Table of Contents

1 Introduction

YouTube

Watch our video tutorials on working with the report server. Subscribe to the Stimulsoft channel and be the first who watches new video tutorials. Leave your questions and suggestions in the comments to the video.

Samples

Check out the examples on our website on how to work with our report server. All samples are individual projects, grouped in one solution for Visual Studio. Also, you can view and download these examples on GitHub.

Stimulsoft Server is a client-server system for data management. This product is used to simplify the displaying of any data using reports, tables, charts. Data is automatically collected, visualized, converted to the required form, and delivered to end-users. The functionality and power of the reporting module are implemented by the time-tested, modern, and fast Stimulsoft report engine.

The main tasks that can be solved using the report server:

- Converting data from the database into multi-page reports with graphic elements;
- Building and editing reports using the built-in designer;
- Storing reports in the workspace of the server;
- Processing data using the powerful built-in scheduler;
- Notification of users about server events related to data processing, etc.

Introducing

System Requirements	Installation	Structure

Getting Started

Sign Up	Subscriptions	Server Controller

Scheduler

Type	Settings	Actions

Basic Items

Report	Dashboard	Data Source

Other Items

Folder	Calendar	File
File Storage	Contact List	Result Name

Workspace

Users Tab	New Role	New User

Additional Options

Share	Using	Versions

Another Features

Designer	Viewer	Export

Information for Creators

Report Internals	Dashboards	Quick Start

1.1 System Requirements

Minimum system requirements are:

- 2-core processor, the frequency at least 2.31 GHz;

- 2 GB of RAM;
- At least 500 MB of free space;
- Installed Microsoft .NET Framework 4.7.2.
- Installed Internet Information Services.

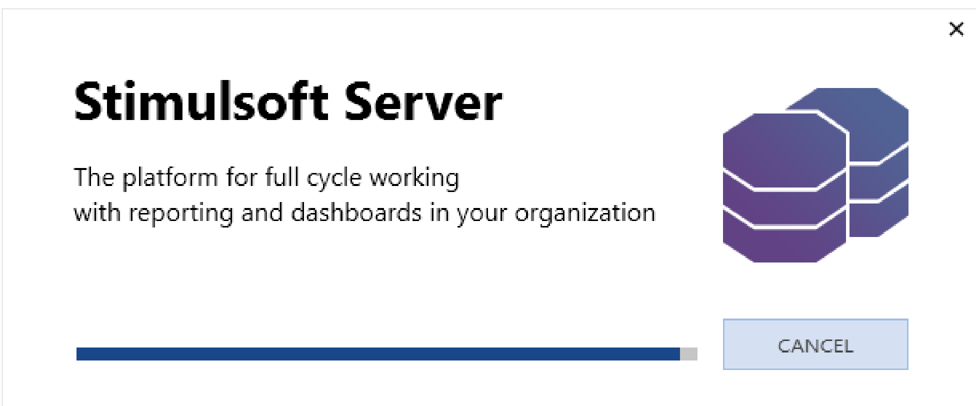
1.2 Installation

Download the package Stimulsoft Server. Installation of the report server goes in several steps:

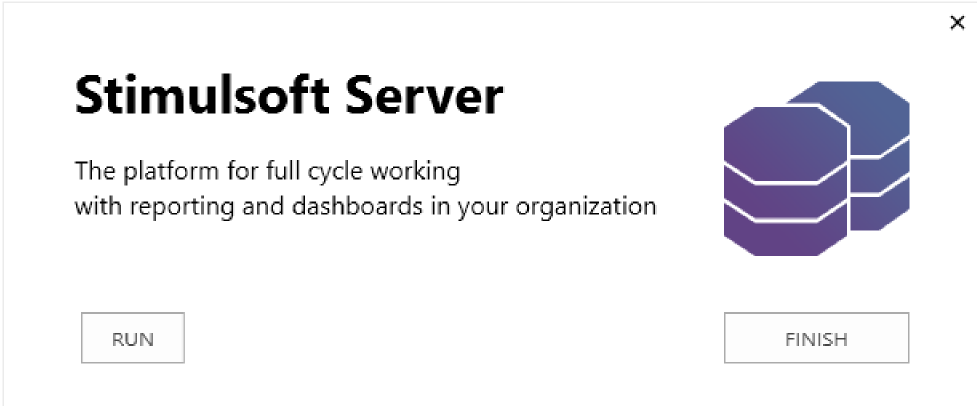
Step 1. The installer initiates configuration, checks the PC configuration.

Step 2. After successful initializing, you will see a window in which you have to click **Install** to start the installation process.

Step 3. No user interaction is required on this step. The installation process goes automatically.



Step 4. Click **Finish** after a successful installation.



Install .NET Framework 4.5 and IIS

Let's consider how to install **.NET Framework 4.5** and **Internet Information Services**. A prerequisite for the installation of the platform and service is the availability of an internet connection.

› Installing **.NET Framework 4.5**

Before starting the installation, you should review the system requirements.

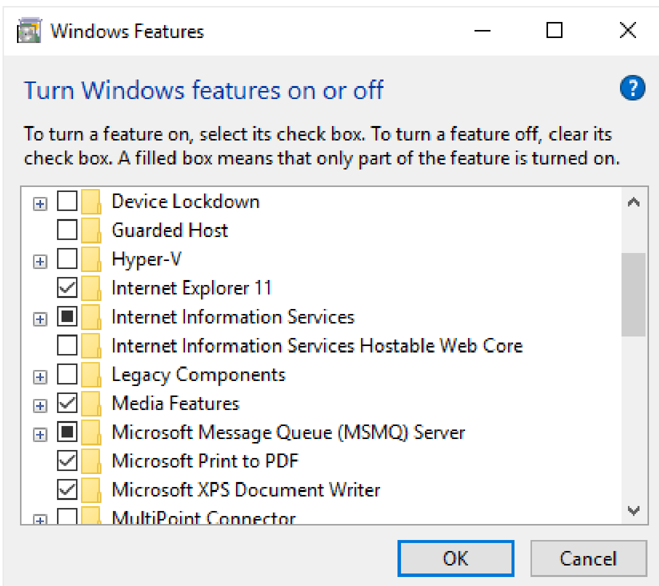
Criterion	List
Supported OS	Windows 7 Service Pack 1; Windows Server 2008 R2 SP1; Windows Server 2008 Service Pack 2; Windows Vista Service Pack 2 Windows Vista with 2 (SP2) (x86 and x64) Windows 7 with 1 (SP1) (x86 and x64) Windows Server 2008 R2 with 1 (SP1) (x64) Windows Server 2008 SP2 (x86 and x64) Windows 10
Hardware Requirements	Processor 1 GHz and higher RAM 512 Mb 850 Mb free space (x86) 2 Gb free space (x64)

After that, you need to download the installer from the official website and install the product.

› Installing **Internet Information Services (IIS)**

The installation procedure of the service can be performed through the Windows OS interface:

1. Click the button **Start** and select **Control Panel**.
2. In the **Control Panel**, click **Programs**, and then **Turn Windows Features on or off**.
3. In the **Windows Features** dialog box, click **Internet Information Services** and then click **Ok**.



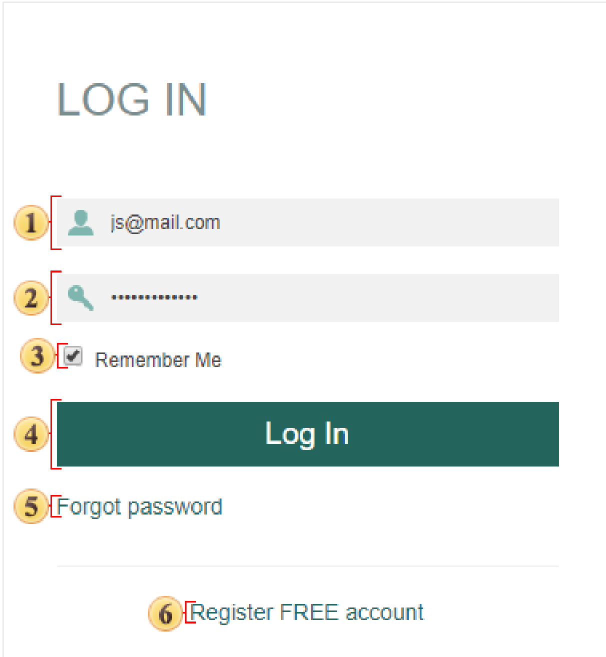
Information

To install IIS, you need to be "Administrators".

More information about IIS can be found on the official website of Microsoft.

1.3 Login Dialog

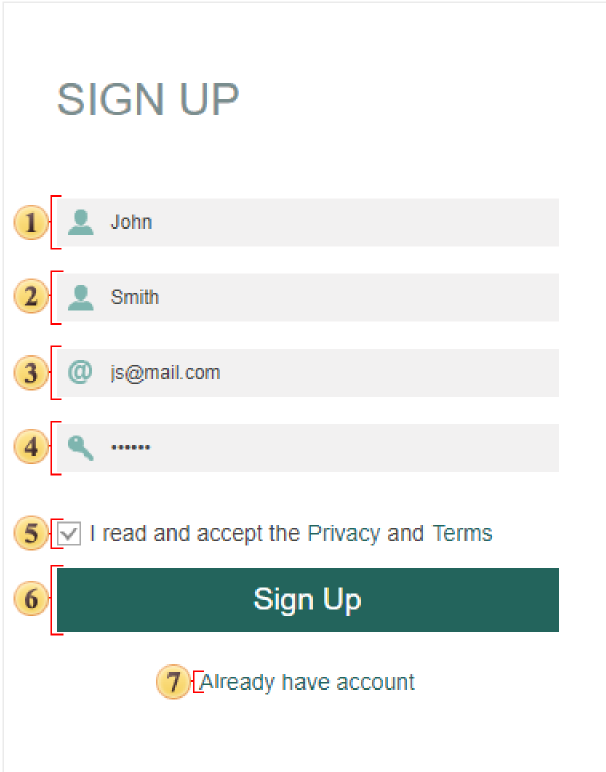
When you run **Stimulsoft Server**, the first menu displayed is user authentication. Here you must specify the username and password of an account to get to the workspace. Below is the login dialog:



1 In this field, you enter a user name (login) of your account. A login account can be an email address provided in the process of registration.
2 In this field, you specify the current password for your account.
3 If you check this flag, the Login and Password fields will be automatically populated with authentication information, using which the last entry was made with the computer.
4 When you click this button, the entered authentication information is verified. If authentication credentials are correct, there will be signing in.
5 Click this item, if you need to restore your password.
6 This button redirects you to the registration form of a new account with a new workspace.

Sign Up

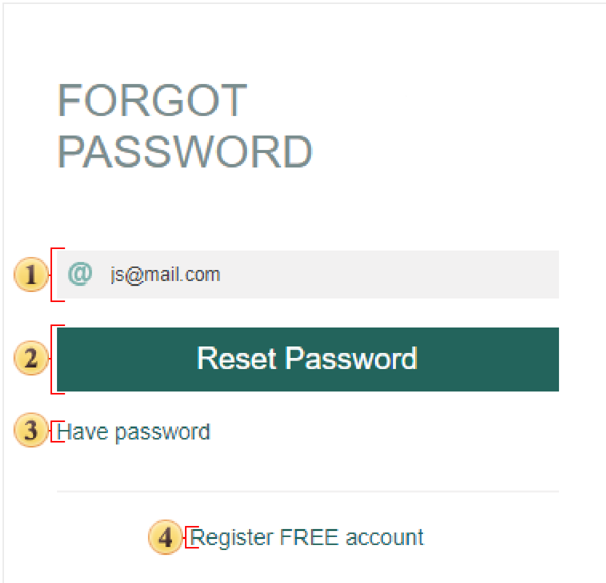
If you want to register a new account and workspace, go to the Registration menu and fill in the user profile.



1 Put your first name.
2 Put your second name.
3 Type your email address (login) of the future profile. You should remember that the email address provided here is the login to access the account.
4 Type the password to your account. Minimum 6 characters are allowed in the password.
5 Go to the terms of the license agreement. Do not forget to read this!
6 After clicking this button, a new account with a working space will be created.
7 Click this menu item if you do not need registration or already have the account.

Forgot Password

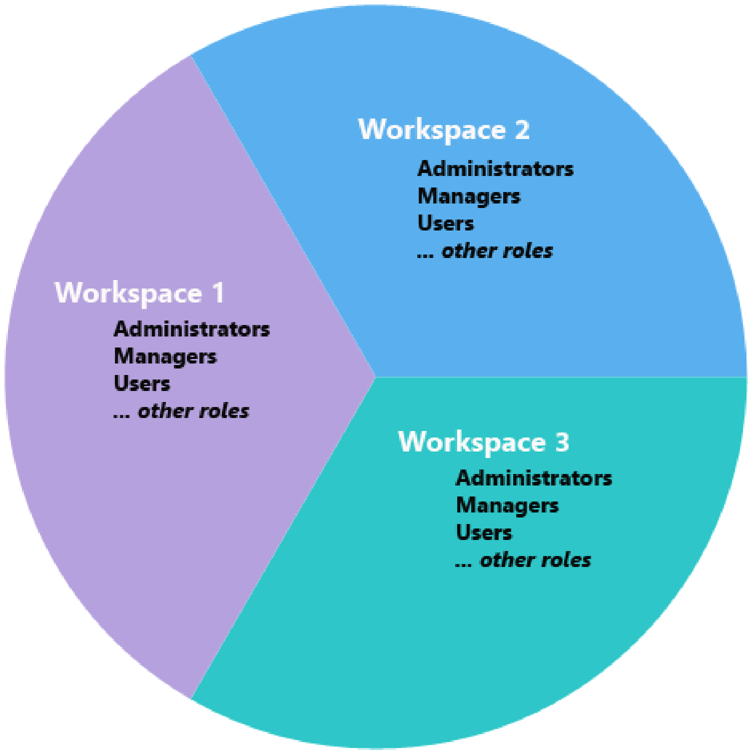
Sometimes you need to log in to your account but forgot your password. To recover your password, use the following menu.



1 This field specifies the Username (email address) that is used for logging into your account.
2 After you click this button, your current password will be reset, and a new one will be created and sent to the email address specified when filling the registration form.
3 This button redirects you to the registration form of a new account with a new workspace.
4 This button closes the menu.

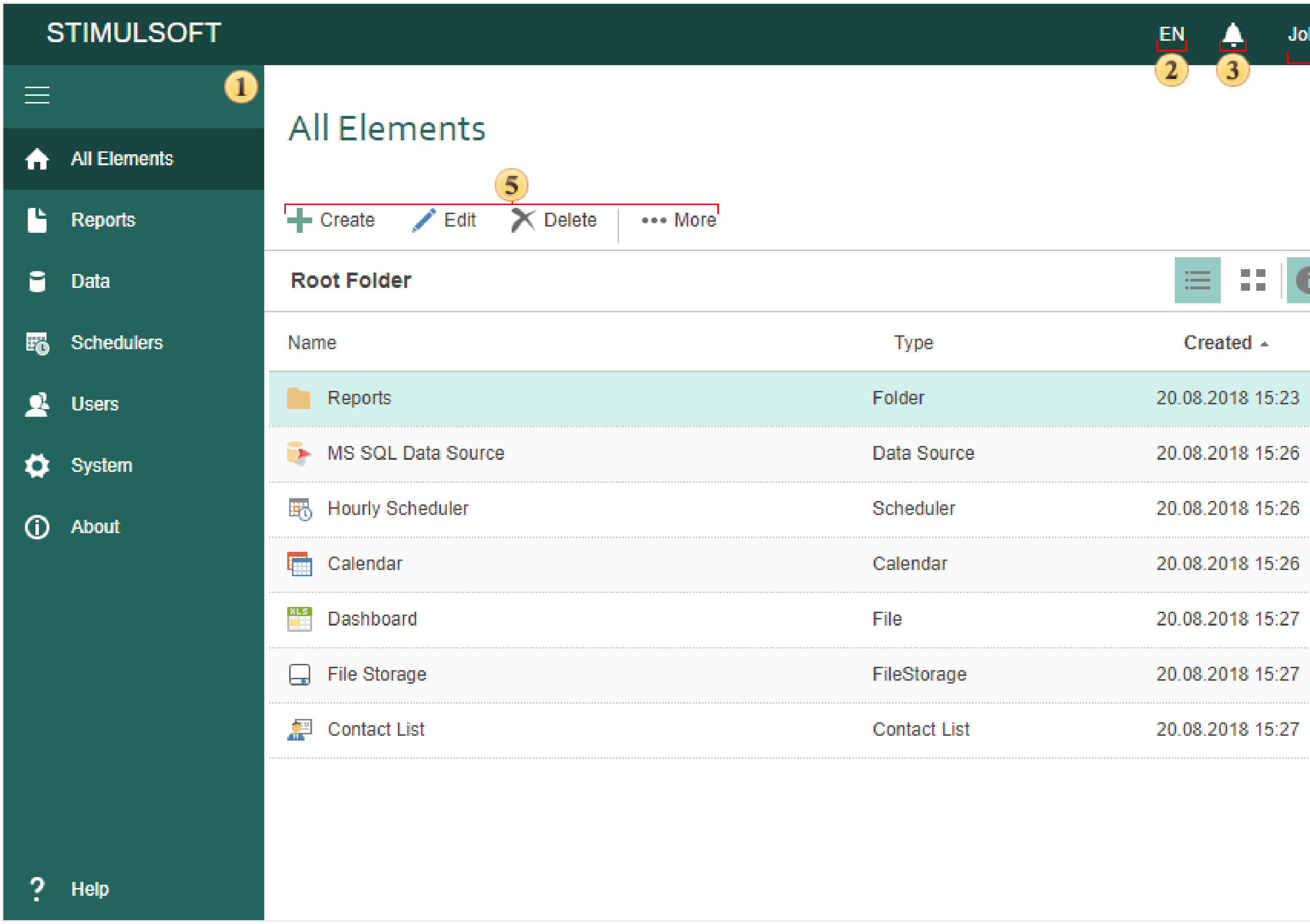
1.4 Structure

Stimulsoft Server is a sophisticated software that has a client-server architecture. Data of different users are separated by different workspaces. The picture below shows a system with three **workspaces**:



Users who have the role of the **Supervisor** manage the server. They have absolute rights in all **workspaces** on the server. In particular, they have the right to create and delete workspaces. Besides, each workspace has **administrators**, **managers**, **users**, and other roles that perform certain activities within their workspace.

Stimulsoft Server is a client part of the server, using what actions are carried out on the server. Consider the structure in more detail.



1 The **Bookmarks** panel of the server.
2 The **Localization** button. Click this button to expand the list of server localization.
3 The **Notifications** button. New notifications will be created when various operations with the server item will be performed. Click this button to show a log of server notifications.
4 Click this button to open an account profile.
5 The toolbar contains basic commands to work with server items.
6 The view modes panel of the item list.
7 The list of items in this server workspace.

Information

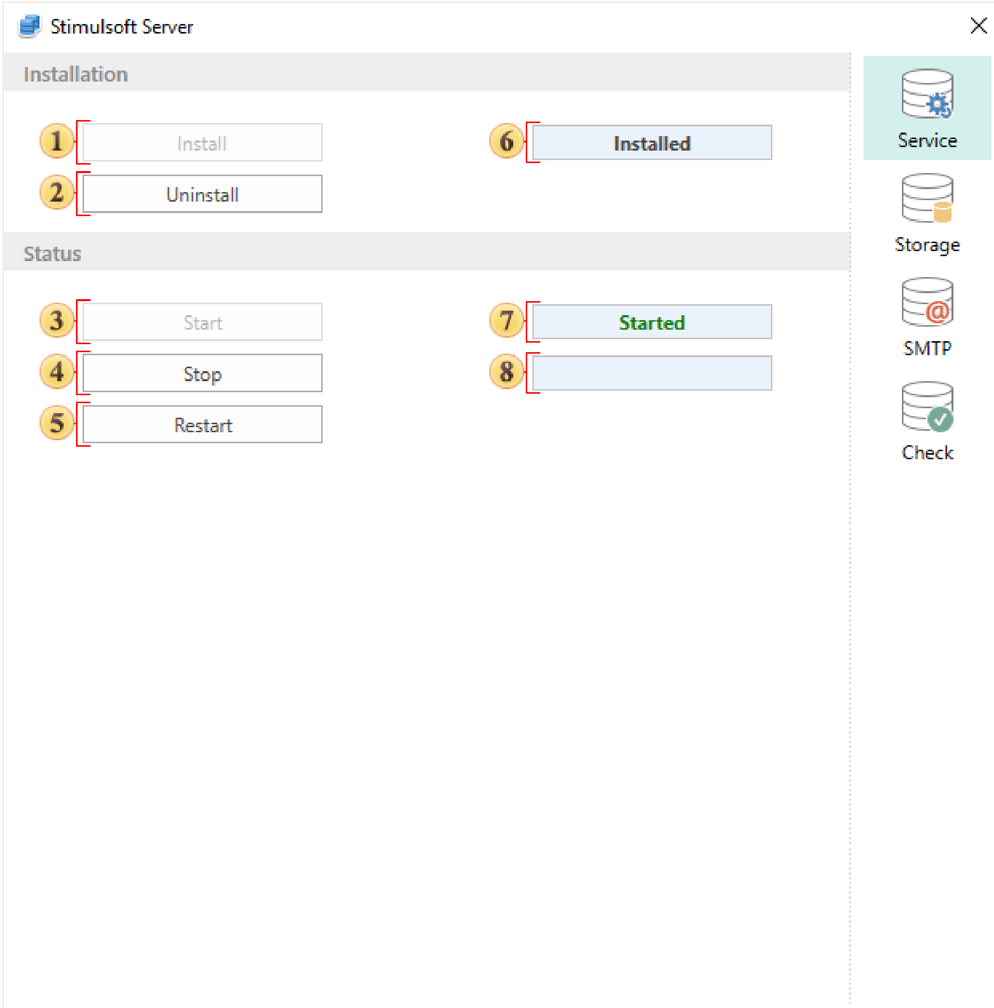
The user may have another root folder, and then the items list will be another for him.

Run in Background
These operations can be performed in the background. The background mode provides the ability to perform an unlimited number of activities simultaneously. In this case, the number of operations in the background mode depends on the technical abilities of the server. To enable the background mode, you must check the Run in Background flag in the dialog window of the operation (removal, restoration, cleaning the recycle bin).

1.5 Server Controller

The server controller can control **Stimulsoft Server**. This utility is installed with the server and folded into a tray on the taskbar. With this utility, you can delete, stop, start, and restart the report server, change the database used by the server, check for server issues. All commands to control the server are separated into tabs: Service, Storage, SMTP, Check. Consider these tabs in more detail.

The tab **Service**
On the Service tab, you can find the server controls.



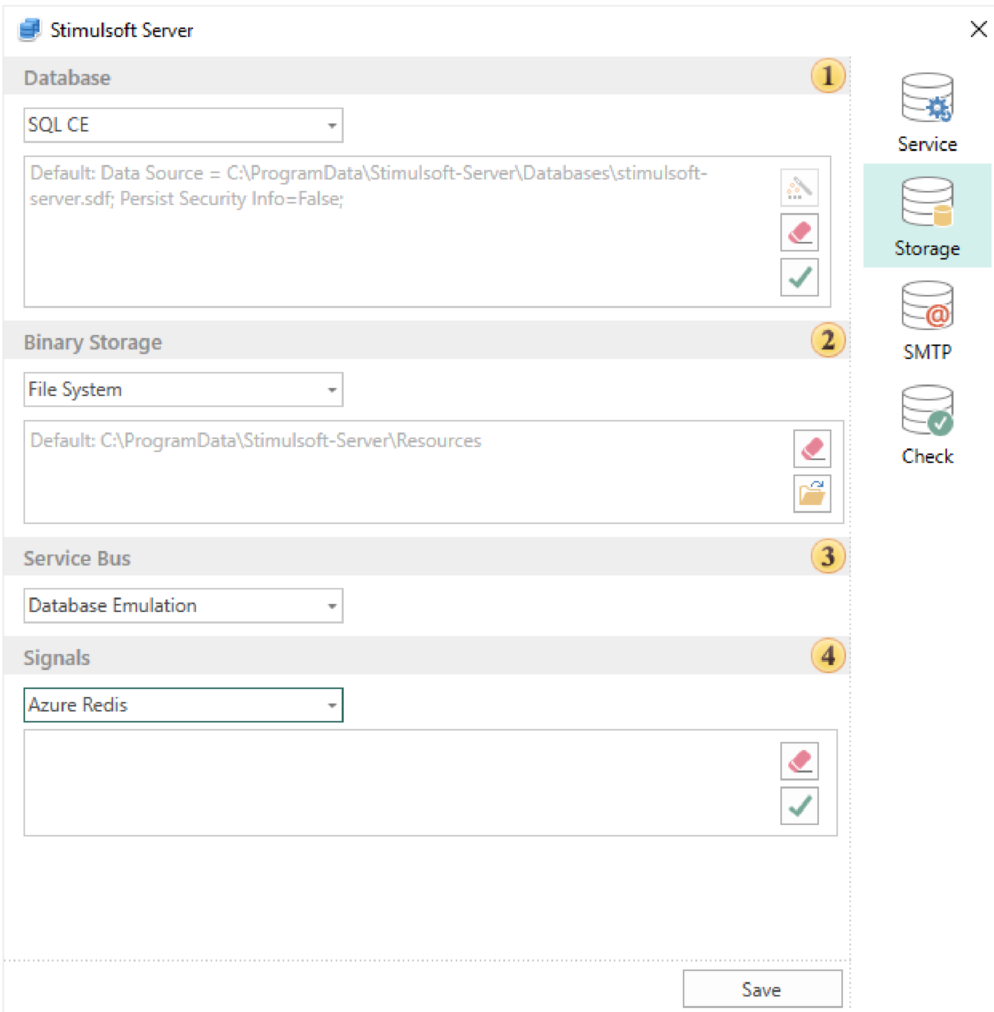
1 The install button of **Stimulsoft Server**. The button is disabled when the server is installed.
2 The uninstall button of **Stimulsoft Server**. Uninstalls the report server.
3 The **Start** button runs the report server.
4 The **Stop** button stops the report server.
5 The **Restart** button the report server.
6 The field shows the current state of the server.
7 This field displays the status of the **running** server. If the server is stopped, this field is blank.
8 This field displays the status when the server is **stopped**. If the server is running, this field is blank.

The tab **Storage**
Stimulsoft Server can be run only on the following types of databases - **MySQL**,

MS SQL, **SQL CE**.

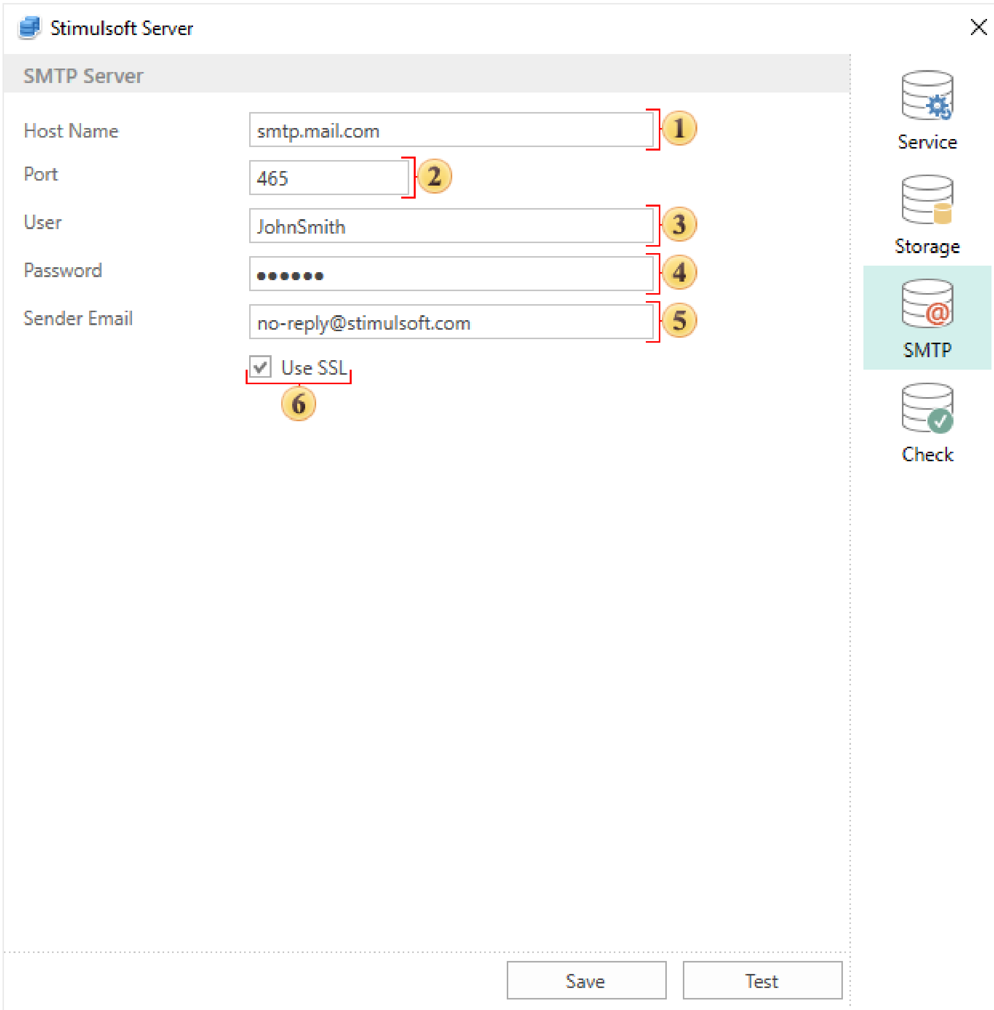
Information

It is important to understand that the server saves its structure in these databases MySQL, MS SQL, SQL CE.



1 The **Database** field specifies the database for Stimulsoft Server.
2 The **Binary Storage** field specifies storage for server items.
3 The **Service Bus** field specifies the storage of server tasks.
4 The **Signals** field specifies the storage of server signals.

The tab **SMTP**
For sending emails, you need to use an SMTP server.

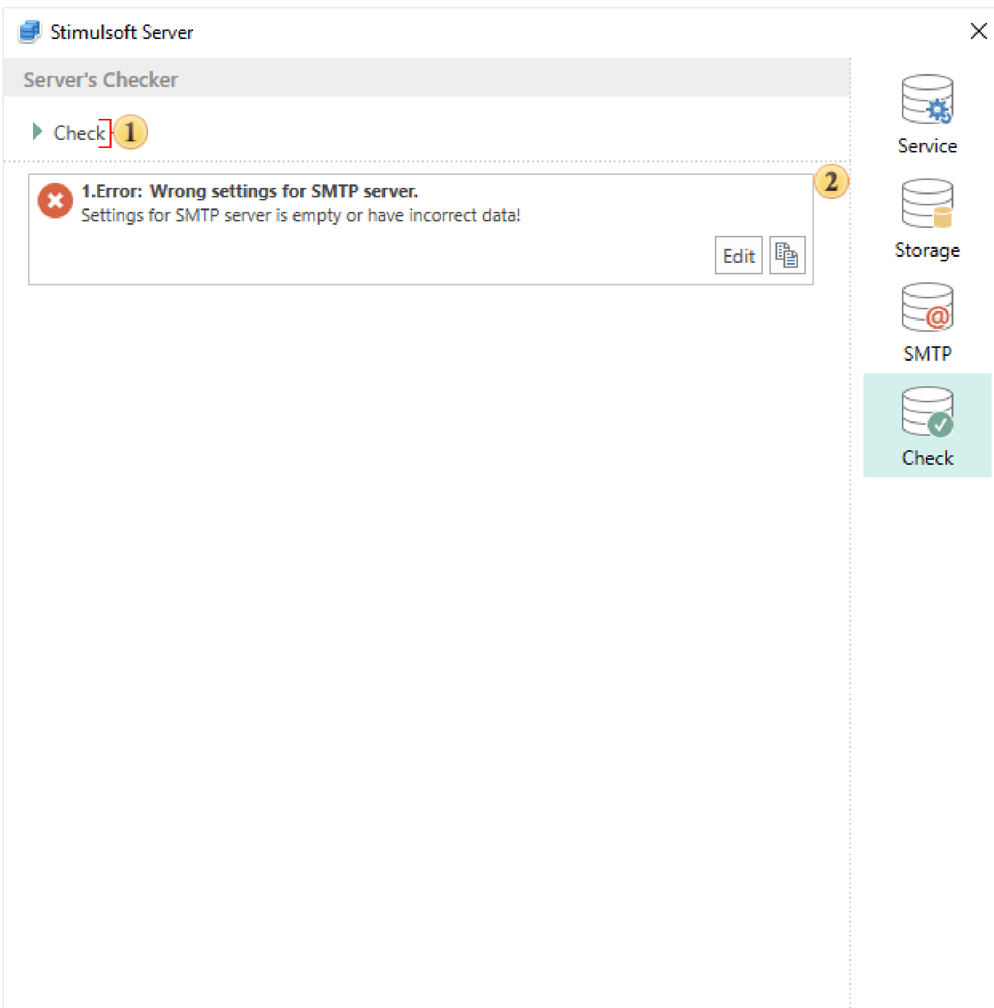


1 The field **SMTP Host**. Here you specify the address of the SMTP server.
2 The field **SMTP Port**. Here you specify the port of connection to the server.
3 The field **User**. The username (login) to connect to the SMTP server is specified in this field.
4 The field **Password**. In this field, the password is specified to authentication on the SMTP server.
5 The field **Sender Email**. Specifies the e-mail address that will appear to the recipient as a sender email.
6 **Use SSL**. This option provides the ability to apply a cryptographic cipher to e-mails. If this box is enabled, the cipher is applied.

Information

If, after saving the SMTP server settings, the test letter is not delivered to the specified email address, you should run the restart command on the server. To do this, click the **Restart** button on the **Service** tab in the server controller.

The tab **Check**
On this tab, you can check for errors, warnings, and information messages in the server.

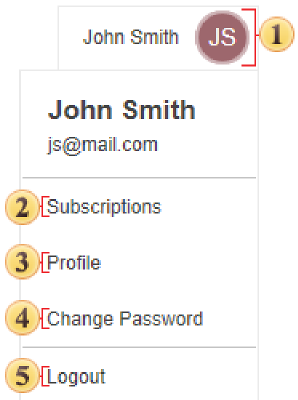


1 The button to start the test of the report server on errors, warnings, and information messages.

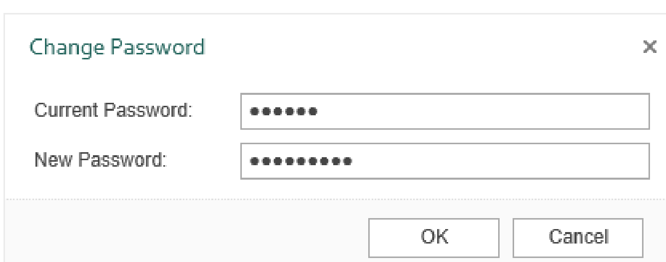
2 The panel displays a general list of messages and alerts.

2 Menu Account

From the **Account** menu, you can set up a user profile. The menu is located in the upper right corner of the Navigator, under the window control buttons.



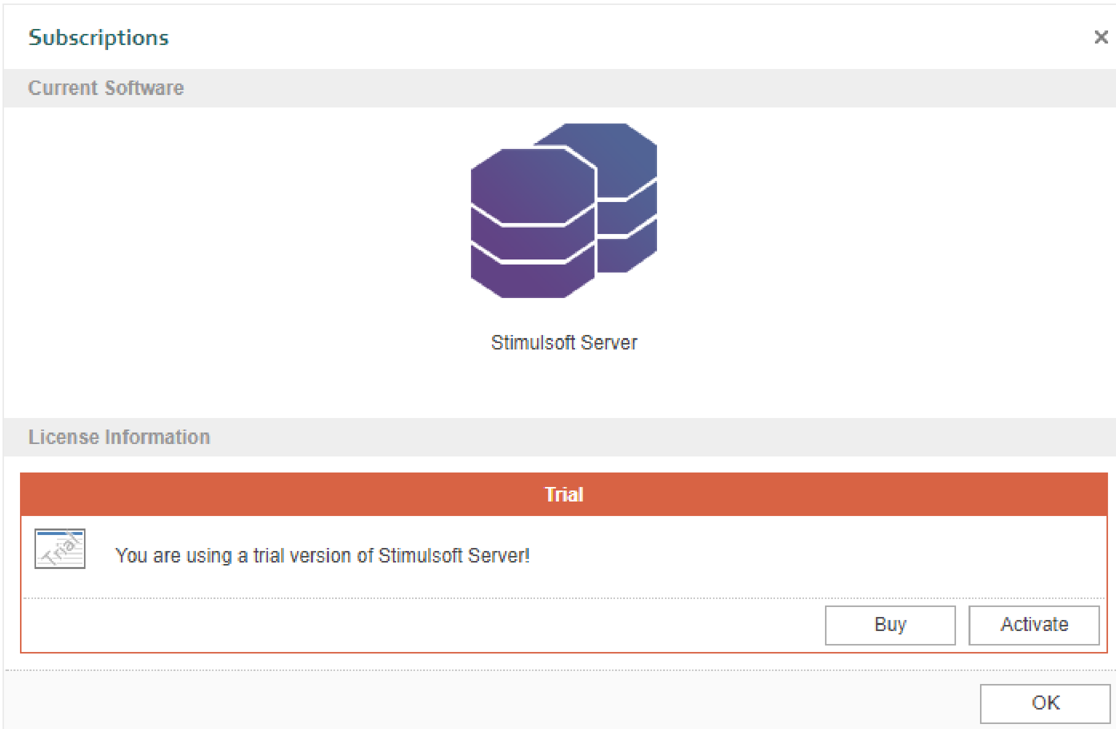
1 The **Account Information** field. Consists of a graphic part, user's full name, and email address. In the center of the graphic item, the first letter of the name and the first letter of the last name is displayed.
2 Select the Subscriptions command to activate the license or purchase the software.
3 The menu Profile has controls to configure the server interface and navigator.
4 Select the **Change Password** command to change the password for the current account. In the form opened, you will need to enter the current password and the new password.



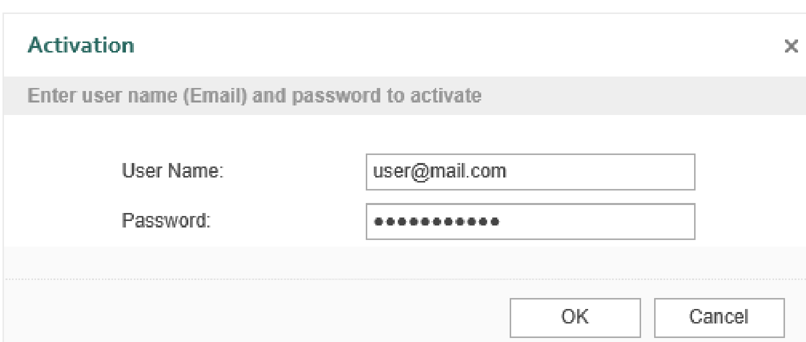
5 Select this option to **Logout** of the current profile.

2.1 Subscriptions

When you click **Subscriptions**, the **Subscriptions** window will pop up. Here you can find information about the current version of the report server and activate it.



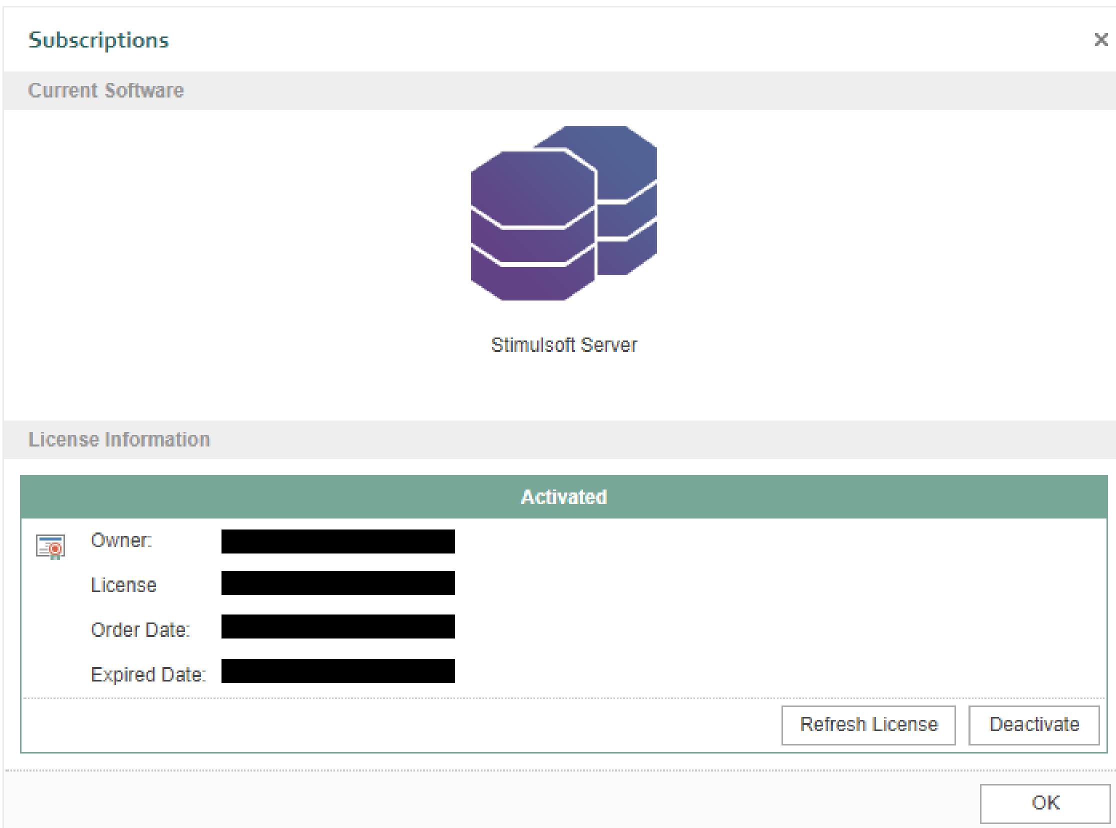
As you can see in the picture above, the version is trial. To get a licensed version of **Stimulsoft Server**, click **Activate** and enter the registration information (username and password).



Information

To obtain registration information, click **Buy**, choose the type of the license, and follow the instructions.

After successful activation, the field **License Information** will look like in the picture below.



As can be seen from the picture, this field indicates the status of the license (activated) and contains the following information

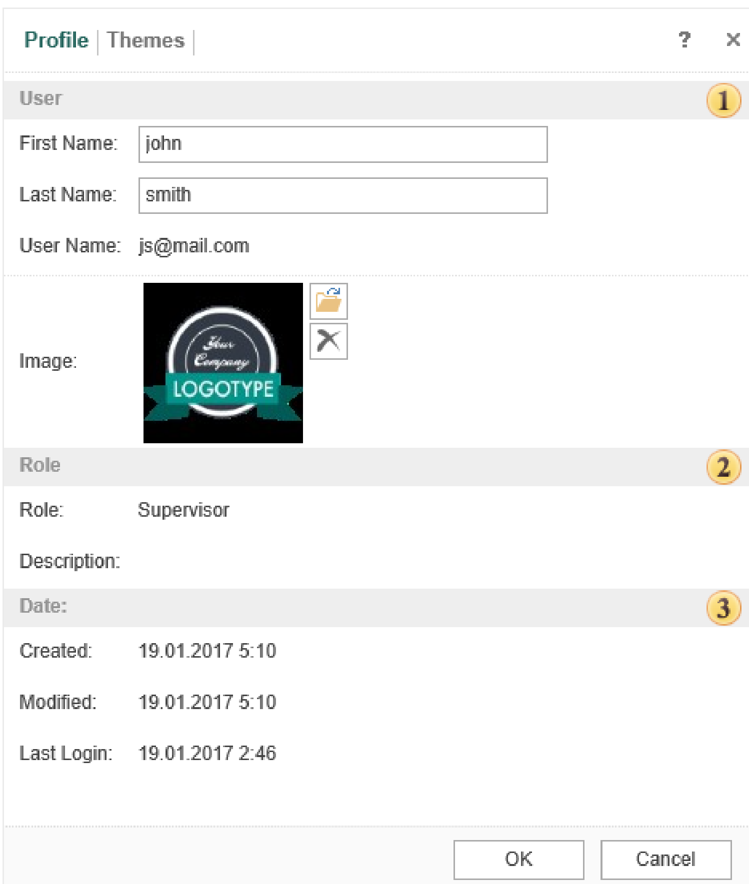
- **Owner**. It specifies the user name of the license holder.
- **License**. In the above example, the license up to 5 users.
- **Order Date**. Shows the date when the order was paid.
- **Expired Date**. The date when the subscription expires.

There is also the button **Deactivate**. When you click it, the license will be deactivated.

2.2 Profile

In the menu Settings menu, you can change your account settings. You can find Parameters in the following tabs:

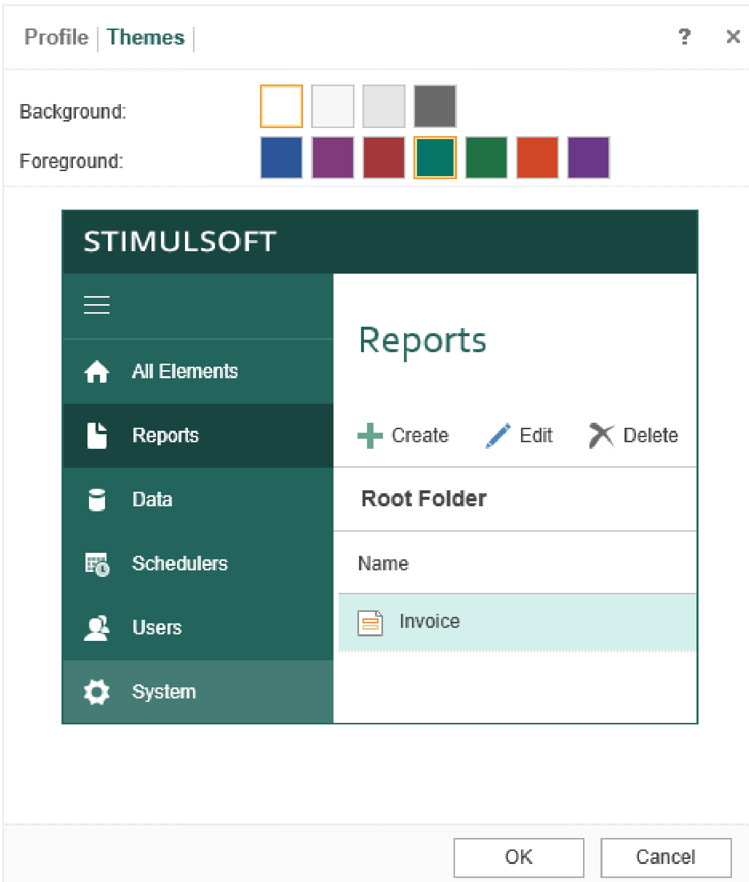
The tab **Profile**.
It provides information on the current account. It is represented by the following groups of items.



1 The group User includes personal data such as user name, email address, and the ability to upload a picture (avatar). If the picture is not uploaded, then, instead of the user's avatar, the graphic element of a specific color, which is located in the center of the first letter of the name and surname, will be displayed.
2 The tab Role provides information on supplies of the current account to a particular role in this workspace. You may also see the description of the established

role.
3 The group **Date** contains information about the actions of the current account, date and time of creation, modification, and last authentication.

The tab **Themes**.
In this tab, you can change the color scheme of the UI, as well as its style.



3 Toolbar

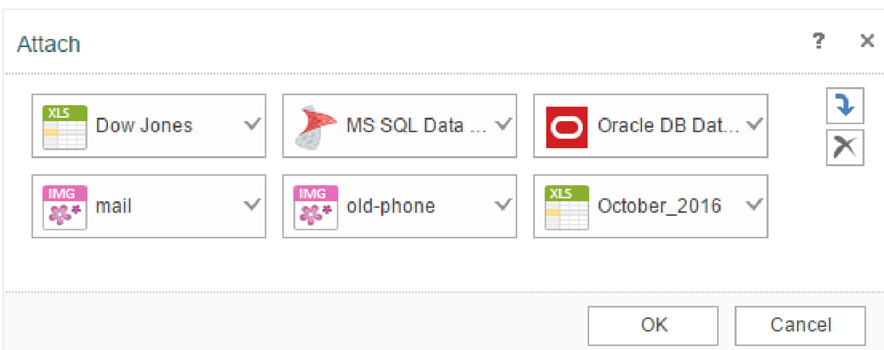
The toolbar contains the basic commands of the report server and its elements. At the same time, depending on the selected element, the list of commands may be different. The picture below shows the toolbar, with the commands for the **Report** item.

1 The Create menu contains a list of items that can be added to the report server list.
2 The **Edit** button is used to edit the selected item.

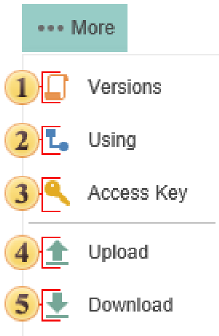
Information

If the report or dashboard is selected, then selecting this command, the report will be uploaded to the report designer. In the Details panel, you can edit the name and description of the report or dashboard item, as well as other items of the server.

3 The **Delete** button is used to delete the selected item. The user will see the dialog box that is shown in the picture below.
4 To attach a server element to the report, you need to select the report item and select the **Attach** command. It will call a menu in which to specify the items that you want to attach.



5 The **View** button. When you select this command, the report is rendered and loaded into the viewer.
6 The **Run** command. With this command, you can export the report without loading it in the report viewer.
7 The Share command is used to call the sharing menu;
8 The ...More menu contains other commands of item management:

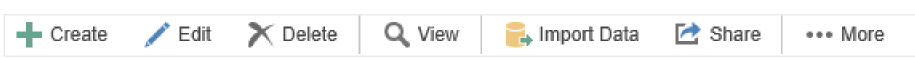


1 The Versions button calls the appropriate menu.
2 The Using button calls the appropriate menu.
3 When creating an item, the unique key of the item is automatically generated. To obtain this key, select the command. The unique key of the item is needed for future access to this item when using the API of the report server in third-party applications. After selecting this command, the key will be displayed on the Access Key panel.
4 The **Upload** command allows uploading the file to the server workspace.
5 The **Download** button saves the item as a file of a particular type. After selecting this comman,d the dialog box will appear. In the dialog, you should determine a saving location and click Save. You should know that not every item has this command.

Information

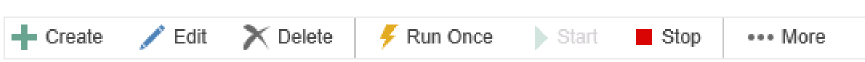
Depending on the item type, a list of commands in the toolbar may be different.

Below is toolbar for Excel, XML, JSON, CSV, DBF files:



Some commands are not available, and there is a team of Import Data.

Below is toolbar for schedulers:



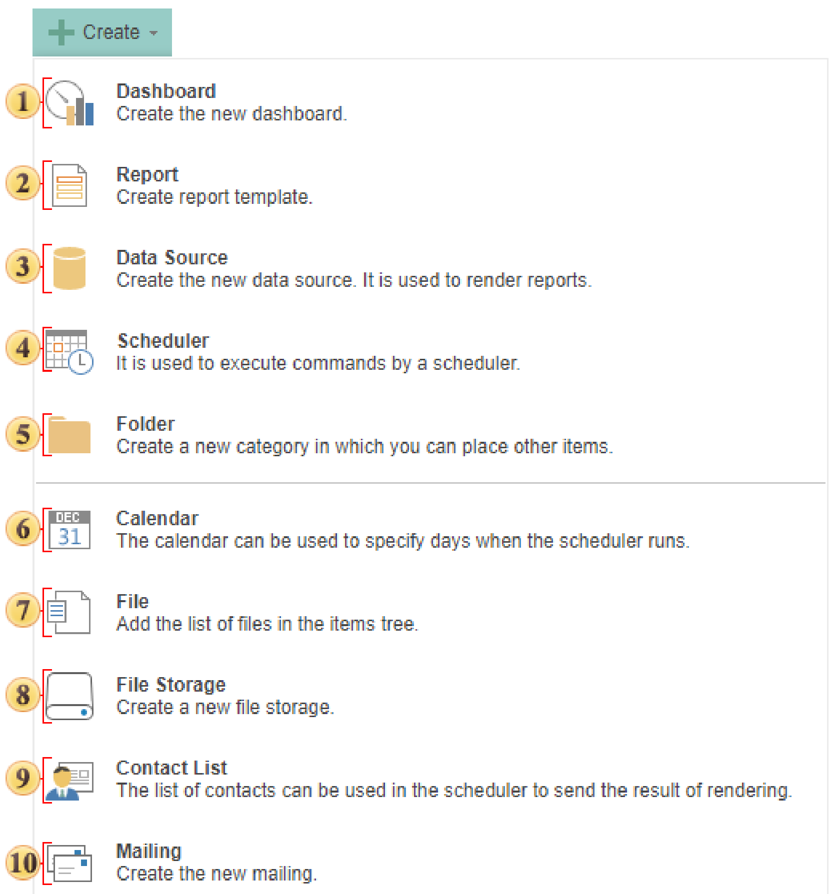
The toolbar contains commands for the scheduler: Run Once, Start, Stop.

Below is toolbar for data sources

The toolbar contains New Query, and Import Data commands.

3.1 Menu Create

The tab **Create** contains commands with which new items are added to the list of items.



1 The command Dashboard calls a menu to create a dashboard or upload it from the file.

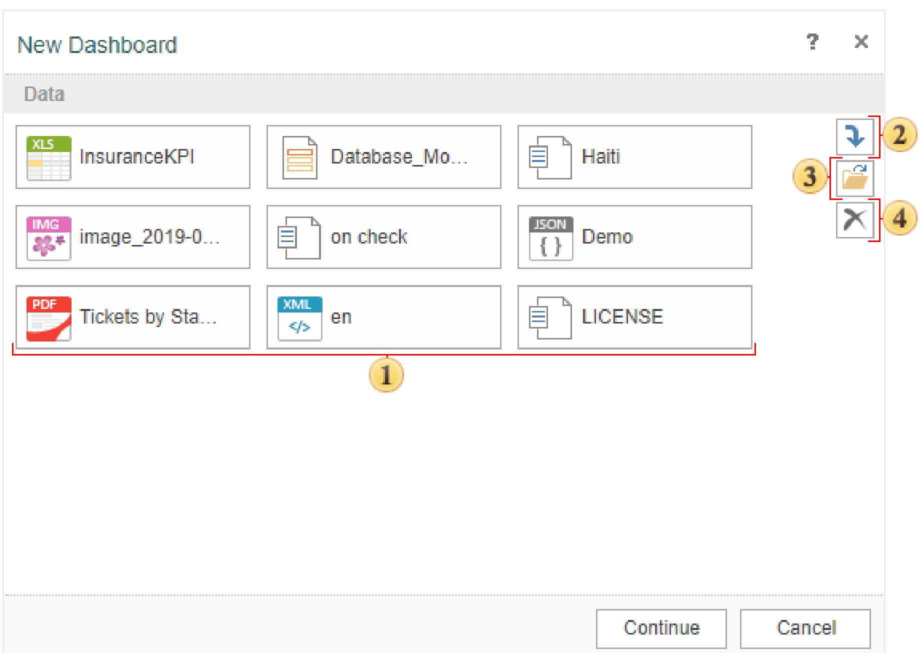
2 The command Report calls a menu to create a report or upload it from the file.

3 The command Data Source is used to create a new data source

4 The command Scheduler is used to execute commands on the schedule, add new ones.
5 The command Folder is used to organize and store items in right places. You can create a hierarchy of folders in the list of items.
6 The command Calendar is used to create a calendar. For example, you can create a calendar to run the scheduler.
7 The command File is used to add a file to the list of items.
8 The command File Storage is used to create directory in which can save the contents of the server items.
9 The command Contact List is used to create a list of contacts. For example, the contact list may be used by the scheduler, i.e. can form a permanent list of contacts by what users will receive the results by e-mail.
10 The command **Mailing** calls a menu to create a mailing list.

3.1.1 Dashboard

You can add the dashboard to the list of items. Select the **New Dashboard** panel command in the **Create** menu. In the menu that pops up, you can attach various server elements to the new dashboard or upload files from the local storage.



1 In this field, you can attach additional elements to the report.
2 The button is used to add a selected server item to the current report.
3 The button is used to call the Explorer to choose files from the local storage that

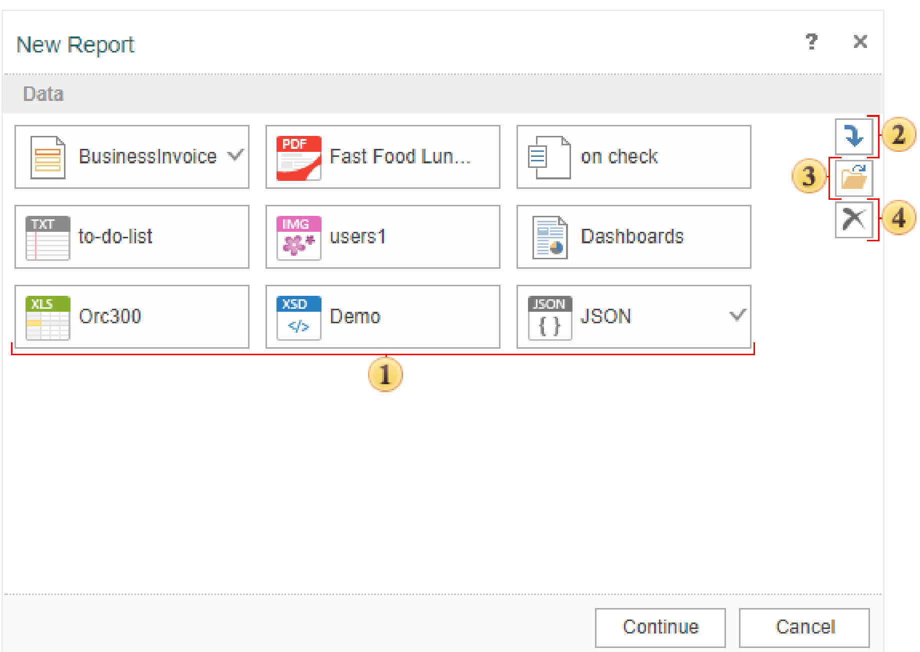
you need to attach to a new report.
4 The button is used to delete items from the list of attached items. To remove items from the list of attached items, select them with a single click and click the Delete button.

Information

You should know that all elements and files attached to the report will be added to its resources. This does not apply to Data Sources and data files. Based on any attached data source or data file, data sources in the dictionary will be created.

3.1.2 Report

You can add the report to the list of items. Select the **New Report** panel command in the **Create** menu. In the menu that pops up, you can attach various server elements to the new report or upload files from the local storage.



1 In this field, you can attach additional elements to the report.
2 The button is used to add a selected server item to the current report.
3 The button is used to call the Explorer to choose files from the local storage that you need to attach to a new report.
4 The button is used to delete items from the list of attached items. To remove

items from the list of attached items, select them with a single click and click the Delete button.

Information

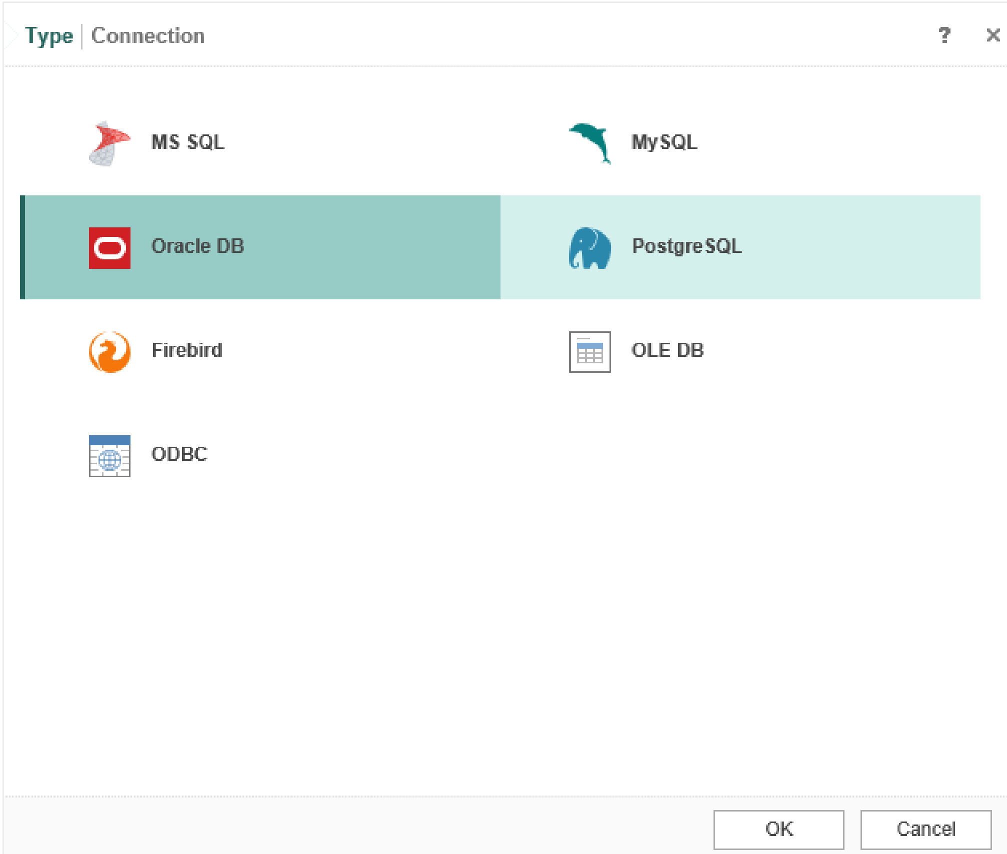
You should know that all elements and files attached to the report will be added to its resources. This does not apply to Data Sources and data files. Based on any attached data source or data file, data sources in the dictionary will be created. Also, you can use some types of files added to resources in the development of reports. For example, an attached Text File, a file added to report resources, can be a source of text when working with text components of a report, including a Rich Text component.

3.1.3 Data Source

The data source is a structural representation of data that is used to generate reports. Each data source belongs to a particular type of connection and may vary depending on the type of data source parameters. Creating a data source can be done in several steps:

- Select the type of connection;
- Defining the connection parameters, i.e., creating a connection.
- Creating a new query or importing data.

Below is the menu of selecting the connection type:

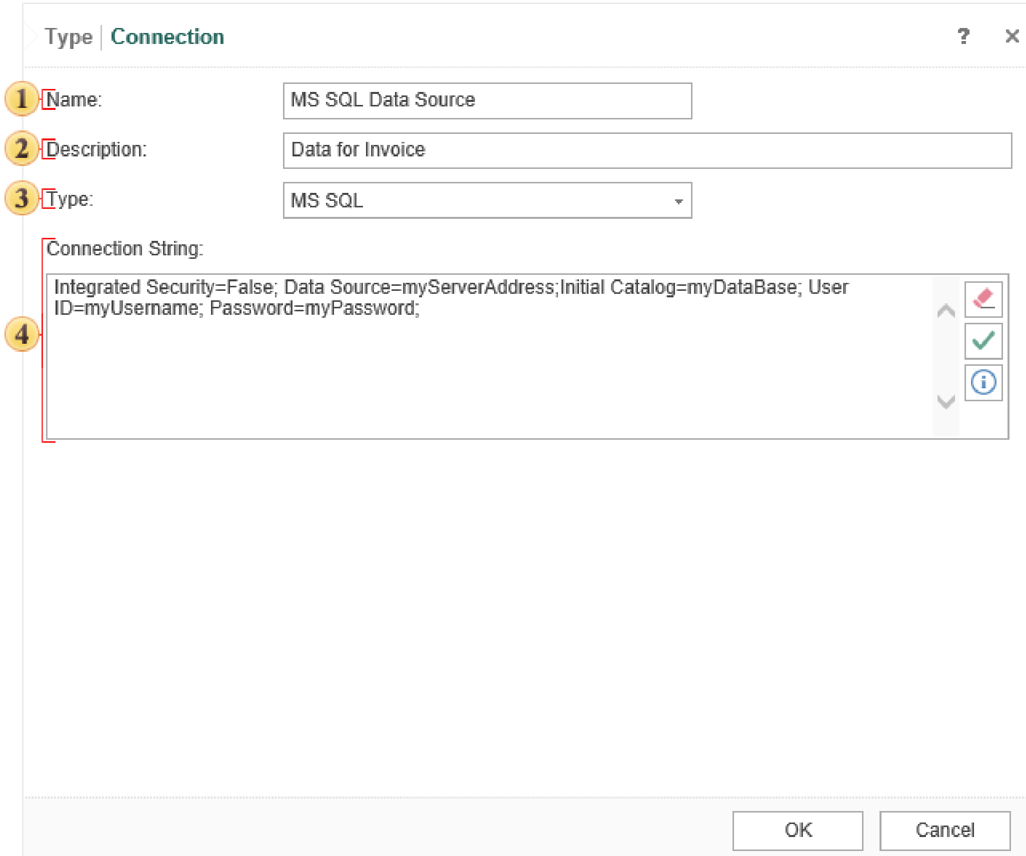


Information

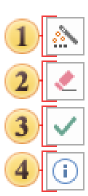
Data can also be obtained from certain types of files (XML, Excel, JSON, CSV, DBF). If you want to get the data from these files, it is not required to initiate the **Connection** to these files, but you should add them to the tree of items as the File elements. Then you should run the Import Data command.

3.1.3.1 Connection

To create a description of the data source and retrieve the data itself from storage, you should create a connection to this storage. Some parameters of the connection may vary depending on the type of the data source. The picture below shows the menu, which specifies the connection parameters to the data storage:



1 The field **Name** is the name of the data source in the item tree. By default, the data source name is automatically generated, depending on its type. For example, if you select the data source ODBC, then the name of the data source is ODBC.
2 In the **Description** field, you can put some notes, information on the data source.
3 In the **Type** field, you can specify the type of data source without going back to the previous tab. Depending on the selected type, parameters can be changed.
4 In the **Connection String** field, you can specify the connection string to connect to the database. Also, this field has some controls.



1 Calls the **Connection String Wizard**. This control is available for specific data types.
2 The command **Clean Connection String** removes all information from the connection string field.

3. The command **Test** sets the test connection to the data storage.
4. When you select this command, a pattern of a corresponding connection will be inserted.

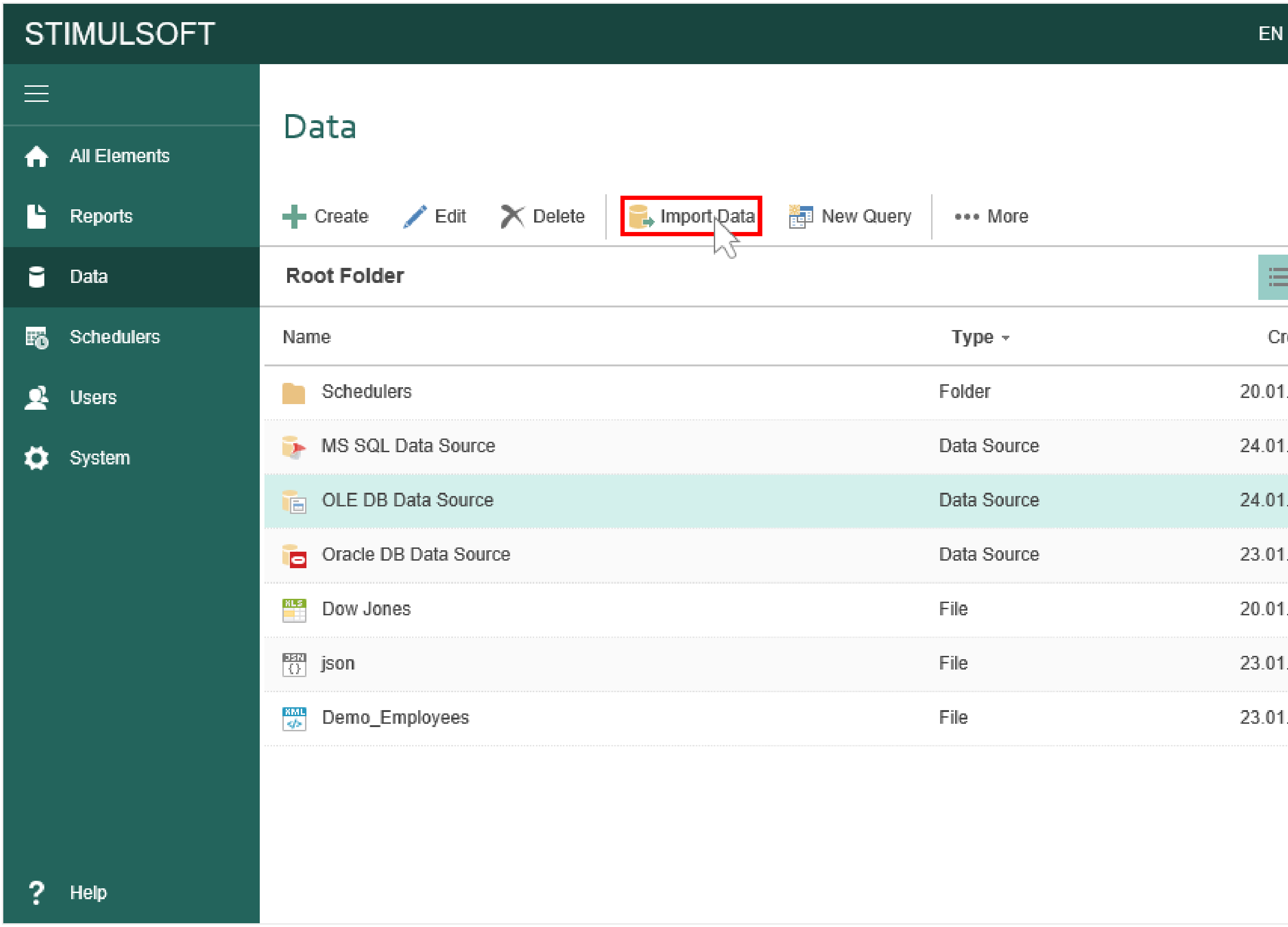
Once the connection is created, you should retrieve data from the data source. You can do this in the following ways:
- Select the Import Data command;
- Select the New Query command.

3.1.3.2 Import Data

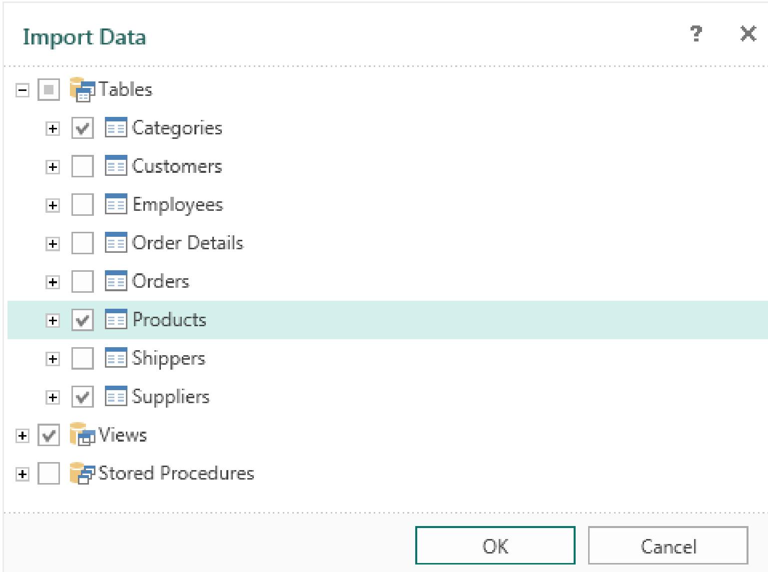
After creating a connection to the data storage, you need to get data from it (as tables, views, stored procedures, etc.). Data can be obtained from any created sources, as well as from data files. Files from which data import is possible are:
- XML files with attached XSD files.
- JSON files.
- Excel files (xls, xlsx).
- CSV, DBF.

Import Data

You can get data from the storage using the **Import Data** command. Select the data connection and click the **Import Data** button on the server toolbar.



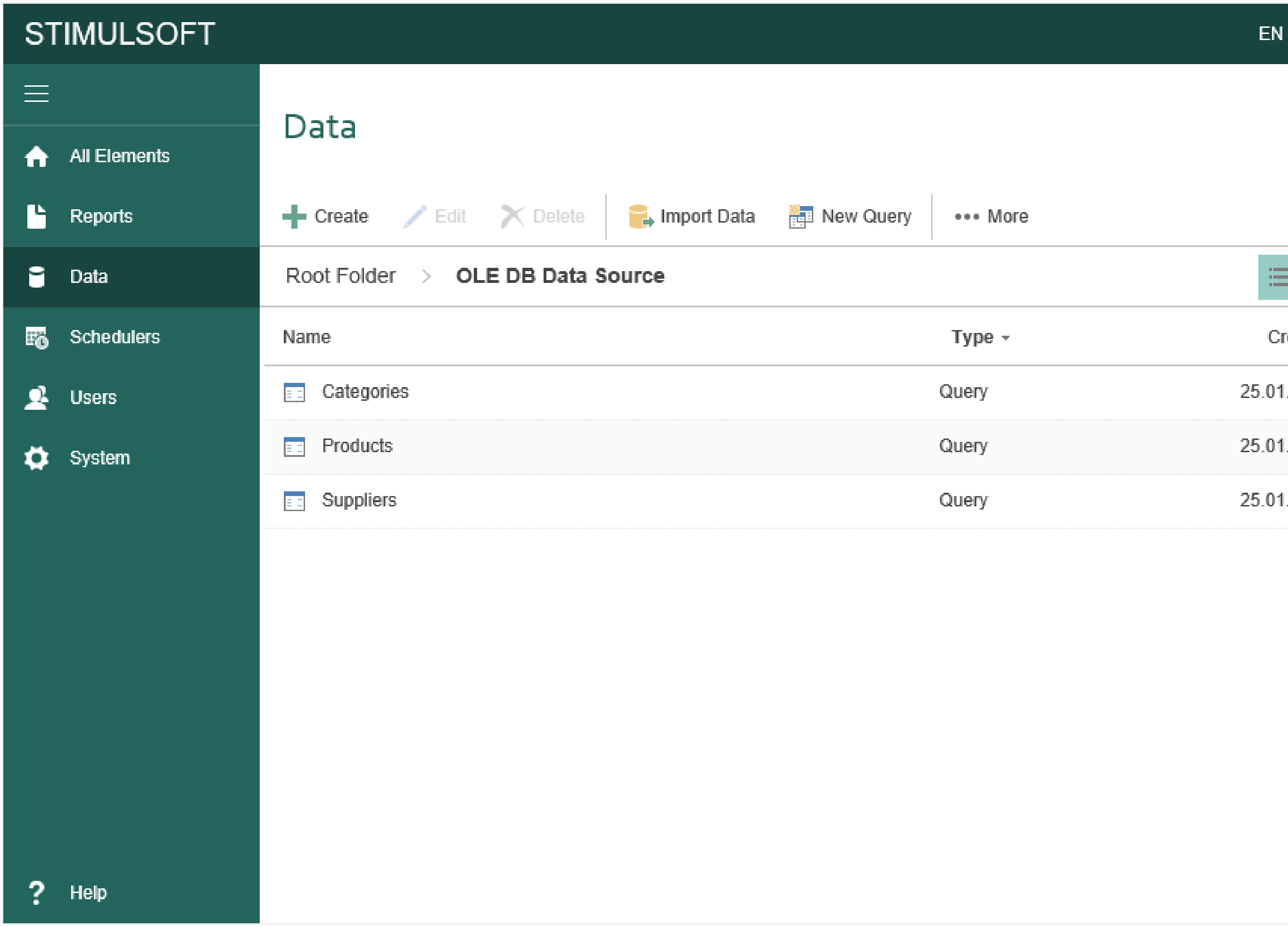
As you can see in the picture, in the item list of the server, the **OLE DB** data source is selected. When you choose the **Import Data** command, **Stimulsoft Server** will check the data storage for the presence of tables, views, stored procedures, etc. The result will be displayed as the **Import Data**:



In this window, the data to be added to the data source should be checked. As can be seen from the picture above:

- Selected **data tables** Categories, Products, and Suppliers. If there are multiple items, but not all, chosen in the category, this category will be marked with ▣.
- Selected **Views**. Checking this category (in this example, in the category of views) entails the installation of flags all sub-items.
- No stored procedures are checked.

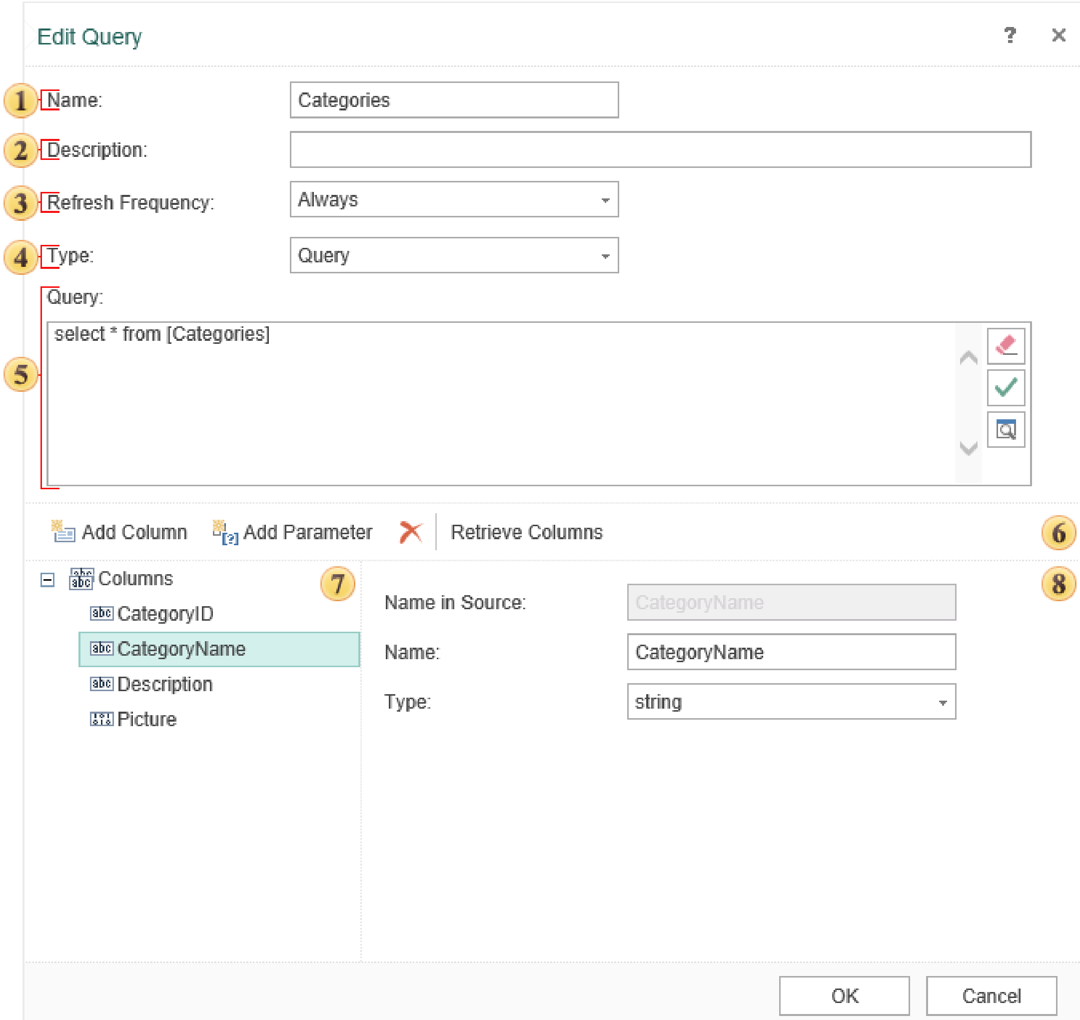
Once the necessary tables, views, stored procedures, and other elements of the data storage are selected, press the button **Ok**. All data from the storage will be converted into a data table and displayed in the list of the server:



Now the data tables can be attached to the report. All attached tables will be displayed in the data dictionary of a report. It is also possible to attach a data source to the report. In this case, the data dictionary will have all the attached tables of the data source.

Editing data tables

You can modify data tables. For example, change the type and number of data columns. To do this, select a data table and click **Edit**.



1 A name of the table that is displayed to the user in the item tree of the navigator;

2 A short description and annotations to the table can be specified in this field;

3 Using the **Refresh Frequency** parameter, you can set the length of time after which reconnection to the data storage will be done. The following options are available:

- **Once** - retrieving data is carried out once when you create a data source;
- **Every 10 Minutes** - in this case, data will be carried out every 10 minutes;
- **Every 30 Minutes** - every half hour, the data will be updated;
- **Every Hour** - updates go every hour;
- **Every 4 Hour** - retrieving data will be every 4 hours;
- **Every Half Day** - data will be updated every 12 hours;
- **Every Day** - once a day the data will be updated;
- **Always** - this option means that whenever you build a report, the data will be updated.

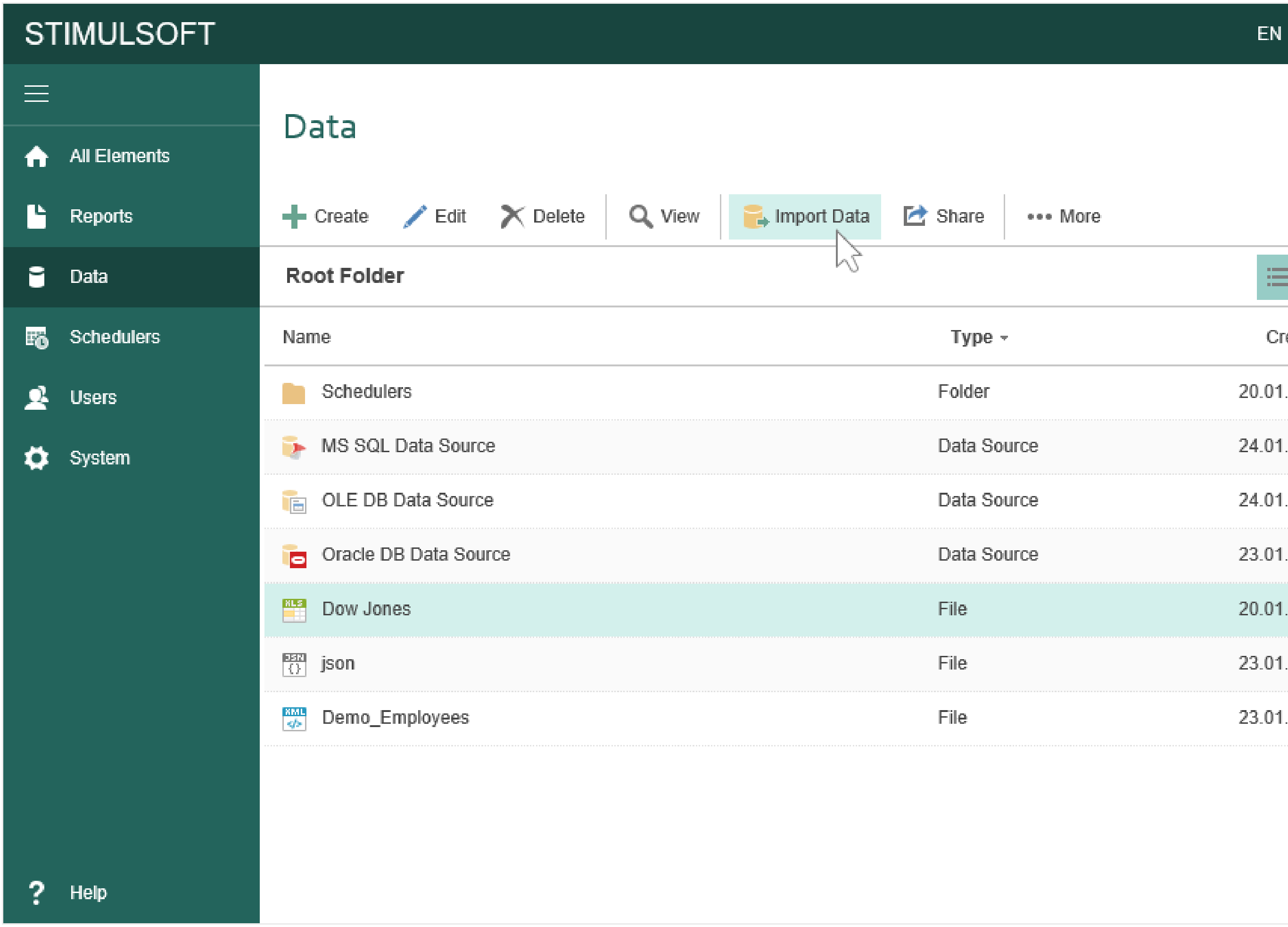
4 Query Type: Query of Stored Procedure.
5 Field of Query Text.
6 The control panel contains the following buttons:

- **Add Column**. With this button, you can add a data column to the data source. It should be considered that this column will contain a description. It does not contain actual data.
- The **Add Parameter** command. Using this command, you can add an option to the category of Parameters. In this case, this parameter must be specified manually in the query.
- **Delete Column**. Clicking this button will delete the selected columns from the data source.
- The command **Retrieve Columns**. Once the query is created, press this button to get a column with the data from the data storage.

7 This panel displays a data column in the data source.
8 The settings panel of selected columns.

Import Data from Files

The command **Import Data** provides the ability to retrieve data from files (XML, CSV, JSON, Excel, DBF) and convert them into tables. This command can be found on the **Toolbar** of the file from which it is possible to import.

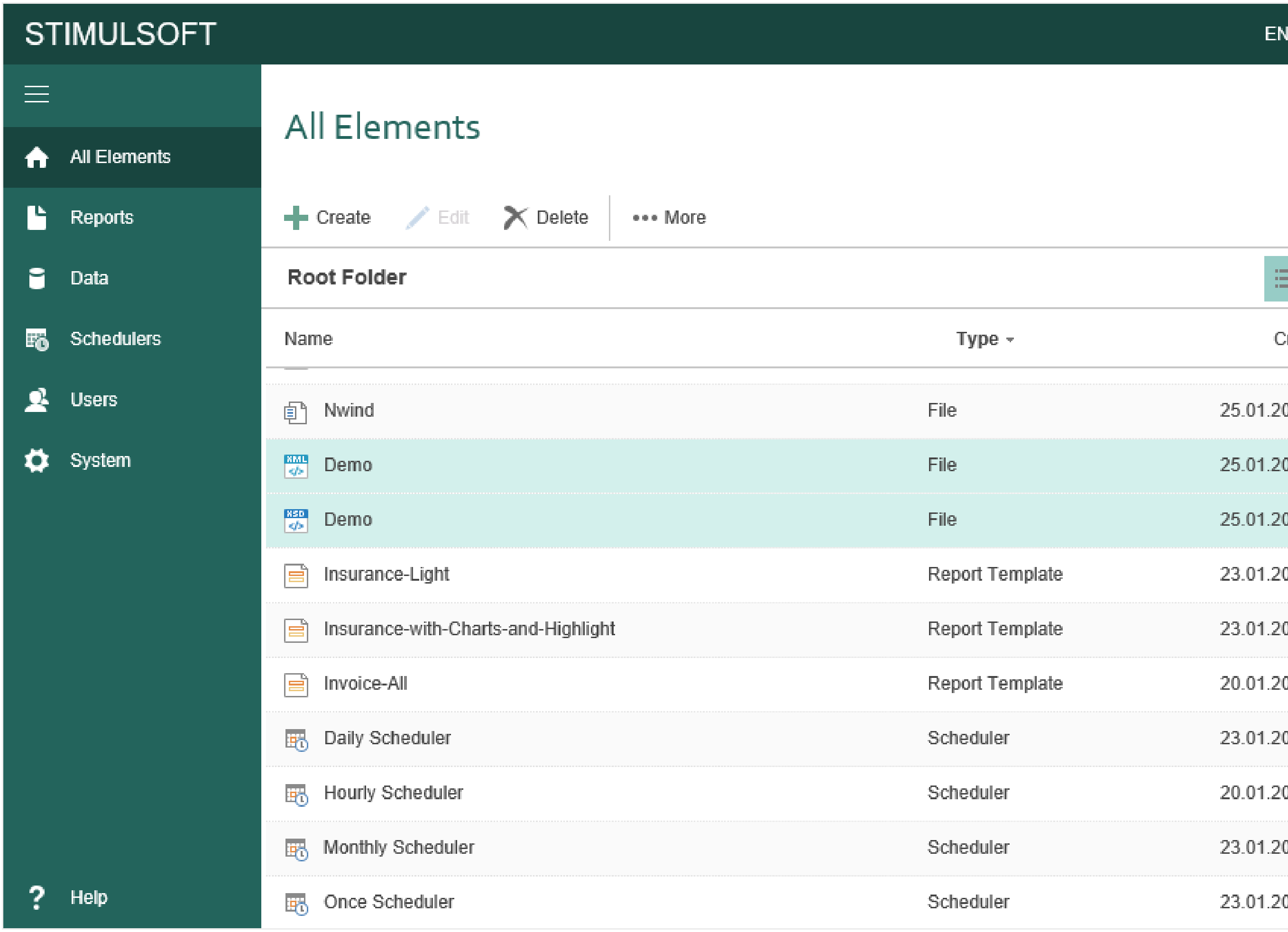


Sample Import Data from File

Consider the example of retrieving data from the XML file.

Step 1: You need to add XML and XSD files to the list of the server item:

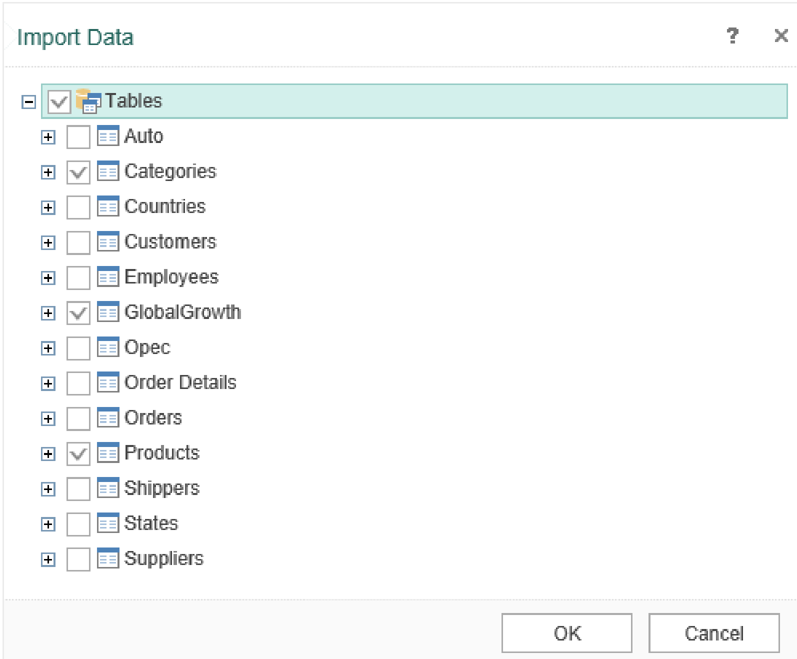
- XML and XSD files can simply be dragged and dropped from anywhere into the tree of items;
- Create the item **File** and load in it XML and XSD files.



Step 2: You need to attach the XSD file to the XML file:

- Hover the cursor on the XSD file, hold down the left mouse button, and, without releasing the mouse button, move the cursor to an XML file;
- Call the form for editing XML files. Select an XML file in the tree, and click **Edit** on the **Toolbar**. Attach the XSD file in the form of editing XML files.

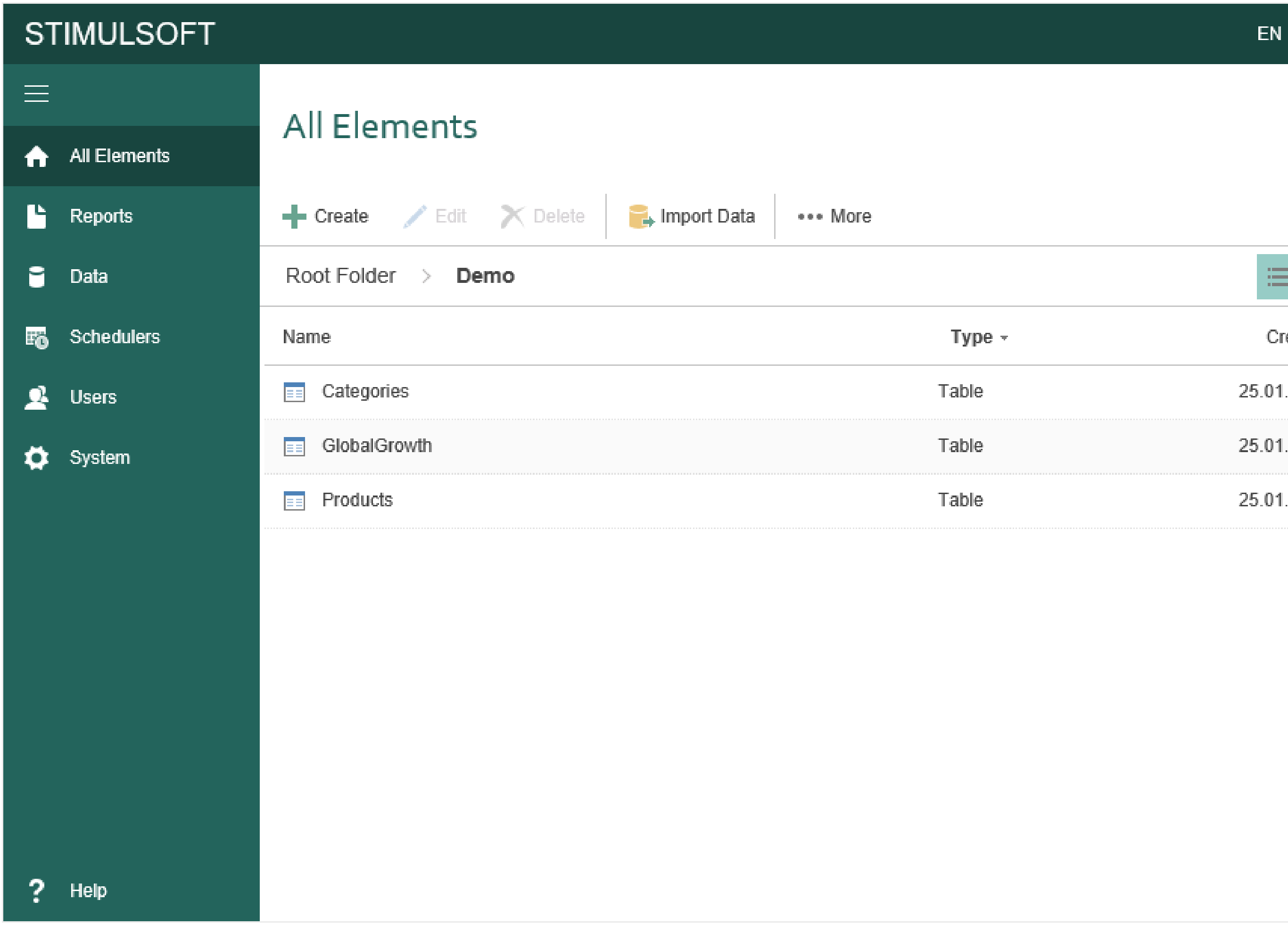
Step 3: You should select the XML file and call the command **Import Data**. The report server will extract the data from the file, converts them into a tabular form. The result will be displayed in the window **New Table**.



Step 4: In this window, you can select data tables. In the example above, the selected tables are **Categories**, **Products**, **GlobalGrowth**.

Step 5: You need to click the **Ok** button.

After you click the **Ok** button, the selected tables will be displayed in the item list. Now, based on these tables, you can generate reports and dashboards.

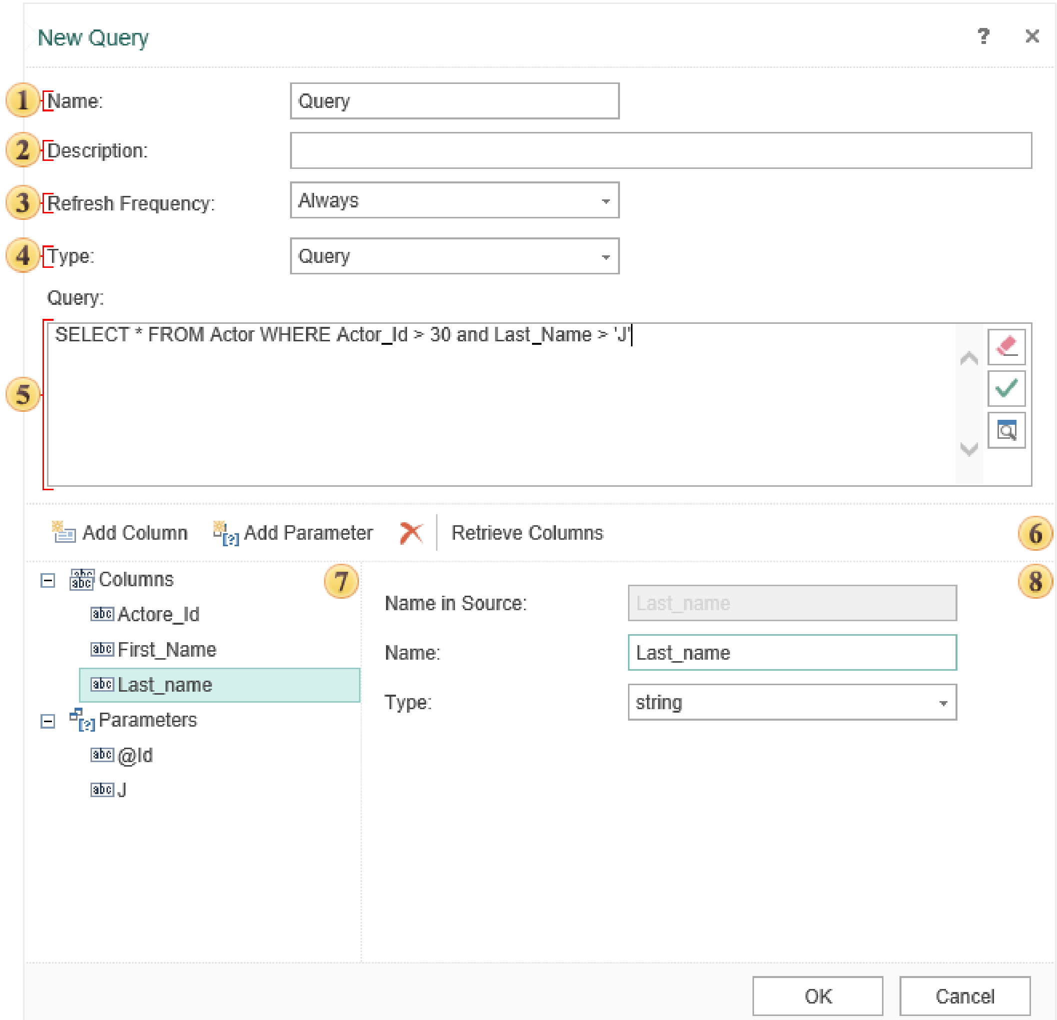


3.1.3.3 New Query

The second way to obtain data from the storage is a method of retrieving data from the query to the repository. **Queries** are script-like texts in one of the dialects of SQL that is used to extract data from tables and to make them available to the report server. Queries get the data from database tables and, on their basis, create temporary tables. The data in the temporary table will be filtered, grouped, sorted, and arranged according to the query parameters. Then, the temporary table is passed to the report server. Applying requests provides an opportunity to avoid duplication of data in the tables, minimizes the amount of data traffic between the database and the client-side, and also provides maximum flexibility for searching and displaying data in a database. Below is the **New Query** dialog.

New Query

Select the data connection and click the **New Query** button on the server toolbar to create a data query. After you clicked the **New Query** button, the **New Query** menu will be called.



1 The Name field indicates the name of the new request.

2 In the Description field, you can specify a description for the current request.

3 Using the Refresh Frequency parameter, you can set the time interval, after which the connection to the data storage will be reconnected, and the necessary data will be updated. The following options are available:

- **Once** - data is obtained once when creating a data source;
- **Each 10 Minutes** - in this case, data will be updated every 10 minutes;
- **Each 30 Minutes** - the data will be updated every 30 minutes;
- **Each Hour** - select this option to update hourly;
- **Each 4 Hour** - data will be updated after every 4 hours;
- **Each Half Day** - data will be updated every 12 hours;
- **Each Day** - data will be updated once a day;
- **Always** - this option means that every time you build a report (when accessing a data source), data will be updated.

4 This field specifies the type - query or stored procedure.
5 The panel **Query** contains a text field for typing a query and controls.

- The **Clear field** command, i.e., the query text will be removed;
- The **Check query** command. When you call this command, the report server will generate a test query execution. The result will be shown to the user as a message.
- When you press this button, then in the View Query window, data columns specified in the query will be displayed.

6 The control panel that contains the following buttons:

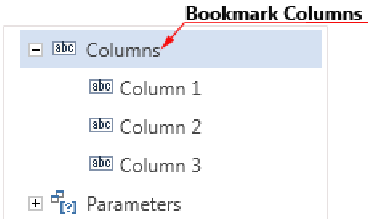
- The command **Add Column** creates a new column. Keep in mind that this will be the description of the data columns, and it will not contain real data.
- The command **Add Parameter**. Using this command, you can add an option to the category of Parameters. In this case, this parameter must be specified manually in the query.
- The command **Delete** deletes the selected column or the parameter.
- The command **Retrieve Columns**. Once the query is created, press this button to get a column with the data from the data storage.

7 This panel displays the data columns in this data source.
8 On the **Columns** panel, you can find the following tabs.

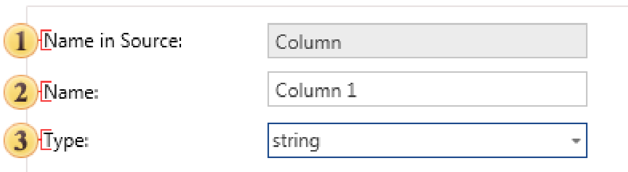
Data Columns

Sometimes it is necessary to add a data column to the data source. To create a new data column, you must click **Add Column**.

You should know that the data column created this way is a description of a (virtual) data column, and it does not contain the actual data. If this column is absent in the data database, then, when referring to the database, the server will return an error. All generated data columns are displayed in the list of columns:



Also, you can change the settings of the created column.

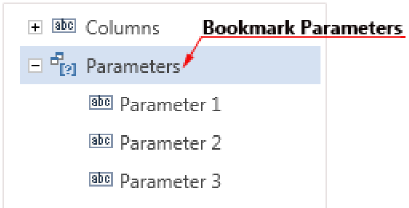


1 In the field **Name in Source** the name of the column in the data source is specified;
2 In the field **Name** the name of the column that will be displayed to the user is displayed;
3 The field **Type** provides the ability to select the type of the column.

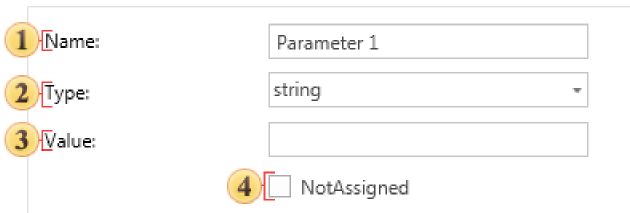
Parameters

When creating a query, it is possible to use the **Parameter** object. This object is designed to send additional conditions for selecting data into a query. For example, if you need a query to use a value entered by the user each time the query is executed, you can create a query using parameters. The Parameter object can only be used with SQL data sources. These data sources typically have the Text Query field. To insert a parameter in the query, you must click the **New Parameter** button. The picture below shows the toolbar, on which the **New Parameter** button can be found.

After you click this button, a new parameter will be created. This parameter will be displayed in the **Parameters** tab in the Columns panel. The picture below shows an example of the Columns panel with the Parameters tab.

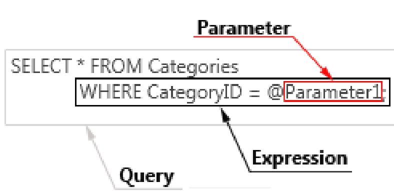


Each parameter has a property with which you can change its settings. The picture below shows the panel of parameters properties.

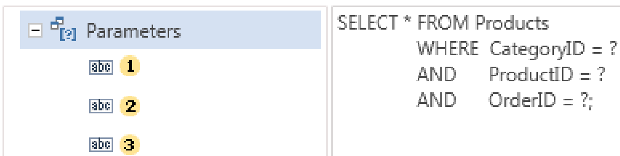


1 The **Name** property. It is used to change the parameter name. This feature works only for named parameters.
2 Use the **Type** property to change the parameter type. The values of the properties are in the drop-down list and are a list of types used in the parameters for a particular database. It should be noted that a list of types differs depending on the database.
3 For each parameter, you can specify a value that is used to fill the parameter in the process of automatic request calls without any action from the user.
4 If this option is enabled, then the field Value will be unavailable. By default, null or value which is specified in the stored procedure on the server will be used.

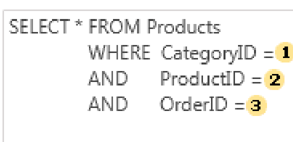
Also, you must specify the parameter in the query. Here is an example of a schematic position of parameters in the query.



As a rule, the @ symbol is used to specify a parameter in the query. The @ symbol is used with named parameters, i.e., after the @ symbol goes the name of the parameter. But in some databases (for example, in **OleDB**), the @ symbol cannot be perceived by the adapter, and database queries with parameters will not work. In this case, you can use unnamed parameters. For specifying **unnamed parameters** in the query, the ? character is used. After the ? symbol, the parameter name is not specified. In this case, the order of parameters in the Parameters tab is essential. As indications of the ? characters in the query, settings will be taken sequentially from the Parameters tab in the top-down direction. Consider the following example. Suppose three parameters are specified in the query.



Since, in this case, unnamed parameters (marked with **?**) are used, then, when running, the query parameters will be taken from the **Parameters** tab in the top-down order. The picture below schematically presents a comparison of parameters of the Parameters tab to the parameters in the query.



Moreover, the parameters used in this example must have names, but when using the ? they do not play a role.

3.1.4 Scheduler

The **scheduler** is one of the main tools of the report server, using which you can plan specific actions at a particular time. To do this, you need to create a scheduler and specify the time and actions that you must perform. For example, at the beginning of each hour (at a specific minute), the report will be rendered, exported to **PDF** format and sent via email to particular persons. The picture below shows a window to create a new scheduler:

To create a scheduler, you should

- Select the **Scheduler** command in the **Create menu**;
- Select the **Create scheduler** command in the context menu on the item list panel.

Also, you can edit a scheduler, for this, you should:

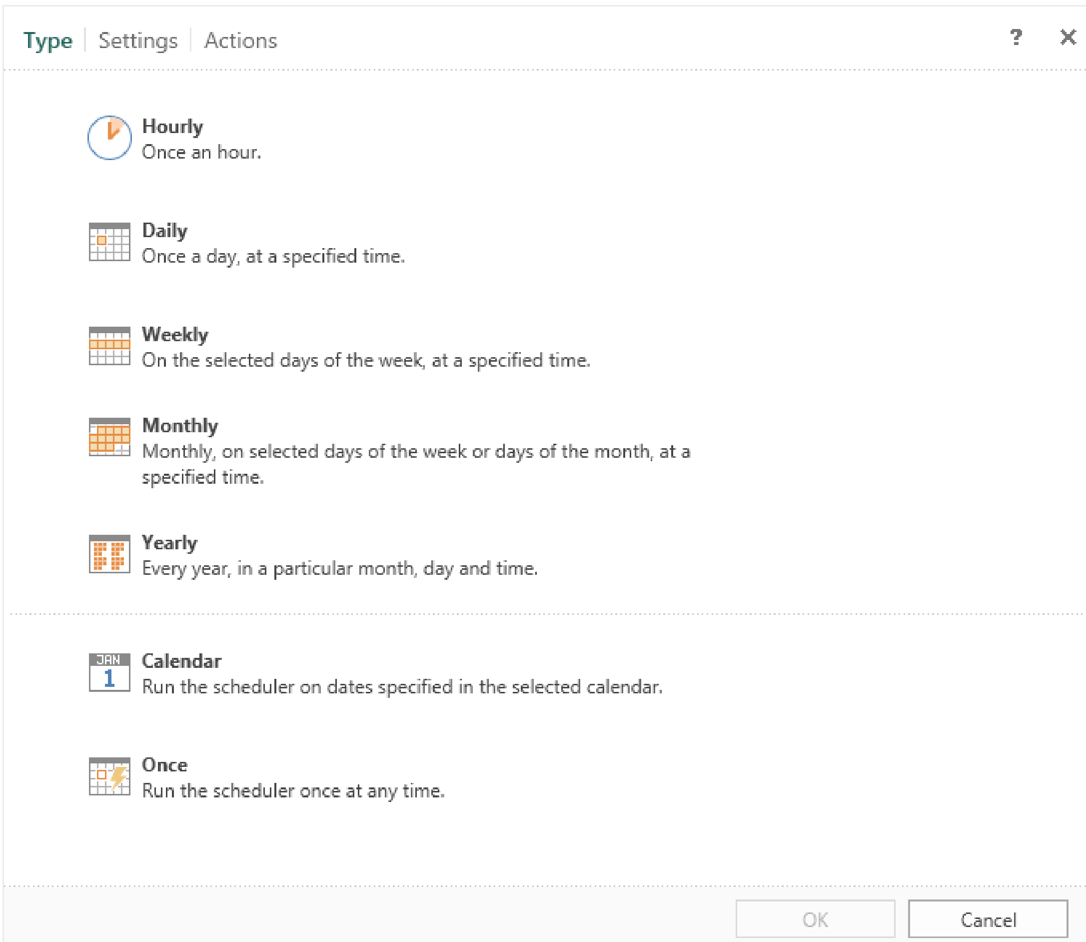
- Select the scheduler in the list of server elements and click the **Edit** button;

› Select the scheduler in the list of server elements and select the **Edit** command in the context menu of the scheduler.

The scheduler is configured in its editor.

Scheduler Editor

The scheduler editor consists of the following tabs - Type, Settings, and Actions.



As can be seen from the picture, the scheduler consists of the following tabs:
› In the **Type** tab you can specify time when the scheduler should run.
› In the Settings tab, you can set up the scheduler.
› In the Actions tab, you can specify the list of what should be done with the scheduler.

Scheduler Types

On the **Type** tab, you can set up when the scheduler should run, when the scheduler actions will be executed. Frequency can be set as follows:

- Hourly. The scheduler will perform some action every hour, at a certain minute of every hour (minute configurable).
- Daily. The scheduler is executed once a day, depending on the specified time (hour and minute).
- Weekly. In this case, the scheduler will be executed once a week on the specified day, at the time (hour and minute). Also, you can specify the required days of the week. For example, you can specify all the days of the week, or only Monday or Monday + Friday + Saturday.
- Monthly. This type of scheduler provides the ability to create a schedule at a certain time during the month. Moreover, it is possible to select the months; schedule will only work on certain months.
- Yearly. In this case, you can set the time (hours and minutes), a month and a day when the scheduler runs.
- Calendar. In this case, you should specify the calendar, a list of items of which will be a timetable for the scheduler.
- Once. Any action will be executed once, after running the scheduler. Typically, such a scheduler is started by another scheduler or manually.

3.1.4.1 Settings

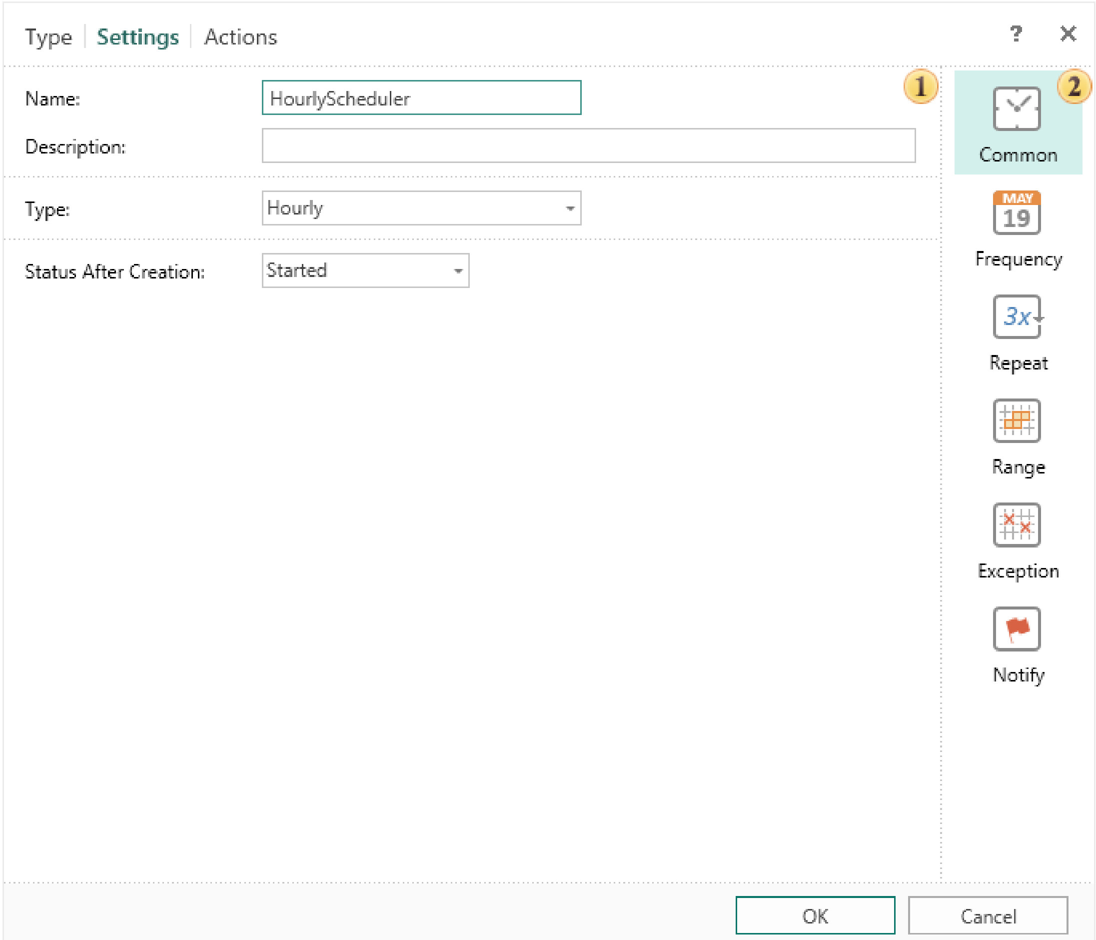
On the **Settings** tab, you can define scheduling parameters. Depending on the selected type, the number and names of the parameters may vary.

This chapter will cover the following:

- Description of Settings Tab;
- Common;
- Frequency and Time Zone. The scheduler may be daily, weekly, monthly, yearly, calendar, once.
- Repeat;
- Range;
- Exception;
- Notify.

Description of Settings Tab

Scheduling parameters are presented in groups.



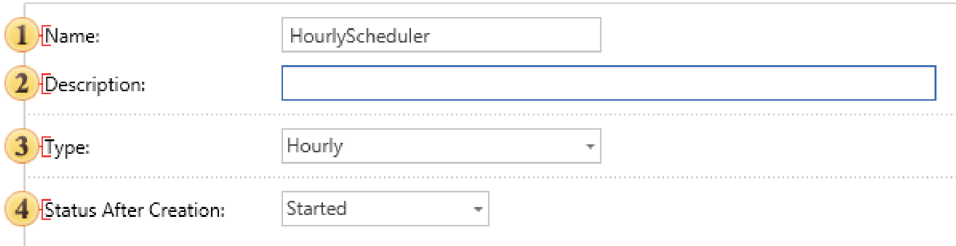
1 The panel **Settings**. This panel displays a list of options, depending on the selected group.
2 This panel contains a list of parameters.

Information

The number of groups may vary depending on the type of scheduler.

Common

This group of a parameter contains general settings that do not depend on the type of the selected scheduler.



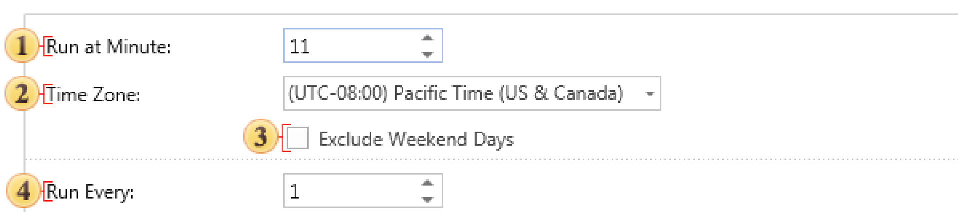
1 In the **Name** field, you can set the name of the scheduler.
2 This field is used to describe the scheduler. The description is used for making notes and explanations for the scheduler.
3 With this option, you can change the Type of the scheduler without going back to the previous tab.
4 This parameter defines the status of the scheduler after it is created. If you select the state Started, the scheduler will be active after saving and work according to the schedule. If you choose the status Stopped, the scheduler will not be active when you save it, and the schedule will not be executed.

Information

The parameter **Status After Creation** is not available if you select a single scheduler. The parameter **Run After Creation** is available instead of that parameter. If this box is checked, the scheduler will work after saving and perform defined actions. If the box is not checked, the scheduler does not work, and it is possible to start it or to use another scheduler manually.

Frequency

This group contains parameters by which the scheduler is running. Some of the settings in this group will vary depending on the type of scheduler. Here is an example of the parameters of the hourly scheduler.



1 The **Run at Minute** parameter specifies the minute for each hour, upon the

occurrence of which the scheduler will trigger.

2 The parameter **Time Zone** indicates the time zone, which will be considered by the scheduler. Suppose you want to perform an action for the scheduler at 14:00. Depending on the geographical location, i.e., due to differences in time zones, the response time of the scheduler can vary significantly. For example, the east and the west coast of the United States refers to the different time zones. Eastern - (GMT - 5:00), West - (GMT -8:00), so the difference in time will be 3:00 at this moment. To calculate time in a different time zone, you must specify the time and time zone. Therefore, if you set the time of 15:01, determine the time zone GMT -8:00, then the scheduler will work at 15:01 on the west coast or in 12:01 - the east coast. This parameter will be present in all types of the scheduler, except the Once.

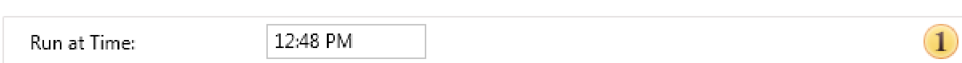
Information

Always pay attention to the time zone because wrong time zone definitions will cause the scheduler running at the wrong time.

3 The **Exclude Weekend Days** option. With this option, you can exclude the operation of the scheduler on the weekend (Saturday and Sunday). If this box is checked, then the scheduler will not run on Saturdays and Sundays. The following actions will be executed to the next weekday - Monday. At the same time, the number of running will not change. If over the weekend planner should have been completed 5 times, then on a weekday, it works 5 times. This option has in all schedulers, except the Once and Calendar.

4 The **Run Every** parameter sets the shift when the scheduler triggers. For example, if the value is 1, the scheduler will be triggered every time as scheduled. If the value of this parameter is 2, the scheduler will be triggered through 1 time, every second time in the schedule, etc. This option has in all schedulers, except the Once and Calendar.

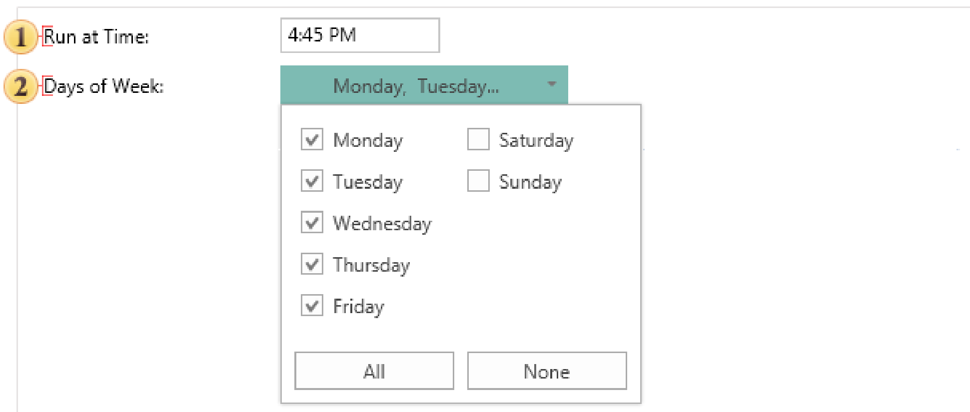
Daily



1 Under this option, you must specify the exact time when the scheduler runs. Then,

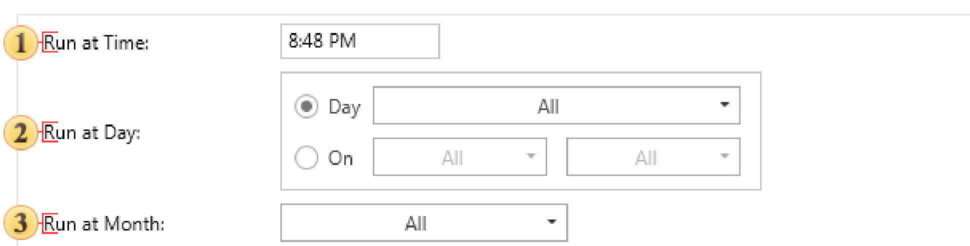
every day, if there are no exceptions, the scheduler will perform specific actions at the specified time.

Weekly



1 Under this option, you must specify the exact time when the scheduler runs. Then, every week, if there are no exceptions, the scheduler will perform specific actions at the specified time.
2 You should select the days of the week on which the scheduler will run. This may be one day, seven days a week, or none. If no one day is selected, the scheduler will not run by this schedule.

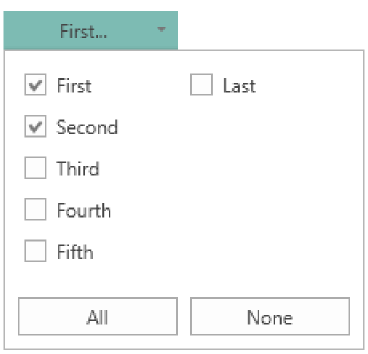
Monthly

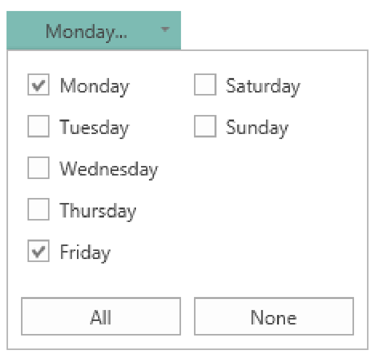


1 Under this option, you must specify the exact time when the scheduler runs. Then, every month, if there are no exceptions, the scheduler will perform certain actions at the specified time.
2 With this option, you can select days of the month.

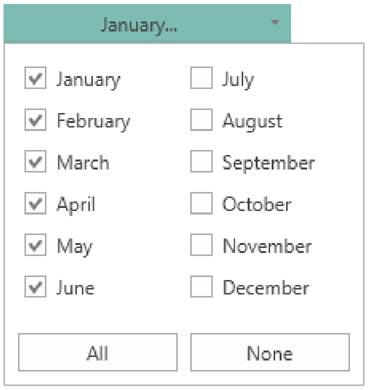
Select the number of the month.

Determination of the **relative day** of the month. In this case, it is necessary to choose the order of the day (e.g., first and second), and then determine the days of the week, such as Monday and Friday. And then, for this example, the scheduler will be triggered every first and second Monday and Friday of the selected month:





❸ Month selection is carried out using this parameter. One month or several months can be chosen.

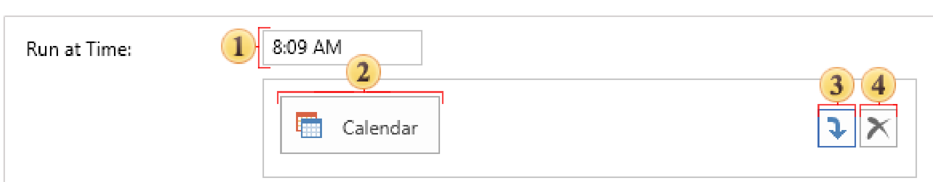


Yearly

1 Under this option, you must specify the exact time when the scheduler runs. Then, every year, if there are no exceptions, the scheduler will perform certain actions at the specified time.
2 With this parameter, you can set the day of the month on which the scheduler will run.
3 Months of the year in which you will run the scheduler is defined using this parameter. If the month has already passed, the selected schedule will work next year.

Calendar

When you select this option you must specify a calendar with a schedule (the calendar contains a list of specific dates):



1 In this field, you should specify the exact time when the scheduler triggers. The calendar indicates only the dates, so the time of running is defined on the tab

Calendar.
2 The added item Calendar.
3 The button is used to add the selected item from the tree to the panel of the scheduler.
4 The **Delete** button is used to delete an item from the panel of the scheduler.

Once
In this case, the scheduler works immediately after creation. It should be known that the scheduler will not work if to uncheck the parameter Run After Saving. In this case, the running must be implemented manually, i.e., select this scheduler and select the command **Run Once** on **Toolbar**. Also, the scheduler of this type can be started by another scheduler through the action **Run Scheduler**.

Repeat
Sometimes you need to repeat the scheduler operations after its actions by the schedule have been executed. You can enable the repetition and configure it in the group **Repeat**:

1 This radio button turns **on/off** the repeat mode.
2 Includes the repeat mode and provides the ability to set the repeat options:
- The first parameter defines the number of repeats after the scheduler is executed;
- The second value defines the range of 0.5; 0.25; 1, etc.
- The third parameter specifies the unit: hours or minutes. Depending on the selected unit, the repeat interval will be calculated.

Information

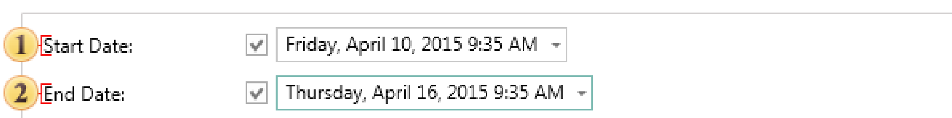
The picture above shows an example of the enabled repeat mode: 3 repeats with an interval of half an hour after each execution of the schedule. Suppose there is a scheduler which runs daily at 10.00 AM. If the repeat mode is enabled (see the picture above), the scheduler will run:

- at 10.00 AM on a daily schedule;
- at 10.30 AM will be the first repeat;
- at 11.00 AM will be made to the second repeat;
- at 11.30 AM will be made the third repetition.

The next day, the scheduler will run at 10.00 AM, and if the repeat mode is enabled, the repetitions will be performed.

Range

The group of parameters **Range** provides an opportunity to specify the interval when the scheduler works. In other words, the scheduler will only work if its schedule falls within the range:



1 With this parameter, you can specify the beginning of the range. Check the checkbox and select a date-time.

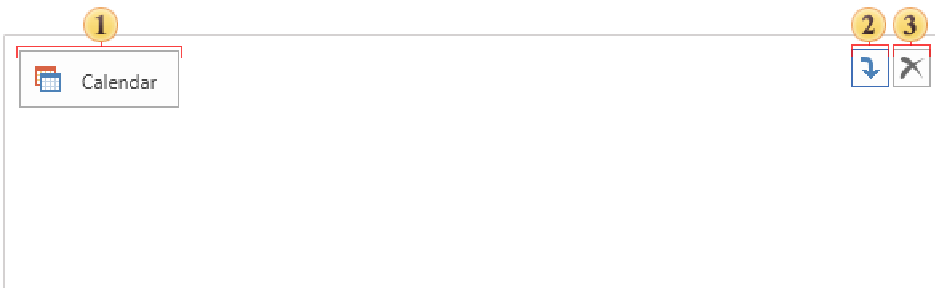
2 The end of the range is set using this parameter. You must also check the checkbox and select a date-time.

Information

For example, on July 30, 2014, we will create a daily scheduler, which must be executed at 10.00 AM. Next, we will define the range from July 31, 2014, from 8.09 AM to August 2, 2014, 8.09 AM. In this case, the scheduler will run on July 31, August 1, August 2. On other days, the scheduler will not be executed because its schedule does not fall within the specified range.

Exception

Sometimes, on specific dates, the scheduler mustn't run. A list of these dates (exceptions) is made in the item calendar. Next, the item is added to the scheduler and will be considered as a list of exceptions. For example, a daily scheduler is running, but the 4th of July is a holiday, and it is not necessary to run the scheduler. Therefore, it is essential to create a calendar with the date July 4, and then drag it out of the item tree to the panel of exceptions. Now, this scheduler will not run on July 4.



1 The item **Calendar** that contains the dates of exceptions.

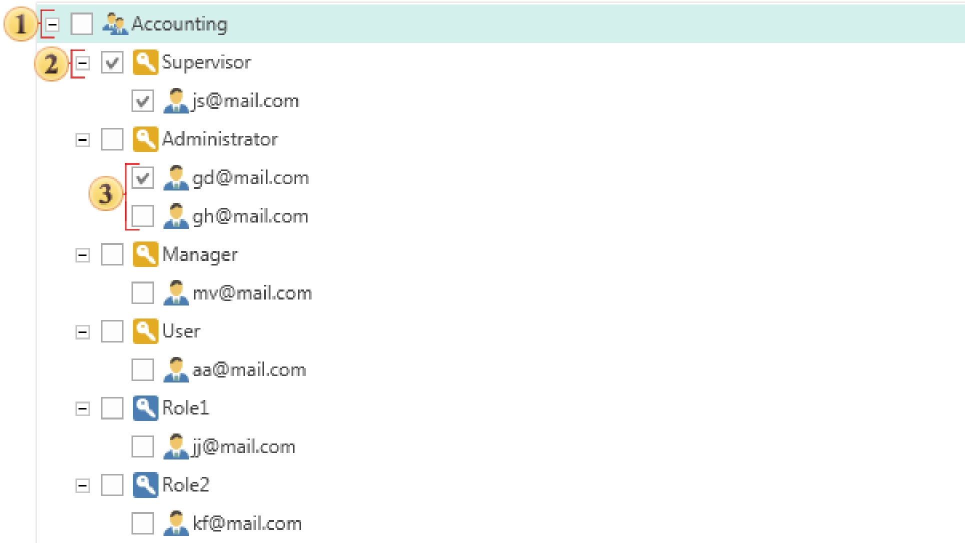
Information

When using exceptions, you should take into account the value of the Time Zone.

2 The button is used to add the selected item from the tree to the panel of exceptions. In this case, the item Calendar.
3 The button is used to delete an item from the panel of exceptions.

Notify

In this group of parameters, it is possible to set up a list of users who will get notifications of the executed scheduler. You can notify all users of the workspace, or users with a specific role, or users by selection.



1 In order notifications of the executed scheduler send to all the users in this workspace, you should select this checkbox.
2 If you check the role, all users in this role will be notified of the executed scheduler.
3 In addition, it is possible to notify users selectively.

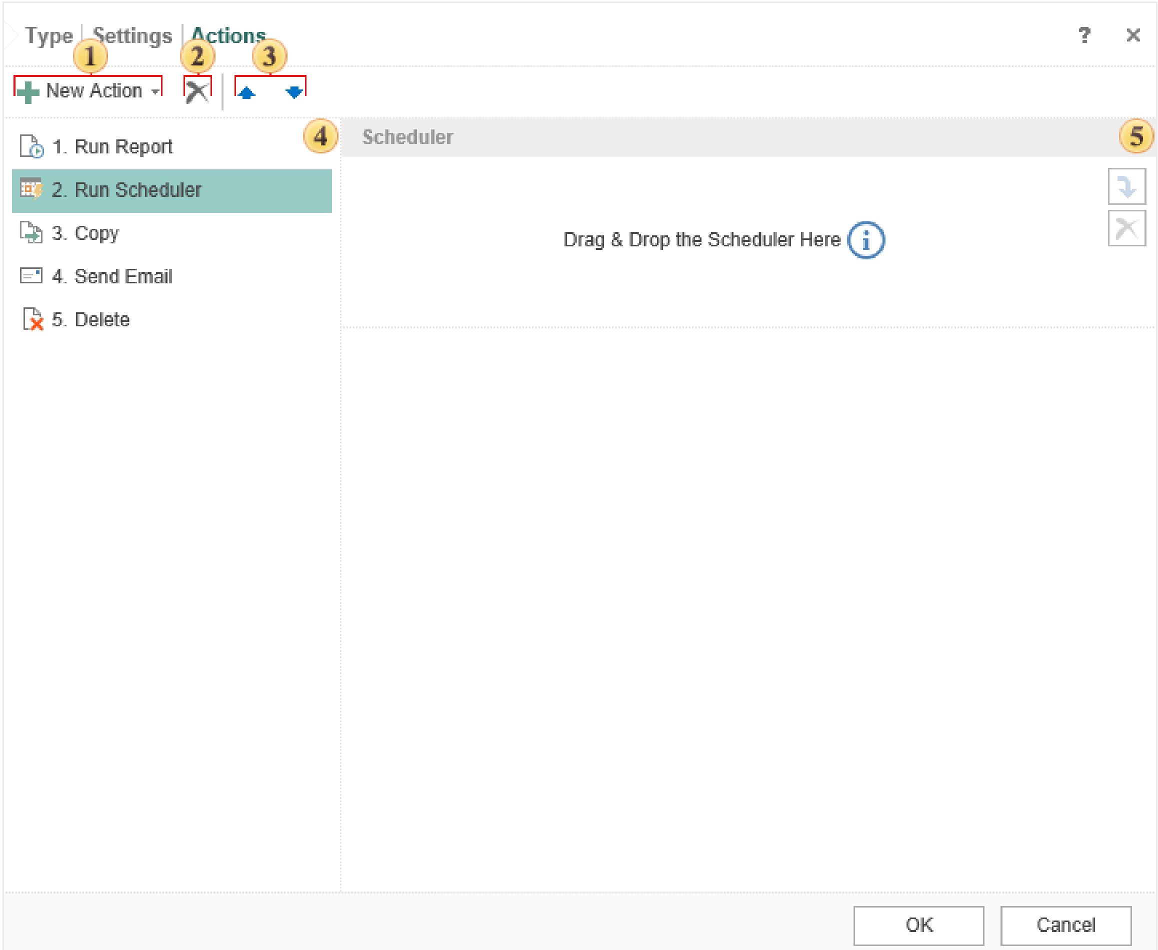
3.1.4.2 Actions

The scheduler in the active (running) state performs a specific list of actions on schedule. Actions performed by the scheduler:

- Copy;
- Delete;
- Run Report;
- Run Scheduler;
- Send Email.

Description of Actions Tab

The list of actions is generated when you create or edit the scheduler on the tab **Actions**. Actions are executed alternately in the scheduler, in the direction from top to bottom. The higher is the location of a particular action in the generated list of scheduler actions; the higher is the order of execution.



1 The drop-down menu contains a list of actions available for the **Scheduler**.
2 Delete the selected action from the actions list.
3 Moves the selected action up and down, increase-decrease execution priority.
4 The panel list of actions. This panel displays the added action, those that will be executed each time you run the Scheduler.
5 The panel of parameters of the selected action.

Information

Consider the ways to add items to the fields:

› A method of dragging an item from the item tree into the field of action. To do this, hold down the left mouse button over the required element and, without releasing the button, move the item to a particular field.

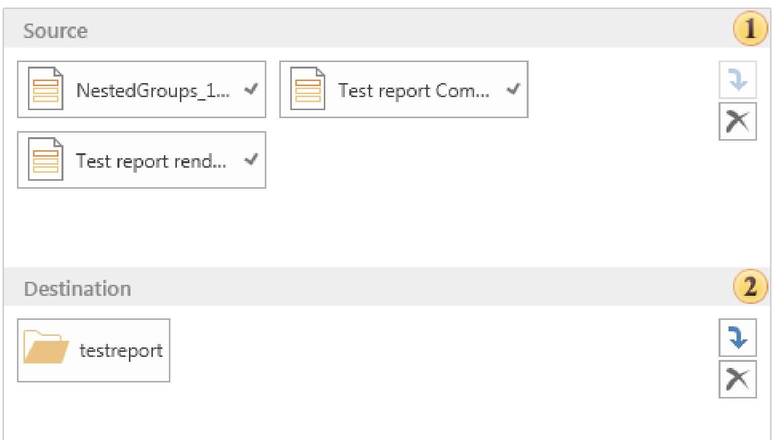
› Another way of adding items is using the control buttons.

Copy

Copying elements can be done using the scheduler. And, at the same time, you can copy multiple items, but to one destination. You cannot specify multiple destinations for copying. In addition, you can copy items to the list of contacts. In this case, a copy will be sent to the e-mail addresses from your contact list. You can also copy the item to an item. In this case, you must consider the following restrictions:

- Similar types of objects in the fields **Source** and **Destination**. It is impossible to copy **Report** to **File**, or vice versa.
- It is allowed to use only one item as the destination.

Below is the action menu **Copy**.



1 This field specifies the elements that will be copied.

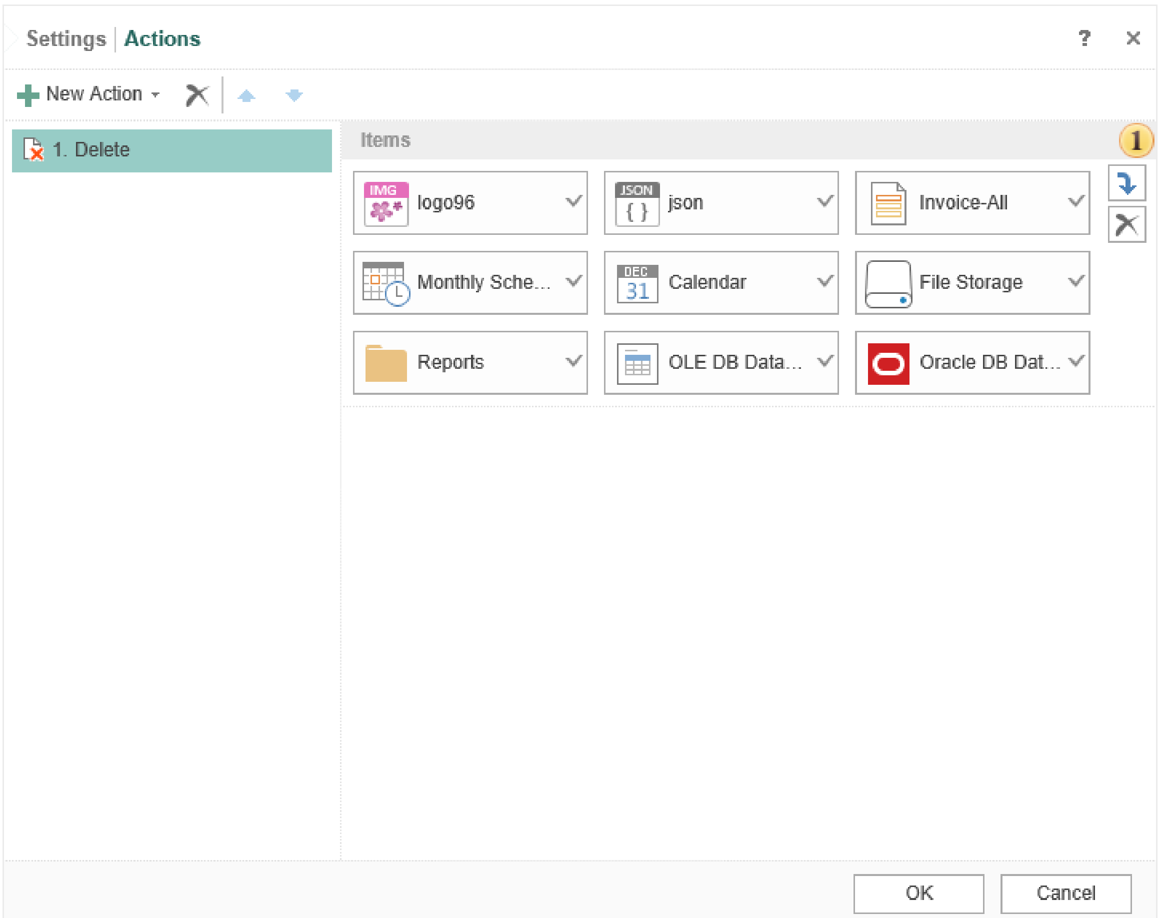
2 In the field of this parameter, you should specify the destination for the copies. This can be a folder, a list of contacts, cloud storage, etc. For example, if you specify a folder, the items will be copied to this folder. It is also possible to copy one item to another.

Information

If you specify the contact list as the destination, it will be necessary to determine how to attach items to e-mail. Items can be directly attached as an attachment to the letter, or links to these items will be attached.

Delete

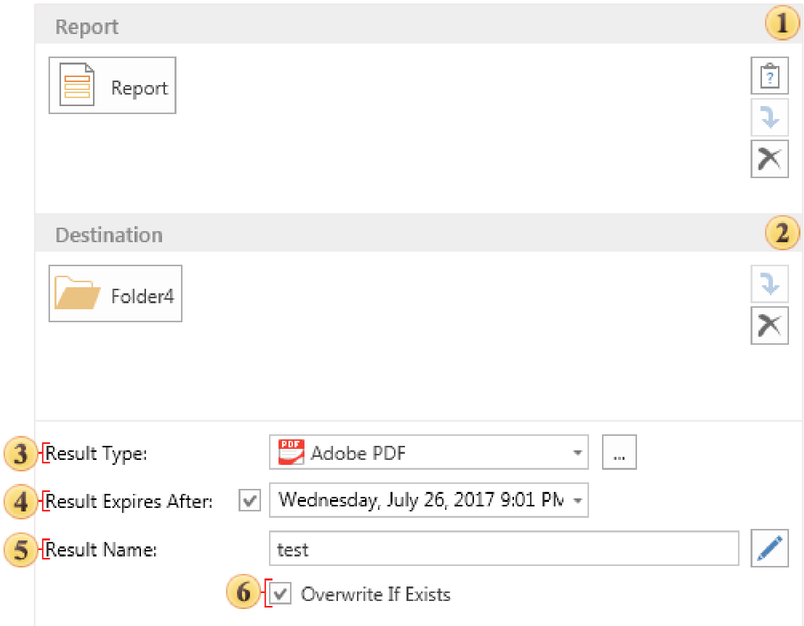
The item can be removed by a certain schedule. To do this, add the **Delete** action in the scheduler and specify the items that must be removed when the scheduler triggers.



1 The list of items that will be removed when the scheduler is triggered.

Run Report

The action **Run Report** is used to start the rendering of a report at a specific time, or to convert the report to any of the available file formats. After rendering, the report can be saved into the item tree, cloud storage, emailed, etc. Below is a menu of the action run a report.



1 The field **Report**. In this field, you can specify the report template or a rendered report, the item that you want to convert. If the report uses parameters, then click the button to change the default settings.

2 The field **Destination**. It specifies the destination of the output file, location of the report after the conversion. This may be a folder, a list of contacts, etc. For example, if you specify a folder, the report will be converted and saved in it. If the destination is a list of contacts, the report will be converted and sent to all recipients present in the contact list.

Information

If you specify a contact list item as the destination, it will be necessary to determine the method of attaching the report to an email. The report can be directly attached to the email as a file, or a link to this report will be attached.

3 In the field of this parameter, you can determine the **Result Type** the report should be converted to.

4 If you want to delete the result after a specific date and time automatically, then it can be done using this parameter. To do this, you must check the box and specify the time. When the date and time come, the file will be automatically moved to the recycle bin.

5 This field contains the template of the result name.

6 The **Overwrite If Exists** parameter provides an opportunity to rewrite the result. If this option is disabled, then each time you perform this action, the result will be represented as a separate item, if the report is converted once an hour, then a new item in the tree will appear every hour or sent according to the list of contacts. In this case, the names of these items may be similar. If this option is enabled, and the names are identical, then each new result is overwritten instead of the previous one.

Information

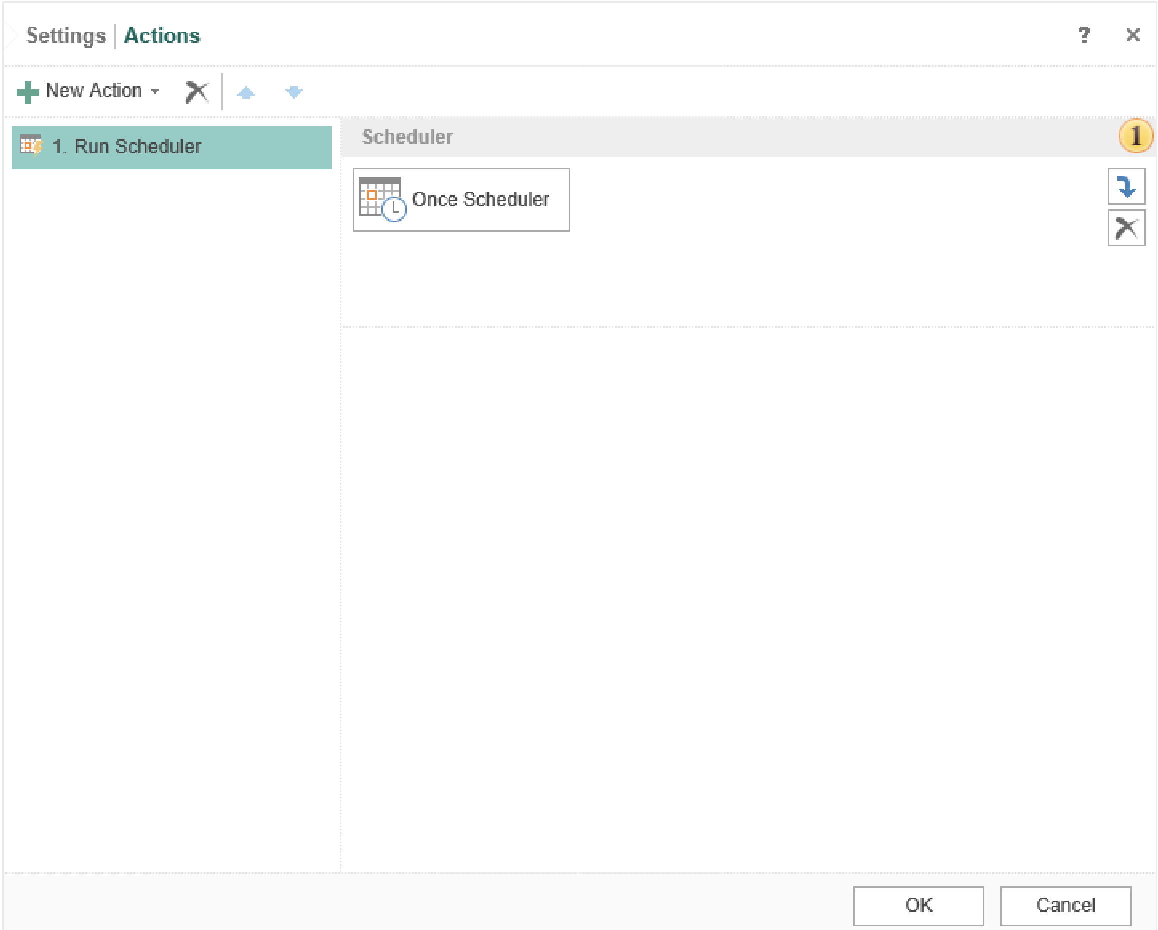
Consider an example. Suppose the report **Test** is converted to the PDF each hour. If the **Overwrite If Exists** parameter is disabled, then after four starts, this directory will have four elements with the name Test. If **Overwrite If Exists** is enabled, then after four starts, this directory will have one element **Test**.

Run Scheduler

The action **Run Scheduler** provides the ability to run another scheduler. In other words, one scheduler can run the other, and that one is already carrying out any action. For this action, it is necessary to consider the following limitations:

- The slave scheduler is the one that will run another scheduler must be of the type Once;
- One level structure. You cannot run a scheduler that will run another scheduler that will run the third scheduler. In other words, it is impossible to build a multilevel hierarchy of action.

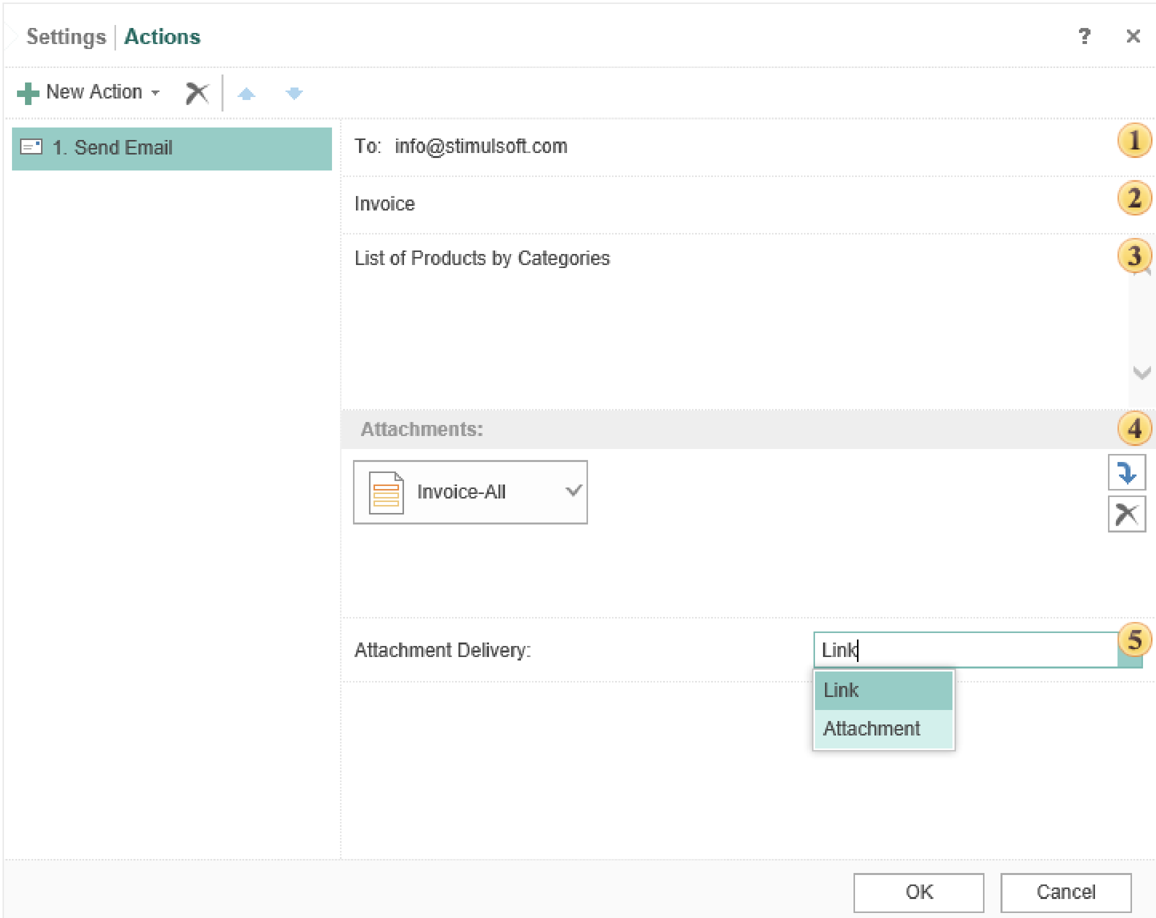
Below is a menu of the action **Run Scheduler**.



1 The slave scheduler. It will run when the **Run Scheduler** action of the main scheduler is executed.

Send Email

One of the actions that can be performed by a scheduler is sending emails. To do this, use the **Send Email** action. Below is a menu of this action.



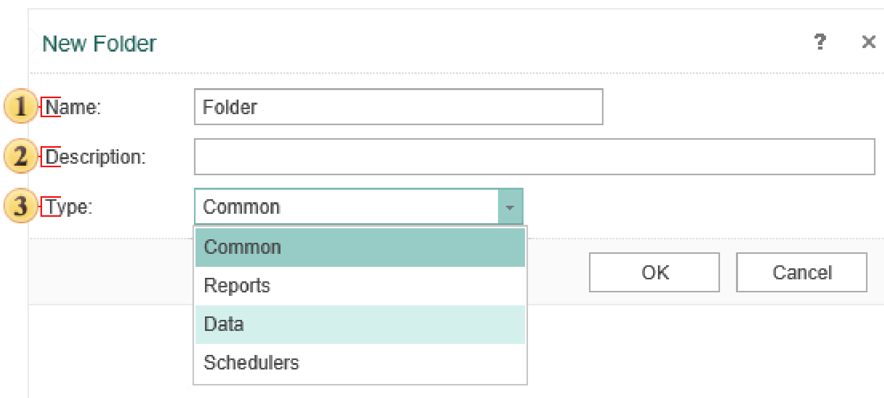
1 This field **To**. Specifies the address to which the email will be sent. The list of email addresses should be filled through a separator "," or space. The field is mandatory.
2 The field **Subject**. Here you need to write a subject of the message. The field is not mandatory.
3 The field **Message**. Here you need to write a text of the message. The field is mandatory.
4 **Attachments**. If necessary, you can attach certain items into it. You should add items from the Navigator tree. The field is not mandatory.
5 **Attachment Delivery**. Items can be directly attached as an annex to the letter, as well as references to this item.

Information

If you create an empty Report item, create only a description without filling data, then there is no sense to attach this item to the email. The recipient will get only a text (message) without the attached elements.

3.1.5 Folder

Folders in the list of items are needed to organize and store in them in other items and folders. Also, with the help of folders, you can create a hierarchy of folders in the list of items. Also, the folder can be the beginning of the item tree for specific users. Below is the menu to create a new folder.

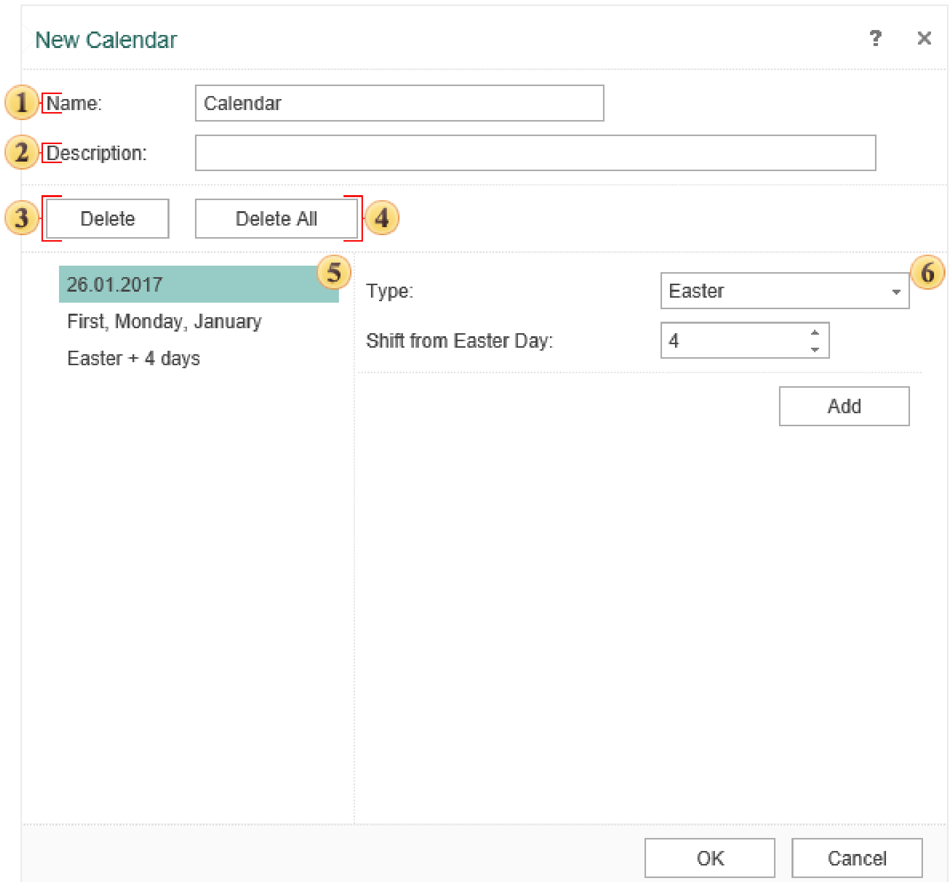


1 This field specifies the name of the folder.
2 Add description, explanation, or label for the new folder.
3 This field specifies the type of a folder. Depending on the type of the folder, it will appear on a particular tab:

- The **Common** type. In this case, the folder will be displayed on any tab, except for Users and System tabs.
- The **Reports** type. In this case, the folder will only be displayed on All Elements and Reports tabs.
- The **Data** type. In this case, the folder will only be displayed on All Elements and Data tabs.
- The **Scheduler** type. In this case, the folder will only be displayed on All Elements and Schedulers tabs.

3.1.6 Calendar

In addition to the frequency of the scheduler, you can schedule the list of execution, set weekends, holidays, and other dates of exceptions using the **Calendar** item. The schedule in the calendar can be of different types: for a date, weekly, annual, holiday, and more. To create a schedule, call the menu **New Calendar** and define your calendar.



1 The name of the calendar is specified in the field **Name**.
2 In the field Description, you may specify additional information about the calendar or other information.
3 The **Delete** button deletes the selected schedule item in the calendar
4 If you want to remove all scheduler items in the calendar, click **Delete All**.
5 The **Calendar items** panel shows all the elements of the schedule, the time and date by which the action of the scheduler will be implemented.
6 On the **New Calendar** panel you can define settings of an item schedule. Depending on the Item type, other parameters may vary. Once the parameters are defined, the element, press the button Add to the element with the current settings

written in the list of calendar items.

Types of calendars

Depending on the selected type, different parameters can be shown.

› The **Date** type. The parameter of the schedule is a specific day, month, year, and time. Also, a day of the week corresponding to the selected date is displayed.

› The type **Weekly**. For the calendar of this type, it is necessary to determine the day of the week.

› The type **Annual**. For the annual schedule, you should specify the month of the year and the day of the month.

› The type **Relative day** of the year. In this case, the calendar will not be "tied" to a specific date. The schedule parameters are:

- Priority: First, Second, Third, Fourth, Last.
- The day of the week.
- The month of the year.

› The **Holidays** type. This type of calendar provides an opportunity to create a schedule considering country holidays. For this type, you should choose a country. After this, the list of holidays, which may be present in the schedule, will be displayed on the panel of new items. If necessary, you can add one holiday or all at once to the items of the calendar.

› The type **Easter**. Schedule for this type will be calculated off-day of Easter, which is the start date, and it measured the number of days to offset. You should know that if this year Easter has passed, the reference point is Easter next year. Consider the examples of indications of some values:

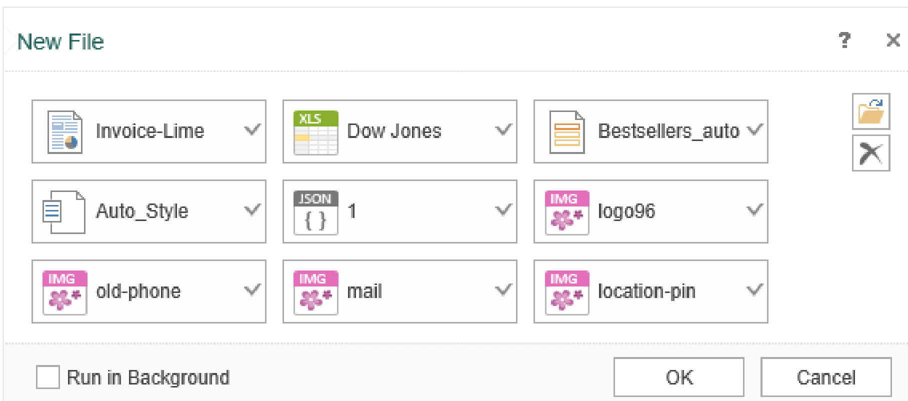
- The minimum value that can be specified is -365. The calendar date will be a day before Easter - 365 days.
- The maximum value that can be specified is 365. The calendar date will be the day after the Easter day +365 days.
- If the number of days is not specified or is 0, then, in this case, the date of the calendar will be Easter (if Easter has passed this year, it will be a day of Easter next year, if the day of Easter had not yet arrived - in the current year).

Information

If the next year is a leap year and the date of the schedule falls on a day after February, then you should always add 1 to the offset.

3.1.7 File

You should call the **File** menu to add the required file from the storage to the list of server items or create a new file based on an existing item. This command creates an object, which can contain any types of files.



The item can be attached in the following ways:

- From any storage (cloud, local drive, tree of items), you can add files by merely dragging them (Drag & Drop);
- The **Control** button allows adding a file from local user storage;

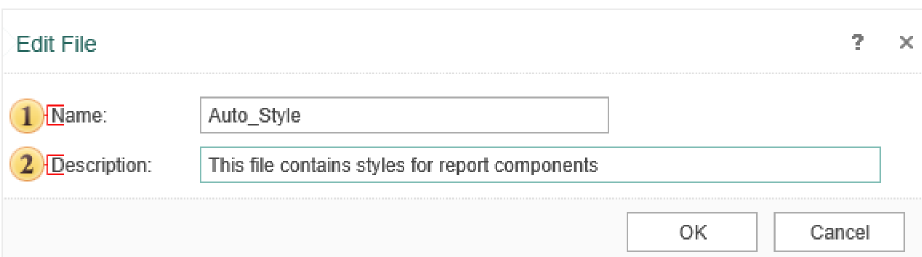
Information

These operations can be performed in the background. The background mode provides the ability to perform an unlimited number of operations simultaneously. In this case, the number of operations in the background mode depends on the technical abilities of the server. To enable the background mode, you must set the **Run in Background** checkbox in the dialog.

In this field, you can specify the number of files, and then each attached file will be created as a separate **File** item in the **Stimulsoft Server** tree. It should be considered that, in this case, the **Name** field will not be available, and the names of items in the tree will be generated automatically. Also, the **Description** field will not be available. So if you need to add or change the description of the item name that is automatically generated, then it is necessary to perform editing of the item. Clearing this field, deleting all files in this field, can be done by pressing the **Delete** button.

Edit File

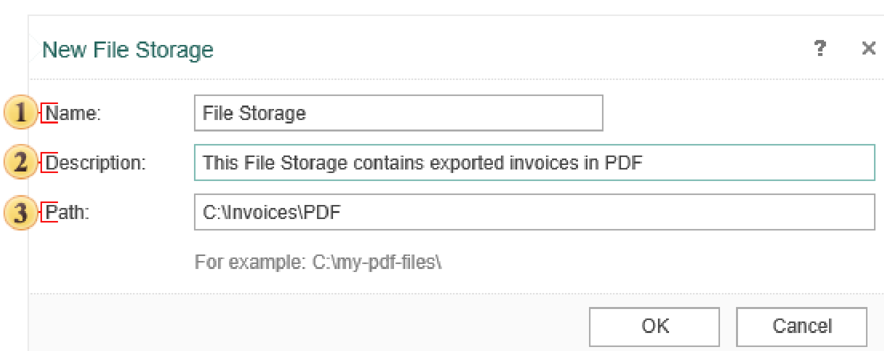
Select File in the items list and click the **Edit** button on the server toolbar to change the name and description of the current file.



1 The **Name** of the file item is specified in this field.
2 The **Description** of the report item can be put in this field.

3.1.8 File Storage

The **File Storage** item is used to save another element outside the server. To do this, create a file repository and specify this item as a **Destination** when performing actions with other items. For example, when copying items using the **Scheduler**, or when you run the report without previewing. To create a **File Storage**, select the appropriate command from the **Create** menu:



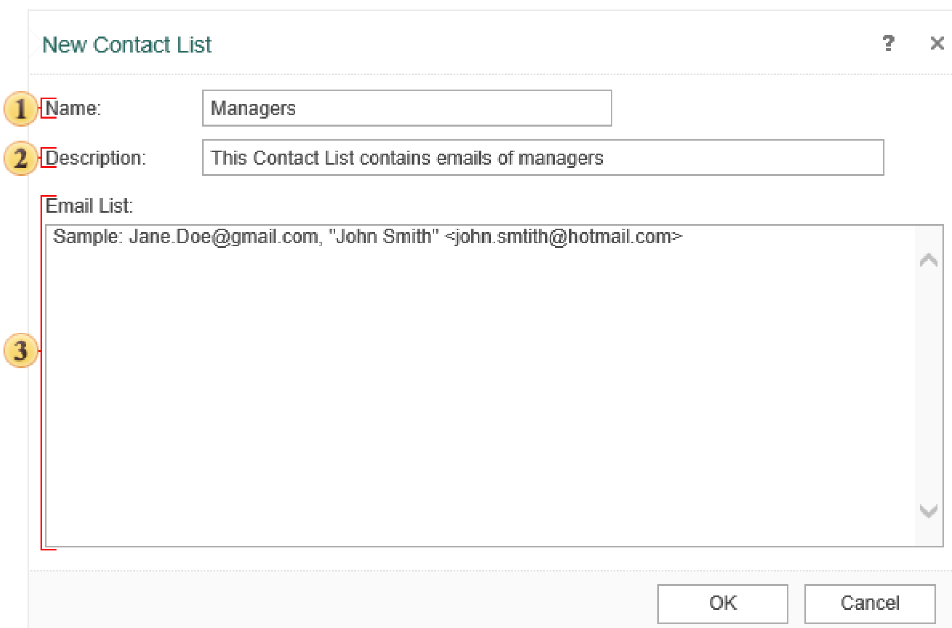
1 The **Name** of the file storage item is specified in this field.
2 The **Description** of the report item can be put in this field.
3 The **Path** by which the items will be saved is specified. If the specified directory is not created, then, when the item is saved the first time, the directory will be created.

3.1.9 Contact List

The Contact List is used to send reports by groups of email. Here you need to specify a list of email addresses through a separator "," or space. It should be noted that the list of contacts can be used as the destination in the following actions of a scheduler:

- Send Email. In this case, text messages (with the attached elements, if needed) will be sent by the list of contacts.
- Run Report. If your contact list is specified as the destination, then the report or dashboard will be converted, and the result will be sent to the email addresses.
- Copy. When copying items, contacts can also be specified as the destination. Copies will be sent to the email addresses.

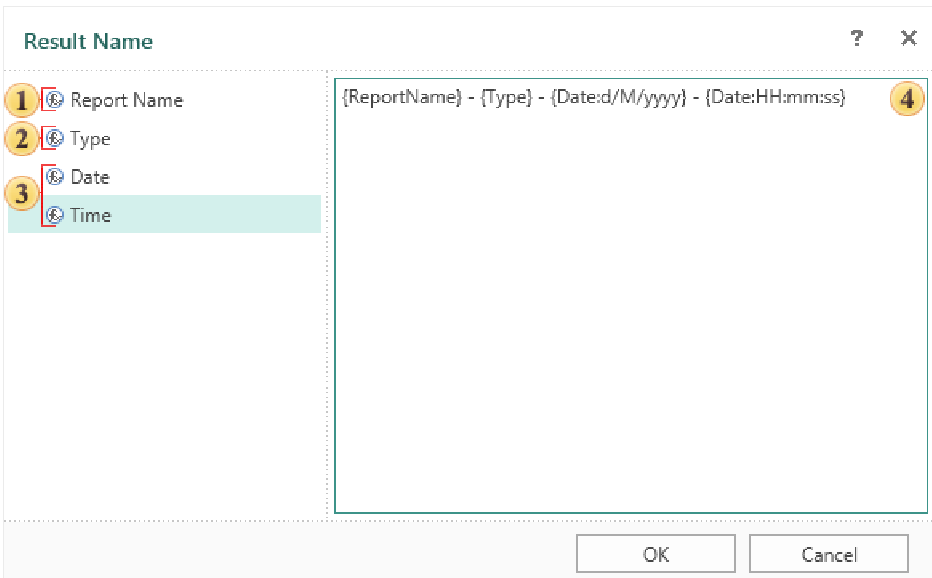
Below is the menu **New Contact List**.



1 The field **Name**. Here you should specify names of **Contact List**.
2 The field **Description**. You should put a brief description of the item.
3 The field Email List. Here you need to place email addresses directly through the separator ",". In quotation marks, you can indicate information about the recipient, but in this case, the email address enclosed in <...>, like this **<Email>**.

3.1.10 Result Name

By default, when you convert (export) the report, the result name is generated automatically. It will consist of the report name before the conversion date plus the conversion date-time. For example, there is the **.mrt** report, "**Report1**". Let's convert the report to PDF document using the command **Run**. This will create a **PDF** document with the name **Report1-10/4/2020 2:26:55 PM**, where **10/4/2020 2:26:55 PM** is the start time (conversion) of the report. Sometimes it is necessary to set a mask (template). This can be done in the window **Result Name**.



On the right side of the window, you can find functions with which you can compose the name of the result. The left side of the window is a field in which goes the creation of the mask (template).

1 The function **Report Name**. When you add this function the name of the result will contain the report name that has been converted. For example, there is a report template with the name **List of Products**. When you add the **Report Name**, the name of the result is the following - **List of Products**.

2 The function **Type**. When you add this function, the result will contain the name of the type of the result. For example, if you exported a report template to PDF, then the result has the following name - **PDFXXXXXXX**.

3 The function **Date** and **Time**. When you add these functions, the name of the result will contain the date (if the function is **Date**) and/or time (if the function is **Time**).

4 This is the field in which a mask (template) of the result names is displayed. This field specifies the above functions and any other characters that will be identified as text. For example, there is a report, the name of which is formed according to the

following pattern **{ReportName}{Type}{Date: HH: mm: ss}**. Then the name of the result is the name **ReportPDF09: 19: 06**. Let's format the mask (template), adding spaces between the functions and the delimiter "-" (see. picture above). Then, the result after the conversion will be the following - **Report - PDF - 09:19:06**.

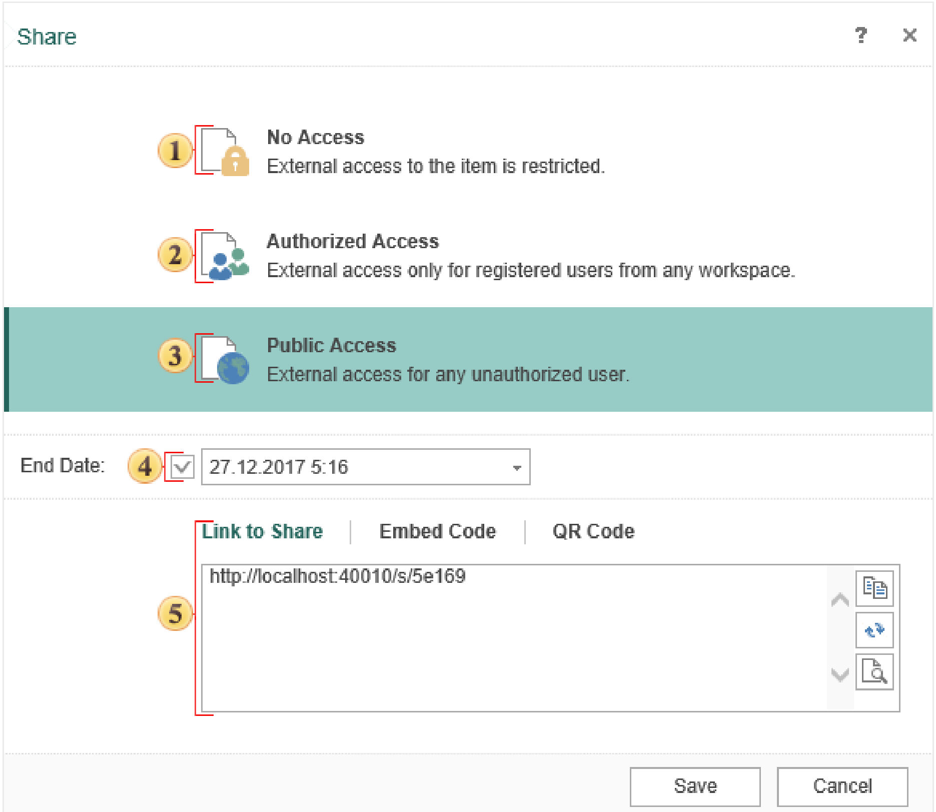
3.2 Sharing Settings

Sometimes it is necessary to set the level of access to the selected item for a particular group of people. You can do this using the Share command.

This chapter will cover the following:
- Share menu;
- Embedding the access code to an item in the HTML page;
- Parameters in URL.

To open the **Share** menu, you should:
- Select the report or dashboard element in the list of server items;
- Click the **Share** button on the server toolbar.

Share menu
You can specify share settings of the report or dashboard in this menu.



1 The first mode sets the access only to users of the workspace. In other words, only users of the workspace will have access to this item.
2 In this mode, access to the item will have all the registered users on the server, regardless of whether they belong to a particular workspace.

Information

Regardless of the access to the item (No Access Share or Authorized Access), it is necessary to take into account the rights of the user roles. For example, if the user does not have the right to view the report item (not allowed in the settings of the role), when setting the level of access No Access Share or Authorized Access, the user will still be able to view the item.

3 With this mode, there are no restrictions on the access level. The item will be public for any non-authorized user. In other words, everyone who has the link to this item can view it.
4 This parameter sets the time and date after which access will be closed. If this option is disabled, then there is no period of access, access is always enabled.

5 The link to access an item can be provided in the following ways:

- **Link to Share**. Get only a link to this item.
- **Embed Code**. Get the code for the HTML page with the link to this item.
- **QR Code**. Display the QR code. When reading this code, you will automatically get a link to access the item.

Embedding the access code to an item in the HTML page

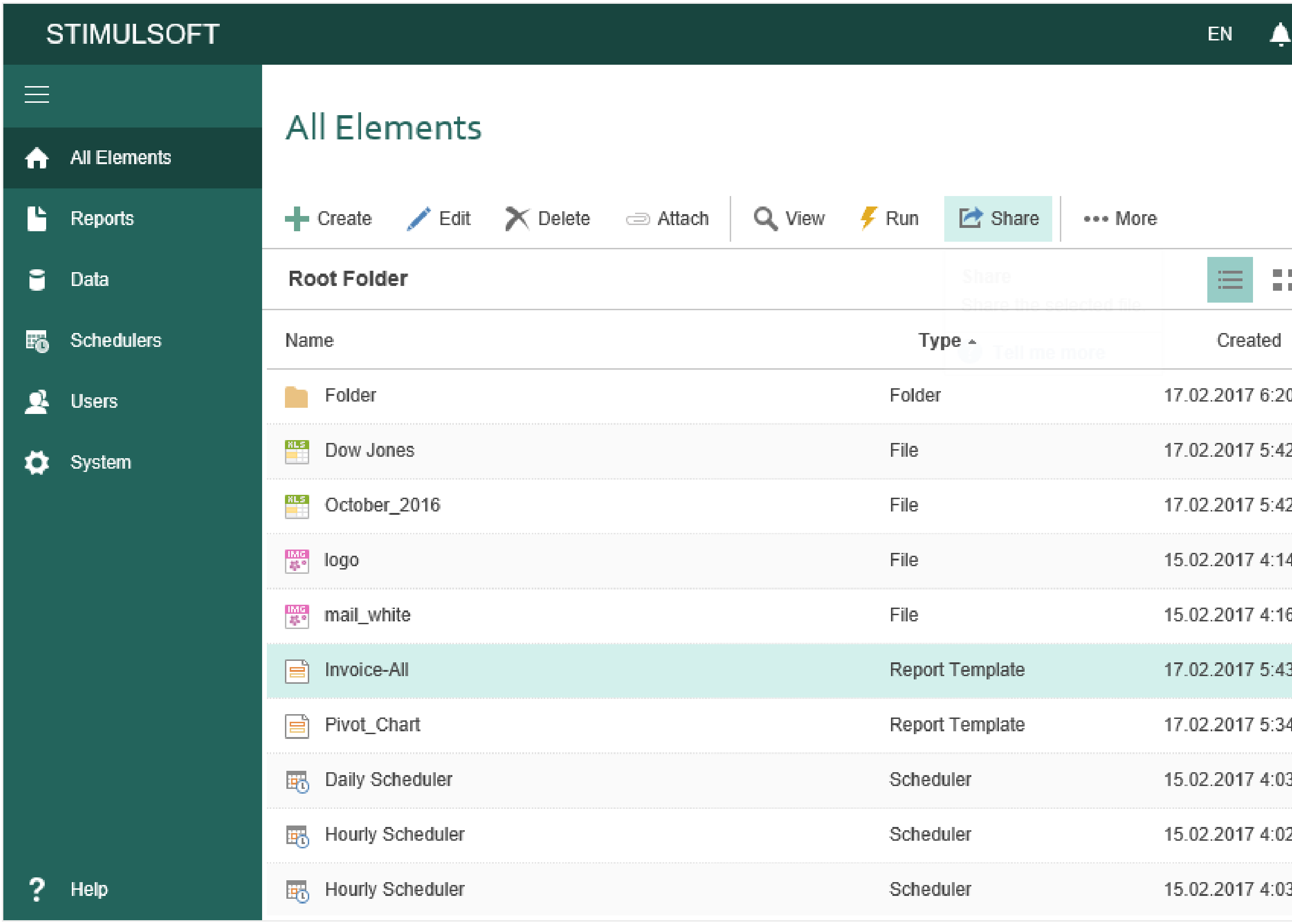
The item to which it is possible to adjust the level of access can also be embedded into the HTML page. This requires the following conditions:

- The report server must be deployed on any web server.
- Access level of the item must **Public Access**.

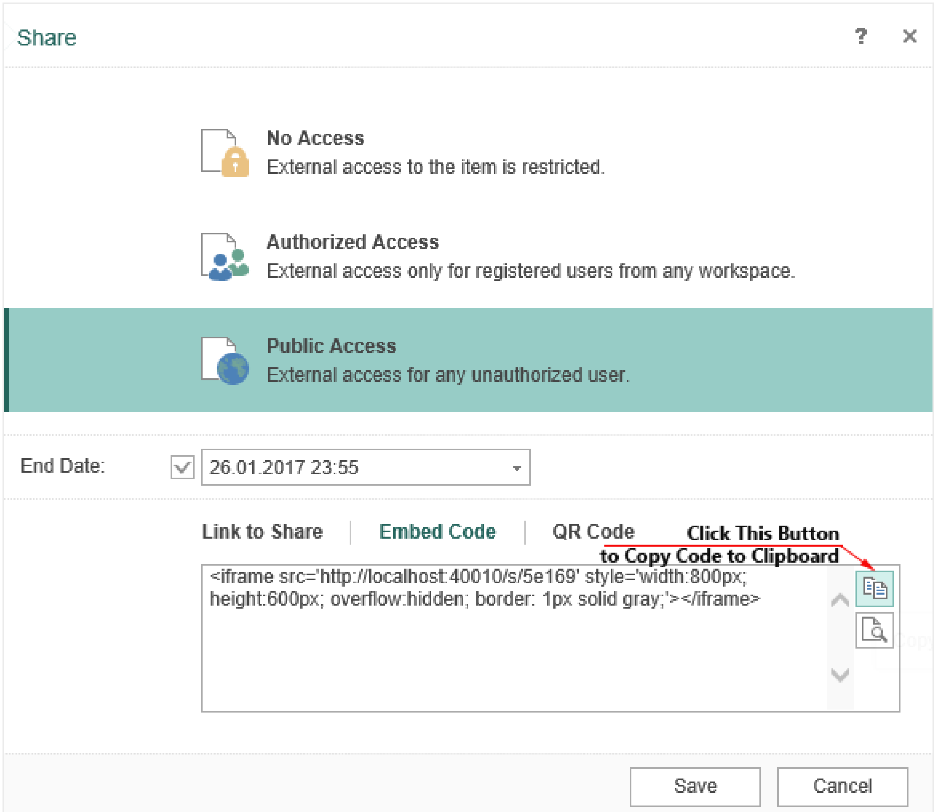
The algorithm for embedding code to access an item in the HTML page looks like this:

Step 1: Select the necessary item in the navigator tree.

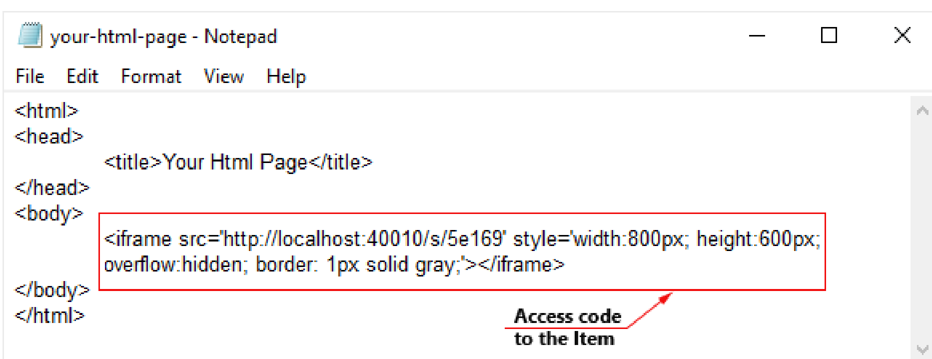
Step 2: Select the **Share** item on the toolbar.



Step 3: Set the public access, view mode, go to the tab Embed Code and copy the access code.

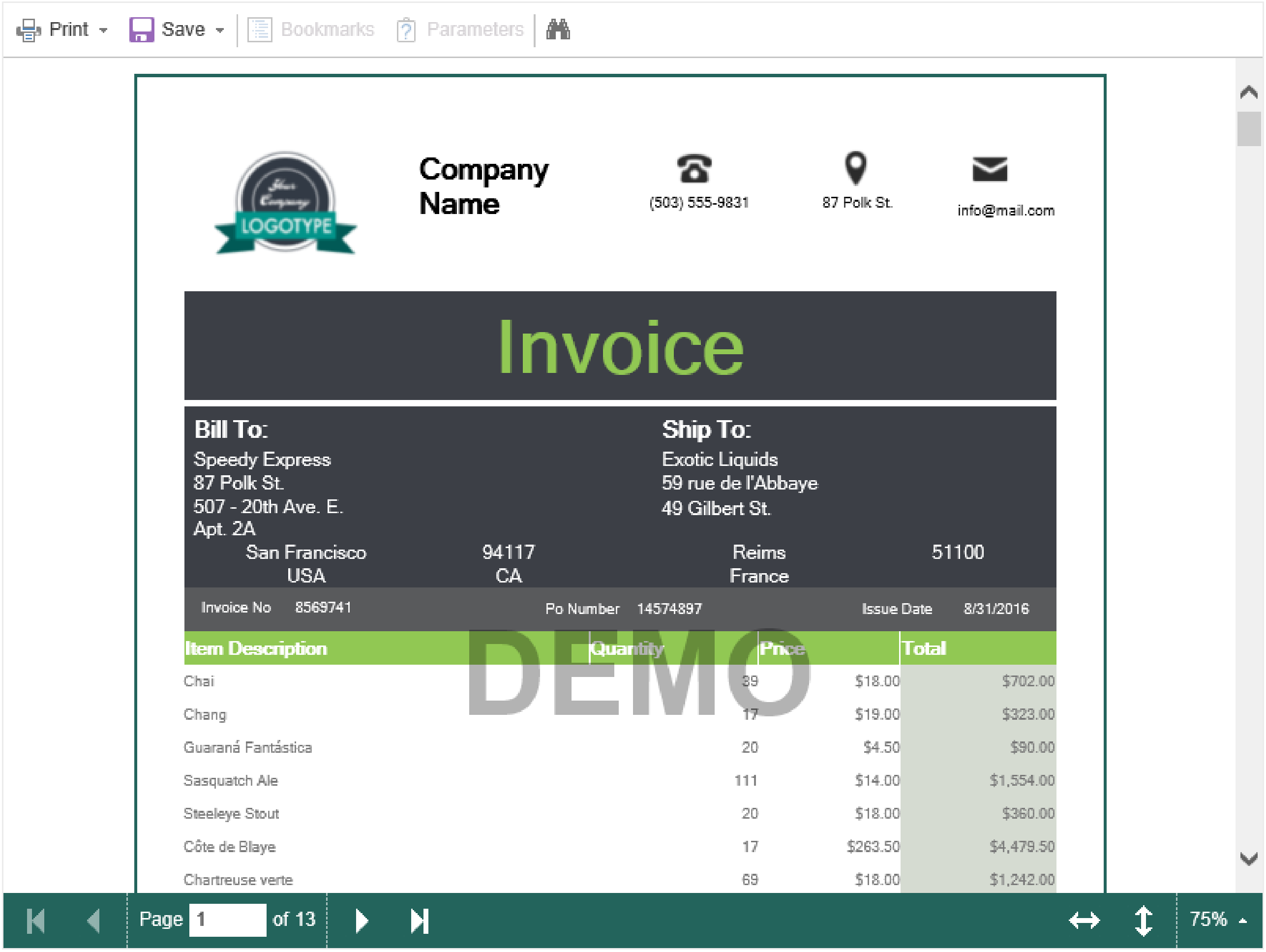


Step 4: Open the HTML page in the editor and paste the copied code.



Step 5: Save changes.

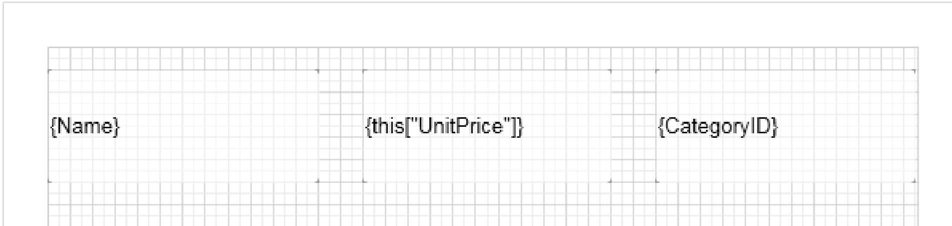
Open the HTML page in a web browser.



As can be seen in the picture above, the viewer with the loaded report will be displayed on your HTML page. The same way you can access to viewing report snapshots, text files, images, PDF documents. For the remaining items, only the **Download** mode will be available.

Parameters in URL

Users can view reports depending on the access level. For example, a report can view any or only authorized users. However, the report parameters can be used. In this case, the transfer of parameters goes via the URL. To do this, you must specify the special character "**?**" at the end of the URL. After this character, the name of the parameter and its value is specified. If you want to specify several options, they should be written with a separator "**&**". Consider an example of passing parameters to the report through a URL. Below is a report template.

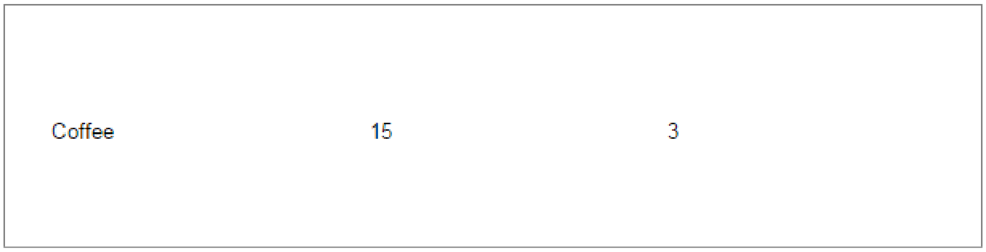


In the first and the last text component, you can find references to a variable - **Name** and **CategoryID**. The default values for these variables are **Chai** and **1**, respectively. In the text component in the middle of the page, you can see the expression with the keyword this and the parameter **UnitPrice**. Below is the rendered report.

As can be seen from the picture above, the default values were passed to the report. At the same time, UnitPrice did not keep any value and, therefore, it is not present in the rendered report. Let's pass parameters via URL.

- The access link to an item - http://localhost:40010/s/5fc3c.
- For the parameter **Name** the value will be **Coffee**;
- For parameter **UnitPrice** - **15**;
- For the parameter **CategoryID** - **3**.

Then the URL with parameters will look like this http://localhost:40010/s/5fc3c?Name=Coffee&UnitPrice=15&CategoryID=3. Below is a report with the passed parameters.

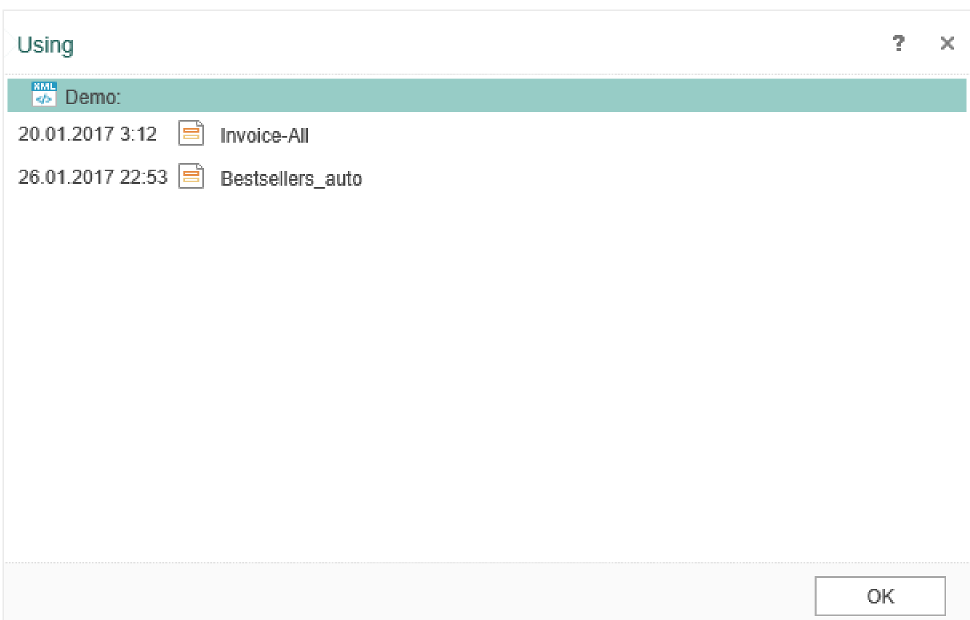


3.3 Using

Items in the report server can be used by other elements or can be attached to them. For example, the data source may be attached to the report, and the folder can be used as the destination source in the scheduler. In this case, it is impossible to remove used or attached items. At the same time, the same item can be attached (used) by an unlimited number of other items. In other words, the corresponding data source can be attached to various reports, and the same folder can be used in multiple schedulers.

To find out where the item is used, you should do the following:

- Select item;
- Click the **Using** button in the **...More** menu on the server toolbar.



As can be seen from the picture above, the **Using** menu shows the following information:

- The name of the item about which information is requested. In this case, it is

Demo.xml.

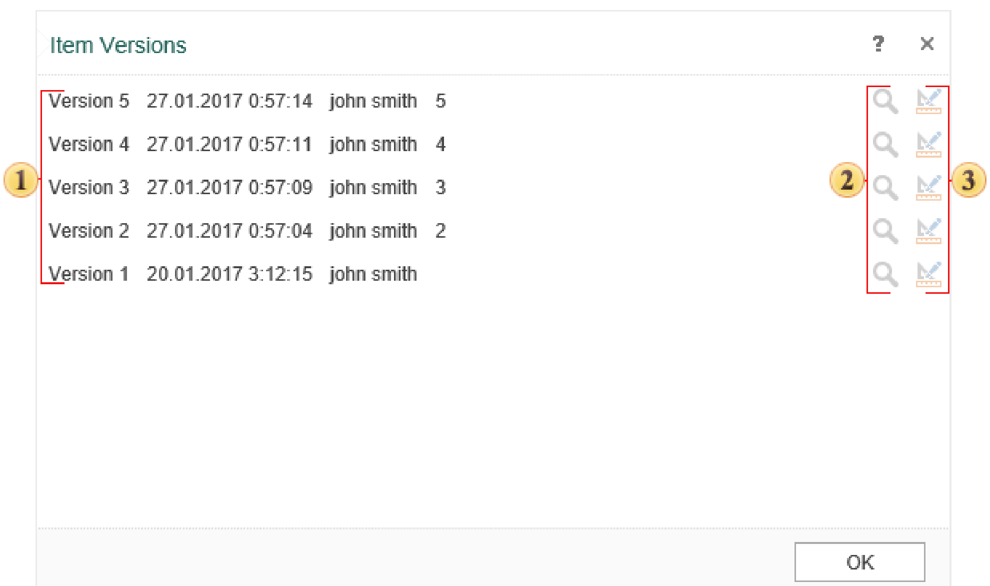
- Date and time of attaching to another item.
- The list of items where the selected item is used. In this case, these are **Invoice-All.mrt** and **Bestsellers_auto.mrt**.

3.4 Versions

Sometimes, when editing items, especially when multiple users can modify the same items, some issues may occur. As a consequence, it is necessary to cancel the last, previous, and other changes, go back to the previous version of this item. It should be known that for each item change, a copy of this item state is created. And this state does not overwrite its previous state. Therefore, you can always refer to any copy of an item. This can be accomplished in the menu **Versions** of a selected item. This menu contains commands, as well as all versions' history of the item.

To call the **Versions** menu, you should:

- Select an item in the list of server items;
- Click the **Versions** button in the **...More** menu on the server toolbar.



1 The version history of an item includes the version number, date, time, user name, and description of changes.

In the above example, you can see versions of the item Report, and therefore it has the following operations:

2 Buttons are used to run a specific version of the report. When you press this

button, the report will be rendered and loaded in the report viewer. Each version has its button for running the item. For example, **Version 2** corresponds to the start button in the same line.

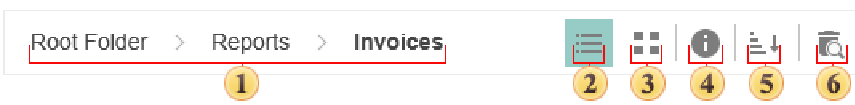
3 The buttons to load a specific version of the report in the report designer. Each report version has its button to open the report in the designer. For example, **Version 2** of the report corresponds to the button in the same line.

Information

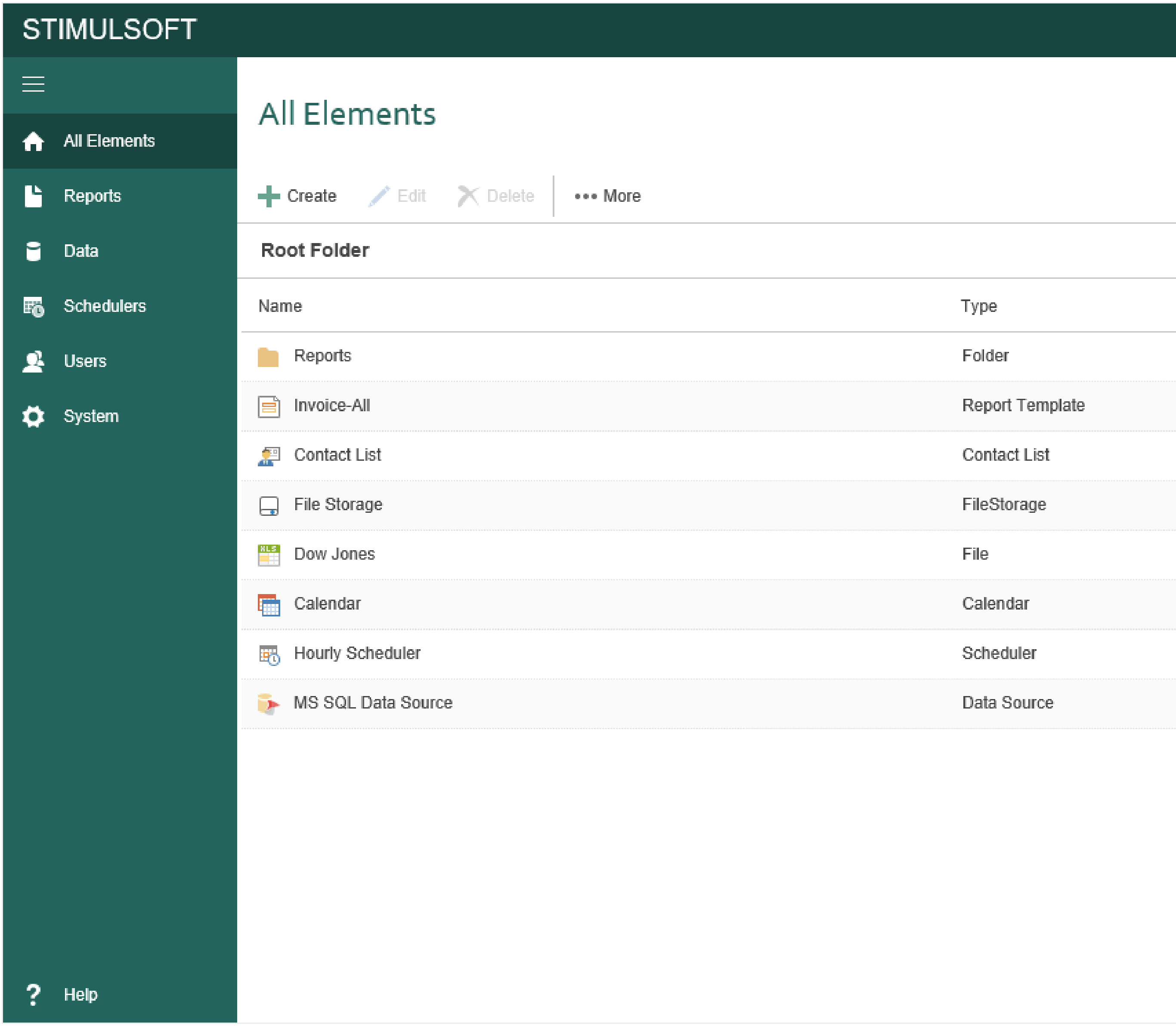
Depending on the item type (the version of the item), the operation performed with versions may be different.

4 Display panel

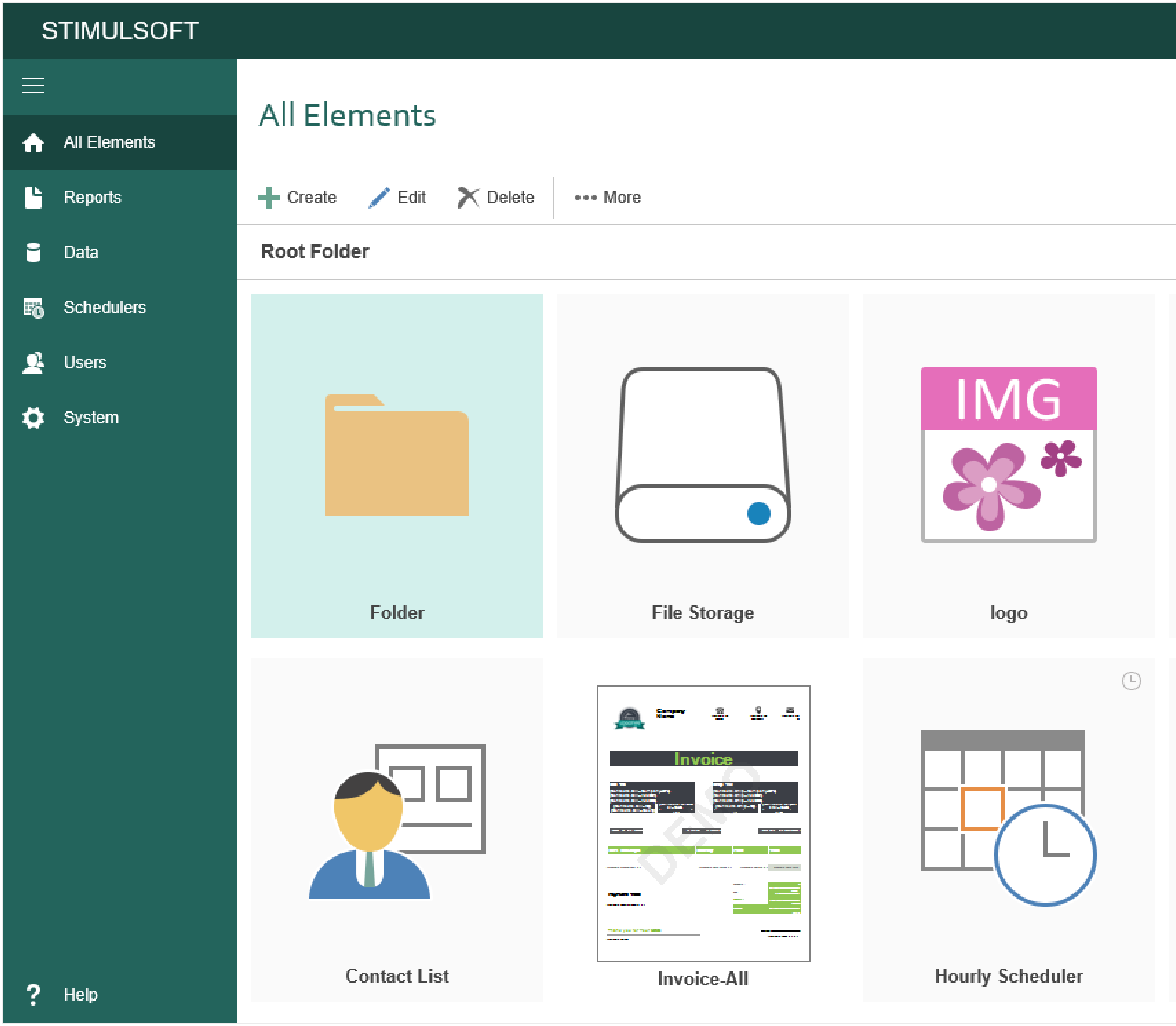
The display panel includes commands to control modes of displaying server items:



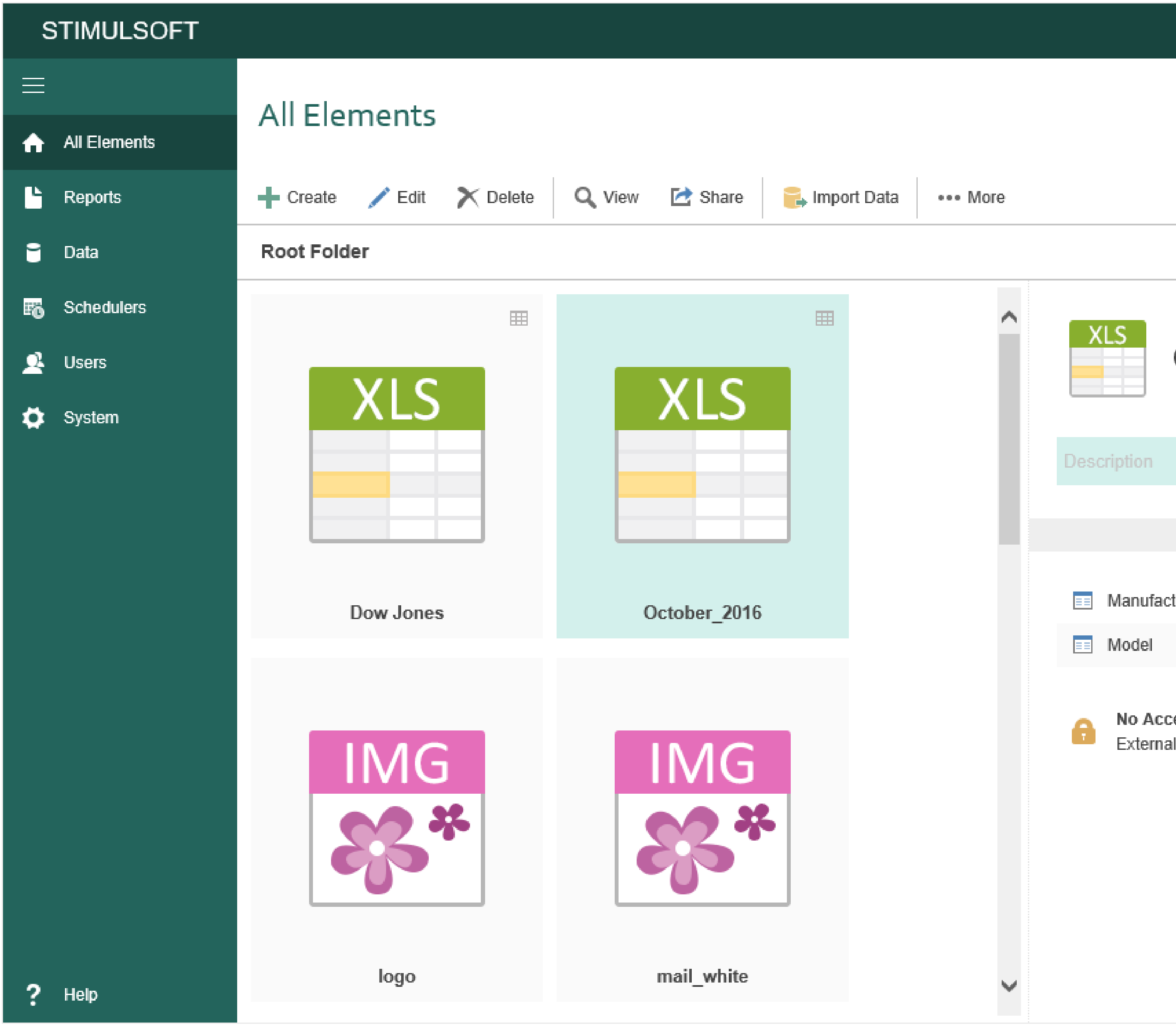
1 The full path to the current directory, the folder in which the user is located.
2 The button to enable the List mode. The items will be displayed a list of items with information about their type and date of creation.



3 The button to enable the **Grid** mode. The list of items will look like big icons as a grid.



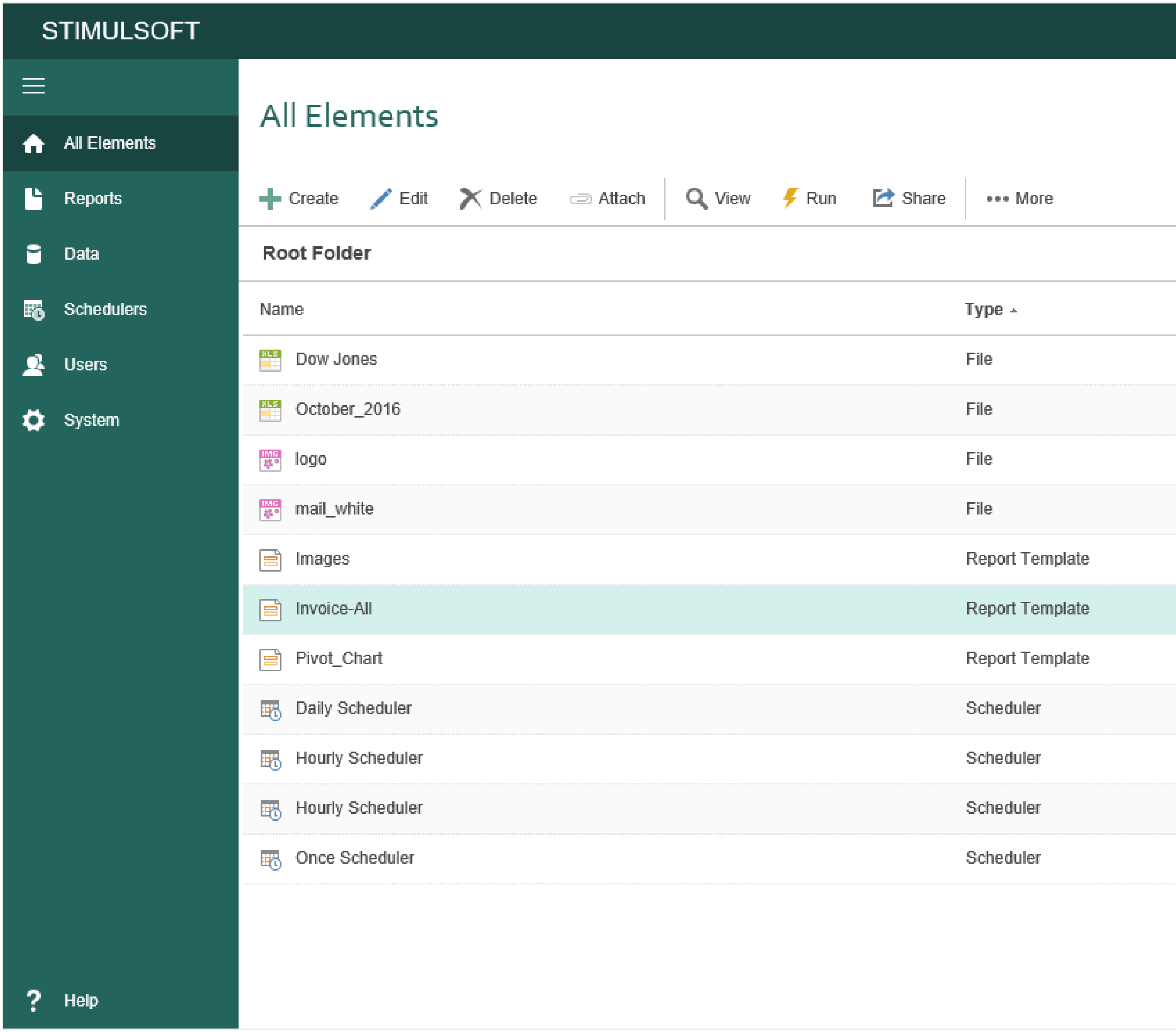
4 The button is used to enable the **Details** panel. If you click this button, it will display an additional panel with detailed information of items.



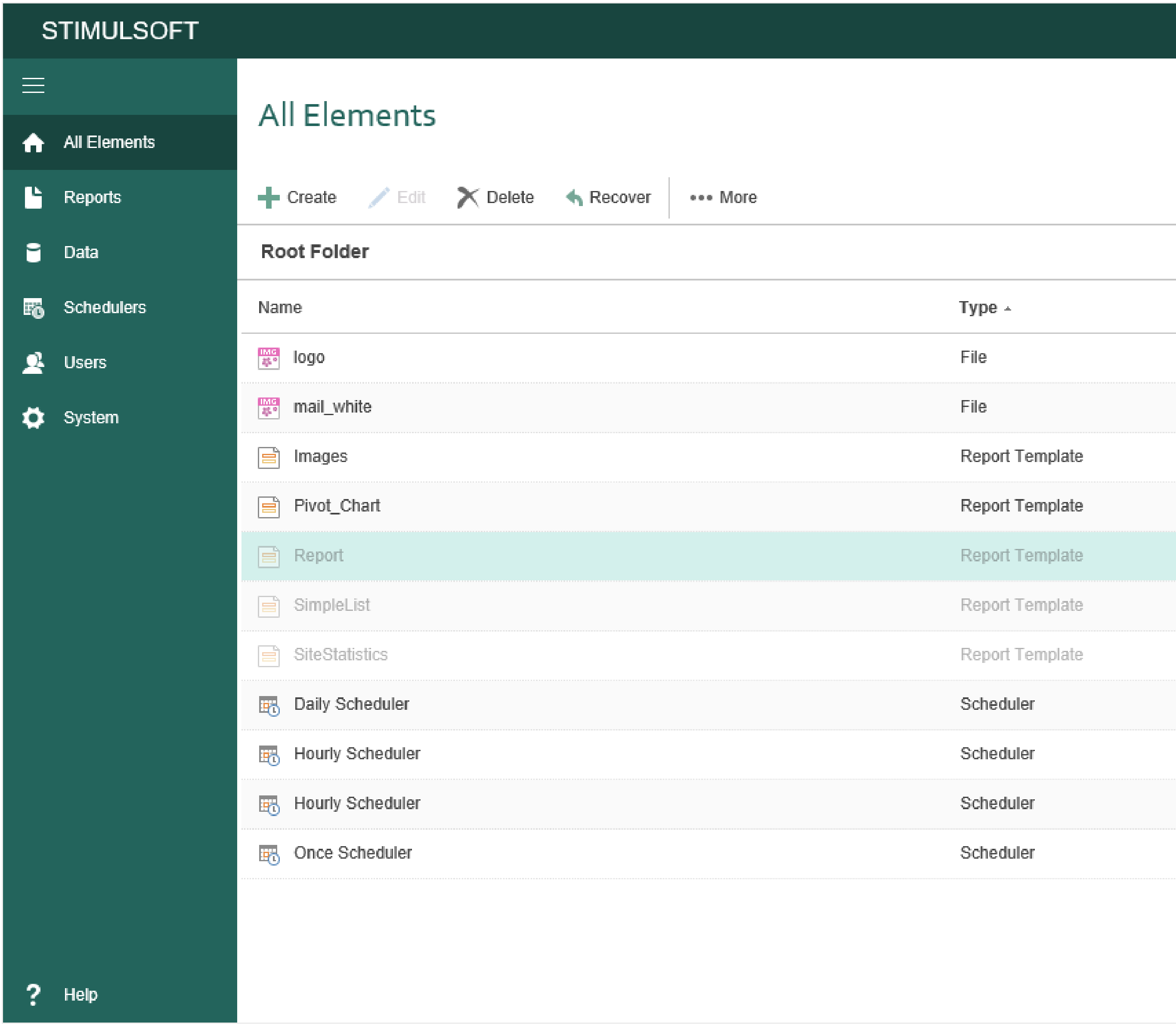
Information

On the **Details** panel, you can change the **Name** and **Description** of the selected item. To do this, click on the name or description and change the text.

5 The button to sort items. It contains the drop-down list, where you can define the type and direction of sorting.



6 The button to enable the Recycle Bin mode. If the button is enabled, it will display the items of the bin.

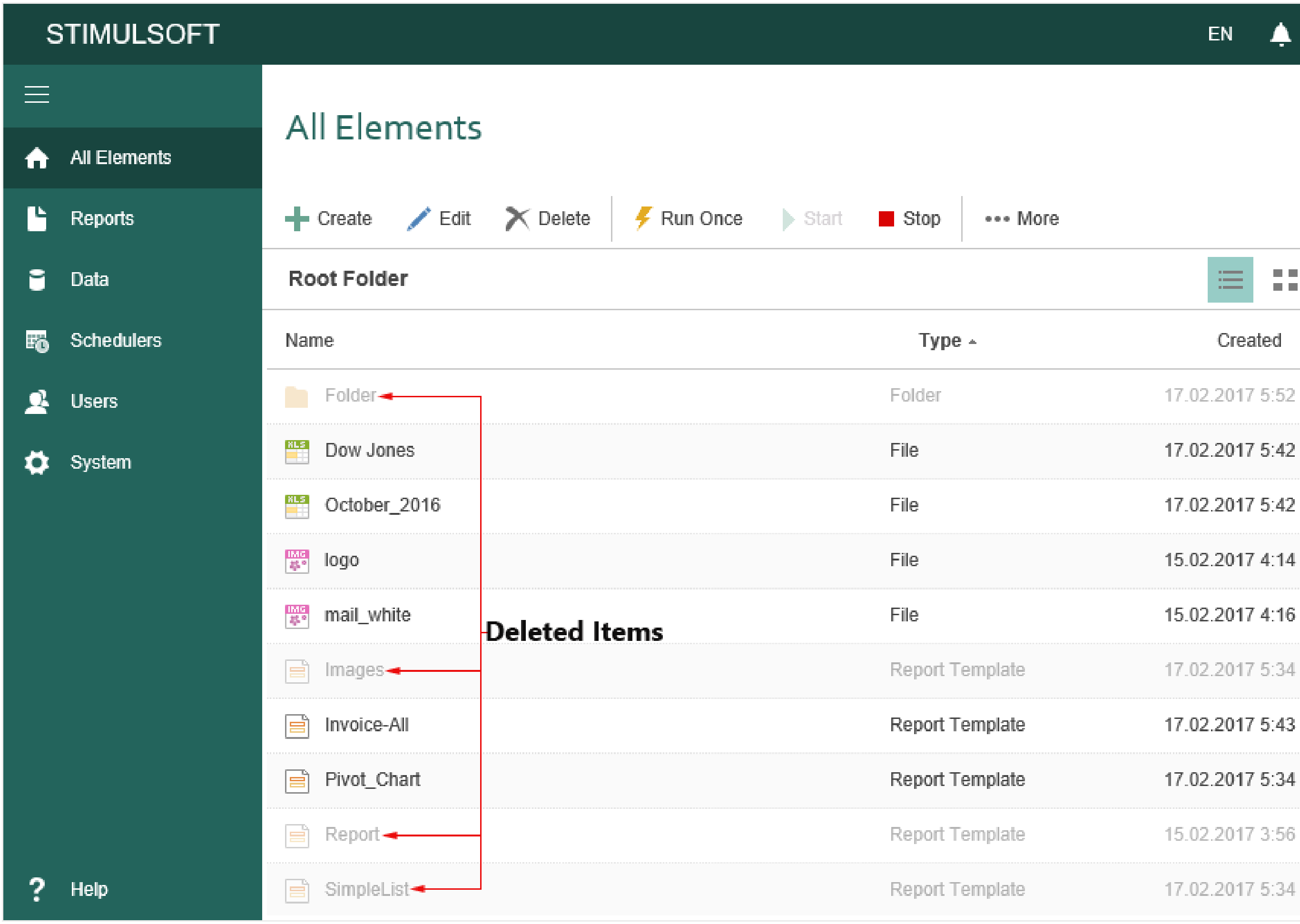


4.1 Recycle Bin

When you delete items, you can move them to the trash or completely remove them from the server.

- If the **Move to Recycle Bin** is enabled, the item will be moved to the basket.
- If the **Move to Recycle Bin** is disabled, the item will be removed from the server.

To view the contents of the basket, you should click the button **Recycle Bin**. After that, the items in the basket will be displayed in the tree (marked as deleted items):



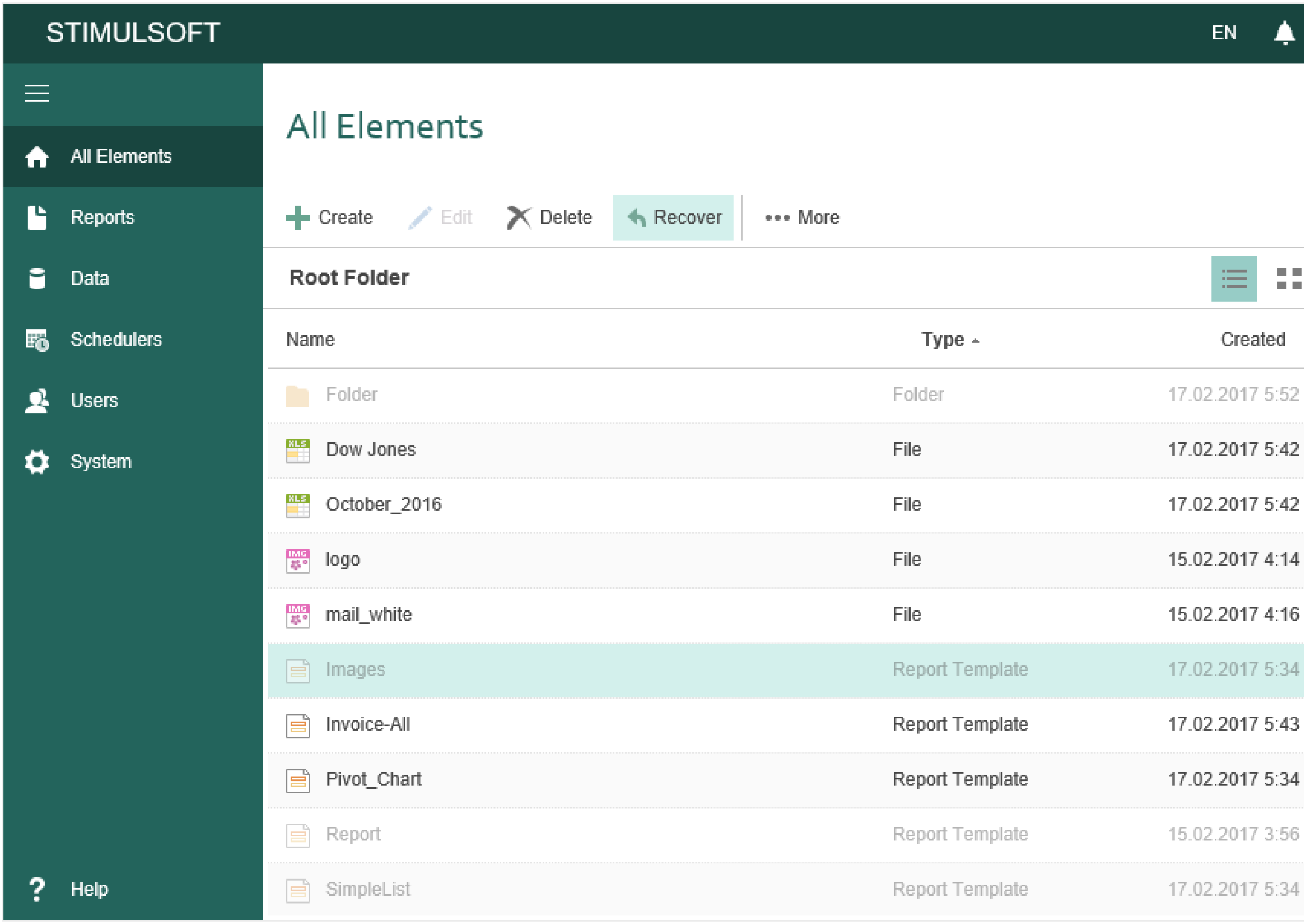
As you can see in the picture above, the deleted items are displayed, keeping its location in the hierarchy. In other words, the deleted item retains binding to the location in the tree.

Information

You should remember that when you delete a folder, all items and folders in it will also be deleted.

Recovering items

Any deleted item can be recovered. To do this, you should switch to the basket mode, select the item, and click **Recover** on the **Toolbar**:



The item will be restored to the directory from which it has been deleted. Also, it is possible to recover several items at the same time (select them using the buttons **Ctrl** or **Shift**). Recovering the deleted folder involves the recovery of all items that are contained in it. Also, restoring items from the deleted folder leads to recovering this folder. The remaining elements of this folder (or folders, if the nesting level is greater than 1) are not restored.

Emptying the recycle bin

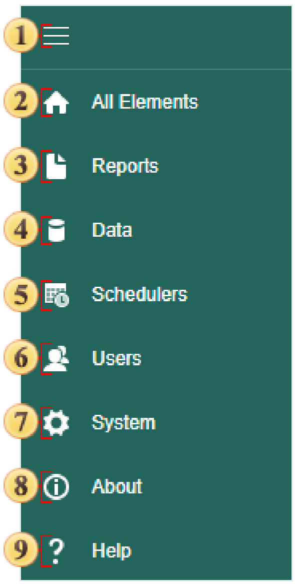
There are no special commands to empty the recycle bin. You can remove items from the recycle bin:

- Select the necessary elements using the **Ctrl** or **Shift** buttons, and click **Delete** on the **Home** tab;
- Restore the files and delete them again without putting them into the recycle bin

by unchecking the **Move to Recycle Bin** flag.

5 Tabs

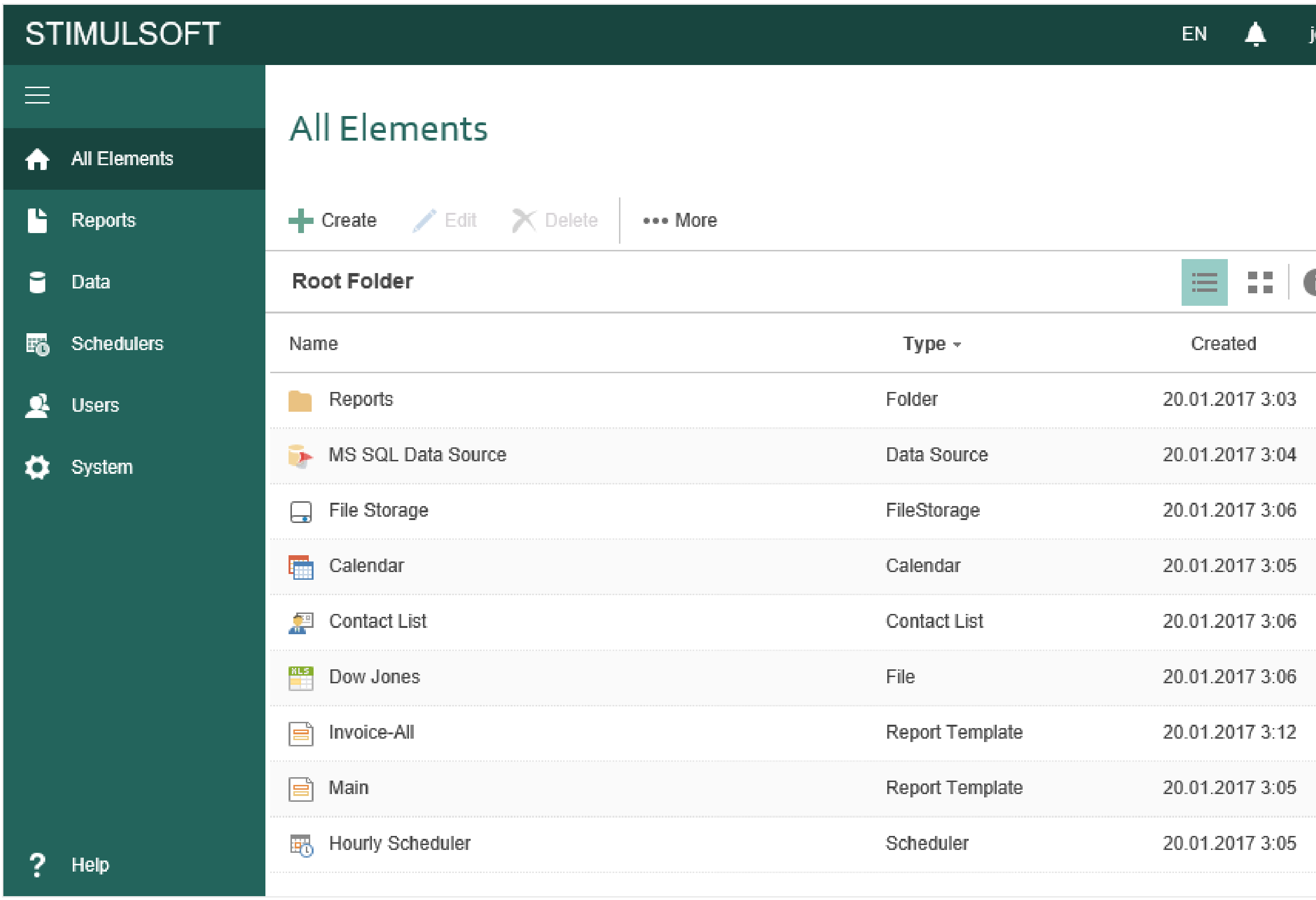
The tabs are used to display the items of a particular type. Also, the Users and System tabs contain system commands to control users and server system, respectively:



1 The expand/collapse button to the tab panel.
2 The All Elements tab. When you select this tab, you will see all the elements, including folders.
3 The Reports tab. When you select this tab, folders and report items only will be displayed.
4 The Data tab. When you select this tab, folders, data sources, and only the files that contain the data (XML, Excel, CSV, DBF, and JSON) will be displayed.
5 The Schedulers tab. When you select this tab, only folders and schedulers will be displayed.
6 The Users tab. This tab will display workspaces, roles, and user accounts.
7 The System tab. License and Email Templates commands will be displayed.
8 The command is used to call the About menu.
9 The command to navigate the Stimulsoft Server documentation. The help files will be opened in a new browser tab.

5.1 All Elements

The **All Elements** tab provides the ability to display all the elements and all the folders in the current working server space:



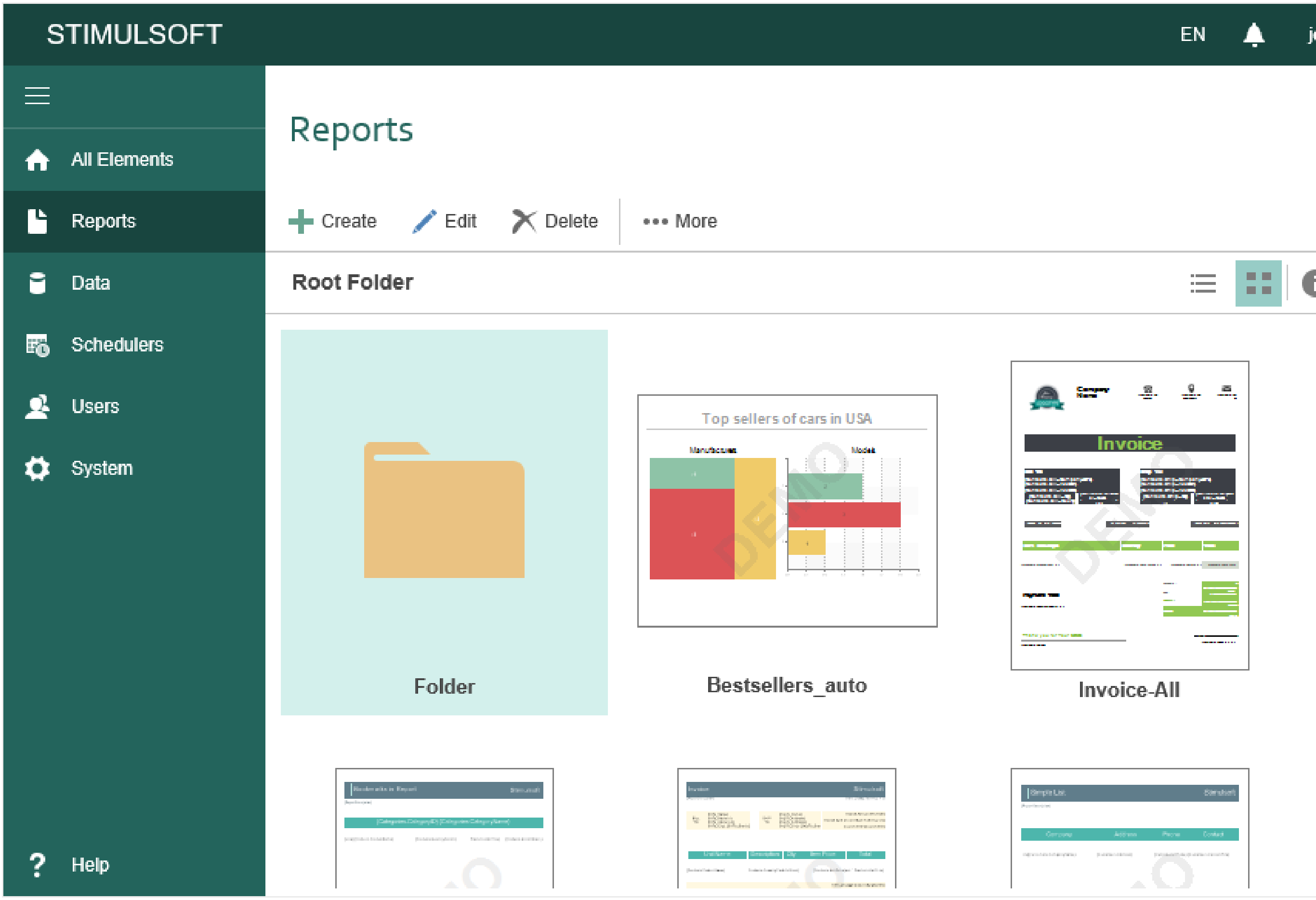
At the same time, in the Create menu, the commands for creating all server components, unless otherwise is defined by the account role, will be available.

Information

The list of commands in the Create menu will depend on the Role account. The list of items will also depend on the role permissions and the user's account. Because you can specify any folder as the parent one for your account, then the list of the displayed items may be different.

5.2 Reports

On the **Reports** tab, report templates, folders of the Common type and folders of the Reports type will be displayed:



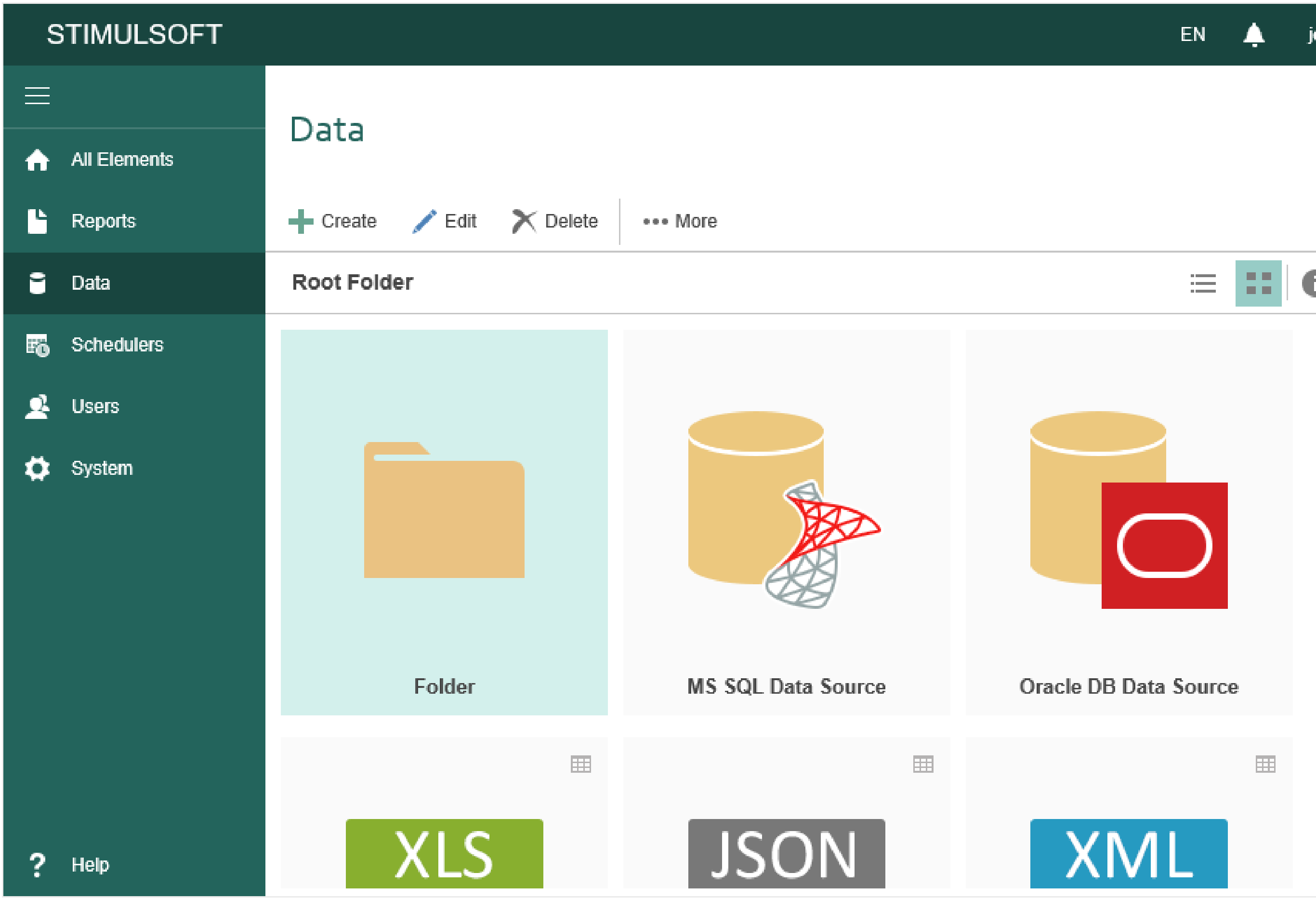
At the same time, in the Create menu, the commands to create Report and Folder items, unless otherwise defined by the account role, will be available. Also, you should consider that only the file types like *.mrt, *.mrx, *.mrz will be shown. Rendered reports and converted into other formats, including formats *.mdc, *.mdx, *.mdz, will not be displayed.

Information

The list of commands in the Create menu will depend on the Role account. The list of items will also depend on the role permissions and the user's account. Because you can specify any folder as the parent one for your account, then the list of the displayed items may be different.

5.3 Data

On the Data tab, all data sources, files (Excel, JSON, CSV, XML, DBF), which contain information such as data, Common and Data folders, will be displayed:



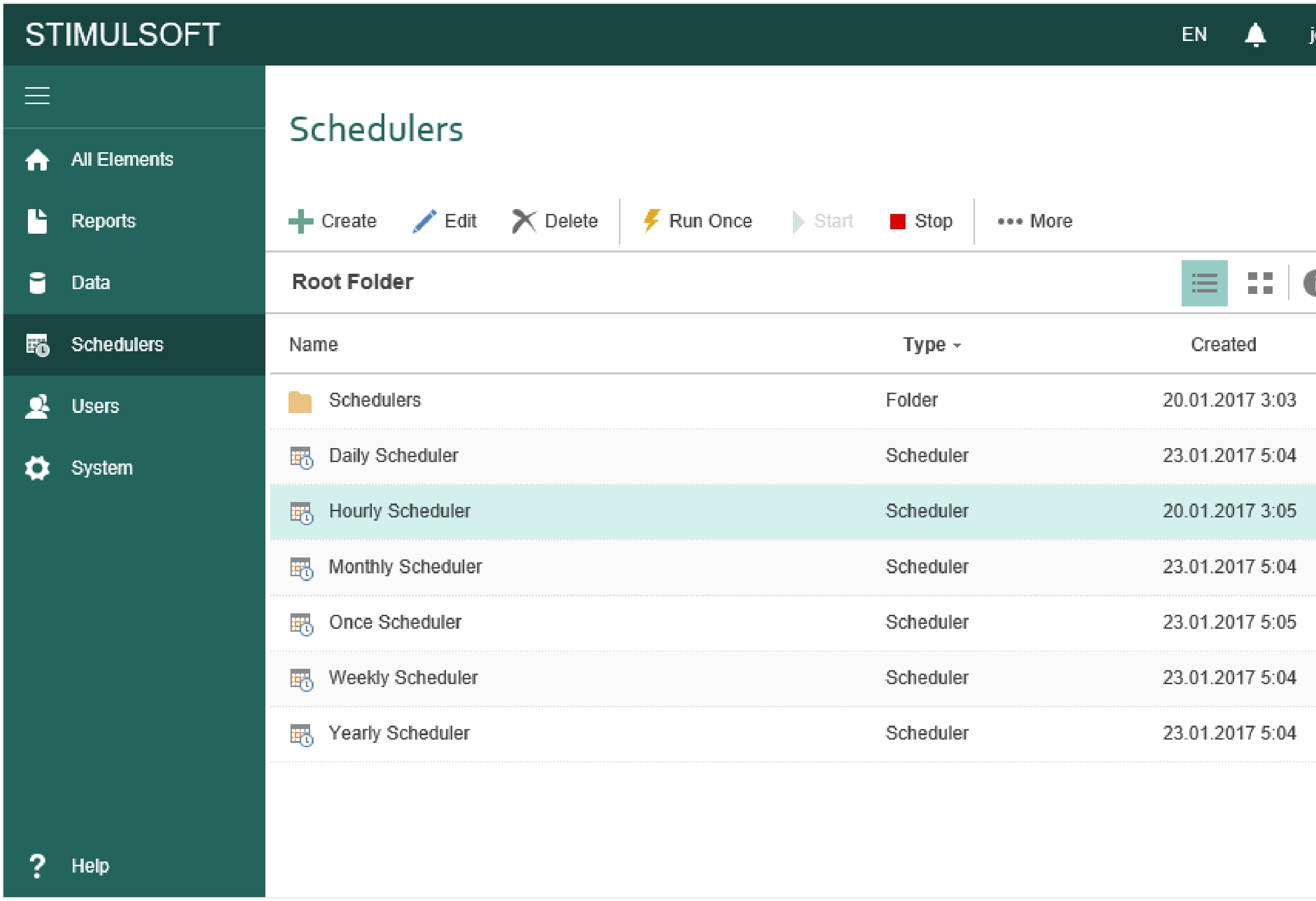
At the same time, in the Create menu, commands for creating the data source folder and, unless otherwise defined by the account role, will be available.

Information

The list of commands in the Create menu will depend on the Role account. The list of items will also depend on the role permissions and the user's account. Because you can specify any folder as the parent one for your account, then the list of the displayed items may be different.

5.4 Schedulers

The Schedulers tab will display schedulers, Common and Schedulers folders:



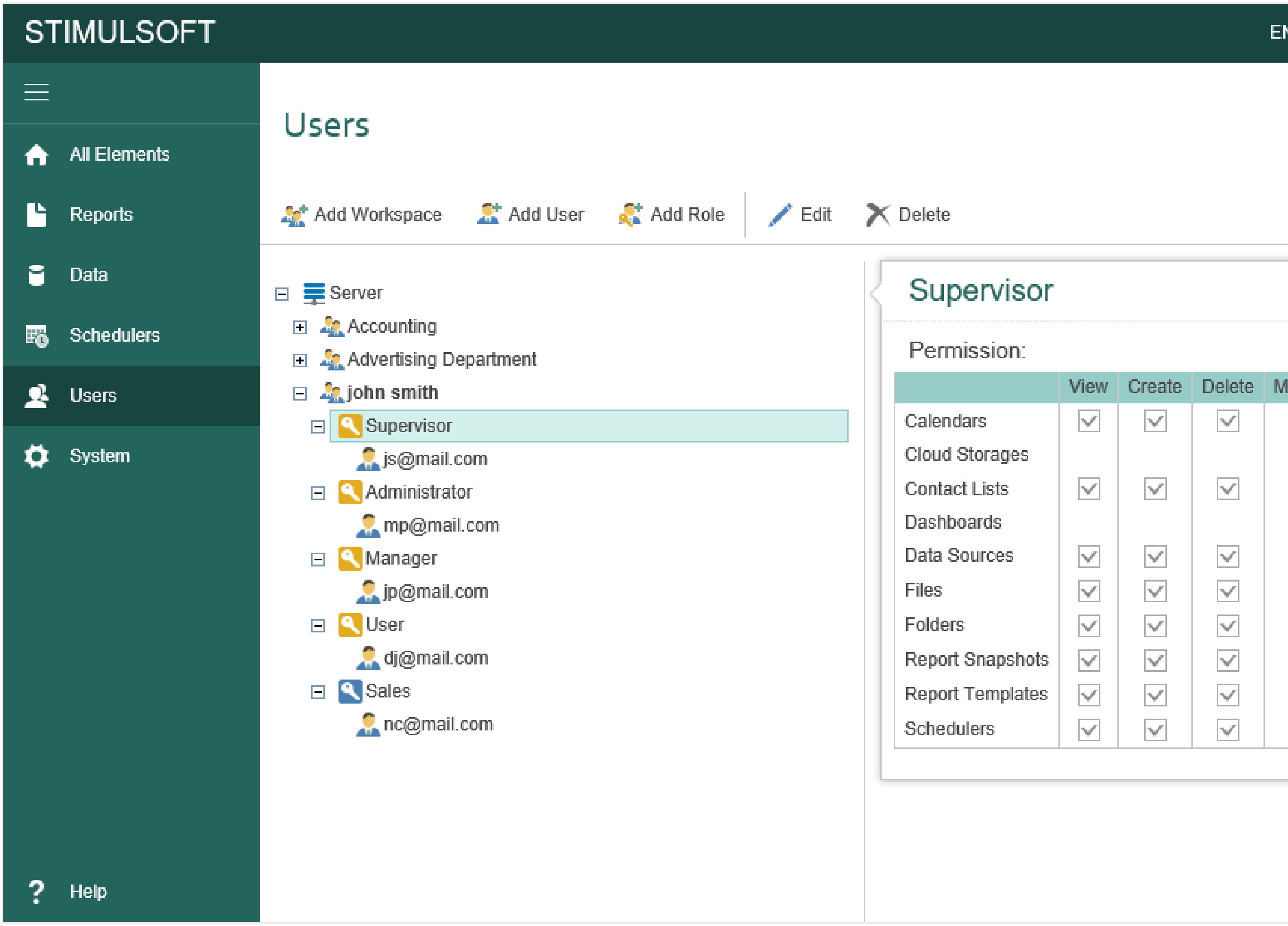
At the same time, in the Create menu, the command to create Scheduler and Folder items, unless otherwise defined by the account role, will be available.

Information

The list of commands in the Create menu will depend on the Role account. The list of items will also depend on the role permissions and the user's account. Because you can specify any folder as the parent one for your account, then the list of the displayed items may be different.

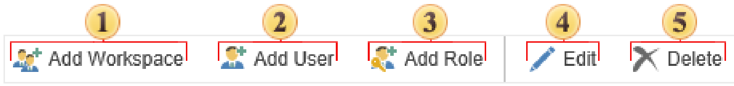
5.5 Users Tab

All tools to control workspaces, accounts, and a system of the report server are located on the Users Tab.



Toolbar

On the **Users tab**, you can control workspaces, roles, and accounts of other users.



1 **Add Workspace**. Adds a workspace on the server. Available only for Supervisors.
2 Add User. Creates a new user. You must first highlight the role to which a new account will be applied.
3 Add Role. Adds a new role in a workspace.
4 **Edit**. Select the user (or role) and click on this button. Predefined roles (administrators, managers, users) cannot be edited.
5 **Delete**. To delete a user or role, you should select a user (or role) and click Delete. Also, with the help of this button, a supervisor can remove the workspace.

Information

System roles cannot be edited. You cannot change the rights of the members of one of these groups.

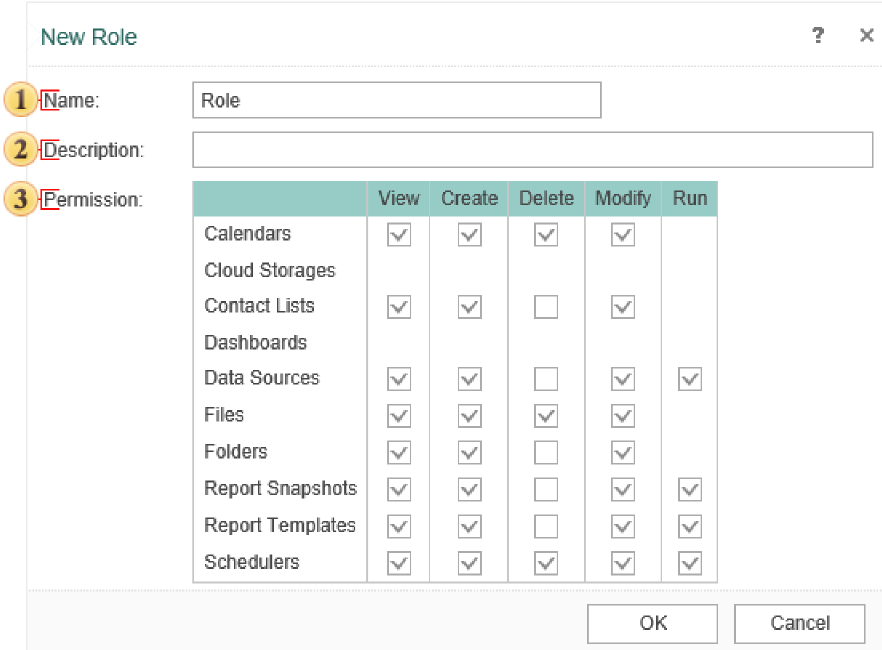
5.5.1 Add Role

The **Role** is a category of users with specific rights and restrictions in the workspace. In other words, each user is assigned to a particular role, has certain rights. By default, the workspace is created with system roles:
- The **Administrator** is a role in which there are no restrictions, and all rights are included.
- The **Manager** is a role in which the user has a great number of rights, except for features for managing the basic elements of the report server (for example, the Manager cannot create and modify Schedulers, Users, User Roles).
- The **User** is a role in which the user can only view items and run some of them.

To create a new role, you should:
- Go to the **Users** tab;
- Click the **Add Role** button on the toolbar of the server.

Role Menu

When you create a new role, you can inherit **Permissions** from one of the existing roles selecting the parental role from the list.



1 The field **Name**. Here you can put the role name.

2 The field **Description**. If you need any additional description of the role, it can be put in this field.

3 The field **Permission**. Consists of columns (rights) and rows (list of items). Also, the rows are split into categories. Each column defines a certain right.

- The right **View** provides the ability to view items in the current workspace.
- The right **Create** provides the ability to create items in the current workspace.
- The right **Delete** provides the ability to delete items in the current workspace.
- The right **Modify** provides the ability to edit items in the current workspace.
- The right **Run** provides the ability to run the items in the current workspace.

In this case, the created role will be marked with checkboxes of the rights (permissions), which has a parental role. For example, if the parental role has only the ability to view reports (no other permissions), that only this permission will be given to the created role. At the same time, you can modify the role by enabling permissions or disabling them. Consider another example - the inheritance of permissions. Using the inheritance of permissions, you can create role duplicates of pre-installed roles with some modifications. By default, users as Administrators have all the rights. You want to create a role with all the features but without the permission to run Schedulers. The easiest way to do this is to create a role based on the Administrator's rights and put the restriction to run (uncheck the checkbox in the column **Run** -> row **Schedulers**).

Information

You should know that if the users of a certain role cannot view any item, then the rest of the actions performed on this item are not allowed too. For example, the role is not authorized to view the Scheduler, but the role has the right to create and run the Scheduler. In this case, members of this role CANNOT create or run the Scheduler.

Permissions Table

In this table, you will find items (rows) and rights (columns) and short descriptions of permissions.

Items / Rights	View	Create	Delete	Modify	Run
Calendar	Allows viewing **Calendar**	Allows creating **Calendar**	Allows deleting **Calendar**	Allows modifying **Calendar**	
Contact List	Allows viewing **Contact List**	Allows creating **Contact List**	Allows deleting **Contact List**	Allows modifying **Contact List**	
Data Sources	Allows viewing **Data Sources**	Allows creating **Data Sources**	Allows deleting **Data Sources**	Allows modifying **Data Sources**	
Files	Allows viewing **Files**	Allows creating **Files**	Allows deleting **Files**	Allows modifying **Files**	
Folders	Allows viewing **Folders**	Allows creating **Folders**	Allows deleting **Folders**	Allows modifying **Folders**	

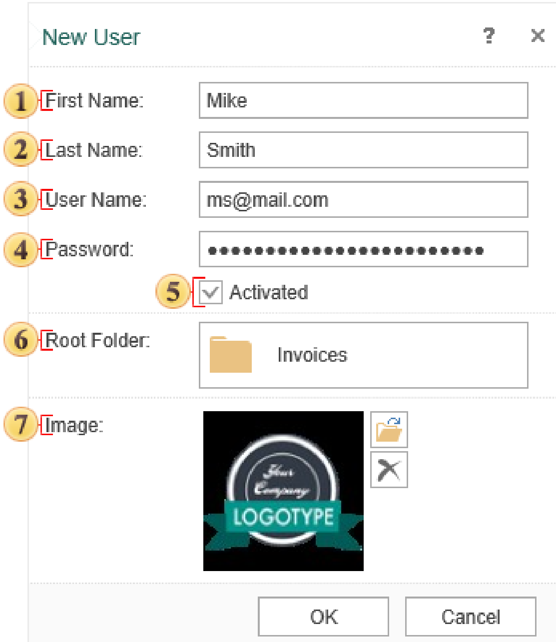
Report Snapshots	Allows viewing **Report Snapshots**	Allows creating **Report Snapshots**	Allows deleting **Report Snapshots**	Allows modifying **Report Snapshots**	Allows running **Report Snapshots**
Report Templates	Allows viewing **Report Template**	Allows creating **Report Template**	Allows deleting **Report Template**	Allows modifying **Report Template**	Allows running **Report Template**
Scheduler	Allows viewing **Scheduler**	Allows creating **Scheduler**	Allows deleting **Scheduler**	Allows modifying **Scheduler**	Allows running **Scheduler**

5.5.2 Add User

You can add other user accounts to the workspace. Before you add a new user, you should define its role, i.e., select one of the predefined roles or create a new one. Then, click Add User in the Users tab and fill out the form shown below.

To create a new user, you should:
- Go to the **Users** tab;
- Click the **Add User** button on the toolbar of the server.

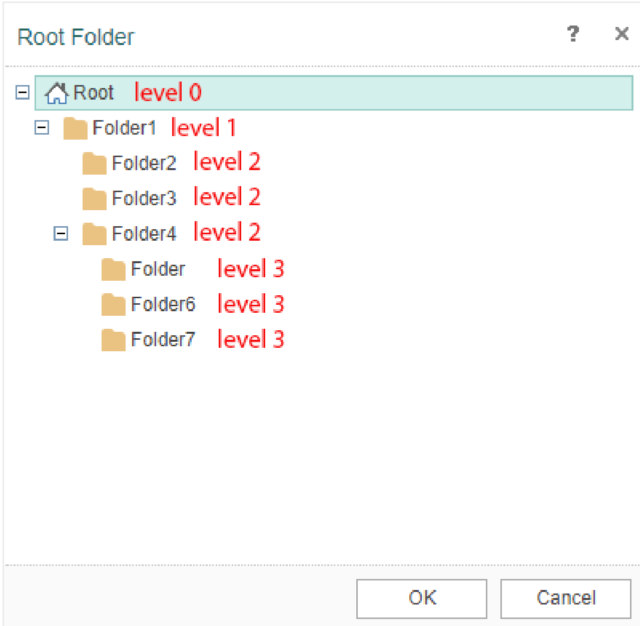
User Menu
In this menu, you can specify all user information and manage the user account.



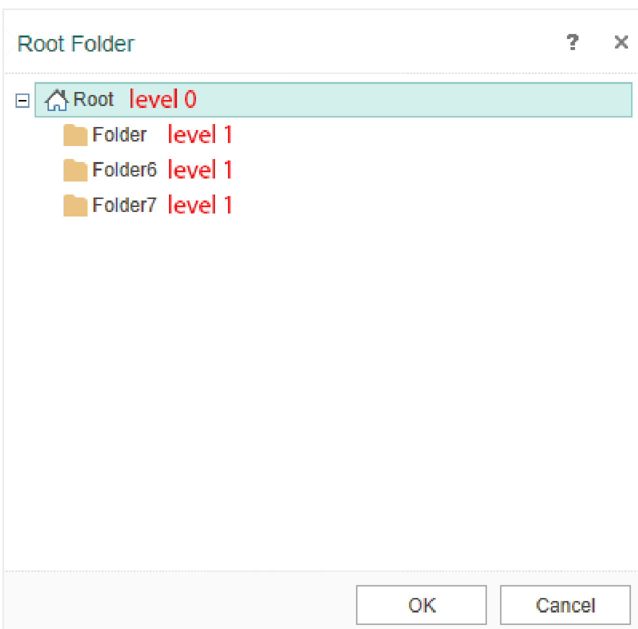
1 This field contains the first name.
2 This field contains the last name.
3 This field contains the email that will be used as user login and for authentication.
4 In this field you should insert a password to protect your account from unauthorized access. Keep in mind - the combined and complex password (consisting of letters and numbers) enhances account security and reduces the risk of loss of sensitive data.
5 Activate or Deactivate the user. The account will be activated if the checkbox is set to true. The account will be deactivated if the checkbox is set to false, and this account cannot be used to login to the server workspace.
6 This field specifies the root folder for the user account, the root folder for the server components in the current workspace.
7 In the picture field, you can upload an image that will be the user's avatar.

Root Folder

When you create or edit a user account, you can specify the root folder for it. This folder will be the beginning of the hierarchy of server items for the current user account. Below is a diagram of components for the root administrator:



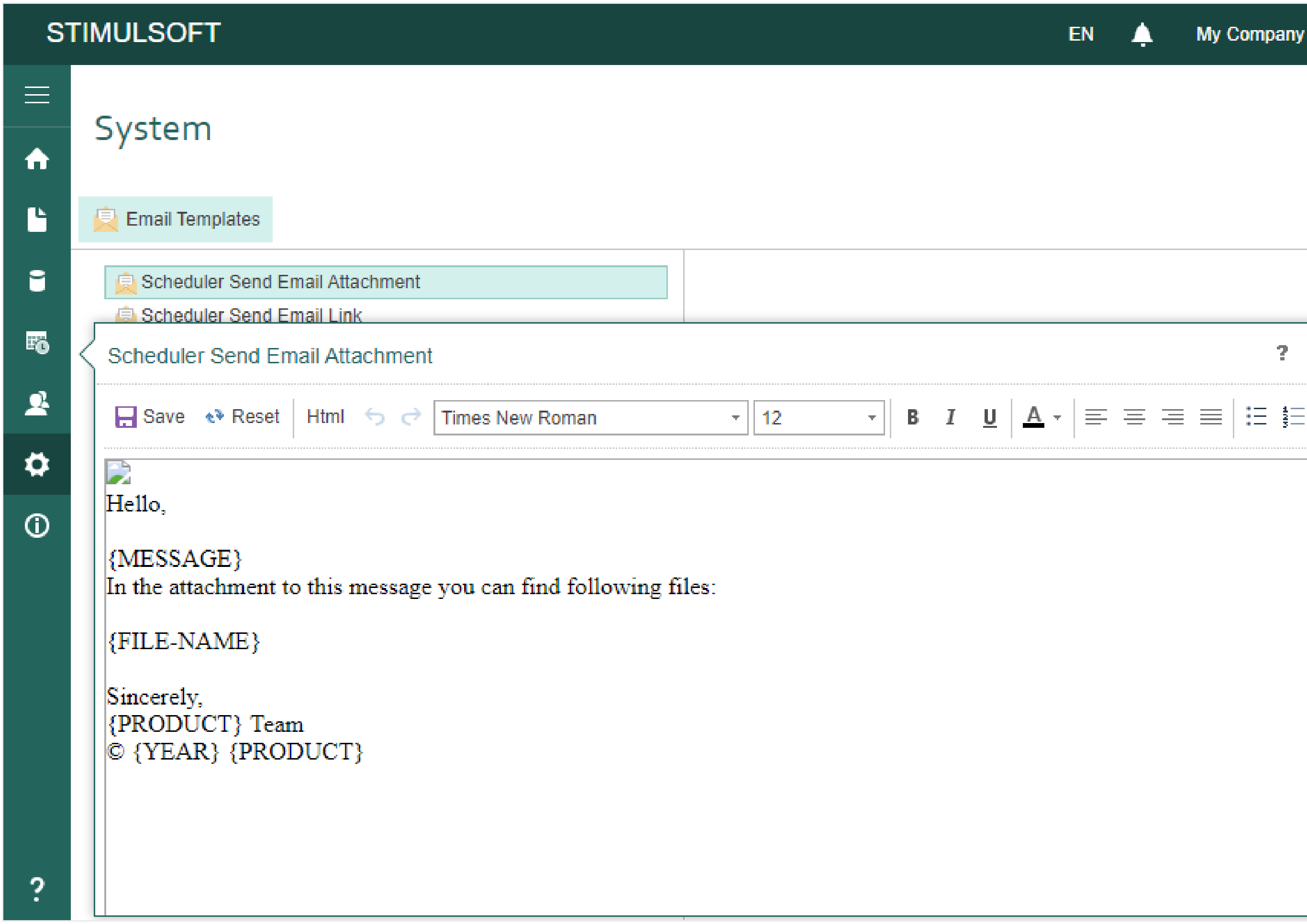
For example, if you specify a second level folder for the user, **Folder 4** is as a zero level:



All elements in the workspace located in folders of a higher level will not be displayed to the current user.

5.6 System Tab

On the **System** tab, you can edit the Email Stimulsoft Server templates.



The templates are configured in the Email editor. To call the editor, you should:
- Go to the **System** tab;
- Click the **Email Templates** button on the server toolbar.

Email templates

This panel displays a list of actions, under which the user will be notified:
- The **Item Send Email Attachment** template. The scheduler sends a letter in this template if the result (for example, a report in the converted PDF) is attached to the message.
- The **Item Send Email Link** template. The scheduler sends a letter on this template

if the link to the result (for example, a reference to the document PDF) is attached to the email.

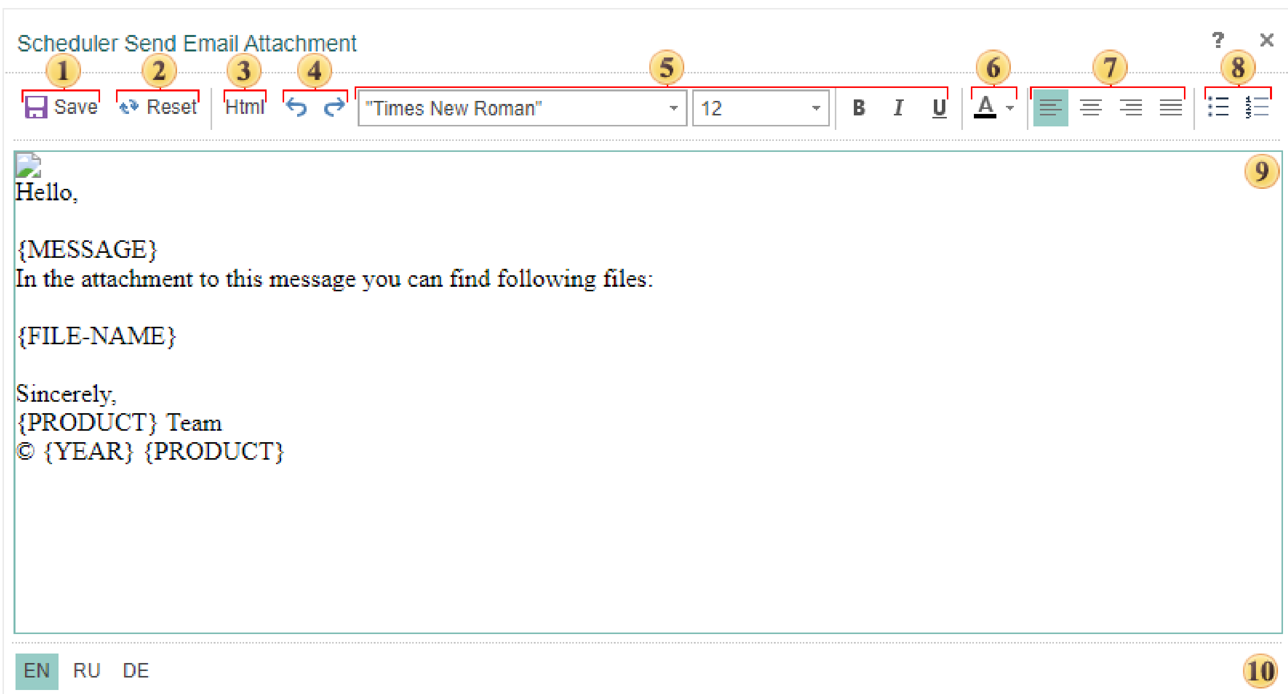
› The **User Activation Complete** template. A letter for the given template is sent when the user account is activated.

› The **User Reset Password** template. When you change the password to the account, the user receives a message from this template.

› After changing the password to an account, the user will receive an email according to the **User Reset Password Complete** template. The email address is as specified during the registration process.

Templates Editor

You can edit a letter template. Moreover, editing can be done both in visual mode and in HTML.



1 The **Save** button. Click the button to save the changes after making changes in the template;

2 The **Reset** button. Clicking this button, you will reset all changes, and the text will be returned to the default state.

3 This button is used to switch the editing mode of the template from visual to HTML and vice versa.

4 The buttons Back - Forward are used to go to the previous or next change.

5 Font settings - font family, size, and style of the selected part of the email.
6 The button is used to change the color of the selected text.
7 Commands are used to align the selected line in the template.
8 The button is used to activate the bullet mode.
9 The button is used to activate the "number list " mode.
10 **Localization panel**. Depending on the location, the template text will be localized to a particular language. By default, the localization pattern will correspond to the localization in the Navigator.

5.7 About

The window **About** contains information about the product, its version. Also, this screen has a link to the official site of the developer.