays assignments where current user is the author.
4. "I watch" – displays assignments where current user is the controller.
5. "In progress" – displays only active assignments (excluding cancelled or closed

assignments).

6. "My in progress" – displays assignments in all states except for "Closed" and "Cancelled" where current user is the executor.
7. "Executed by My Subordinates" – displays assignments of current user and users for whom he/she is the manager. Cancelled and closed assignments are also displayed.
8. "My for today" – displays assignment executed by current user; end date is today.
9. "Today" – displays assignments of all users where end date is today.
10. "Within a week" – displays assignments of all users where end date is within a week.
11. "Before the date" – displays assignments of all users where end date is a specified date entered by the user while searching for information.

Apart from the assignment types described above, in T-FLEX DOCs there are assignments of two more types: workflow assignment and project assignment. Such assignments are given to the executor within a workflow or a project.

More information on workflow assignments is provide in the paragraph "Workflows" of the chapter "[Workflow management](#)" of the section "Document flow management", on project assignments of the section "Project start and execution" of the document "T-FLEX DOCs – Project management module".

Subscriptions

Subscriptions is a custom interface to manage notifications for events in datasets. Such events include creation of new object or editing any parameter. It is also possible to control changes in the child objects of the selected object.

Thereby, with subscriptions user receives messages about changes in objects which are interesting to him/her.

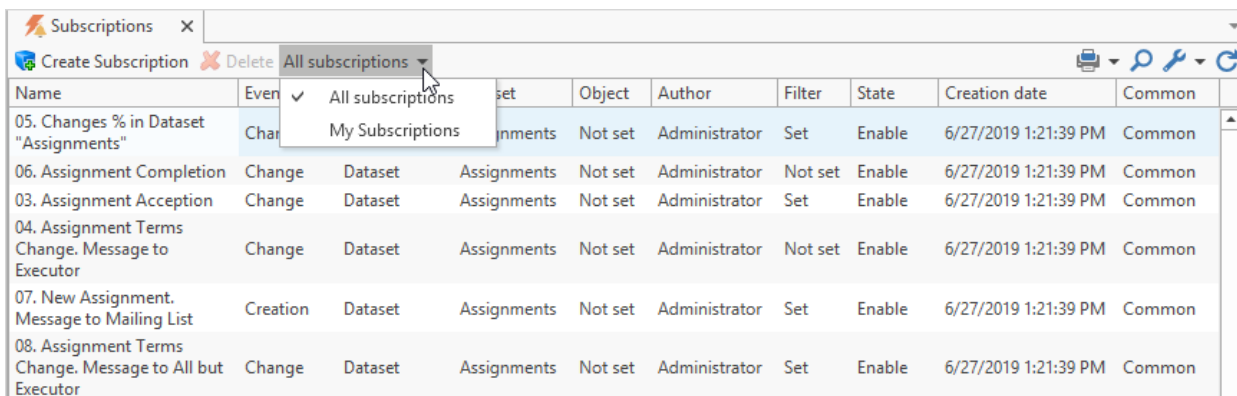
User can also subscribe to oncoming of the date stored in the dataset parameter. This capability allows to receive notifications not when the object parameters are changes but when the date connected to the object parameters comes. With such subscription user can automatically be notified that project where he/she is responsible starts in a day.

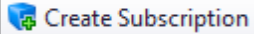
Subscriptions can be personal and common. Personal subscriptions are available only to current user, common – to all users.

By default, only administrator user can create common subscriptions. Personal subscriptions can be created by any user.

User can open subscriptions management window via "Subscriptions" shortcut in the "Mail" group on the Navigation panel.

With the help of filter button located on the window's toolbar user can select which subscriptions will be displayed in the window: only personal or all available to him/her.



To create new subscription use  **Create Subscription** button. It opens subscription creation wizard, where on the first page user is required to enter parameters of the event requiring notifications.

Both dataset and individual object can be object of the event. First fill in **Dataset** field, then, if necessary, select object of this dataset in the **Dataset object** field. Type of the event invoking notifications mailing is set by one or several boxes: **Change**, **Creation**, **Removal**, **Approach of the date**.

More information on subscription to the approach of the date stored in the dataset parameter is provided [below](#).

If user needs to control changes in the child objects of the selected object, he/she needs to check **Track changes of child objects** box.

Common handler box is checked if a common subscription is created.

New Subscription to Server Event

Select server event

Dataset: Contracts

Event Source: Object

Dataset Object: 20190312-S2 Spectrum Cooperation agreement ... X

Track changes of child objects

Event Type: Change Approach of the date

Creation

Removal

Filter: ... X

Common handler

Next > Close

Filter field allows to set [condition for selection of dataset objects](#) changes of which will be controlled. For example, filter can be used, if user needs to monitor actions with objects of certain author or objects in the set state. To go to **Edit filter** window click button in the Filter field.

Edit Filter

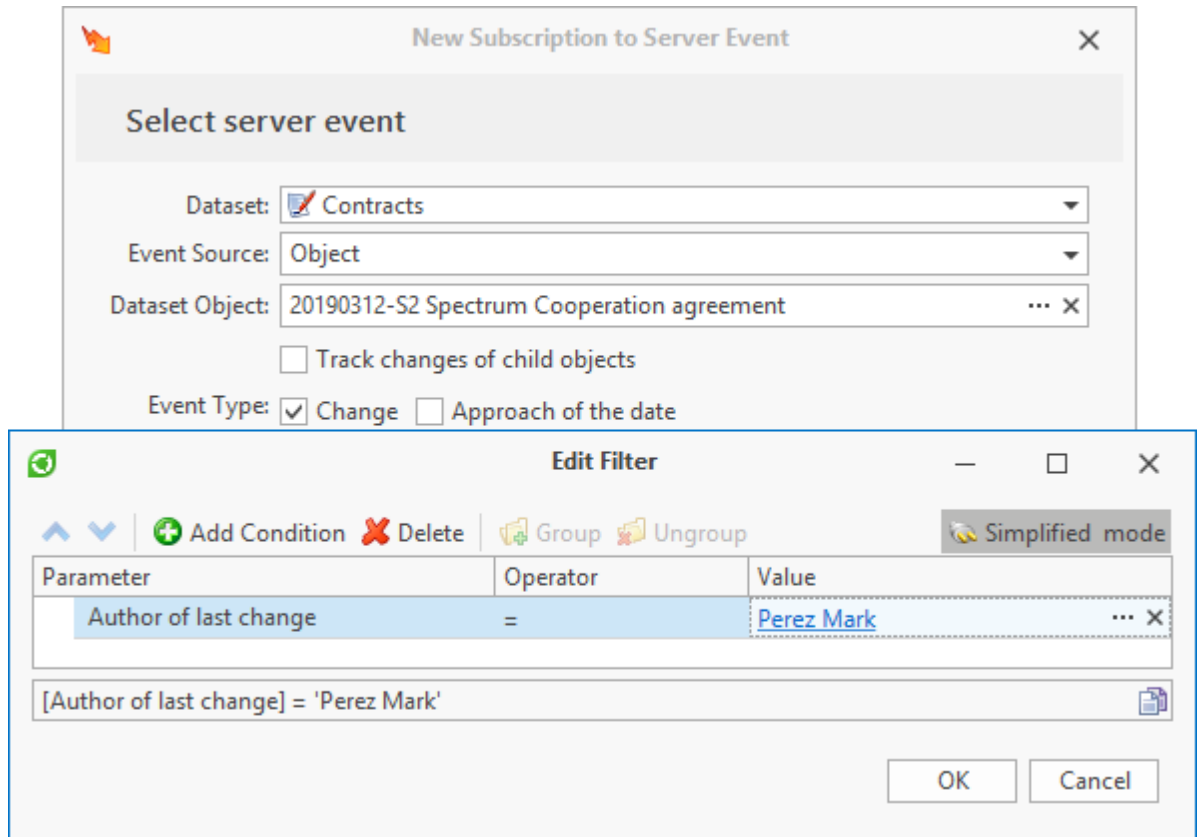
↑ ↓ + Add Condition ✖ Delete | 📁 Group 📁 Ungroup Simplified mode

Parameter	Operator	Value
Author	=	Patterson Lisa ... X

[Author] = 'Patterson Lisa'

OK Cancel

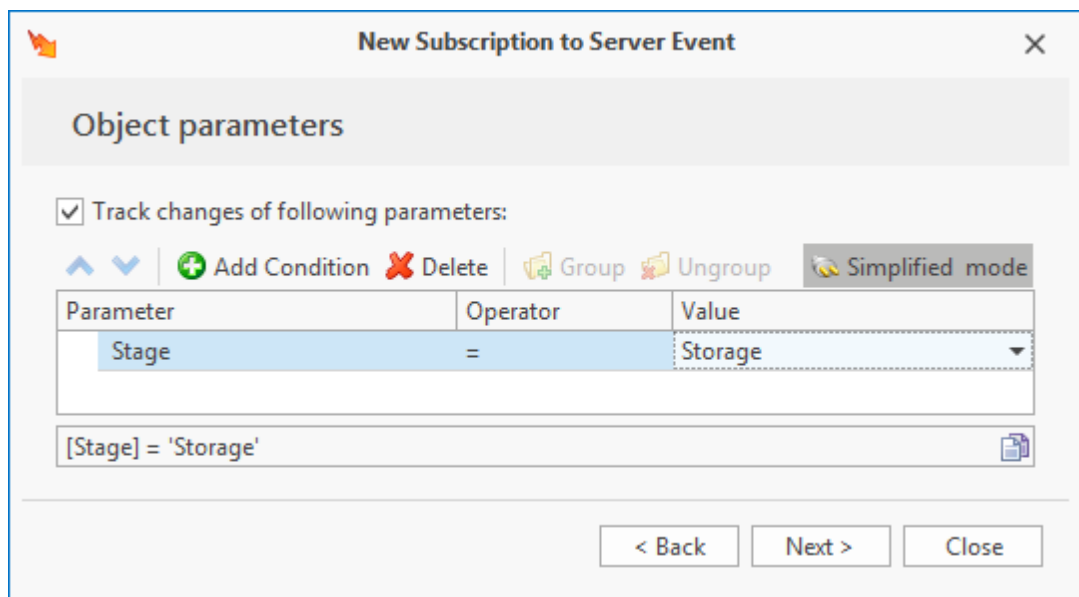
Filter field can also be used to create subscription, if it is necessary to follow changes in certain object only if certain condition is met. For example, notifications on changes in "20190312-S2 Spectrum Cooperation agreement " object can be performed only when **Author of last change** parameter is "Perez Mark". Setup of such subscription is presented on the picture below.



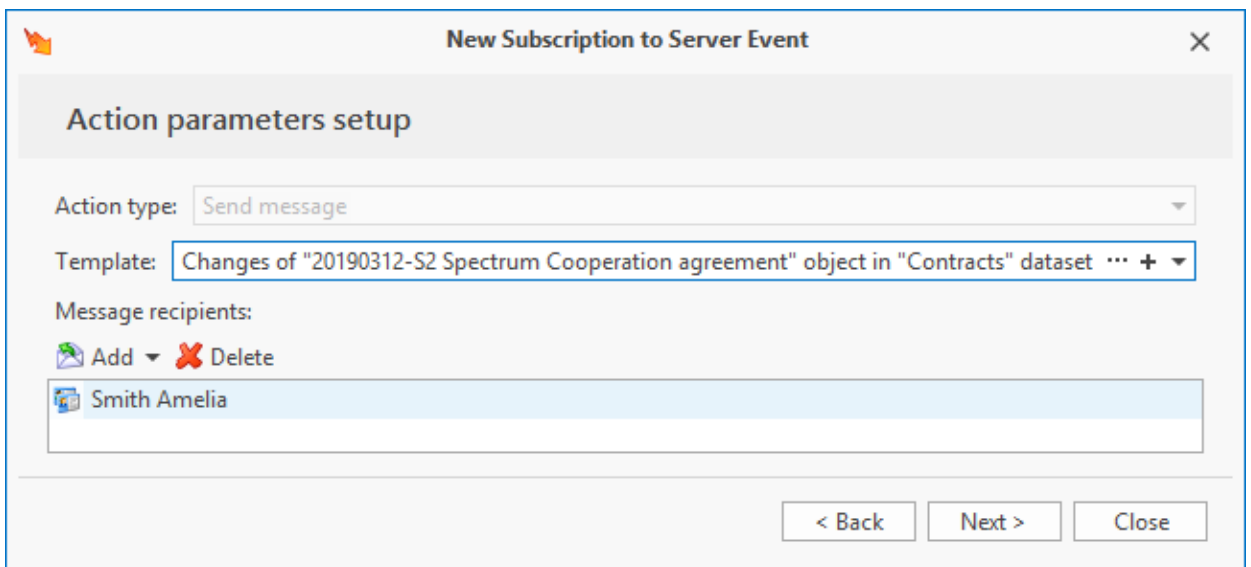
On the next page of subscription creation wizard user sets parameter of the object which requires control. To switch to selection of parameter check **Track changes of the next parameters** box.


When the box is not checked, system will track changes in all parameters of the object.

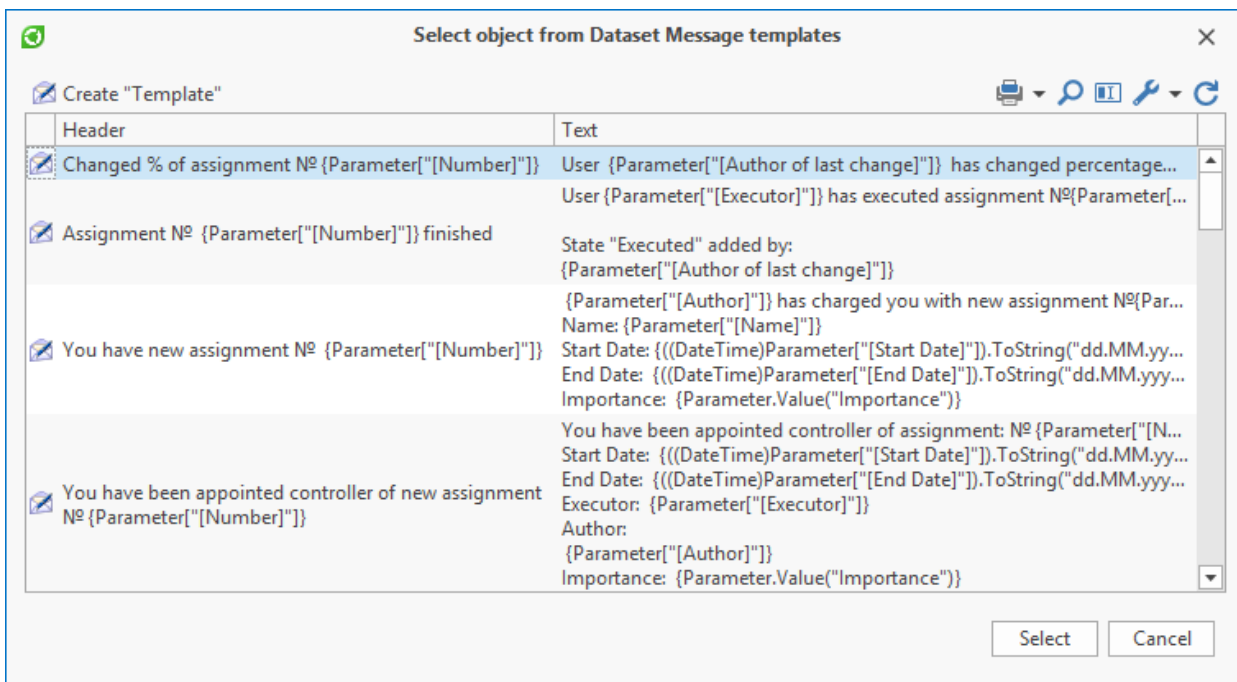
Condition which invokes notifications mailing is created via **Add Condition** button. Its creation is similar to creation of [conditions for object search](#).

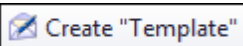


Then user sets event processing parameters. In the **Type of action** field user enters action which will be performed when required event comes: "Send message".

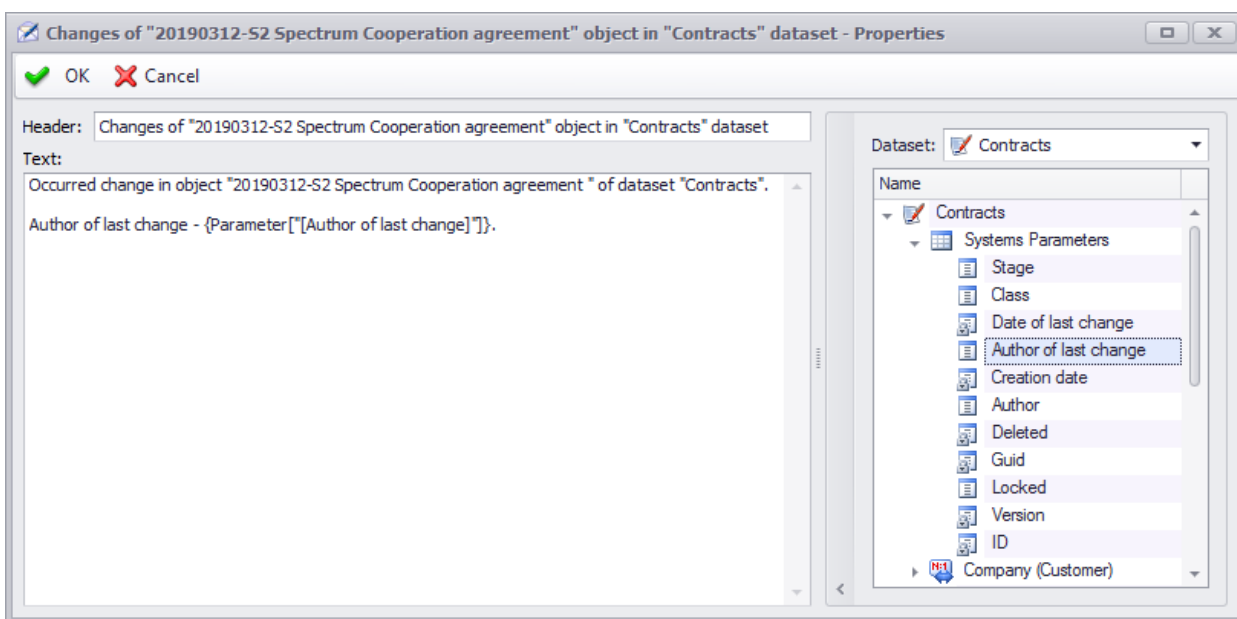



Message text is created based on custom template. "Message templates" dataset stores such templates. To go to this dataset window to select ready template, click  button in the **Template** field.




If required template does not exist in the dataset, user can create it via  button.

In the template creation wizard user enters headline and text of the message. Both headline and text can contain values of dataset object parameters. Dataset name is stated in the **Dataset** field. Tree of parameters for objects of this dataset will be displayed. User selects required parameter in this list and by pressing left mouse button drags and drops it into the corresponding field. When a message will be created based on this template, parameter name will be replaced with its value for selected object.

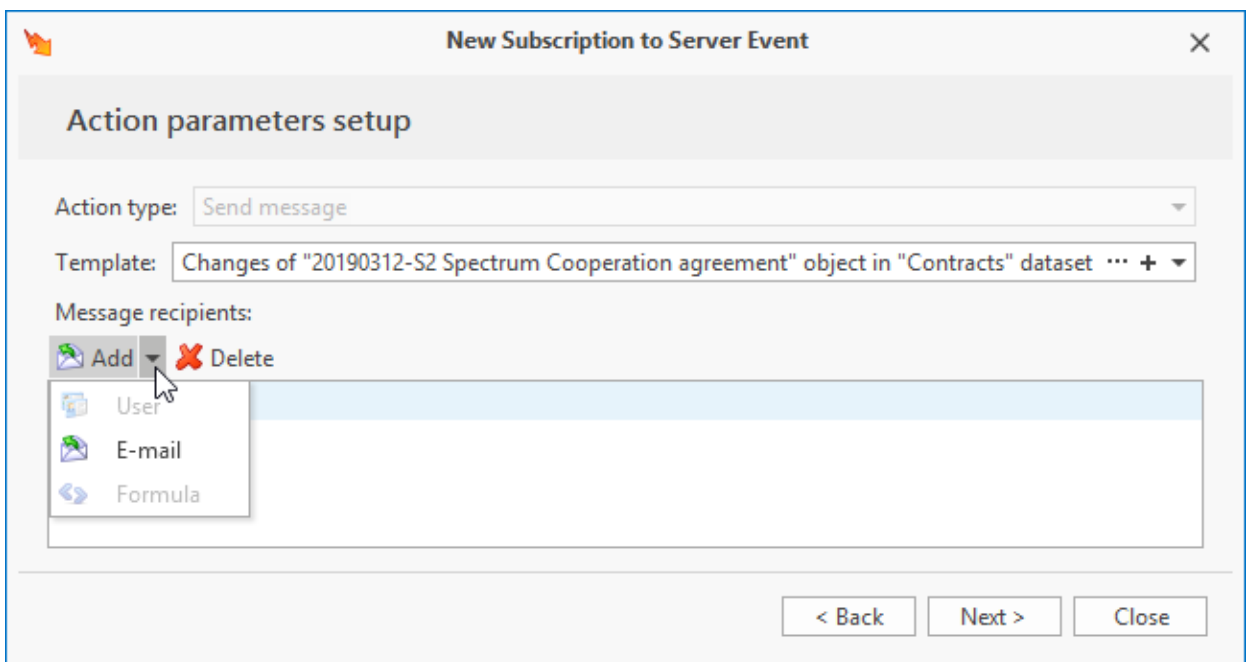


User can also create new message template via  button in the **Template** field in the subscription creation wizard. In this case headline and text of the message are created automatically.

If necessary, user can change the template.

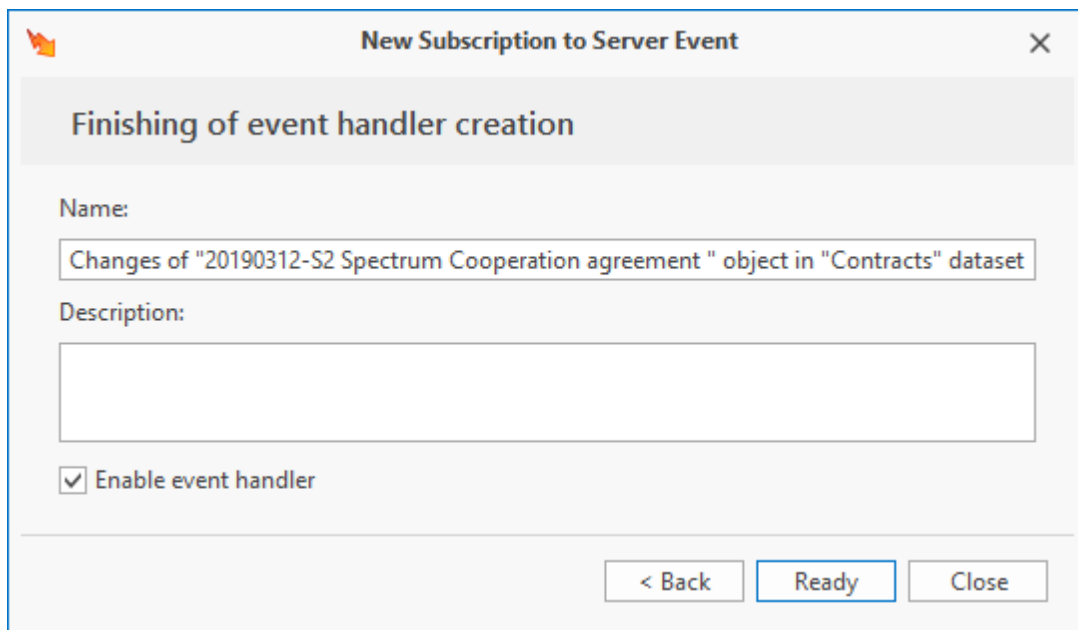
After message template was selected, user must enter message recipients in the subscription creation wizard. By default, list of recipients contains surname of current user, i.e. notification will be sent to him/her via T-FLEX DOCs inter-office mail. By clicking  button, user can extend this list with external e-mail of this user if he/she is in the "Groups and users" dataset.

Administrator user can also add other users and e-mails in the subscription list, as well as creation of list based on formula.



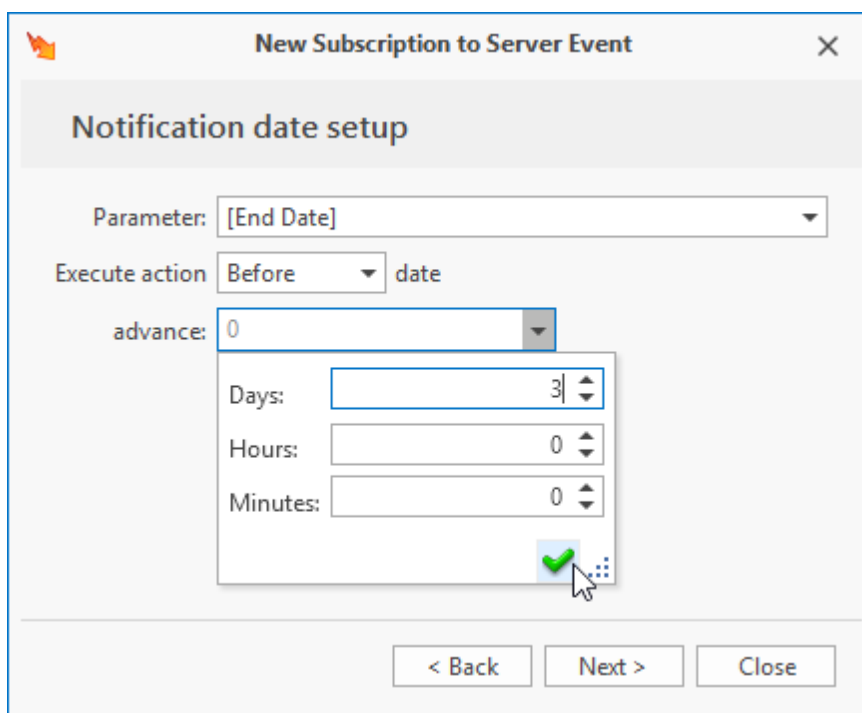
On the last page of subscription creation wizard user enters its name and, if necessary, a summary. To enable this subscription check **Enable event handler** box.

If the box is not checked, subscription will be disabled, i.e. notifications will not be sent. Even so, this subscription will be available in the **Subscriptions** window.



Subscription to the event of "Approach of the date" type is created in a similar way. The only difference is that for this event object parameter selection page will look differently.

In this case **Parameter** field contains tree of object's parameters where only "Date" type parameters are available. Below user decides when the notifications will be sent: before or after the date stated in the selected parameter. User also enters time period if the notification is sent in advance or with a delay to the stated date.



User can change parameters of the subscription in its properties window. Main parameters of the subscription are displayed on the **Handler parameters** tab.

The screenshot shows a window titled "Assignment delayed - Properties". At the top, there are standard window controls (minimize, maximize, close). Below the title bar, there are three input fields: "Name" with the value "Assignment delayed", "Description" (empty), and "State" with a dropdown menu set to "Enable".

The main area is divided into two tabs: "Handler Properties" (selected) and "Additional conditions". Under "Handler Properties", there are several settings:

- "Dataset": A dropdown menu showing "Assignments".
- "Event Source": A dropdown menu showing "Dataset".
- "Dataset Object": An empty text box with a search icon and a close button.
- A checkbox for "Track changes of child objects" which is unchecked.
- "Event Type": A group of checkboxes including "Change" (checked), "Approach of the date" (checked), "Creation" (checked), and "Removal" (unchecked).
- "Filter": An empty text box with a search icon and a close button.
- A checkbox for "Common handler" which is unchecked.

Below the "Handler Properties" section, there are three more fields:

- "Action type": A dropdown menu showing "Send message".
- "Template": A text box containing "Assignment № {Parameter["[Number]"]} delayed" with a search icon and a plus sign.
- "Message recipients": A section with "Add" and "Delete" buttons. Below it, a list contains one entry: "Smith Amelia".

At the bottom right of the window, there are "Save" and "Cancel" buttons.

Additional conditions tab contains information on the tracked change in the parameter of the dataset object.

User can delete subscription via  button on the toolbar of the **Subscriptions** window.

Apart from permanent removal of subscription, user can temporarily pause it by selecting **Disable** option in its right-click menu. To switch subscription to the "Enabled" state, select **Enable** option in its right-click menu.

T-FLEX DOCs gives user possibility to export and import subscriptions via XML file.

To export the subscription selected in the **Subscriptions** window, use **Export** option in its right-click menu. It opens window with file save path selection for XML file containing information about the subscription.

To import a subscription from XML file, use **Import** option of the right-click menu in the **Subscriptions** window and set path to the required file in the opened window.

Working with external mailboxes

Apart from inter-office mail service, T-FLEX DOCs user can use his/her external e-mail.

Only user with corresponding access can setup connection to external mailbox.

In this case **Mail and tasks** panel creates additional mailbox aligned to the external mailbox.

If user connected external mailbox, upper right corner of the window for message creation will contain list of mailboxes from which user can send a message.

Other than that, procedure for creation of new message is the same as for inter-office mail service.

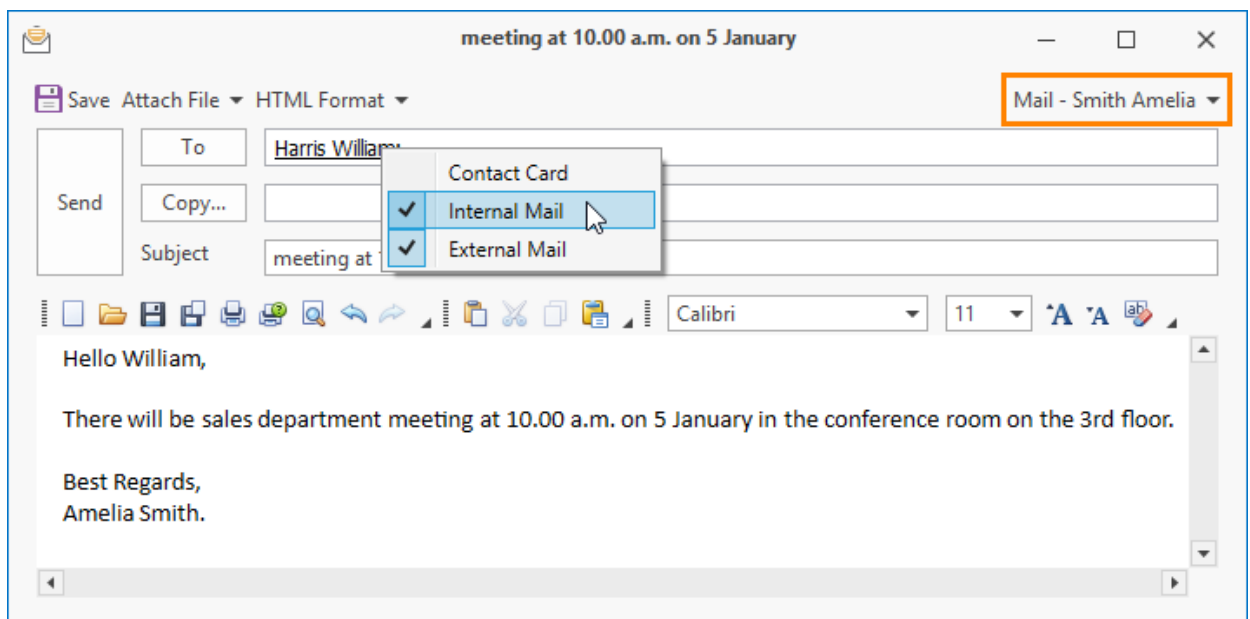
Only administrator user can setup default mode for messages receipt.

There are following options:

- only to inter-office,
- only to external,
- to inter-office and external.

However, when user creates new message, he/she can manually change it by clicking right mouse button on the recipient name and selecting required option (or options) of the right-click menu.

In such case to send message to external mailbox, administrator user must enter its address for this user in the "Users and Groups" dataset.



If e-mail is not in the address book, enter it manually in the **To** field.

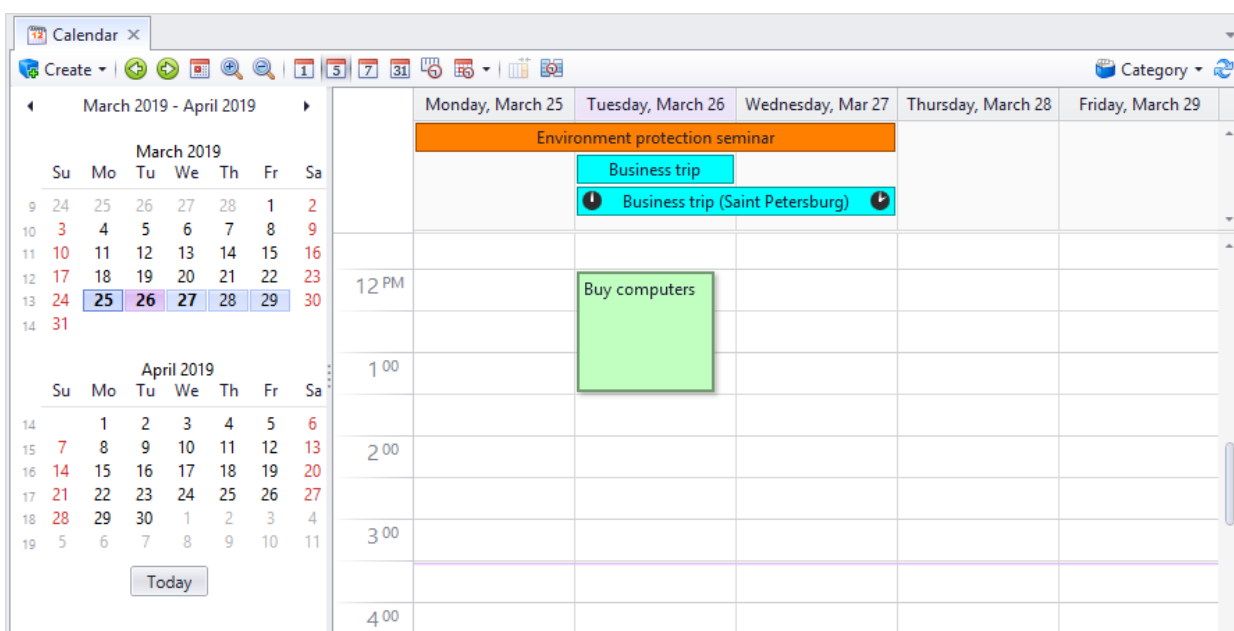
Calendar

T-FLEX DOCs Calendar performs functions of personal organizer. It displays scheduled events and information stored in the system (dataset objects, messages and tasks, reminders) in the calendar grid. Objects of any datasets with "Date" or "Date and time" parameters can be displayed in the calendar.







If administrator user set corresponding settings in the "Calendars" dataset, calendar can display working hours of employees.

User can open the calendar window by selecting main menu option **View > System window > Calendar** or "Calendar" shortcut in the "Workspace" group on the Navigation panel.





Left part of the window displays date selection area. Days with events are presented in bold font. Right part of the window displays current state of the day (or week) selected in the left part. In the detailed view the mark on the time bar displays current time.






Toolbar buttons switch views of the calendar grid, as well as setup its more or less detailed view:

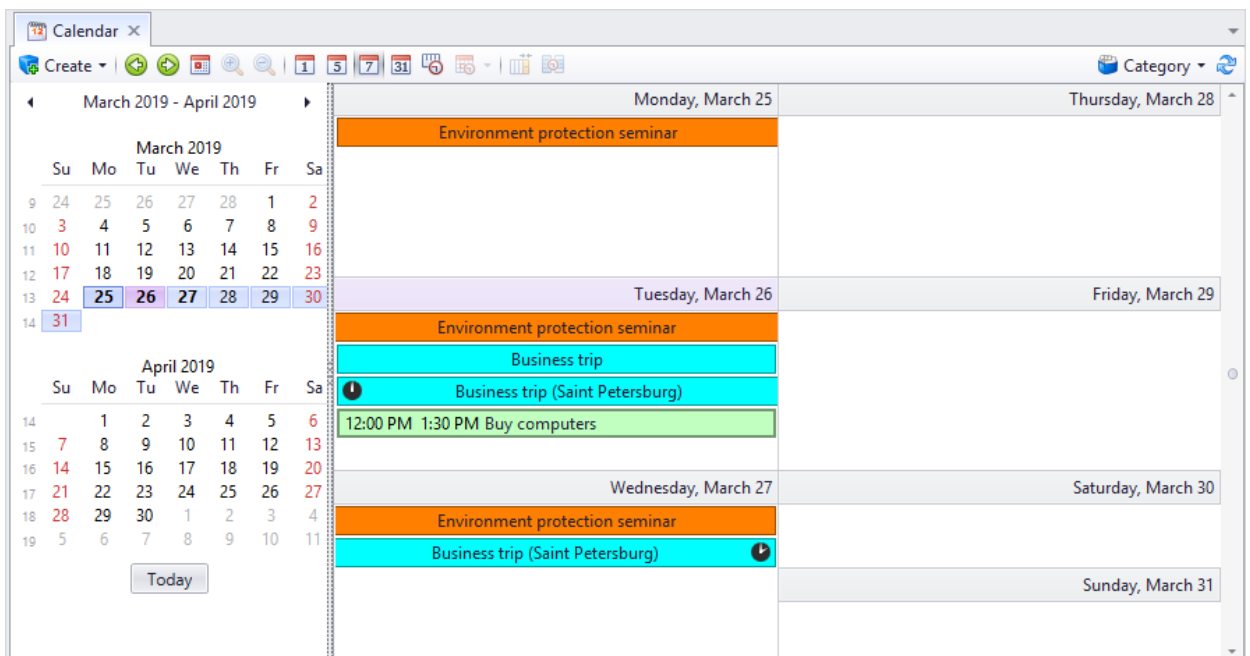
-  – day view.
-  – work week view, detailed view for working days.
-  – week view, events represented in a compact form.
-  – month view (multi-week view) for long-term planning.
-  – timeline view. Timescales are setup via **Timescales** option in the right-click menu of the view.
-  – scaling up current view.

Calendar


-  – scaling down current view.
-  – changes timescale.
-  – displays Saturday and Sunday compressed into one column.
-  – displays only working hours in the calendar.

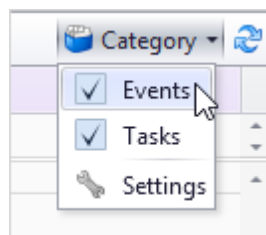
Moreover, toolbar has following navigation buttons:

-  – step back in time (in current view).
-  – advance forward in time (in current view).
-  – changes the date to the current date.

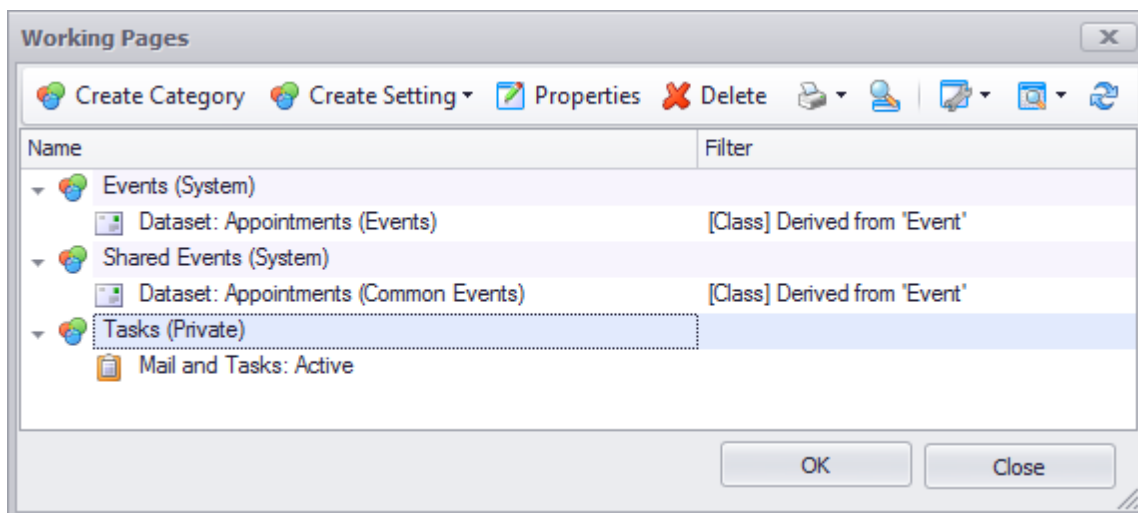


Timescale setup is performed both via toolbar buttons and its right-click menu.

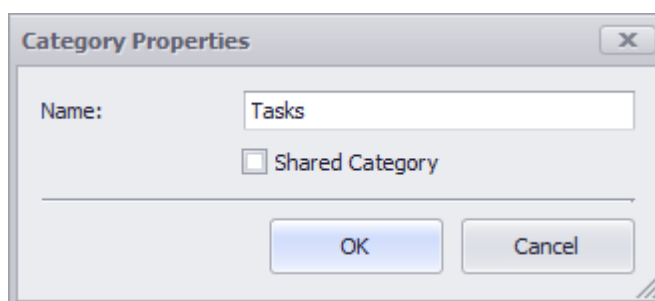
T-FLEX DOCs events can be of various categories.  toolbar button is used to select category which will be represented in the calendar from the list of events, as well as to manage these categories.




To manage categories, select menu option **Categories > Settings**.



To create a category, click  **Create Category** and enter in the opened window its name.



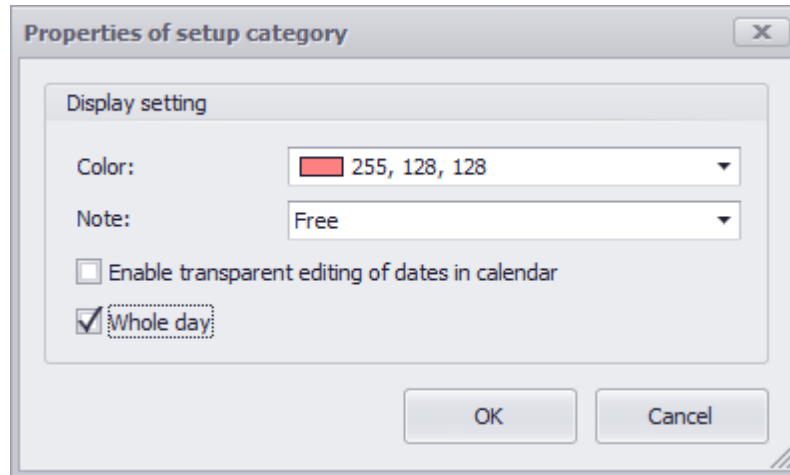
Administrator user can create both personal and common categories (**Shared Category** box), other users can create only personal categories, this box is disabled for them.

After category is created, user must create a setting for it. To do this, click  **Create Setting** button. In the opened list select type of components which will be displayed in the calendar. It can be a reminder, a message or a task, or a dataset object.

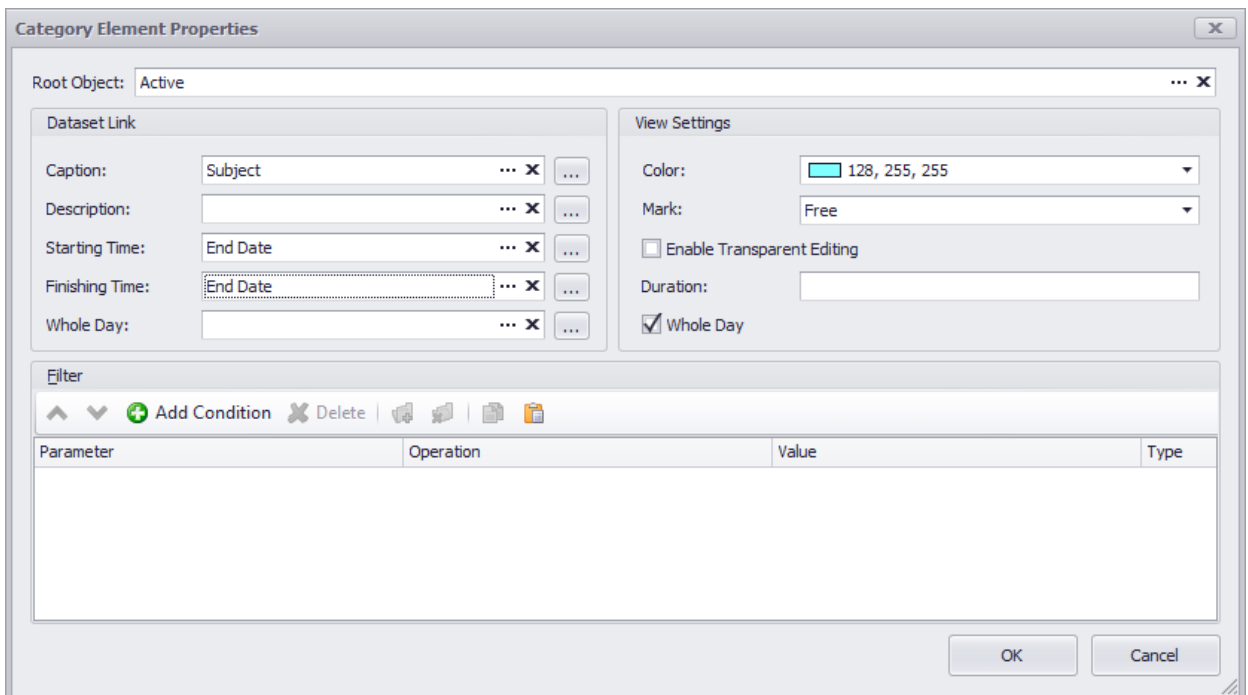
For reminders user can select color of entry in the window for category setup properties.

If the **Enable transparent editing of dates in calendar** is checked, user can change start date and end date of a reminder right in the calendar grid by moving reminder entry's rectangle or its borders with the help of mouse.

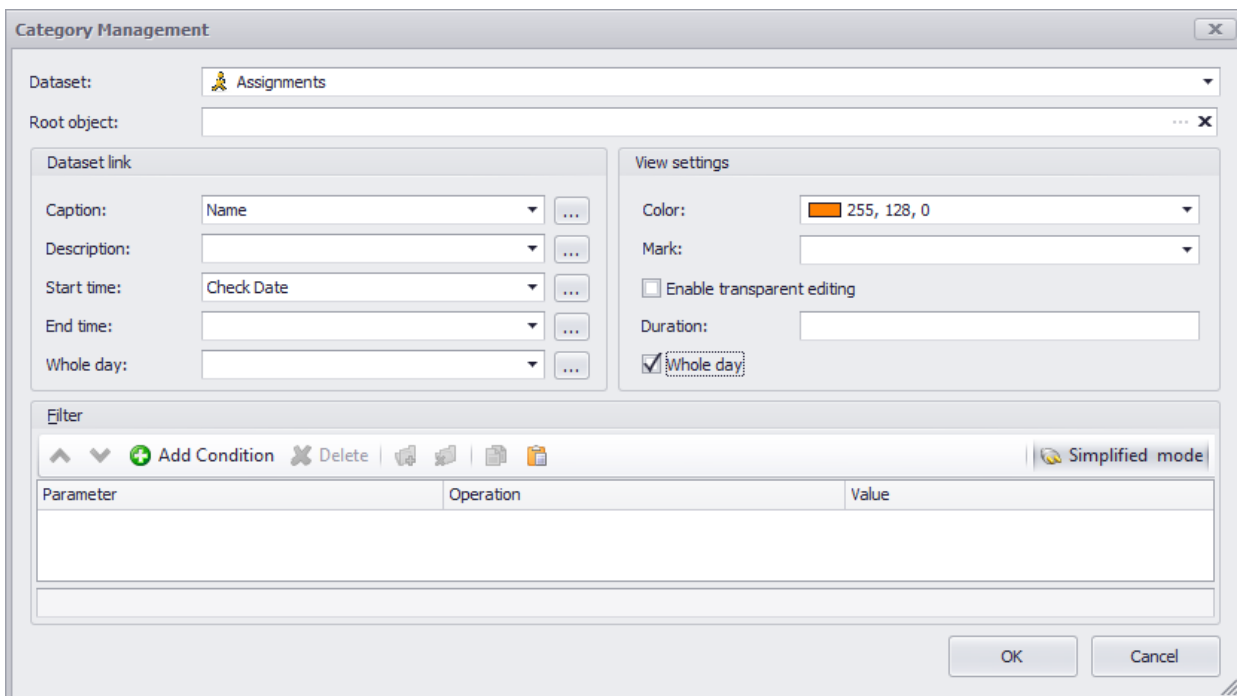
If the **Whole day** box is checked, reminder does not have limited time period, and its entry will be above the timescale.

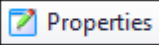



If user selects option **Create Setting > Mail and Tasks**, he/she needs to enter mailbox folder to which the calendar must be attached to. Then in the left part of the window user selects parameters which will be displayed in the calendar grid, and in the right part user sets up display of mail components (entry color, duration). In the bottom part user can add selection conditions for mail components which comply with certain requirements.

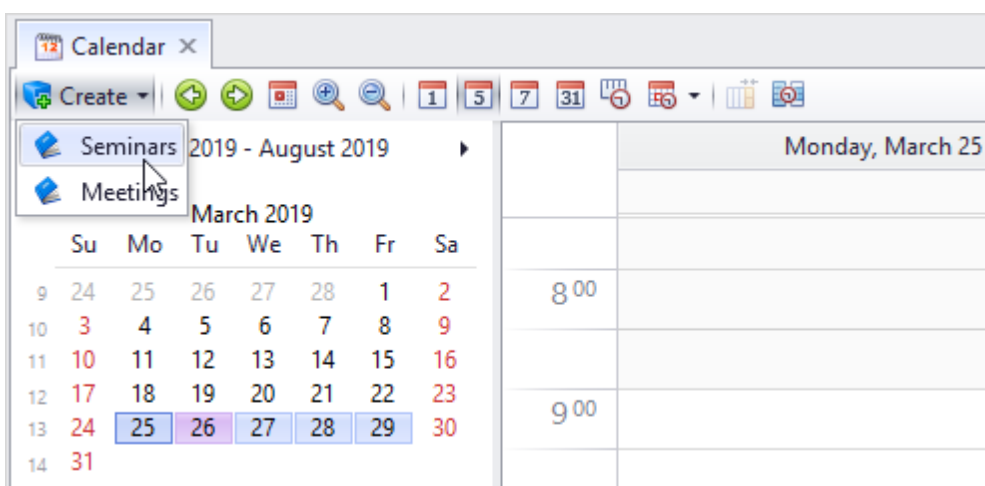


Setup of connection between calendar and dataset objects is performed in a similar way. To do this, select option **Create Setting > Dataset**. User enters name of the dataset for which connection is created, selects the parameter which will comply with calendar date and parameters which are the headline and description of the component. **Root object** field is active for tree-type datasets and allows to enter dataset's root object child objects of which will be displayed in the calendar.



User can edit created categories and their settings via  **Properties** button and delete them via  **Delete** button.

To create a calendar component which corresponds one of the created categories, select required category from the menu of  **Create** button.



User can quickly create entry about an event via right-click menu options of the calendar grid.

In the opened window of object properties user enters required parameters.

After being saved, the new event appears on the calendar grid. Events with various duration are displayed differently (example of such events is presented on the picture above):

- If an event has short time period within one day, it will be displayed as a rectangle with short information on the calendar grid part which corresponds to assigned period of time ("Buy computers" event).
- When event takes whole date or several working days, it is displayed as a rectangle above timescale ("Business trip" and "Environment protection seminar" events)
- When event takes several dates but has start time and end time, it is displayed as a rectangle with a clock above the timescale. The clock shows start time and end time ("Business trip (Saint Petersburg)" event).

To change parameters of the event, select option **Properties** in its right-click menu.

Document flow organization

When is being endorsed and approved, a document goes through corresponding stages which define the state of the document and allow to prevent unauthorized changes.

Workflows substantially simplifies endorsement and approval of documentation. In this case document is transferred from one state to another and is passed through stages automatically. System can also automatically create and send tasks for endorsement and approval to responsible employees.

As a result of document endorsement and approval, it will be correspondingly signed. If necessary, administrator user can setup true representation of signatures in the documents.

T-FLEX DOCs makes it possible to organize work both with technical and office documents, as well as to keep records on them and store them.

Electronic signatures

Electronic signature is one of the essentials of the electronic document flow. T-FLEX DOCs supports three types of electronic signatures:

- Basic electronic signature.
- Enhanced encrypted non-certified signature.
- Enhanced encrypted certified signature.

By default, T-FLEX DOCs signatures interface makes it possible to attach basic electronic signatures to the dataset objects. This is made via connecting external cryptography means.

User must enable signatures interface for the dataset to the objects of which an electronic signature is attached. Only administrator user can do this.

Information on enhanced encrypted signatures is provided in the chapter "[Handling enhanced encrypted signatures](#)" of the section "System's special features for processing data".

Handling basic electronic signatures



Basic electronic signature is an electronic mark which states that user under the stated login has confirmed the document with his/her signature.

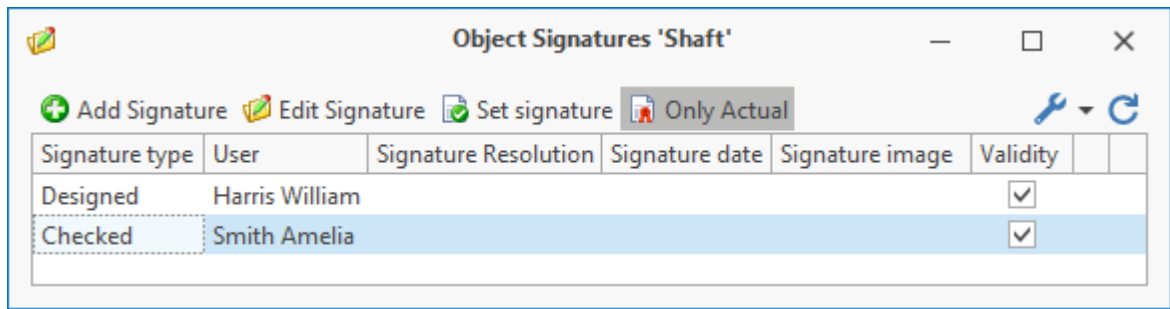
Moreover, user can additionally set facsimile signature. Facsimile signature is a copy of user's hand-written signature and it attached to the document as a picture, if such option is provided for the document template.

Only administrator user can setup such kind of signature.

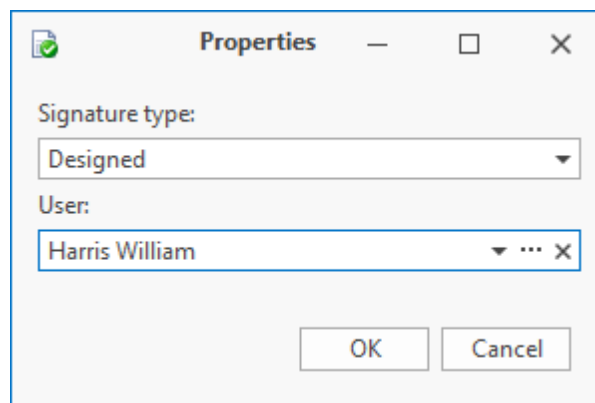
Signature can be attached both manually and automatically as part of [workflow](#).


Object's right-click menu has option **Signatures**, with the help of which user can review list of signatures on the document.

In the opened window user can create list of persons who must sign this document (via  button). In this case user selects type of signature and user from the "Users and Groups" dataset. Added signatures can be edited via  button.



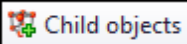


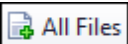


Only administrator user can set up types of signatures used in the system.

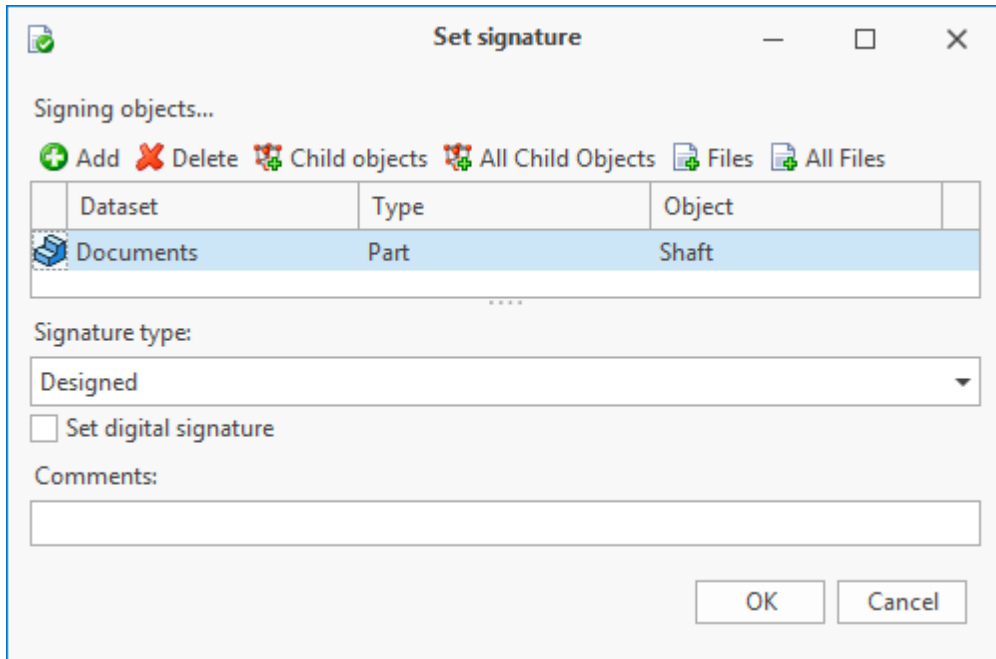


To attach signature, click  button in the signatures window or select same-name option in the right-click menu of the document. Also, user selects type of signature which he/she attaches and, if necessary, leaves a comment.

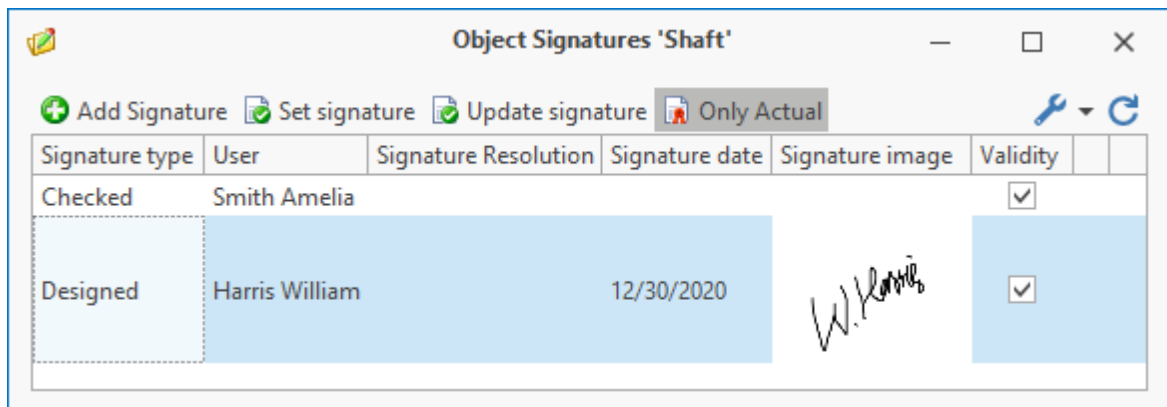
To change the list of the objects to be signed which is displayed in the **Set signature** window, use following buttons:

-  – opens the window to select objects from any dataset to be added to the list.
-  – deletes the selected object from the list.
-  – adds child objects of the selected object to the list.
-  – adds child objects of all objects in the list.
-  – adds files linked to the selected object to the list.
-  – adds all files linked to the objects to the list.

T-FLEX DOCs e-signature can be additionally confirmed with [the digital signature](#).



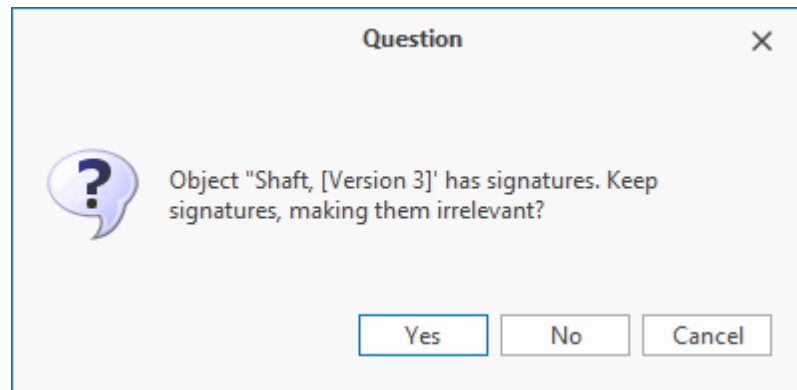
After the signature is attached, document signature date will appear in the **Object signatures** window in the string with user's surname.

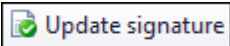



The possibility to save signatures set on the object during further editing is controlled by user [access permissions](#).

In case current user has access to change object with signatures remaining, during object editing all signatures, set on it previously, remain the same.

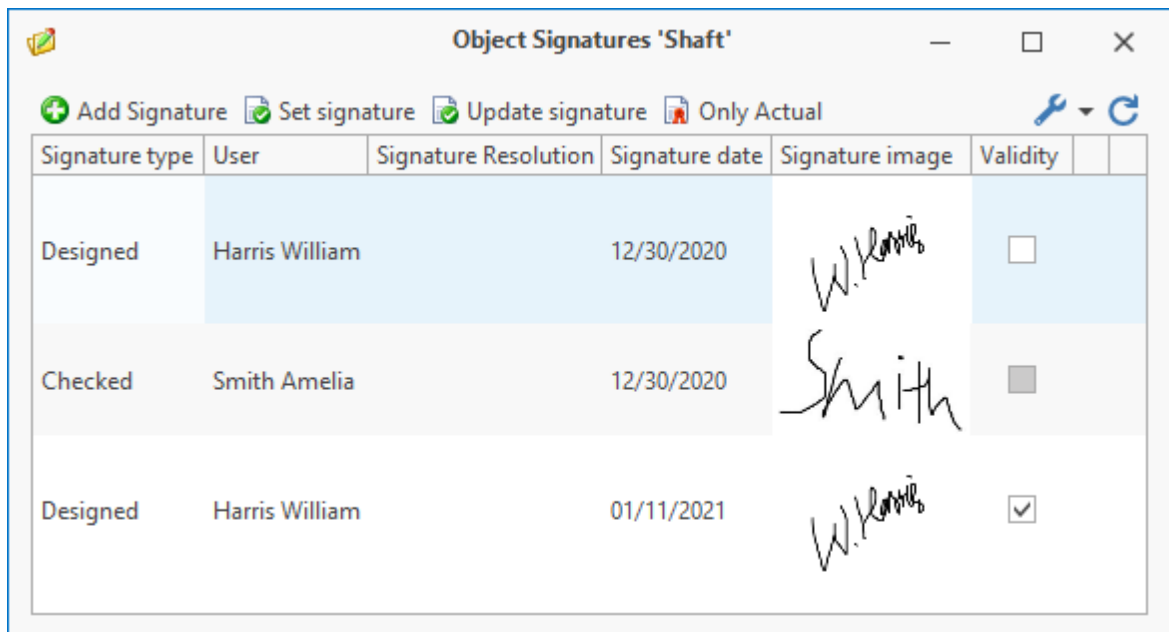
In case user has no access to change the object with signatures remaining, a question appears when user checks object out asking whether it is necessary to save current signatures by making them irrelevant. In the other case, the signatures set previously will be deleted.



History of signatures can be used when the document is endorsed by many members of the staff. In such case the document can be edited after some amount of signatures has already been set. During subsequent endorsement of the edited document user can just confirm his/her signature by clicking the  button in the signatures window. In this case signature date changes and becomes valid.

User can select to review all signatures or only valid ones in the object signatures window ( button).

The picture below displays object's signatures window where mode for display of only valid signatures is disabled.



Stages

Administrator user can enable stages mechanism for T-FLEX DOCs dataset. This mechanism is used [to automate document flow procedures](#), such as document endorsement and approval.

The stage describes the state of the object connected with access permissions of users to review and edit it.

Thereby, in T-FLEX DOCs document can be in various stages. Stage can be changed both manually and automatically as part of a workflow.

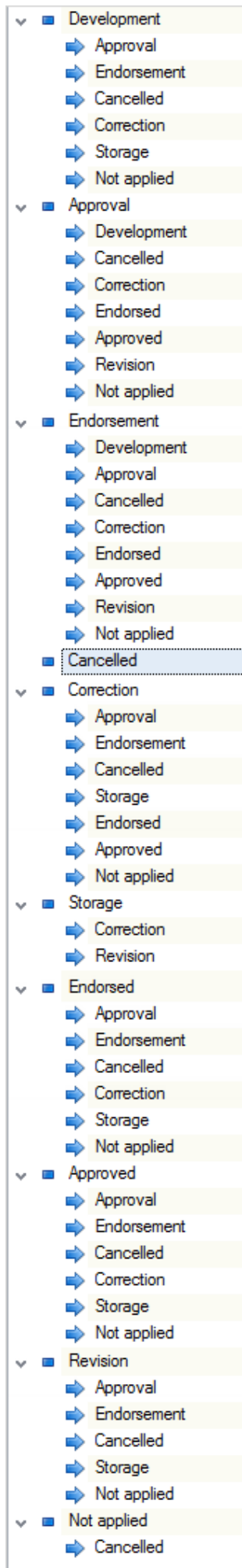
By default, T-FLEX DOCs has several schemes to transfer stages.

For example, following stages are used for document flow:

- Development – applied to edit documents.
- Endorsement – document is in the endorsement stage.
- Endorsed – document was successfully endorsed.
- Approval – document is in the approval stage.
- Approved – document was successfully approved.
- Correction – used when endorsed or approved document requires amendments to be introduced.
- Revision – used when endorsed or approved document requires amendments to be introduced with signatures saved.
- Storage – work with document is finished, it is in the storage.
- Cancelled – work with document is stopped.

In case of such stage sequence, the document can be edited only on the "Development", "Correction" and "Revision" stages.

Given that editing of the object is allowed by [the permission access](#) to the dataset or the object.



Office documents require other scheme:

- Open – the document is processed.
- Closed – all works with the document are finished.
- Correction – changes are introduced to the document.
- Storage – work with the document is finished, editing is prohibited.
- Cancelled – work with the document is stopped.

In this case editing of the document is allowed on the "Open" and "Correction" stages.

Given that editing of the object is allowed by the permission access to the dataset or the object.

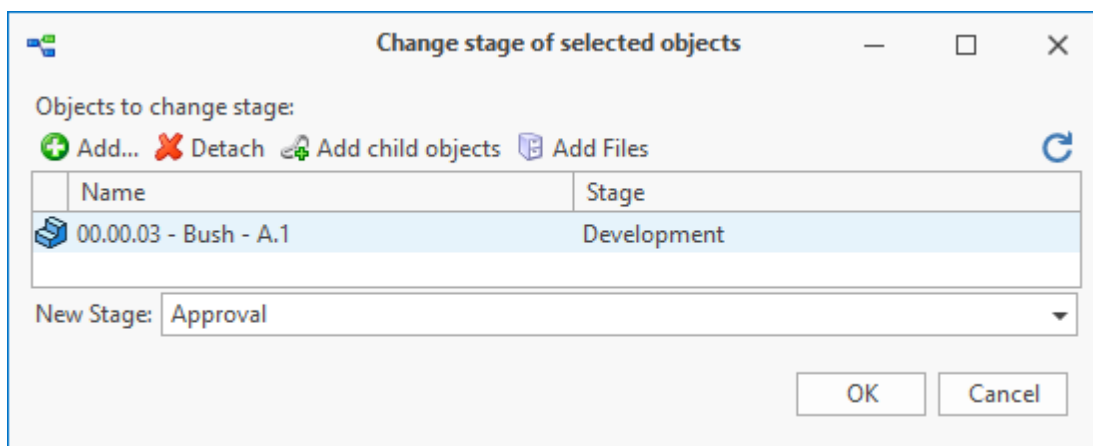
If necessary, administrator user can add other staged to the system which are used at the company and create own sequences.


Picture above displays stage sequence used for technical documents. It is seen that document from "Development" stage can go to "Approval", "Endorsement", "Cancelled" or "Storage" stage, and from "Storage" stage only to "Correction" and "Revision" stages.


Object stage can be changed manually by selecting right-click menu option **Change Stage**.

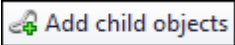
If such possibility is set by the administrator user.

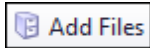
Buttons on the toolbar of the **Change stage of selected objects** window allow to manage list of objects for which change of stage will be applied.



To add object in the list, click  button. In the opened window select added objects.

To delete the selected object from the list in the **Change stage of selected objects**, click  button.

 button adds child objects of all objects of the list to the list.



button allows to perform similar action with files attached to the objects in the list.

Workflow management

Having such instruments as workflow in the T-FLEX DOCs system allows to address automation issues for standard repeatable document flow procedures at the company, e.g. endorsement and approval of the documents or sending notifications on changes. In this case possibility of organizational mistake decreases which allows to save time spend for repeatable actions.

Process monitor helps to monitor execution of active workflows; it displays information about the process on the timescale.

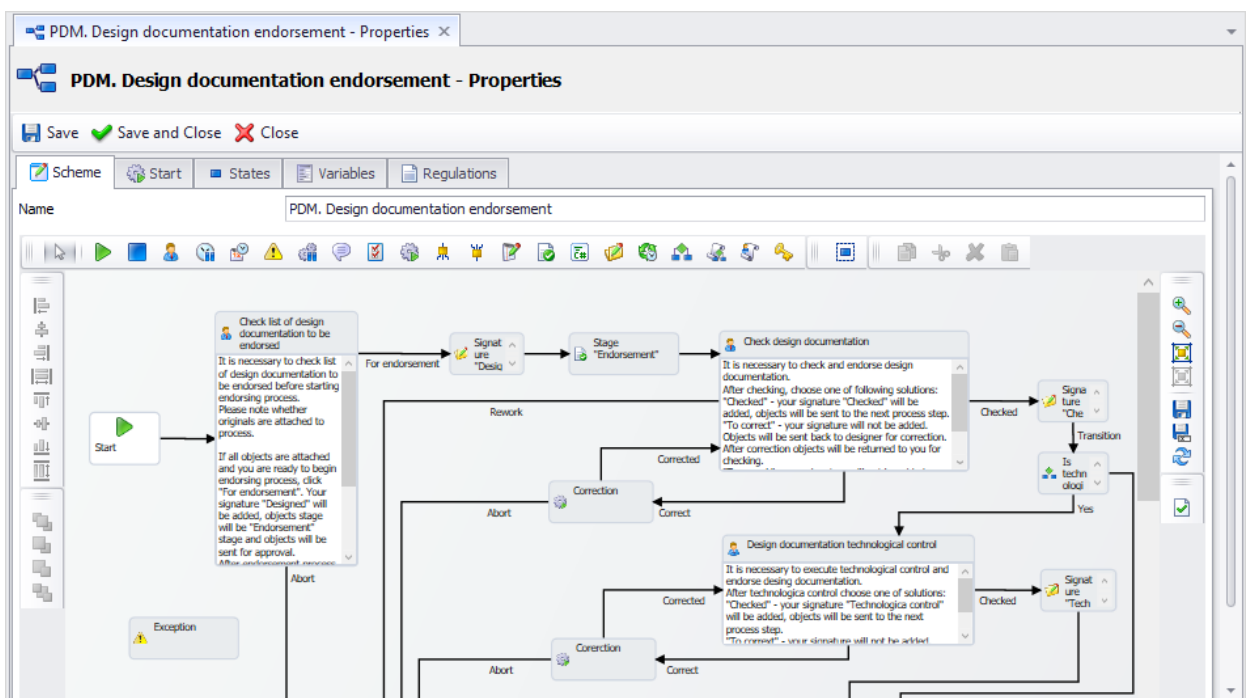
Workflows

T-FLEX DOCs workflow is performed by a preliminarily created and adjusted business procedure. T-FLEX DOCs business procedure is an algorithm displaying the sequence of employees' actions in the course of repeatable procedure in the organization. This algorithm is represented as a chart, separate structure components of which are called states. States can be of various types, such as "Work", "Endorsement", "Notifications mailing". Each of them has its parameters.

For each state user sets up possible completion options – transitions. Each transition leads to the strictly pre-defined result.

When a procedure is created in T-FLEX DOCs, user assigns executors, time limits, creates custom dialogs to enter varied data.

"Procedures" dataset is intended to store charts and parameters of business procedures.




Any user with corresponding access can start a process, but only process administrator can stop the process.

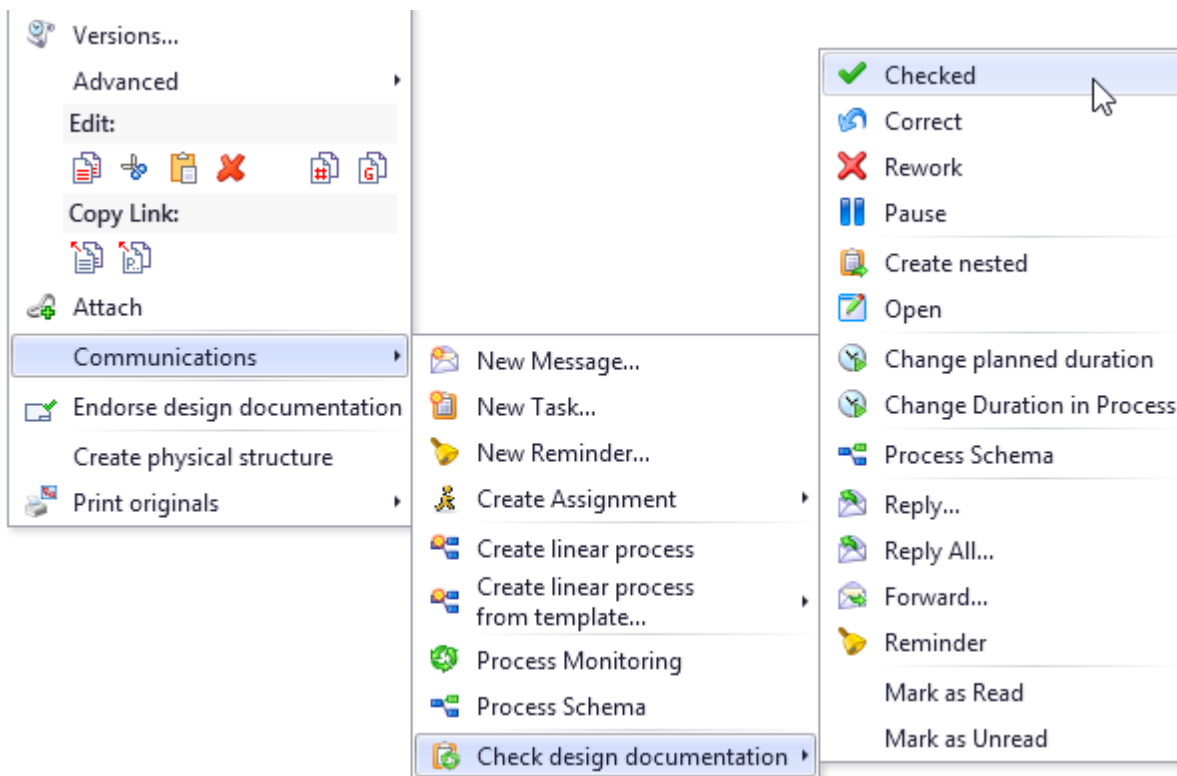
Process administrator is set when the procedure is created. If there is no procedure is not assigned with an administrator, administrator user can perform process administrator's functions.

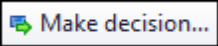
In the course of a workflow some operations can be performed automatically, e.g. changing values of set parameters or changing the stage of object attached to the workflow.

In the process states which require user's attention, corresponding tasks will be created and sent to the executors. Tasks sent in the course of a workflow are similar to abovementioned tasks of T-FLEX DOCs inter-office mail service. The only difference will be in actions options offered in the task: in mail task they are standard ("Accept", "Decline", "Finish", etc.) and in the workflow task these options (solutions) can be different and comply with transitions on the procedure scheme.

Buttons for corresponding solutions on a workflow task are displayed both in the task window and on the toolbar of the **Mail** window. In case there is no enough memory to display buttons for all solutions, they will be replaced with the  button opening the drop-down menu with the list of decisions.

Moreover, the list of active tasks and corresponding sets of available decisions are available in the **Communications** right-click submenu of the dataset object which is the part of the workflow.



With specific procedure settings, executor can have possibility to make several decisions. In this case there will be  button available in the task window, clicking of which

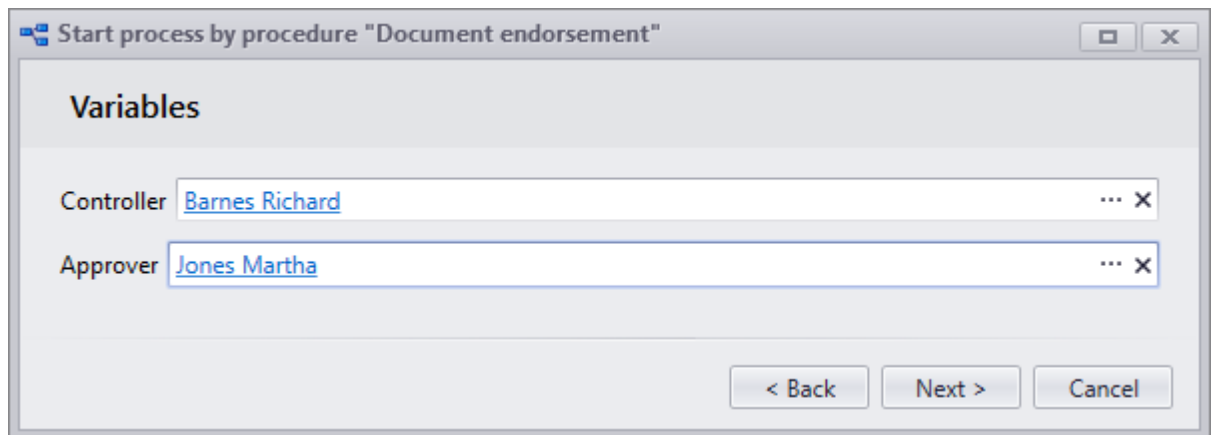
opens window with a list of possible decisions.

Instead of tasks, user can receive assignments. Mailing method is entered when the procedure is created and cannot be changed after the process is launched.

The workflow assignment window has the interface similar to usual assignment window interface. It has the same information as for the workflow assignment. Buttons corresponding to possible actions for the workflow assignment are displayed both in the assignment window and in the toolbar of the **Mail** window and "Assignments" dataset window.

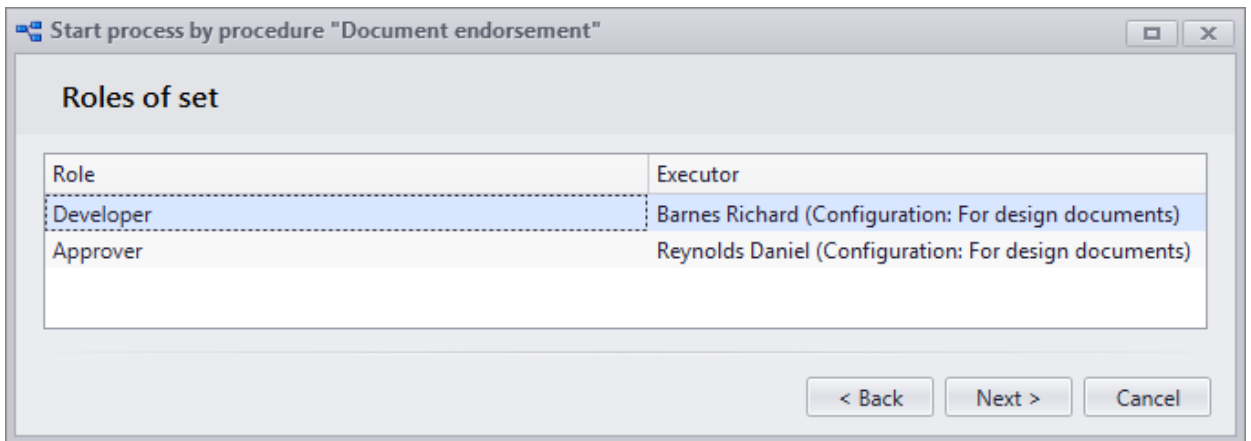
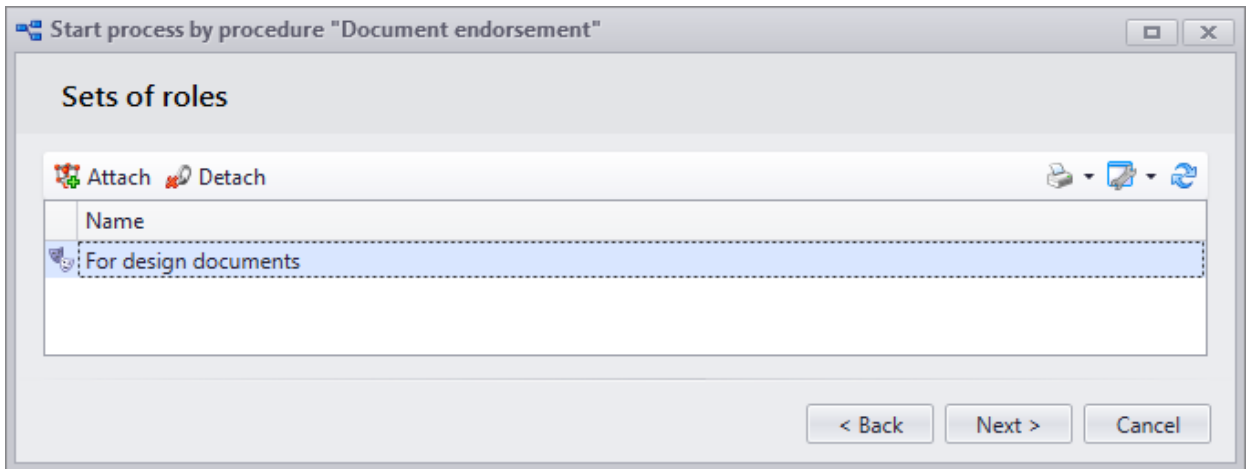
Executor of work which is a part of a workflow can be set in one of the following ways:

- Directly – executor is set in the work properties window.
- Indirectly – user which is the executor of another set work becomes executor of this work. Thereby, one user can be automatically assigned to execute several linked works.
- Via variable – to enter variable while starting workflow or for any of its states, use custom dialog box connected to the procedure.

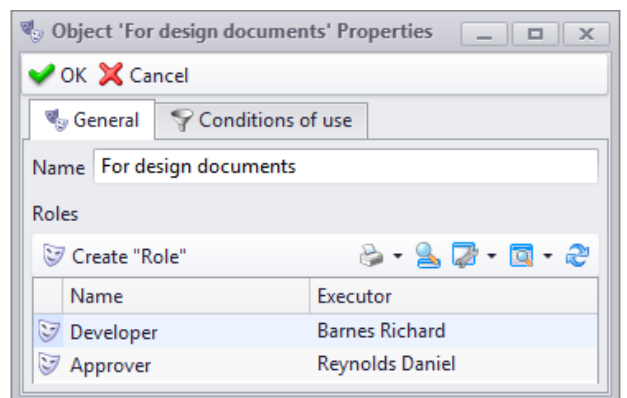
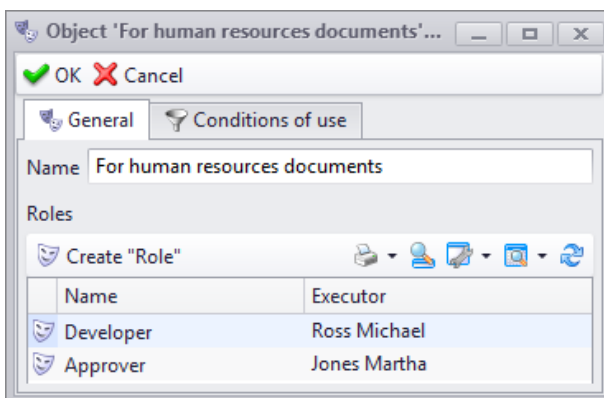


- Via formula (macro) – work executor is determined as a result of macro code.
- Via object parameter – work executor is set with value of stated parameter. E.g. user can select parameter of "Author of last change" object.

- Via role – in the work properties window user sets role to which work executor must correspond, e.g. "Approver". When the process is started required set of roles is connected automatically in compliance with set conditions or entered manually by author of the process. This allows to use same workflow to start similar processes which differ by set of executors.



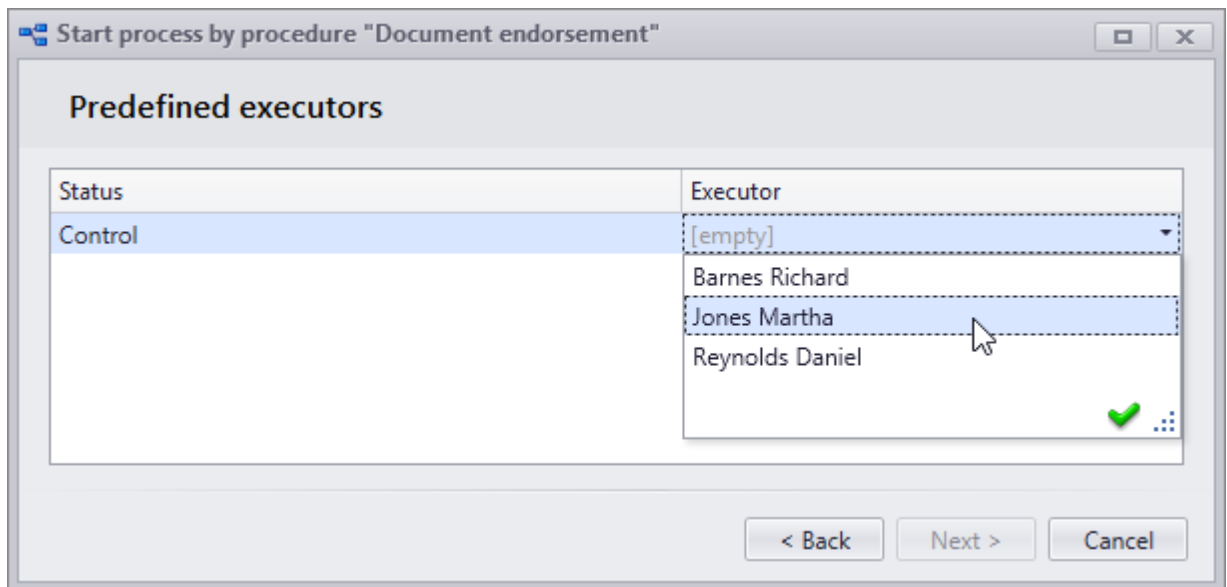
For example, for document endorsement workflow user can create following set of roles: "For human resources documents" and "For design documents". Both of the sets have "Developer" and "Approver" roles. However, each set will have its compliance of role with user: in the human resources documents human resources officer will be the developer, and director will be the approver. In design documents structural engineer and chief designer will have these roles respectively.



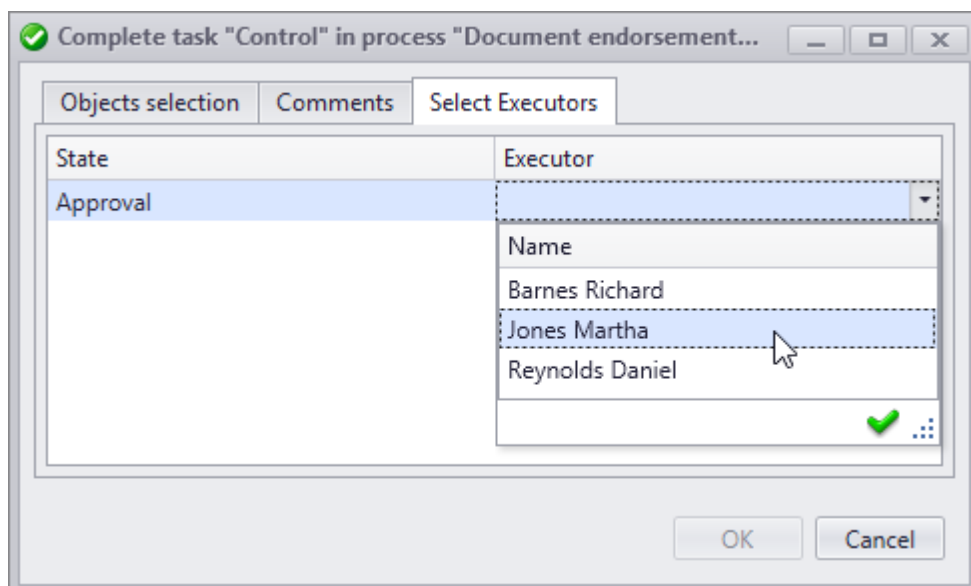
Not only work executors can be set via variable, formula or object parameter, but also value of some other parameters, e.g. scheduled duration.

Moreover, work executor can be represented by both individual user and user group from the "Groups and users" dataset or author can create a list of possible executors. In this case work executor will be selected from the group or list when the process is started or in the course of its execution. Work executor selection method is set during workflow setup. Following options are available:

- First to accept the task – all users from the user group or list of possible executors will receive the same tasks. User who is the first to accept the received task becomes the work executor. Tasks sent to other users will be automatically cancelled.
- When process starts – work executor is selected in the process startup window.



- Via previous stage – executor of procedure's previous work assigns executor of the current work. If previous state was the state of another type, in the procedure settings user selects solution via which assignment of executor for this work becomes available.



Workflow can have endorsement state which allows users to make a group decision. In this case, when user sets up a procedure he/she determines condition for transfer of the process to the next state:


- decision was made by at least one executor in the list,
- decision was made by all executors,
- decision was made by simple majority of users.

Apart from sending the executors tasks, procedure scheme can include notifications mailing to the users – common mail messages with preassigned text.

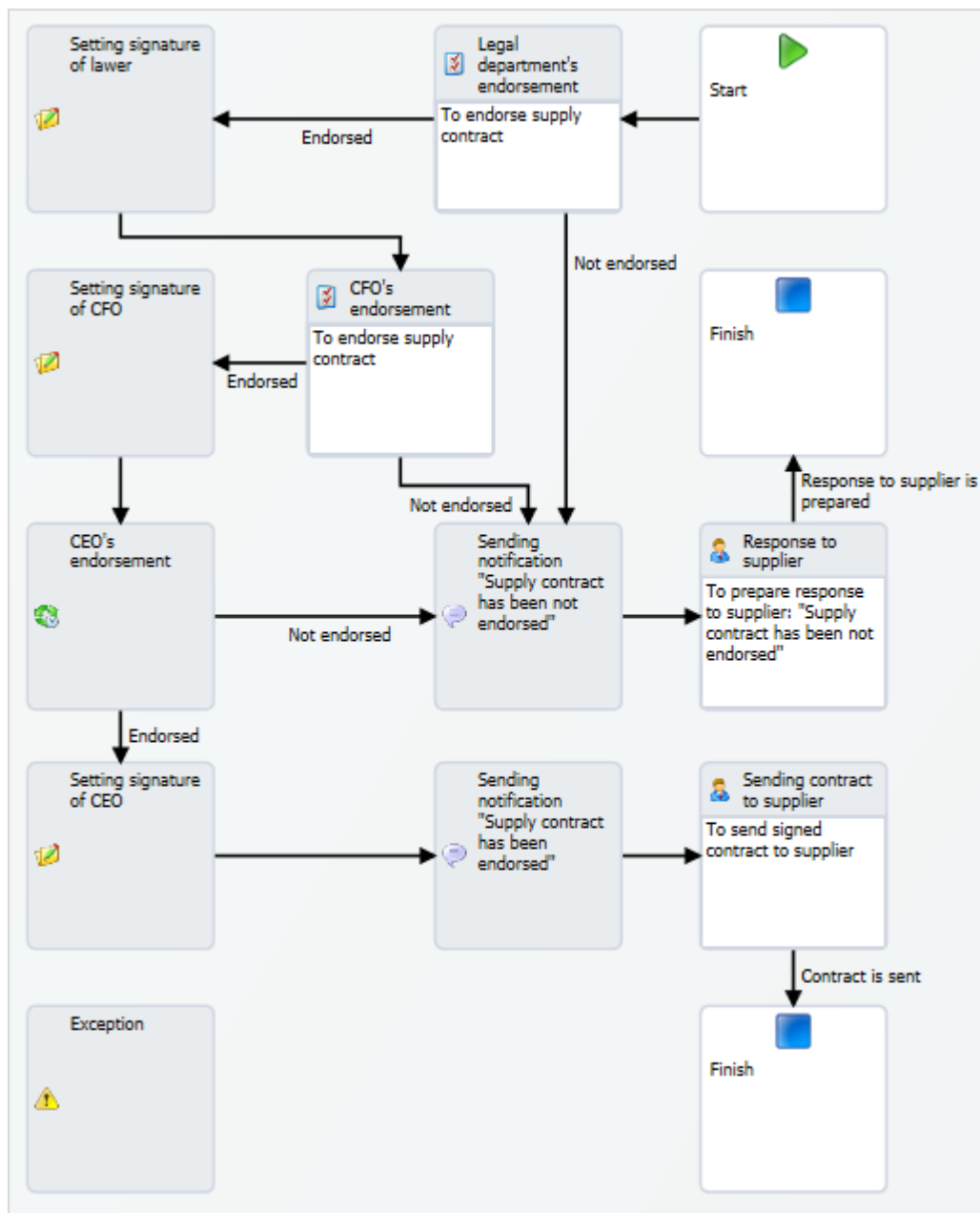
Regulatory documents can be attached to the procedure – objects of any dataset which are not a part of workflow logic and are simply displayed in the workflow task. Regulatory documents can be represented by GOSTs, requirements, examples, etc.

T-FLEX DOCs allows to set regulatory duration of the process – time period in which the process must be executed. For such states as "Work" and "Endorsement", user can enter both scheduled duration and scheduled duration in a workflow – period from the moment works with the process begin to the moment of scheduled completion of current state.

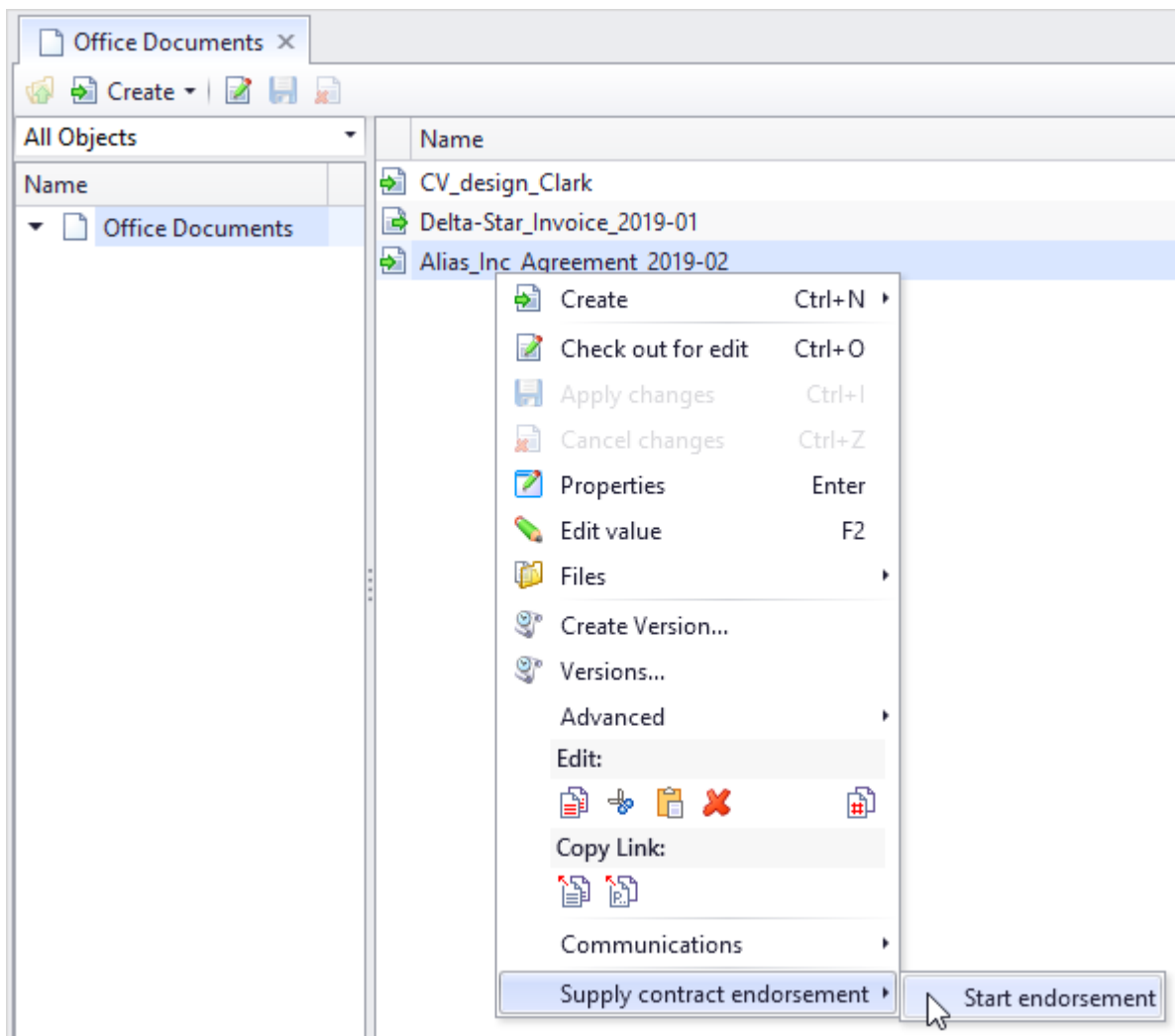
In case mistakes arise in the course of a workflow (executor is not assigned, time limit is exceeded), in the procedure's properties user adds "Exception" state and setup processing options for such situations. For example, user assigns responsible executor which will receive a notification on the message and will be responsible to make decision in this situation, e.g. suspend the process or finish work instead of state's executor.


To launch a workflow in compliance with created procedure, user creates separate option of the object's right-click menu or a button on the dataset window toolbar. Otherwise, workflow is launched by clicking  button in the "Procedures" dataset. A workflow can also be launched automatically depending on system settings.

As a case in point, a workflow for endorsement of components supply contract will be analyzed. Chart of this procedure is presented on the picture below.



1. User launches the contact endorsement process via right-click menu option or toolbar button set in the workflow properties. In this case it is **Supply contract endorsement > Start endorsement**.






2. To make workflow launch possible, changes must be applied to the document (if necessary, it can be done in the workflow window by clicking  button).

In this window user can manage the list of those attached to the objects' workflow with the help of toolbar buttons or right-click menu options:

- **Add objects** – opens window for selection of objects from any dataset to be added to the list.
- **Add objects by link** – makes it possible to add objects linked to the selected object in the list. Name of the link is indicated in the new window.
- **Add child objects** – adds child objects of the selected object in the list.
- **Add all child objects** – makes it possible to add child objects of any nesting level for the selected object in the list.

- **Add objects from search window** – opens **Object search** system window. Objects selected in this window will be added to the list.



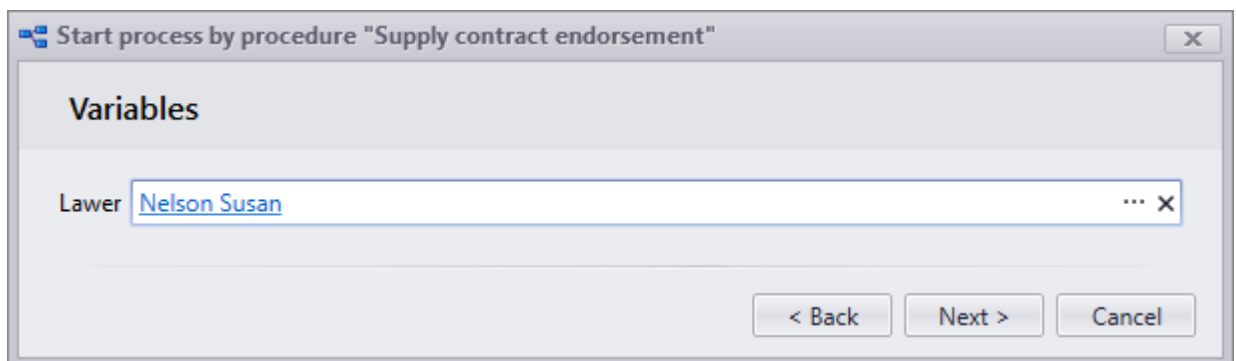
To disconnect the selected object by selecting option **Edit > Detach**. By clicking  button, user excludes the selected object from the workflow. However, this object will be attached to the workflow's tasks as informative attachment. To connect this object back to the workflow, click  button. Object connected to the process, will be labeled with  icon.

3. As in this case a variable is used, launching the workflow opens the window of variables.

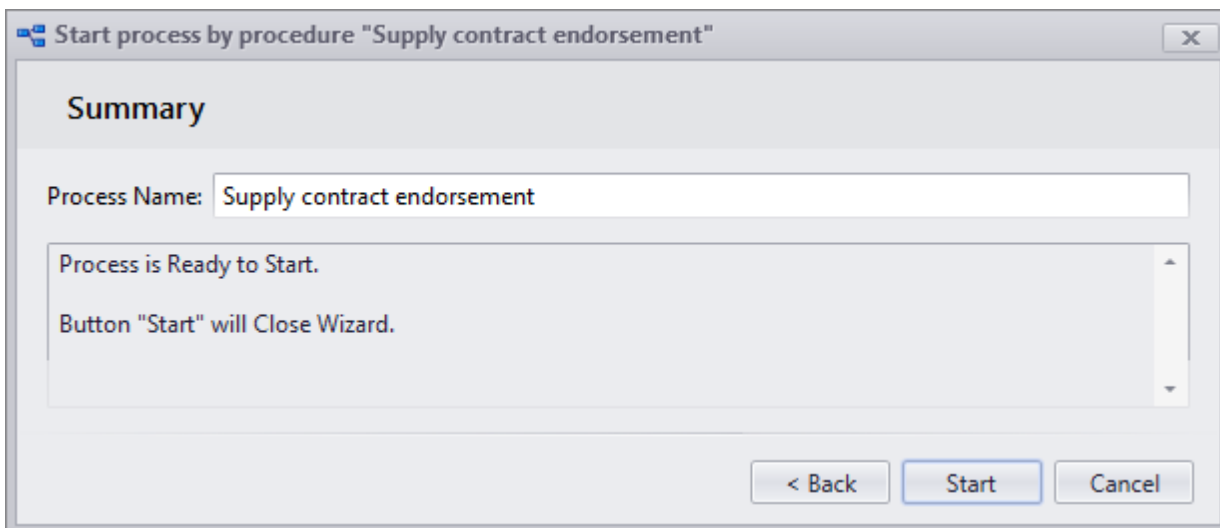
Variables are set by default in the procedure's properties.

Variables window is also created in the procedure's properties based on current variables. In this example, in the variables window user need to select a legal professional to whom the contract will be sent for endorsement.

[Next] button is intended to go to the next step.



- The system throws a message that the workflow is ready to be launched. After the **[Start]** button is clicked, the document will go through the sequence of workflow states.

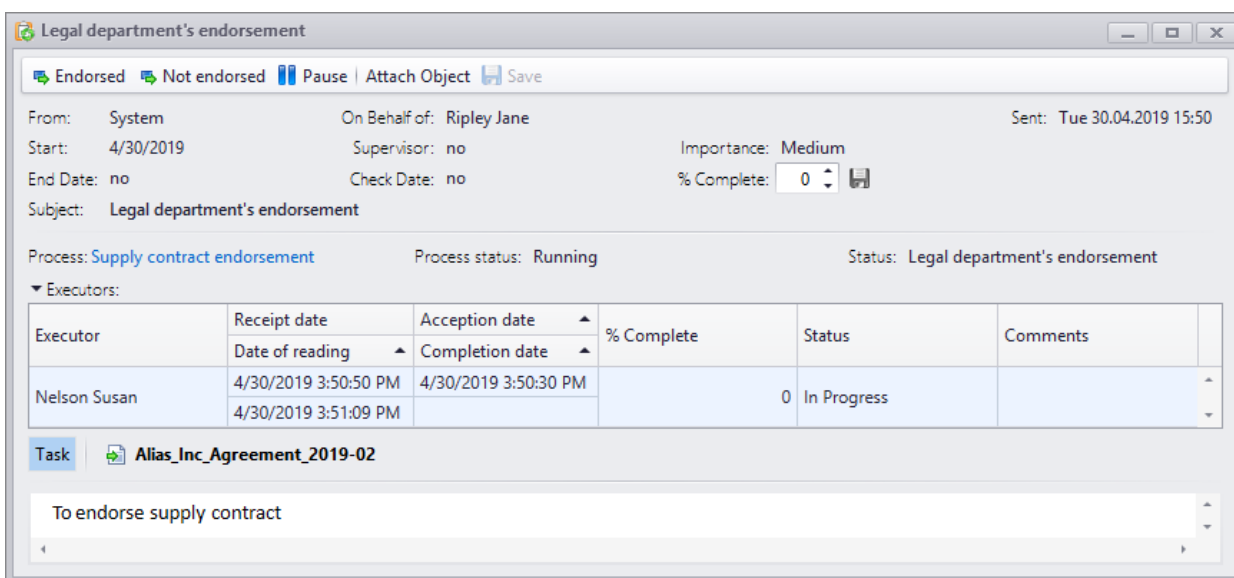


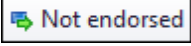
- First state is "Legal department's endorsement". State has two solutions: "Endorsed" and "Not endorsed".

Legal professional receives a task to endorse the contract. The document for endorsement will be attached to the task. Legal professional can finalize (**Endorsed** button) or not finalize the contract (**Not endorsed** button).

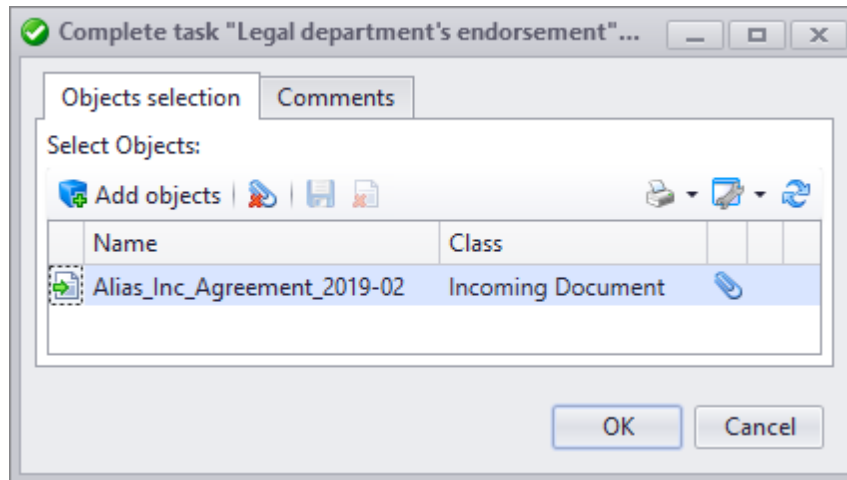
Moreover, toolbar of the workflow's task window has **[Attach Object]** button which allows to go to selection of dataset objects. Objects selected in this window will be attached to the workflow. Apart from that they can be included in the workflow or used only as informative attachment. To switch between these states, select required object in the task window and click **Include in Process** button or **Exclude from Process** button respectively.

Objects attached to the workflow are put in bold in the task window.

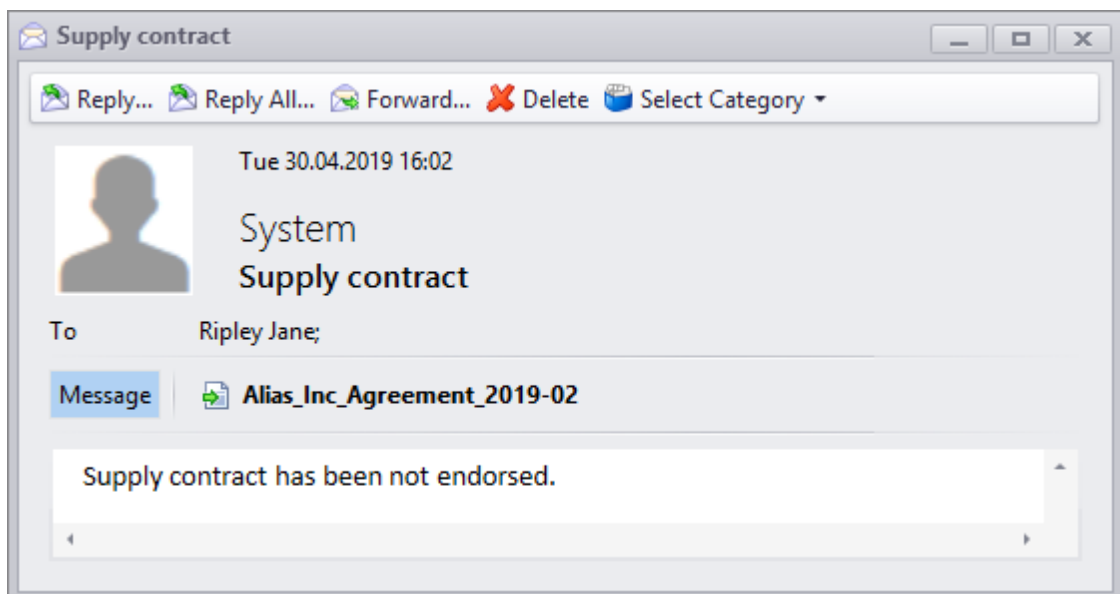


6. If legal professional clicks  button, window to enter a comment appears and to manage objects attached to the workflow.

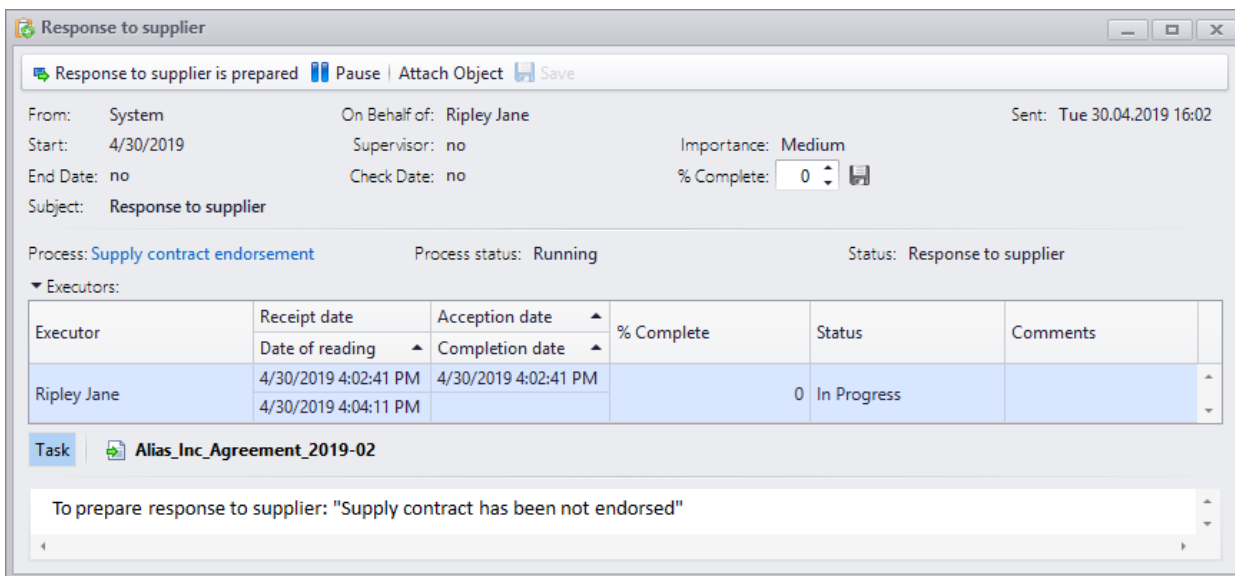
In this procedure such window opens at the end of each task.




7. Then, in compliance with the procedure chart, workflow goes to the state where notifications are sent. Author of the workflow, i.e. user, who launched it receives a message that the supply contract is not finalized.




8. Then the workflow goes to the "Work" type state. The author of the workflow receives a task to prepare an answer to the supplier that the supply contract is not signed.



9. When the task is completed, the executor clicks  button.

10. The workflow is finished.

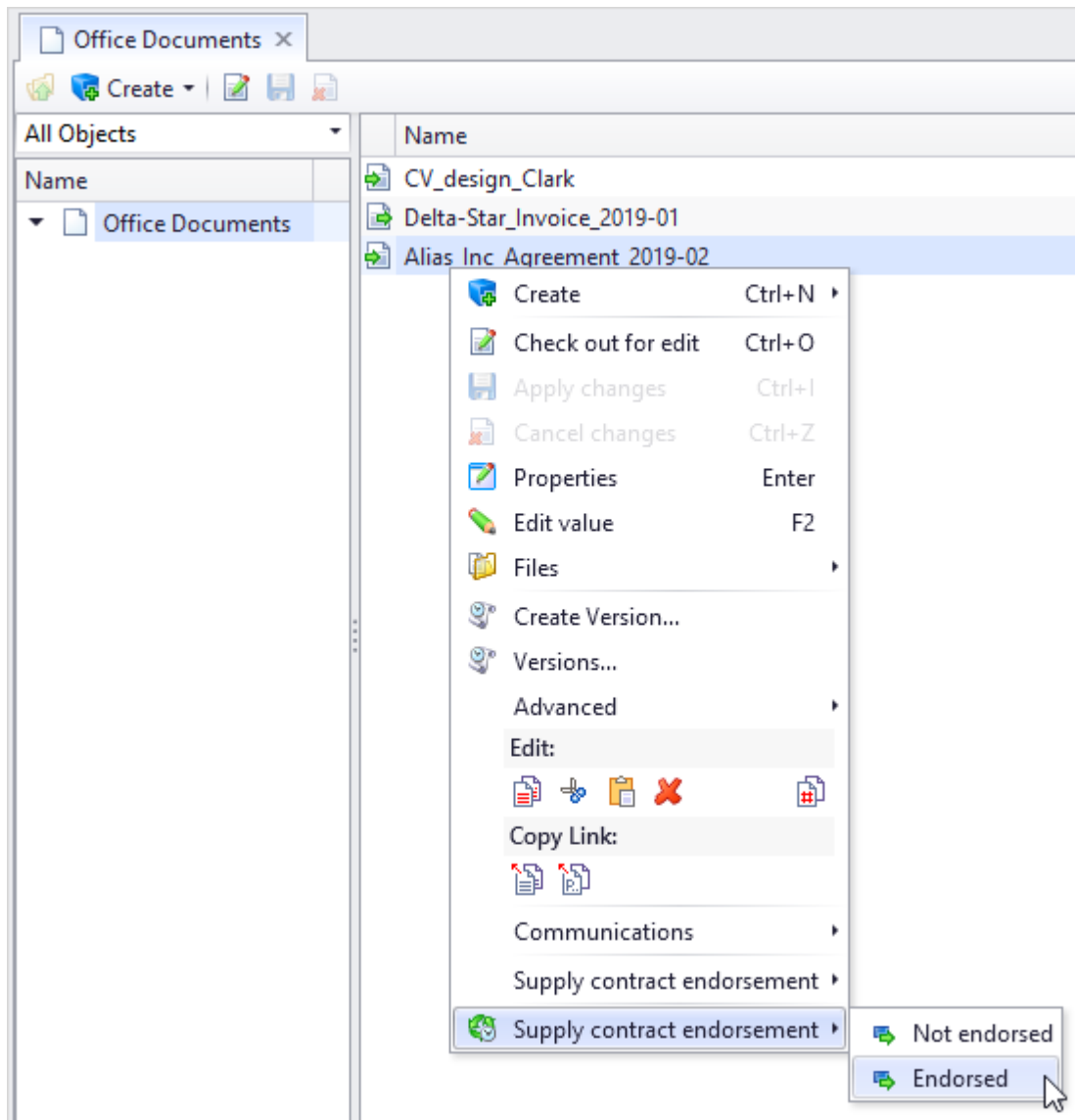
11. If the legal professional made another decision while finalizing the document (clicked  button), the workflow switches to "Setting signature of lawyer" state. In this state the signature is attached automatically.

12. Next state will be "CFO's endorsement".

Actions for endorsement by the CFO are similar to the procedure of endorsement by the legal department. Hence, they will not be described in detail.

13. In this case the "CEO's endorsement" state is of "Waiting for action" type. In this state, no task is created. Decisions are displayed as options of the document's right-click menu or menu options opened by button on the toolbar of the dataset window (depends on workflow settings). The system waits for the decision to be made by the executor. Such state has "Endorsed" and "Not endorsed" solutions. These solutions correspond to **Supply contract endorsement > Endorsed** and **Supply contract endorsement > Not endorsed** options respectively.

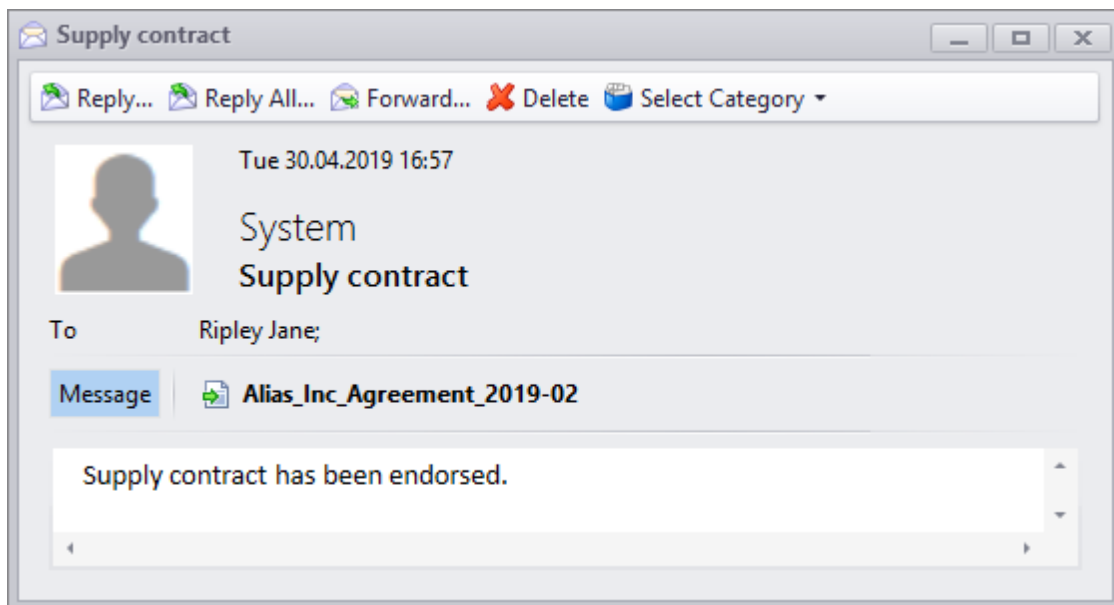
In case when several objects are connected to the workflow, the selected decision can be taken for all objects or for the selected object (objects). The list of objects for which the decision will be taken is generated with the help of right-click menu options **Edit > Disconnect** and **Add objects** in the window opened via option required to take action.



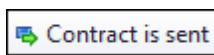
14.If CEO selects "Not endorsed" decision, the workflow is transited to the state where notifications are sent that the contract is not finalized and then is transited to the "Response to supplier" state.

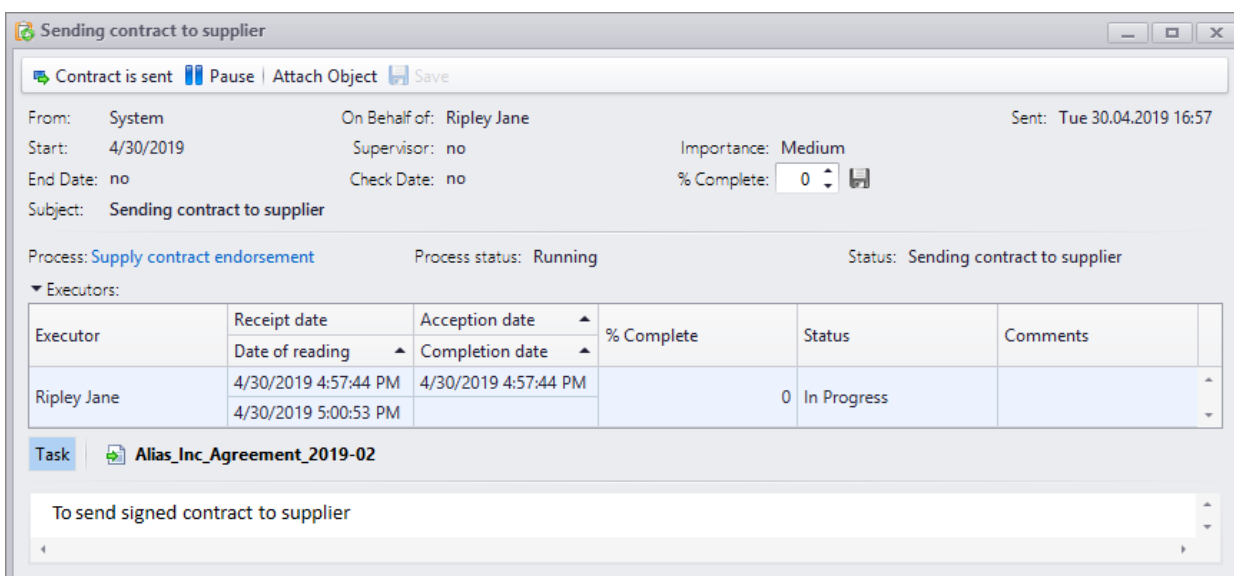
15.If CEO selects "Endorsed" solution, his/her signature is automatically attached to the document on his/her behalf.

16. In the next state users receive notification "Supply contract has been endorsed". The author of the workflow receives a message.



17. Then the workflow transits to the "Sending contract to supplier". In this state the author of the workflow receives a corresponding task. After it is finished, he/she clicks

 **Contract is sent** button.



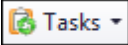
18. Workflow is complete.

User can review in which state is the workflow in the current moment. To do that, select option **Communications > Process Scheme** in the right-click menu of the dataset object attached to the workflow.

If the object is attached to several workflows, user can select required workflow to review the scheme in the field in the upper part of the opened window.

This option opens the process scheme, blocks of which have different colors:

- Blue – passed states.
- Green – current state.
- Yellow – states to come.
- Red – state where a mistake was made.

Left part of the **Process actions** tab has a list of process actions which are completed or are in progress at the current moment. Each action has start date and end date.  button opens a list of tasks for the selected state.

Tasks tab allows to review tasks created in the course of the workflow.

Messages tab displays error messages arising in the course of the workflow.

Linear workflows

Linear workflow is a simplified option of a common workflow. Linear workflow has extremely simple interface which allows to launch linear sequence of tasks.

Linear workflows are used for automation of non-standard processes in the organizations and processes with high variability of executors which is hard to implement in the process scheme.

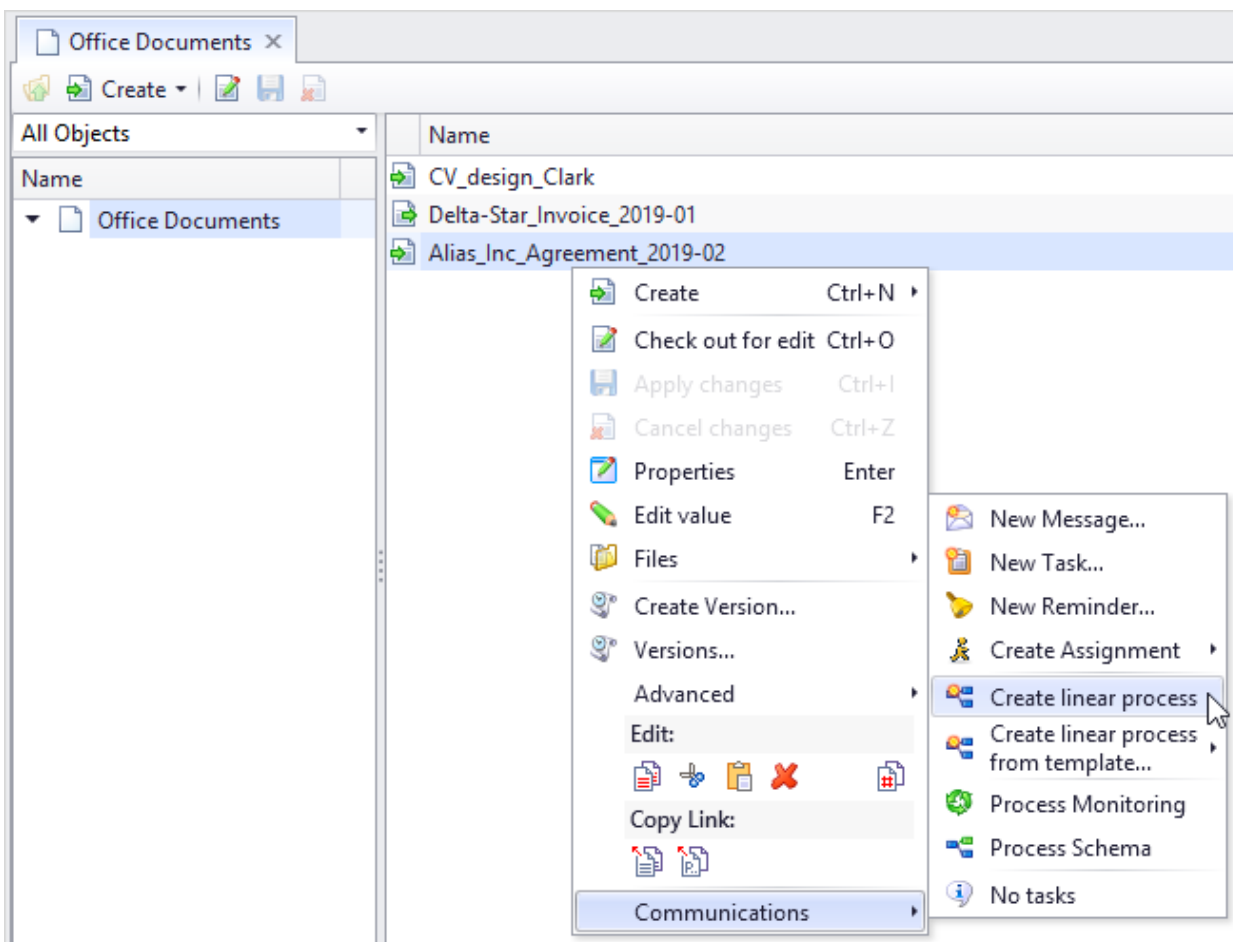
Any user can create linear workflow and launch a workflow based on it.

Created linear procedure is located in the "Procedures" dataset only until the procedure's workflow is finished. Then it is automatically deleted. But it can be saved to be used again as a prototype.

User can quickly create and launch linear process in the right-click menu of any object.

To do this, select option **Communications > Create linear process**.

This object is automatically attached to the created linear workflow.








Linear procedure is a list of states with transitions. States can be of following types:

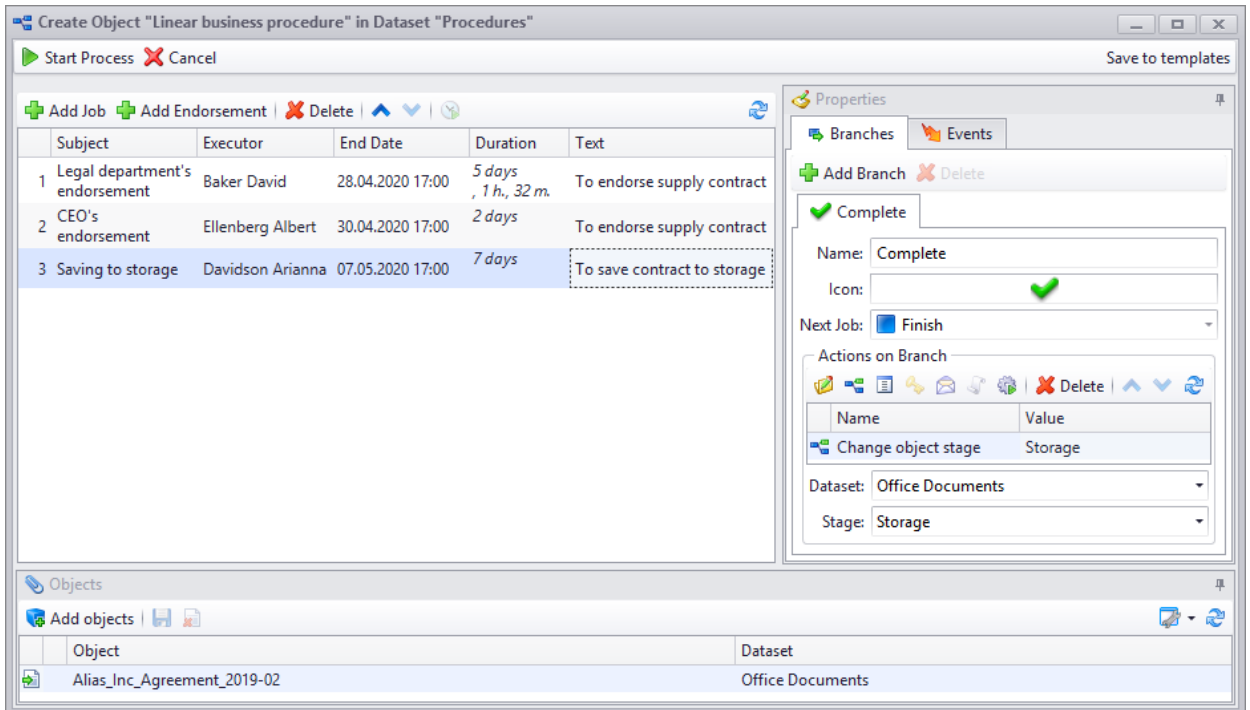
- Work – execution of any task by a user (e.g. development of drawing, drafting a document).
- Endorsement – endorsement of a document. If several users participate in the endorsement, tasks will be sent to all of them. In this case tasks will be accepted automatically and transition to the next state is performed when decision is made by simple majority of users. After the decision is made, tasks to other users are cancelled.

If there are two users finalize the document, only one user can make decision to transit the workflow to the next state.



Following buttons can create list of states:

-  – creates new state of "Work" type.
-  – creates new state of "Endorsement" state.
-  – deletes the selected state.


-  and  – change the sequence of states.



Short name of the state is entered in the **Subject** field. In the **Executor** field user selects user from the "User and Groups" dataset.

Several executers can be selected for the "Endorsement" state type. User can select executor from a dataset by clicking  button. User can remove executor by clicking  button.

User can set both planned completion date and duration of a state. These fields are interrelated, when values for one are entered, the other one is filled automatically.

 button allows to move assigned completion date to working hours.

Administrator user sets up labor routine of the company in the T-FLEX DOCs calendar.

Instructions for execution are entered manually in the **Text** field. They will be displayed in the window of the task sent to the executor of the job.

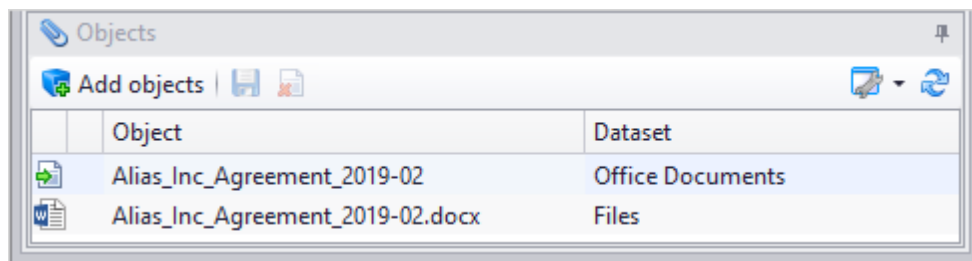
Apart from list of states, linear workflow launch window contains tabs of following [detachable windows](#):

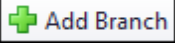

- **Objects** – is intended to manage list of objects which will be processed in the course of a workflow.
- **Properties** – is intended to display parameters of the selected state for a workflow and includes **Branches** and **Events** tabs.

In the **Branches** tab user enters decisions user can make in this state and actions accompanying transition to the next state. **Events** tab contains events corresponding to the selected states and actions which will be performed in case of these events.

In the **Objects** window user can manage the list of objects attached to the linear workflow with the help of toolbar buttons or right-click menu options:

- **Add objects** – opens window for selection of objects from any dataset to be added to the list.
- **Add objects by link** – makes it possible to add objects linked to the selected object in the list. Name of the link is indicated in the new window.
- **Add child objects** – adds child objects of the selected object in the list.
- **Add all child objects** – makes it possible to add child objects of any nesting level for the selected object in the list.
- **Add objects from search window** – opens **Object search** system window. Objects selected in this window will be added to the list.
- **Detach** – disconnects the selected object from the workflow.



Tabs in the **Branches** tab display decisions which user can make. By default, state of "Work" type has only one decision – "Finish", but, if necessary, user can setup other decisions via  **Add Branch** and  **Delete** buttons. In the state of "Endorsement" type user can, by default, make two decisions: "Approve" and "Decline".

Name and [icon](#) of the decision set by default can be changed.

On the tab which corresponds to the certain decision, in the **Next job** field user enters name of the state to which the workflow transits after user takes this decision.


Then, with the help of toolbar buttons user sets up actions taken in the course of decision making and transition to the next state:

1.  **Setting object signature** – sets signature on the object attached to the workflow.



As "Endorsement" state can have several executors, each must have personal signature type. In the **Run for executor** user selects user from the "Users and Groups" dataset, and corresponding type of signature is selected in the **Signature type** field.

State of "Work" type can have only one executor on behalf of whom the signature will be set. Type of the attached signature is entered in the **Signature type** field.

List of the **Dataset** field displays all datasets whose objects are attached to the workflow. It is recommended to select the dataset object of which must be signed.

2.  Change of object stage – changes stage of the object attached to the workflow. Stage is selected in the list of the **Stage** field.



List of the **Dataset** field displays all datasets whose objects are attached to the workflow. It is recommended to select the dataset object stage of which must be changed.

3.  Change of parameter value – assigns new value to the selected parameter of the object attached to the workflow. In the list of the **Dataset** field user selects dataset where the changed object is located. Parameter with new value is selected from the list in the **Parameter** field. New parameter value is entered in the **Value** field.
4.  Access change – allows to change access permissions to the object attached to the workflow. In the **Access** field select required access type. In the **To** field enter user, user group or department for whom the access is changed.




Change of access takes place, if it was already set for selected user or user group. In other circumstances current access to object will be saved and selected access will be added.

List of the **Dataset** field displays all datasets whose objects are attached to the workflow. It is recommended to select the dataset object access to which must be changed.

Inherit access field allows to enable inheritance of [access permissions](#) from parent object to the object attached to the workflow.


5.  Send message – sends message to selected users. Message text is set by a template. User can select a template from the "Message templates" dataset in the **Template** field. List of recipients is formed in the **To** field via  button.

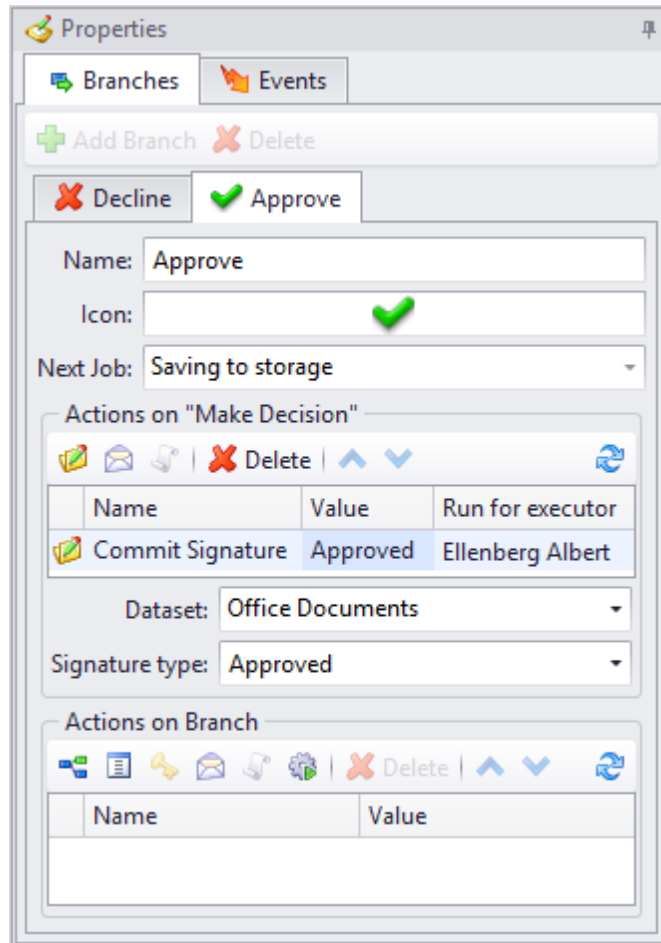
For state of "Endorsement" type, user also fills the **Run for executor** field. There user from the "Users and Groups" dataset is selected whose decision leads to sending the created message.

6.  Calculate formula value – allows to set consequence of automatic actions in the form of C# or chart code.  button in the **Formula** field opens window for macro editing.
7.  Start subprocess – starts subprocess in the linear workflow prototype. In the **Procedure** field user must select workflow prototype from the "Procedures" dataset.

If necessary, default names of actions can be changed manually.

Accessibility of all actions is defined by access permissions of the current user to the objects attached to the linear workflow. Some actions can also be unavailable as the selected dataset does not handle access management for objects, stages or signatures mechanism.

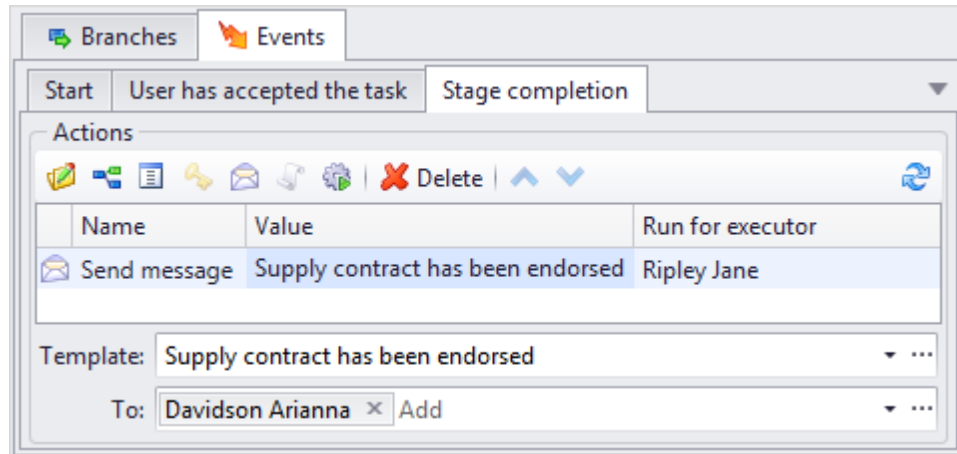
To remove the selected action in the **Branches** tab, click  button.  and  buttons change sequence of actions.



For a state selected in the window for linear workflow startup, in the **Events** tab user can set actions to be executed:

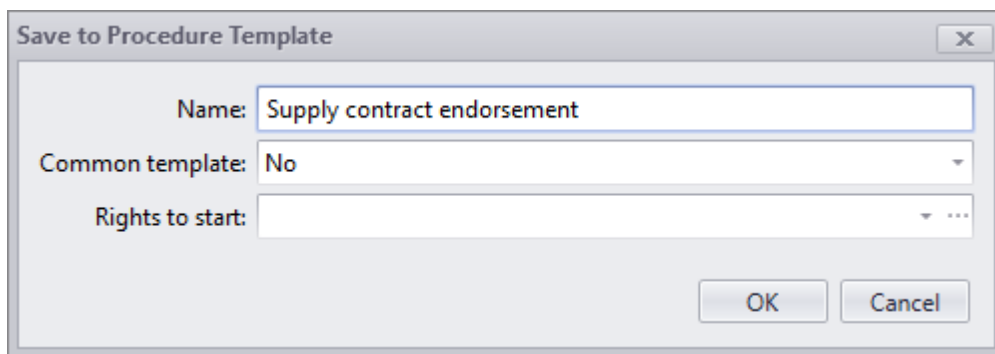
- beginning of state – in any states,
- when task is accepted – only in "Work" type states,
- completion of state – in any states.

Actions set for events are similar to actions set for transitions.

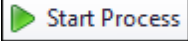
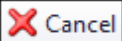


Following setup of all parameters, linear procedure can be saved as a prototype to be used in the future via [**Save to templates**] button. Prototype of linear procedure can be both personal and common. Personal prototype is available only to the current user, common prototype – to users from the list in the **Rights to start** field. If the **Rights to start** field is not filled, linear workflow based on this prototype can be started by any user. To save the procedure as a common prototype, select "Yes" option in the list of the **Common template** field.

Only user with corresponding access can create a common prototype.



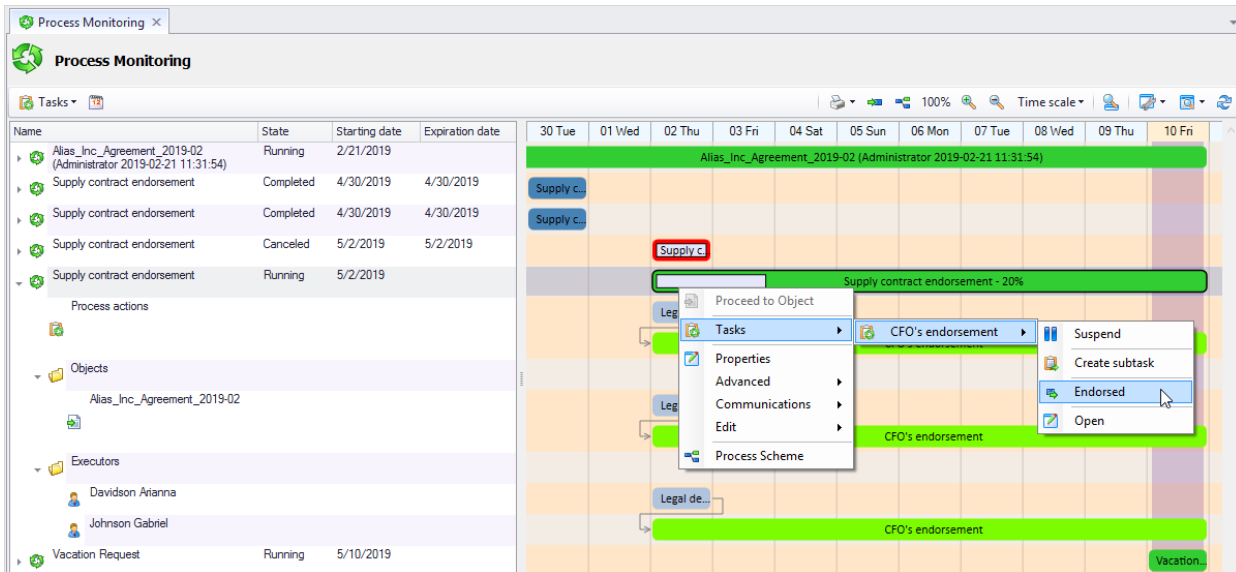
Then user can create new linear workflow based on the prototype by selecting option **Communications > Create linear process from template** in the right-click menu of a dataset object. Drop-down list displays 5 frequently used prototypes. **Communications > Create linear process from template > Select template** option opens window for selection of prototype.

Workflow based on linear procedure is launched by clicking  **Start Process** button in the **Start linear workflow** window.  **Cancel** button allows to cancel creation of linear procedure.

Workflow monitor

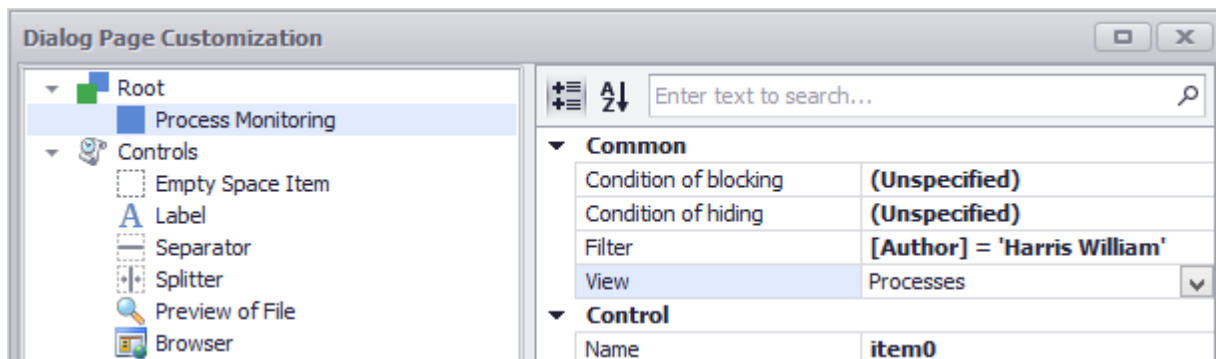
Process monitor is a special tool intended to monitor workflows. Process monitor displays workflows and their jobs on the time scale. It allows to review information about current state of the process and to manage them via options of the right-click menu. The process monitoring window can be opened via the shortcut located on the navigation panel.

To open the process monitor for the selected dataset object, select its right-click menu option **Communications > Process monitoring**.



Moreover, the "Process monitoring" control component can be located on user's [work page](#) or in the properties dialog box.

In properties of "Process monitoring" management component user can set up its view and filter for display of workflows which comply with set conditions.



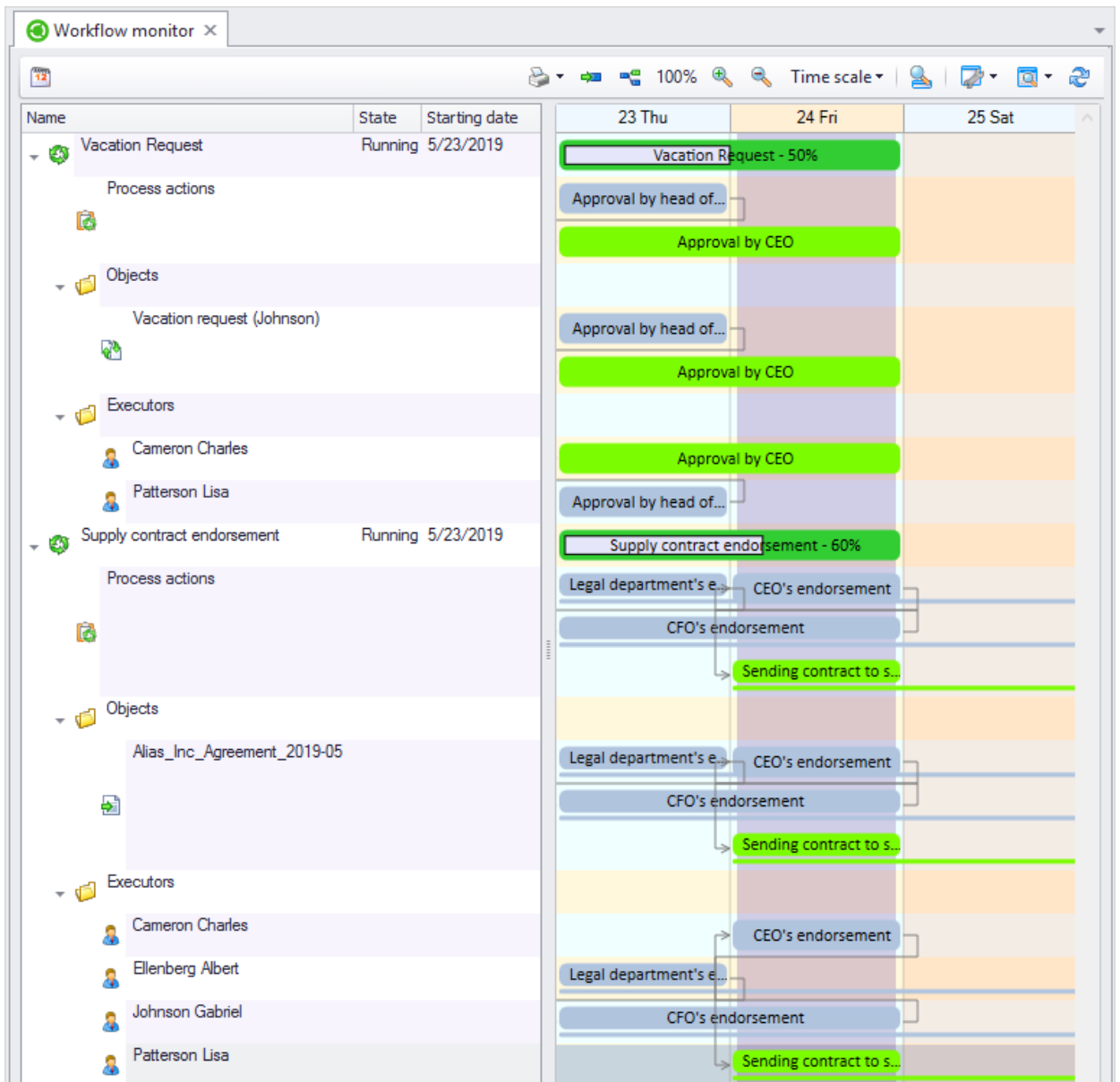
T-FLEX DOCs offers following view options for process monitor:

- "Processes",
- "Objects",
- "Executors".

If the "Processes" view is selected, left part of the window displays list of workflows with attached data:

- all process actions,
- objects attached to the workflow,
- executors participating in the workflow.

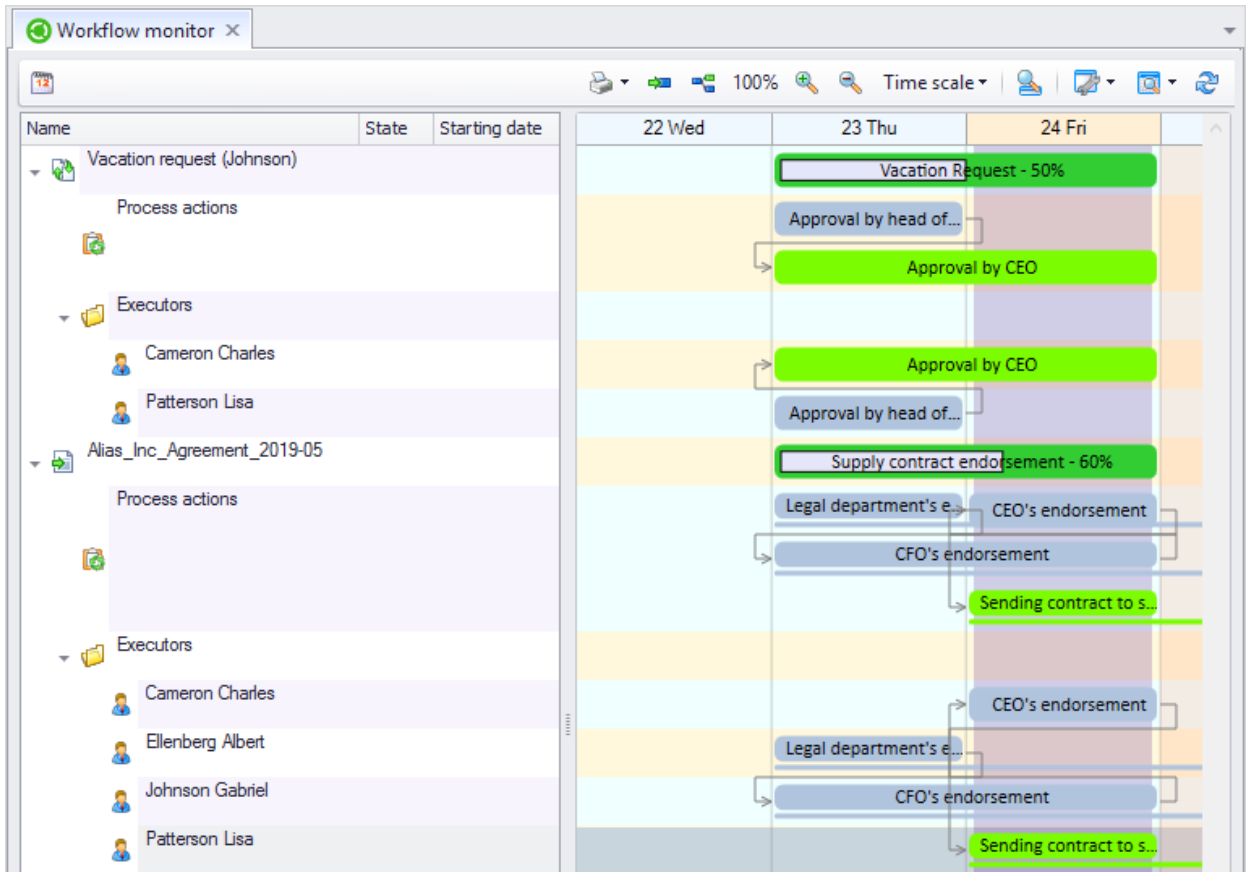
Components of temporal diagram are represented by processes and their separate states which comply with list located in the left part of the window.



If the "Objects" view is selected, left part of the window displays list of objects attached to various workflows with attached data:

- all process actions,

- executors performing actions for object.

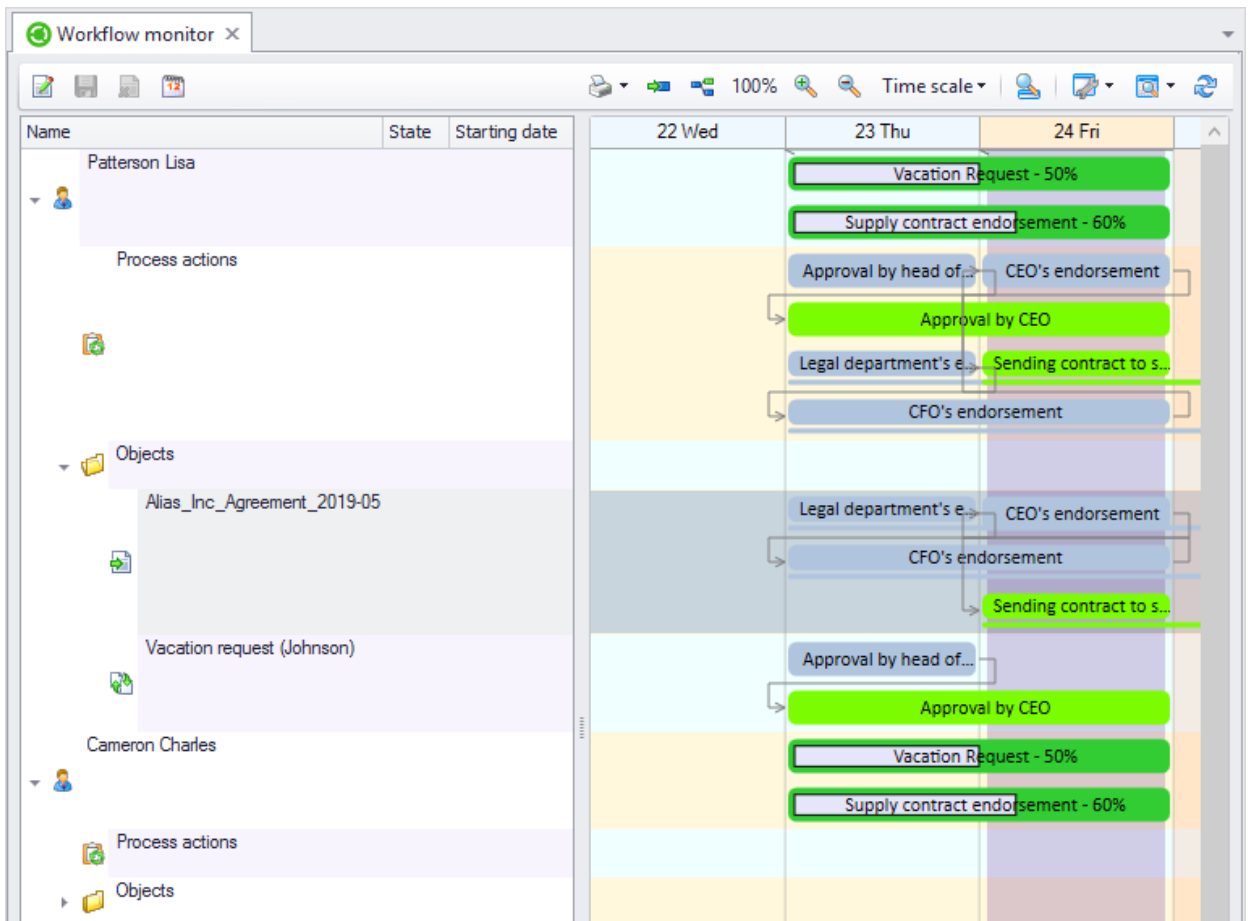


"Executors" view allows to review list of executors assigned with works of the workflow.

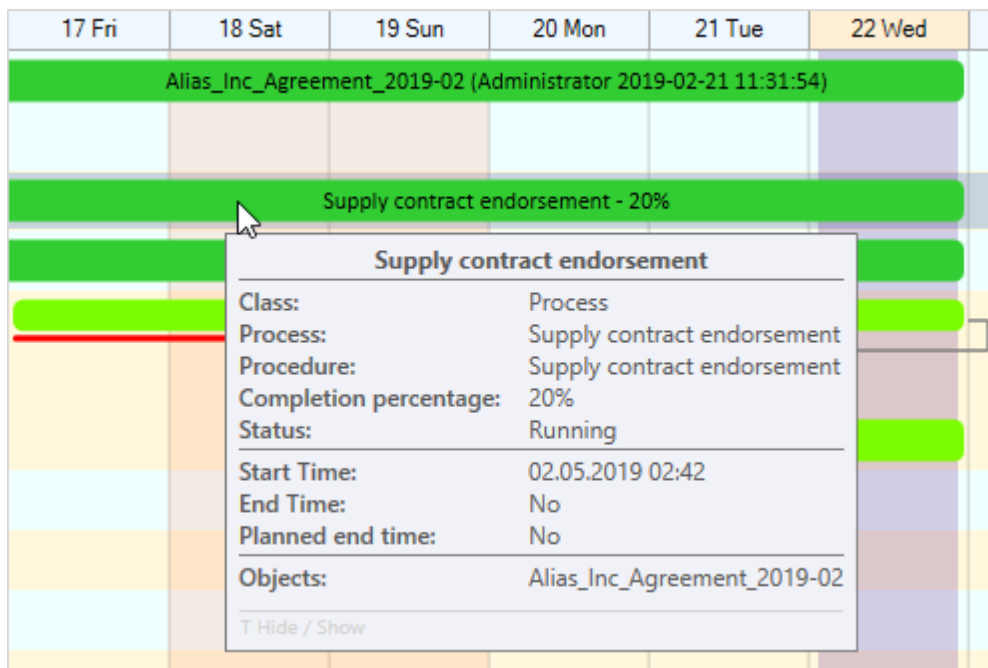
In this case attached data are represented by:

- all process actions,

- objects with which executor is working.











Balloon tip is displayed above elements of time scale where detailed information about current state of the element is provided.



Workflow can be managed with options in the right-click menu of the element selected on the scale.

Timescale element is assigned a color depending on its state:

-  – process with "Start pending" or "In Progress" status.
-  – process action in progress.
-  – finished process.
-  – finished process action.
-  – suspended process.
-  – suspended process action.
-  – process with "Termination", "Cancelled" or "Error" status.
-  – action where error occurred or process was cancelled.

Planned expiration dates for the process and separate jobs are displayed as a bottom line (from the start date to the planned date). Planned expiration date calculated from the start of the process is displayed as a mark (diamond). Bottom line and mark have the same color as the timescale element.

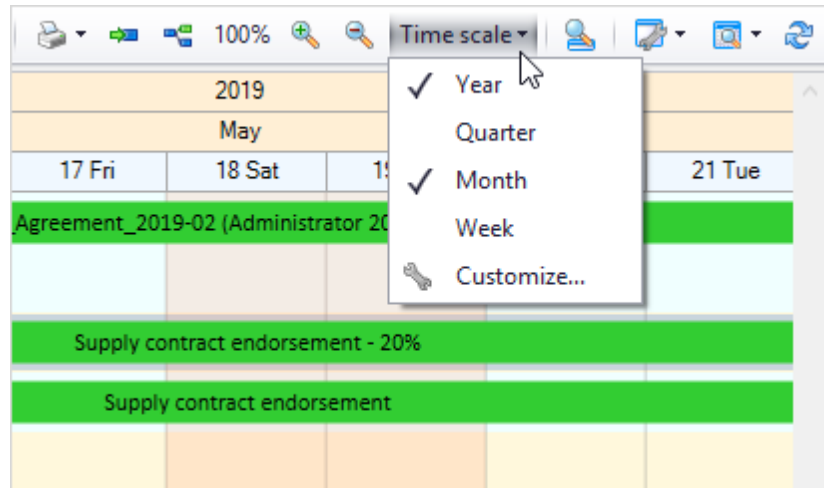
If the planned date is expired, its element will be displayed in red.



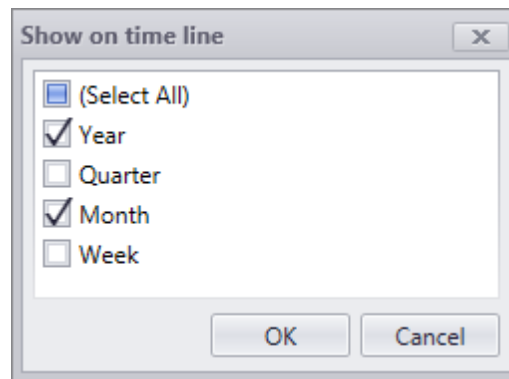
Percent of completion is calculated as quantity of executed custom states (excluding repeatable states) divided by total quantity of custom states excluding "Exception" state.

Toolbar buttons allow user to set up the timescale's appearance.

[Time scale] button opens the menu where user can select time units which are to be displayed on the scale in the upper part of it.





These options are also available in the window opened by menu option **Time scale > Customize**.




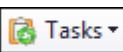
If necessary, the time scale can be displayed with elements roundoff as per the selected time interval. To select the roundoff interval, use the menu opened via the [Time step] button.

The interval is rounded off upwards. The indicated time interval is saved when the workflow monitor tab is opened again.

 and  buttons manage scale of display for the time scale.

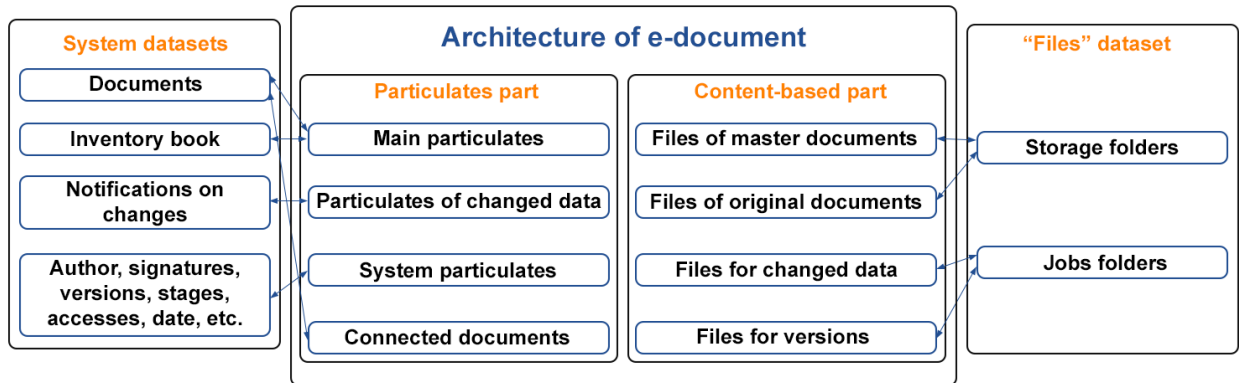
By clicking  button user can switch to the first element of the timescale which corresponds to the selected workflow, and by clicking  user can display all elements of the selected row in the visible part of the scale.

To go to the current date, click  button.

There can also be a  button on the toolbar of the process monitor window. Its action is similar to **Tasks** option of the right-click menu of the timescale element. This button makes it possible for user to go to the list of tasks for the selected process for which he/she is the executor and to the list of actions he/she can do with this task.

Document storage system

T-FLEX DOCs document consists of particulates part and content-based part. Particulates part is card containing information about the document which is stored in the "Documents" or in the "Office documents" dataset. Content-based part is a file of a corresponding format and is stored in the file server ("Files" dataset). One "Documents/Office documents" dataset object can have several files (e.g. original and master document, as well as various document versions).





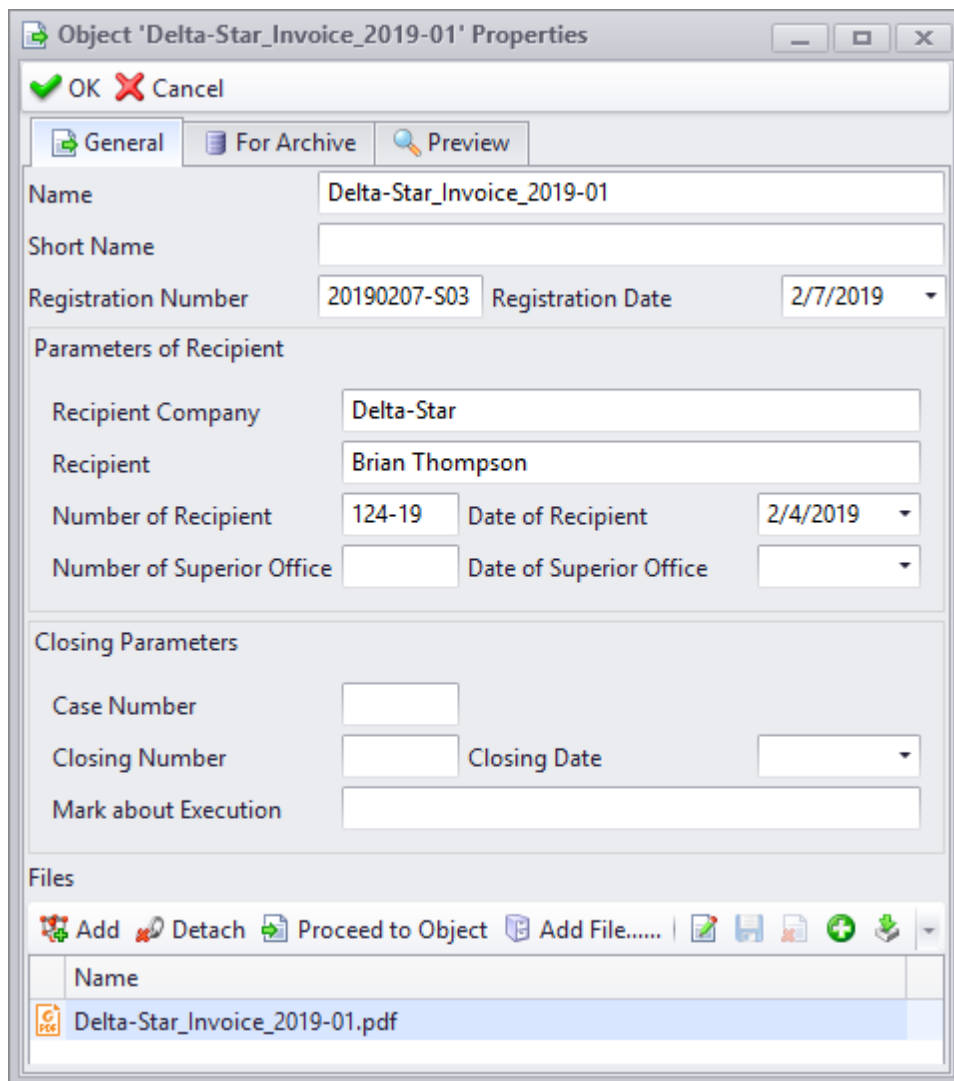
"Documents" dataset is intended to store design and engineering documents – drawings, specifications, journals, datasheets, electrical drawings, technical regulations, process control documents, etc.

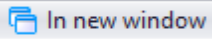
"Office documents" dataset contains office paper documents – incoming, outgoing, inter-office.

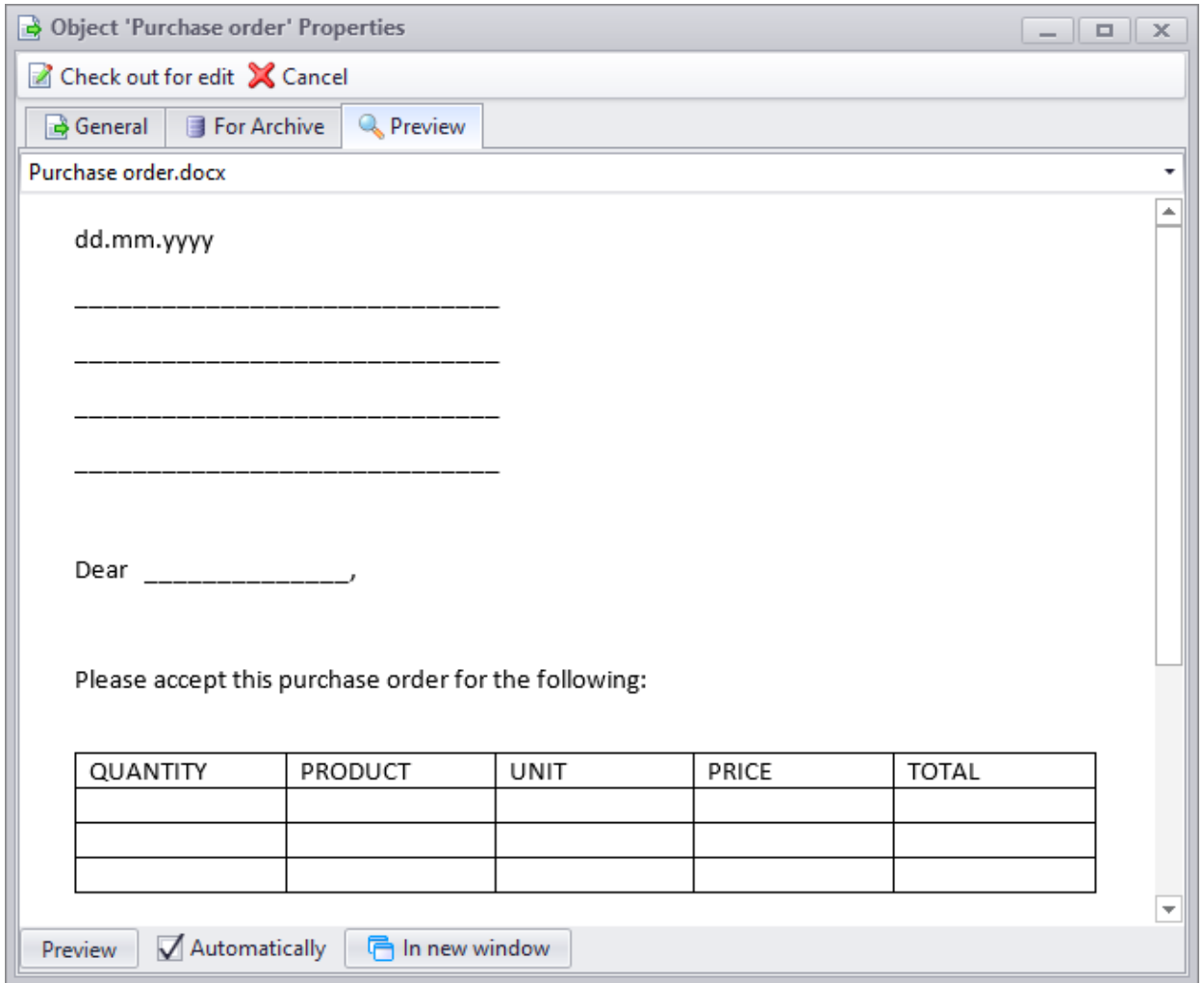
"Office documents" dataset

Depending on type of the object created in the "Office documents" dataset user must set parameters of sender and recipient, as well as general information for all types of objects: name, number and date of document registration, completion parameters (file number, "executed" mark, etc.).

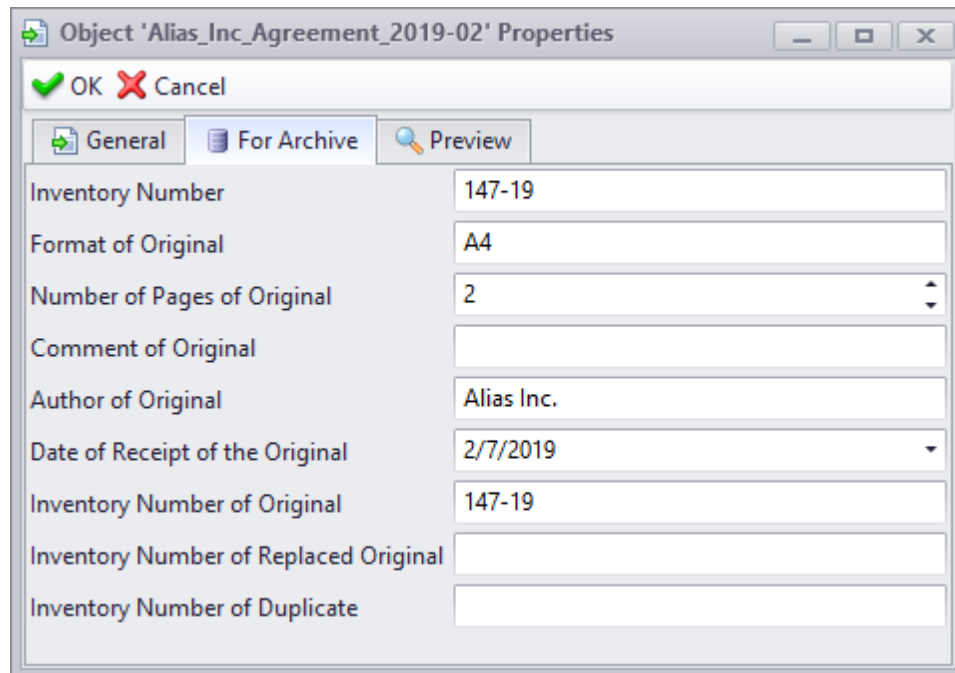
In the bottom part of the **General** tab in the properties window user can attach objects of the "Files" dataset to the object of the "Office documents" dataset via  **Add** or  **Add File.....** button.



Preview tab is intended to display attached document file. **[Preview]** button allows to display file on the **Preview** tab,  button – in the window of an application set to preview files of such format. If **Automatically** box is checked, contents of the file will be displayed at the switching to the **Preview** tab.



If the document requires inventory number, the required data are entered to the fields in the **For archive** tab.



Field Name	Value
Inventory Number	147-19
Format of Original	A4
Number of Pages of Original	2
Comment of Original	
Author of Original	Alias Inc.
Date of Receipt of the Original	2/7/2019
Inventory Number of Original	147-19
Inventory Number of Replaced Original	
Inventory Number of Duplicate	

"Documents" dataset

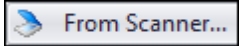
Folder structure in the "Documents" dataset corresponds to organizational structure of the company. A document is created and stored in the folder of the business unit where it was developed. Document state (under development, on approval, in storage) is managed by its stage. During lifecycle the document is not moved to any other folders but changes its state, i.e. stage and some parameters set by the company's archive service.

When user adds design and engineering document to the "Documents" dataset, in its properties window he/she enters name and purpose of the document in the **General** tab. User can enter such parameters as document letter, drawing format, item mass. **Variant** field is used to enter document's name variant when the document is changed.

National Nomenclature Code field is used for official document number. Official number is used to provide uniqueness of electronic structure object part number at the product design stage. It is entered to **National Nomenclature Code** and **Part number** fields when new part or assembly unit is added to the product's structure. When the document is transferred to the archive, official number in the **Part number** field is replaced with decimal number.

For automatic assignment of official numbers user must perform corresponding setup of the system.

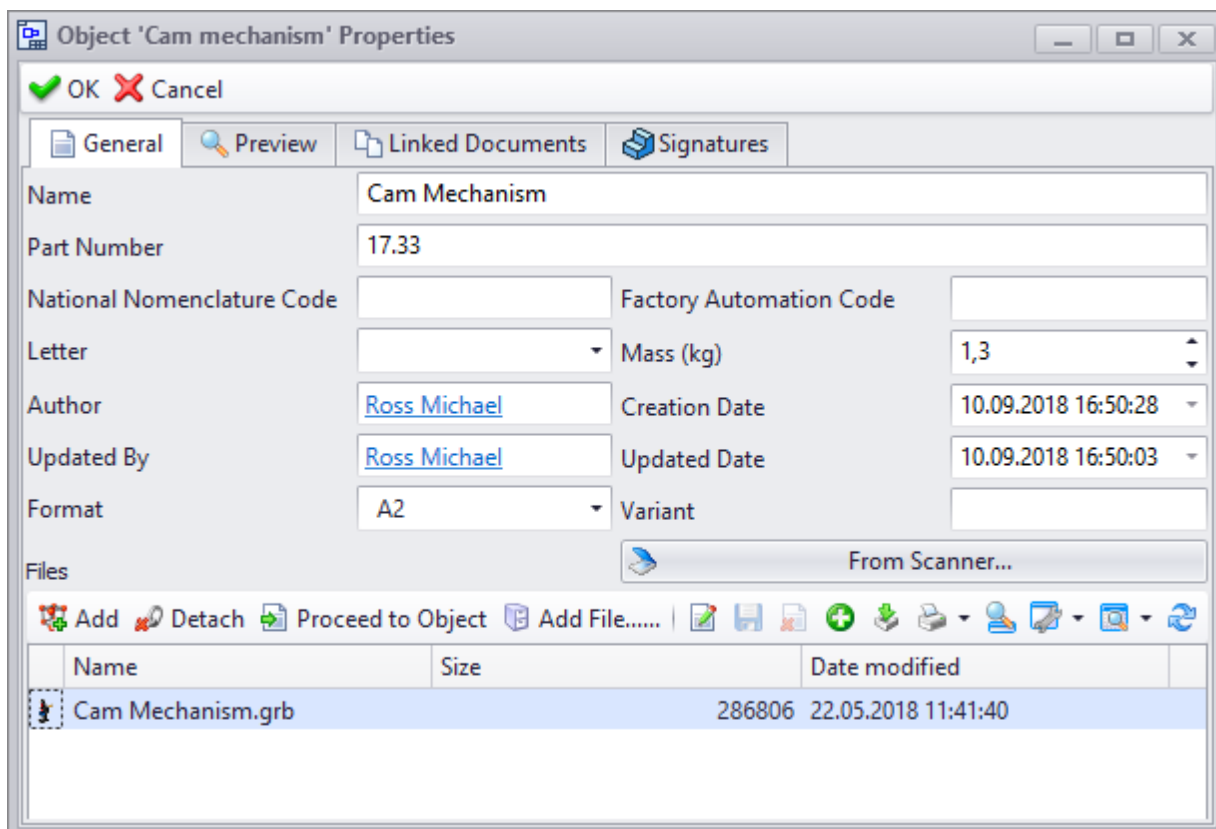
In the bottom part of the tab user can attach document files.

If content-based part of the document exists only in hard copy, a  button is used to transfer it to soft copy. As a result, scanned picture of document's hard copy will be attached to the "Documents" dataset object.

Preview tab is similar to one in the properties of the "Office documents" dataset object.

Linked documents tab is used to add objects of the "Documents" dataset linked with this one.

Signatures tab is intended to display list of signatures set on the document.



If object of the "Documents" dataset is attached to the product electronic structure, window with its properties will look the same as properties window for the "Product Electronic Structure" dataset objects.

Tasks management

T-FLEX DOCs offers user a convenient tool for prompt creation of the tasks tree and distribution of assignments in compliance with it – "Themes and Tasks" dataset. Such performance is created for managers of various levels to organize their department's work, to plan work packages, as well as to help employees to organize their work with personal tasks.

Themes and tasks are the objects of this dataset. Theme is used to determine general activity direction; task describes certain actions to achieve the goal. Example of a theme is publication of documents package; example of a task – drafting of an individual document.

Themes and tasks can have responsible executor and time limit.

In the selected theme or task user can create a list of assignments. Unlike task, assignment is a real-time management tool. Attached assignments are displayed in the properties window of a theme or a task.

The screenshot shows the 'Themes and Tasks' application window. The main area displays a tree view of tasks under the 'Themes and Tasks' theme. The tasks are listed with their names, responsible persons, terms, completion percentages, and states. The task 'To buy required hardware' is selected and highlighted in blue. Below the main list, there is a properties panel for the selected task, showing details like Number, Name, End Date, Executor, State, and Importance.

Name	Responsible	Term	Percentage of completion	State
Themes and Tasks				
To upgrade design department' pc's	Johnson Gabriel	1/29/2021	29 %	In progress
To analyse requirements	Smith Amelia	1/11/2021	100 %	Finished
To prepare specifications	Patterson Lisa	1/12/2021	75 %	In progress
To compare proposals	Baker David	1/22/2021	0 %	In progress
To buy required hardware	Cameron Charles	1/25/2021	0 %	In progress
To upgrade pc's	Ripley Jane	1/27/2021	0 %	In progress
To check workability	Parker Daniel	1/28/2021	0 %	In progress

Number	Name	End Date	Executor	State	Importance
18	To buy required hardware	1/25/2021 5:00:00 PM	Cameron Charles	New	Medium

"Themes and Tasks" dataset window contains pre-installed [data display options](#) which provide easy navigation in the dataset. Finished and cancelled tasks are crossed out. Tasks which are marked red:


- term is expired;
- tasks having linked assignments term of which is expired.

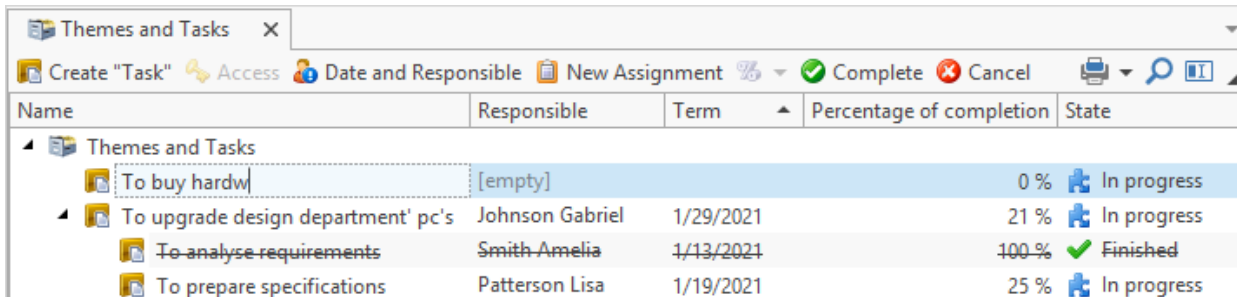
Tasks the term of which exceeds term for parent tasks are highlighted in italics red.

If user selects "Hide finished" view, tasks with "Finished" and "Cancelled" state will not be displayed in the dataset window.

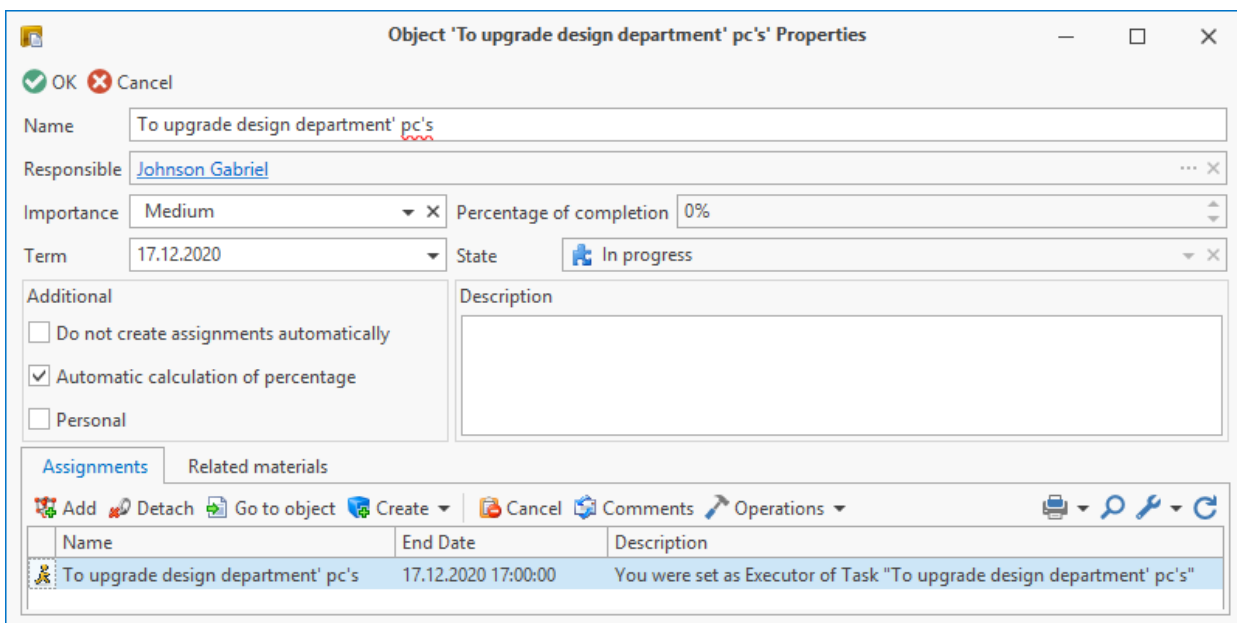
Moreover, bottom part of the window has a properties panel which displays list of assignments linked with the selected task and its attached tasks.

Creating a new task

To create new object in the "Themes and Tasks" dataset, click  button. Object's properties window does not open and object is created without parameters. Values of main task parameters (name, term, description, importance) are set in the dataset window in [the transparent edit mode](#) without properties window. This simplifies and speeds up task creation process.

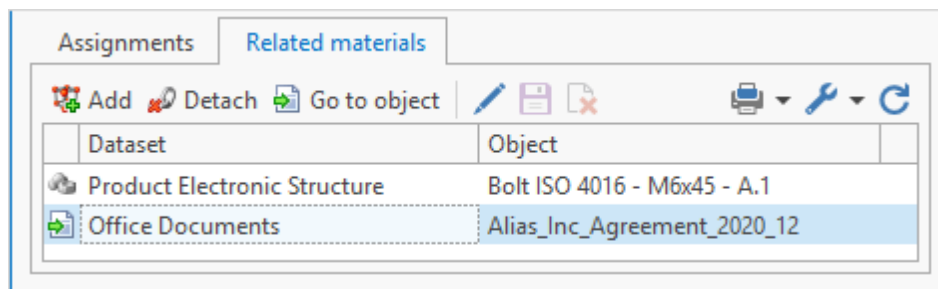






In the properties window only secondary parameters are edited and links with other objects established.

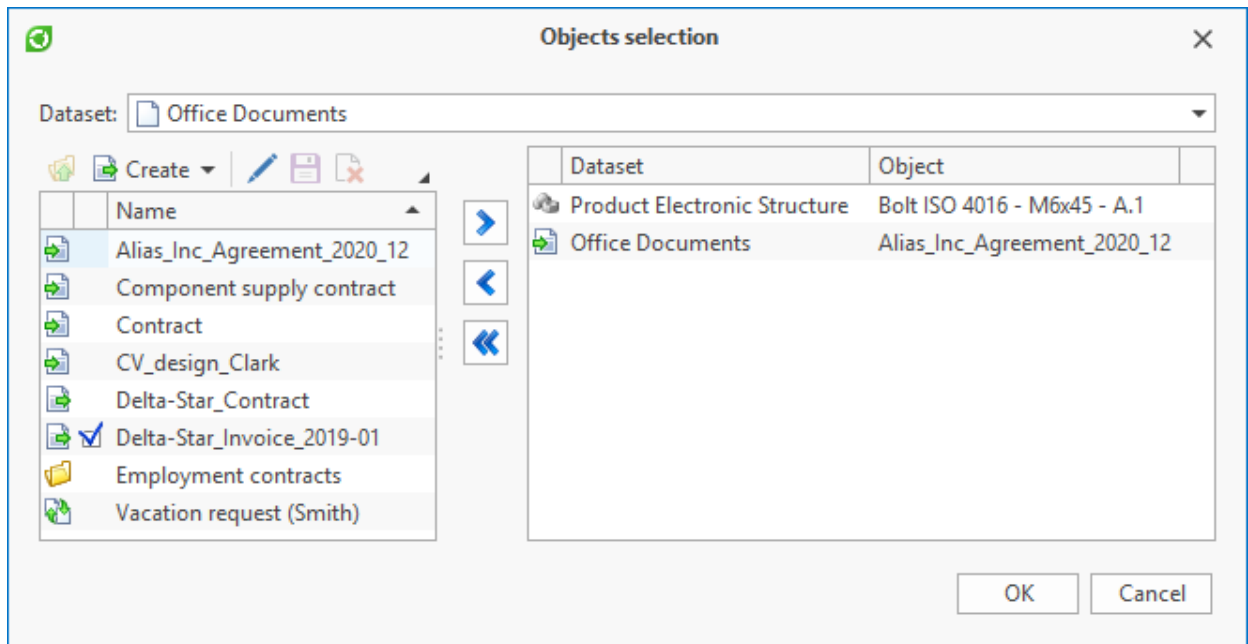


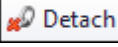
In the **Related materials** tab user can add various reference materials which can be used for current task.

Related materials can be represented by objects of various datasets.



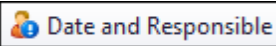
 opens window where user creates list of added objects with ,  and  buttons. Dataset in which objects are selected is set in the **Dataset** field in the upper part of the window.



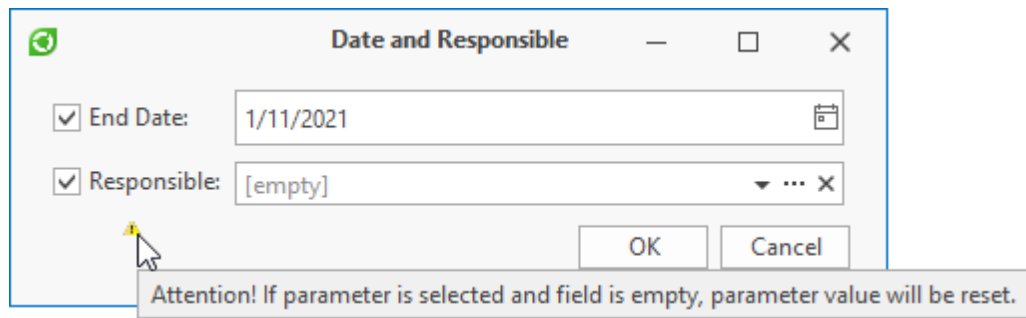
To remove object from the **Related materials** tab, click  button.

Moreover, task's properties window has following additional settings:

- **Do not create assignments automatically** – if the box is not checked, basic assignment will be created for assigned responsible executor in the course of this task.
- **Automatic calculation of percentage** – if the box is checked, the system automatically calculates percent of completion for a task based on percent of completion for distributed assignments; otherwise user must enter it manually.
- **Personal** – task will be seen only to the user who created it.

User can assign responsible executor and term for the selected task by clicking  button on the toolbar of the dataset window. This action is performed for all of the selected tasks. In this case, value is changed only for the parameter with checked box. If the box is not checked, value of corresponding parameter remains unchanged. If the box is checked and the field is not filled, value of this parameter will be cleared.


If the field is not filled, the window will display a warning with corresponding message.



Assignment which is automatically created when the responsible is set will be basic for the task.



A task can have only one active (in all states except "Closed", "Cancelled" or "Finished") basic assignment.

If responsible executor is changed for the task, executor of corresponding basic assignment is changed too.

Apart from basic assignment, if necessary, user can create additional assignments for the selected task. To do this, click  **New Assignment** button on the toolbar of the "Themes and Tasks" dataset window. Assignment type is indicated upon creation.

Such type of assignment will be created regardless of **Do not create assignments automatically** box state in the task's properties window; when the task's responsible executor is changed, executor of assignment remains.

Tasks operations

Created task will be in "In progress" state. To finish the task, click  **Complete** button on the toolbar. In this case it will transit to the "Finished" state. To cancel this action, click  **Reject Completion** button. In such case user can add comment explaining the cancellation. Author and responsible executors of cancelled and parent tasks will receive notifications in T-FLEX DOCs via inter-office mail on cancellation with a comment.

If necessary, task can be cancelled by clicking  **Cancel** button on the window's toolbar.

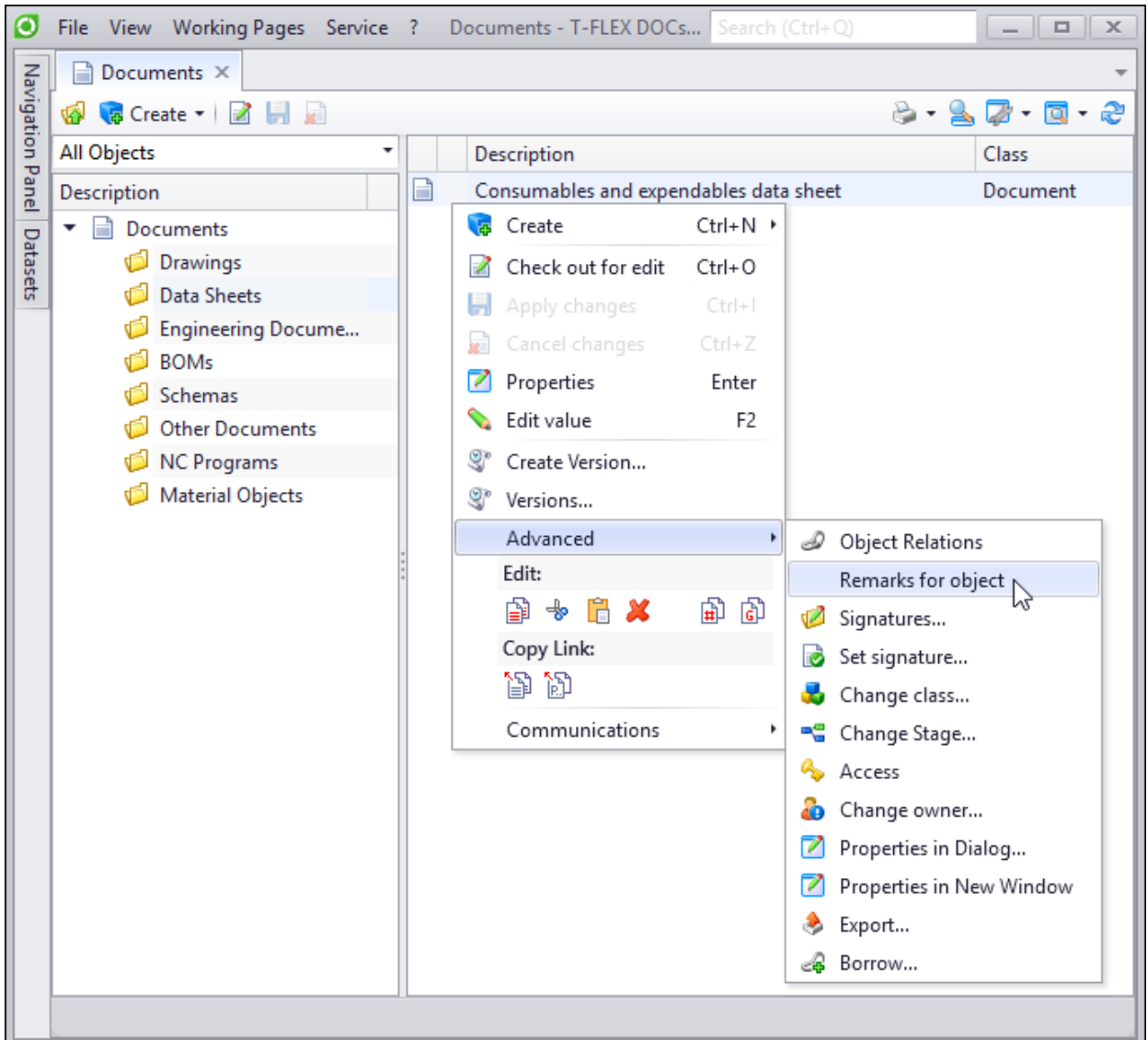
Handling remarks

For processing data in T-FLEX DOCs it is sometimes necessary to review the system objects. For example, in the course of document amendment and finalization the employees might need to start the process of issuing remarks on the document while the head of the department might need to assign the employees to create such remarks. Therefore, T-FLEX DOCs mechanism for handling remarks makes it possible to arrange team work with system data in terms of finalization and review.

Types of remarks

T-FLEX DOCs mechanism for handling remarks makes it possible to create remarks for the system objects, as well as to generate requests to create remarks. Remarks can be created for any object of the system. Moreover, the remarks can be linked to the data inside the files of PDF format.

Created requests and remarks are displayed in the corresponding window of the object. To open such window, select the system object, then select the **Advanced > Remarks for object** option in the right-click menu.



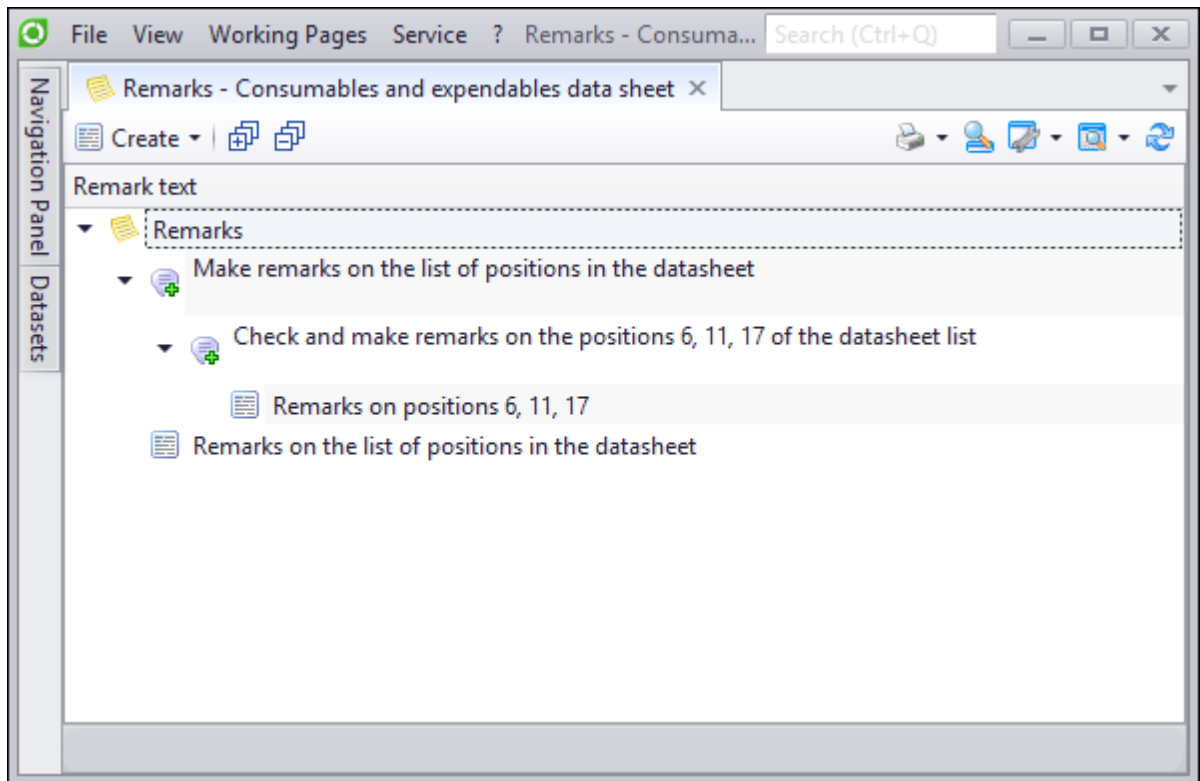
There can be following types of "Remarks" objects:

Text remark. Type used for any system objects.

PDF remark. Type of remarks linked to the PDF files.

Request. Type of request to create remarks.

Request for the selected object is available only to the author and executors of such request. More information is provided in the chapter "Requests".



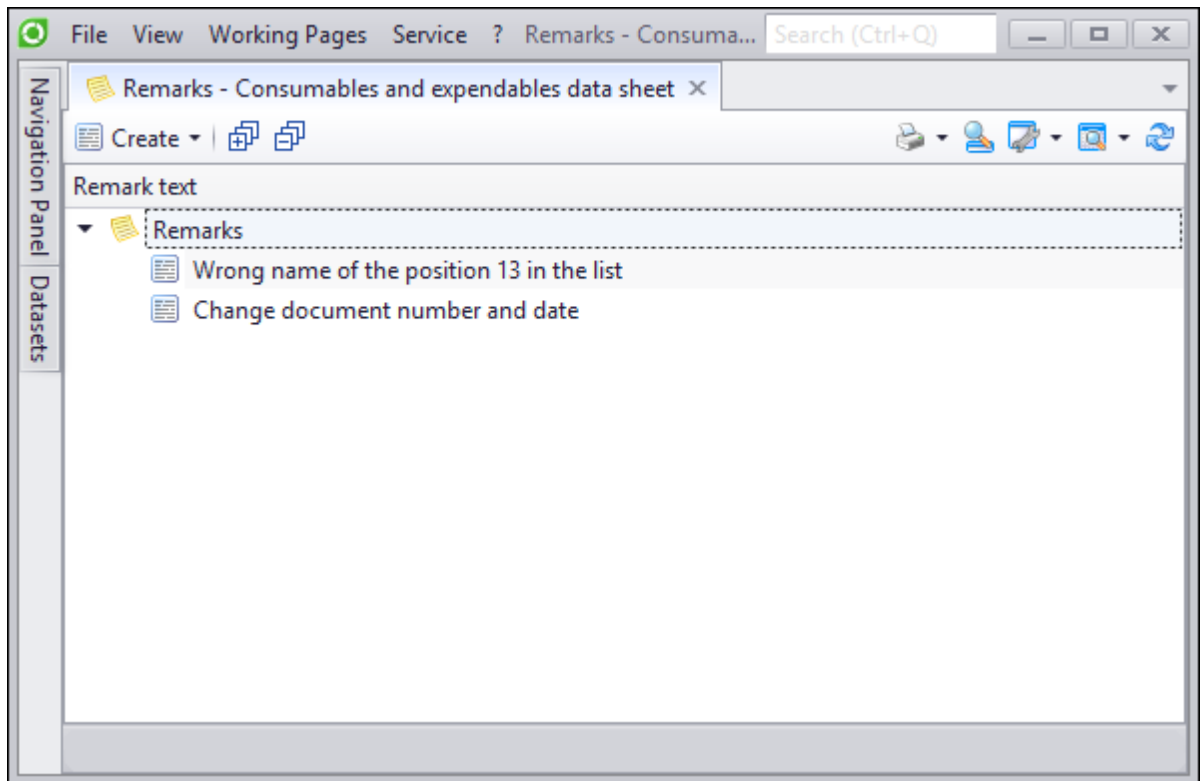
Text remarks

A remark can be created as an individual review for the system object or as a reply to the request created previously within the object context. In the first case the remark is available to any user, in the second case – only to the author and executor of the request.

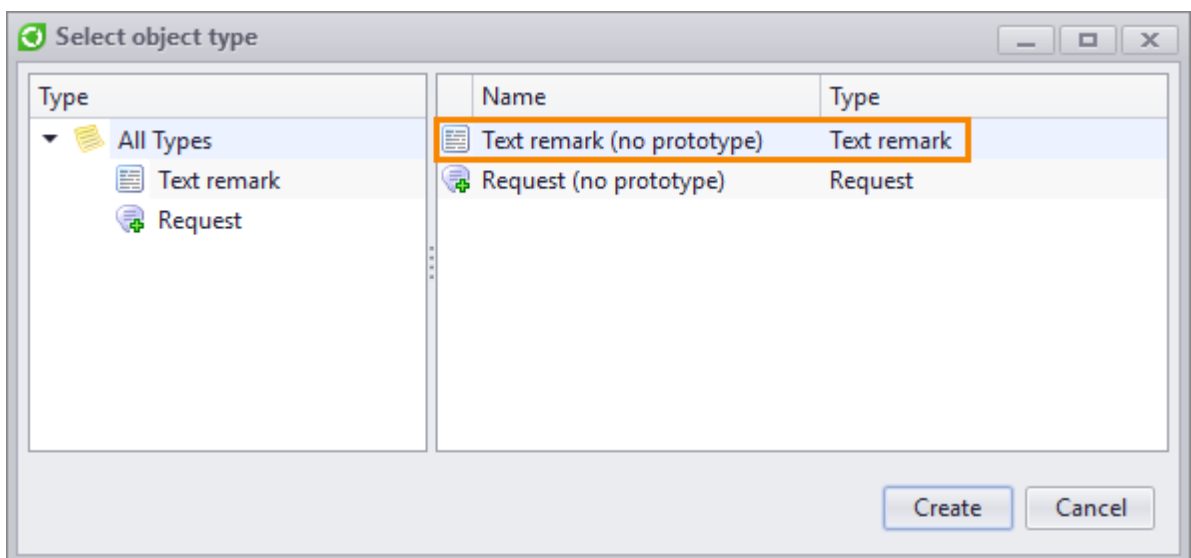
Creating text remarks

Any user can create the remark of the "Text remark" type. To create a text remark:

1. Select the object for which a remark is created.
2. Open the window with remarks to the selected objects via **Advanced > Remarks** for object right-click menu option.
3. Set the cursor in the root of the remarks window and click the **[Create]** button on the toolbar.



4. In the dialog for selection of the type for the created object, select "Text remark" type.



5. In the new dialog with remark properties, fill its parameters.

Text remark parameters

Text remarks properties dialog has following tabs: **Remark**, **Advanced** and **Files**.

The **Remark** tab contains main parameters of the text remark:

Remark text. Field for the remark summary.

Importance. Importance of the remark. Selected from the list ("Low", "Normal", "High").

Status. Status of the remark ("New", "Accepted", "Cancelled", "Done"), according to which it is considered to be active or complete. Remark with "New" or "Accepted" status is considered to be active. Other statuses mean that work is done on the remark. To change the status of the remark, click the button on the toolbar of the remark properties dialog.

Status of the remark can be changed only if the remark is active. Complete remarks cannot be edited. Only author of the remark or author of the request with the required remark can edit status of the remark.

Author. User who created the remark.

Date created. Date when the remark was created.

Modified by. User who added latest amendment to the remark.

Date modified. Date when latest amendment was added to the remark.

Closed by. User who changed status to "Done", "Cancelled" or "Cancelled" which close the remark.

Closing date. Date when the status closing the remark was set.

Closing comment. Info field. Filled by the user who sets one of the statuses which close the remark.

Object 'Remarks on positions 6, 11, 17' Properties

OK Cancel

Remark Advanced Files

Remark text

Remarks on positions 6, 11, 17

Status Done Importance High

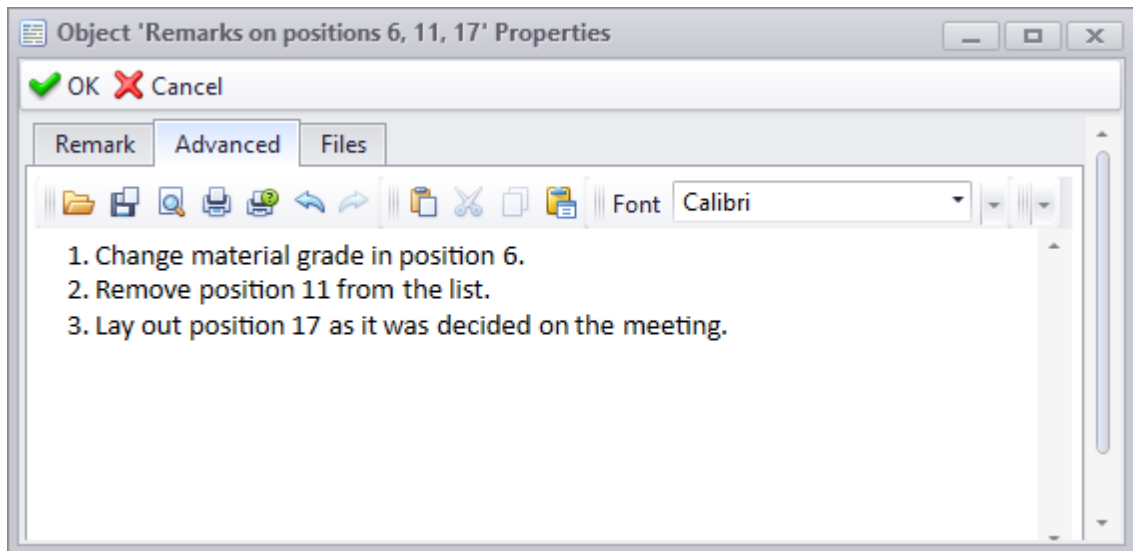
Author Perez Mark Date created 24.04.2020 17:33:54

Modified by Administrator Date modified 24.04.2020 17:38:40

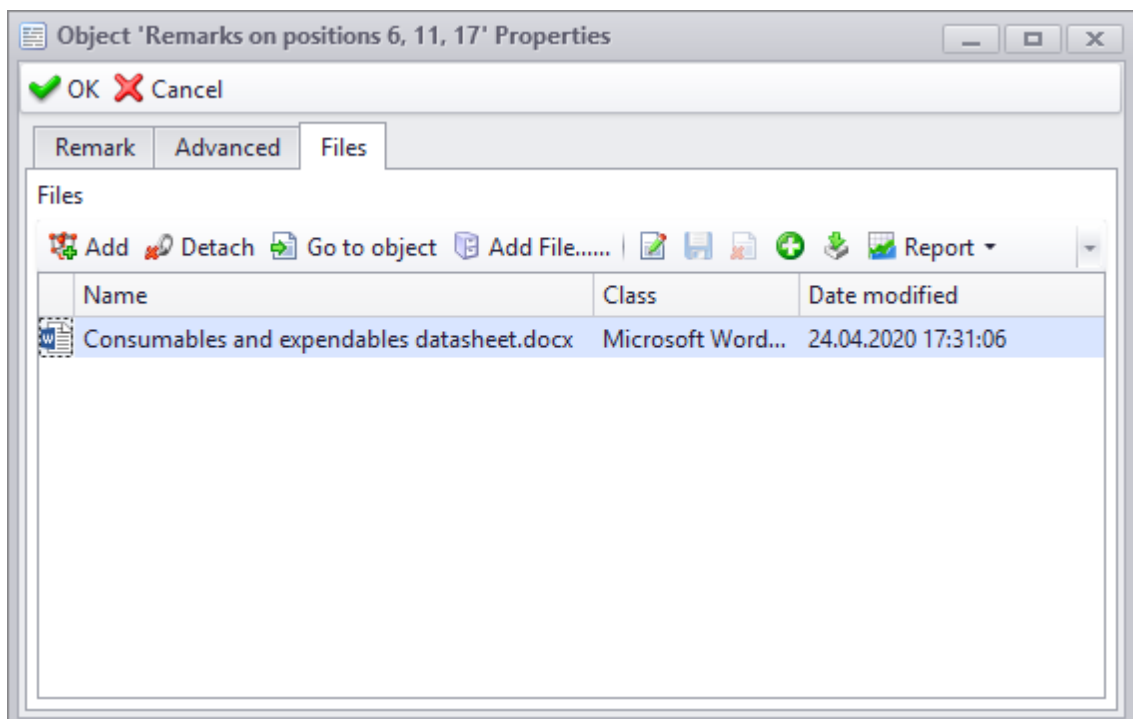
Closed by Perez Mark Closing date 24.04.2020

Closing comment

The **Advanced** tab displays the rich-text field where user can describe the remark in detail. Filled if necessary. Text can contain hyperlinks both to the T-FLEX DOCs objects and components outside the system.



The **Files** tab makes it possible to attach any types of files linked to the remark.



Attention! If the files are attached to a text remark, it does not link the remark with the file contents as in the case of "PDF remarks" type remarks. Therefore, reviews to the contents of the attached files can be introduced separately from the text remark. "PDF remarks" type of remarks is described below in the corresponding chapter.

Requests

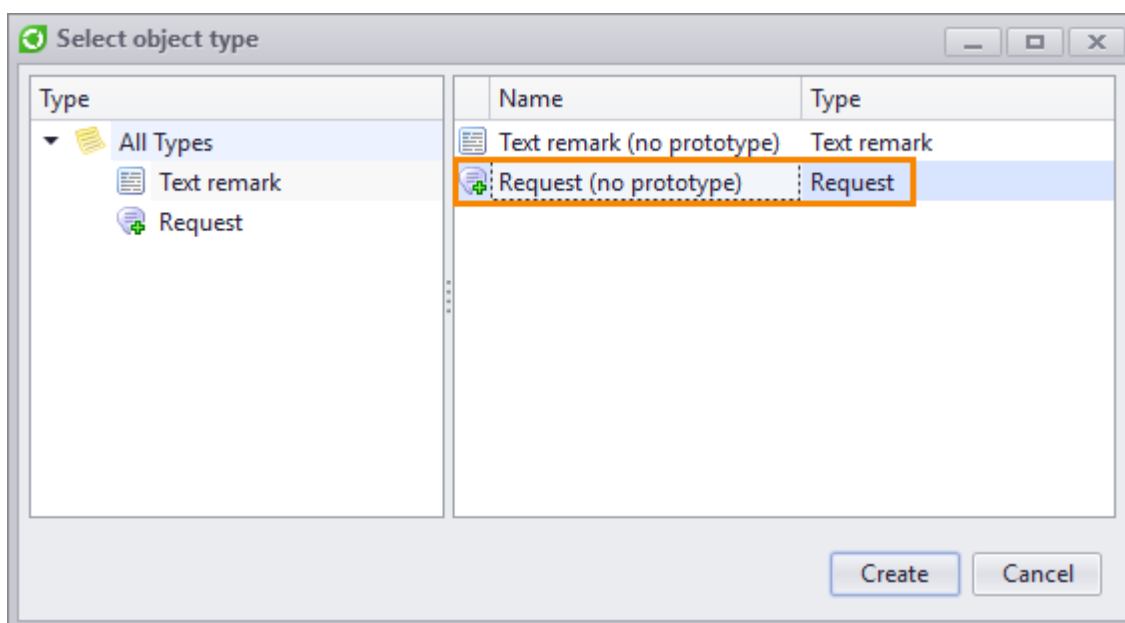
A request is a specific form of assignment to create remarks which one user send to other users. In his/her term, the user indicated in the request as executor can within such request create a new request with another executor. Thus, requests can form a hierarchy. User can see a remark only in case he/she is its author or executor. Created remarks, as well as the remarks within the request for remarks are not made public, i.e. not available for users (except for request author and executor). Author of the request can copy or move any remark from his/

her request to the same level of hierarchy as the request in terms of the object. The remark copied from the request to the object remarks window root becomes public and available to any user of the system.

Creating a request

To create a request:

1. Select the object for which a request for remark will be created.
2. Open the remarks window for the selected object via the **Advanced > Remarks** for object right-click menu option.
3. Set the cursor in the root of the remarks window and click the **[Create]** button on the toolbar.
4. In the dialog for selection of the type for the created object, select "Request" type.



5. In the new dialog with remark properties, fill its parameters.

Request for remarks parameters

Request for remarks properties dialog has following parameters:

Request text. Request summary.

Status. Request status ("New", "Cancelled", "Done") according to which it will be considered active or complete (same as the status of the remarks). Only the author of the request can change its status.

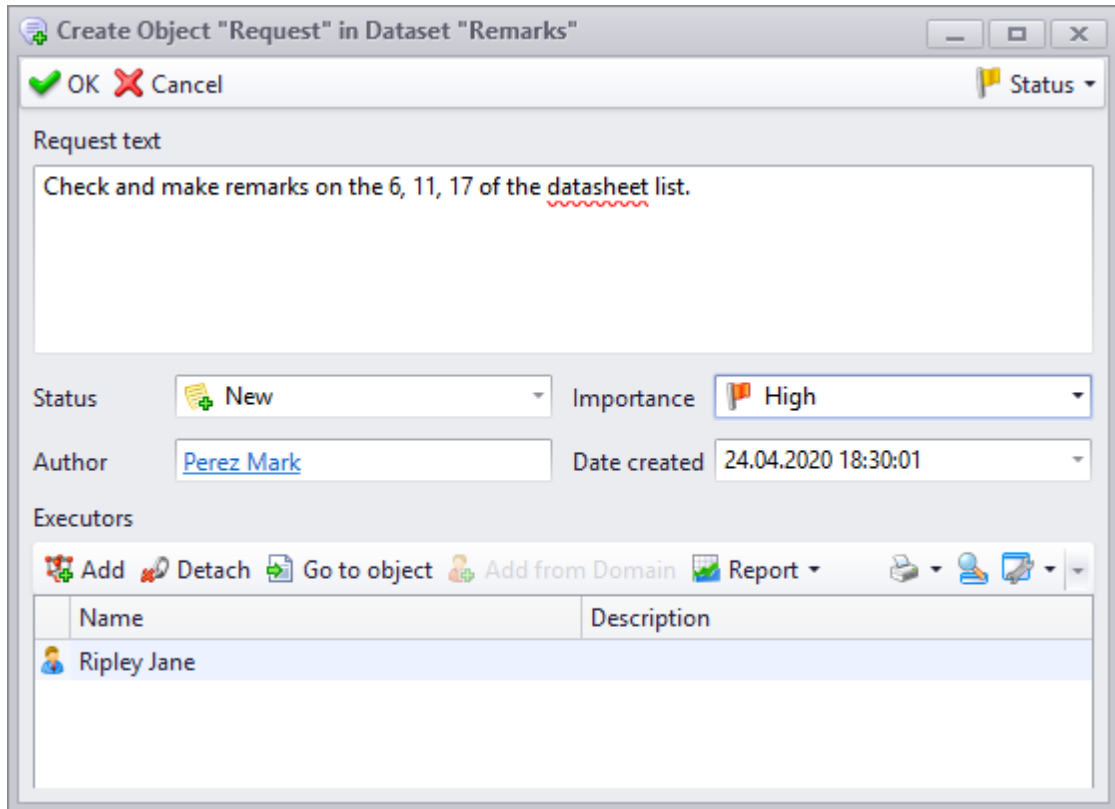
Importance. Importance of the request. Selected in the same way as the importance of the requests – from the list ("Low", "Normal", "High"). Only the author of the request can change its importance.

Author. User who created the request.

Date created. Date when the request was created.

Executors. List of the request executors made by the author of the request. Executors are selected from the "Users and groups" dataset.

The executors of the request are notified on necessity to work through the remarks via system mechanism for handling subscriptions. This mechanism is described in the corresponding section of the document "T-FLEX DOCs – Administrator manual".



Creating a request within the request

To create a new request within the request created earlier, point at the request in the remarks window for the object, click the **[Create]** button on the toolbar and select the "Request" type. Then fill parameters of the request in its properties dialog.

Creating a text remark within the request

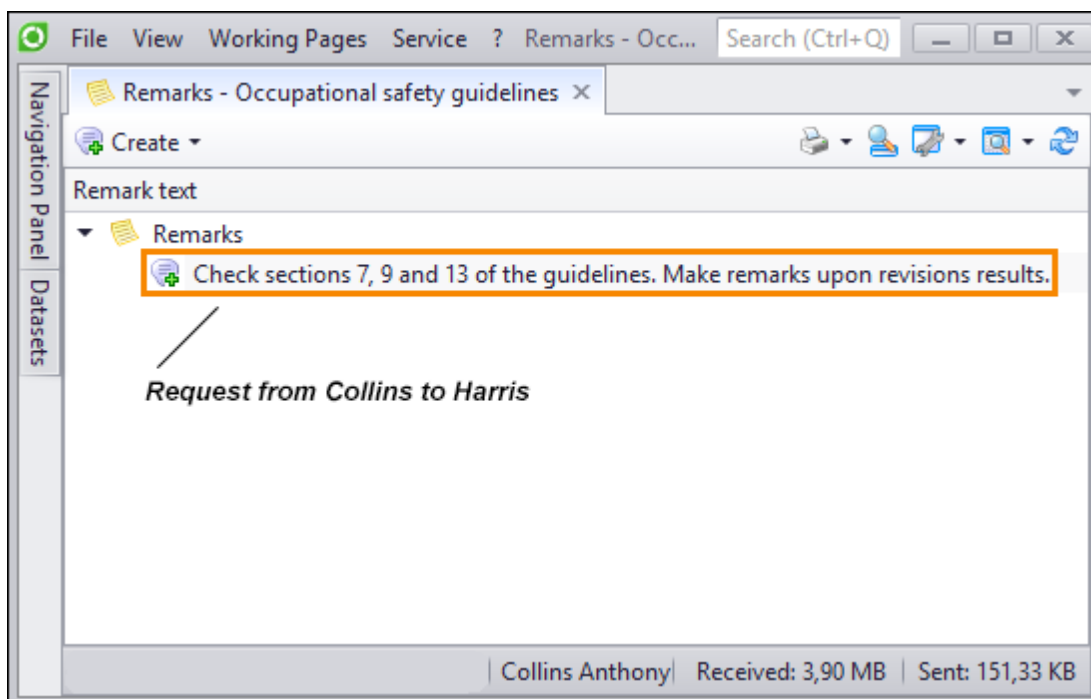
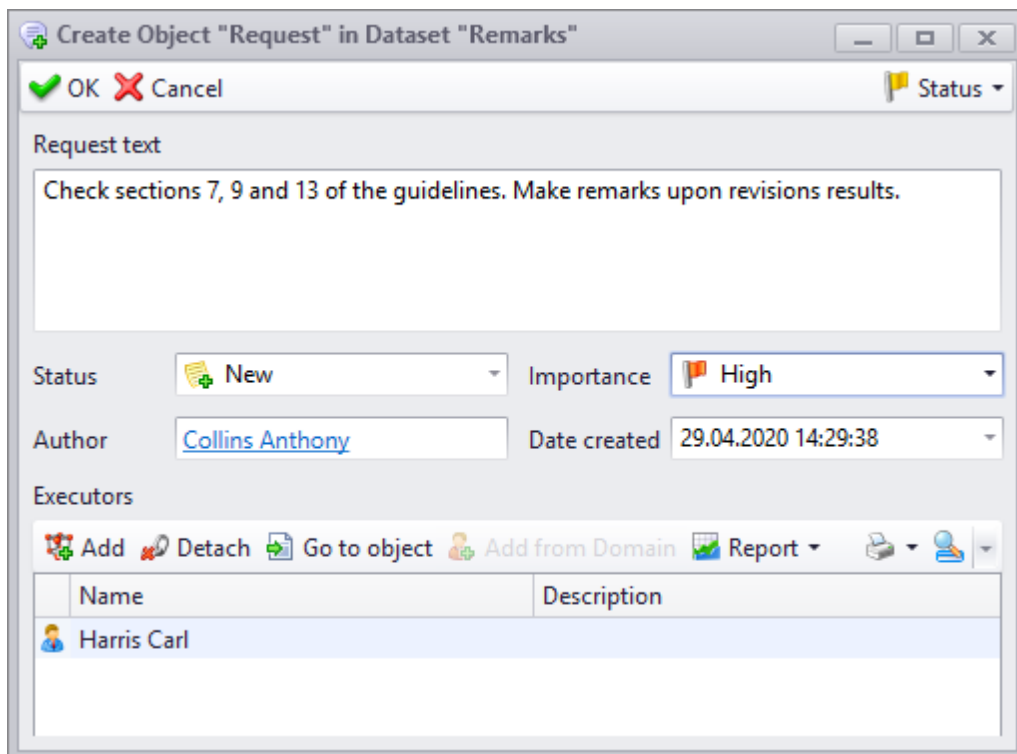
To create a remark within the request, point at the request in the remarks window for the object, click the **[Create]** button on the toolbar and select the "Text remark" type. Then fill parameters of the remark in its properties dialog.

Examples of handling remarks and requests

Processing of remarks and requests can be shown as following approximate procedure:

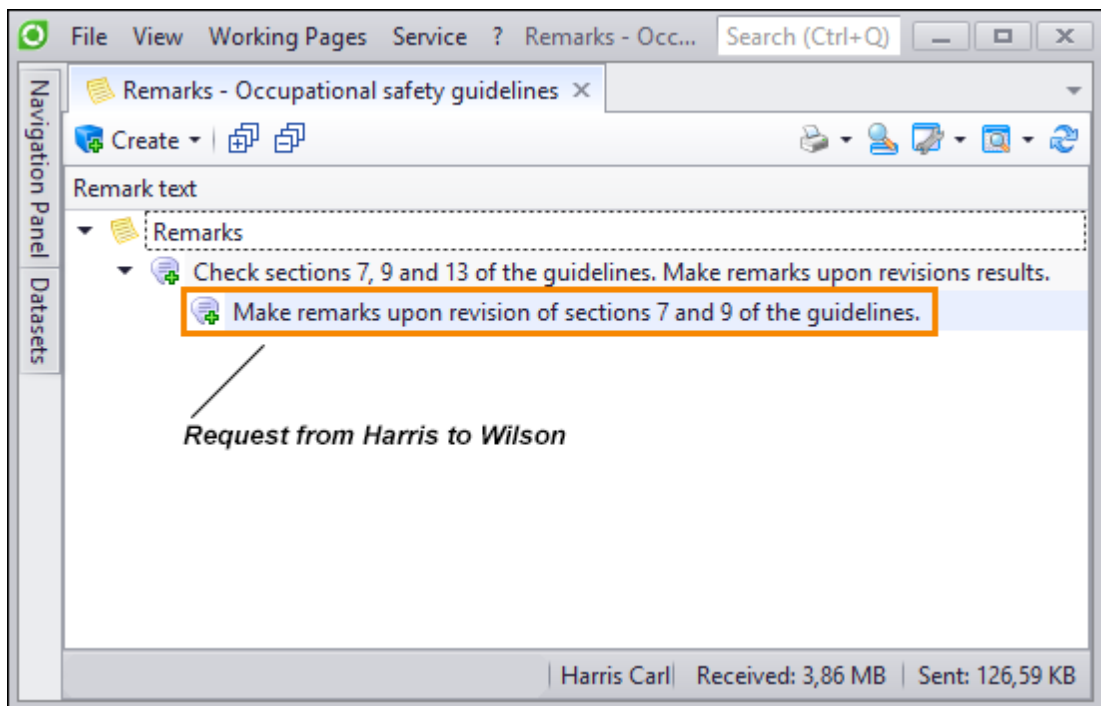
1. Head of a department (Collins user) creates a request to create remarks to the object of his interest ("Occupational safety guidelines"). To do this, he selects the "Occupational

safety guidelines" object in the "Documents" dataset, opens the remarks window for the object and in the root of this window creates an object of the "Request" type. In the request properties dialog, he writes what requires attention and feedback, sets request importance and in the list of executors he selects his deputy (Harris user). After the request is created, via notifications management mechanism Collins user notifies Harris user that there is a request to work through remarks on the "Occupational safety guidelines" object.

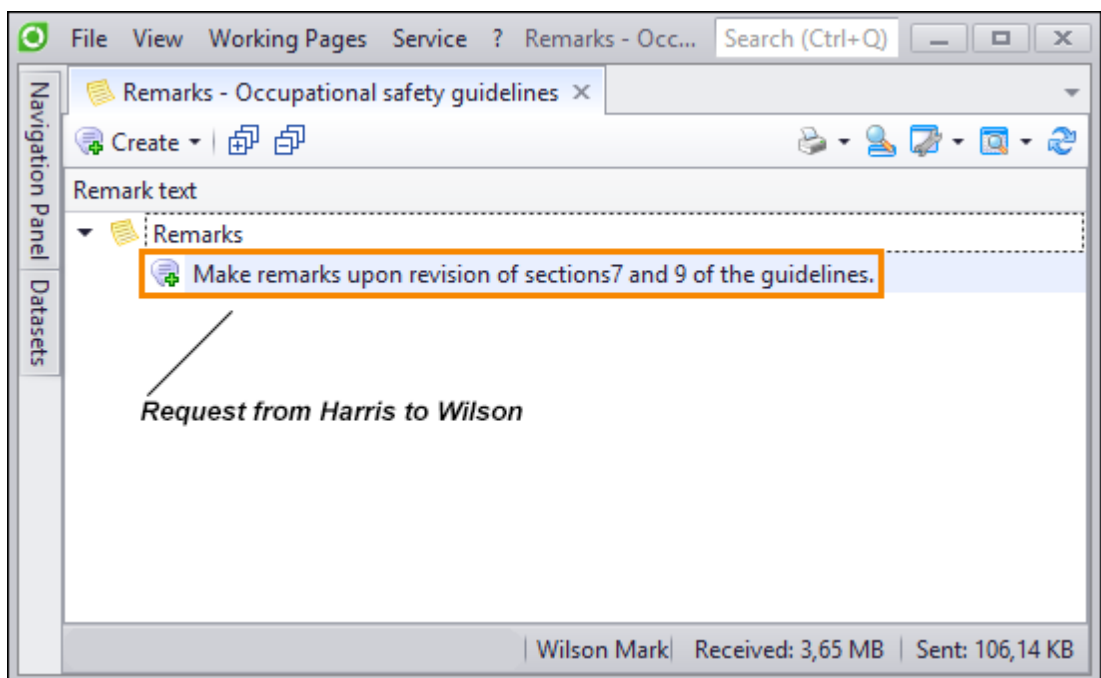


- Harris user receives the notification, opens the remarks window for the "Occupational safety guidelines" document object, sees the request from the Collins user and

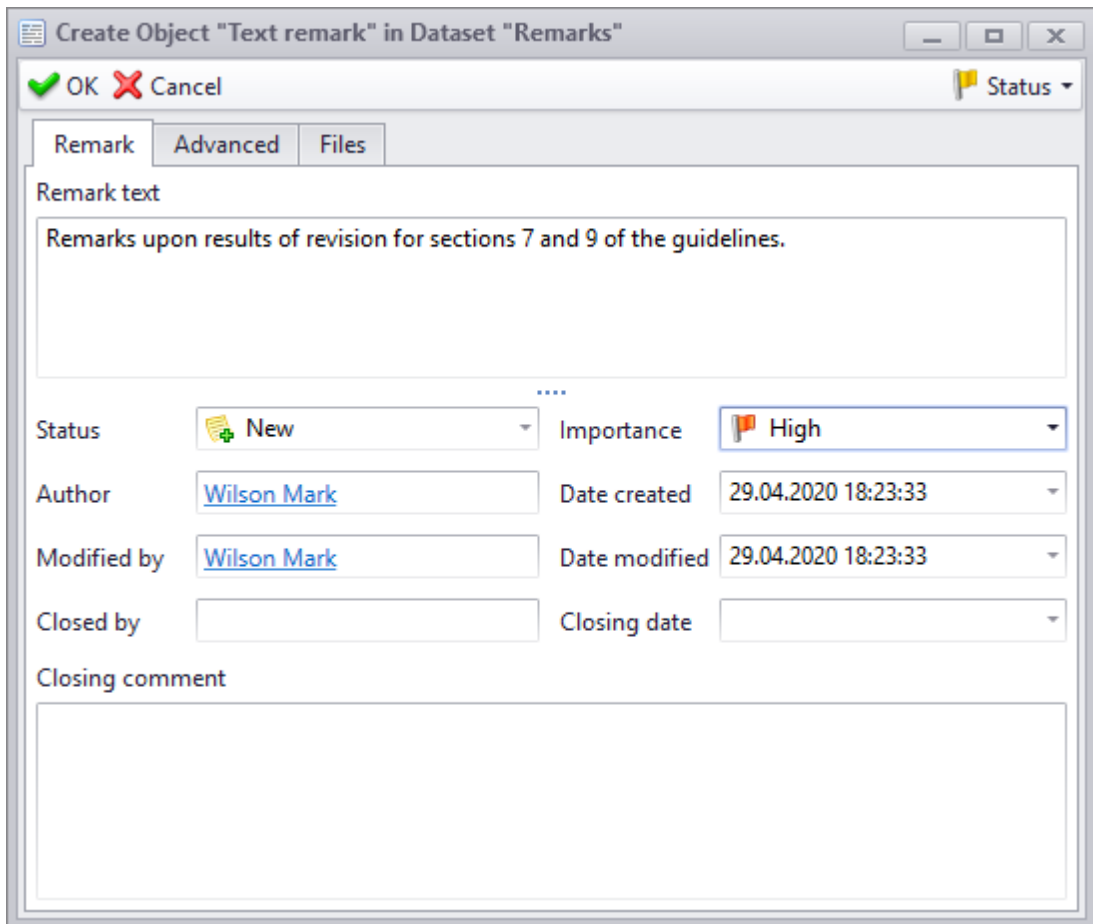
delegates part of this job to his employee (Wilson user). To do this, he selects the request created by Collins user, within this request he creates a new request where Wilson user is set as the executor and notifies Wilson user on this request.



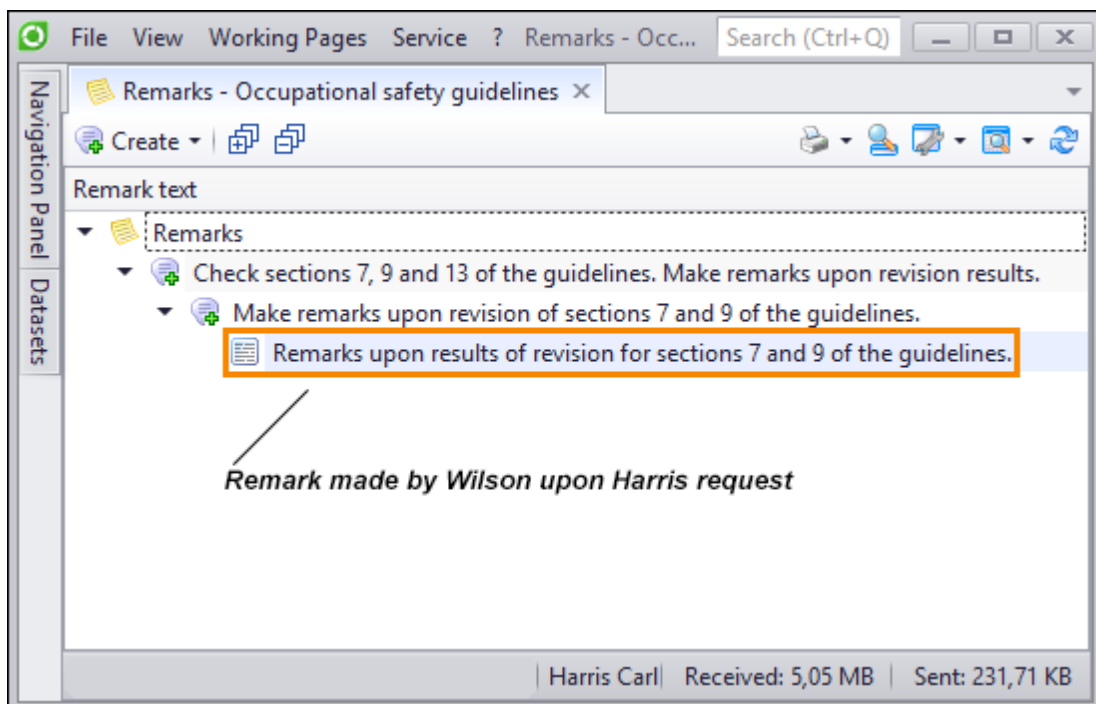
- Wilson user receives the notification, opens the remarks window for the "Occupational safety guidelines" document object, sees only the request from Harris user and creates a remark for this request. To do this, he selects this request and creates a remark of the "Text remark" type within it.



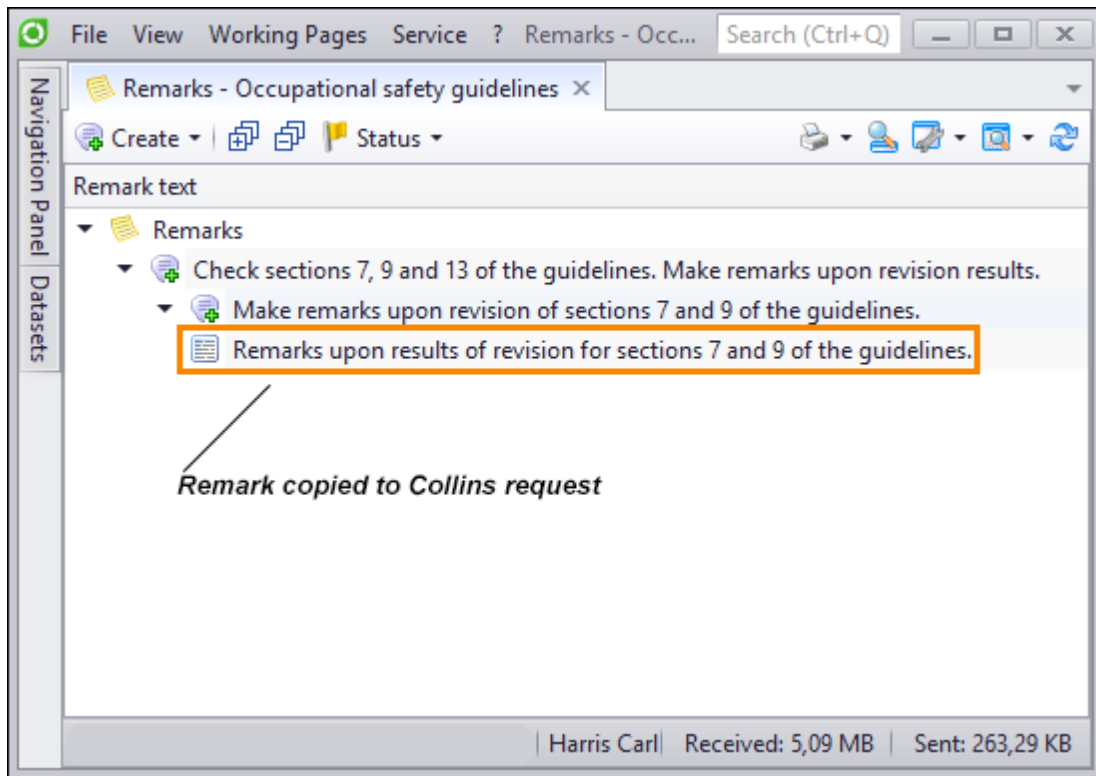
In the remark properties dialog, he enters summary of the remark and in the **Advanced** tab he describes the remark in detail.



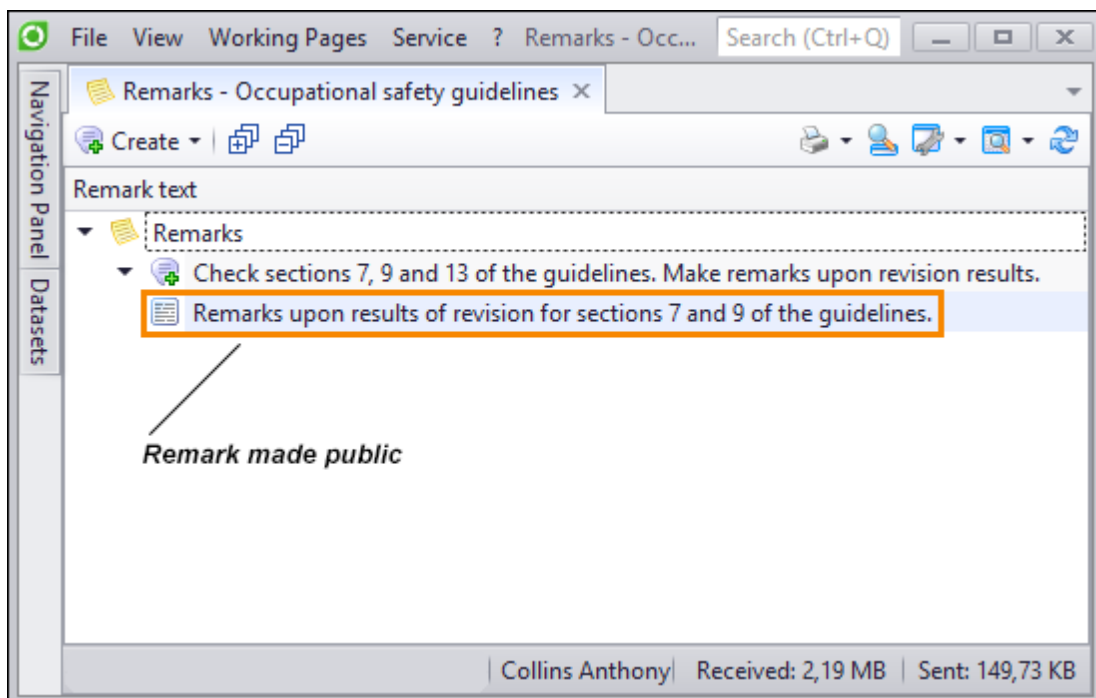
4. When the remark is created, Harris user is notified hereof, opens the remarks window for the "Occupational safety guidelines" document object and sees the remark from Wilson user within his request.



Having reviewed the remark from Wilson user, Harris user elaborates and amends it and then copies it to the request of Collins user.



5. Collins user receives notification that a remark is created for his request, opens the remarks window for the "Occupational safety guidelines" document object and sees the remark copied by Harris user to his request. Having checked and corrected the remarks, Collins user closes it: sets "Done" status and, if necessary, creates closing note.
6. After the remark is closed, Collins user makes it public by copying it to the root of the remarks window for the "Occupational safety guidelines" document object. The remark becomes available to all users of the system.



Materials

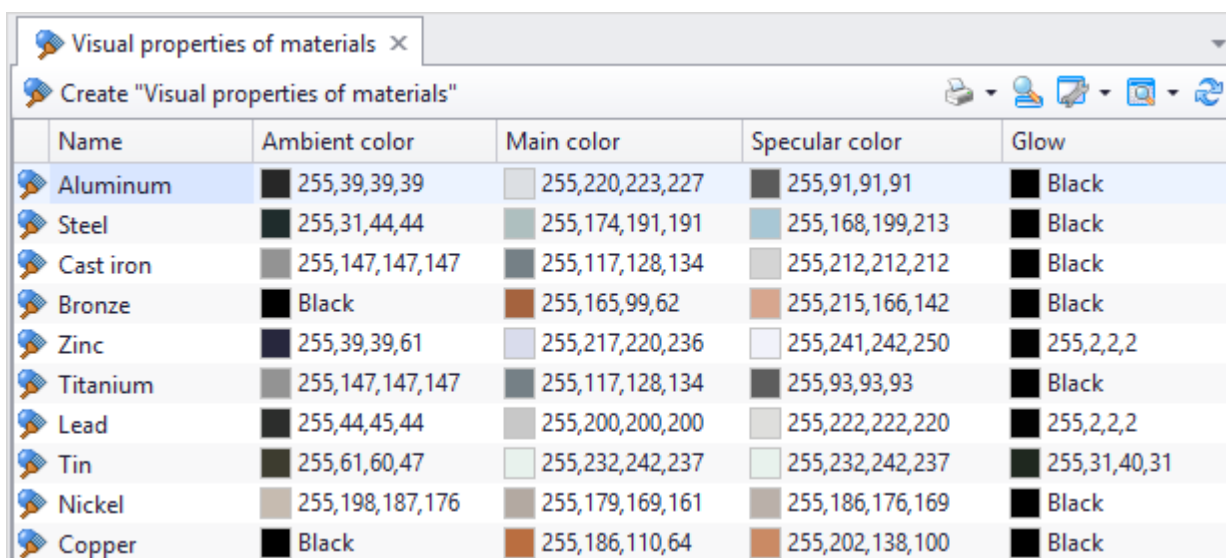
T-FLEX DOCs has information about materials utilized in the manufacture. "Materials" group of datasets was created to store such information. It contains following datasets:

- "Materials",
- "Visual properties of materials",
- "Material grades".

"Materials" dataset is the main dataset in the group. Objects of this dataset are used to create electronic structure objects, as well as to manage projects (as utilized resources).

"Visual properties of materials" dataset

"Visual properties of materials" dataset stores information used for representation of the material in the course of 3D model development in the integration mode for T-FLEX DOCs and CAD system.



Name	Ambient color	Main color	Specular color	Glow
Aluminum	255,39,39,39	255,220,223,227	255,91,91,91	Black
Steel	255,31,44,44	255,174,191,191	255,168,199,213	Black
Cast iron	255,147,147,147	255,117,128,134	255,212,212,212	Black
Bronze	Black	255,165,99,62	255,215,166,142	Black
Zinc	255,39,39,61	255,217,220,236	255,241,242,250	255,2,2,2
Titanium	255,147,147,147	255,117,128,134	255,93,93,93	Black
Lead	255,44,45,44	255,200,200,200	255,222,222,220	255,2,2,2
Tin	255,61,60,47	255,232,242,237	255,232,242,237	255,31,40,31
Nickel	255,198,187,176	255,179,169,161	255,186,176,169	Black
Copper	Black	255,186,110,64	255,202,138,100	Black

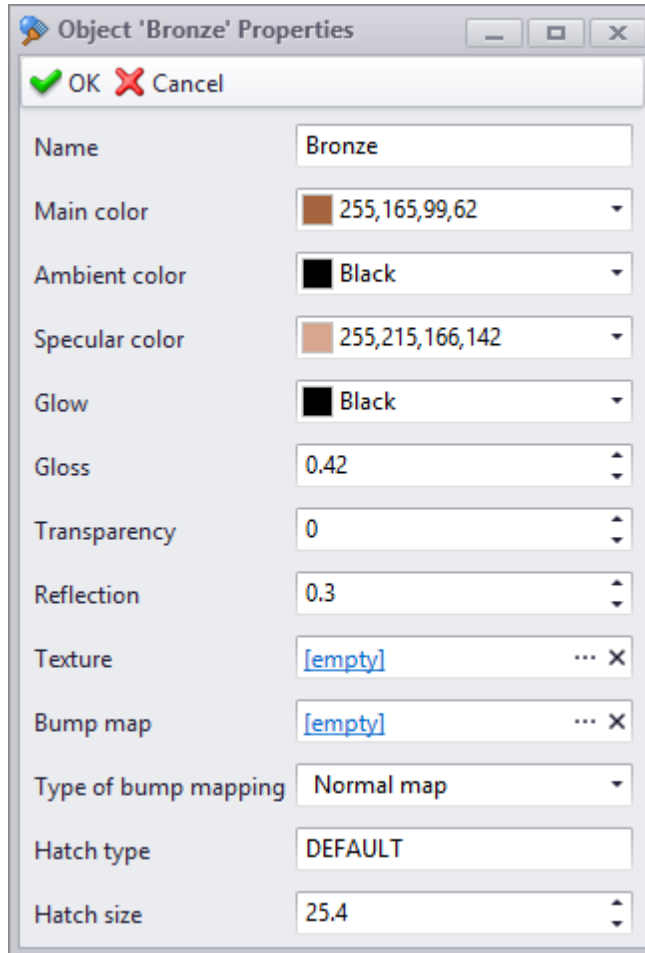
To create new object in this dataset, click 

In the opened window user enters name of the material and values of parameters which manage its display in the CAD system window:

- **Main color** – color of material covered with direct light. This is basic material color.
- **Ambient color** – color of material covered with diffuse light.
- **Specular color** – color of specks appearing on the object's surface.
- **Glow** – intensity of light emitted by the material. If material does not emit light, user sets black color.
- **Gloss** – degree of reflection for light sources on the object's surface. It is set by one number from 0 (minimum) to 1 (maximum). Larger number makes material more

polished and shining, smaller number imitates mat surfaces.

- **Transparency** – transparency degree of object's surface. Changed from 0 (non-transparent surface) to 1 (fully transparent surface).
- **Reflection** – degree of mirror reflection for the material. It is set by a number from 0 (there will be no reflection of surrounding objects on the material's surface) to 1 (full reflectance is provided for the material).



Texture parameters create visual prominence of the material's surface.

To set color texture, use **Texture** field to set file from the "Files" dataset containing texture image.



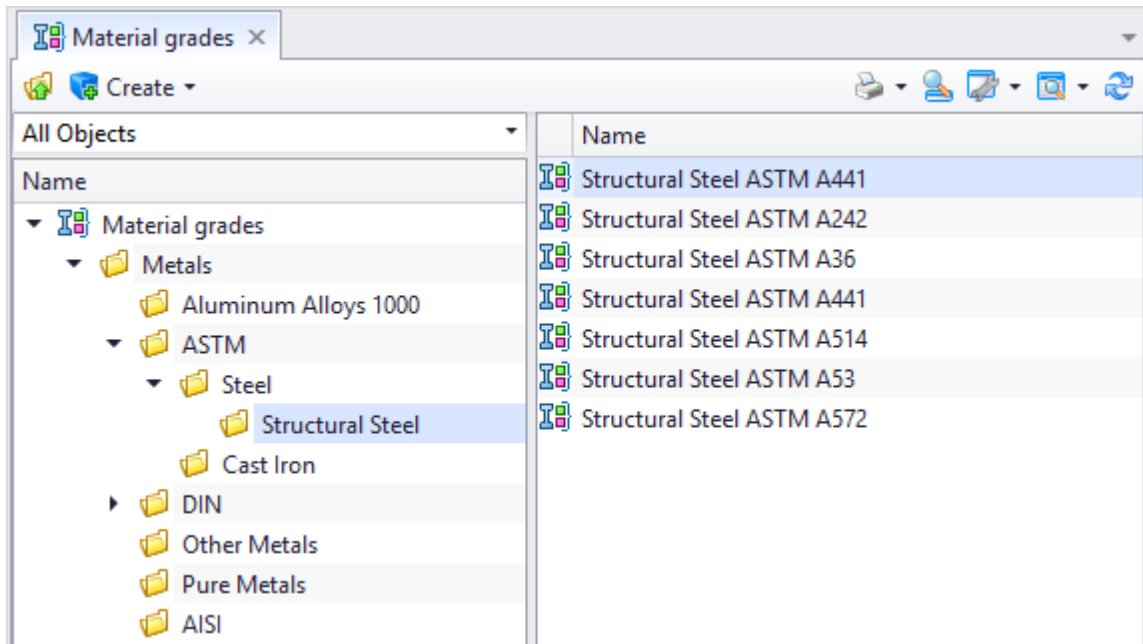
In the **Bump map** and **Type of bump mapping** user sets texture of the pattern. In the **Bump map** field user select file to display texture and in the **Type of bump mapping** user selects method for texture creation:

- "Normal map" – used to create simplified relief texture on the material's surface. Applied for highly-detailed textures.
- "Relief texture" – allows to create illuminated and shaded areas; generally those are simple bumpy surfaces, flat peaks or bottoms.
- "Parallax map" – provides not only illumination considering relief, but also moves texture coordinates. In this case full relief effect is achieved, especially when user looks at the surface at an angle.

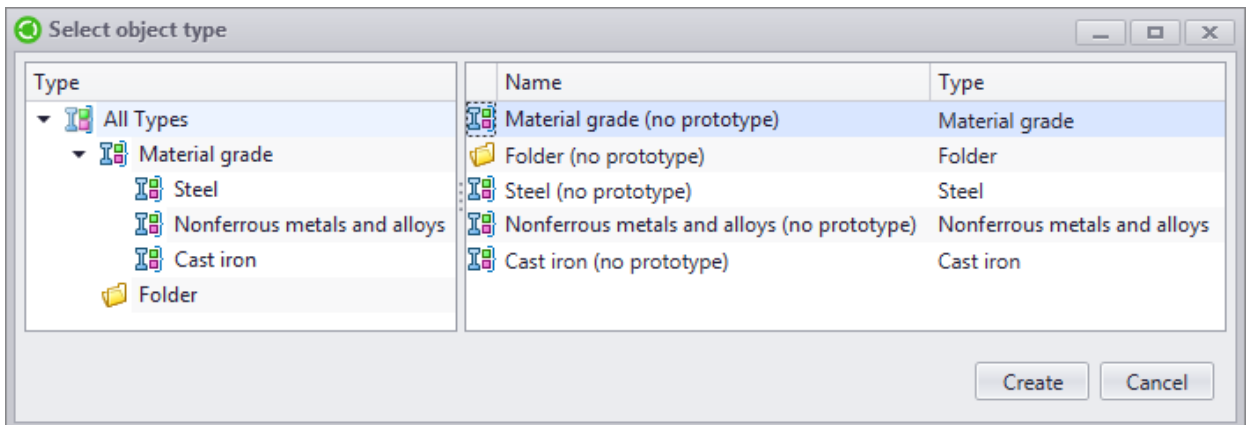
User can also set hatching parameters which displays the material on the part's cross-sections. In the **Hatch type** user enters name of required hatching sample from CAD system.

"Material grades" dataset

"Material grades" dataset is created to store information about grades of materials utilized in the manufacture.

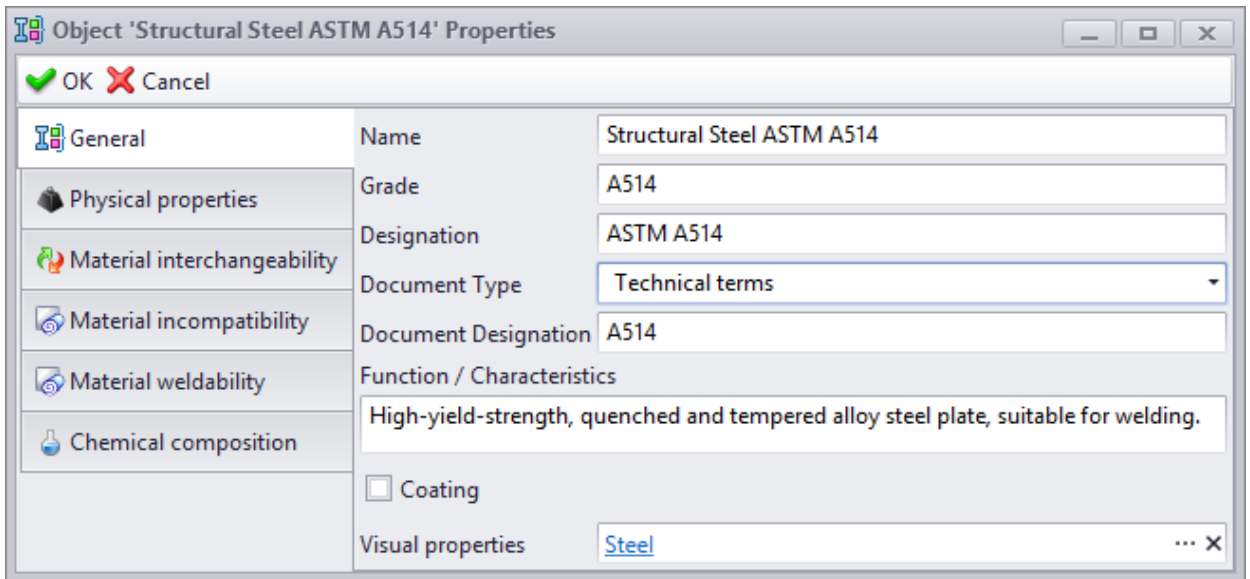


To create new object in this dataset, click  button and select required type.

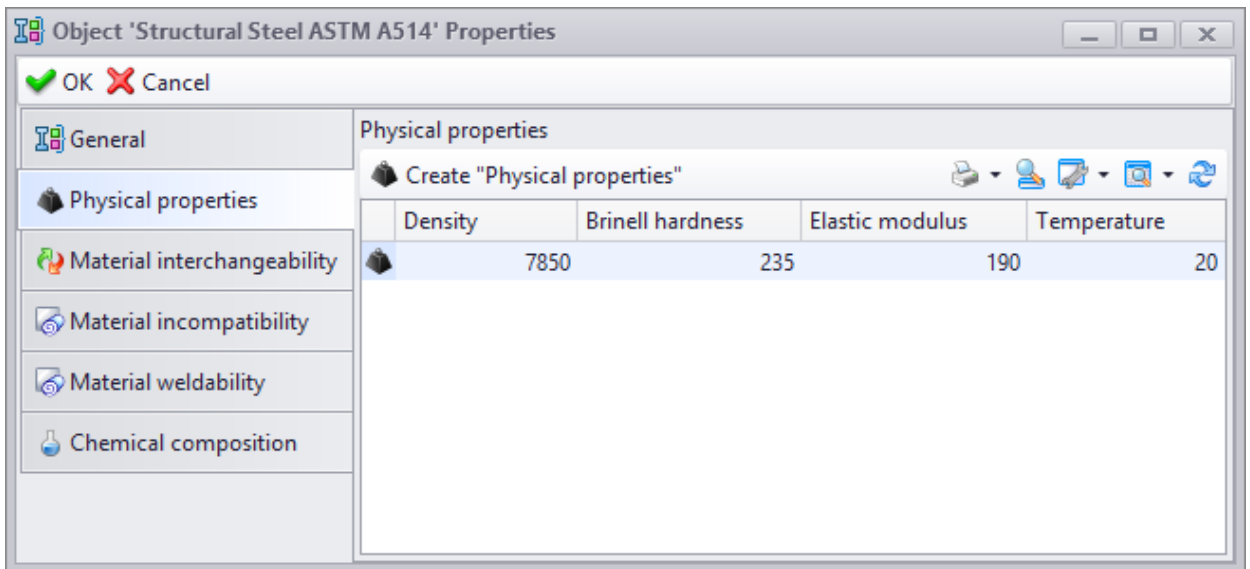


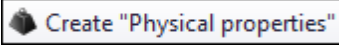
Then a window with new object's properties opens which contains several tabs with material characteristics.

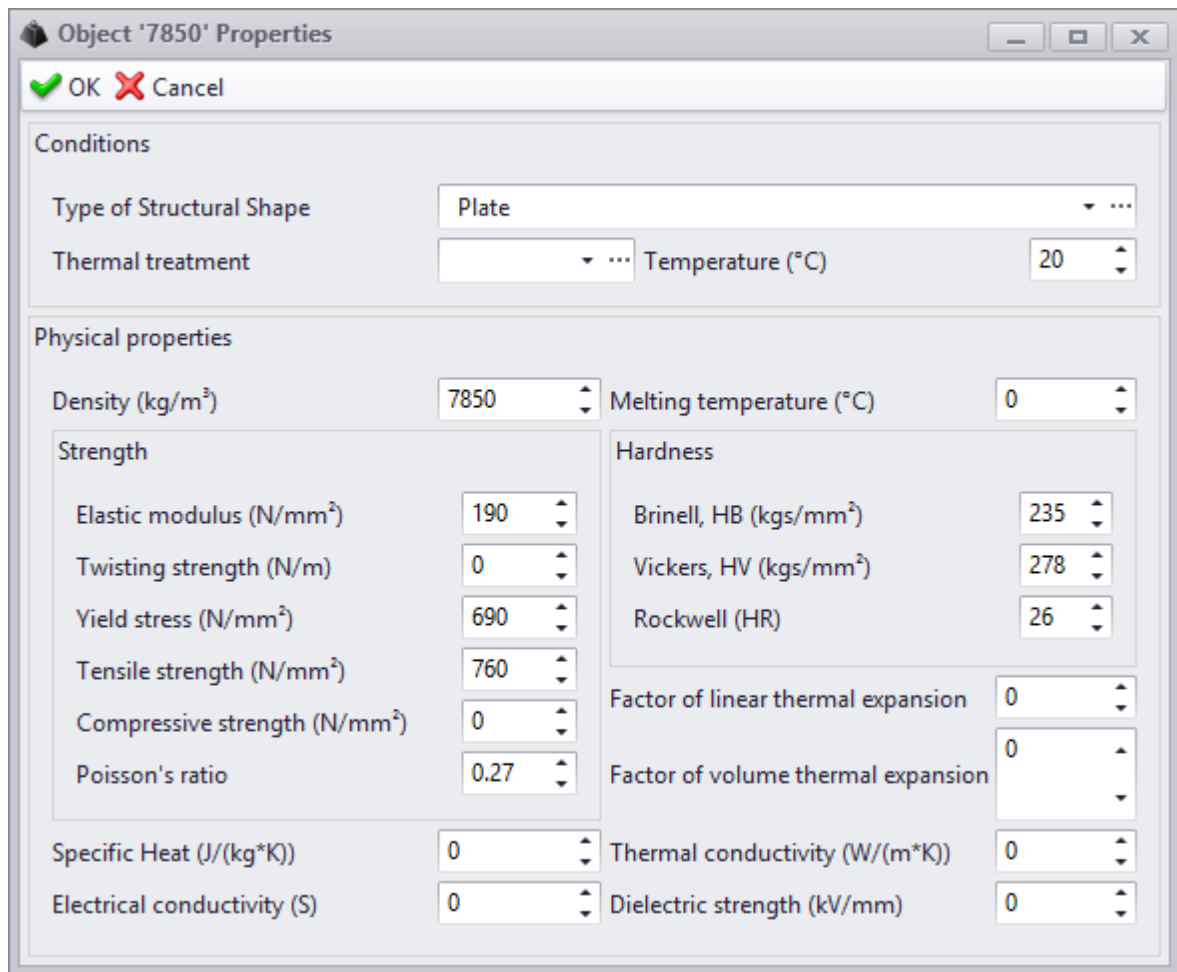
General tab contains general information about the material: name, grade and designation of Technical Guidance Document (TGD) which regulates chemical composition and mechanical properties of the material. If necessary, user can enter here summary of material characteristics, as well as its visual properties from the "Visual properties of materials" dataset.



On the **Physical properties** tab user sets physical properties of the material: density, melting temperature, strength, hardness, etc.



To open window to fill characteristics data, click  button.



Object '7850' Properties

OK Cancel

Conditions

Type of Structural Shape: Plate

Thermal treatment: Temperature (°C): 20

Physical properties

Density (kg/m³): 7850

Melting temperature (°C): 0

Strength

Elastic modulus (N/mm²): 190

Twisting strength (N/m): 0

Yield stress (N/mm²): 690

Tensile strength (N/mm²): 760

Compressive strength (N/mm²): 0

Poisson's ratio: 0.27

Hardness

Brinell, HB (kgs/mm²): 235

Vickers, HV (kgs/mm²): 278

Rockwell (HR): 26

Factor of linear thermal expansion: 0


Factor of volume thermal expansion: 0

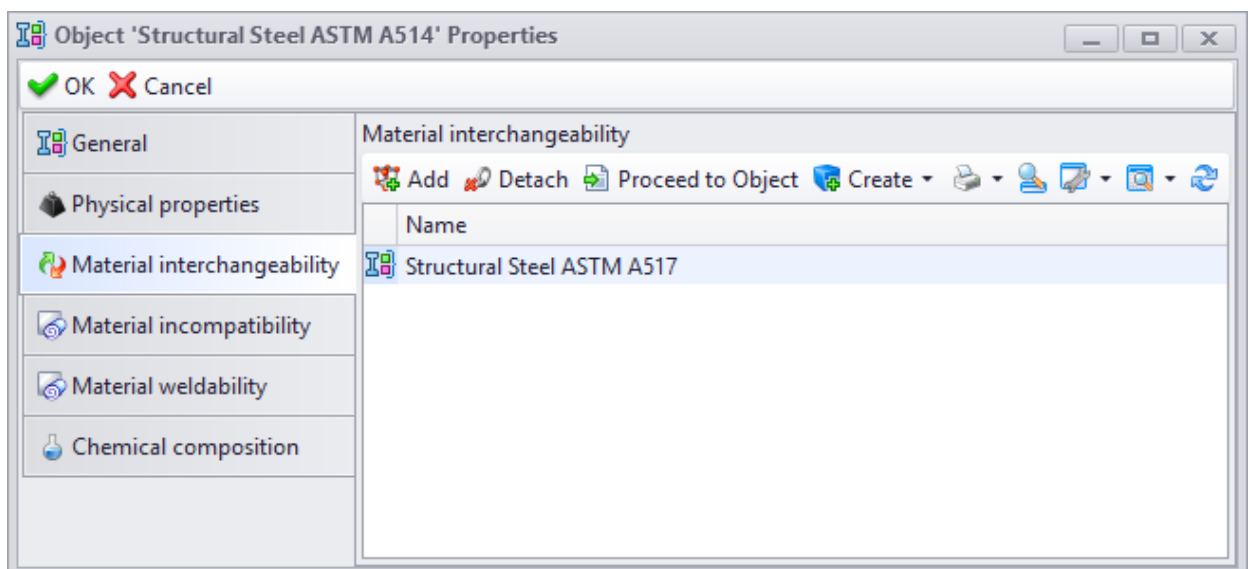
Specific Heat (J/(kg*K)): 0

Thermal conductivity (W/(m*K)): 0

Electrical conductivity (S): 0

Dielectric strength (kV/mm): 0

Material interchangeability tab allows to set grades of substitute materials from the "Material grades" dataset ( button).



Object 'Structural Steel ASTM A514' Properties

OK Cancel


Material interchangeability

Add Detach Proceed to Object Create

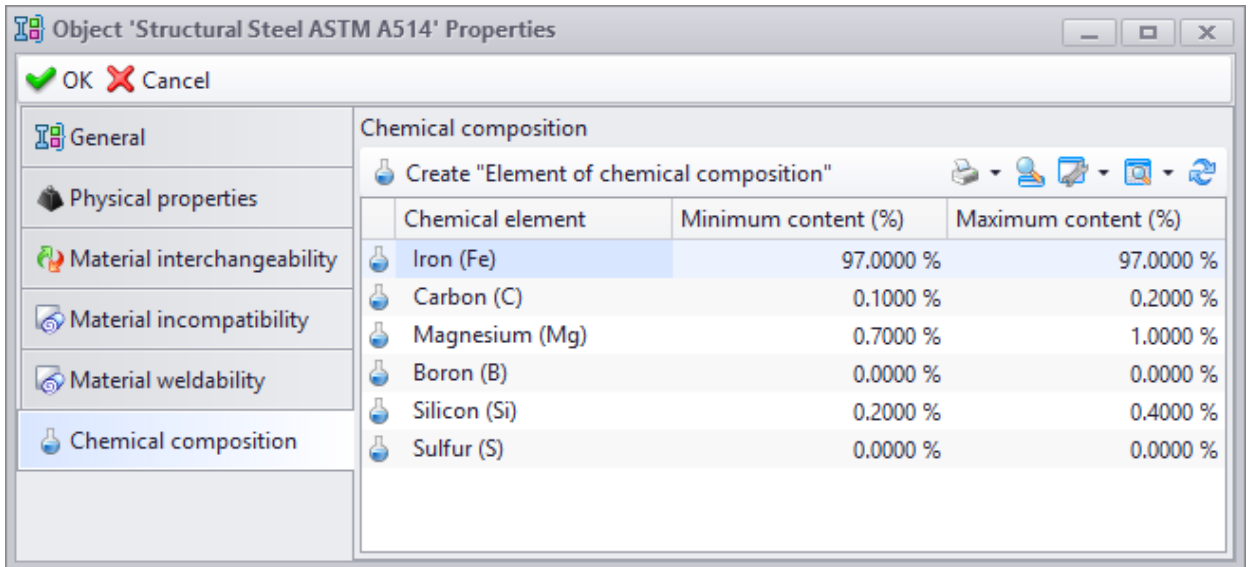
Name


Structural Steel ASTM A517

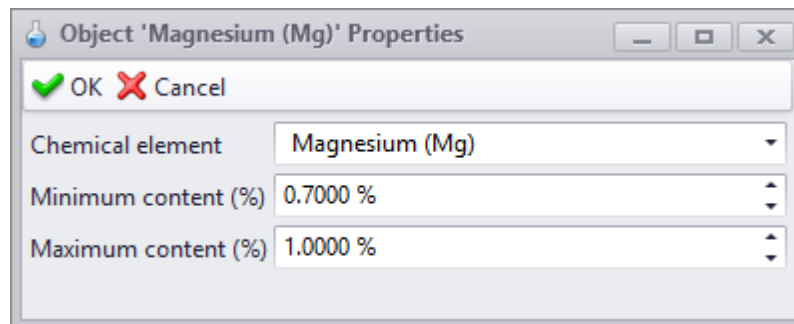
On the **Material incompatibility** tab user can similarly set which materials are incompatible with created material.

Materials which can create joint weld with this material are set in the **Material weldability** tab ( Add button).

Chemical composition tab contains a list of chemical elements which are a part of material composition with percentage.



To enter data on material's chemical composition, click  **Create "Element of chemical composition"** button.



"Materials" dataset

"Materials" dataset contains limited list of materials utilized in the manufacture: summary on materials, as well as grade and structural shape, requirements to them set by corresponding Technical Guidance Documents (TGD). Moreover, user sets physical properties, supply terms and price.

In the "Materials" dataset user sets material designation to use it in design and engineering documentation.

When object of the "Materials" dataset is created, information from other datasets of the group is used. This information can be entered to the corresponding dataset in advance or in the course of filling the "Materials" dataset.

By default, the "Materials" dataset has only on type of objects – "Materials". Its properties window has four fields to display its designation. Administrator user can create other types of

objects in the "Materials" dataset where only one field is required to set special designation of material. This option can be used to designate materials which have only material grade without structural shape and requirements.

Setup of data display in windows

In this section user can find information about setup of T-FLEX DOCs workspace for execution of certain tasks depending on user's role and nature of work.

T-FLEX DOCs has a wide range of tools for such setup:

- Shortcut groups on the navigation panel – allows user to group tools required for user's work. Shortcuts can be made for various datasets, system windows, individual objects of datasets, as well as for search queries.
- Custom work pages – display heterogenous data location of which on the page is set by the user. These can be dataset windows, system windows, as well as object properties window, text, pictures, diagrams, etc. Moreover, user can set buttons, boxes and other data management components on the work page.
- Setup tools for data display in the dataset window – selection of columns, classification and grouping of data, as well as highlight of the object which comply with set conditions.
- Various data search and filtration tools.
- Catalogues mechanism which is applied to sequence a set of objects and to make it more convenient to work with them in the T-FLEX DOCs datasets.

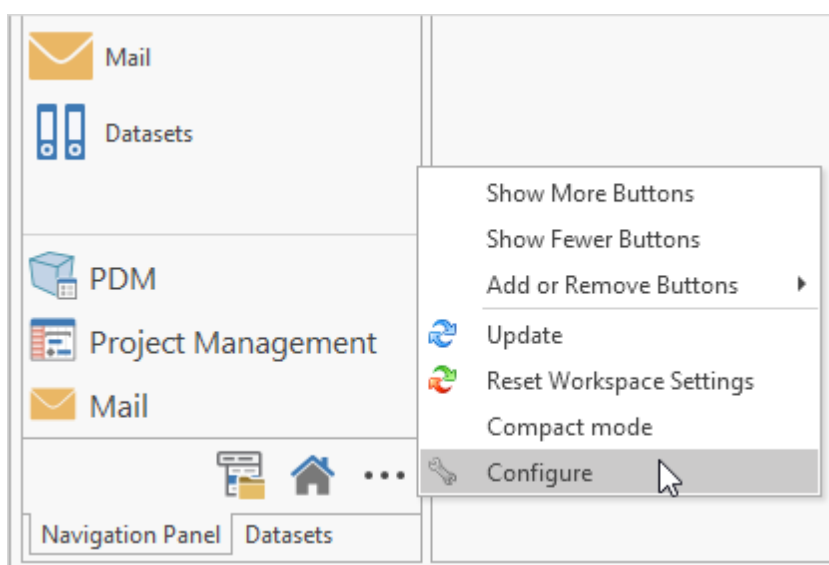
All settings for data display in the work window can be saved by the user.


Navigation panel

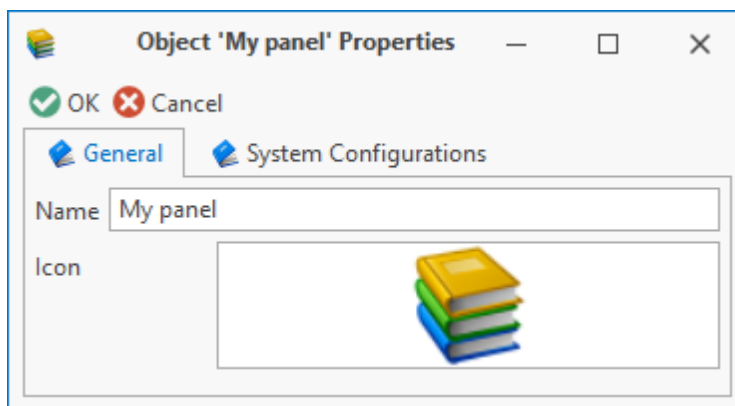
To go to the settings of the navigation panel, select option **Configure** of the navigation panel menu.

The system opens the "Navigation Panel" dataset window where user can create objects of "Group" and "Shortcut" types. The shortcut groups can form a tree-type hierarchy.

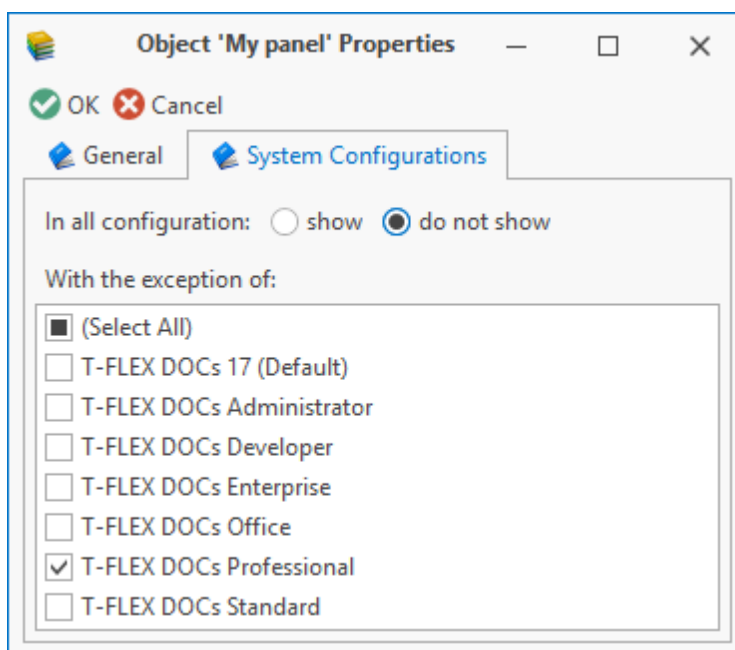
Personal shortcuts groups can be created by any user, shared – only by the administrator user.



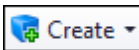
To create a group of shortcuts, click  on the toolbar of the dataset window. User assigns name and [icon](#) to it.



On the **System configuration** tab user sets for which configurations this groups of shortcuts will be available.

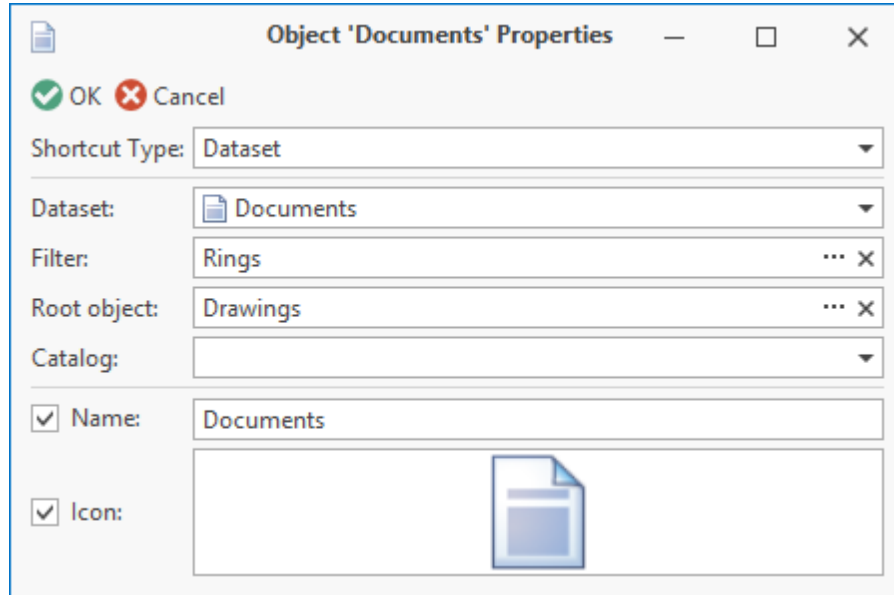


To delete selected group of shortcuts, select right-click menu option **Edit > Delete**.

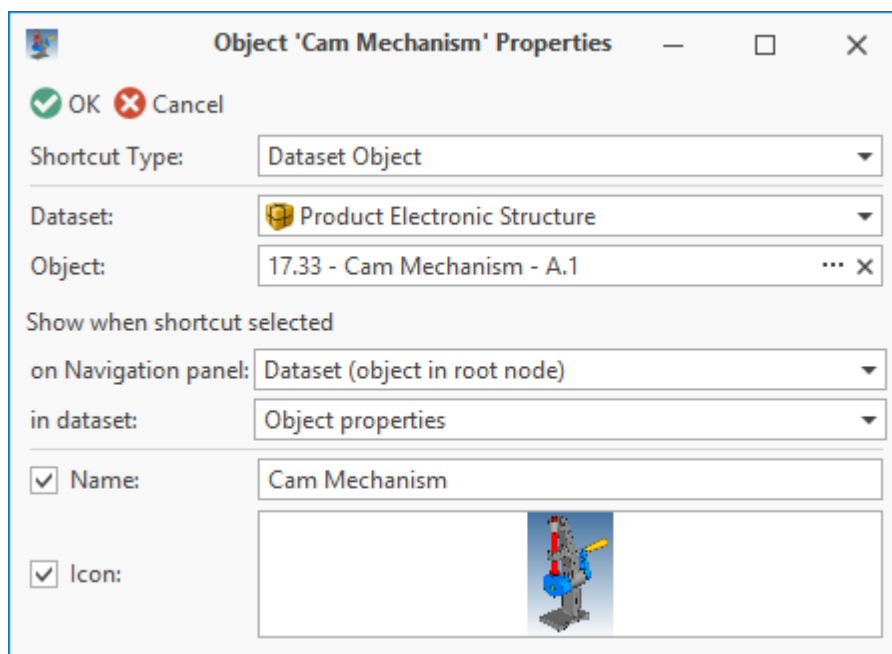
To fill the selected group, click  button and select "Shortcut" type.

There are following types of shortcuts:

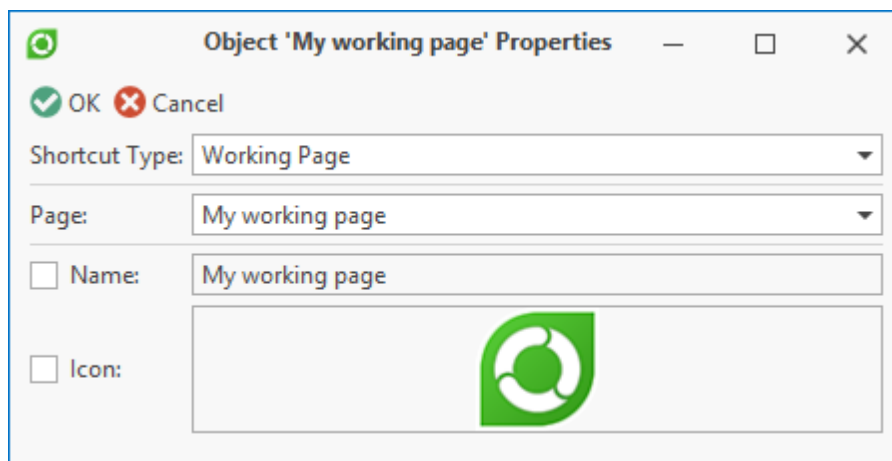
1. Dataset – in the opened window user selects a dataset a shortcut of which must be on the navigation panel. User can additionally set root object or [catalogue](#) to which the shortcut is made. Moreover, with this filter user can filter objects upon dataset opening, if necessary. To do this, in the **Filter** field enter required [filter](#) form the "Search Queries" dataset.



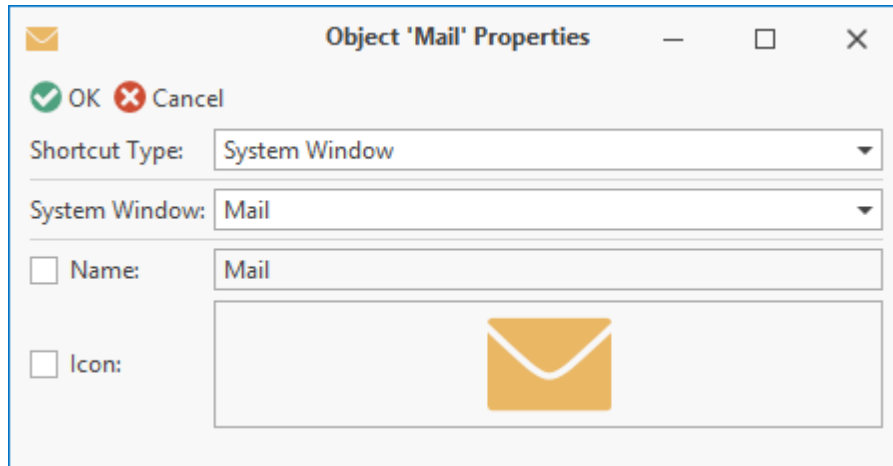
2. Dataset object – in the opened window user sets required dataset and selects the required object from it. Depending on value in the **Show when shortcut selected on the navigation panel** field, click on the shortcut of such type opens either properties dialog for this object or separate dataset window with the structure of this object. Value in the **Show when shortcut selected on navigation panel** field specifies contents of the properties panel in the "Navigation panel" dataset window when this shortcut is selected: these can be either properties of the objects to which the shortcut is made or its structure.



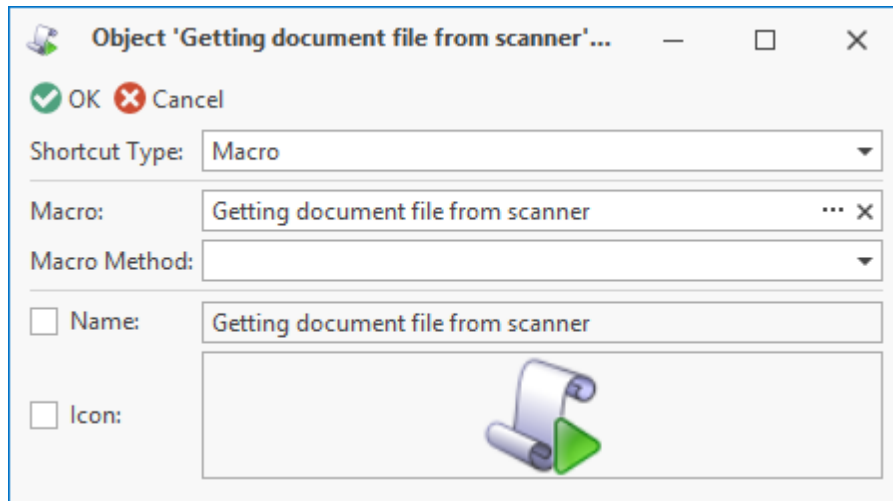
3. [Working page](#) – user selects a working page for the shortcut from the list of available working pages.



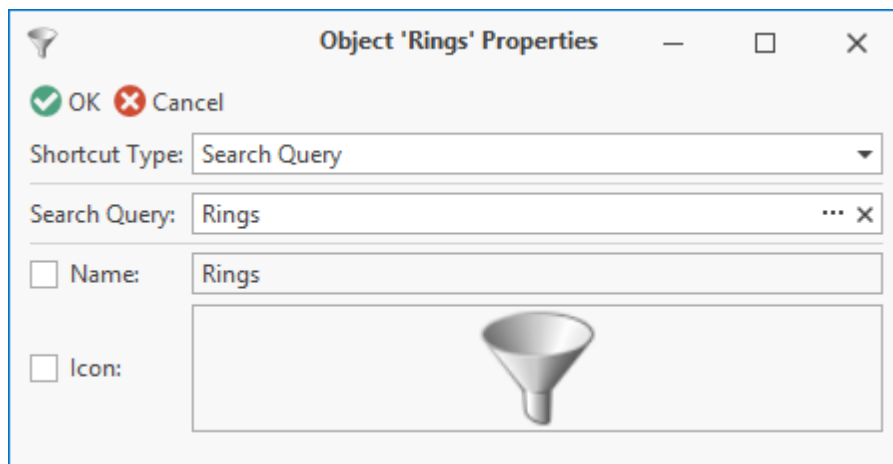
4. System window – user sets a system window which will be opened via shortcut.



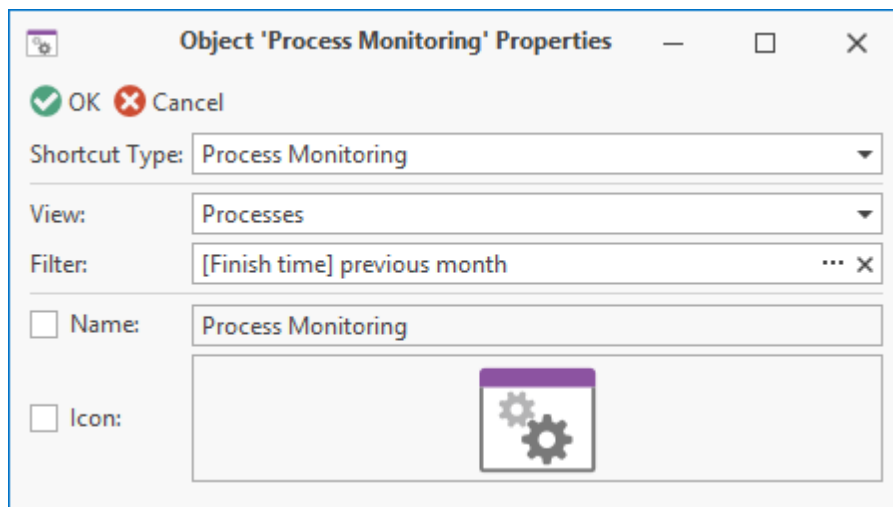
5. Macro – user selects macro from the "Macro" dataset and its method so that it will be opened via the shortcut on the navigation panel.



6. [Search query](#) – in the opened window user selects common or personal search query which requires a shortcut on the navigation panel.



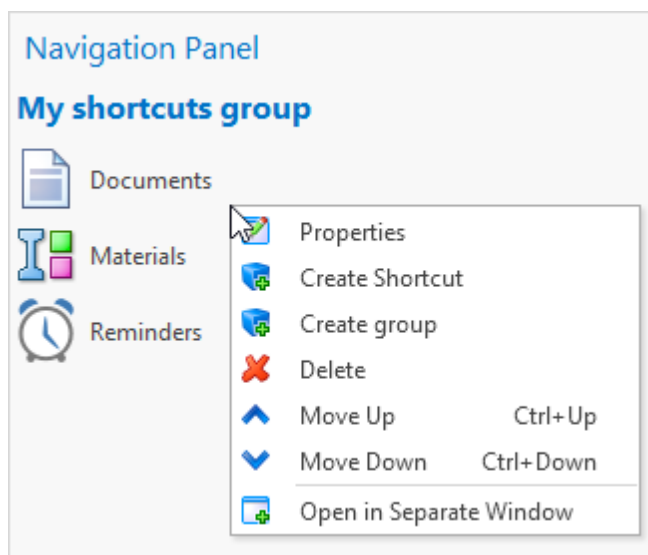
7. [Process monitor](#) – this shortcut allows to switch to the workflow monitor window. In the **View** field list user must select required option for process monitor display type. Displayed workflows can be filtered upon opening this window via shortcut. To do this, enter required filter condition in the **Filter** field.



It is also possible to set custom name and icon for each type of shortcuts in the corresponding fields. To switch to editing the selected field, check a box next to it.

To delete the selected shortcut, select right-click menu option **Edit > Delete**.

Moreover, contents of the shortcuts group displayed on the navigation panel can be easily edited directly on the panel with the help of right-click menu option. In this case, a shortcut for a dataset object can be added to the group by dragging and dropping this object from the dataset window opened in the T-FLEX DOCs work area to the navigation panel.



Update option on the navigation panel menu is used to update data on the navigation panel after the set of shortcuts groups was changed.

Apart from creating personal groups of shortcuts, user can change the set of "Workspace" standard group. To reset the default settings for this group, select **Reset Workspace Settings** option in the navigation panel menu.

Administrator user can change the set of "Workspace" shortcuts group set by default.

Working pages

Working page is a window created and customized by user so that it is convenient to work with T-FLEX DOCs. It can have various management components in the order set by user: dataset window, mail window, text, pictures, diagrams, as well as buttons, boxes, etc.

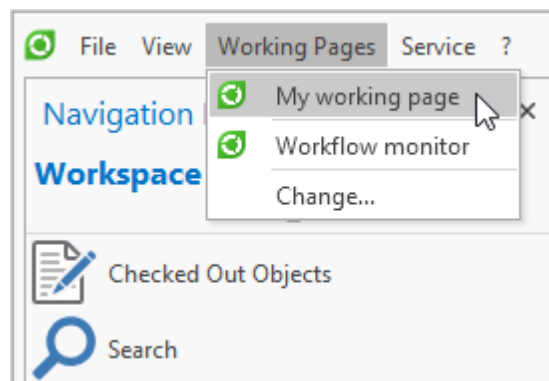
Any user can create personal working pages.

Only administrator user can create common working pages available for all users of the system.

One of the working pages can be set as a welcome page which opens automatically as soon as user logs into the T-FLEX DOCs.

If the welcome page was closed, select main menu option **View > Welcome page** to reopen it.

To open T-FLEX DOCs working pages use **Working Pages** option of the main menu. Common and personal pages are separated into groups.

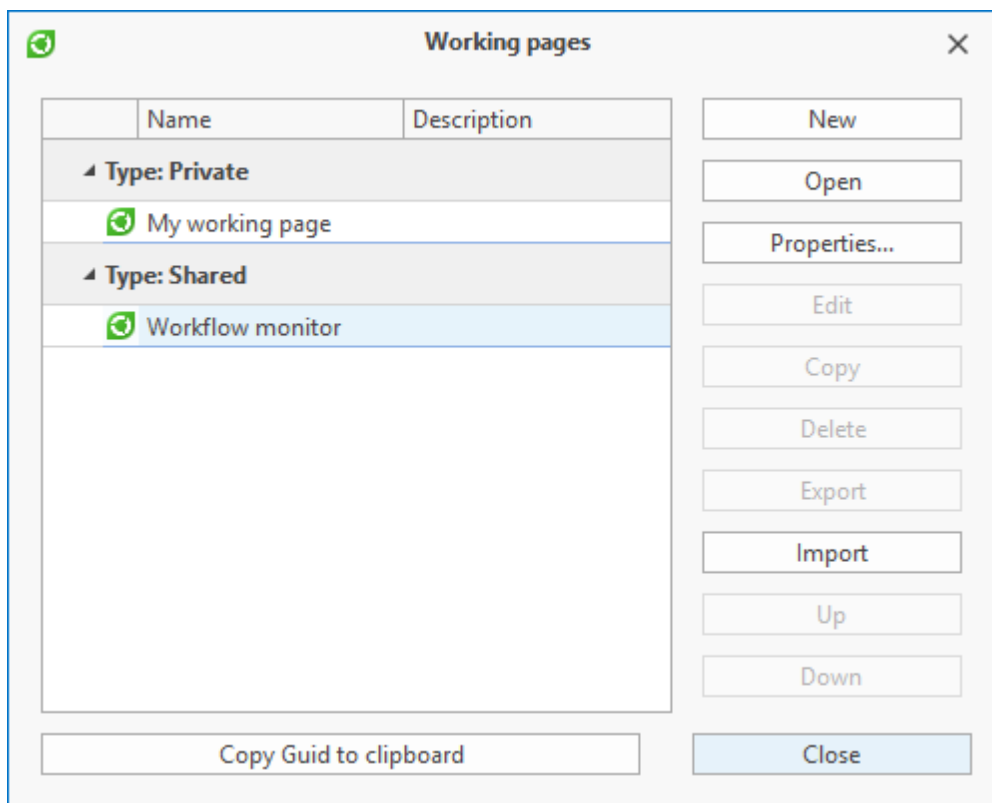


Main menu option **Working Pages > Change** opens window for management of working pages which contains following buttons:

1. **[New]** – creates new working page.
2. **[Open]** – opens selected working page.
3. **[Properties]** – opens windows with properties of selected working page.
4. **[Edit]** – opens selected working page in the edit mode.
5. **[Copy]** – creates a copy of selected working page.
6. **[Delete]** – deletes selected working page.
7. **[Export]** – exports selected working page in the XML format.
8. **[Import]** – imports working page of the XML format.
9. **[Up]** – moves selected working page up the list.

10.[Down] – moves selected working page down the list.

11.[Copy Guid to clipboard] – copies GUID of selected working page to the clipboard.



When user creates new working page, he/she enters its name, description (if necessary), sets icon and decides, whether the page will be common or personal. **Is my start page** box allows to make the created page a welcome page for the current user. Welcome page will be highlighted in bold in the list.

Work page properties

Common page **is my start page**

Users for which this page is start page:

Name
Employees

Last edit: Administrator 12/18/2020 4:35 PM

If the page is common, user can set a list of users for whom this page will be the welcome page.

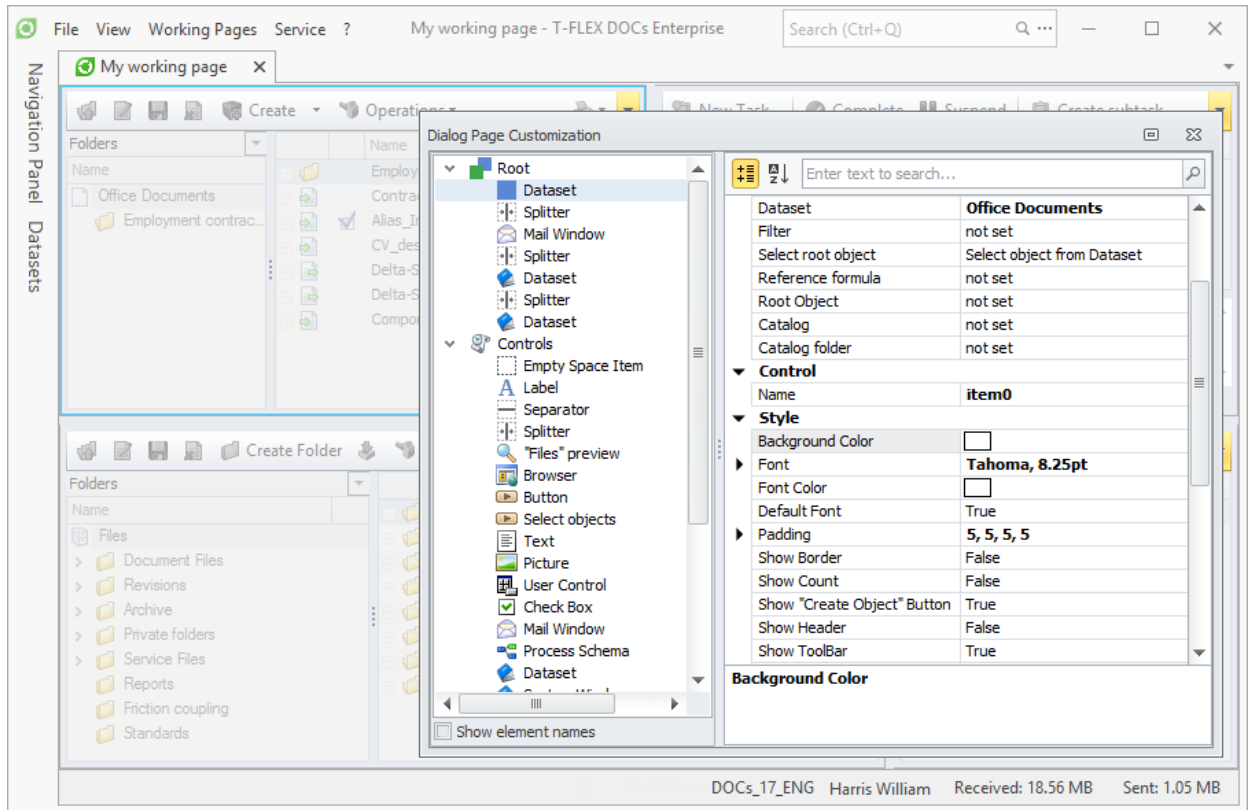
On the **Access** tab user can also set users who will have access to this page.

System Configurations tab allows to select T-FLEX configurations in which the created working page will be displayed.

After all parameters of the working page are set, confirm creation of the page by clicking **[OK]** button, select it in the list and click **[Edit]** to switch to edit mode for its contents.

In the left part of the opened **Dialog Page Customization** window there is a list of controls which can be placed on the working page ("Controls" group).

To add the control selected in the list to the working page, drag and drop it there having selected one of the offered arrangement options.



Controls added to the page will be added to the "Root" group. If necessary, user can group controls. By clicking on any control from the "Root" group user can review and edit its properties in the right part of the window.

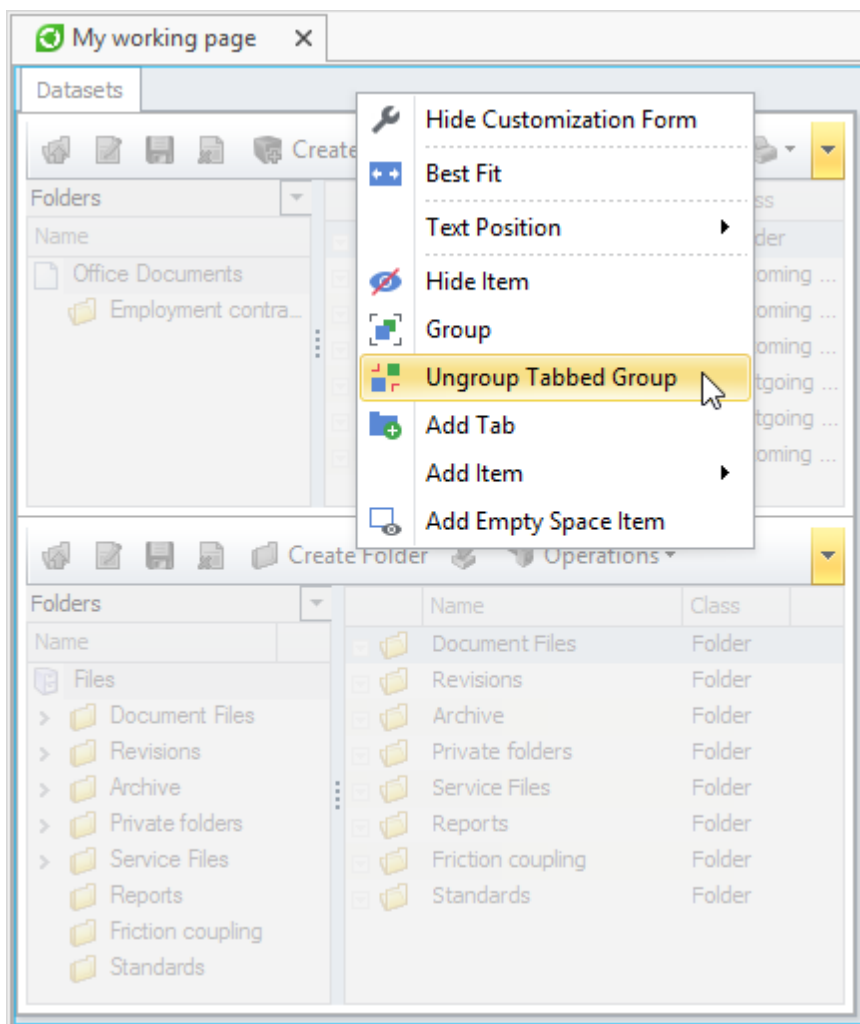
To remove control from the working page, select option **Hide Item** in its right-click menu.

User can group several controls by selecting them and selecting option **Group** of their right-click menu.

Moreover, within working page user can create separate tabs with one control or several grouped controls. To do that, select option **Create Tabbed Group** in the right-click menu. To create second and following tabs select option **Add tab** in the right-click menu opened in the tab area.

To cancel grouping of components into a tab or a group, select option **Ungroup Tabbed Group** and **Ungroup** respectively.

To finish editing working page, close the **Dialog Page Customization** window.

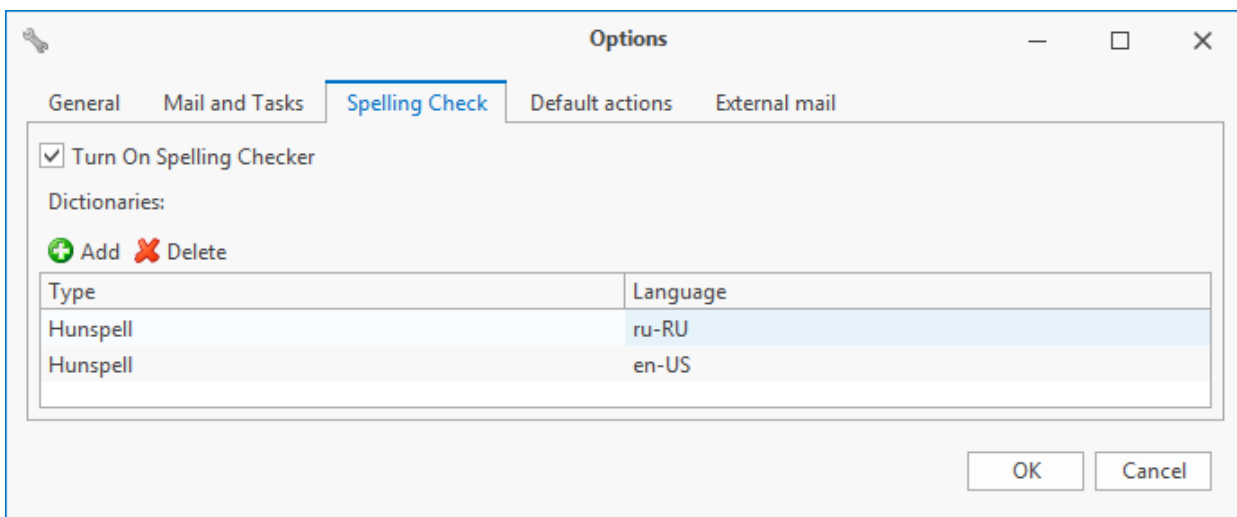




More information on editing dialog boxes is provided in the document "T-FLEX DOCs – Administrator manual".

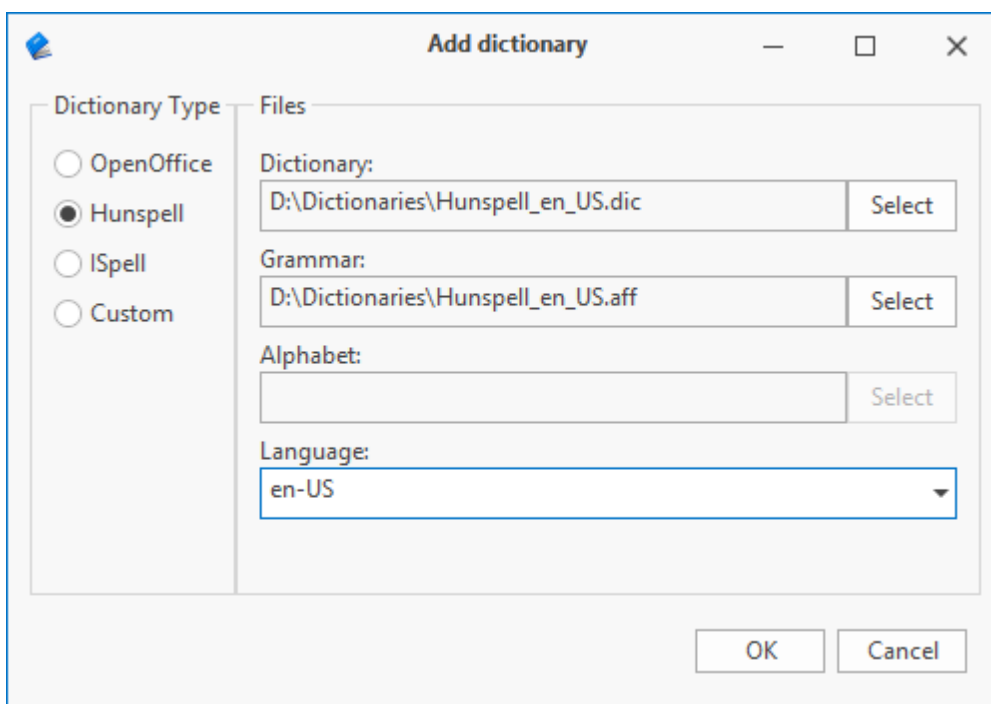
Spell-checking setup

T-FLEX DOCs provides possibility to enable automatic spell checking. This setting is made on the **Spell-checking** tab of the window opened with main menu option **Service > Options**. **Turn On Spelling Checker** box enables and disables spell-checking mode. This tab displays the list of used dictionaries.

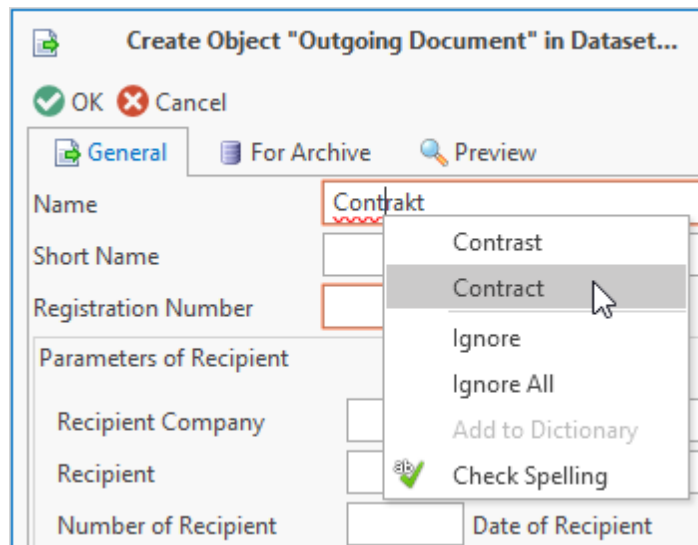
Supply scope includes two Hunspell dictionaries: for Russian and English.



User can add or delete dictionary by clicking  **Add** and  **Delete** buttons respectively. When user adds a dictionary he/she must set its type and in the corresponding fields set paths to spelling and grammar dictionaries files, as well as to the alphabet file. In the **Language** field user enters in which language the dictionary is presented.



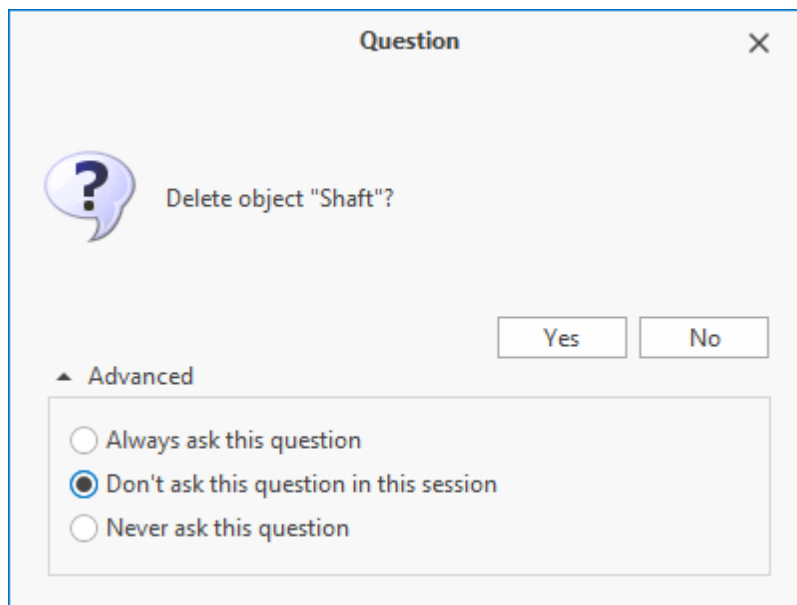
When automatic spell-checking mode is enabled, word with a mistake in it will be underlined with red squiggly line. With the right mouse button user can open right-click menu which will have options for error correction.



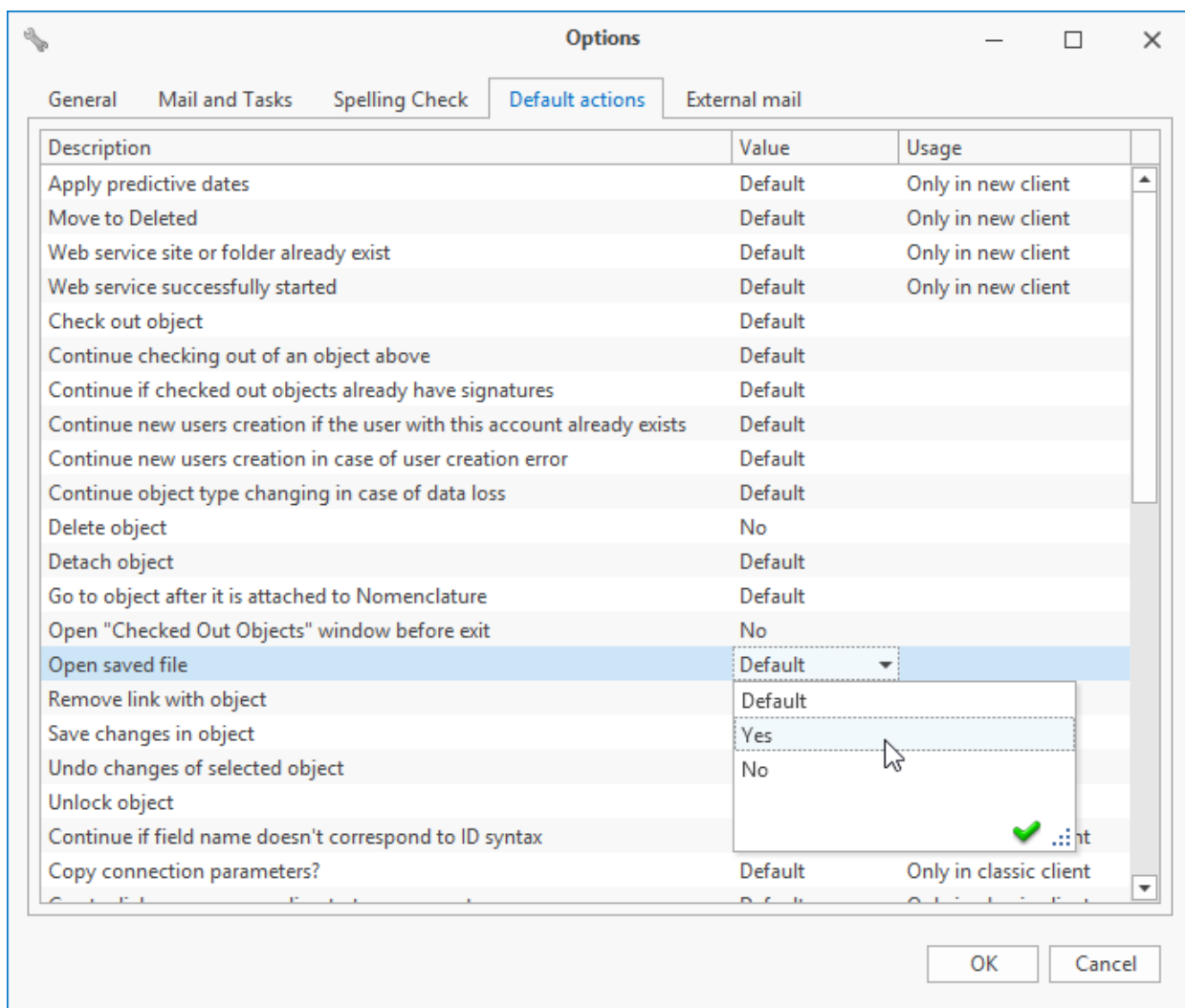
Default options setup

T-FLEX DOCs makes it possible to set up parameters for such frequent actions as checking object out, deleting, saving and cancelling the changes for the object, opening of the **Checked Out Objects** window upon procedure completion, etc. When corresponding default option is selected, the system opens the **Question** window where in the **Advanced** section there are boxes which set up the parameters of this option.

In case the **Never ask this question** box is checked, next time the option is selected, the action will be performed without question on its confirmation. In case the **Don't ask this question in this session** box is checked, the system will have the similar algorithm but only for the current session in T-FLEX DOCs. When the session is over, this setting will be reset to the default value. The **Always ask this question** option is used by default and means that when this option is selected the system will always open the window with question on confirmation of this action.




The parameters for such actions can also be set up in the **Default actions** tab of the window opened via main menu option **Service > Options**. The tab has the list of actions the parameters of which can be changed. Each action is assigned with a value which sets its performance algorithm when corresponding option is selected.

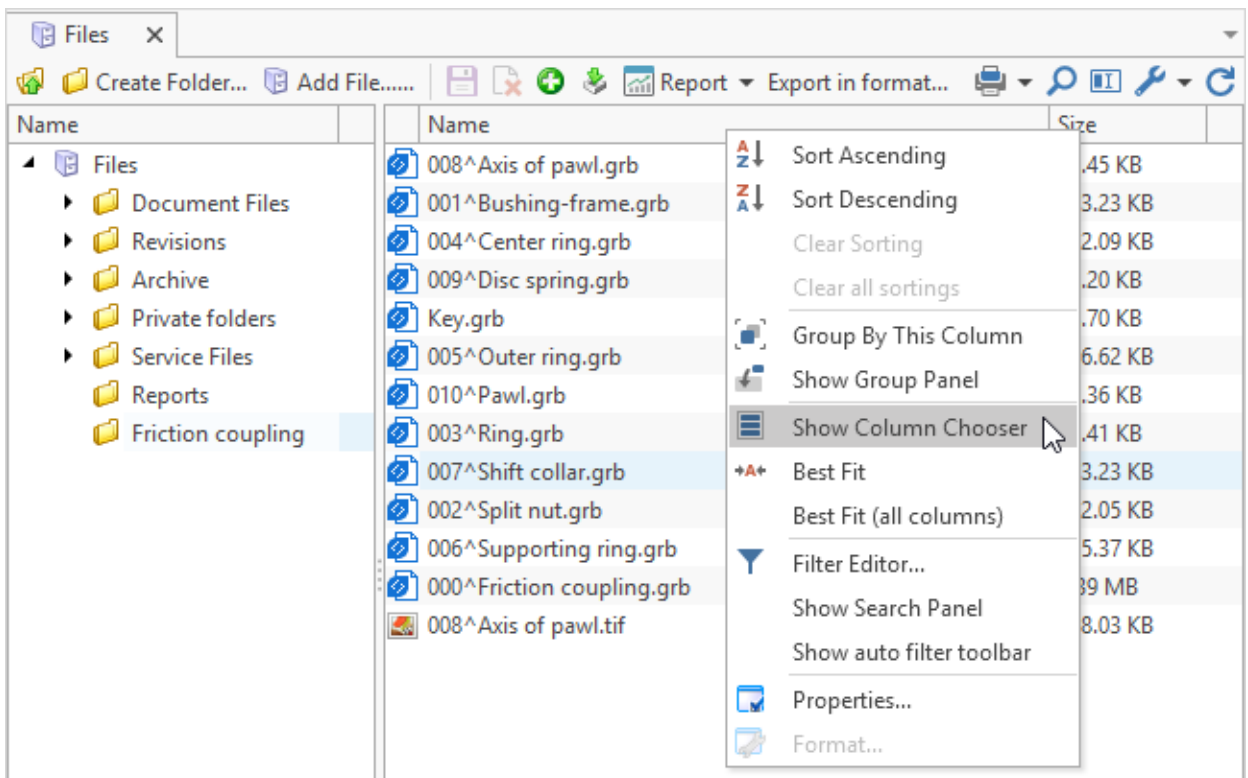


Setup of columns

With enabled table mode of display, data in the dataset window are displayed in columns. Each column corresponds to one parameter of an object. However, T-FLEX DOCs allows to create custom columns which can contain values of several parameters, as wells as parameters values of objects from linked datasets.

Setup of column display

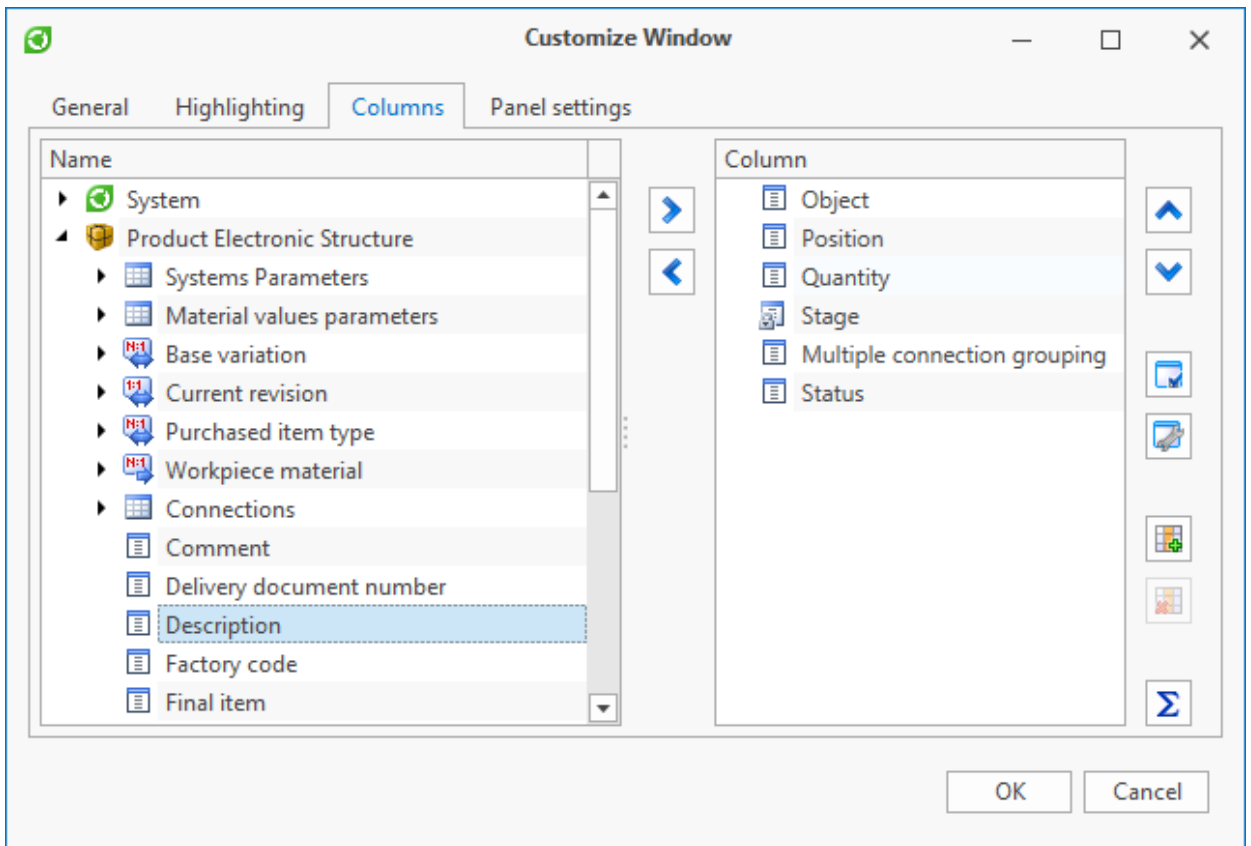
T-FLEX DOCs user can set up display of columns with data in the working window at his/her convenience. To do this, select options of column's right-click menu or of the **Columns** tab in the window opened via **Customize > Customize Window** ( button on the toolbar).



Show column chooser option allows to select which parameters must be displayed in the work window.

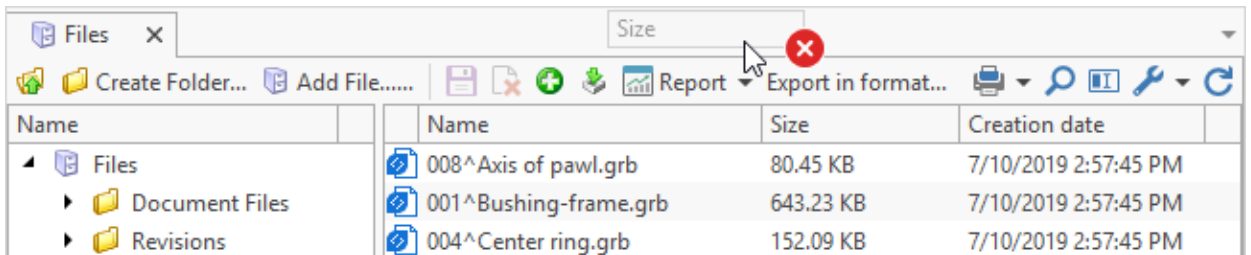
Setup of each data display mode is performed individually.

Left part of the **Columns** tab contains tree of dataset objects parameters and its links with other datasets. Right part of the dialog box contains list of columns displayed in the work window.



There are several ways to remove unnecessary columns from the work window:

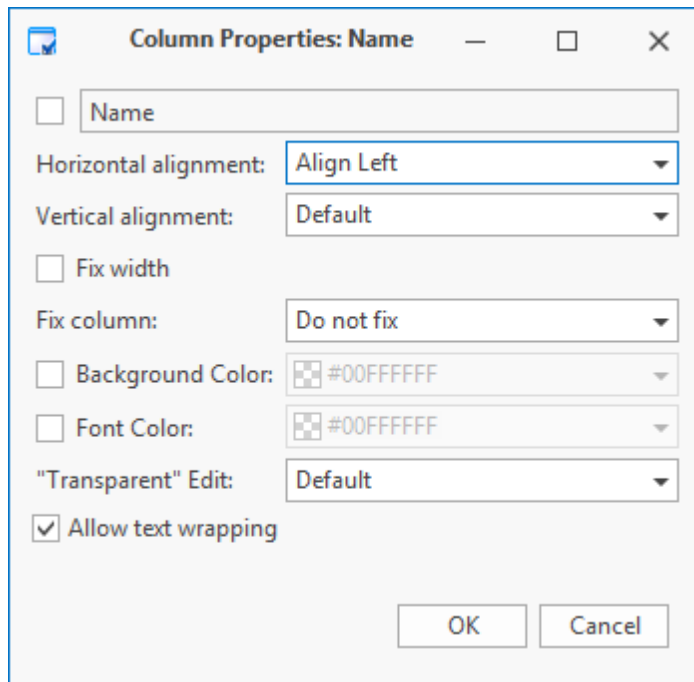
- Select option **Hide column** in the right-click menu.
- Drag and drop the column's title above title string edge.



Apart from changing the structure of columns in the work window T-FLEX DOCs user can set up appearance of each column.

To switch to the window of properties for selected column, select option **Properties** in its right-click menu. There are following setup options in this window:

1. User can change name of the column which is by default corresponds to the name of the dataset object parameter. To edit the name, check the box next to it.



2. Horizontal and vertical alignment – edit text alignment style in the column.
3. Fix width – enables/disables possibility to edit width of the column. If the width is not fixed, user can edit it by moving the division line.
4. Fix column – column can be fixed in certain position. If the column is not fixed, user can change its position via **Columns** tab or by dragging and dropping it.
5. Background color and font color – changes column’s background color and text font color.
6. "Transparent editing" – enables/disables editing parameters values in the dataset window without properties window.

Administrator can limit access to changing of this setting.

	Name	Size	Creation date
	008^Axis of pawl.grb	80.45 KB	7/10/2019 2:57:45 PM
	001^Bushing-frame.grb	643.23 KB	7/10/2019 2:57:45 PM
	004^Center rin grb	152.09 KB	7/10/2019 2:57:45 PM
	009^Disc spring.grb	88.20 KB	7/10/2019 2:57:45 PM

7. Allow text wrapping – enables line break mode in the strings of selected column. The value is set by default for this parameter in the **Window Customize** window.

"Transparent editing" for parameter values can be performed via **Edit value** option in the

right-click menu.

Option is available not only for the "List" display mode but also for the "Tree" mode.

In this case value of the parameter is edited in the cell of which the right-click menu was opened. If several objects were selected in the dataset window, new value will be applied to all of these objects.

User should consider that application of new value cannot be performed for all objects, because of, for example, absence of access. In this case changes apply only to objects for which it is possible.

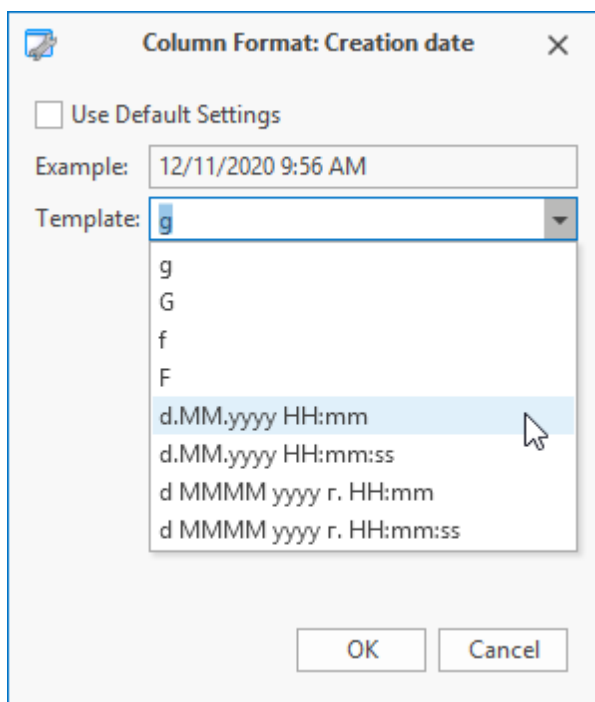
With the help of **Best Fit** and **Best Fit (all columns)** options user can set best possible width of separate column or all columns respectively so that contents will be displayed fully. If the **Fix all columns to window** box is checked in the **Customize window** window, all columns will be evenly spread along the working page width when user selects option **Best fit (all columns)**.

For some columns user can change values display format. To do this, select option **Format** in the right-click menu.

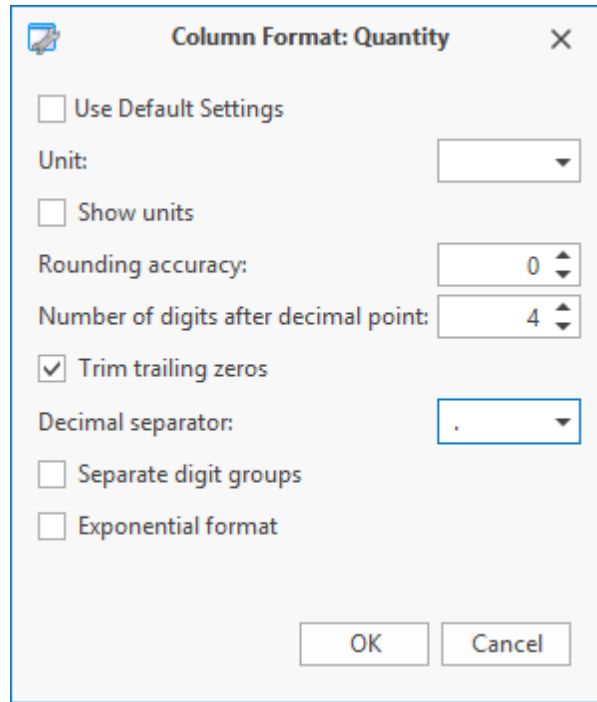
Set of parameters to set up format will depend on type of dataset object parameter.

As an example, windows for display setup are described:

1. dates,




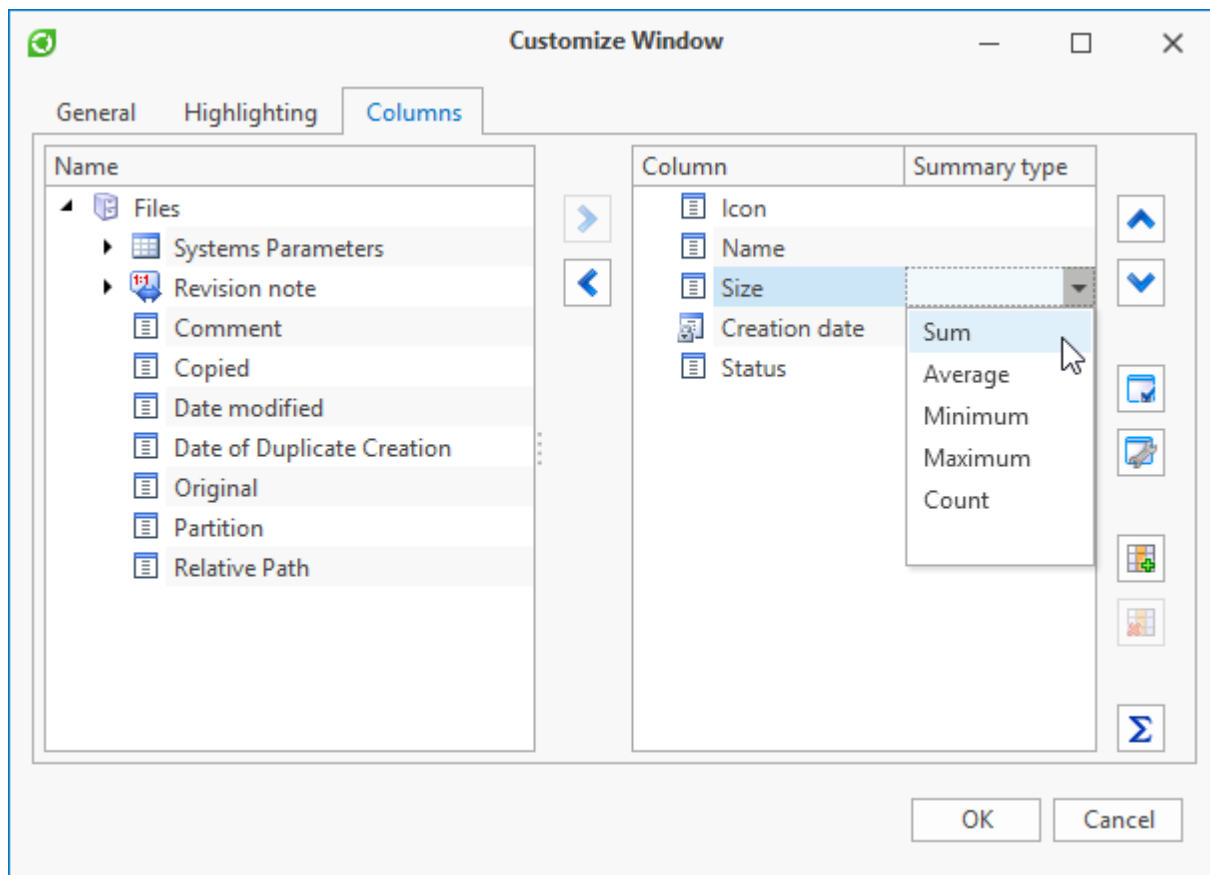
2. quantities.




Moreover, T-FLEX DOCs provides possibility to display final value for the selected columns in the bottom part of the dataset window.

	Name	Size	Creation date
	008^Axis of pawl.grb	80.45 KB	7/10/2019 2:57:45 PM
	001^Bushing-frame.grb	643.23 KB	7/10/2019 2:57:45 PM
	004^Center ring.grb	152.09 KB	7/10/2019 2:57:45 PM
	009^Disc spring.grb	88.20 KB	7/10/2019 2:57:45 PM
	Key.grb	34.70 KB	7/10/2019 2:57:45 PM
	005^Outer ring.grb	156.62 KB	7/10/2019 2:57:45 PM
	010^Pawl.grb	62.36 KB	7/10/2019 2:57:45 PM
	003^Ring.grb	85.41 KB	7/10/2019 2:57:45 PM
	007^Shift collar.grb	233.23 KB	7/10/2019 2:57:45 PM
	002^Split nut.grb	282.05 KB	7/10/2019 2:57:45 PM
	006^Supporting ring.grb	105.37 KB	7/10/2019 2:57:45 PM
	000^Friction coupling.grb	2.39 MB	7/10/2019 2:57:45 PM
	008^Axis of pawl.tif	168.03 KB	9/13/2019 2:09:48 PM
		4653164	

Type of the final value is set in the **Columns** tab of the **Customize window** window. To do this, hold  button and then in the **Summary type** set required type of the final value for the selected column of the dataset window.



Creating custom columns

In T-FLEX DOCs user can create custom columns. To add custom column, click  button on the **Columns** tab of the **Customize Window** window. The system opens the **Column Format** window where user sets name of the column and data which will be displayed in the column. User can select following options:

1. Parameter value – user sets parameter of object from a dataset or dataset linked to it the values of which will be displayed in the column.
2. Macro – data in the column will be provided as a result of a macro selected from the "Macro" dataset. In the **Method** field user sets name of the macro method which must be started.
3. Formula – data in the column will be provided as a result of formula set in the macro code window.

4. Link – user sets linked objects the parameters of which must be displayed in the column.

The image shows a 'Column Format' dialog box with the following settings:

- Name: Suppliers
- Show icon:
- Execute asynchronously:
- Result section:
 - Parameter value:
 - Macro: [empty] (dropdown with menu icon and close icon)
 - Method:
 - Formula: (with menu icon and close icon)
 - Link: Suppliers (dropdown)
 - Filter: (with menu icon and close icon)
 - Parameter: [Name] (dropdown)
 - Formatted string:
 - Set of parameters: (with menu icon and close icon)
 - Separator: ;

Buttons: OK, Cancel

User can additionally set certain parameter of object from linked dataset and filter. If filter is applied, the column will display values only for those objects which comply with set condition.

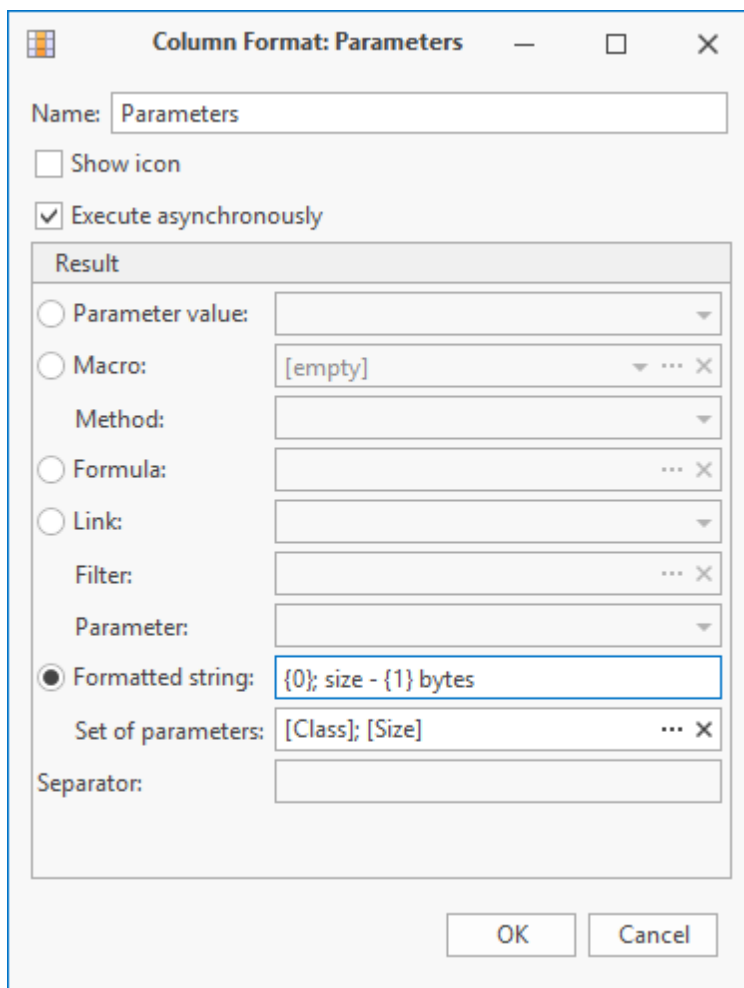
The screenshot shows a software window titled "Product Electronic Structure". At the top, there is a toolbar with icons for adding, deleting, and refreshing. Below the toolbar, the window displays the following information:


- Product: **Not set** on **Today**
- Conditions: **Not set**
- Structure: **C**
- Category: **All**

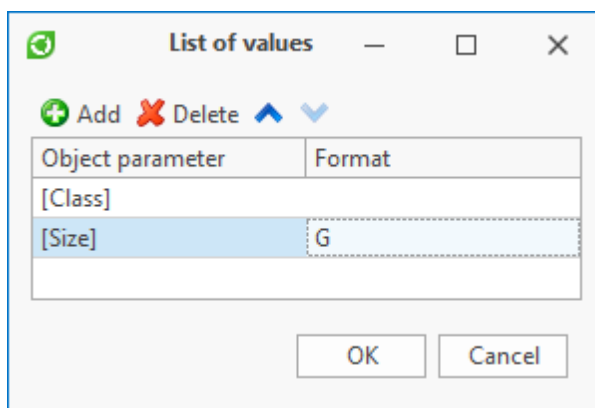
The main content area is a table with the following columns: Object, Position, Quantity, and Suppliers. The table displays a hierarchical tree structure of components. The "Object" column contains the component names, and the "Quantity" and "Suppliers" columns contain numerical values and supplier names respectively. The "Position" column is currently empty.

Object	Position	Quantity	Suppliers
Product Electronic Structure			
007 - Shift collar - A.1			
X1777 - Converter - A.1			
CM-1 - Cam Mechanism - A.1			
00.00.00 - Ball Valve - A.1			
00.01.00 - Body - A.1		2	1
00.00.02 - O-Ring - A.1		3	1
00.00.03 - Bush - A.1		4	1
00.00.04 - Ball - A.1		5	1
00.00.05 - Seat - A.1		6	2
00.00.06 - End Cap - A.1		7	2
00.02.00 - Handle - A.1		8	1
Bolt ISO 4016 - M6x45 - A.1		9	4 Delta-Star; Spectrum Group
Hex Nut ISO 4034 - M6 - A.1		10	5 Spectrum Group

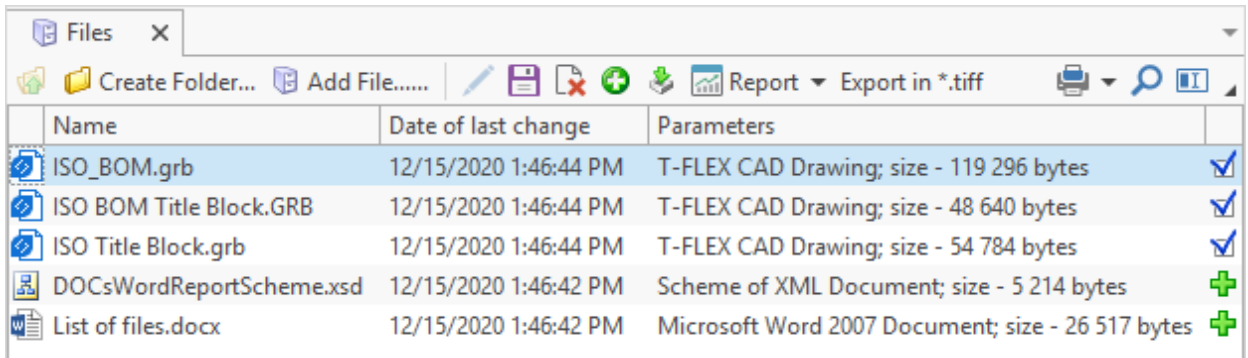
5. Formatted string – used for display of several values in set style.



In the **Set of parameters** field user generates the list of parameters values of which will be displayed in the column by clicking  **Add** button. User also sets required format of values.




Then in the **Formatted string** field user enters template for data display in the column. In the curly brackets {} user enters numbers of parameters from the list starting from 0.





Name	Date of last change	Parameters
ISO_BOM.grb	12/15/2020 1:46:44 PM	T-FLEX CAD Drawing; size - 119 296 bytes
ISO BOM Title Block.GRB	12/15/2020 1:46:44 PM	T-FLEX CAD Drawing; size - 48 640 bytes
ISO Title Block.grb	12/15/2020 1:46:44 PM	T-FLEX CAD Drawing; size - 54 784 bytes
DOCsWordReportScheme.xsd	12/15/2020 1:46:42 PM	Scheme of XML Document; size - 5 214 bytes
List of files.docx	12/15/2020 1:46:42 PM	Microsoft Word 2007 Document; size - 26 517 bytes

If custom column displays several values simultaneously, in the **Separator** field user sets symbol (or set of symbols) to be used as separator.

To move to a new string use `\r\n` separator.

To remove custom column, click  button located on the **Columns** tab of the **Customize Window** window.

Data sorting

Data displayed in the working window can be sorted by ascending or descending of one or several parameters. Next to the column title for which string sorting was performed there is an icon displaying sorting order:  – in case values are displayed in ascending order or  – in case values are displayed in descending order.

There are two ways to edit sorting order:













- By selecting option **Sort Ascending** or **Sort Descending** in the right-click menu of the column for which the values are to be sorted.
- By clicking on the column title.

To cancel data sorting by the selected parameter, select option **Clear sorting** in the corresponding column's right-click menu.

To perform sorting by two or more parameters, perform sorting for one column, then for the next one by selecting corresponding option in the right-click menu or clicking on its title with <Shift> key pressed.

The picture below displays sorting by two parameters – name and designation. In this case user performs sorting by name (ascending) first and then, for objects with the same name, performs sorting by designation (descending).

To cancel sorting by several parameters, select option **Clear all sortings** in the column's right-click menu.

	Description ▲	Part Number ▼	Position
	Ball	30.00.04	6
	Body	30.00.01	3
	Bolt ISO 4016 - M6x45		9
	Bush	30.00.03	5
	End Cap	30.00.06	8
	Handle	30.02.00	1
	Hex Nut ISO 4034 - M6		10
 +	O-Ring	30.00.08	
 +	O-Ring	30.00.07	
	O-Ring	30.00.02	4
	Seat	30.00.05	7
	Shaft	30.01.00	2

Apart from automated data sorting in the T-FLEX DOCs dataset window user can sort data manually. In this case display order of objects is changed via options **Move Up** and **Move Down** in the right-click menu.

This option is available only for datasets where revision history is disabled. Only administrator user can enable manual sorting for a dataset.

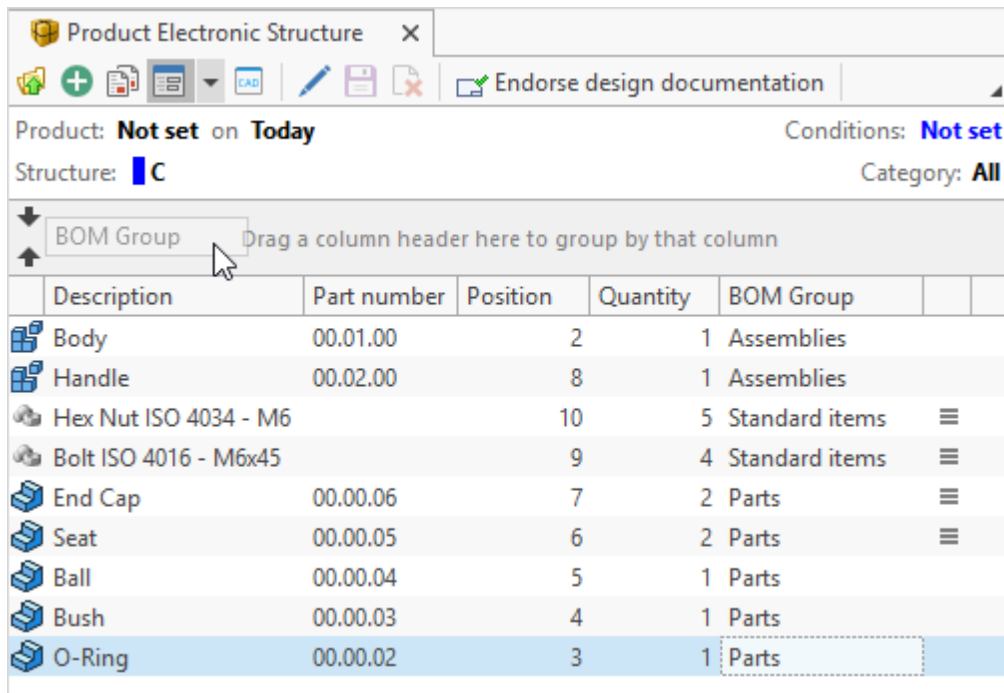
Data grouping



T-FLEX DOCs dataset objects can be grouped by one or several parameters for convenience of preview.


There are two ways to enable grouping of data:

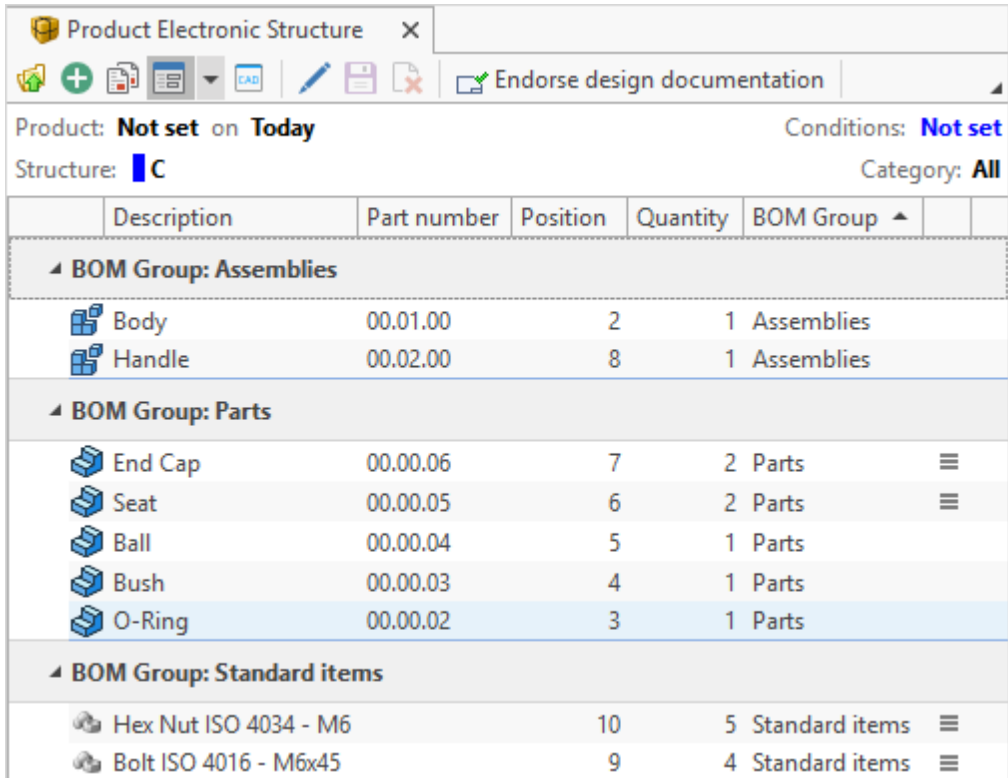
- Select option **Group By This Column** in the right-click menu of selected column.










- Enable group panel display mode via right-click menu option **Show Group Panel**. Group panel is located above column titles string. Then drag and drop title of the selected column to this panel.



As a result objects will be combined into groups which correspond to parameters of the selected column. To expand and minimize contents of groups, select options **Full Expand** and **Full Collapse** in the right-click menu of the group panel or click  and  next to the group title.

By default, the column for which data is grouped is not displayed in the dataset window. User can enable its display by checking the **Show grouped columns in the window header** box in the **General** tab of the window opened via option **Customize Window** ( button on the toolbar).



	Description	Part number	Position	Quantity	BOM Group
▲ BOM Group: Assemblies					
	Body	00.01.00	2	1	Assemblies
	Handle	00.02.00	8	1	Assemblies
▲ BOM Group: Parts					
	End Cap	00.00.06	7	2	Parts
	Seat	00.00.05	6	2	Parts
	Ball	00.00.04	5	1	Parts
	Bush	00.00.03	4	1	Parts
	O-Ring	00.00.02	3	1	Parts
▲ BOM Group: Standard items					
	Hex Nut ISO 4034 - M6		10	5	Standard items
	Bolt ISO 4016 - M6x45		9	4	Standard items

When data is grouped by several parameters, groups will have tree-type structure, i.e. grouping by the next selected parameter will be performed within current groups. Group structure can be reviewed in the group panel.

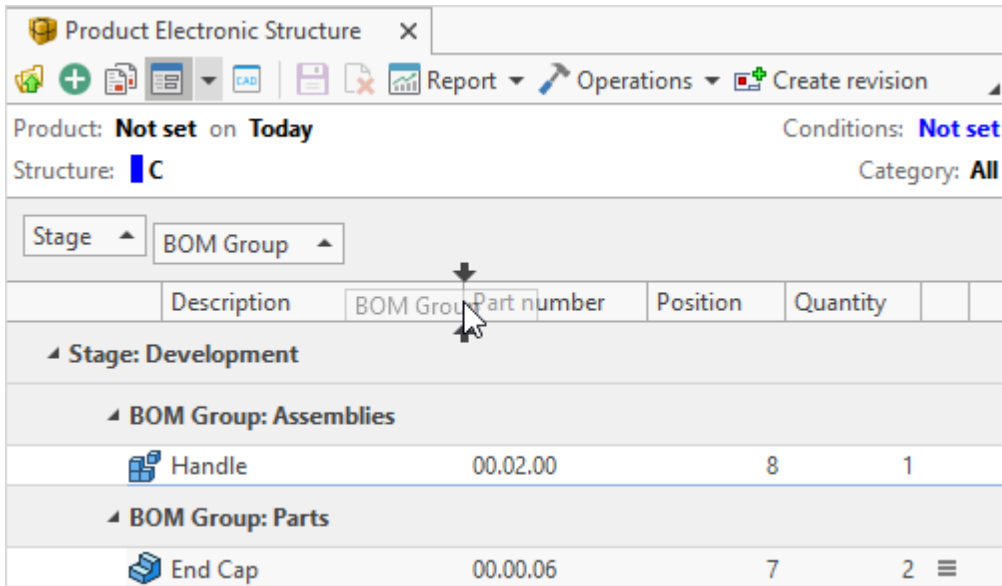
	Description	Part number	Position	Quantity	
Stage: Development					
BOM Group: Assemblies					
	Handle	00.02.00	8	1	
BOM Group: Parts					
	End Cap	00.00.06	7	2	☰
	Seat	00.00.05	6	2	☰
	O-Ring	00.00.02	3	1	☑
BOM Group: Standard items					
	Hex Nut ISO 4034 - M6		10	5	☰
	Bolt ISO 4016 - M6x45		9	4	☰
Stage: Storage					
BOM Group: Assemblies					
	Body	00.01.00	2	1	
BOM Group: Parts					
	Ball	00.00.04	5	1	
	Bush	00.00.03	4	1	

If necessary, group panel can be hidden via option **Hide Group Panel** in the column's right-click menu.

Data grouping is disabled via option **Clear Grouping** in the right-click menu of the group panel.

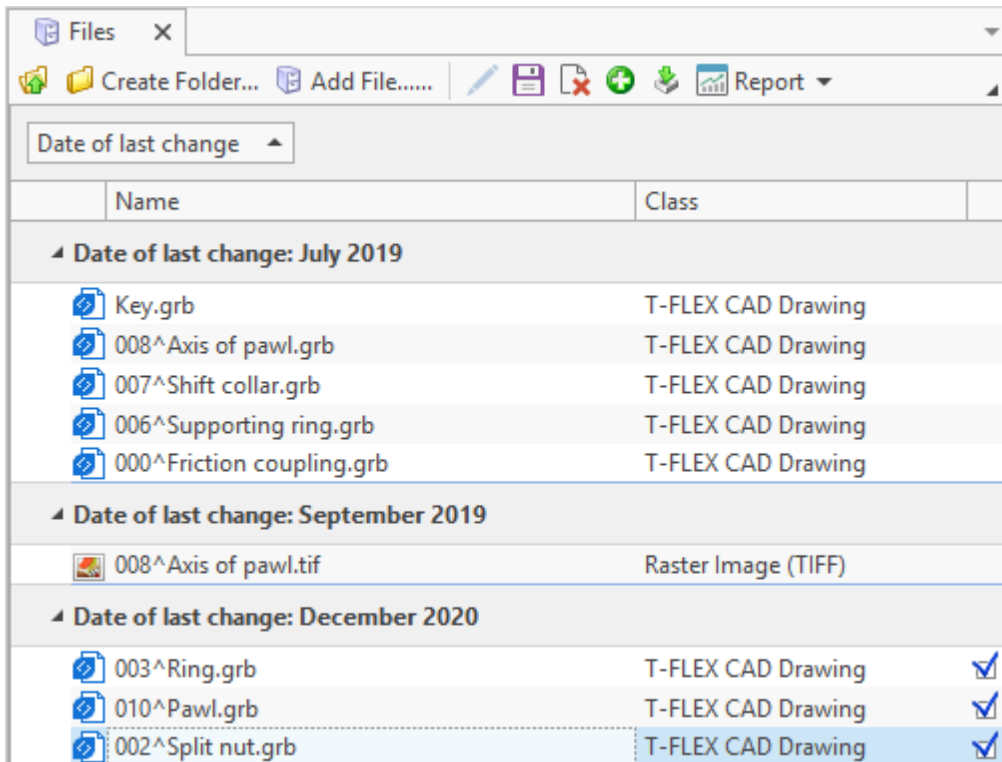
If user needs to ungroup data only for one of the parameters, select option **Ungroup** in the right-click menu opened by clicking on the title of the selected column in the group panel.

There is one more way to ungroup data: drag and drop title of the selected column from the group panel to corresponding place in the titles string.



When user groups data by parameter containing date and time, he/she can set required grouping period. To do this, group the data and then open right-click menu of this column in the group panel and select option **Group Interval**.

Set interval can be saved with other settings to the [view](#) of current dataset.



Calculations in columns

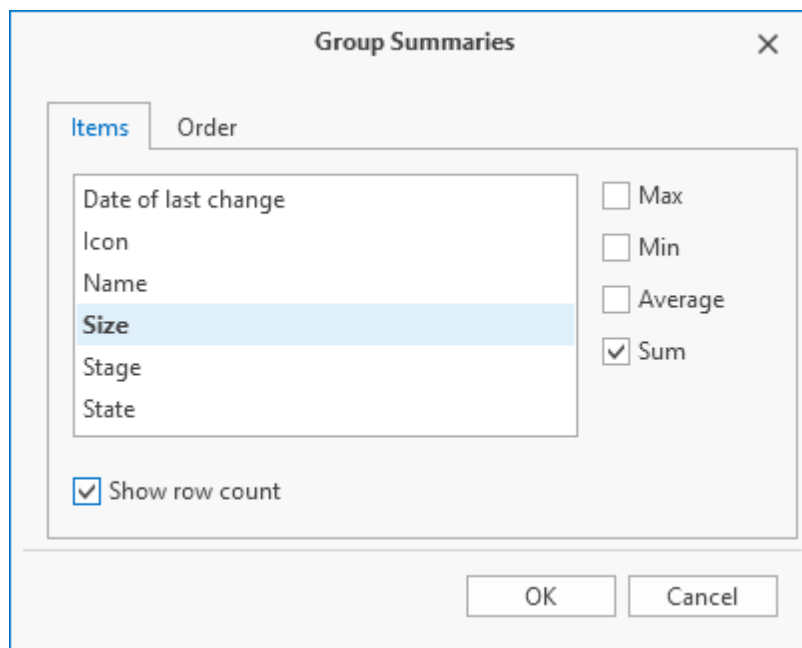
In T-FLEX DOCs in the "List" display mode user can perform following actions with grouped data:

- sum up values,
- find minimum value,
- find maximum value,
- calculate number of items in the column,
- calculate mean value.



First user groups data, then selects option **Group Summary Editor** in the right-click menu of the title of the column in the group panel. The system opens **Group Summaries** window.

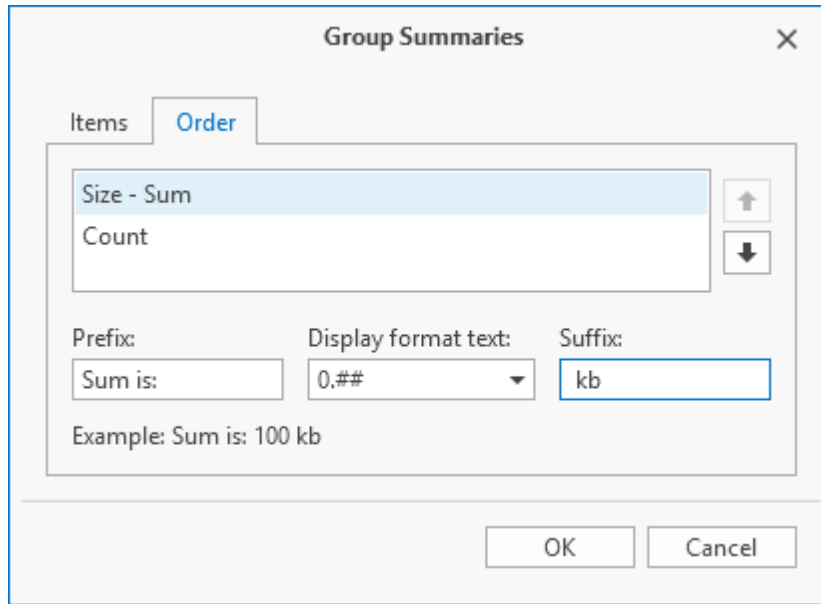
Example: in the "Files" dataset user needs to calculate total files size in each group. Grouping is performed for **Stage** column in the dataset.

1. On the **Items** tab select name of the column for which calculation will be performed. In this case it's **Size**.















2. Then select option – **Sum**.
3. If user checks **Show row count** box, the system will calculate the number of strings for each group.

4. **Order** tab allows to set display format for calculation results. All items selected in the **Items** tab will be added to this tab. Their order can be changed via  and  buttons.

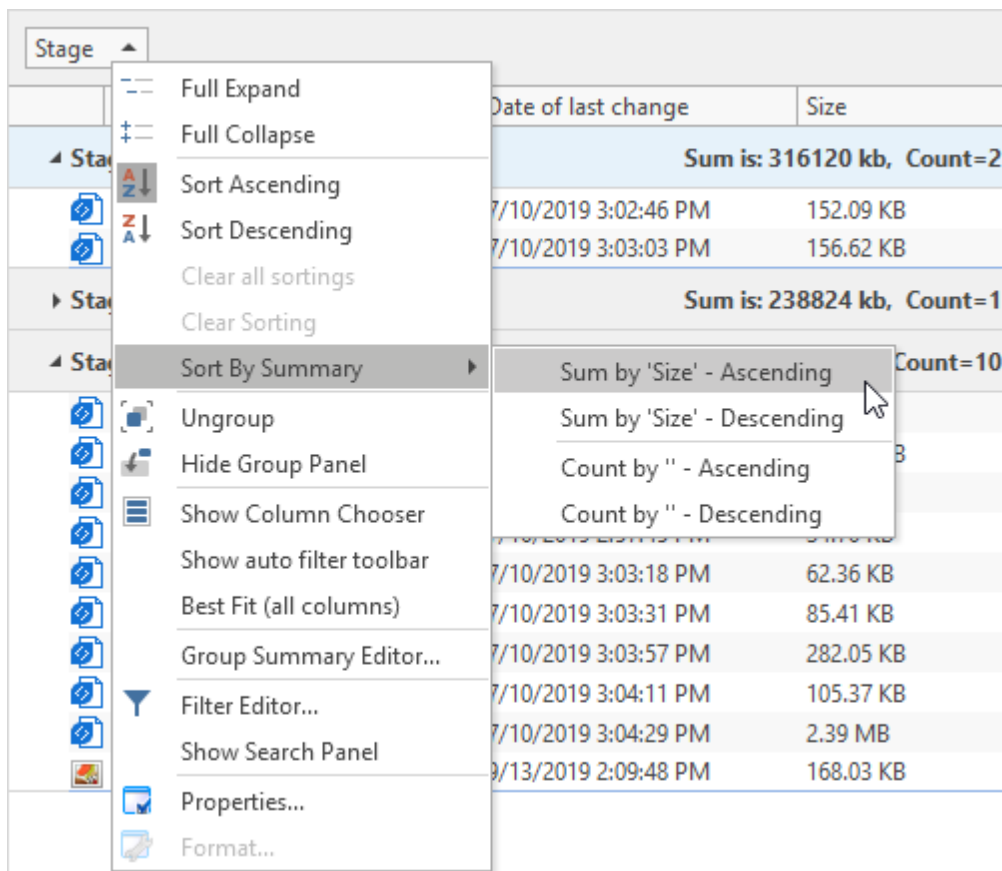


5. Text to be displayed before calculated value is entered to the **Prefix** field; text to be displayed after calculated value – to the **Suffix** field. It is also possible to set display format of the calculated value. Data is filled for each item of the list. **Example** string allows to see how the result will look like with set format.

Result is displayed on the picture below.


Stage ▲			
	Name	Date of last change	Size
◀ Stage: Approval			Sum is: 316120 kb, Count=2
	004^Center ring.grb	7/10/2019 3:02:46 PM	152.09 KB
	005^Outer ring.grb	7/10/2019 3:03:03 PM	156.62 KB
▶ Stage: Approved			Sum is: 238824 kb, Count=1
◀ Stage: Development			Sum is: 4098220 kb, Count=10
	008^Axis of pawl.grb	7/10/2019 3:01:27 PM	80.45 KB
	001^Bushing-frame.grb	7/10/2019 3:01:47 PM	643.23 KB
	009^Disc spring.grb	7/10/2019 3:02:13 PM	88.20 KB
	Key.grb	7/10/2019 2:57:45 PM	34.70 KB
	010^Pawl.grb	7/10/2019 3:03:18 PM	62.36 KB
	003^Ring.grb	7/10/2019 3:03:31 PM	85.41 KB
	002^Split nut.grb	7/10/2019 3:03:57 PM	282.05 KB
	006^Supporting ring.grb	7/10/2019 3:04:11 PM	105.37 KB
	000^Friction coupling.grb	7/10/2019 3:04:29 PM	2.39 MB
	008^Axis of pawl.tif	9/13/2019 2:09:48 PM	168.03 KB

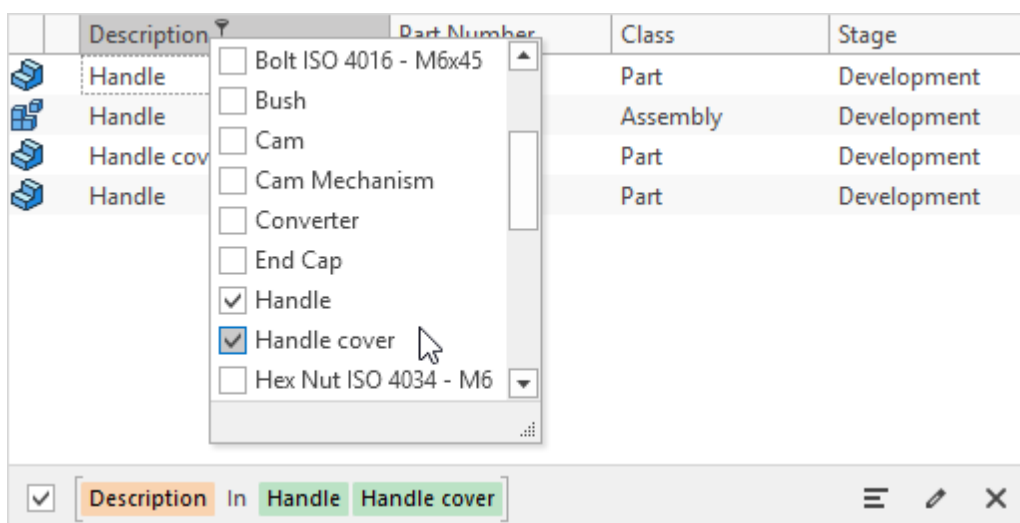
T-FLEX DOCs also allows to sort groups by ascending or descending of calculated value. To do this, select option **Sort by Summary** in the right-click menu of the title of the column located in the group panel.




AutoFilters



For prompt selection of dataset objects by set value of any parameter use filter in the corresponding column of the working window.

To enable filter, set pointer to the title of the selected column and click on the filter icon . It opens list of values in this column. To filter data, select one of the values from the list.

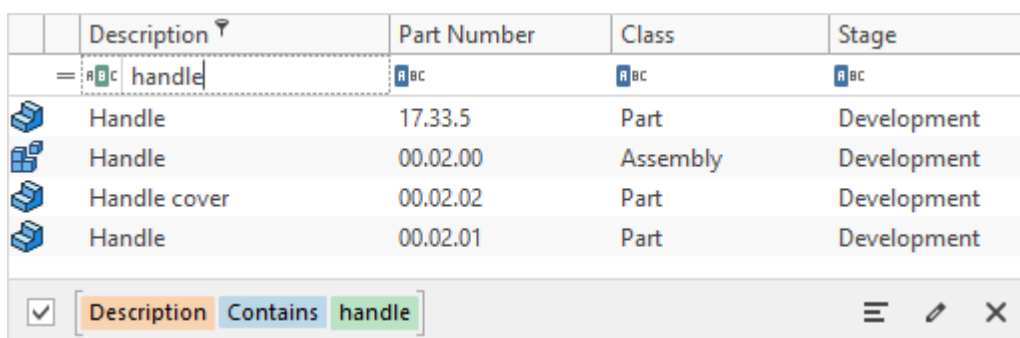
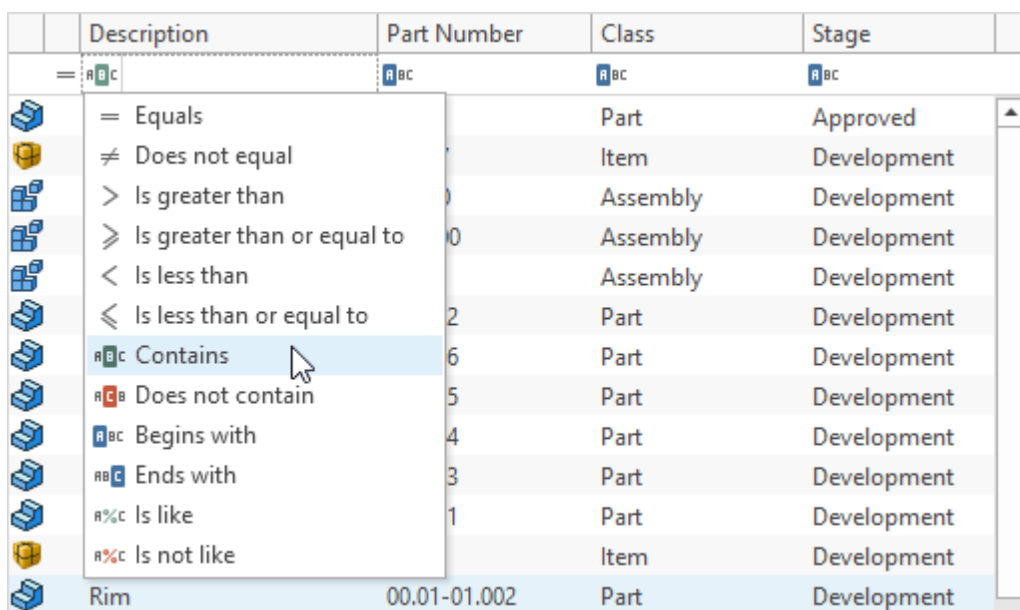


Filter condition created this way is displayed on the panel located above dataset objects list. To enable and disable current filter, check or uncheck the box next to the filter condition.

 button opens list with ten last created filter conditions.

To clear current filter, click  button.  button allows to switch to the [Filter Editor](#) window.

In the "List" data display mode there is also an auto filter string. To enable it, check the **Show auto filter toolbar** box in the right-click menu of the titles string. Auto filter string allows to find dataset objects by entered value or its part. The search is performed for selected column. For the entered value user can select comparison operator.



To hide auto filter string, uncheck the **Show auto filter toolbar** box.

Object structure

"Object structure" special management component is used in T-FLEX DOCs to display data of various types linked with selected dataset object in a form of a tree. For example, it is used in "Project Management" and "Product Structure" dataset.

This management component can be used in custom dialog boxes of any dataset, as well as

on working pages.

In this case double-click on the selected object opens separate tab with its structure.

The structure can include child objects, linked objects from other datasets, as well as objects of the current dataset connected via direct or reverse link.

Structure can have multiple levels: lists and connections of second level can be linked to the first level objects.



The screenshot shows a software window titled 'Product development_C463876/2'. The window contains a table with the following columns: Name, Number, Start, End, Percentage of completion, and State. The table lists various project tasks and resources.

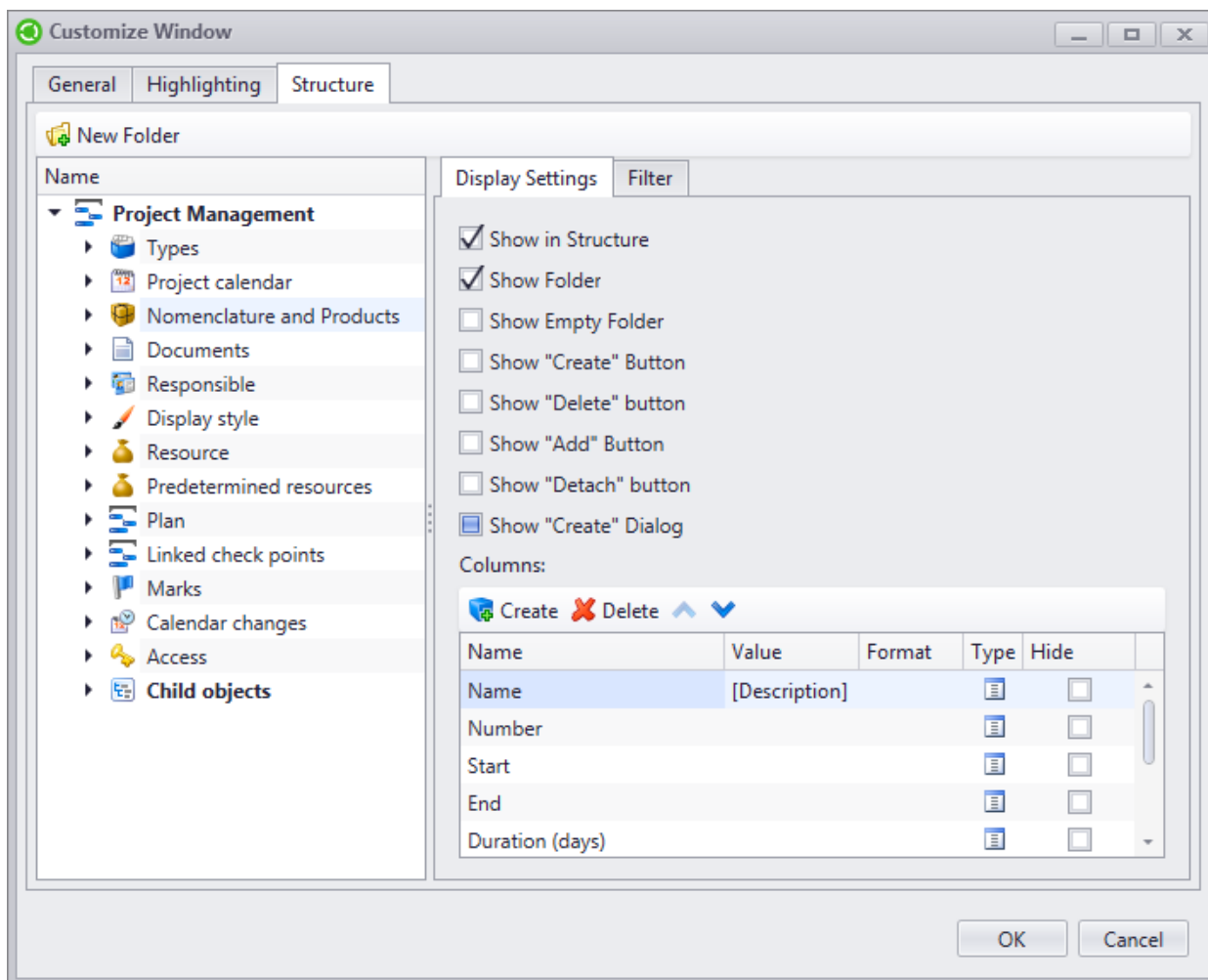
Name	Number	Start	End	Percentage of completion	State
Product development_C463876/2		01.07.2019	07.11.2019	0 %	Scheduling
Specifications assessment	1	01.07.2019	10.07.2019	0 %	Scheduling
Contract conclusion	2	11.07.2019	26.07.2019	0 %	Scheduling
Cost estimate	3	27.07.2019	31.07.2019	0 %	Scheduling
Design study	4	01.08.2019	17.08.2019	0 %	Scheduling
Resource					
Chief designer	0	8/1/2019 12:00:00 AM	8/17/2019 12:00:00 AM	[empty]	[empty]
Nelson Susan		[empty]	[empty]	[empty]	[empty]
Calendar changes					
Working day					
Design documentation development	5	18.08.2019	31.08.2019	0 %	Scheduling

User sets up list of data displayed in the structure. For example, apart from project's works, its structure can entail responsible executors, resources, documents, assignments, changes in calendar, etc.

Structure setup is performed in the special tab **Structure** in the window opened via option **Customize > Customize Window** or option **Show Column Chooser** in the right-click menu.

Left part contains tree of folders with links for this object, right part – settings of selected link.

Apart from standard folders, user can create custom folders via  **New Folder** button. User sets name, icon and type of link. To remove custom folder, click  **Delete Folder**.



Following boxes are available in the **Display Settings** tab:

- **Show in structure** – enables display of linked objects in the structure tree.

To display objects in the structure tree which were connected via link to this dataset, just check the **Show in structure** box only for the first level of structure. Objects of other levels will be displayed automatically.

- **Show folder** – enables/disables display of node (folder) in the structure tree. If the box is not checked, all linked objects are displayed on one level.
- **Show empty folder** – folder will be displayed in the structure tree, even if it does not contain linked objects.
- **Show "Create" button** – enables/disables display of the **[Create]** button (for selected object type) on the toolbar.
- **Show "Delete" option** – enables/disables display of **Delete** option (for selected object type) in the right-click menu.

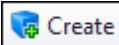

- **Show "Add" button** – enables/disables display of the **[Add]** button (for selected object type) on the toolbar.
- **Show "Detach" option** – enables/disables display of the **[Detach]** button (for selected object type) on the toolbar.
- **Show "Create" dialog** – when the object is created in the structure, the dialog box for setting its properties will be displayed. Otherwise new object will be created with default parameters.

If object has parameters to be filled in any case, the properties dialog box opens regardless of the box value.

- **Order control** – allows to change order of objects display in the structure tree.

Bottom part of the **Display Settings** tab has list of columns displayed in the column structure window.



This list also contains **Status** system column.

User also can create additional columns in the structure window. To add new column, click  **Create** button, to remove selected column, click  **Delete** button.

Name of the column can be changed in the "transparent" editing mode.

Hide box allows to hide the column temporarily without removal it from the list of displayed parameters.

In the **Filter** tab, if necessary, user can create [filter condition](#) for objects displayed in the structure.

To manage column display order in the structure window, use  and  buttons.

Column can be of following types: "Parameter", "Formula" or "Dynamic". Column type is set in the **Type** field.

Column of "Parameter" type allows to display value of the linked object parameter. Parameter is selected in the **Value** field. Data display format is selected in the **Format** field.

Column of "Formula" type is used to display the value resulted from macro. Macro code is entered in the **Value** field.

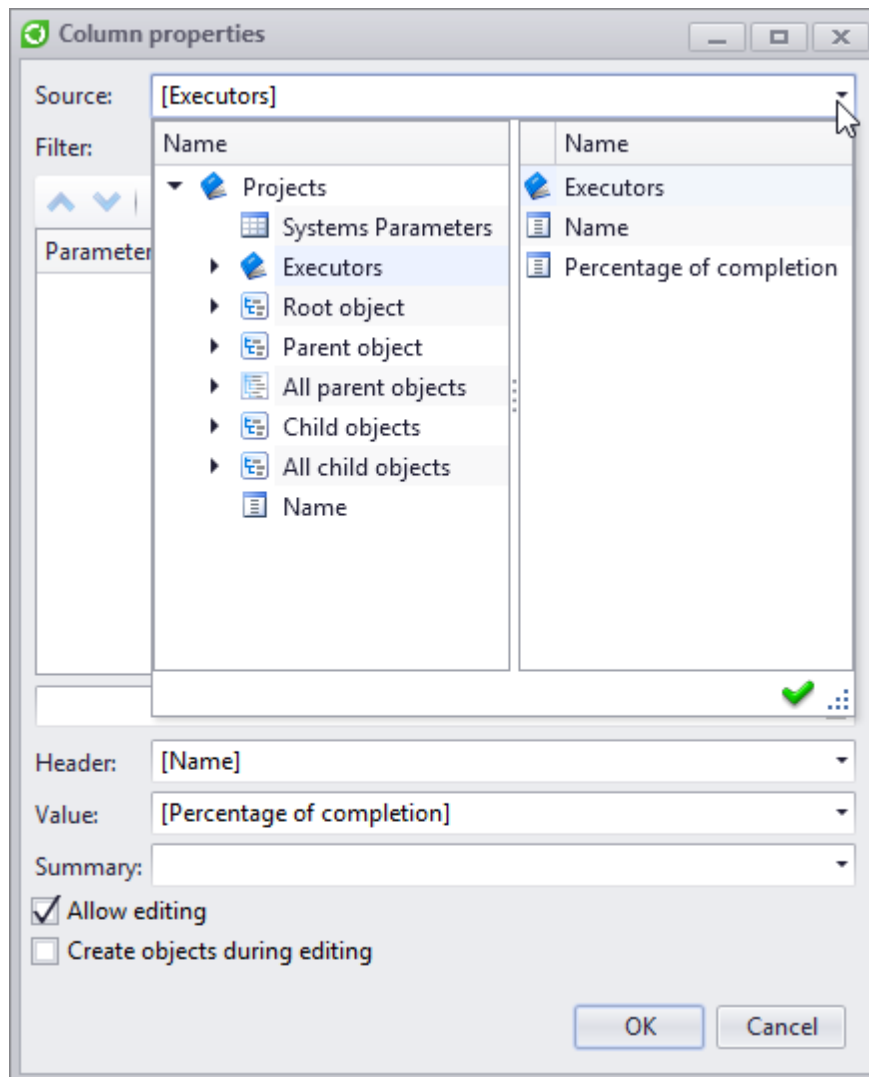
Column of "Dynamic" type can be deployed to several columns depending on certain list of objects. At each structure level of the dynamic column user can set up following parameters:

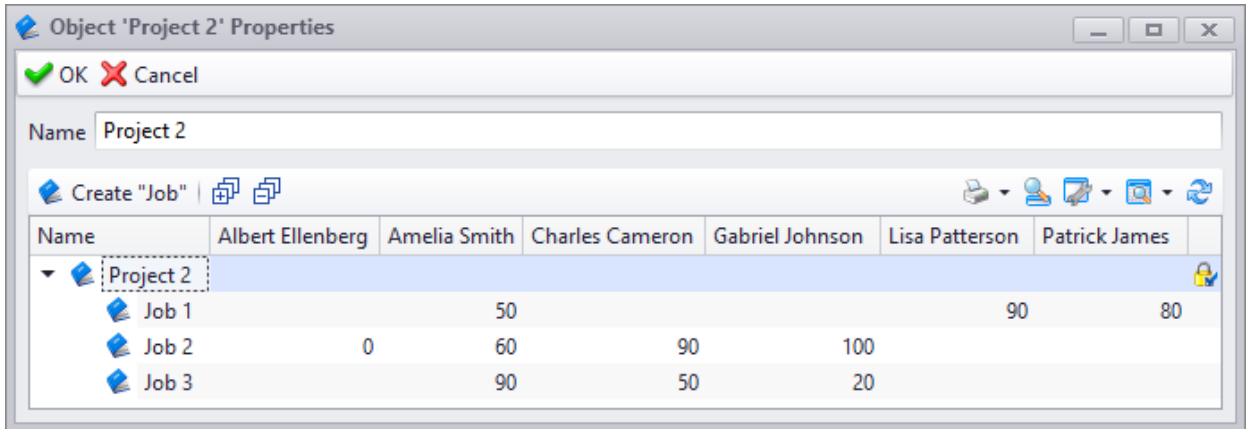
- **Source** – pathway to the list of objects according to which dynamic columns are generated.
- **Filter** – filter for source objects.
- **Title** – pathway to the parameter of the objects list which sets title of the column. Number of columns corresponds to the number of detected parameter values.

- Value – pathway to the parameter of the objects list which sets value to be displayed in the column.


Summary field makes it possible to select a mode for aggregation of values for several objects with the same title.

Allow editing box enables transparent editor mode for the values in the dynamic columns. If the **Create objects during editing** is checked together with the **Allow editing** box, the system gives access to enter values in the empty cells of the dynamic column. Corresponding objects of the objects list will be created automatically.






Name	Albert Ellenberg	Amelia Smith	Charles Cameron	Gabriel Johnson	Lisa Patterson	Patrick James
Project 2						
Job 1		50			90	80
Job 2	0	60	90	100		
Job 3		90	50	20		

To clear the fields, click .

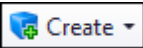
Setup of highlighting by condition

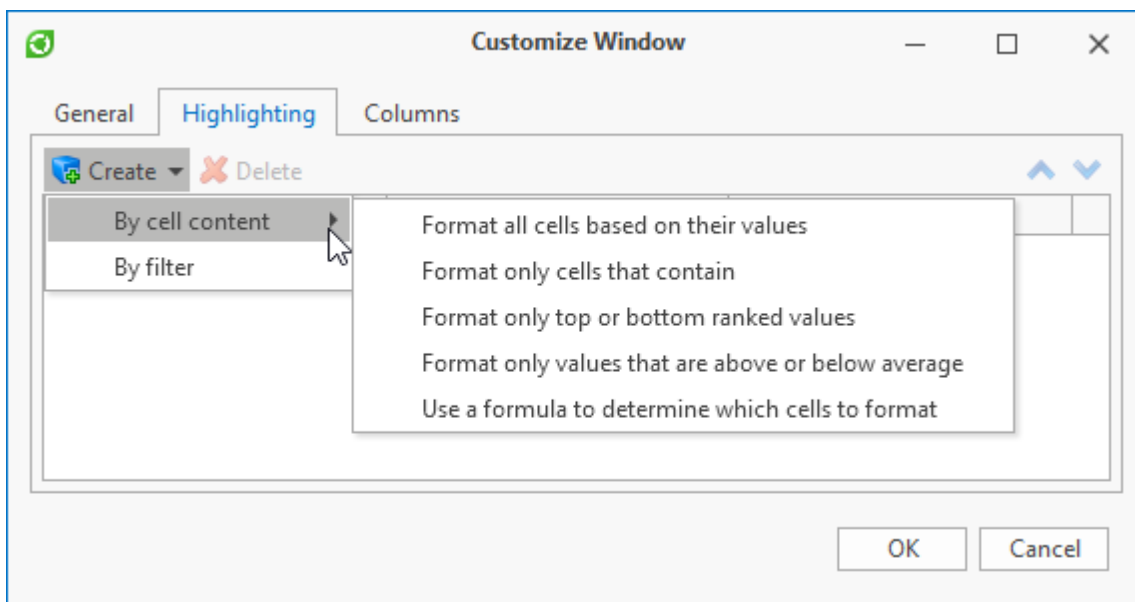
Highlighting of data by set condition is a convenient tool to analyze data and to review clearly arranged results. Highlighting is performed by editing cells – user changes appearance of its contents. User can change text font, color, style and size, background color. Apart from value, cell can display icon from standard set (arrow, figure, indicator, etc.).

Only those cells are edited which value complies with the condition set by user. Condition on basis of which values are selected and final cell format are saved as a highlighting rule. Thereby, when user edits data in the dataset, he/she doesn't need to search for and select required cells again as highlighting rule will be applied automatically.

User can set highlighting rules in the **Highlighting** tab opened by option **Customize > Customize Window** ( button on the toolbar).

In this case, highlighting settings for "Tree" and "List" display mode are made separately.

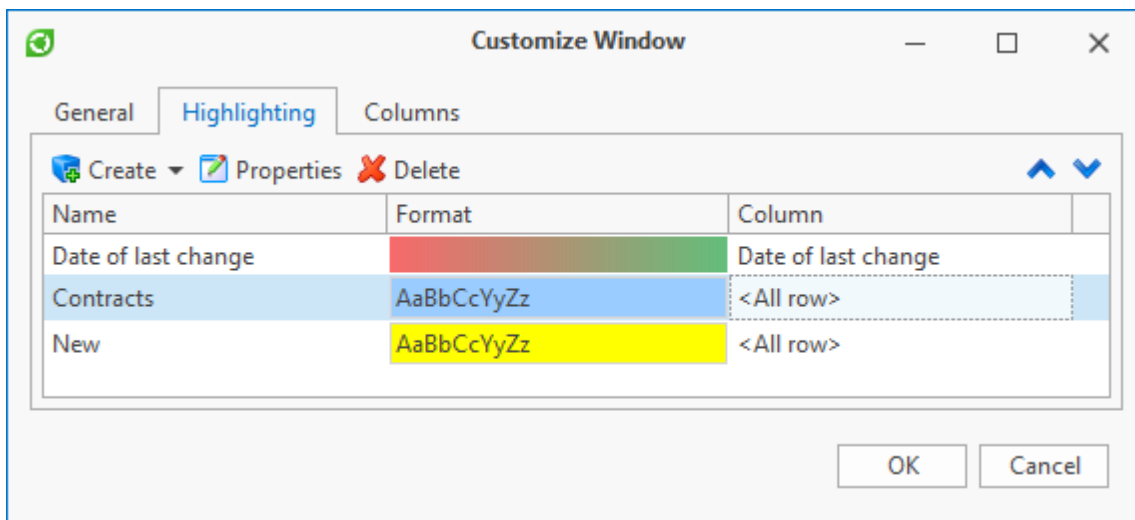
To create highlighting rule, click  button. The system opens list of available options for data highlighting.



More information on these options is provided in the paragraphs below.

If there are several contradictory rules applied to one object, only the highlighting rule in the bottom of the list will be applied.

To manage order of the rules on the **Highlighting** tab of the **Customize Window** window, use  and  buttons.



Format all cells based on their values

This type of format allows to select all cells of the selected column on basis of their values.

When user creates new highlighting rule, he/she sets its name and display settings for cells with data.

Format can be performed based on values of the selected column cells or based on result of

set formula calculation.

To apply first format option, select "Field name" in the **Type** list and in the **Value** field enter name of the column the cells of which to be formatted.

This list contains only those columns visible in the dataset window.

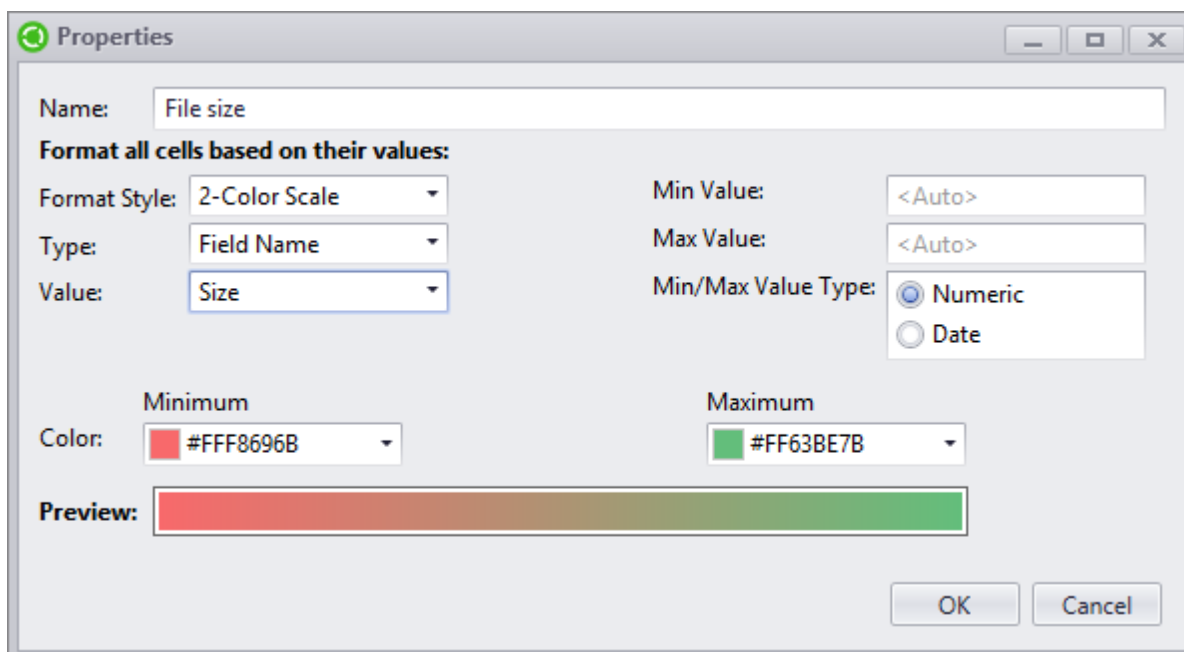
To apply second format option, select "[Expression](#)" value in the **Type** field.

Minimum and maximum values can be entered manually in the corresponding fields. If these fields are left unfilled, the system will automatically select minimum and maximum values out of the values in the column.

Value type option button displays values of which type (number or date) are in the column selected in the **Value** field.

Format Style list contains following cell format styles:

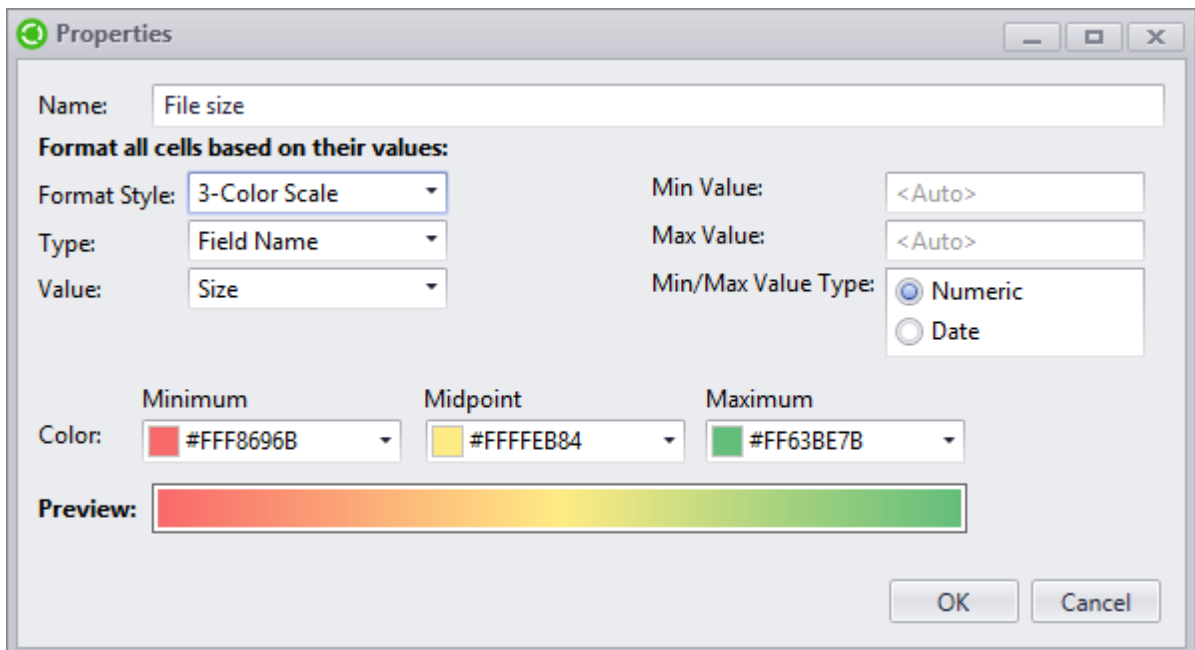
1. 2-Color Scale – all cells in the selected column will be filled with 2-color gradient. This format style is used to compare values in the column. User can select colors to display maximum and minimum values. Color of other cells will be determined based on its value in comparison with maximum and minimum values in the column. For example, with red and green scale cells with high values will be greener and cells with low values will be more red.



Format result will look in the following manner:

Name	Size	Date of last change
Pin.GRB	7581	12.09.2018 11:31:42
Pin1.GRB	7845	12.09.2018 11:31:42
Screw.GRB	8583	12.09.2018 11:31:41
Hinge Bolt.GRB	8928	12.09.2018 11:31:41
Drill Bushing.GRB	9726	12.09.2018 11:31:42
bolt.grb	11130	12.09.2018 11:31:40
Replaceable Bushing.GRB	11273	12.09.2018 11:31:42
Screw_2.GRB	11302	12.09.2018 11:31:41
Knob.grb	11607	12.09.2018 11:31:41
Fork.GRB	11721	12.09.2018 11:31:41
Lid.GRB	15423	12.09.2018 11:31:41
Body.grb	16028	12.09.2018 11:31:41
_Bushing Block Assembly.grb	24827	12.09.2018 11:33:39

2. 3-color scale – highlighting is performed similar to previous type. User sets additionally the third color – for median value.

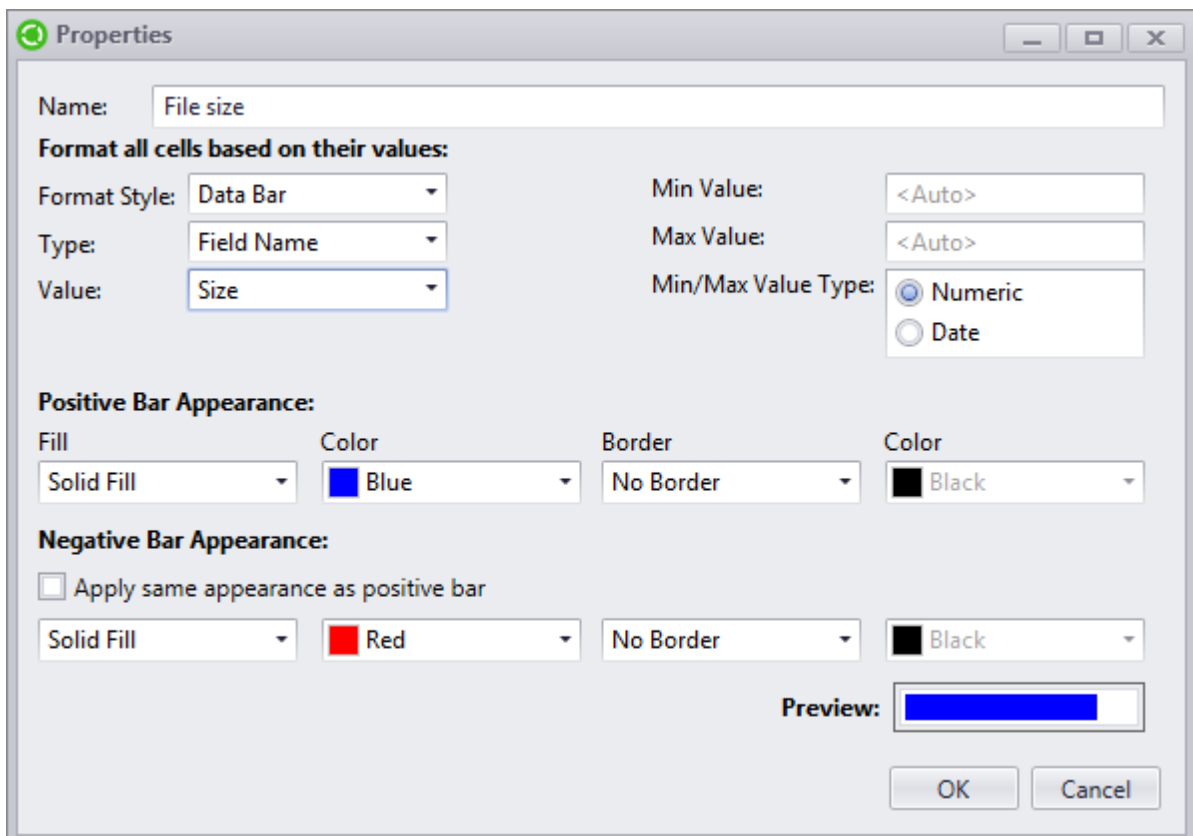


Format result:

Name	Size	Date of last change
Pin.GRB	7581	12.09.2018 11:31:42
Pin1.GRB	7845	12.09.2018 11:31:42
Screw.GRB	8583	12.09.2018 11:31:41
Hinge Bolt.GRB	8928	12.09.2018 11:31:41
Drill Bushing.GRB	9726	12.09.2018 11:31:42
bolt.grb	11130	12.09.2018 11:31:40
Replaceable Bushing.GRB	11273	12.09.2018 11:31:42
Screw_2.GRB	11302	12.09.2018 11:31:41
Knob.grb	11607	12.09.2018 11:31:41
Fork.GRB	11721	12.09.2018 11:31:41
Lid.GRB	15423	12.09.2018 11:31:41
Body.grb	16028	12.09.2018 11:31:41
_Bushing Block Assembly.grb	24827	12.09.2018 11:33:39

- Data bar – each cell of the selected column contains data bar rectangle. In this case maximum value in the column is represented as a rectangle which width equals cell width. Length of rectangles in other cells of the column is set against its maximum value. Fill of rectangle can be solid or gradient; color is set by user. Rectangle can have borders of set color.

There are separate settings for negative values.



Format result:

Name	Size	Date of last change
Pin.GRB	7581	12.09.2018 11:31:42
Pin1.GRB	7845	12.09.2018 11:31:42
Screw.GRB	8583	12.09.2018 11:31:41
Hinge Bolt.GRB	8928	12.09.2018 11:31:41
Drill Bushing.GRB	9726	12.09.2018 11:31:42
bolt.grb	11130	12.09.2018 11:31:40
Replaceable Bushing.GRB	11273	12.09.2018 11:31:42
Screw_2.GRB	11302	12.09.2018 11:31:41
Knob.grb	11607	12.09.2018 11:31:41
Fork.GRB	11721	12.09.2018 11:31:41
Lid.GRB	15423	12.09.2018 11:31:41
Body.grb	16028	12.09.2018 11:31:41
_Bushing Block Assembly.grb	24827	12.09.2018 11:33:39

4. Icon sets – each cell of selected column contains icon corresponding to the value of the cell. **Icon style** list contains available sets of icons. Value type (percent or number) is set in the **Value type** field. **[Reverse Icon Order]** button controls order of the icons.

Properties

Name: File size

Format all cells based on their values:

Format Style: Icon Sets
 Type: Field Name
 Value: Size

Min Value: <Auto>
 Max Value: <Auto>
 Min/Max Value Type: Numeric
 Date

Icon Style: Reverse Icon Order

Value Type: Percent

Display each icon according to these rules:

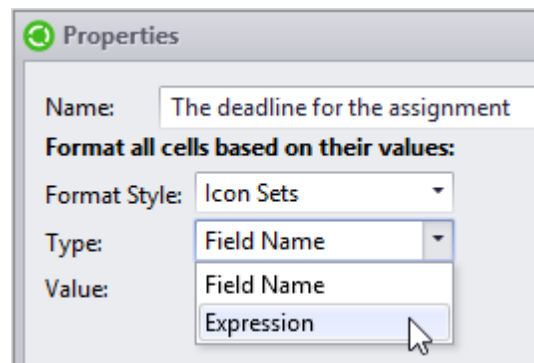
	when value is	>=	66,67
	when < 67 and	>=	33,33
	when < 33 and	>=	0,00

OK Cancel

Format result:

	Name	Size	Date of last change
	Pin.GRB	7581	12.09.2018 11:31:42
	Pin1.GRB	7845	12.09.2018 11:31:42
	Screw.GRB	8583	12.09.2018 11:31:41
	Hinge Bolt.GRB	8928	12.09.2018 11:31:41
	Drill Bushing.GRB	9726	12.09.2018 11:31:42
	bolt.grb	11130	12.09.2018 11:31:40
	Replaceable Bushing.GRB	11273	12.09.2018 11:31:42
	Screw_2.GRB	11302	12.09.2018 11:31:41
	Knob.grb	11607	12.09.2018 11:31:41
	Fork.GRB	11721	12.09.2018 11:31:41
	Lid.GRB	15423	12.09.2018 11:31:41
	Body.grb	16028	12.09.2018 11:31:41
	_Bushing Block Assembly.grb	24827	12.09.2018 11:33:39

Apart "Field name" value type there is also "Expression" value type for format. In this case, user can perform various actions with it: arithmetic, logic operations, etc. Highlighting will be performed based on result of such calculation.




For example, for each assignment user can set number of days spent on its execution. Depending on the deadline, corresponding icons will be set in the "Name" column cells.

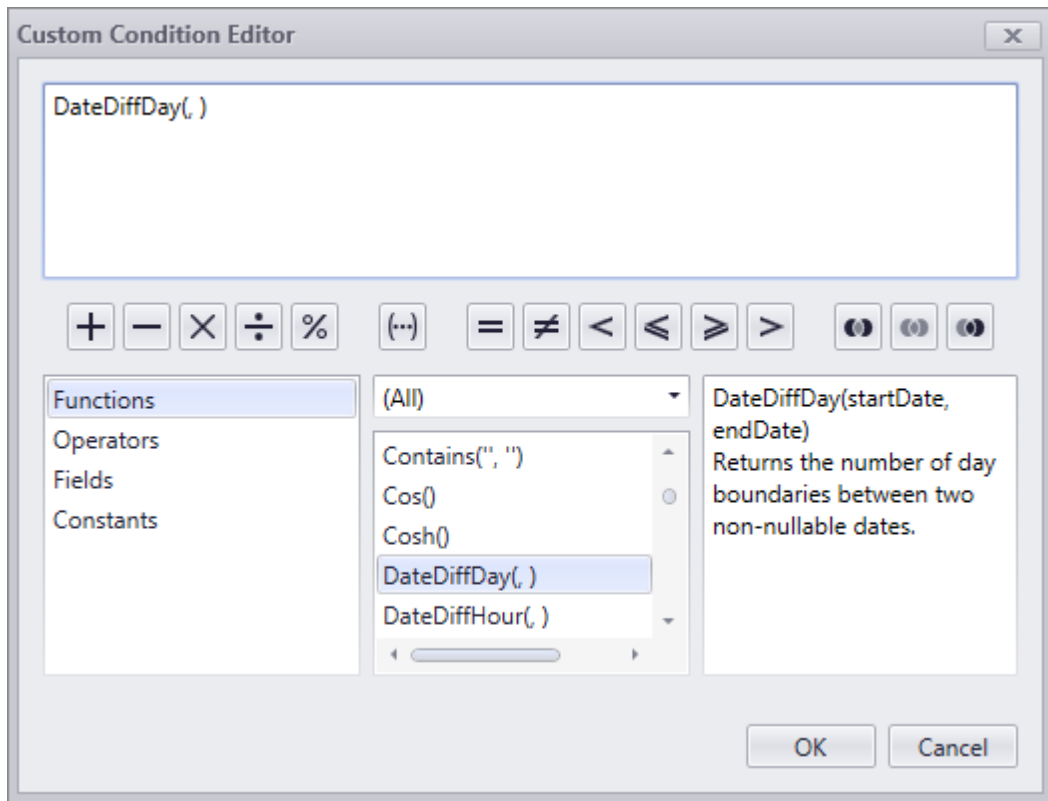
Column which cells will be marked with icons is set in a following way:

1. In the **Type** list select "Field name" value.
2. In the **Value** field set name of the required column – "Name".

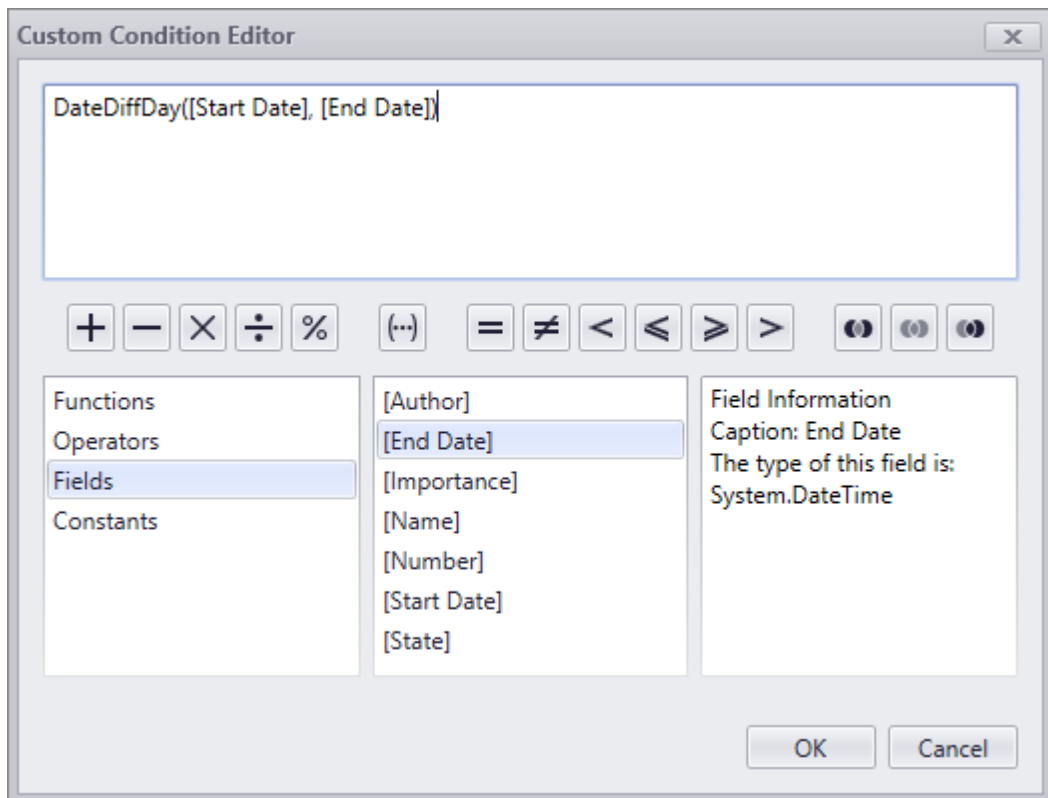
Then calculate number of days spent on execution of the assignment:

1. In the **Type** list select "Expression" value.
2.  button in the **Value** field opens expression editor window.

- In the expression user can use various functions, math and logic operators, values of dataset fields and literal constants. For this example, user needs to select function which sets number of days between two dates.

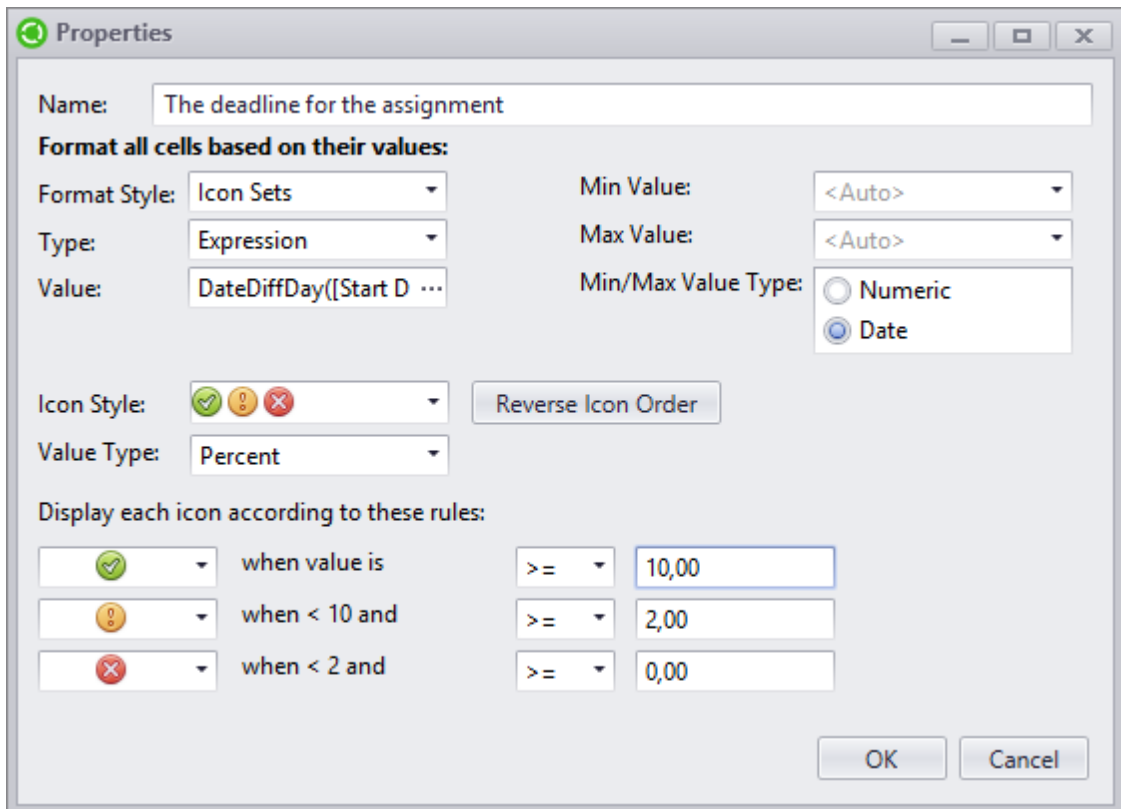


- Start date and End date dataset fields will be variables.



To enter functions and fields in the expression, double-click of the left mouse button is used.

- Other parameters of format conditions are set as on the picture below. Values range are set in numeric format. Reverse icon order is enabled.



- Format result is displayed on the picture below.

Number	Name	Start Date	End Date
1	Advertising in magazines	11.02.2019 10:00:00	15.02.2019 18:00:00
4	Advertising materials	18.02.2019 10:00:00	22.04.2019 18:00:00
5	Advertising materials - text	18.02.2019 10:00:00	22.04.2019 18:00:00
6	Advertising materials - illustrations	18.02.2019 10:00:00	22.04.2019 18:00:00

Format only cells that contain certain value

With this option cells which comply with condition set by user or strings that contain such cells are highlighted with color, font or icon.

In the properties window for new highlighting window user enters name of the column the values of which will be checked for compliance with highlighting condition. **Highlight** option selector allows to select what will be selected: separate cell or whole string.

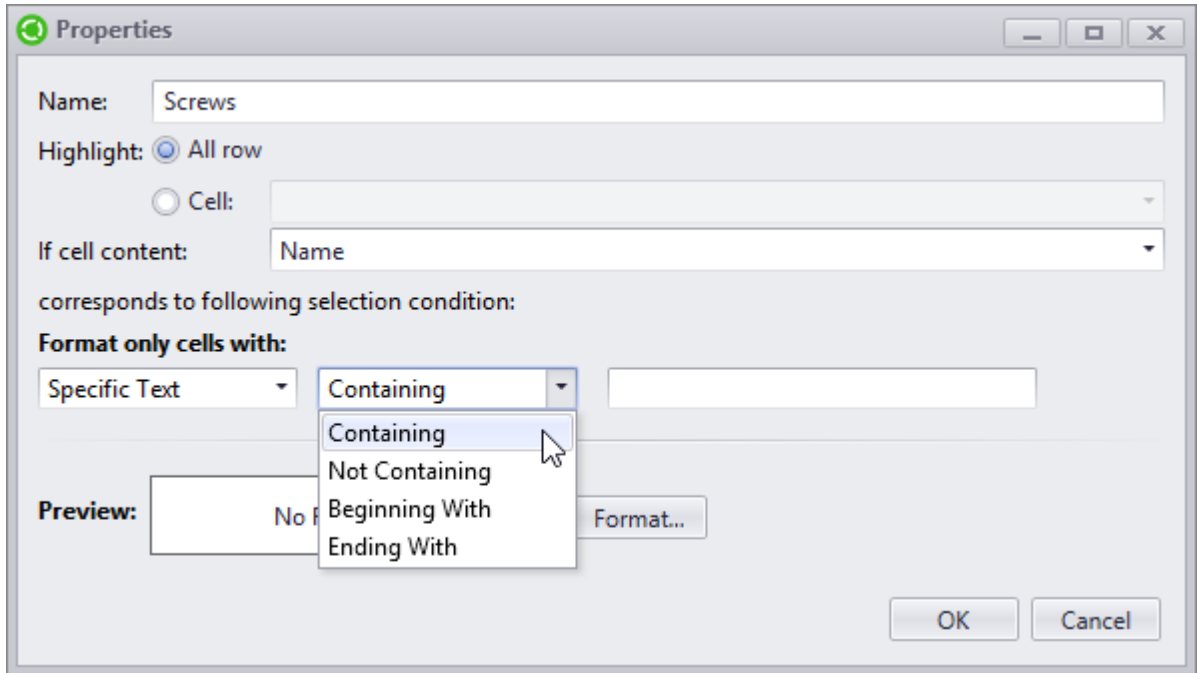
Highlighting conditions consists of several fields.

In the first field user can select following options:

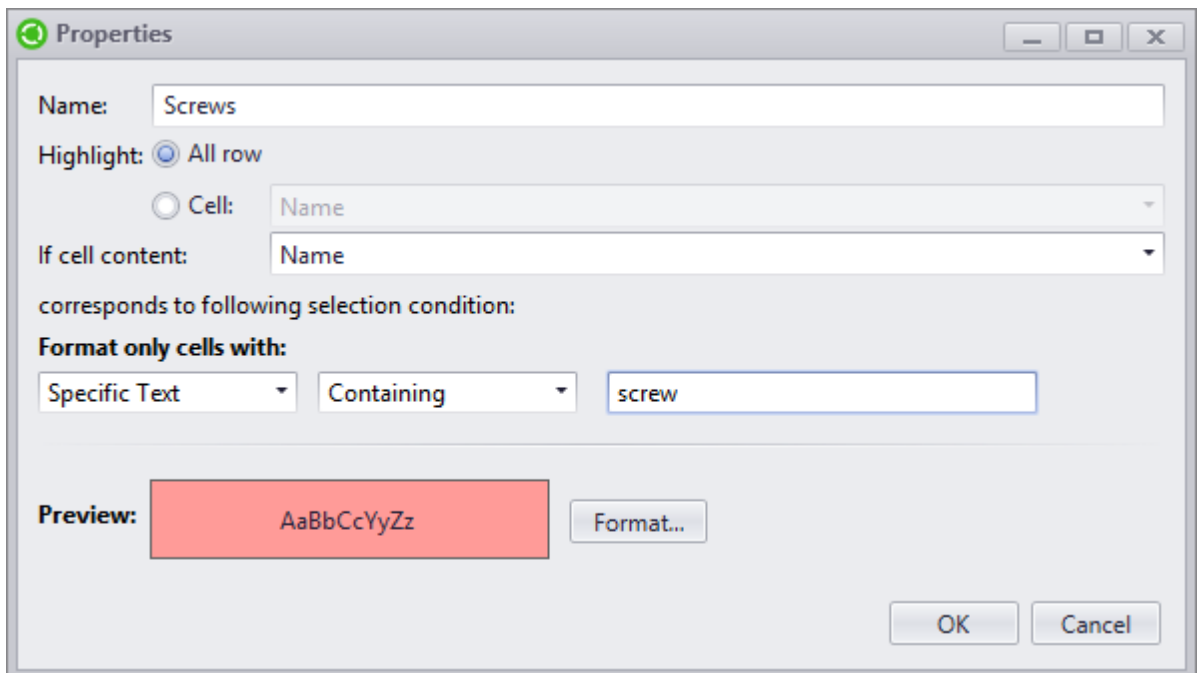
- Cell Value – allows to look for value of "Text", "Number" and "Date" type.

- Specific Text – looks for value including entered set of symbols.
- Date – used to look for dates.
- Blanks – allows to look for empty cells.
- No blanks – looks for cells which contain any data.

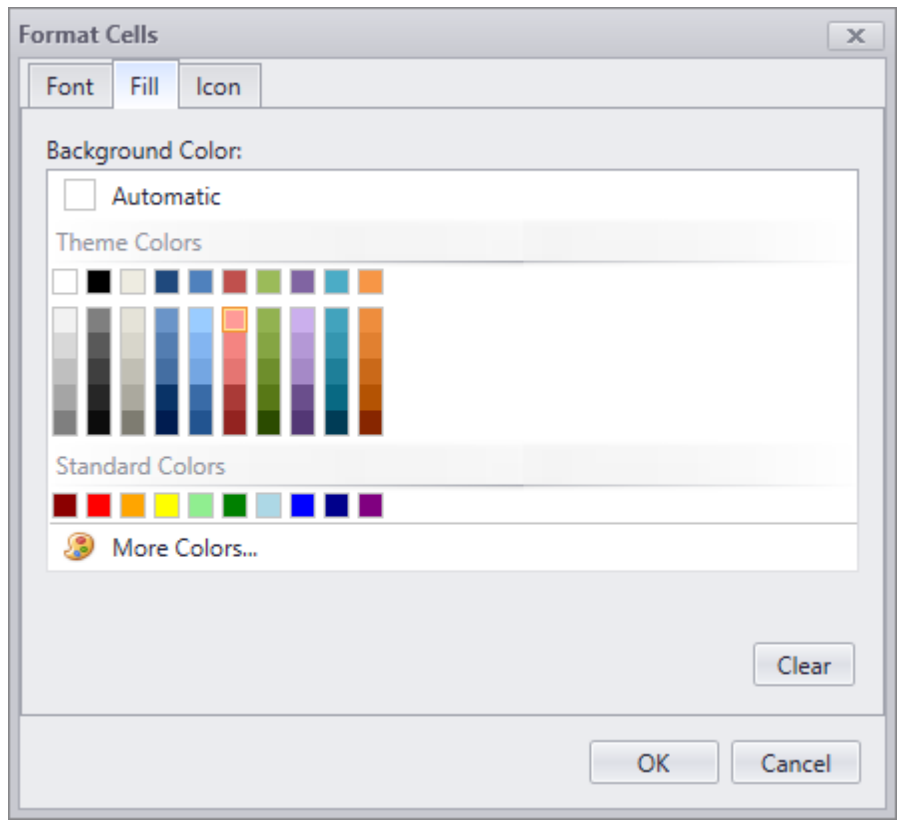
Second field contains list of available actions.



In the next field (fields) user enters search value or its part.



[Format] button opens window where user sets highlighting settings.

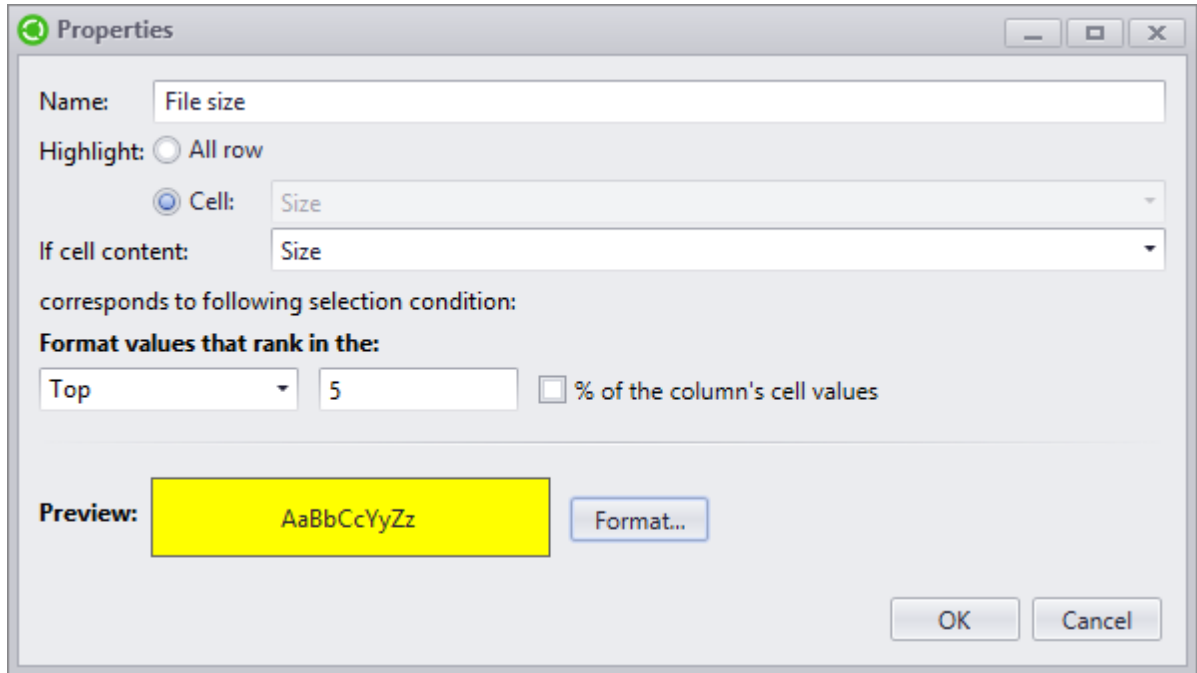


Format result for condition displayed on the picture above:

	Name	Size	Date of last change
	Pin.GRB	7581	12.09.2018 11:31:42
	Pin1.GRB	7845	12.09.2018 11:31:42
	Screw.GRB	8583	12.09.2018 11:31:41
	Hinge Bolt.GRB	8928	12.09.2018 11:31:41
	Drill Bushing.GRB	9726	12.09.2018 11:31:42
	bolt.grb	11130	12.09.2018 11:31:40
	Replaceable Bushing.GRB	11273	12.09.2018 11:31:42
	Screw_2.GRB	11302	12.09.2018 11:31:41
	Knob.grb	11607	12.09.2018 11:31:41
	Fork.GRB	11721	12.09.2018 11:31:41
	Lid.GRB	15423	12.09.2018 11:31:41
	Body.grb	16028	12.09.2018 11:31:41
	_Bushing Block Assembly.grb	24827	12.09.2018 11:33:39

Format only top or bottom rated values

With this type of format only those cells are highlighted which have top or bottom value in the selected column. Number of such cells is set as number or percent. Highlight settings are made in the window opened via **[Format]** button. The system can highlight whole string or separate cell.

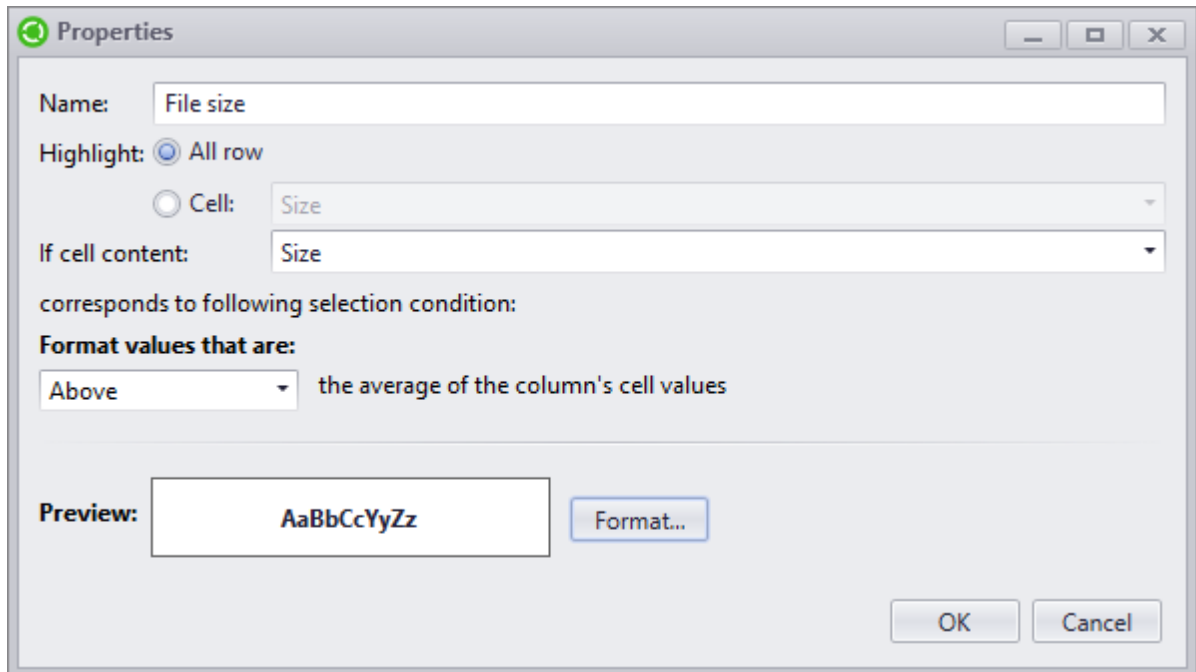


Format result for condition displayed on the picture above:

Name	Size	Date of last change
_Bushing Block Assembly.grb	24827	12.09.2018 11:33:39
Body.grb	16028	12.09.2018 11:31:41
Lid.GRB	15423	12.09.2018 11:31:41
Fork.GRB	11721	12.09.2018 11:31:41
Knob.grb	11607	12.09.2018 11:31:41
Screw_2.GRB	11302	12.09.2018 11:31:41
Replaceable Bushing.GRB	11273	12.09.2018 11:31:42
bolt.grb	11130	12.09.2018 11:31:40
Drill Bushing.GRB	9726	12.09.2018 11:31:42
Hinge Bolt.GRB	8928	12.09.2018 11:31:41
Screw.GRB	8583	12.09.2018 11:31:41
Pin1.GRB	7845	12.09.2018 11:31:42
Pin.GRB	7581	12.09.2018 11:31:42

Format only values that are above or below average

User sets column with values which are the basis for format, and value rate is above or below average value in the column. [Format] button opens the window where user makes highlighting settings. The system highlights either whole string or separate cell.

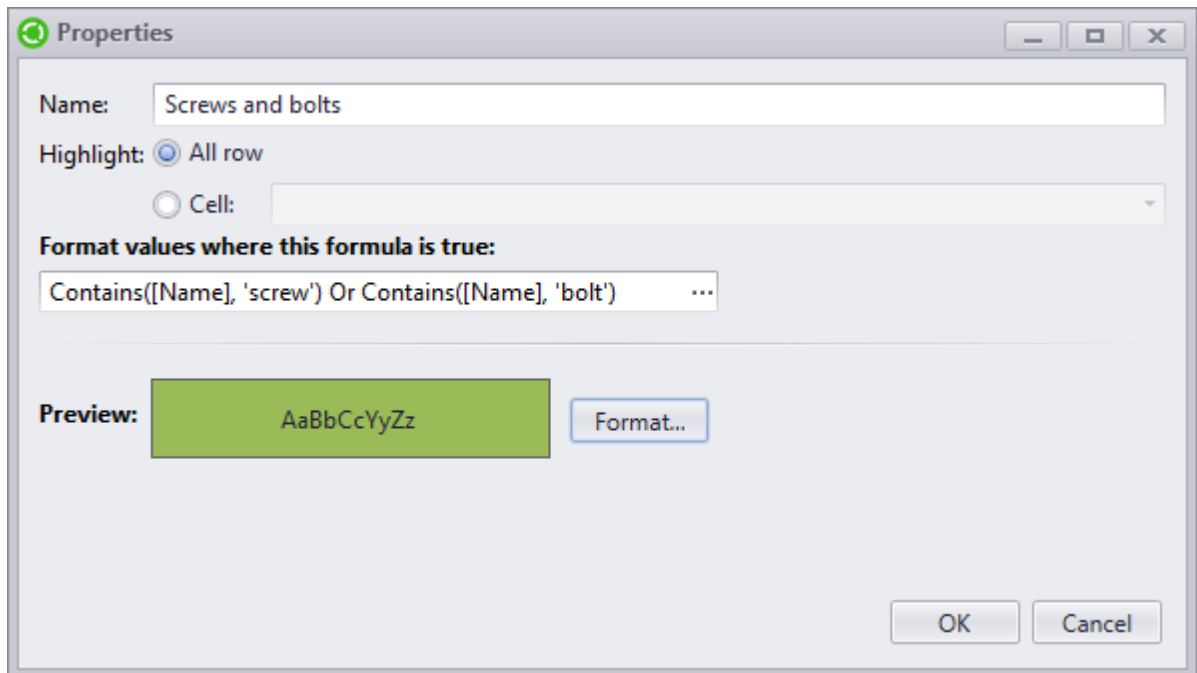


Format results:

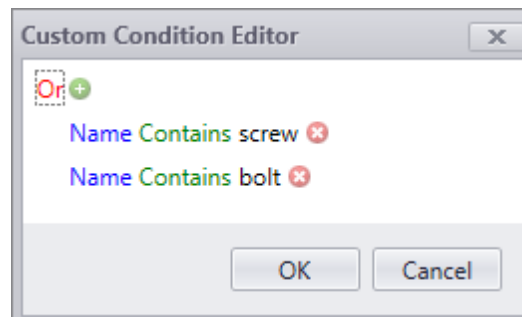
Name	Size	Date of last change
_Bushing Block Assembly.grb	24827	12.09.2018 11:33:39
Body.grb	16028	12.09.2018 11:31:41
Lid.GRB	15423	12.09.2018 11:31:41
Fork.GRB	11721	12.09.2018 11:31:41
Knob.grb	11607	12.09.2018 11:31:41
Screw_2.GRB	11302	12.09.2018 11:31:41
Replaceable Bushing.GRB	11273	12.09.2018 11:31:42
bolt.grb	11130	12.09.2018 11:31:40
Drill Bushing.GRB	9726	12.09.2018 11:31:42
Hinge Bolt.GRB	8928	12.09.2018 11:31:41
Screw.GRB	8583	12.09.2018 11:31:41
Pin1.GRB	7845	12.09.2018 11:31:42
Pin.GRB	7581	12.09.2018 11:31:42

Format via formula

With this type of format user can create complex condition with which search cells must comply.



 button in the field opens [the condition editor](#) field.



Whole string or separate cell of the selected column can be formatted.

Highlighting settings are made in the window opened via **[Format]** button.

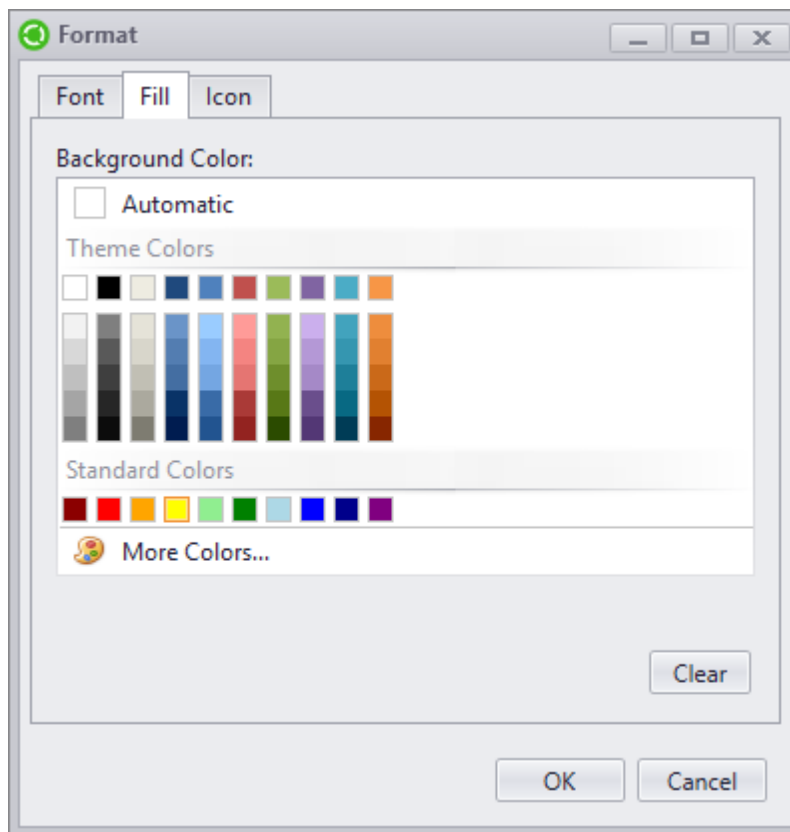
	Name	Size	Date of last change
	_Bushing Block Assembly.grb	24827	12.09.2018 11:33:39
	Body.grb	16028	12.09.2018 11:31:41
	bolt.grb	11130	12.09.2018 11:31:40
	Drill Bushing.GRB	9726	12.09.2018 11:31:42
	Fork.GRB	11721	12.09.2018 11:31:41
	Hinge Bolt.GRB	8928	12.09.2018 11:31:41
	Knob.grb	11607	12.09.2018 11:31:41
	Lid.GRB	15423	12.09.2018 11:31:41
	Pin.GRB	7581	12.09.2018 11:31:42
	Pin1.GRB	7845	12.09.2018 11:31:42
	Replaceable Bushing.GRB	11273	12.09.2018 11:31:42
	Screw.GRB	8583	12.09.2018 11:31:41
	Screw_2.GRB	11302	12.09.2018 11:31:41

Format by filter

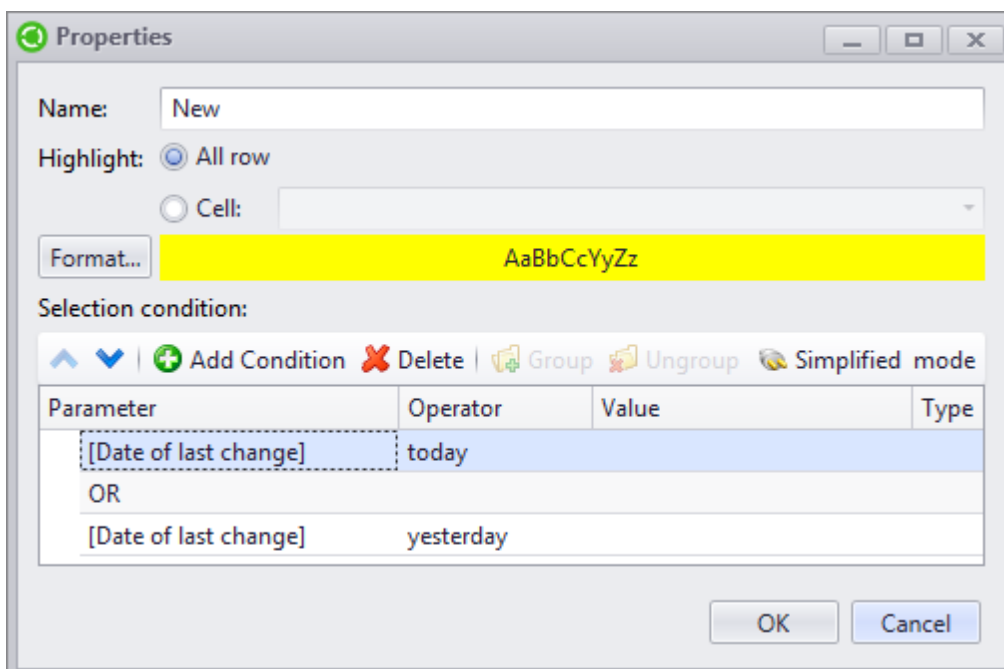
There is following example of highlighting data by filter: in the "Files" dataset user needs to highlight objects which were edited today or yesterday via background color.

	Name	Date of last change
	30.00.00 Ball Valve Assembly.grb	13.09.2018 9:27:40
	30.00.01 Body.grb	12.09.2018 17:00:55
	30.00.02 O-Ring.grb	23.05.2018 10:09:33
	30.00.03 Bush.grb	12.09.2018 17:00:40
	30.00.04 Ball.grb	23.05.2018 10:09:53
	30.00.05 Seat.grb	12.09.2018 17:00:23
	30.00.06 End Cap.grb	23.05.2018 10:10:36
	30.01.00 Shaft Assembly .grb	23.05.2018 10:14:23
	30.01.01 Shaft .grb	23.05.2018 10:09:24

1. In the properties window for new highlighting rule user enters its name and selects color background in the window opened via **[Format]** button.



2. Then, by clicking **+ Add Condition** button, user creates selection conditions for objects to be selected.



3. From the list of parameters user selects parameter **Date of last change** and from the list of operators – **Today**.

As in this example no equation and comparison operations, as well as mask searches, user doesn't need to set value and its type.

4. Then user should add another condition which is created similar to previous. In the list of operators user selects **Yesterday**.
5. Two conditions can be connected with each other via functions **AND** and **OR**. In this example user selects **OR** function.


Creation of highlighting conditions is similar to creation of conditions for objects search and data filters. More information is provided in the paragraph "[Search panel](#)" of the Chapter "Search".

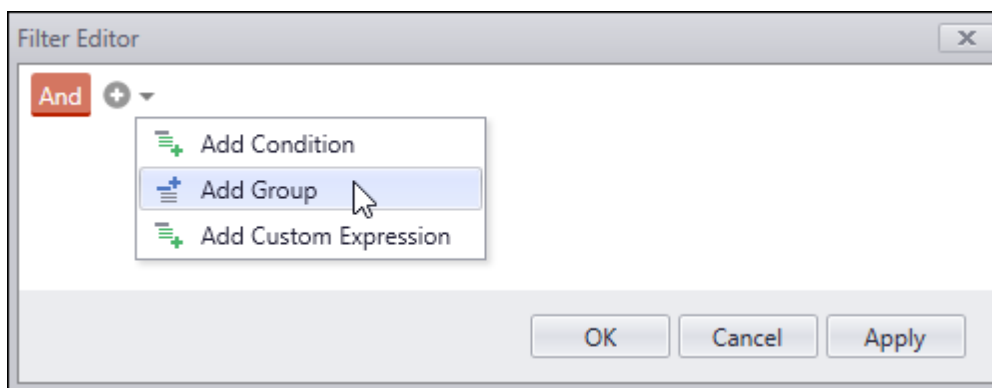
Filter setup

Objects in the dataset window can be filtered by set conditions. Objects can be filtered when the dataset is opened or in the opened working window via filter editor.

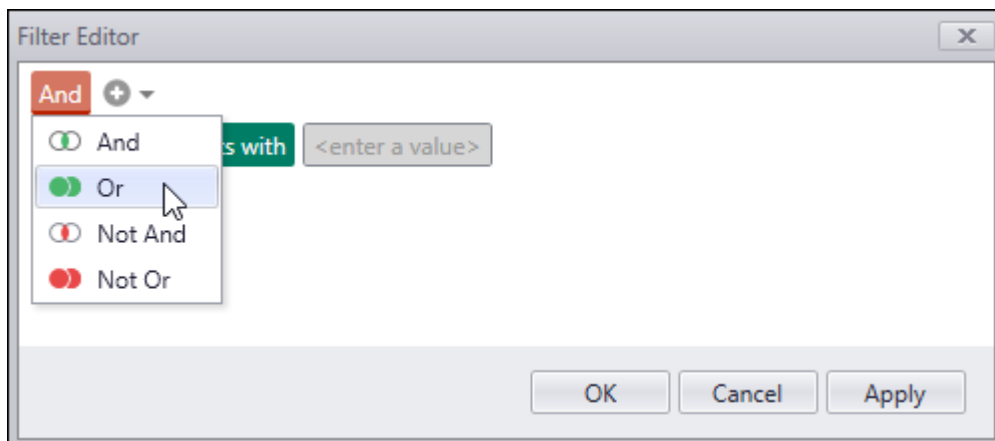
Filter Editor

To open the filter editor in the right-click menu of the column title string select option **Filter editor**. It makes it possible to create complex filters including groups of conditions which are grouped by various logical functions.


The menu opened by the  button in the **Filter editor** window has options to add conditions to the filter, as well as to the custom expression.



The **Add group** option creates new group of filter conditions in the filter editor window. By default, "AND" operator is used to group the conditions which can be edited by clicking on it and selecting new one from the drop-down list.



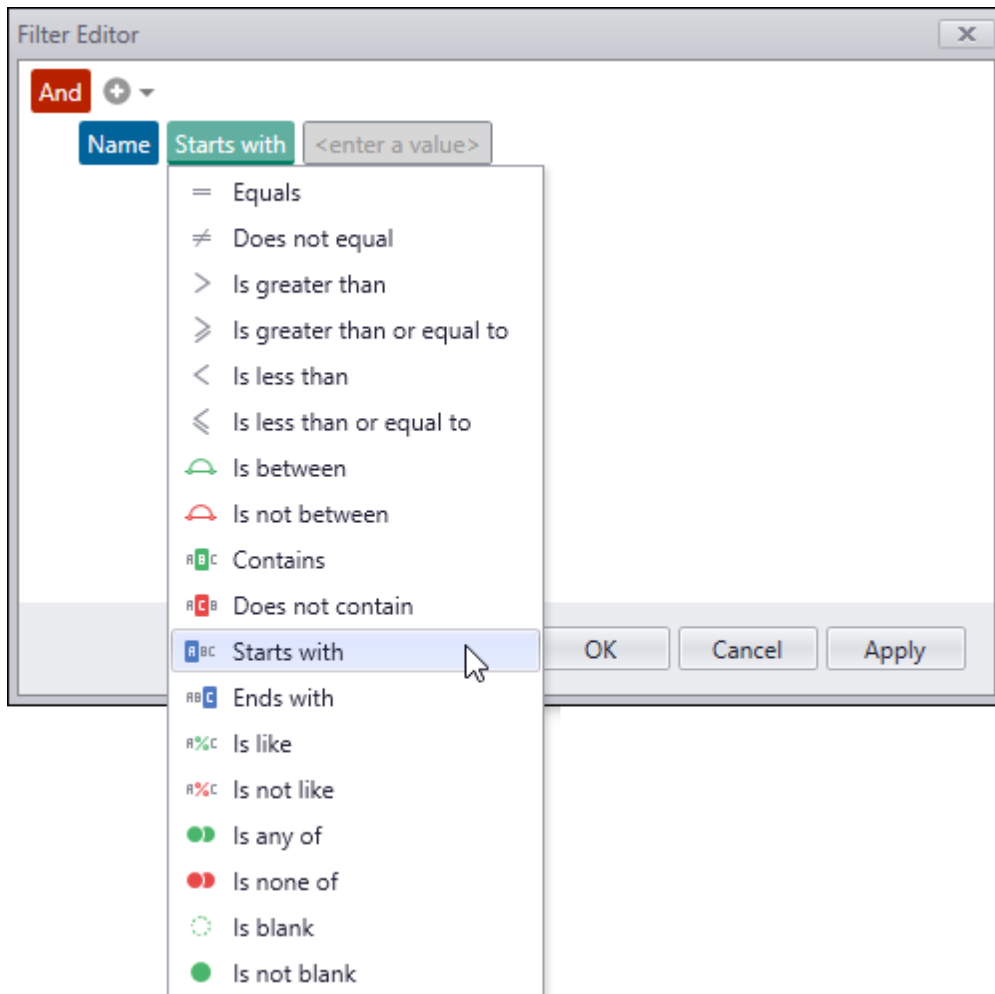
The **Add condition** option creates a new filter condition in the selected group.

This option is also represented by the  button.

Filter condition has three components:

- Dataset objects parameter – selected from the list containing the names of the columns displayed in the window.
- Comparison operator – selected from the list of available operators.

- Parameter value – field with "Enter a value" text makes it possible to enter initial value of the indicated parameter or its part both manually or from the proposed list.



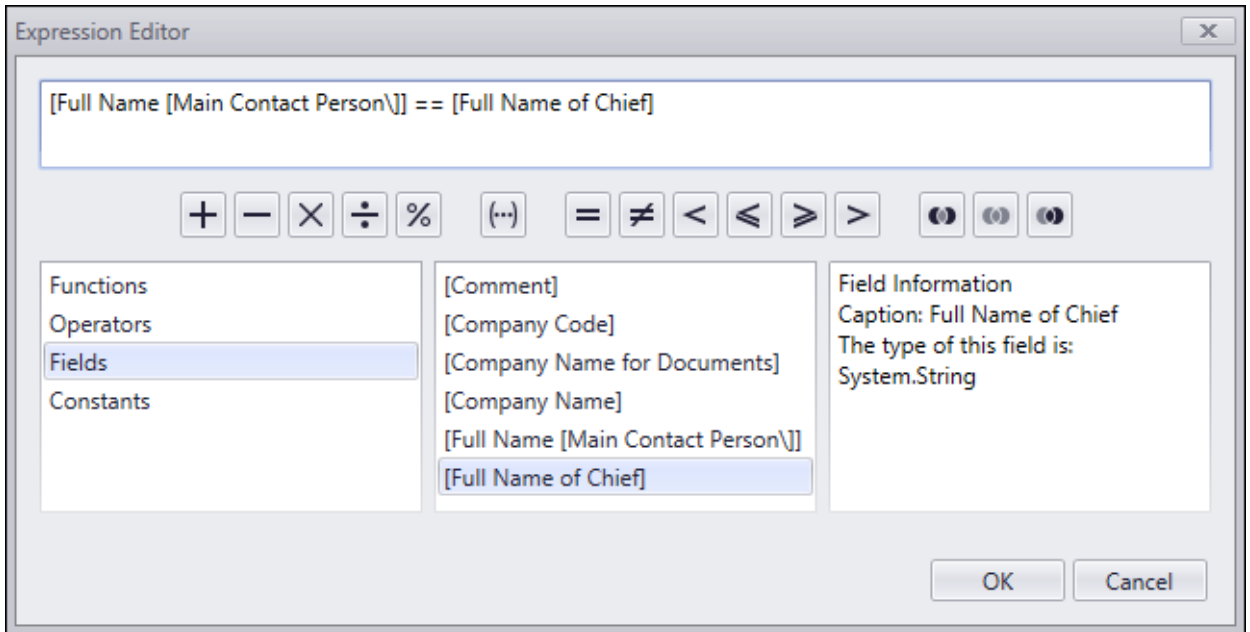
The custom expressions editor helps to create more complex filter conditions including several parameters of the dataset objects via math, logical, string and other functions. To open expressions editor window, select the **Add custom expression** option then point at the new field with the "Enter expression" text and click the left mouse button.


Menu located in the left part of the **Expression editor** window has following sections:

- Functions – list of available functions: date-time, logical, math, string functions.
- Operators – list of available operators: arithmetic, logical, comparison operators.
- Fields – list of columns displayed in the dataset window.
- Constants – logical constants.

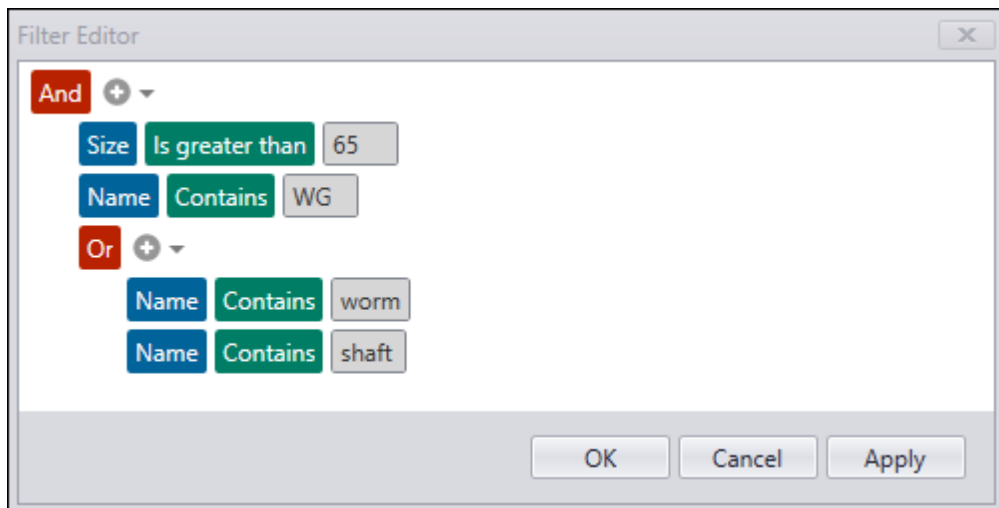
Contents of the section are displayed in the window center. Left mouse button double click adds the selected component to the editor field.

Most frequently used operators are also displayed as button in the upper part of the **Expression editor** window.



To delete filter condition, point at it and click on the  button which appears in the condition string. Group of conditions and custom expressions are deleted in the same manner.

To apply the filter created in the filter editor, click the **[OK]** button or the **[Apply]** button (in this case the filter will be applied without closing the active window). To disable the filter, select the **Clear filter** option in the right-click menu of the column title string.



Search


Various methods for objects search are applied in T-FLEX DOCs.

1. With the help of search panel user can create filter conditions and save it to apply in the window of current dataset, as well as to search for objects and filter list of data for entered value of one of the parameters or its part.
2. Objects search by set value function allows to search for objects in the set search area.

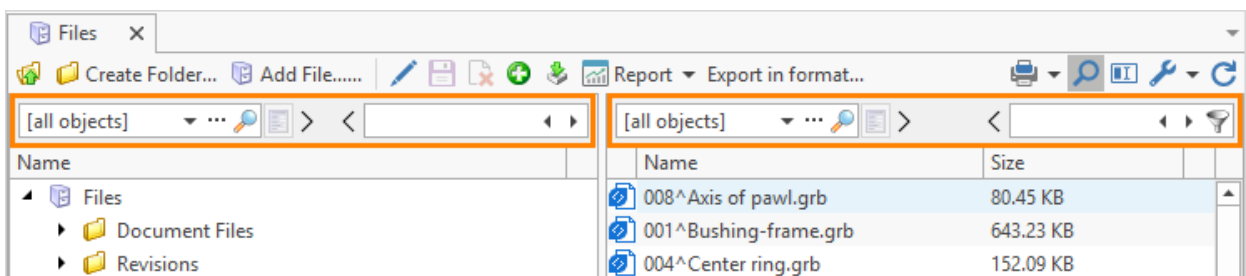
Custom list of datasets and parameters of objects for which search is performed will be used as search area. Search area can be saved and used repeatedly. Search value of parameter is set to the fullest, partially or with the help of the mask.

3. Search query is used to search for objects in one selected dataset. In this case user creates more complex search conditions which can contain various parameters and actions. Value in the search condition can be set not only as certain value or its part, but also as variable or formula. In the case of variable, it can have several values. Search query can be saved for future use.

Search panel

One of T-FLEX DOCs tools for search and filter is search panel which is opened via  button on the toolbar of the dataset window.



Settings for filtration and search in the "Tree" and "List" data display modes are made separately.



Field and buttons in the left part of the panel are used to edit current filter, to create [filters](#) in the "Search Queries" dataset and apply them. Filter is a saved set of conditions for selection of objects to be displayed in the working window. Application of standard filters decreases search time for required objects and allows to display only required data in the working window.

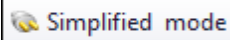
Filters are divided in to common and personal. Common filters are available to all users of the system, personal – only to the current user.

By default, only administrator user can create common filters; all other users can create only personal filters.

By default, **All objects** option is active in the field. To edit current filter, maximize the list and select option **Conditions** or click  button. The system opens **Edit filter** window in the right part of which user can create filter condition via  button.

Edit filter window has two filter condition display modes:

- simplified mode,
- extended mode.

By default, filter condition is displayed in the simplified mode. To switch the mode, click  button.

In the simplified mode user has following fields:

- **Parameter** – used to select parameter of the object for which filtration will be made.
- **Value** – used to enter value with which values of the selected parameter will be compared.
- **Operator** – used to select action for compliance of the search parameter value with the entered one in the filter condition. List of **Operator** field includes only those actions available for the selected parameter. For example, math operations ("=", "<", ">", etc.) and actions for text ("Contains", "Does not contain", "Begins with", etc.) can be used.

If the "Corresponds to mask" operator is selected, following characters can be used to set the template of search value:

1. `_` – replaces any single character. For example, expression "A_" will find all values with two characters and which start with A (A1, A2, Aa, etc.).
2. `%` – replaces any sequence of characters. For example, expression "A%" will find all values starting with A.
3. `[]` – replaces any single character in the `([a-f])` rate or `([abcdef])` set. For example, "[0-9]" – any number, "[abc]" – any of the letters of the set (a, or b, or c), "[12][0-9]" – all values from 10 to 29.
4. `[^]` – replaces any single character out of the `([a-f])` rate or `([abcdef])` set. For example, expression "[^0-9]%" will find all values which do not start with a number.

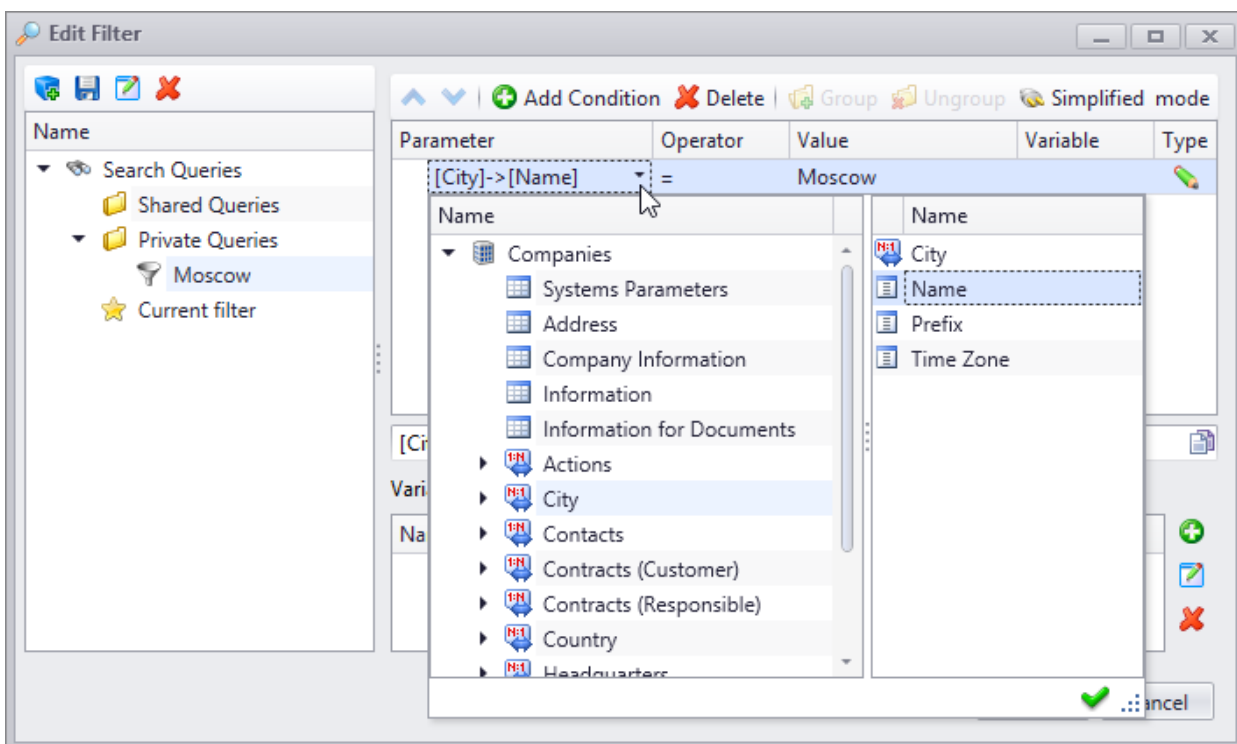
Simplified mode allows to use only parameter value in the filter condition.

In the extended mode user can select various types of values:

- value,
- formula,
- variable.

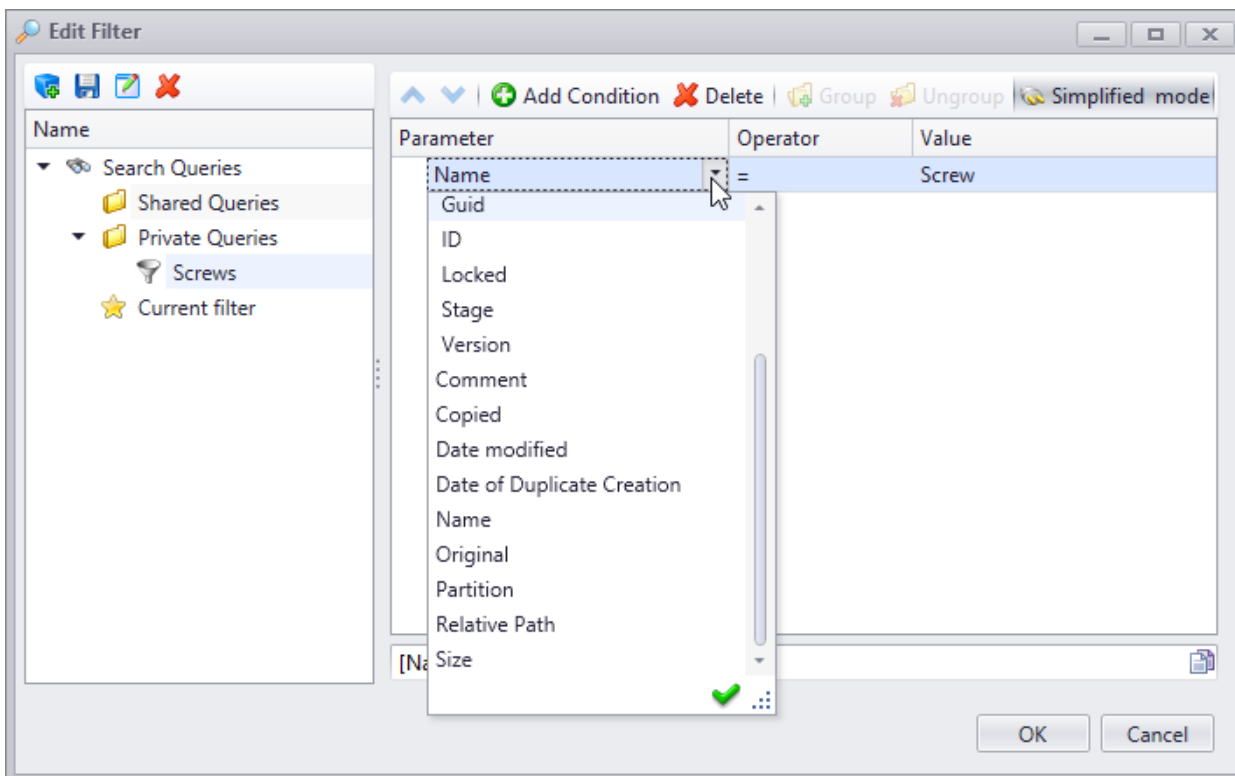
Moreover, in the simplified and extended modes list of available parameters is generated via different methods.

In the extended mode user has access to all parameters of objects in the selected dataset, as well as to dataset linked to it. Right part of the **Parameter** panel contains parameters groups, left part – structure of the selected group.


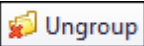



In the [simplified mode](#) limited list of parameters is used which is set by administrator user or responsible employee separately for each dataset.

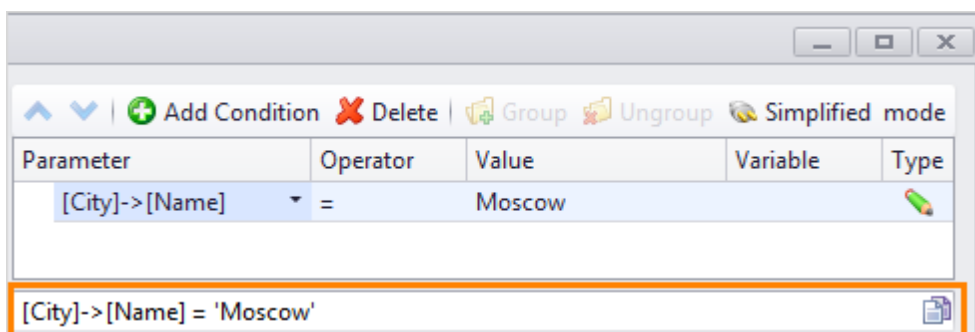
If limited list of parameters is not set for the selected dataset, user will be offered default list of parameters which contains all parameters of objects in the selected dataset without links or hierarchy at the creation on filter condition. Parameters will be ordered alphabetically, system parameters are in the top of the list.





Examples of creation filter conditions in the extended mode are provided in the paragraphs ["Filter condition with value of "Value" type"](#), ["Filter condition with value of "Variable" type"](#) and ["Filter condition with value of "Formula" type"](#).


Filter can contain several conditions which can be grouped by logic operators **AND** or **OR**. To group conditions, click  button (prior to this action select required conditions). To cancel grouping of conditions, click  button.


Created filter condition is displayed in the specific field. If necessary, it can be copied via  button and paste it to the macro code.








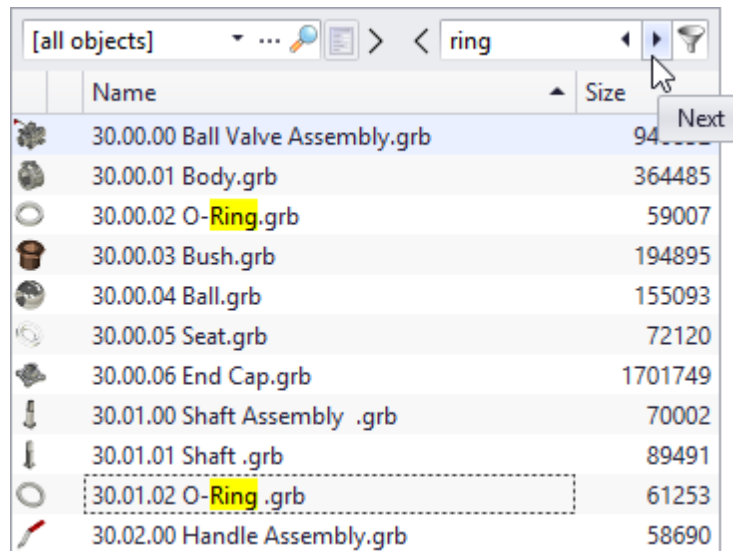
After the set of filter conditions is created, click the **[OK]** button to filter objects in the dataset window.

To apply saved [filter](#), select it from the list and click  button.  button allows to maximize the field.

 button is used to disable filter.


If a variable was used to create filter condition, user can open window to enter variable value by clicking  button.

Field and buttons in the right part of the search panel are used to search and filter data by entered value or its part. In the field located on the panel enter search value.  button allows to maximize this field.  button switches to the next object down the tree (or list) corresponding to the search condition.  button switched to the next object up the tree (of list).  button filters all objects complying with set condition. To disable filter, click  button.

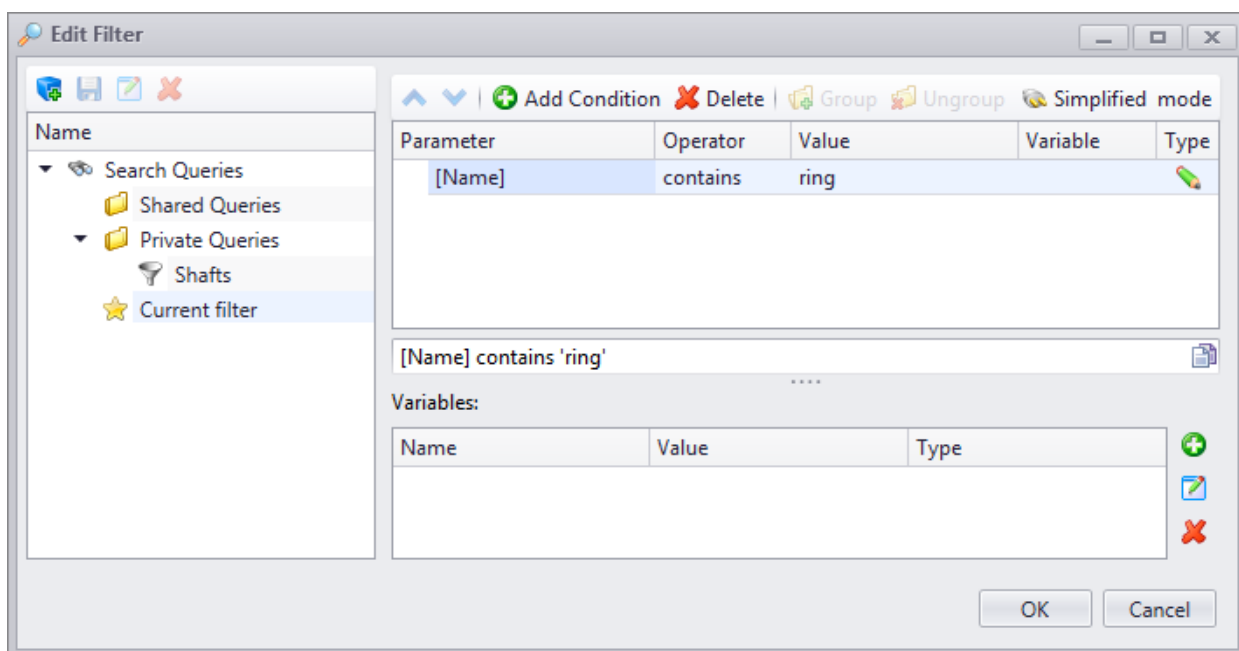


Filter condition with value of "Value" type

Value of "Value" type in the filter condition will be described in the following example: user need to find objects in the "Documents" dataset the name of which contains word "Ring".

1. **Parameter** field contains list of parameters for objects of this dataset and datasets linked to it. Select Name parameter and confirm choice by clicking  button.
2. In the **Operator** field list select "Contains" operator.
3. In the **Type** field set type of parameter value – "Value".
4. In the **Value** field enter word "Ring" manually.
5. **Variable** field is left empty.


Created filter condition is displayed on the picture below.

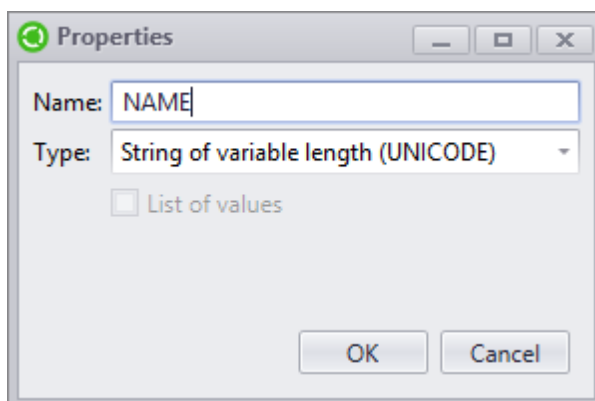


Filter condition with value of "Variable" type

There can be a situation when user needs to use several similar filters with different search value. In this case it is better to replace them with one filter with value of "Variable" type.

This case can be described by the following example: user needs to display list of documents in the "Documents" dataset the name of which contains word "Shaft" and then the list of documents the name of which contain word "Ring", etc.

1. In the **Parameter** field select "Name".
2. In the next field select "Contains" operator.
3. Then set type of value – "Variable".
4. In the **Variable** field click on  button and in the opened window enter name of the variable, e.g. "NAME".

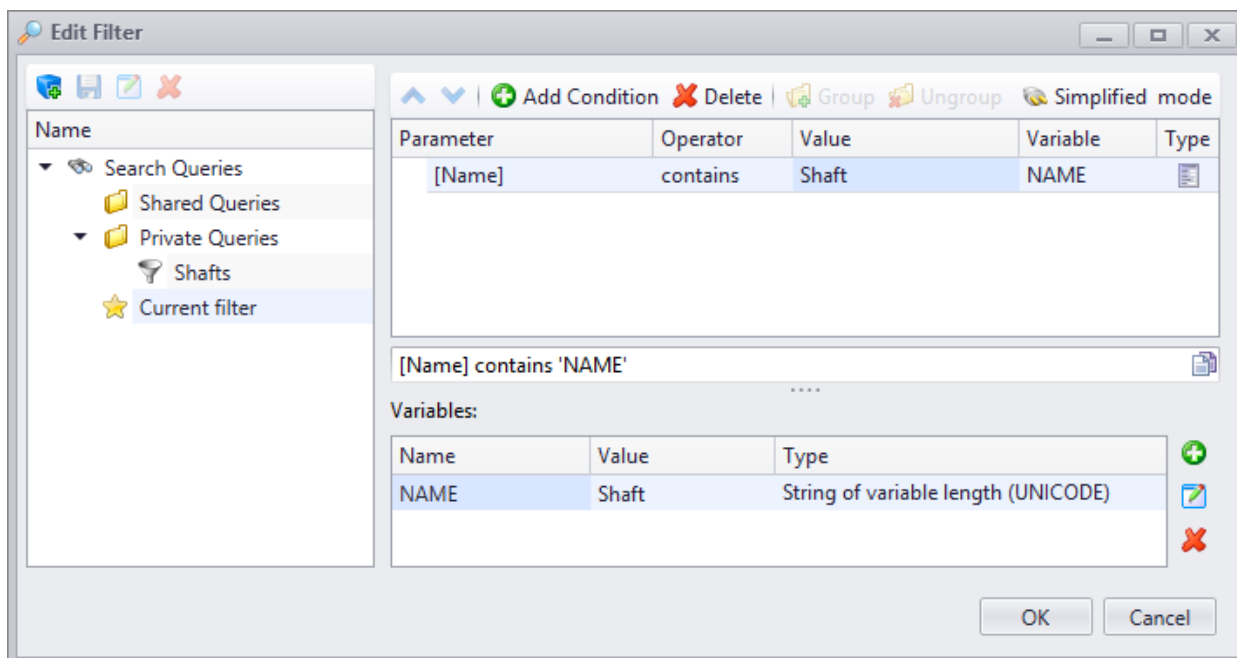


Type of variable is automatically determined by the system in compliance with the selected

parameter.

5. Then select name of the variable from the list in the **Variable** field.
6. Variable value is entered in the **Value** field. First it will be "Shaft", then for next filter action – "Ring", etc.


Created filter condition is displayed on the picture below.



Created variables are displayed in the list in the bottom part of the **Filter edit** window.




New variable can also be created via  button located next to the list of variables.

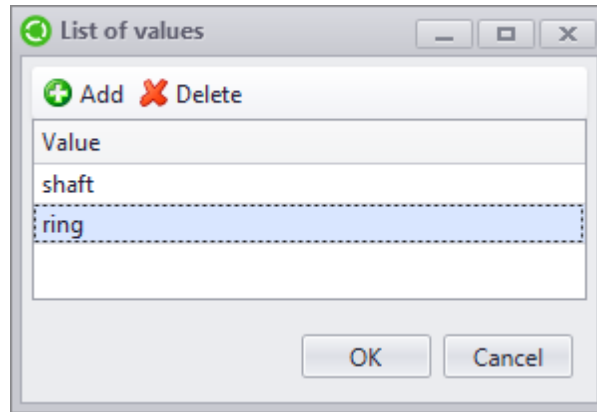
In case of this method for creation of variable, its type is manually selected from the list.

 button is used to remove the variable selected from the list.



If "Exists in list" or "Does not exist in list" operation is used in the filter condition, variable can have several values simultaneously. In this case check the **List of values** box in the variable properties window.

For example, such operation can be used in case it is necessary to display list of documents with "Shaft" and "Ring" names in the dataset window.

To open list of values for the selected variable, click  button in the **Value** field. Values are added to the list via  **Add** button and removed via  **Delete** button.




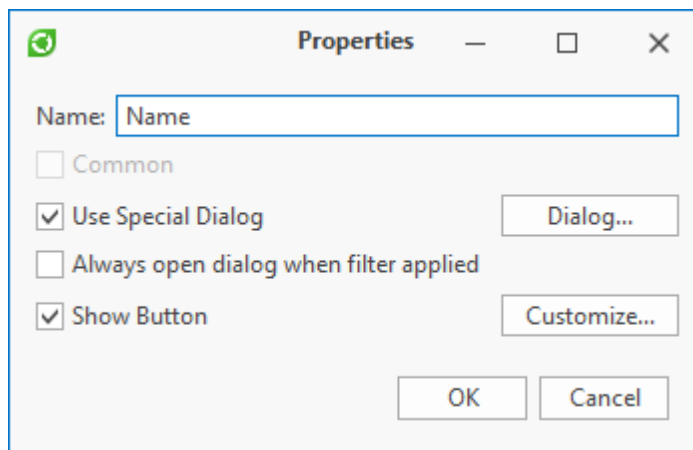
Filter condition with value of "Formula" type

In the creation of filter condition user can also select value of "Formula" type. To open window to enter formula, click  button in the **Value** field. To clear the field, click  button.

Creating and editing filters

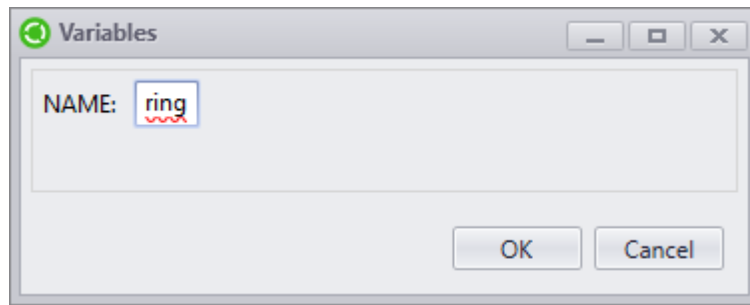
To create, save and edit filters a panel in the left part of the **Filter edit** window is used. This panel contains "Shared Queries" and "Private Queries" folders, as well as switch to current filter. Shared filters are stored in the "Shared Queries" folder, private filters – in the "Private Queries" folder.

To create new filter, click  button. In the properties window enter name of the filter and check required boxes.

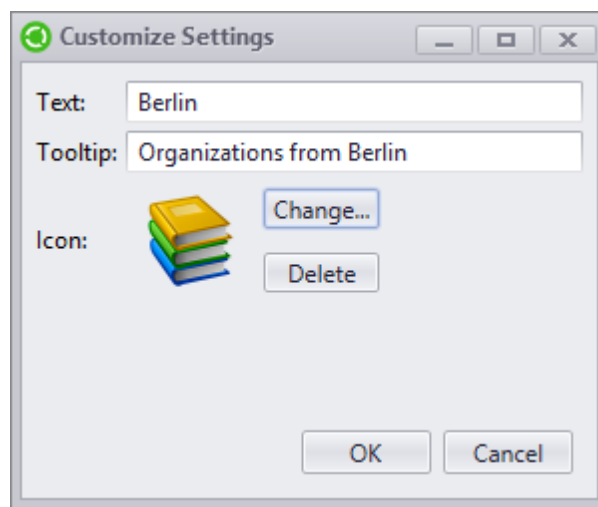


Common box is set for shared search filter.

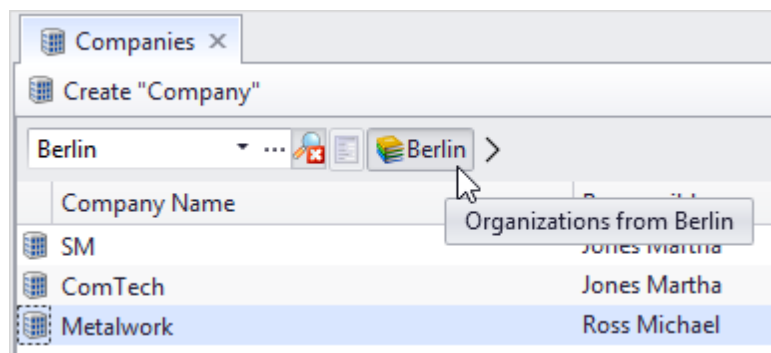
If the **Always open dialog when filter applied** box is checked, it means that when this filter is applied, the system will automatically open the **Variables** window where user can enter required variable value.





User can create a button on the search panel for a filter. To do this, check the **Show button** box. When user clicks **[Customize]** button the system opens the window where user sets appearance of button created for the filter.




In the settings window user can enter text displayed on the button, text for bubble help which appears at setting pointer at it, as well as to select icon file for the button.



Then create required set of [filter conditions](#) for created filter in the right part of the **Filter edit** window.

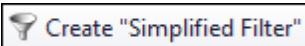
Filter edit window also allows to edit filters created earlier. To do this, select required filter in the left part of the window and in the right part of the window introduce required changes into the set of filter conditions.  button is used to save filter after editing.  button

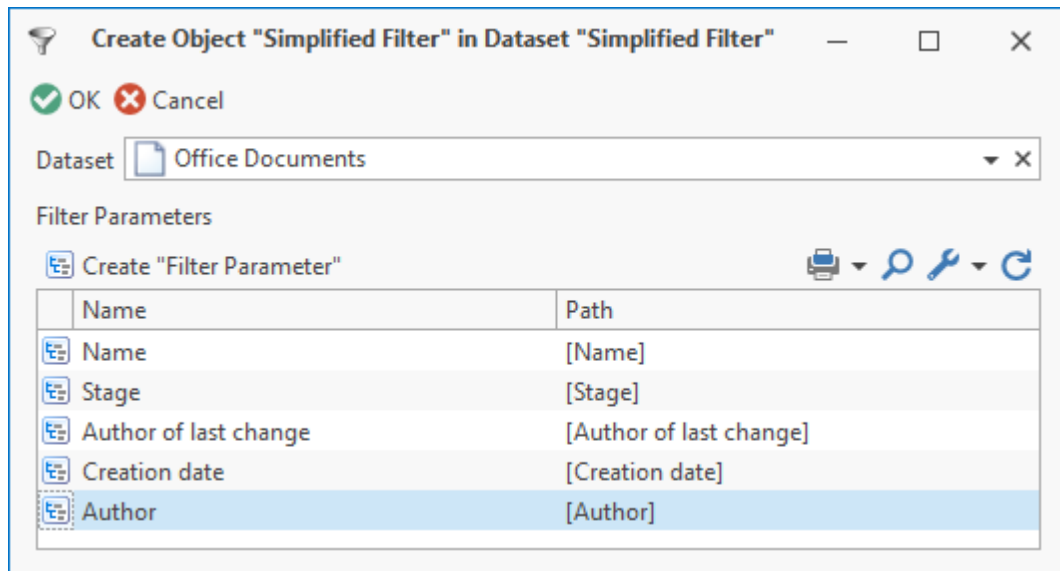
deletes the selected filter.  button opens window with filter properties.

Simplified filter setup


"Simplified filter" dataset is used to store custom lists of parameters.

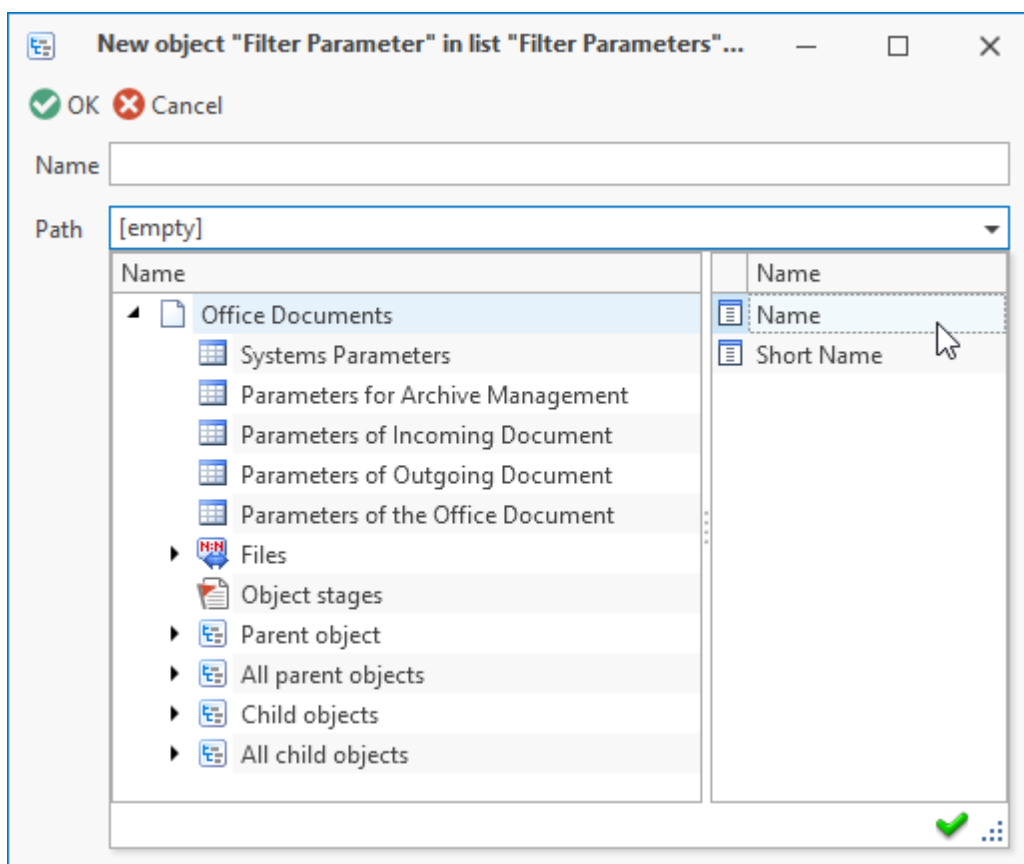


To create new dataset object, click  button. In the **Dataset** field list select dataset for which simplified filter will be used.



Custom list of parameters for a dataset is created via following buttons:

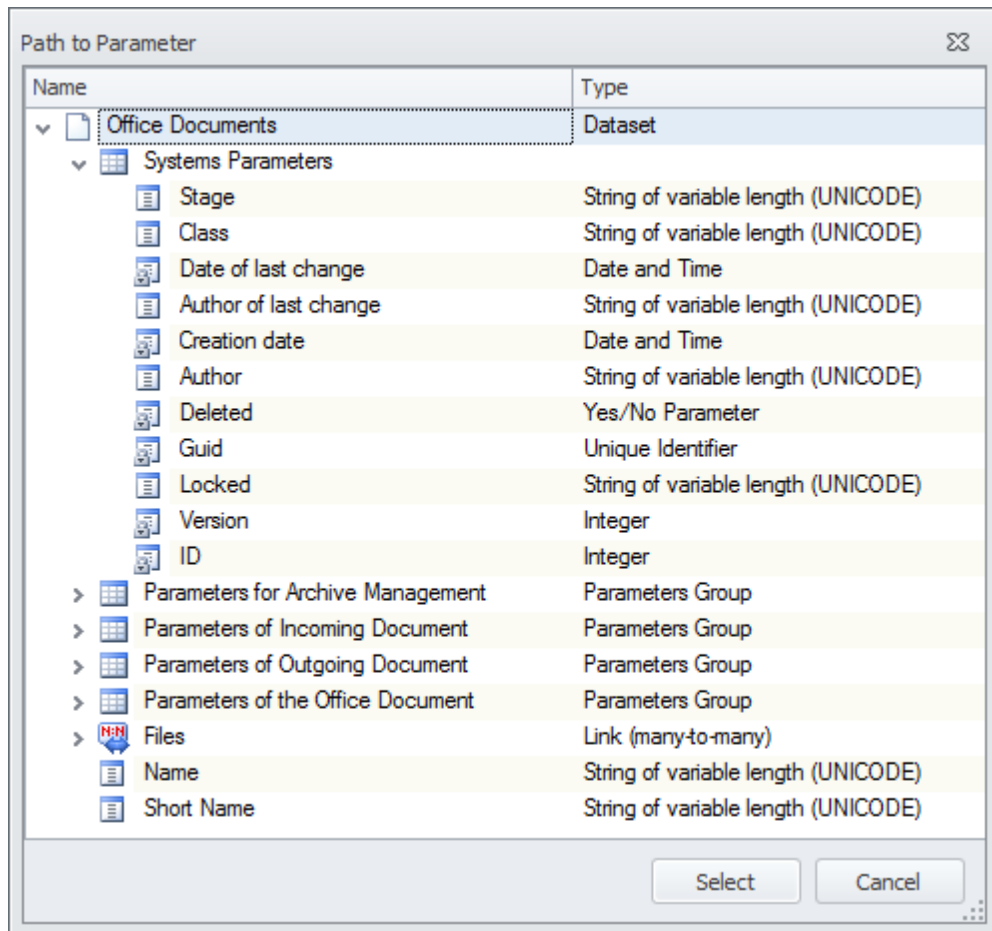
1.  – in the opened window in the **Path** field user enters full path to the parameter and in the **Name** field user manually enters name of the parameter so it must be displayed in the drop-down list of the simplified filter.



2.  – allows to add several parameters simultaneously.

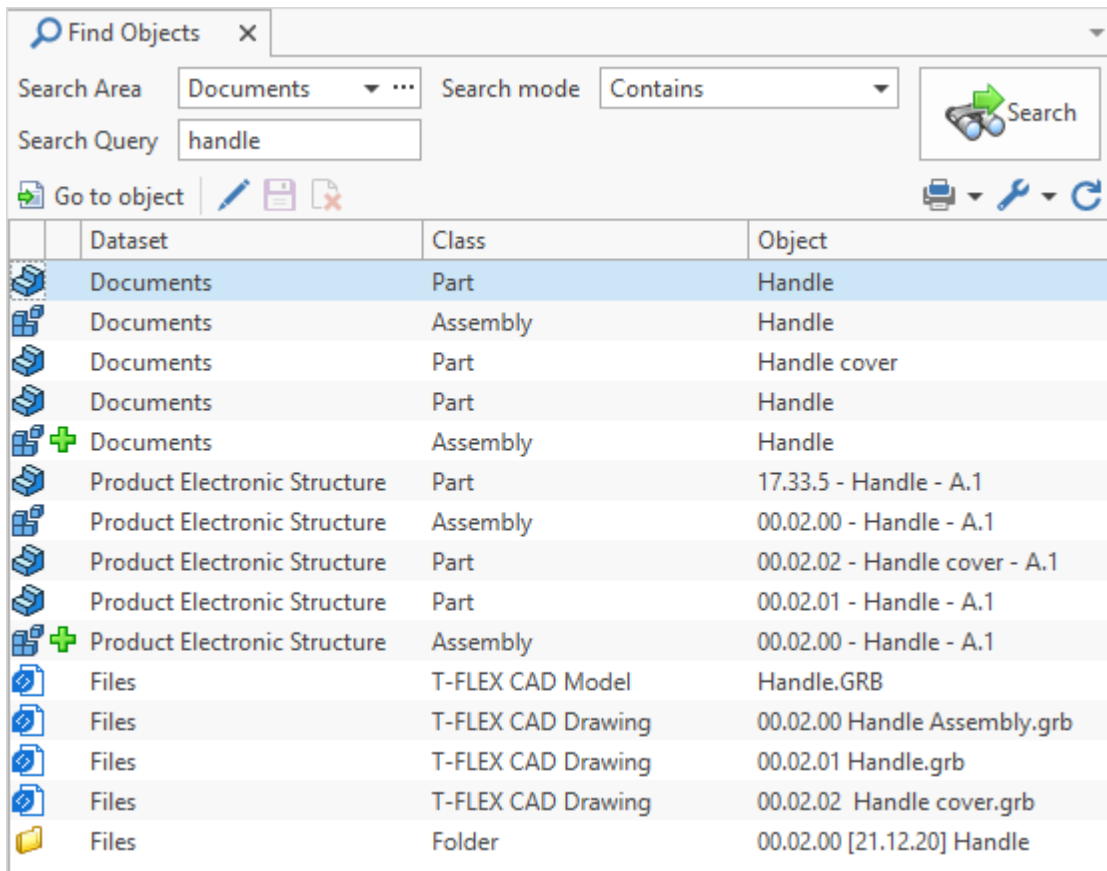
To select several parameters, click on them with left mouse button with <Ctrl> or <Shift> button pressed.

In this case the default name of the parameter will be used. However, if necessary, it can be changed manually in the properties window.



Objects search by set value

With the help of main menu option **View > System Window > Find objects** user can switch to objects search by set value in the selected search area.



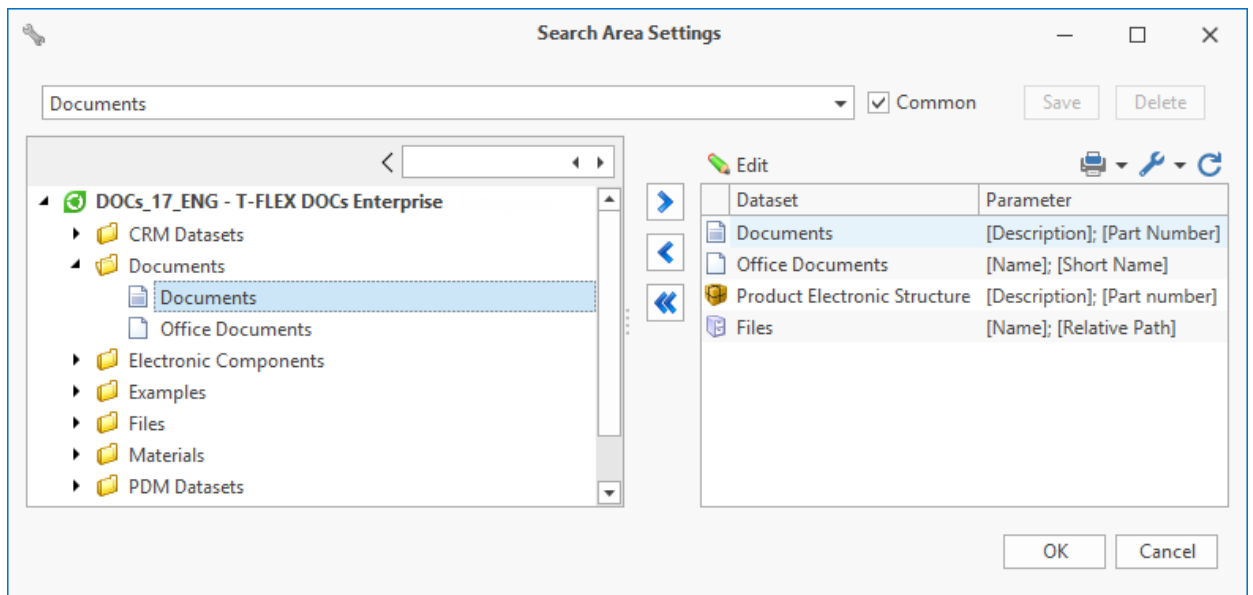
In the **Search area** user can select one of the saved search areas (button) or create a new one (button).


In the upper part of the window for search area setup there is a field to enter the name.

This field is to be filled, if settings of the search area must be saved for further usage. User also must select name of the existing search area to edit its settings.

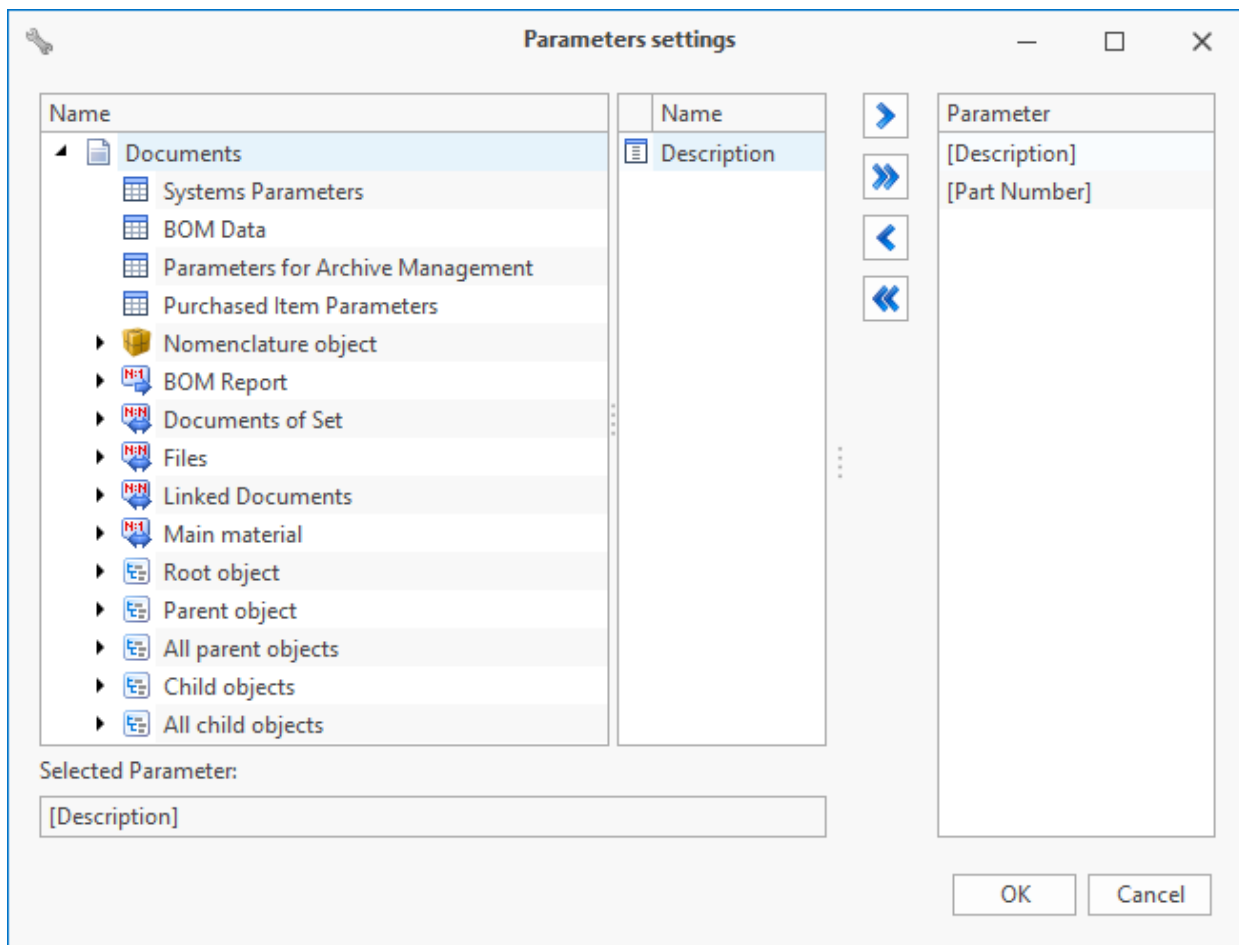
Next to the search area name there is the **Common** box. If the box is checked, the search area is shared, seen to all users; if the box is not checked – search area is personal, available only to the current user.

By default, only administrator user can create common search areas.




On the right window panel user creates a list of datasets of the search area. To select parameters of the dataset object for which search will be made, click  button.

On the right panel of the opened window there is a tree with objects parameters groups of the selected dataset and datasets linked to it. The middle panel displays structure of the selected parameters group. On the right panel user creates list of parameters to be searched for.



[Save] button in the search area setup window is used to save the settings; [Delete] button removes saved search area.

After the search panel is set, in the **Find objects** window user selects search mode from the corresponding list. In the **Search Query** field user enters search value or its part. To start the search, click .

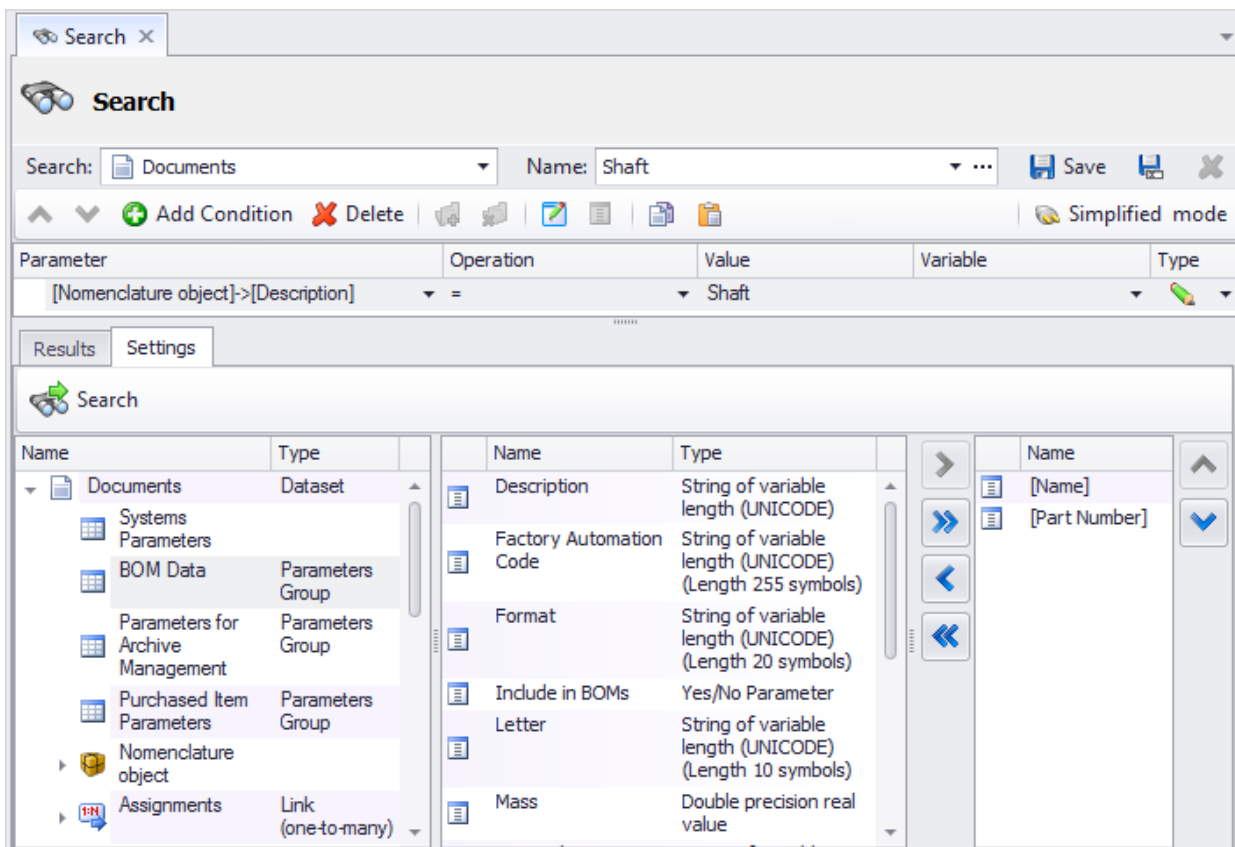
Configuration of the template of the searched value in the "Mask" mode can have the same symbols as for [the filter condition on the search panel with "Corresponds to mask" operator](#).

Found objects will be grouped by the datasets they are the part of. User can perform various actions with them with the help of right-click menu options and toolbar buttons.

Creating search queries in the "Search" system window

To create search query, use the **Search** system window. This window is opened via main menu option **View > System window > Search**.




Set a dataset in the **Search** list for which the search will be made. In the **Name** field manually enter name of the created search query.



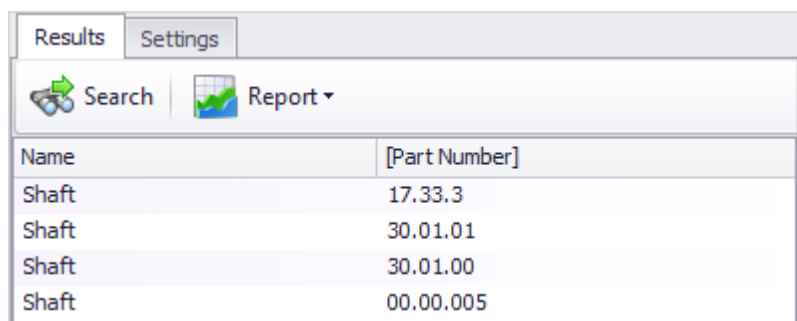
Then create search condition by clicking  button.



Creation of search condition is similar to creation of filter condition which is provided in the paragraph ["Search panel"](#).



The bottom part of the search window has two tabs: **Result** and **Settings**. **Settings** tab allows to select which parameters of found objects are to be displayed in the **Result** tab.


To save the created search query, click  button (**[Save as]**). In this case user sets folder for storage in the "Search Queries" dataset. Moreover, in the search window user can edit existing search queries. To do this, in the **Name** field list select required query, edit its settings and click  button. To remove a query, click  button.


When search query is made, click  button either on **Settings** tab or on **Result** tab.

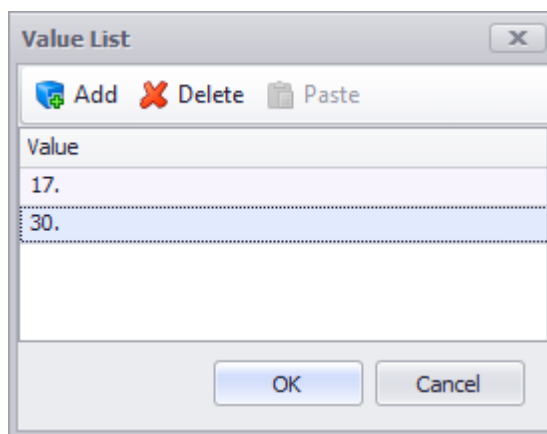



In case "Variable" type of value is used in the search condition, user needs to set specific value to it in the special window opened via  button on the toolbar of the search window. If the **Always open dialog when filter applied** box is checked, this window will open automatically when the  button is clicked.

If variable has several values, a list of its values will open at clicking  button next to the name of the variable. To add values to the list, click  button.

Values can be entered via keyboard or pasted from the clipboard ( button).

To remove the selected value of the variable from the list, click  button.



 button on the **Result** tab allows to generate report file in the selected format on basis of search results.

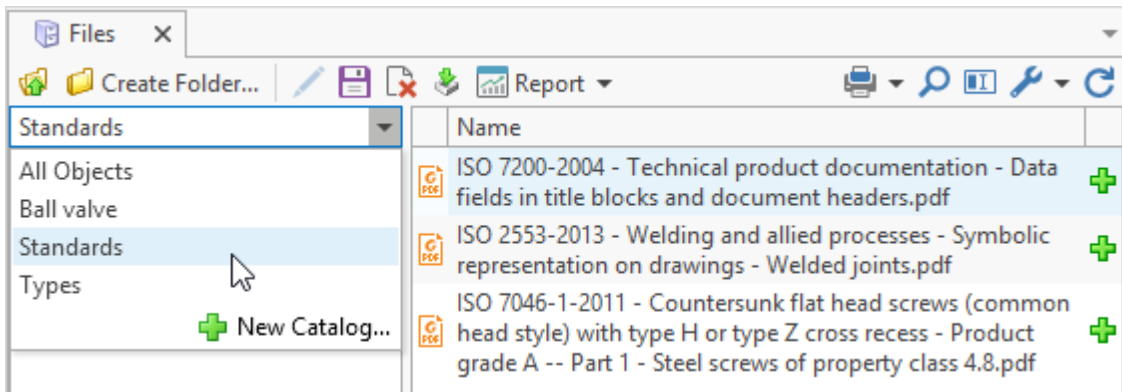
Catalogs

In T-FLEX DOCs dataset user can create custom structure allowing to conveniently review contents of the dataset. Initial structure of dataset objects remains the same.

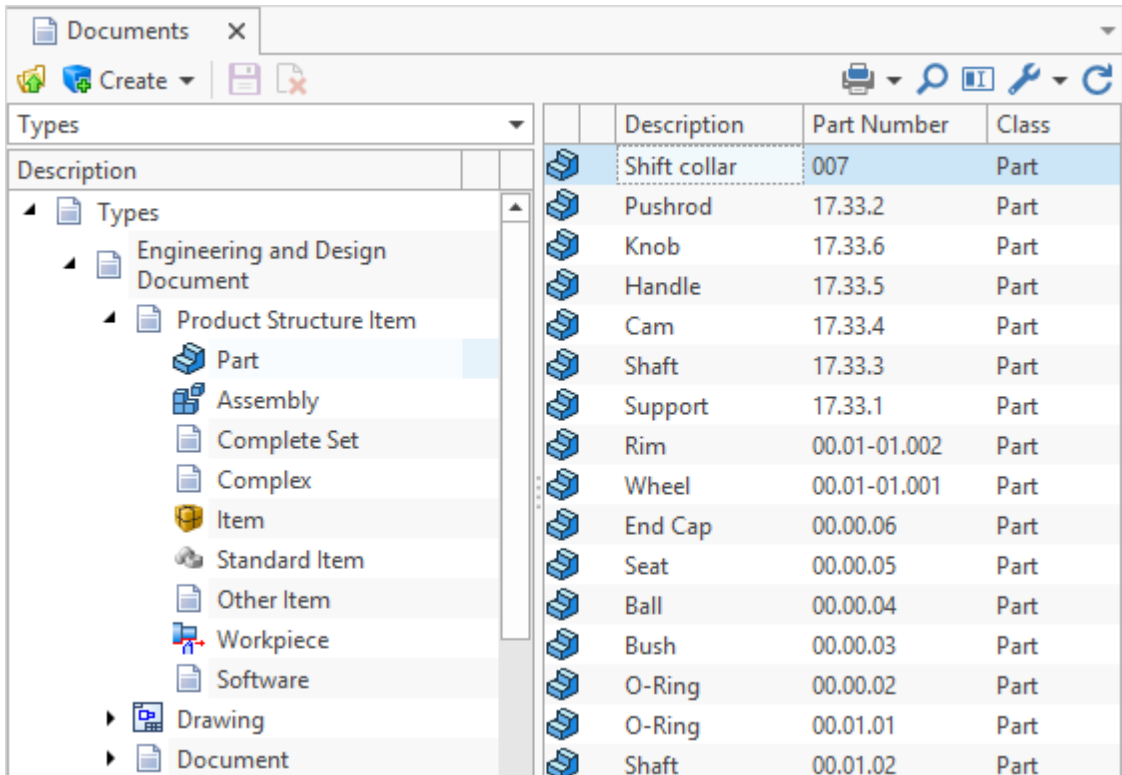
Catalogs are used to group objects within custom structure.

Custom catalogs can be shared and personal. Shared catalogs are available to all users, personal – only to the user who created them. By default, only administrator user can create shared catalogs by giving or restraining access to edit folders in this catalog by other users.

List of representations and custom catalogs is available in the "Tree and List" data display mode. Catalogs are used to group objects and consist of folders. In this case, catalog folder becomes a part of custom structure allowing to provide convenient review of the dataset contents. Folder can contain unlimited number of dataset objects. In this case one dataset object can be found in several folders.

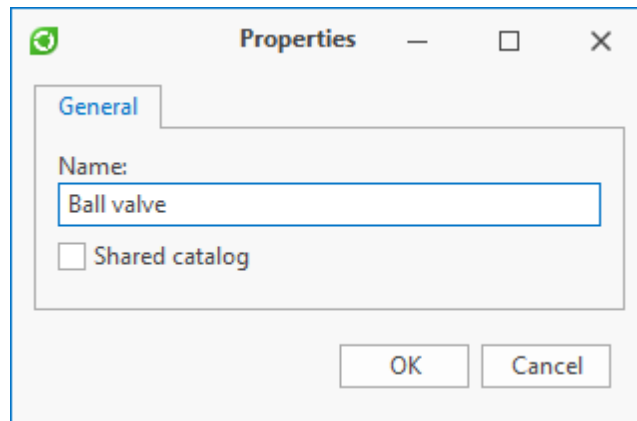


Each dataset has "Types" system catalog which cannot be changed. In this catalog objects are classified by types.




Moreover, all datasets have "All Objects" data representation which allows to display all objects in the dataset.

To create new custom catalog, maximize the list of catalogs and select option **New Catalog**. In the catalogue properties window enter its name and check corresponding box, if it's a shared catalog.

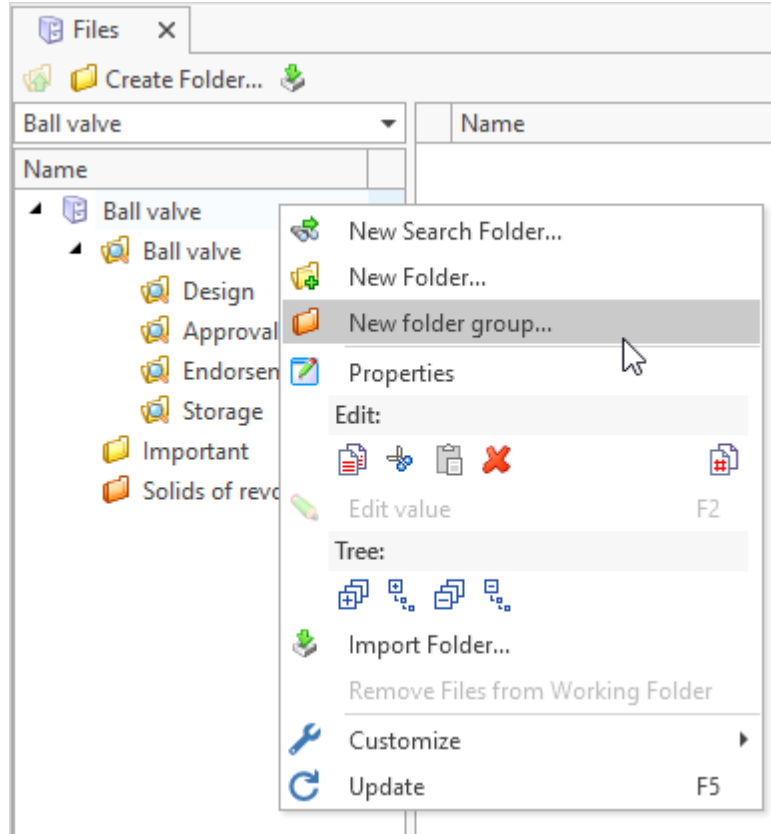


Then user can create folders in the catalog.

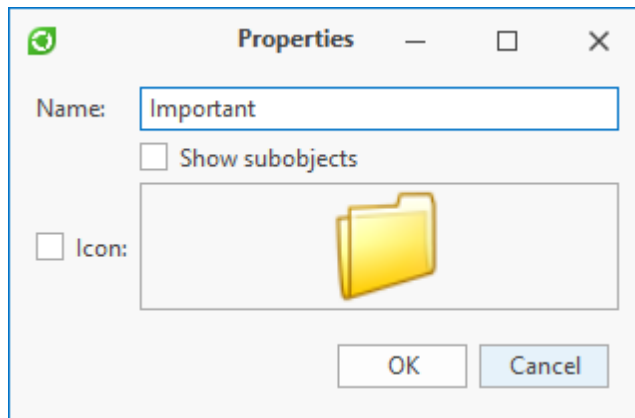
There are following types of folders in the T-FLEX DOCs custom catalog:

- Manually filled folder – objects are added to this folder manually via  **Attach** button. It can contain both separate objects and folders and groups of folders.
- Folder group – used to group several folders, does not contain separate objects.
- Search folder – used to display objects complying with set search condition. It can contain other search folders (to specify search condition) and search folders for parameter.
- Search folder for parameter – folder is created automatically to any unique value of the selected parameter. It is nested to the search folder and has "Generated by parameter selection" feature.

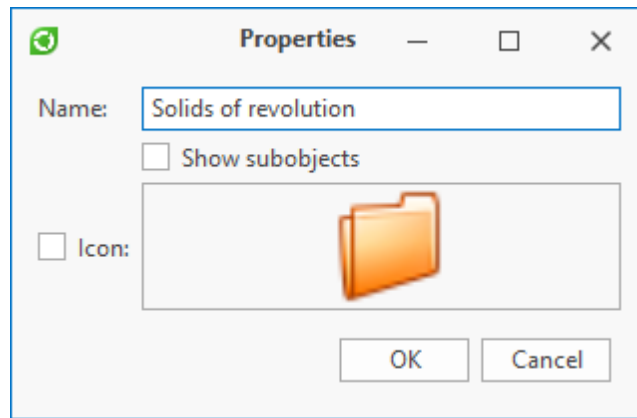
To create new folder, select option from the right-click menu which corresponds to the type of created folder.

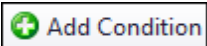


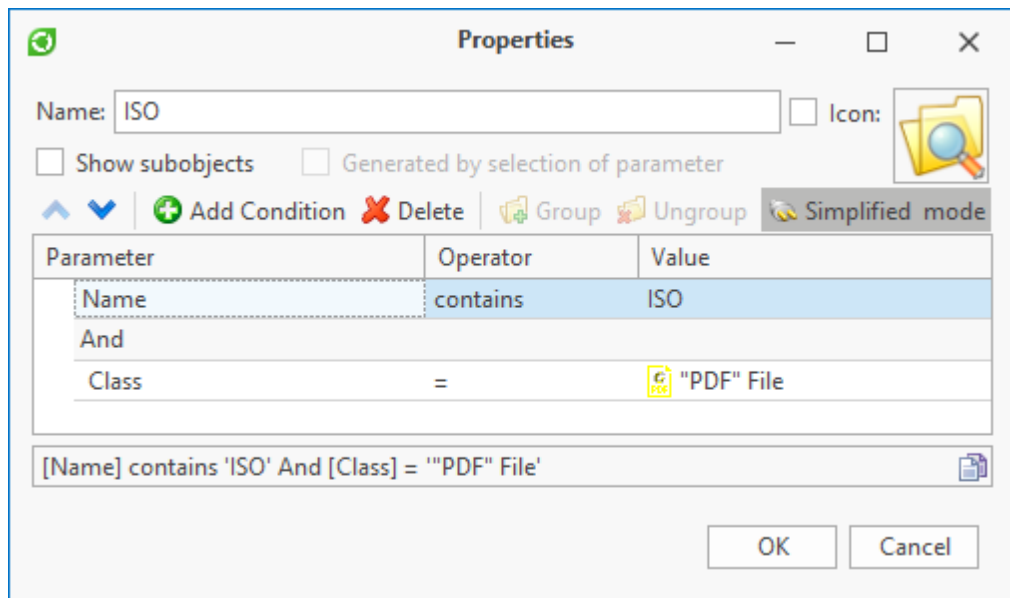
When user creates folder with manual filling, in the properties he/she sets name and [icon](#). **Show subobjects** box is used to enable display of objects of the folder in the catalog tree. If the box is not checked, only folders will be displayed.



Folder group is created in a similar way.

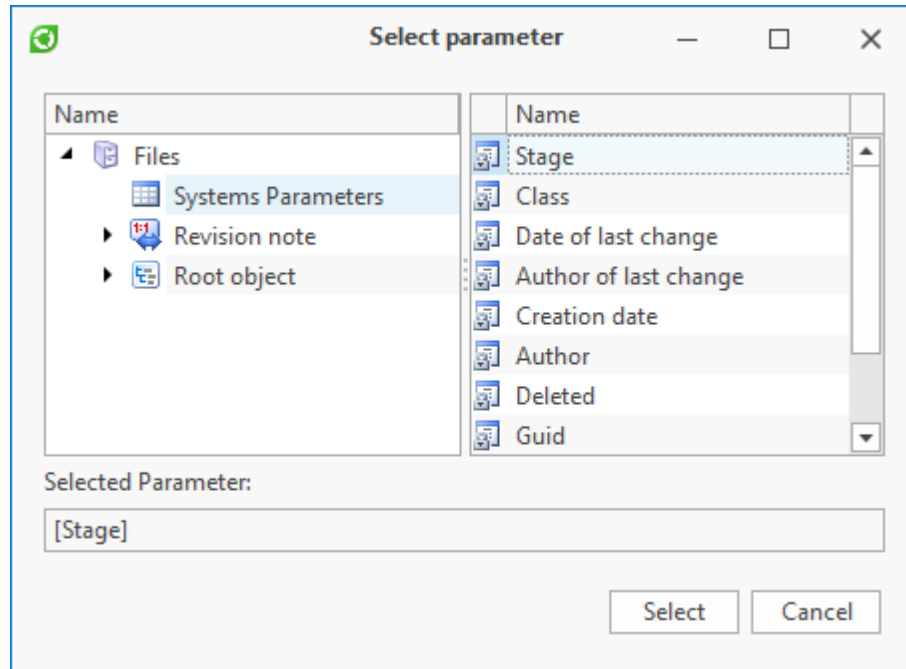


When search folder is created, user also enters its name and sets an icon. Moreover, with the help of  button user creates [condition for selection of objects](#) to be displayed in this folder.



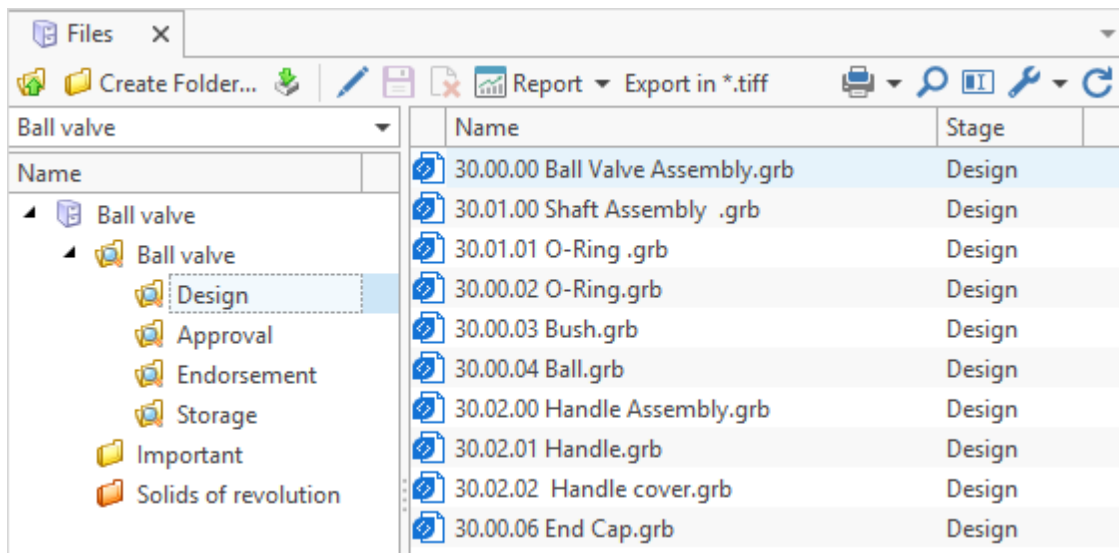
Generated by selection of parameter box is active only for search folders for parameters.

To create search folders for parameters user sets parameter for which the selection will be performed.



As a result, for each value of set parameter the system automatically creates search folder for parameter. Each folder will contain dataset objects with corresponding value of the selected parameter.

For example, the picture below displays following custom structure: for "Ball Valve" there are search folders for **Stage** parameter.

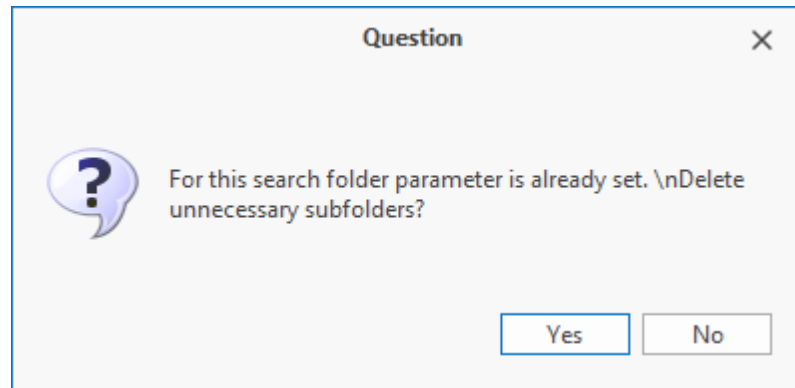


Window with properties of the search folder for parameter is similar to window with properties of search folder. **Generated by selection of parameter** box demonstrates that this folder is a search folder for parameter.

When new object is created in the dataset which complies with selection condition set for search folder, this object is automatically sent to the corresponding search folder for parameter. Folder structure remains the same. Search folder's right-click menu option **Update**

search folders by parameter updates folder structure. This means that when objects with new parameter values appear in a search folder, the system creates new search folders for parameter and deletes empty folders.

When the structure is updated, the system opens a window with question displayed on the picture below. If user selects "Yes", folder structure will be changed and empty search folders for parameter will be deleted. If user selects "No", empty folders will not be deleted.




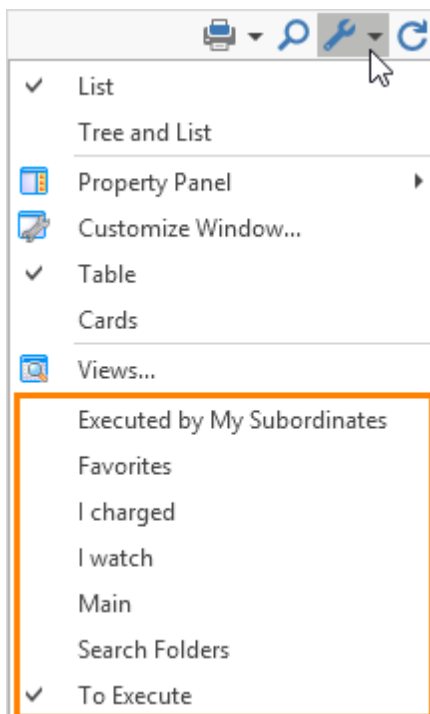
This window also appears when user tries to create search folders for parameters in the search folder which already has such folder structure. In this case, if user selects "Yes", current structure will be replaced with new one. If user selects "No", new folders which correspond to values of the selected parameter will be added to the current structure.

To delete custom catalogue or folder, select option **Delete** in the right-click menu. User can also press <Delete> key.

When custom folders and catalogs are deleted, their objects will not be removed from a dataset, as in this case no physical removal takes place, only disconnection from removed structure component. Thereby, all objects of the deleted catalog or folder will be available in representations "Folders" and "All Objects".

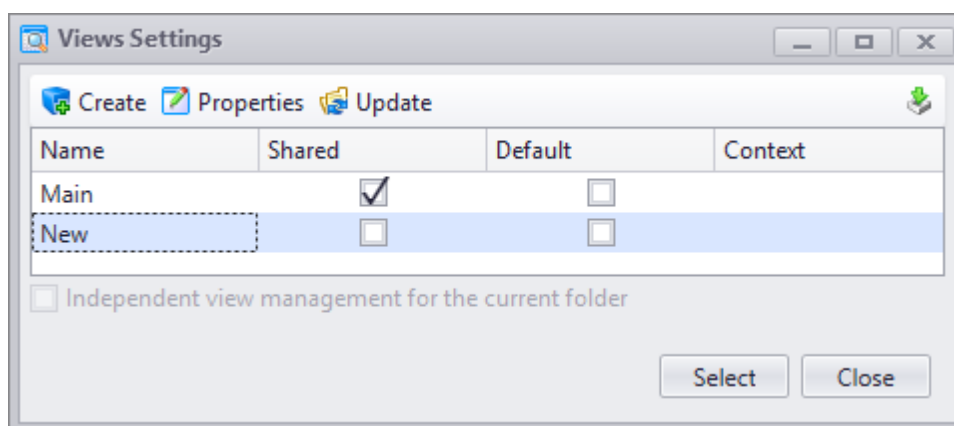
Views

T-FLEX DOCs allows to save data display settings for each dataset in the working window. Views are used to do this. View can be used only for the dataset for which it was created. One dataset can have several views. List of views available for the dataset is displayed in the bottom part of the **Customize** menu opened via  button on the toolbar. To apply required view, select it in this list. Currently active view is checked in the list. **Customize > Views** menu option allows to switch to views management window.



The window displays list of views created for this dataset. They can be shared and personal. Shared views are available to all users, personal – only to the current user.

By default, only T-FLEX DOCs administrator user can create shared views.



Upper part of the window contains buttons to manage views:

1.  **Create** – creates new view.

Prior to creation of new view user must set up the window appropriately.

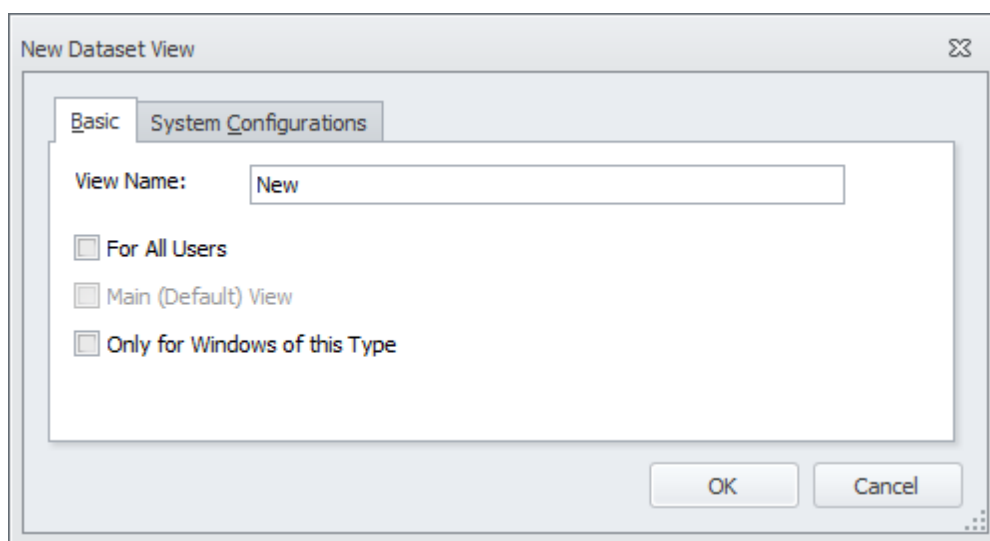
To create a shared display type, check the **For all users** box.



Main (Default View) box allows to make shared view the main one, i.e. this view will be applied automatically when dataset window is opened for the first time. If data display settings in the window change after that, dataset window will have new view when it is opened next time. To reset to default settings, select main view in the list.

Administrator user sets main view for each T-FLEX DOCs configuration.

If dataset window is located on the working page or accessed via link, user can set **For current window only** box in the properties window for the view. In this case, view will be available for this window and unavailable for dataset working window.

If user works in several T-FLEX DOCs configurations, he/she sets for which configurations this view will be applied on the **Configurations** tab.



2.  **Properties** – opens window with properties of the selected view so that user can edit them.
3.  **Update** – allows to save settings made in the working window for the selected view.

Option **Edit > Delete** in the right-click menu deletes the selected display type.

Context column in the **View management** window is filled automatically depending on where this view is used (in a dataset window, working page, etc.).

For "Tree and List" data display mode user can create display views for individual folders (**Independent view control for current folder** box in the view management window).

By default, only administrator user has access to this setting.

T-FLEX DOCs also allows to apply the selected view at the opening of the dataset window.

Access management

General information about access permissions

Access is a set of actions available to user for certain system component. T-FLEX DOCs has following types of access:

- **access to dataset.** Has a set of general actions for dataset (preview, editing, deleting).
- **access to dataset object.** Entails access to preview, edit, delete and to perform other actions for dataset object.
- **access to link.** Has a set of actions to preview and connect linked objects.
- **access to system objects.** Entails access to edit access to the part of the system, its settings and mechanisms. For example, allows to create folders, catalogs, view, etc.

Core principles of access management

Access to an object can be set directly and indirectly. Direct method means that user sets access directly to the selected object. Indirect method means that object inherits access from object which is higher in the hierarchy. When user sets access to object the system checks direct access to it first. If there is no direct access, parent object is checked for indirect access (dataset is parent object for objects in the linear list-oriented dataset). If there is no access to parent object (in the tree-type dataset structure), the system will continue to check objects which are higher in the hierarchy up to the root object. Being objects of the highest level, T-FLEX DOCs root objects require access. Access can be set both for certain user and for a group. T-FLEX DOCs administrators create and edit access permissions. Administrator can change access settings for each user (including author of a component) to each system component. Users can set access permissions to dataset objects, if they are entitled to perform such actions. These access permissions are assigned by system administrators when they set access permissions to datasets.

Setup of access operations values

Access permissions have various set of operations depending on their type. Operations combination for selected access type is set by the system developer. For each operation administrator can set following values:

- **forbidden.** Forbids to execute operation. Has highest priority. If one user of various groups has simultaneously several access permissions to object, the system will analyze them. If at least access permission forbids required operation, user will have no rights to execute this operation despite other access permissions.
- **permitted.** Allows to execute operation. If any other access permission does not forbid to execute this operation, it becomes available to user.
- **ignore.** Value is not set (neither "forbidden", nor "permitted"). In this case the operation will be forbidden, if:
 - this operation is forbidden by indirect access permissions;

- this operation is ignored in other access permissions for user (access permissions to groups);
- there are no other access permissions.

If operation is permitted and not forbidden in other access permissions for user (access permissions to groups), it will be available. Thereby, in the access assignment process an operation is considered to be available only when user or one the groups where user is a member has permission to execute it and no prohibition.

Rules for setting access to objects

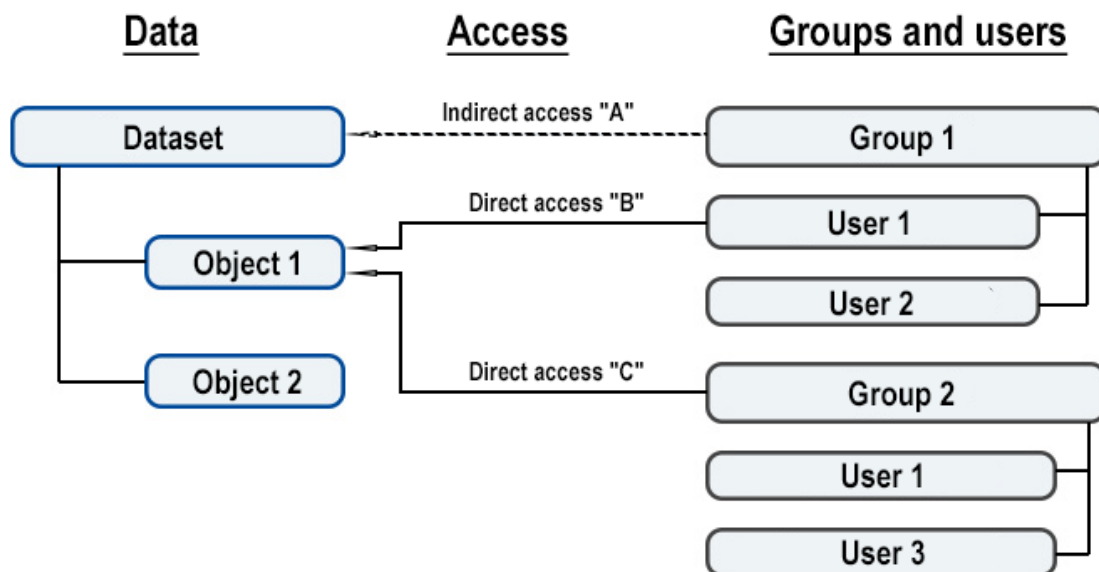
Following rules are set for mechanism of access permissions assignment to users and groups:

1. Access to object can be set both for user and user group.
2. If access was set for a group, user can set separate access to any objects for any user of this group. If separate access was not set for the user, the system checks whether user is a member of a group with access to the selected object. If there is no access to the object for the group, users of this group will not have access to the object.
3. If access was set for one or several groups where user is member, user has access determined in compliance with access summing rule, i.e. access permissions of user and groups where user is a member are summarized (ref. example of user access check to dataset object).
4. User who is a member of subgroup of any group has the same access as the group, if subgroup or the user does not have any other specific access mode.
5. User can change access permissions to object both for other users and for himself/herself, if his/her access permissions allow it.
6. User can review access permissions to objects and available operations only in case he/she has access to edit access mode.

Example of user access check to dataset object

User can have several different access permissions to the same object (e.g. access to the user or access to group where user is a member).

The scheme below demonstrates three options of access for user 1 to Object 1:



1. Indirect access "A". Set for the Group 1 to the Dataset objects.

Permits to execute following operations: review, editing, deleting.

As the Dataset is linear-type, access "A" is inherited to all nested objects, including Object 1. User 1 gets access to the Dataset and Object 1 as he/she is a member of the Group 1.

2. Direct access "B": Set to User 1 for Object 1.

Permits to execute following operations: review, editing.

Forbids to perform following operation: deleting.

3. Direct access "C". Set to the Group 2 to Object 1.









Permits to execute following operations: review, editing, deleting, changing access

User 1 gets access to Object 1 as he/she is a member of the Group 2.

According to access summing rule, operation (reading, editing, deleting, etc.) will be available only if user or one of the groups where he/she is a member has access to execute it. Thereby, having analyzed all three accesses, User 1 can execute review, editing and access changing operations to Object 1. "Delete" operation will be forbidden in compliance with Access "B".

Access modes

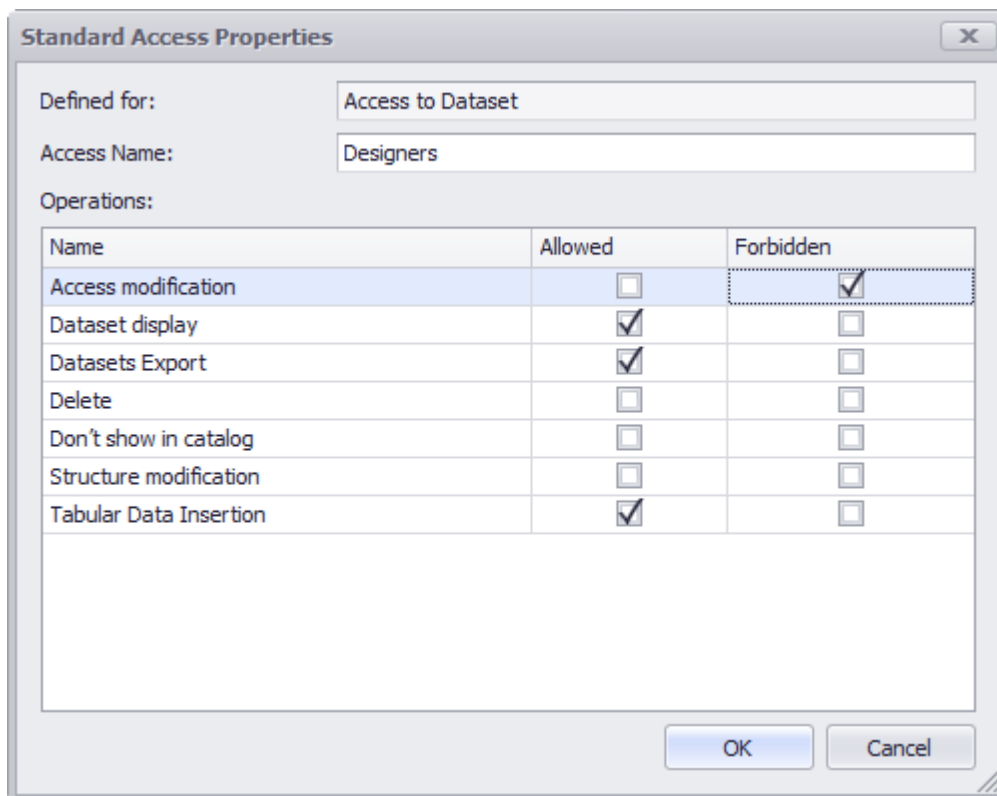
Access modes are created and edited by T-FLEX DOCs administrators in "Access Control" special dataset. Any access from the list of dataset modes can be selected to be assigned.

 Access Control	
 New Access ▾  Operations ▾     	
Name	Type
Author	Access to Dataset Objects
Administrative	Access to Dataset Objects
Read Only	Access to Dataset Objects
Editor	Access to Dataset Objects
Author	Access to Dataset
Administrative	Access to Dataset
Read Only	Access to Dataset
Editor	Access to Dataset
Administrative	Access to all system
Full	Access to Link
Link	Access to Link
Read Only	Access to Link
Deny Edit	Access to Dataset Objects
No Restrictions	Access to Dataset Objects
User	Access to all system
Read and Create	Access to Dataset Objects
Revision	Access to Dataset Objects
Document Manager	Access to Dataset Objects

Access scope and list of available operations is determined by the access type. The system allows to create following access types:

- Access to all system. Contains list of operations applied to the system as a whole: management of working pages, filters, search conditions, etc.
- Access to dataset. Contains list of operations for dataset as a whole.
- Access to dataset objects. Contains list of operations performed with dataset objects.
- Access to link. Contains list of operations for reviewing and editing of linked objects.

When system administrator creates new access mode he/she selects its type and then in the special dialog box sets permission or prohibition to execute any operation.



Description of operations for various access types

Access to all system

This type of access entails operations concerning work with systemic settings of T-FLEX DOCs:

Dataset creation. Provides access to create datasets in the system. Creation/editing of shared (personal) working pages. Provides access to create and edit working pages for the convenient work with T-FLEX DOCs.

Shared (personal) search conditions creation/editing. Provides access to create and edit search conditions.

Shared (personal) filters creation/editing. Provides access to create and edit filters for selection of dataset objects.

Shared (personal) views creation/editing. Provides access to create and edit views for dataset windows.

Shared (personal) catalogs creation/editing. Provides access to create catalogs in datasets.

System configurations creation/editing. Provides access to create and set up system configurations.

Mail account creation/editing. Provides access to create and set up external e-mail accounts.

Common (personal) subscriptions creation/editing. Provides access to create and edit

subscriptions to notifications on system events.

Development of common prototypes for linear workflows. Provides access to work with shared prototypes for linear workflows.

Access to dataset

This access type entails operations for T-FLEX DOCs datasets:

Structure modification. Provides access to change dataset structure: manage type structure, edit properties dialog boxes, etc.

Delete. Provides access to delete dataset from the system.

Access modification. Provides access to change access permissions to dataset.

Datasets export. Provides access to export datasets from the system.

Tabular Data Insertion. Provides possibility to paste any tabular data to dataset from the clipboard, e.g. contents of Microsoft Excel tables.

Dataset display. Provides access to manage display of a dataset in user's interface. Prohibition on dataset display does not impede utilization of its data by the system. This mode can be applied to datasets containing confidential information.

Don't show in catalog. Provides access to disable display of a dataset in catalogue. Other components of user interface will display this dataset.

Access to dataset objects

This access type entails operations for T-FLEX DOCs datasets objects:

Edit. Provides the right to edit dataset object.

Owner change. Makes it possible to change dataset object owner.

Access modification. Provides the right to modify access to the object.

Change and keep signatures. Provides the right to change objects and keep the signatures which are already set.

Stage change. Provides the right to change dataset object stage manually.

Class change. Provides the right to change object class.

Copy. Provides the right to copy dataset object.

Recycle bin clearing. Provides the right to delete objects moved to the recycle bin.

Move object. Provides the possibility to move file and keep the signatures. Used for PDM module when the file is taken for storage.

Print. Provides the right to print object's parameters, including the cases with reports

generating.

Preview. Provides the right to preview object parameters in the dataset interface.

History of changes review. Provides the right to preview the list of changes made for the object.

Unlock object. Provides the right to unblock dataset objects.

Create duplicate. Provides the possibility to create file duplicate and keep the signatures. Used for PDM module when the file is taken for storage.

Objects creation. Provides the right to create objects in a dataset, including cases when user inserts data from clipboard.

Delete. Provides the right to delete object from dataset.

Sign object. Provides the right to create, edit and set signatures for dataset objects.

Access to link

This access type entails operations for links between objects in T-FLEX DOCs datasets:

Preview. Provides access to preview linked objects.

Connect. Provides access to connect to dataset objects to other dataset objects via links.

Disconnect. Provides access to disconnect objects via links.

Access assignment to dataset objects

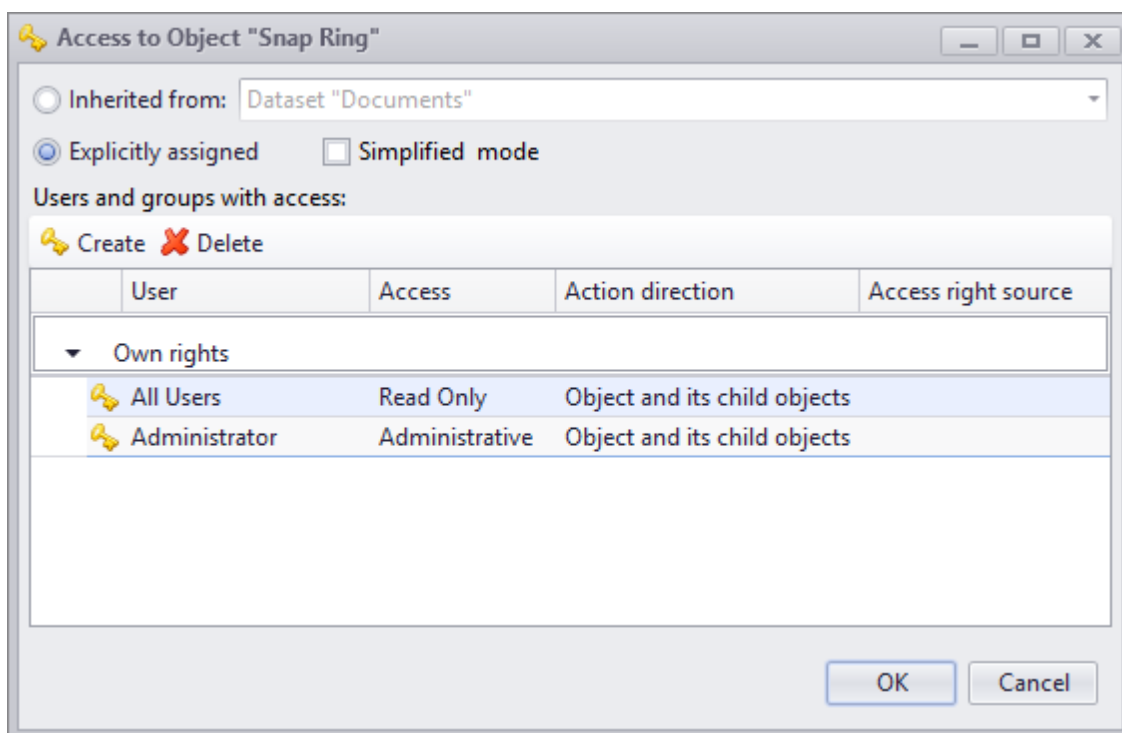
Access to dataset objects can be assigned by users who have rights to execute such operations. Such rights are assigned by T-FLEX DOCs administrators. This access type differs from general access to dataset which is set by the system administrator. Division of actions into actions for dataset objects and actions concerning access to dataset provides flexible management of data. In particular, it allows to execute operations for separate dataset objects without access to work with dataset. For example, when user receives message with dataset object attached, he/she can edit this object and save it. Another option – ability to organize custom folders with information from various datasets without reviewing and editing the whole dataset.

Procedure for access assignment to dataset object

To assign access to dataset object:

1. Open dataset to the object of which the access will be assigned.
2. Select the object for which the access will be assigned.
3. Select right-click menu option **Advanced > Access**.

4. In the opened dialog box **Access to object** set required access parameters.



"Access to object" dialog box

Access to object dialog box contains following settings:

Inherited from: and **Explicitly assigned** boxes are used to set direct and indirect access to object respectively. Next to the **Inherited from:** box user enters object which is higher in the hierarchy from which access is inherited from. If the **Inherited from:** box is checked for root object, the access will be set in compliance with access parameters for attached dataset objects.

User can set single access to attached dataset objects which will be automatically set for new dataset objects. Only T-FLEX DOCs administrator assigns access to attached objects during assignment of access to dataset.

Users and groups with access: area contains list of users with assigned access modes in compliance with set rights category.

Categories of rights depend on how the access was assigned and are represented by following types:

- Own rights – when explicit direct access is set.
- Access rights of parent objects – when access is inherited from the object higher in the hierarchy.
- Access rights of dataset – when access is inherited to incoming dataset objects.
- Owner rights – when owner access is set for a dataset.

- Access rights of linked objects – when access is inherited from objects of other datasets via set link.
- Stages rights – when objects stages are enabled.
- Linked objects stages rights – when access to stages is inherited from other datasets via set link.

Process of access inheriting from objects of other datasets via set link, author access, as well as stages access are described in following chapters of this Section.



Users and groups with access: area contains following columns:

User – name of the user or group for which the access was set. If the **Explicitly assigned** box is checked, user is selected from the "Users and Groups" dataset.

Access – access mode for user or group. If the **Explicitly assigned** box is checked, it is selected from the drop-down list of access modes present in the "Access management" dataset.

Action direction – access mode application selection. If the **Explicitly assigned** box is checked, user can select three application options from the drop-down list: "Object and its child objects", "Only object", "Only child objects". If the **Inherited from** box is checked, access will apply to the current object and its child objects.

Access rights source – name of the object from which access is inherited.

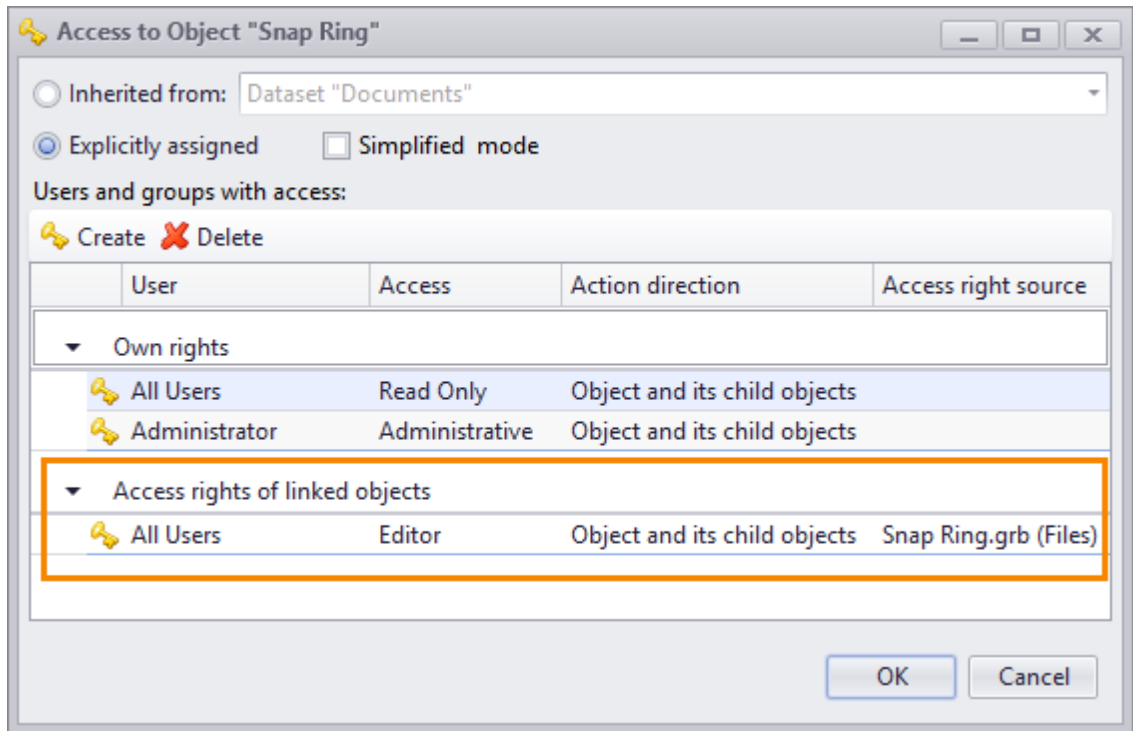
To assign new explicit access to object, select option **Create** ( **Create** button) and edit columns of the added entry. To edit the column (e.g. username) set the pointer to it and click left mouse button. To delete explicit access to object, select option **Delete** ( **Delete** button).

Access via links between datasets

Access permissions to objects can be inherited both from objects which are higher in the hierarchy and from objects of other datasets via set link. Administrator can enable access inheritance via links in the course of dataset creation and setting links between objects. Depending on selected inheritance direction, access permissions can be transferred:

- from initial dataset objects to objects of datasets with which the link was established;
- from objects of datasets with which the link was established to objects of initial dataset;
- to either side.

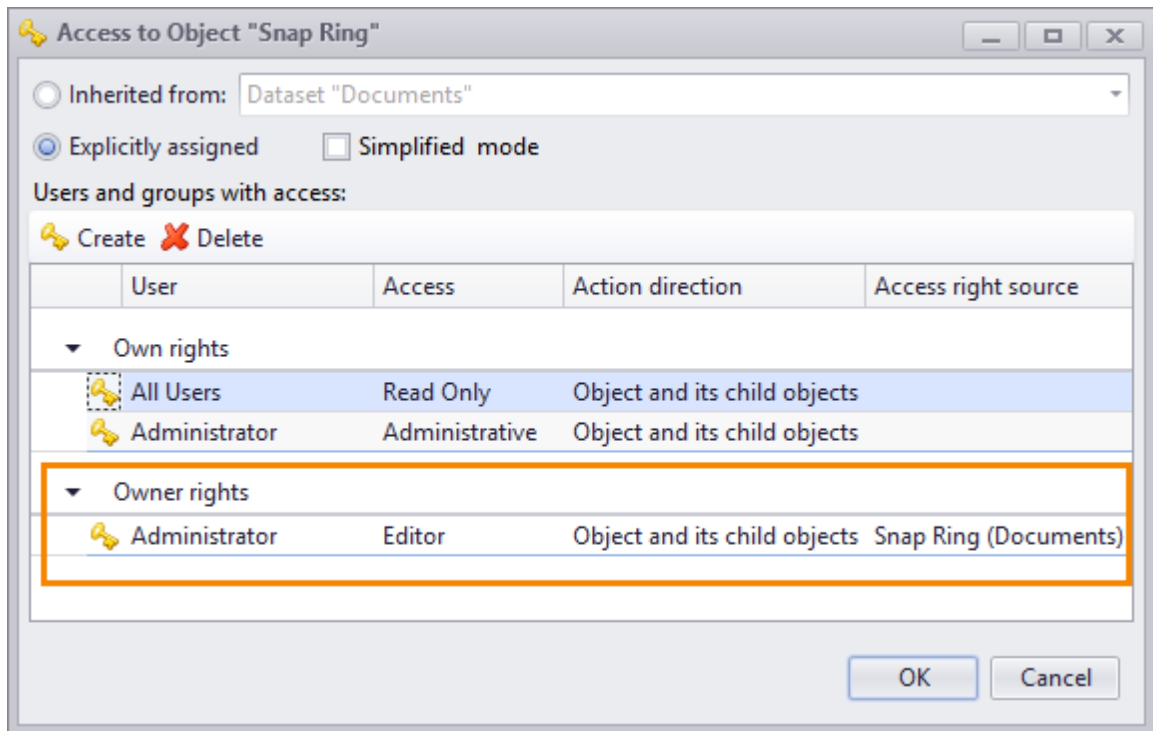
Access permissions which can be inherited from objects of other datasets via link are displayed in the **Access to object** dialog box in the "Access rights of linked objects". In this case the **Access rights source** column will display object of linked dataset from which access permissions are inherited.



Owner access

Dataset object owner can have specific access permissions for the objects he/she created. Such access permissions are set up when a dataset is created. Any access mode which corresponds to the **Access for dataset objects** type can be used for owner access permissions.

Owner access is displayed in the **Access to object** dialog box in the "Owner rights" category. The **Access rights source** column will display name of the dataset for which owner access is enabled.

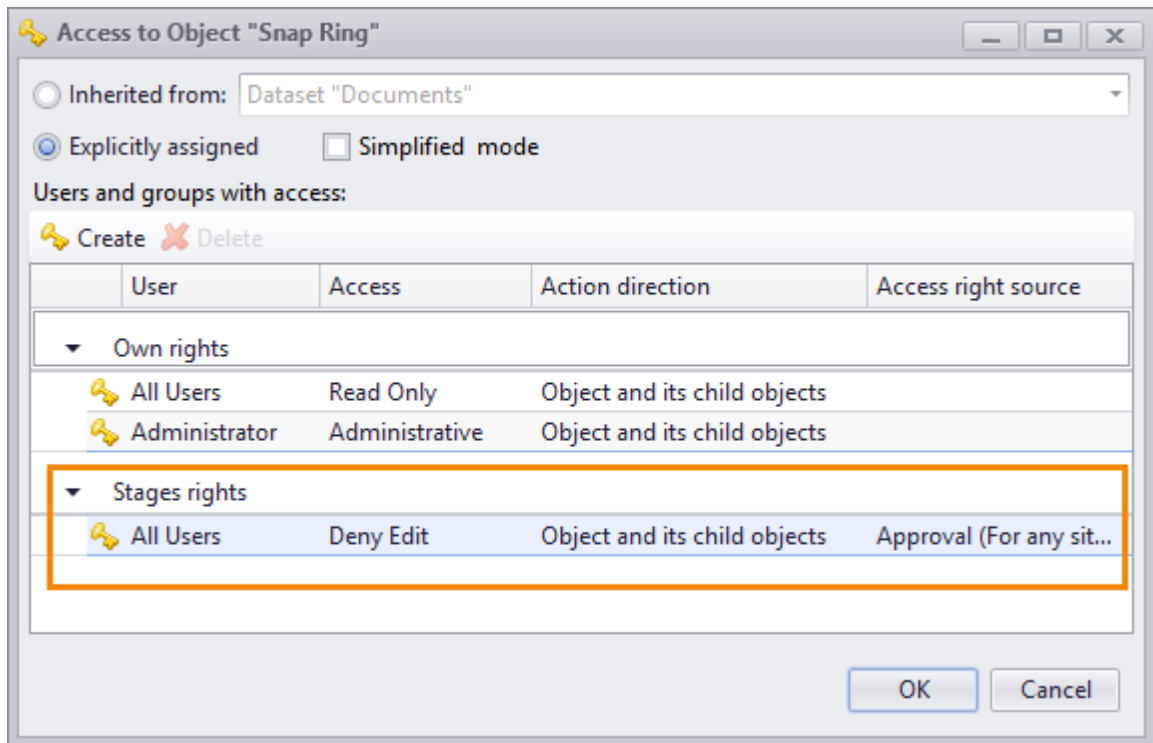


Stages access

If [stages](#) are enabled for a dataset, one of the access right to the object will be access set by settings of the current stage.

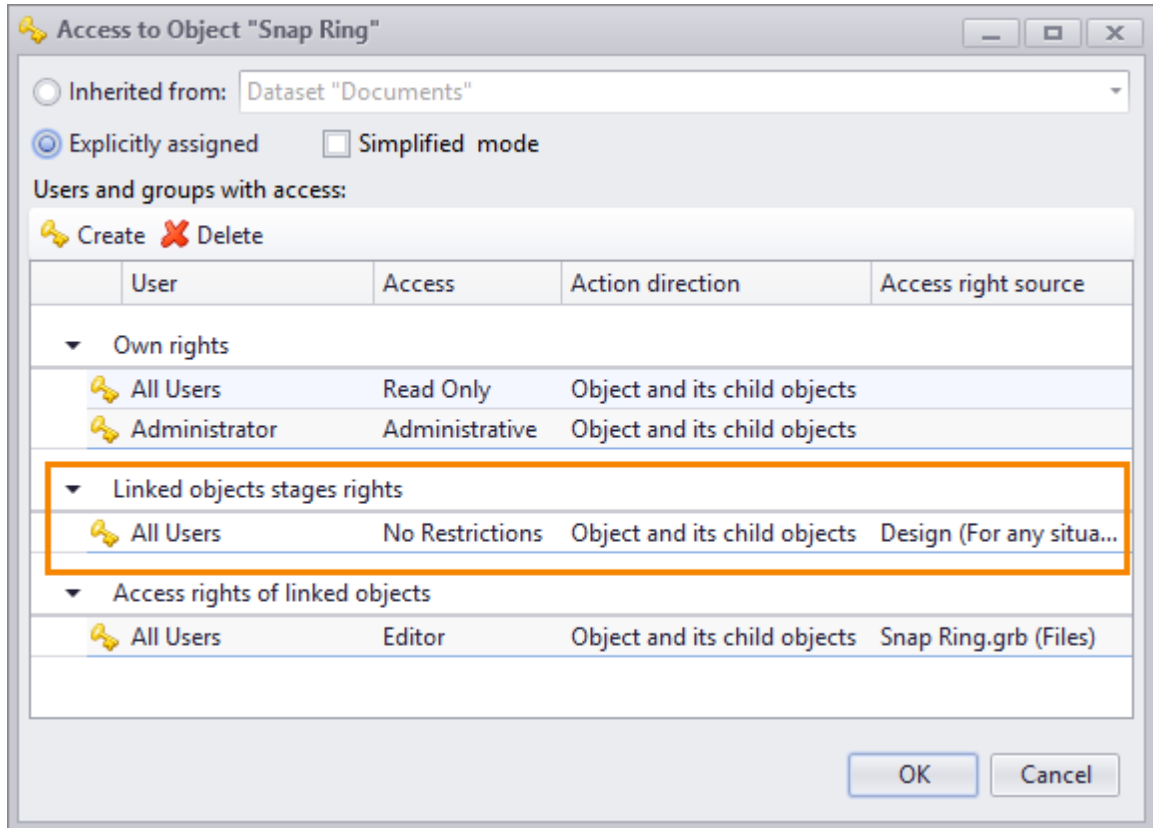
Stages access permissions can be direct or inherited from objects which are higher in the dataset's hierarchy and from objects of other datasets via set link. If stage of the parent object is changed, child object will automatically have its access permissions.

Stages access are displayed in the **Access to object** dialog box in the "Stages rights" category. In this case the **Access rights source** column will display the name and description of the current stage.



Inheriting stage access

Stage access is inherited in a similar way to access permissions set to dataset objects. In case stage access is inherited from linked object of another dataset, stage access mode will be grouped into the "Linked objects stages rights" category in the **Access to object** dialog box.



System's special features for processing data

Classifiers

T-FLEX DOCs allows to create values entry formats consisting of letters, numbers and specific characters and apply them to any object parameters. "Classifiers" dataset is used to do that.

For example, Classifier can be used to generate designation for engineering documentation.

Creating classifier

Classifier structure is generated in the "Classifiers" dataset.

Only administrator user can execute such action.

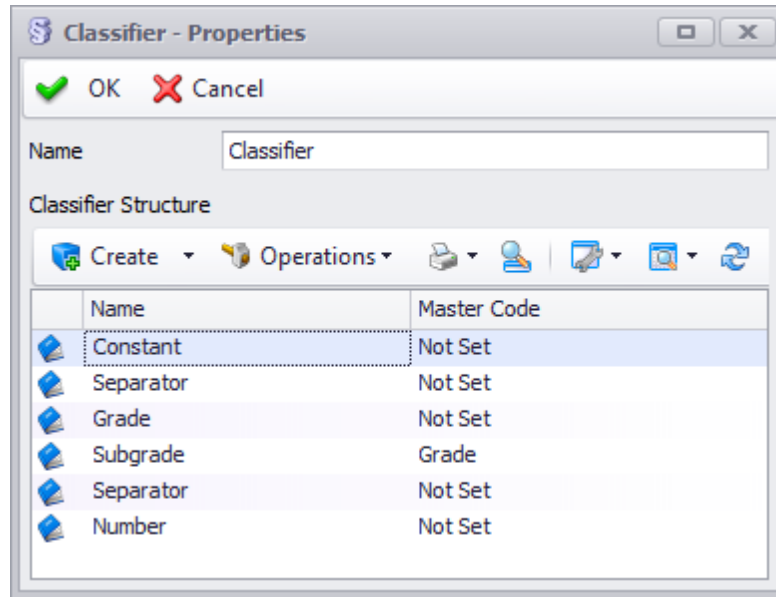
Classification code is represented as list of structural components. There are following types of such components:

- Arbitrary text – it is used to fill text positions of code, including application of mask for entered values. Can have default value.

Mask can have following symbols: symbol d, D and # replaces any digit; symbol w, W or & – any letter.

- Constant – it has limited number of positions and fixed value. For example, with this component user can set name of the organization or delimiting character of the classification designation.
- Code – it allows to select values from linked dataset.
- Additional code – apart from value selection from dataset, it allows to enter value manually. It can be used as an addition to the classification code to provide unique designation.
- Counter – it is used to automatically change value of code component, including changing to specific increment.

Each component defines one or several positions of the classification code. Sequence of components in the list determines its sequence in the classification code.

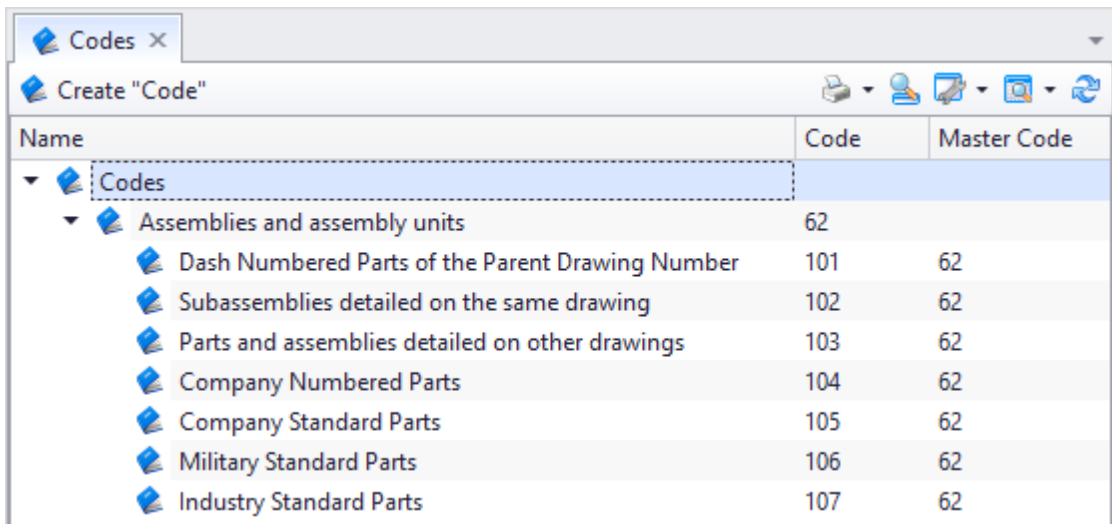


Apart from components order, user can set dependencies of one components from the other, e.g. list of possible subgrade values can depend on grade selection.

User can also set up filters for code components which will select values displayed in the course of positions filling.

To fill classifier with data, custom dataset is created, which has tree of codes with explanations.



Any user with corresponding access permissions can add data to the dataset.



Using classifier to set and breakdown parameter values

After all required datasets are created and classifier is set up, administrator user enables classifier to fill parameter values of a dataset object.

In this case, following options can be set for "Classifier value" control component:

- Allow empty value – allows adding of codes with empty values.
- Remember last entered value – when users sets pointer to the entry field, the system displays last entered value which can be edited manually. In the automatic mode counter gets following value in compliance with register.
- Manual control of the counter – allows to switch between counter value entry modes.  button enables automatic mode where value is set as per register.  button switches back to manual filling.
- Filling without mask – value is entered freely with no mask displayed.



Example of Classifier utilization for designation generation of "Product Electronic Structure" dataset object is provided below.

Administrator user has preliminarily set up custom dialog box with object properties by adding specific field to enter designation as per Classifier.

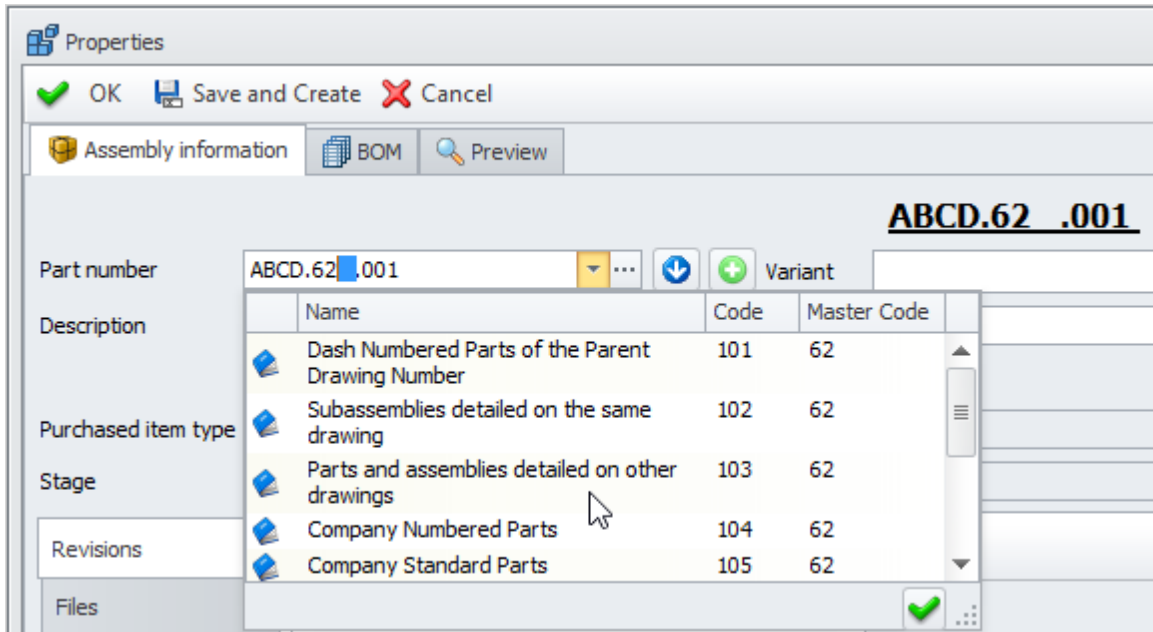
Designation code has three sections divided by period characters:

1. Code of developer organization (4 positions) – letter code of ABCD type assigned to organization which developed documentation.
2. Classification characteristic code (5 positions) – consists of object grade (2 positions) and subgrade (3 positions).
3. Index registration number (3 positions) – provides uniqueness of designation, is set by number from 001 to 999.

In this example code of developer organization and separating character are set by components of "Constant" type, classification characteristic – components of "Code" type, index registration number – component of "Counter" type.

To enter classification code, set the pointer on the **Part Number** field. Code mask appears with following constants: organization name and separating characters. Then user selects codes from the lists opened by clicking on  button. To confirm the choice, click  button.


Lists are generated on basis of dependencies set in the classifier with consideration taken to filters. Each further position of the classification characteristic code will be set considering values of the previous one. This means that list of subgrades will be generated only from values belonging to the selected grade.



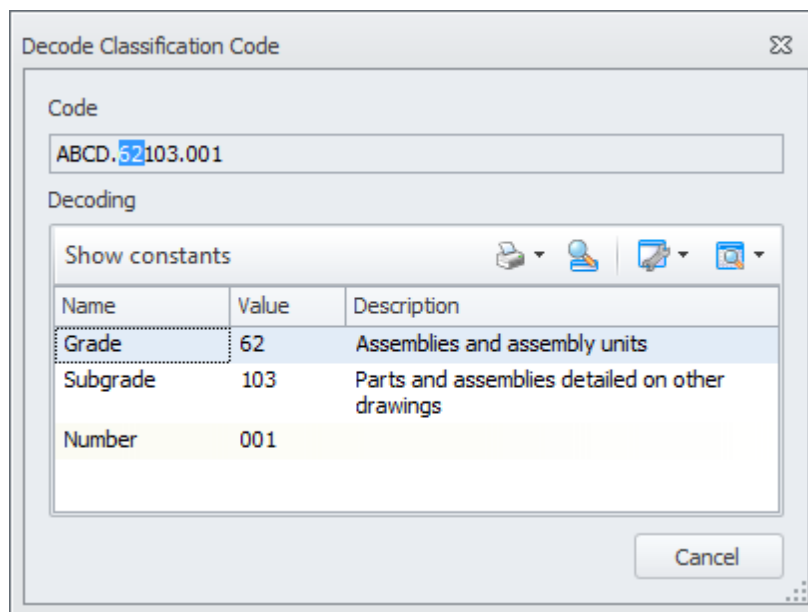
Registration number is automatically set by counter. To save counter values, user must preliminarily create separate register dataset.

Only administrator user can create register of counter values.

Register records part of the classification code up to the component of "Counter" type and last assigned index number corresponding to it. When new object is created with counter used, index number increases in compliance with set increment.

Parameters values breakdown as per classifier can be performed in a separate window. To open it, click  button on the right of the field for parameter value or in the object properties window via "Breakdown as per classifier" control component.

Only administrator user can perform corresponding setup of the object properties window.




In the window for breakdown of classification code there is a "Show constant" mode. In this mode the list will display constant values in addition to values selected from the classifier.

Data export and import

The system provides user with numerous opportunities to transfer data from server to T-FLEX DOCs server and to external applications.

Export of dataset window data

To export dataset window data into one of standard format, click  button on the toolbar. Data can be exported into following formats:

- PDF,
- HTML,
- MHT,
- XPS,
- RTF,
- XLS,
- XLSX,
- TXT.

Option is applied to active window data. The system includes list of objects displayed in the window to the file. In case of "List" and "Tree" display modes, all objects seen in the window are exported. "Tree and List" mode allows to export either tree or list of objects depending

on which part of window was focused.

Only those objects parameters displayed in the window will be exported.

If conditional formatting is used in the dataset window, it will also be saved in the result file. Files of TXT format are the exception.

Nomenclature	Position	Quantity	Stage	
Product Electronic Structure				
007 - Shift collar			Approved	
X1777 - Converter			Development	
CM-1 - Cam Mechanism			Development	
17.33 - Cam Mechanism		1	Development	
17.33.1 - Support	1	1	Development	
17.33.3 - Shaft	3	1	Development	
17.33.4 - Cam	4	1	Development	
17.33.5 - Handle	5	1	Development	
17.33.6 - Knob	6	1	Development	
17.33.2 - Pushrod	2	1	Development	
00.00.00 - Ball Valve			Development	

Name of export file and its location is set in the standard dialog box for saving opened by export option. After export is finished saved file can be opened, if necessary.

Nomenclature	Position	Quantity	Stage	G...
Product Electronic Structure				
007 - Shift collar			Approved	
X1777 - Converter			Development	
CM-1 - Cam Mechanism			Development	
17.33 - Cam Mechanism		1	Development	
17.33.1 - Support	1	1	Development	
17.33.3 - Shaft	3	1	Development	
17.33.4 - Cam	4	1	Development	
17.33.5 - Handle	5	1	Development	
17.33.6 - Knob	6	1	Development	
17.33.2 - Pushrod	2	1	Development	
00.00.00 - Ball Valve			Development	

Files export and import

T-FLEX DOCs allows to export and import files from [file storage](#) to user's PC. To perform these actions, use one of the following options in the "Files" dataset: **Export files**, **Import files** and

Import folder.

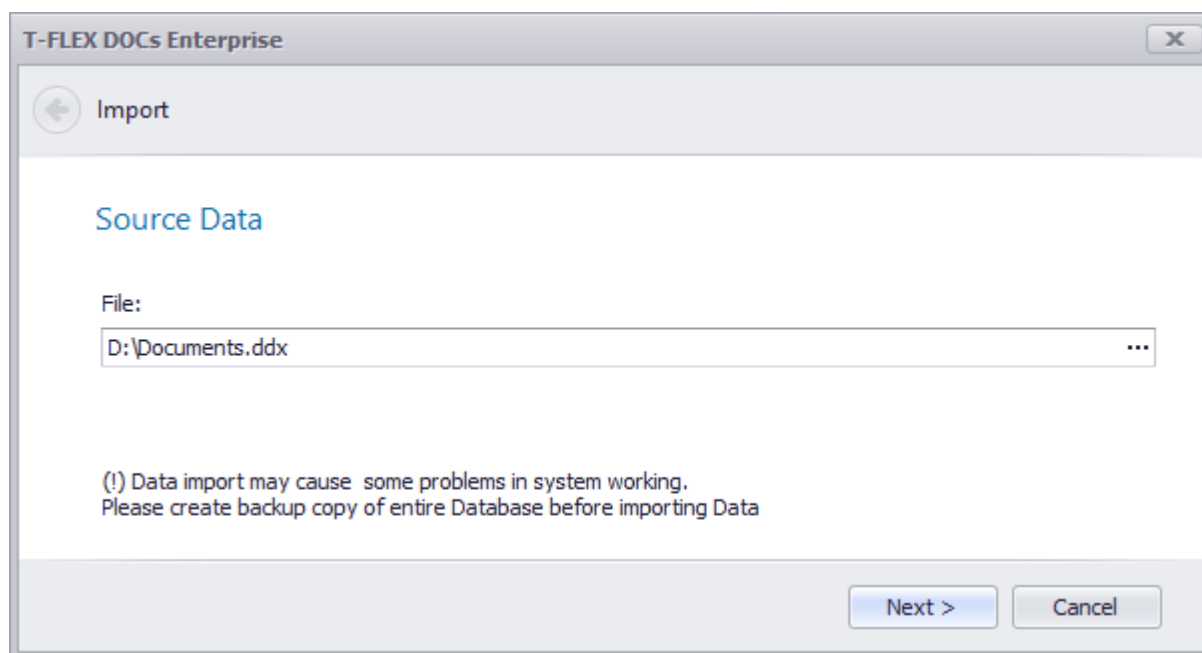
Data transfer between T-FLEX DOCs servers

Dataset data transfer between T-FLEX DOCs servers is performed with the help of DDX exchange file. Exchange file can contain full datasets, some of their objects, objects of other datasets linked to them (including files and folders), as well as dataset structures.

Possibility to import a system component depends on user's access permissions.

To import data from DDX file, select main menu option **File > Import**. The system will open multipage dialog box to set up import parameters.

First page is used to select data source – DDX file.



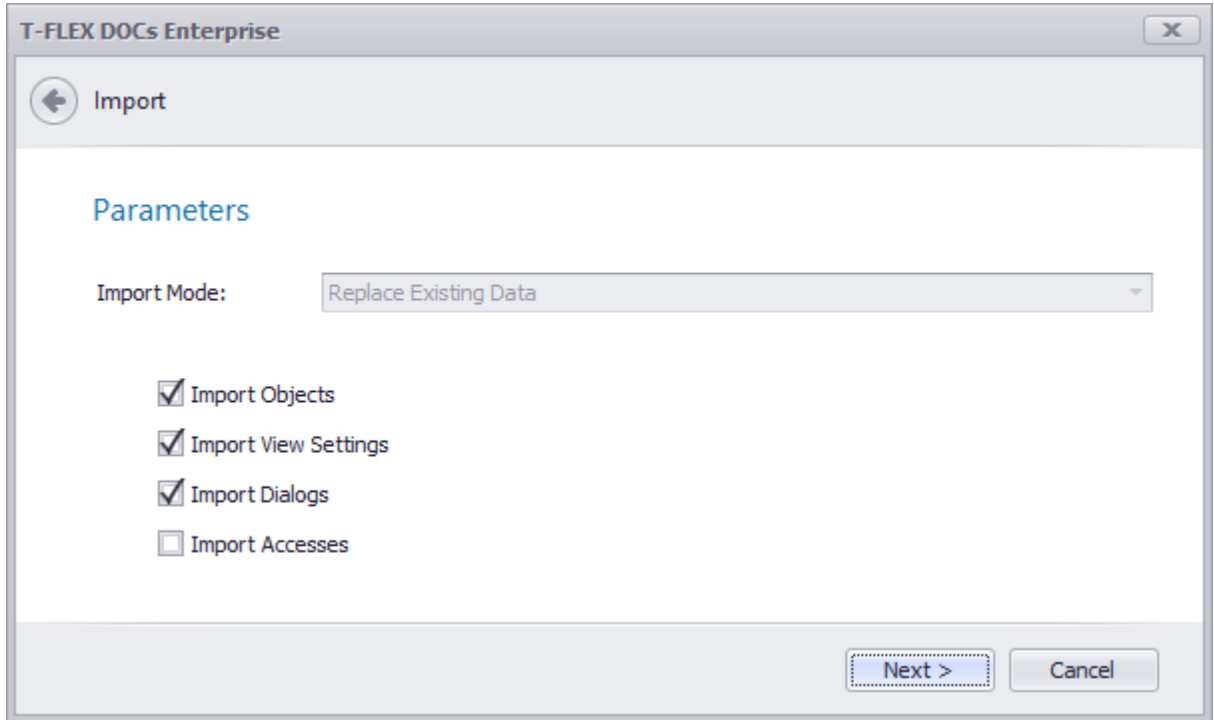
To switch to next dialog page, click **[Next]** button, to switch to previous page –  button.

On the **Parameters** page user makes import settings.

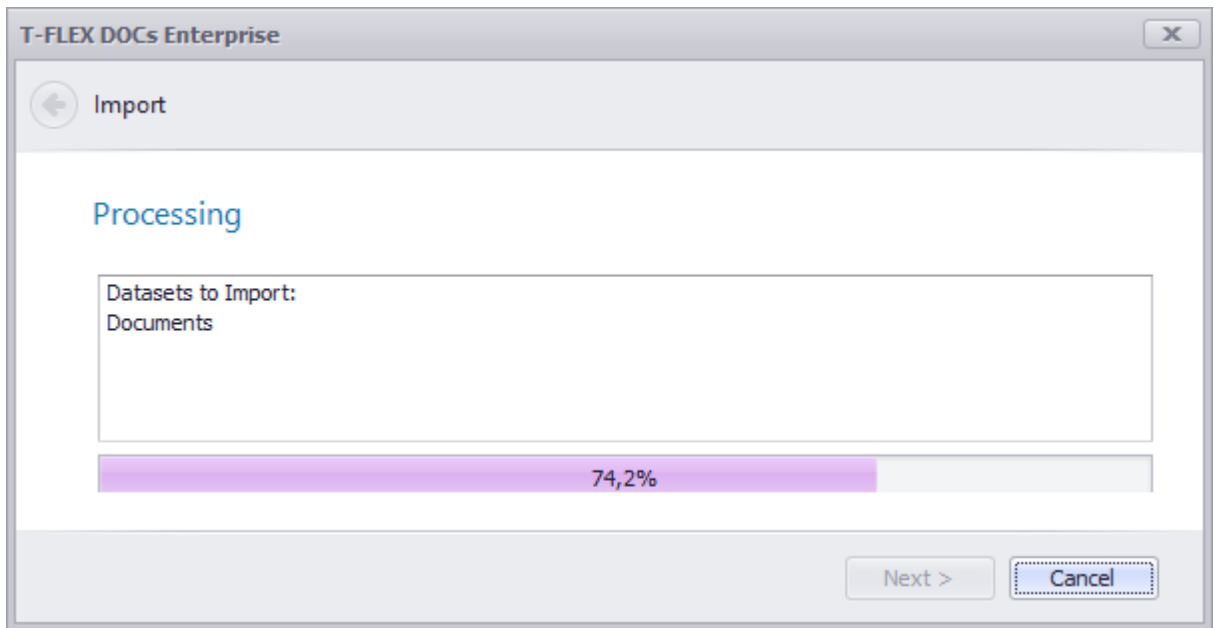
Import Objects box allows/prohibits import of objects (if there any in the exchange file).

Import View Settings and **Import Dialogs** boxes control import of view settings and dialogs for objects (if there are any in the exchange file).

"Replace Existing Data" import mode means that imported data will be updated on the receiver server or created, if there is no existing data.

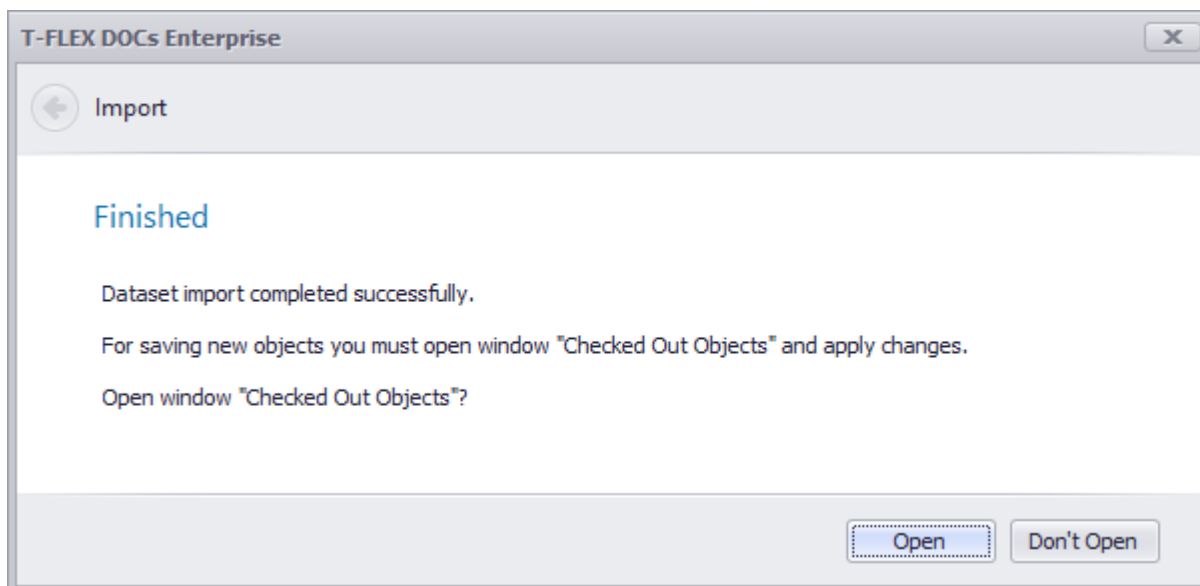


Click [Next] button to start import process. **Processing** page displays status of import process.



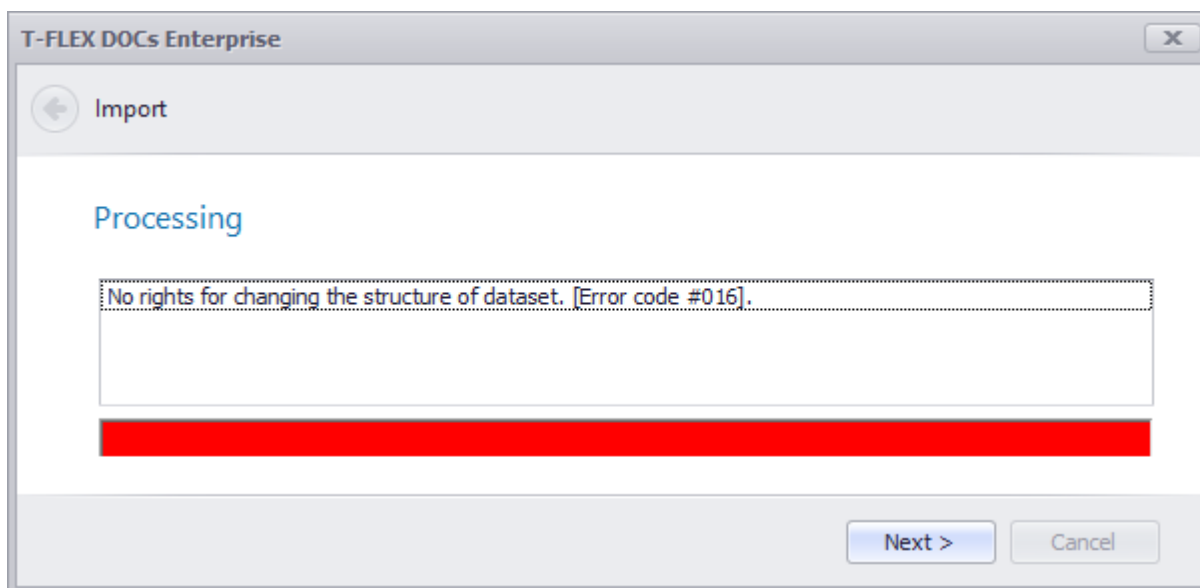
Datasets objects without history of changes are saved as soon as import process finishes. If a dataset has history of changes, imported objects will have "Added" or "Edited" status first. Then they can be saved to the dataset by applying changes.

When import is finished, the system offers user to switch to **Checked Out Objects** to apply changes.



Imported objects parameters and dataset structures update automatically or are created, if there are none.

If current user has no access to import data from selected DDX file, the system shows error message.



Pasting tabular data

Data from external applications with enabled work with tables, e.g. Microsoft Excel, [can be imported to T-FLEX DOCs via clipboard](#).

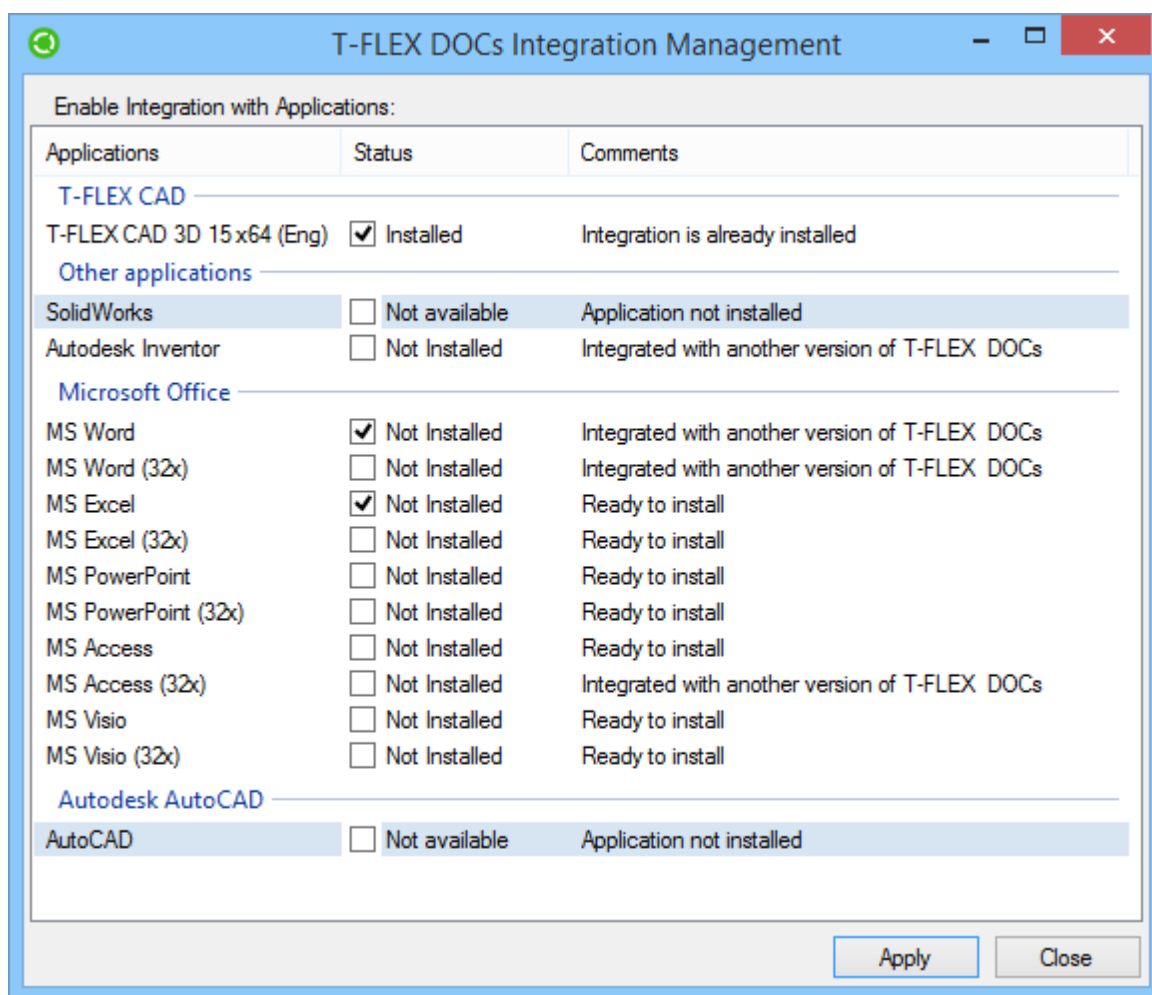
Intergration with Microsoft Office

Integration mode allows to exchange data between T-FLEX DOCs and Microsoft Office applications.

"T-FLEX DOCs Integration Configuration Tool" utility is used to enable integration with external applications. To start this utility, click left mouse button on its name in the **All apps** list (Microsoft Windows 10), in the **Applications** display (Microsoft Windows 8) or in the **All programs** list of the **Start** menu (earlier versions of Microsoft Windows).

The opened window displays the list of applications available for integration, as well as information on integration possibilities with each of them. User checks boxes with applications to be integrated with and click **[Apply]** button.

To disable integration with the selected application, uncheck corresponding box.





After integration is set up, the feed of the application window will display additional tab to work with T-FLEX DOCs.








Buttons on this panel perform following functions:

1.  T-FLEX DOCs – opens T-FLEX DOCs in a separate window.

2.  **Connect** – establishes connection to T-FLEX DOCs server.
3.  **Open** – allows to open file from the T-FLEX DOCs storage in the Microsoft Office application window.



By default, selection is made in the "Files" dataset, but user can open files from other datasets linked with "Files" dataset, e.g. "Office documents" dataset.

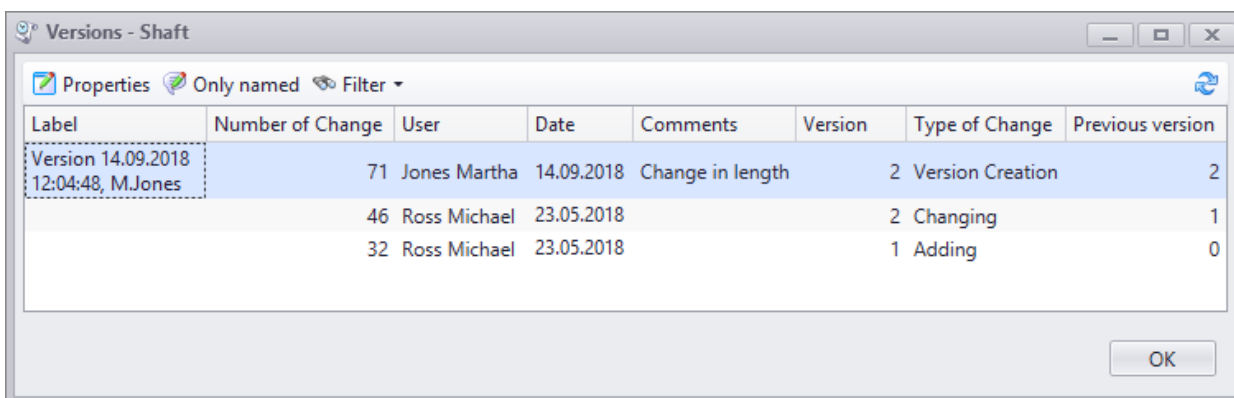
If the **For preview** box is checked, file will be opened only in the "Read-Only" mode.

4.  **Save** – saves opened file of the application to the T-FLEX DOCs file storage.
5.  **Disconnect** – disconnects from T-FLEX DOCs server.
6.  **Check out** – for the opened file of the application the system executes T-FLEX DOCs action **Check out**, i.e. file becomes available for editing to current user and unavailable for editing to other users.
7.  **Check in** – executes action **Apply changes** to opened file of the application.
8.  **Undo** – executes action **Cancel changes** to opened file of the application.

Working with versions

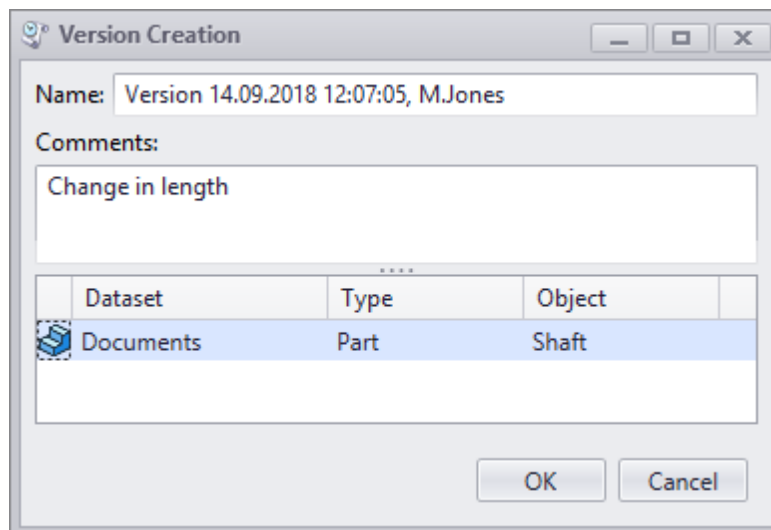
T-FLEX DOCs provides user with possibility to save previous object version. Number of versions is unlimited.

Object versions management is performed in the **History of changes** system window. To replace current object version with previous one, select required object and its version and click  button on the toolbar. It is also possible to review list of all versions for selected objects by clicking  button on the toolbar. The opened window allows to switch to required change in the object and to apply selected version of the object.



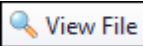
Window with list of object versions can be opened via right-click menu of the object from the dataset window.

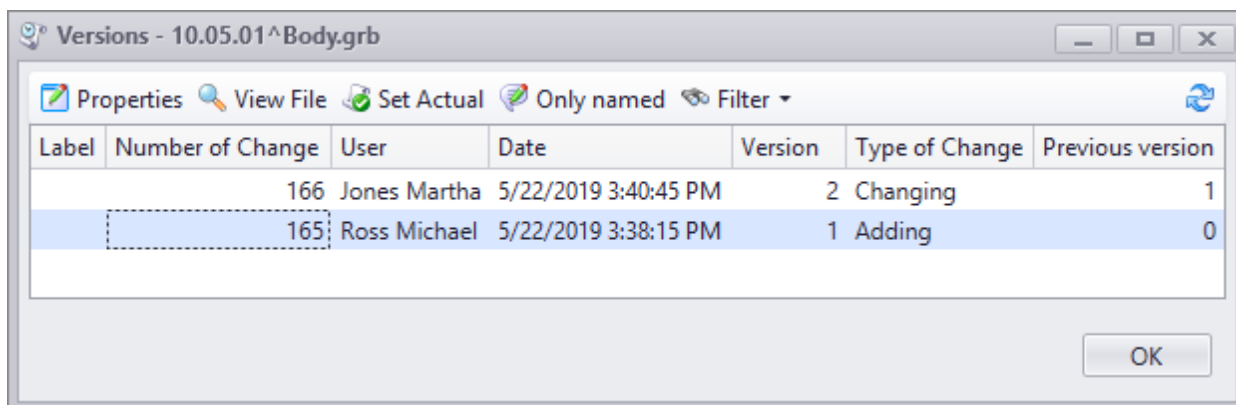
In T-FLEX DOCs user also can create named object versions. This can be done via right-click menu of the object by selecting option **Create version**. In the opened window user can set version name and comment to it. In prospect it allows to easily navigate list of versions and find the required one.



With  button clicked the **Versions** window will display only versions with names.

To switch to the selected change in the **History of changes** window, click  button.

Moreover, T-FLEX DOCs allows to review specific file version from the "Files" dataset. To do this, select required version from the versions list for this file and click  button.



Handling enhanced encrypted electronic signatures

Object parameters and file contents in T-FLEX DOCs can be confirmed with enhanced encrypted electronic signatures. Such signatures are generated as a result of data cryptographic processing with the help of electronic signature key. Enhanced encrypted electronic signatures provide following possibilities:

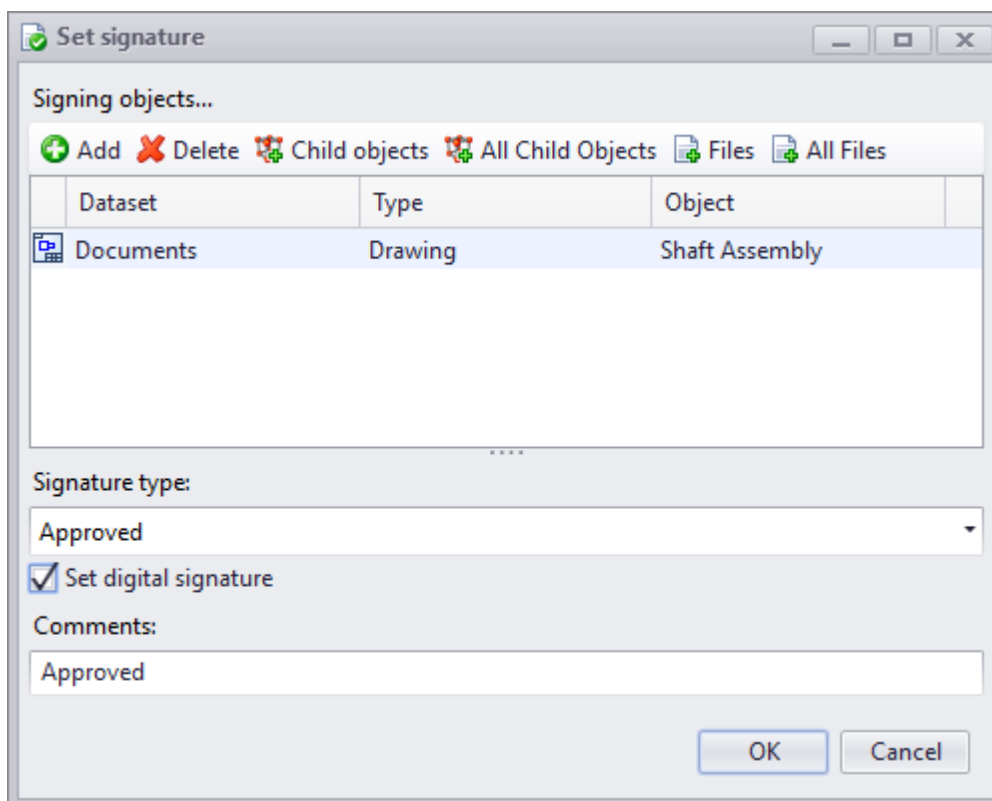
- Signed object parameters and file contents monitoring.
- Guaranteed authenticity of the signed objects.

- Confirmed authenticity of the signature.

User must enable signatures interface for the dataset to the objects of which an enhanced encrypted electronic signature is attached. Only administrator user can do this.

To attach an enhanced encrypted electronic signature to the system object:

1. Select the dataset to the objects of which the enhanced encrypted electronic signature will be attached.
2. Select the object to which the enhanced encrypted electronic signature is attach and select the right-click menu option **Advanced > Set signature...**
3. In the Set signature new dialog indicate signature type and check the **Set digital signature**.



List of signature types for the objects of the selected dataset is set up by the administrator.

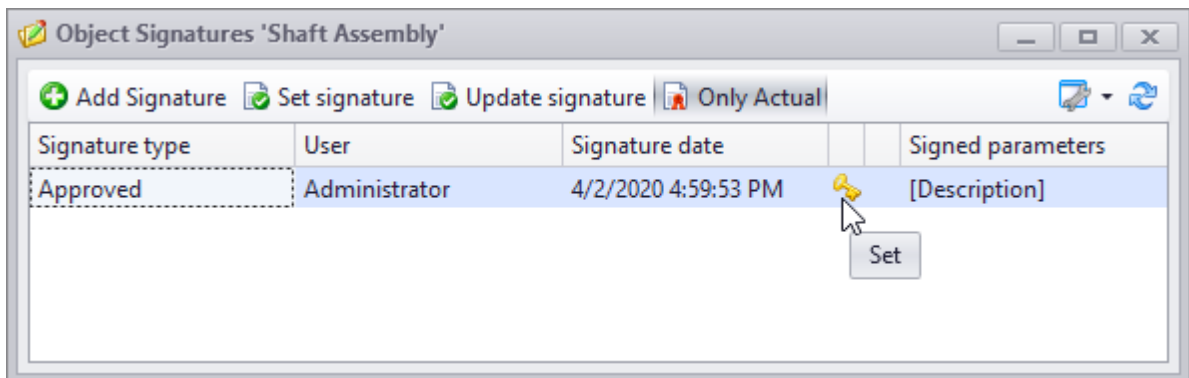
Description of the Set signature dialog box is provided in the chapter "[Electronic signatures](#)" of the section "Document flow organization".

4. After the [OK] button select signature key certificate.

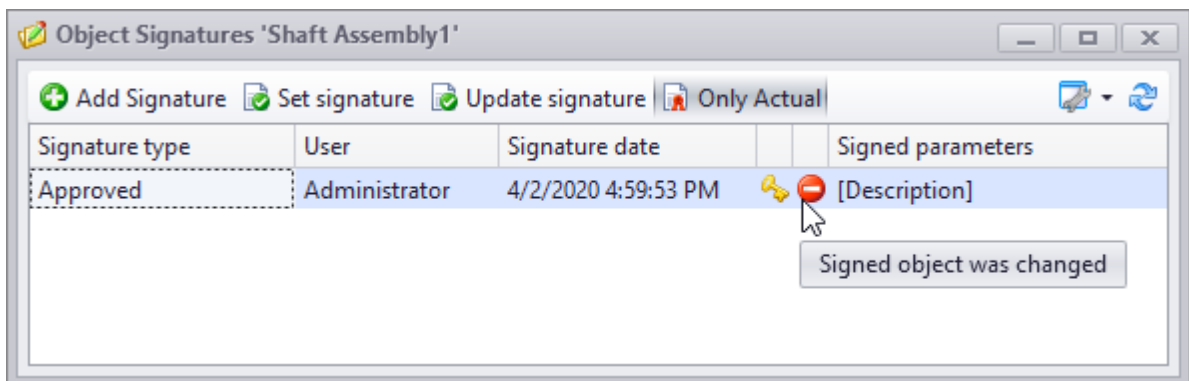


The attached enhanced encrypted electronic signature will be displayed in the [Object signatures](#) window similar to basic electronic signatures.

In the **Object signatures** window, there is an additional column for the enhanced encrypted electronic signature indicating that such signature was attached, as well as the Signed parameters column containing the list of the signed parameters.



When the parameters are changed after the signature is attached, the data check column will display following symbol:



List of object parameters to be signed is set by the administrator. In case there is no information in the parameters of the object to which such signature is attached, then after the **[OK]** button in the Set signature dialog the system displays corresponding notification and question on attaching basic electronic signature.

In case enhanced encrypted electronic signatures are attached to the "Files" dataset objects, system will also monitor changes in the contents of the files together with changes in the objects parameters.

Contact us to request information about T-FLEX software, our Academic Program, or if you have ideas on cooperating with Top Systems

www.tflex.com/mail

Contact Us



www.tflex.com

(7-499) 973-20-34
(7-499) 973-20-35

