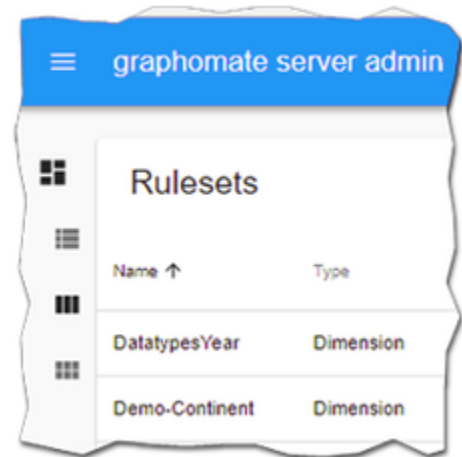
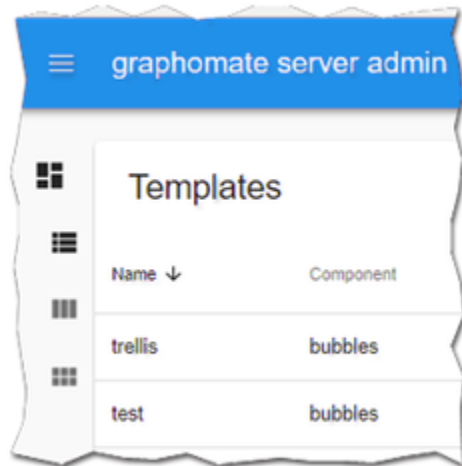


User Manual for the graphomate server 1.0 for SAP Lumira Designer 2.2



Version – as of August 2018

<https://www.graphomate.com>

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- Installation
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Installation

The installation of the *graphomate server* should be carried out by a person with the necessary knowledge and access rights (e. g. system administrator).

1. Move the *graphomate-server.war* to the *webapps* directory of the BI platform's tomcat server (e. g. C:\Program Files (x86)\SAP BusinessObjects\tomcat\webapps).

Depending on the Tomcat configuration used, a restart is required to deploy the WAR file.

2. To test if the server has been installed successfully
 - a. The server URL is `http://<URL OF BIP>/graphomate-server`, e. g. <http://bip.super-corp.com:8080/graphomate-server>
 - b. When you open it in the browser, you should see some information about the server.
3. If you like to view the *admin panel* you can add a `/admin` to the server URL.

Config

When the *graphomate server* is accessed for the first time it will create a folder called *graphomate* at the *tomcat root* folder with initial content. In this folder a file called *auditing.db* will be created which contains the data for the audits. Besides there will be three subfolders. The *templates* folder where templates will be stored, the *rulesets* folder where rulesets will be stored and the *config* folder where two *.ini*-files will be created.

access.ini

Initial

```
protected=true
username=admin
password=graphomate
```

The parameter *protected* defines if the *admin* should be protected by username and password. Set to *false* to deactivate the protection.

If set to *true* the *admin* will prompt for the *username* and *password* which are defined in the parameters with the identical name.

config.ini

Initial

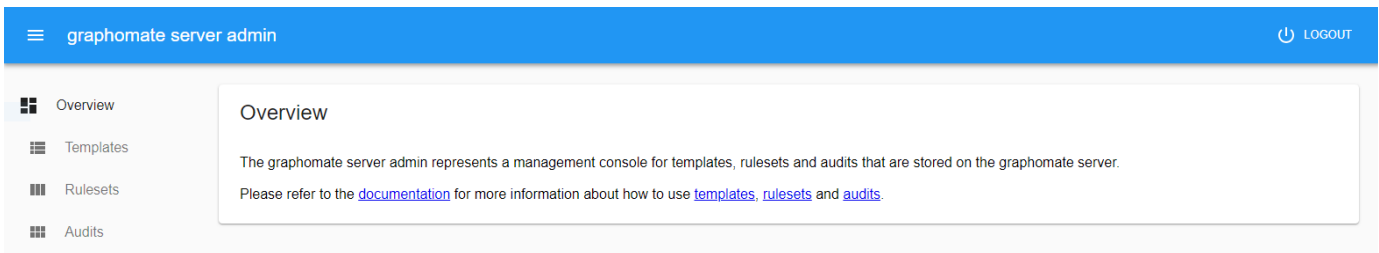
```
[templates]
allow_delete=true
allow_save=true
allow_list=true
[rulesets]
allow_delete=true
allow_save=true
allow_list=true
[audits]
enable=true
component_white_list=
```

Parameters beginning with *allow_* are boolean and define if the mentioned operation will be disabled on the API of the *graphomate server*. The header written in square brackets define for which resource the next parameters will match.

For the *auditing* the *enable* parameter enables the auditing in general. It can take up to three days until the clients will check if the auditing is enabled.

The *component_white_list* is a list of component names or regular expressions separated by comma. It defines which components should be tracked by the standalone *auditing component*.

Admin



graphomate server admin LOGOUT

- Overview
- Templates
- Rulesets
- Audits

Overview

The graphomate server admin represents a management console for templates, rulesets and audits that are stored on the graphomate server. Please refer to the [documentation](#) for more information about how to use [templates](#), [rulesets](#) and [audits](#).

The *graphomate admin* represents a management console for templates, rulesets and audits that are stored on the *graphomate server*.

It can be accessed via `http://<URL OF BIP>/graphomate-server/admin`, e. g. `http://bip.super-corp.com:8080/graphomate-server/admin`.

The credentials for the login have to be set in the [Config](#).

Templates

☰ graphomate server admin
🔌 LOGOUT

- ☰ Overview
- ☰ Templates
- ☰ Rulesets
- ☰ Audits

Templates

[ADD FILTER](#)
[REFRESH](#)
[EXPORT ALL](#)
[IMPORT](#)

Name ↑	Component	Description	Changed						
Demo-Server-Chart	charts		14.8.2018, 15:17:00	👁 SHOW	🔄 RENAME	📄 CLONE	🗑 DELETE	📤 EXPORT	✎ EDIT
Flagge	bubbles		14.8.2018, 11:05:37	👁 SHOW	🔄 RENAME	📄 CLONE	🗑 DELETE	📤 EXPORT	✎ EDIT
Flagge1	bubbles		14.8.2018, 12:20:01	👁 SHOW	🔄 RENAME	📄 CLONE	🗑 DELETE	📤 EXPORT	✎ EDIT
Hallo1	charts		30.8.2018, 10:28:35	👁 SHOW	🔄 RENAME	📄 CLONE	🗑 DELETE	📤 EXPORT	✎ EDIT
Hirarchie-standard-chart	charts		14.8.2018, 13:18:44	👁 SHOW	🔄 RENAME	📄 CLONE	🗑 DELETE	📤 EXPORT	✎ EDIT
Mean	charts		30.8.2018, 09:14:44	👁 SHOW	🔄 RENAME	📄 CLONE	🗑 DELETE	📤 EXPORT	✎ EDIT
MitDatatypeRules	charts		17.8.2018, 13:42:16	👁 SHOW	🔄 RENAME	📄 CLONE	🗑 DELETE	📤 EXPORT	✎ EDIT
PropSheetLight	bubbles		17.8.2018, 10:33:03	👁 SHOW	🔄 RENAME	📄 CLONE	🗑 DELETE	📤 EXPORT	✎ EDIT
Ruleset-in-Template	charts		8.8.2018, 10:34:35	👁 SHOW	🔄 RENAME	📄 CLONE	🗑 DELETE	📤 EXPORT	✎ EDIT
Threshold	charts		17.8.2018, 17:05:26	👁 SHOW	🔄 RENAME	📄 CLONE	🗑 DELETE	📤 EXPORT	✎ EDIT

1-10 of 17
1
2
NEXT >

Templates are collections of property sets which are divided by the corresponding graphomate extension. They can be created in Lumira Designer by using a compatible graphomate component like graphomate *bubbles*, *charts*, *tables*, *tiles*. To do so, you need to choose the *Server Tab* in the *Additional Properties Sheet*.

In the admin all templates which are existing on the server can be administrated. By clicking on the row header the templates will be sorted by the content of the corresponding row. By clicking on *ADD FILTER*, the displayed templates can be selected according to specific criteria. In the list of templates you can choose to *show* the contents of a template, *rename* a template, *clone* a template, delete a template, *export* a template or *edit* its contents. In addition to that it is possible to *export all* templates, *import* a template or a collection of templates.

Clone Template

The screenshot shows the 'graphomate server admin' interface. On the left is a navigation menu with 'Overview', 'Templates', 'Rulesets', and 'Audits'. The main area displays a 'Templates' table with columns for Name, Component, Description, and Changed. A modal dialog titled 'Clone' is open, prompting the user to 'Choose new name' with a text input field containing 'Name' and a red error message 'Name can not be empty!'. The dialog has 'CLOSE' and 'CREATE' buttons. In the background table, the 'CLONE' button for the 'Demo-Server-Chart' template is highlighted with a red box. Other templates listed include 'Flagge', 'Flagge1', 'Hallo1', 'Hirachie-standard-chart', 'Mean', 'MitDatatypeRules', 'PropSheetLight', 'Ruleset-in-Template', and 'Threshold'.

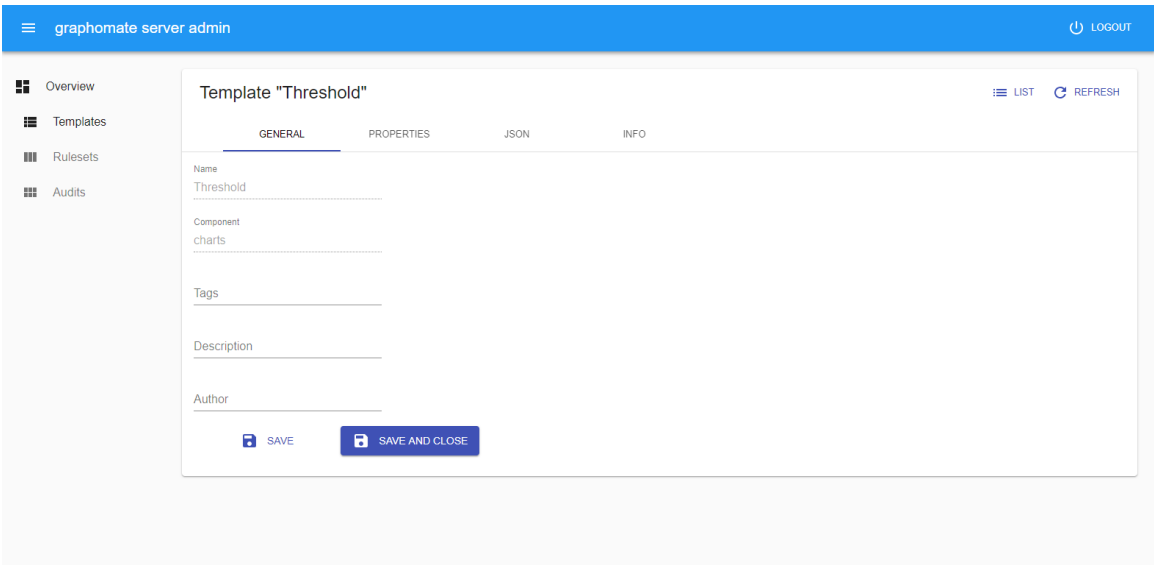
Name ↑	Component	Description	Changed	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Demo-Server-Chart	charts		14.8.2018, 15:17:00	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Flagge	bubbles		14.8.2018, 15:17:00	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Flagge1	bubbles		14.8.2018, 15:17:00	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Hallo1	charts		30.8.2018, 17:05:26	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Hirachie-standard-chart	charts		14.8.2018, 15:17:00	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Mean	charts		30.8.2018, 17:05:26	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
MitDatatypeRules	charts		17.8.2018, 13:42:16	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
PropSheetLight	bubbles		17.8.2018, 10:33:03	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Ruleset-in-Template	charts		8.8.2018, 10:34:35	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Threshold	charts		17.8.2018, 17:05:26	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT

You can clone a template with all its contents by clicking on the *CLONE* button in the templates list. When doing so a dialog will prompt for the name of the cloned template. A valid name can consist out of letters, numbers and dashes.

Edit Template

In the template edit mode the contents of a template can be modified. It is divided in four tabs which will be described in the following table.

GENERAL



The screenshot shows the 'Edit Template' interface for a template named 'Threshold'. The interface is divided into four tabs: GENERAL, PROPERTIES, JSON, and INFO. The GENERAL tab is active, showing the following fields:

- Name: Threshold
- Component: charts
- Tags: (empty)
- Description: (empty)
- Author: (empty)

At the bottom of the form, there are two buttons: 'SAVE' and 'SAVE AND CLOSE'.

In the *GENERAL* tab the fields for the name and the component are deactivated. To rename a template you could use the [rename button](#) in the templates list.

The corresponding graphomate component can not be changed, because the property set in a template can be only applied to the same component which was a well used to create the template.

The field for the tags can be filled with a list of tags which are separated by comma. The description and the author are free text fields.

PROPERTIES

graphomate server admin LOGOUT

Overview
Templates
Rulesets
Audits

Template "Threshold"

LIST REFRESH

GENERAL **PROPERTIES** JSON INFO

Please be aware, that some properties in this list are named differently than in the Property sheets.

- Boolean Properties
- Number Properties
- String Properties
- Color Properties
- Extended Properties

SAVE SAVE AND CLOSE

The *PROPERTIES* themselves are divided in five categories which are explained below.

Boolean Properties

The screenshot shows the 'graphomate server admin' interface. The main content area is titled 'Template "Threshold"' and has tabs for 'GENERAL', 'PROPERTIES', 'JSON', and 'INFO'. The 'PROPERTIES' tab is active. A warning message states: 'Please be aware, that some properties in this list are named differently than in the Property sheets.' Below this, a section titled 'Boolean Properties' contains a list of ten properties, each with a toggle switch:

- Activate On New Data (Active)
- Calculate Deviations From Null (Inactive)
- Check Only Leading Values For Peaking (Inactive)
- Deviation Pin Line Black (Inactive)
- Ending Line Visible (Active)
- Fixed Category Width (Active)
- Flip Value Axis (Inactive)
- Force Before Separators (Inactive)
- Force First Value Label (Inactive)

The boolean properties are simple *true* / *false* switches. If the slider appears blue and is moved to the right the property is activated. The grey slider on the left indicates a deactivated property.

To toggle a change click on the slider or the name of the property.

Number Properties

The screenshot shows the 'Number Properties' section of the 'graphomate server admin' interface. The page title is 'Template "Threshold"'. The interface includes a navigation menu on the left with options: Overview, Templates, Rulesets, and Audits. The main content area has tabs for GENERAL, PROPERTIES (selected), JSON, and INFO. A warning message states: 'Please be aware, that some properties in this list are named differently than in the Propertiesheets.' Below this, there are two sections: 'Boolean Properties' (collapsed) and 'Number Properties' (expanded). The 'Number Properties' section lists five properties with their current values: Axis Thickness (3), Bar Width (0.5), Category Count (0), Category Label Rotation (0), and Category Width (50).

graphomate server admin LOGOUT

Overview
Templates
Rulesets
Audits

Template "Threshold" LIST REFRESH

GENERAL **PROPERTIES** JSON INFO

Please be aware, that some properties in this list are named differently than in the Propertiesheets.

Boolean Properties ▼

Number Properties ▲

Axis Thickness
3

Bar Width
0.5

Category Count
0

Category Label Rotation
0

Category Width
50

All properties that represent numbers can be adjusted in this section.

String Properties

The screenshot shows the 'graphomate server admin' interface. A blue header bar contains a menu icon, the text 'graphomate server admin', and a 'LOGOUT' button. A left sidebar lists navigation items: Overview, Templates, Rulesets, and Audits. The main content area is titled 'Template "Threshold"' and has tabs for GENERAL, PROPERTIES (selected), JSON, and INFO. Below the tabs is a warning message: 'Please be aware, that some properties in this list are named differently than in the Property sheets.' There are three expandable sections: 'Boolean Properties', 'Number Properties', and 'String Properties'. The 'String Properties' section is expanded, showing several text input fields with labels: 'Chart Type' (value: waterfall), 'Comparison Group', 'Extended Number Format' (value: -||,||,||1|1|), 'Extended Number Format Percent' (value: -||,||,||1|1|25), and 'Font Family'.

The string properties can be changed here. With string properties there is an exception, some of them only work with a specified set of choices. There is no mechanism that stops you from entering invalid values.

This could result in unwanted behavior when a template is applied to a graphomate component. Please refer to the manual of the specific component.

Color Properties

The screenshot shows the 'graphomate server admin' interface. The main content area is titled 'Template "Threshold"' and has tabs for 'GENERAL', 'PROPERTIES', 'JSON', and 'INFO'. The 'PROPERTIES' tab is active. A warning message states: 'Please be aware, that some properties in this list are named differently than in the Propertysheets.' Below this, there are three expandable sections: 'Boolean Properties', 'Number Properties', and 'String Properties'. The 'Color Properties' section is expanded, showing a color picker for 'Deviation Bad Color' with the hex value '#FF0000'. The color picker is a standard web color picker with a color bar and a hex input field. Below it, the 'Label Shadow Color' is set to '#FFFFFF'.

Color properties can be changed by using the color picker which opens on click on the chosen property.

Extended Properties

The screenshot shows the 'graphomate server admin' interface. The main content area is titled 'Template "Threshold"' and has tabs for 'GENERAL', 'PROPERTIES', 'JSON', and 'INFO'. The 'PROPERTIES' tab is selected. A warning message states: 'Please be aware, that some properties in this list are named differently than in the Property sheets.' Below this are four expandable sections: 'Boolean Properties', 'Number Properties', 'String Properties', and 'Color Properties'. Under the 'Extended Properties' section, there are four items with 'EDIT' buttons: 'Chart Type By Series', 'Deviation Visibility', 'Deviations Config', and 'Global Datatypes'.

The properties which are more complicated and hence are saved as JSON can be edited by clicking on the *EDIT* button of the specific property. A dialog opens containing the sub-properties. Clicking *OK* will **not** save the changes. It is necessary to click the *SAVE* button after the dialog is closed by clicking *OK*.

JSON

The screenshot shows the 'graphomate server admin' interface. On the left is a navigation menu with 'Overview', 'Templates', 'Rulesets', and 'Audits'. The main content area is titled 'Template "Threshold"' and has tabs for 'GENERAL', 'PROPERTIES', 'JSON', and 'INFO'. The 'JSON' tab is selected, displaying a JSON object representing the template's properties. The JSON is as follows:

```
{
  "suppressRepeatingCategoryLabels": "false,true,false,false",
  "manualScaleMax": 150,
  "pinHeadRadiusY": 4,
  "highlightMode": "single",
  "offsetBarLabelsOnTop": false,
  "deviationPinLineBlack": false,
  "timeBreakAxisLabel": "",
  "lineDotShape": "circle",
  "manualScalePercentMax": 20,
  "separatorColor": "#333333",
  "positiveOutlierThresholdPercent": 10,
  "highlightLabelAbsolute": true,
  "spacing": 0,
  "scalingHelperBarLineWidth": 2,
  "axisThickness": 3,
  "showPinHeadColor": false,
  "synchronizeScaling": true,
  "elementsOffset": 0.3,
  "tooltipLabelFormatMode": "basic",
  "useFormattedData": false,
  "synchronizePadding": true,
  "signedLabels": false,
  "negativeOutlierThresholdPercent": -10,
  "barWidth": 0.5,
  "waterfallSumColor": "#2E2E2E",
  "fixedCategoryWidth": true,
  "seriesLabels": "[\"Series1\",\"Series2\",\"Series3\",\"Series4\",\"Series5\",\"Series6\",\"Series7\",\"Series8\",\"Series9\",\"Series10\"]",
  "categoryLabelRotation": 0,
  "forceBeforeSeparators": false,
  "pinHeadShape": "circle",
  "spaceFactorBaseChart": 0.5,
  "visibleElementIndex": "0 1 2 3 4 5 6 7 8 9"
```

The JSON representation of the properties can be changed manually. This is necessary if you want to add new items to a JSON array for example.

INFO

The screenshot shows the 'INFO' tab for a template named 'Threshold'. The interface includes a blue header with 'graphomate server admin' and a 'LOGOUT' button. A sidebar on the left lists 'Overview', 'Templates', 'Rulesets', and 'Audits'. The main content area has tabs for 'GENERAL', 'PROPERTIES', 'JSON', and 'INFO'. The 'INFO' tab is active, displaying the following information:

Created
16.8.2018, 12.18.17

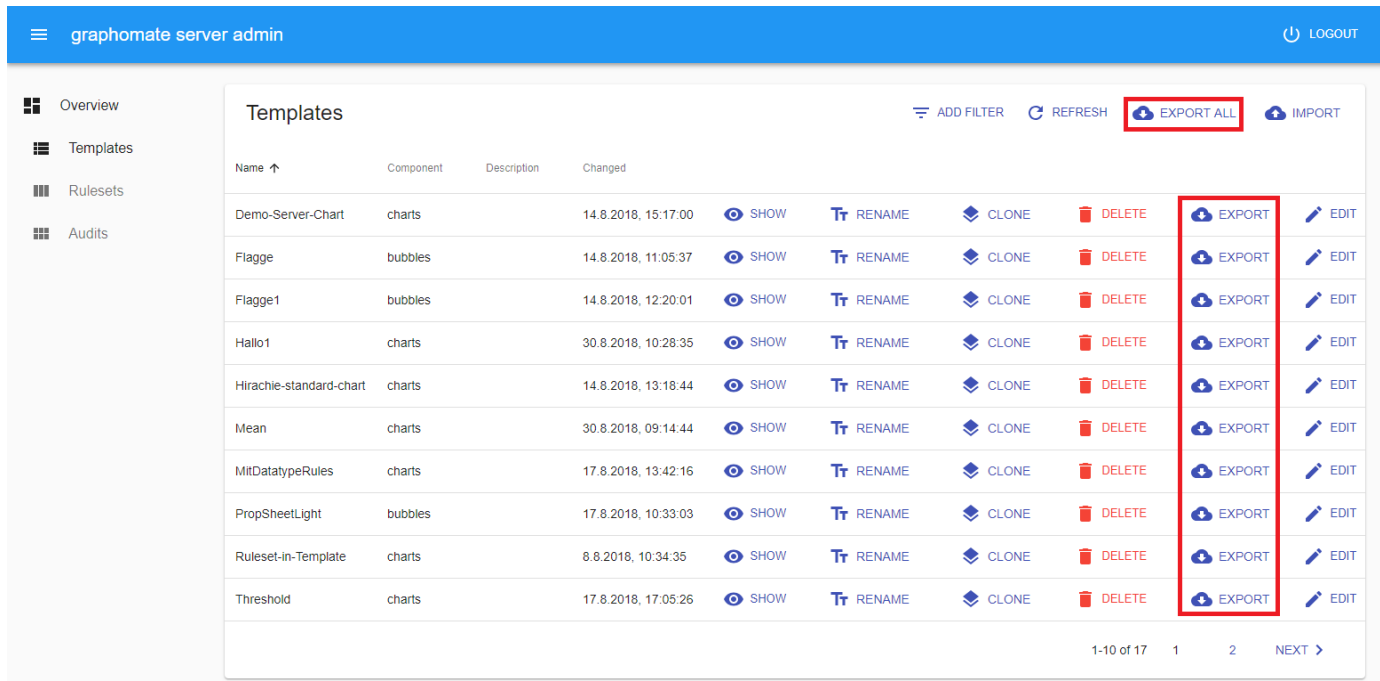
Changed
17.8.2018, 17.05.26

At the bottom of the 'INFO' tab, there are two buttons: 'SAVE' and 'SAVE AND CLOSE'.

In the *INFO* tab nothing can be changed, because the Changed timestamp will be updated automatically once the template is saved.

By clicking the *SAVE* button the changes will be saved but the admin will stay in edit mode. Clicking the *SAVE AND CLOSE* button will result in saving the changes and going back to the list view.

Export Template



The screenshot shows the 'Templates' management page in the graphomate server admin interface. The page has a blue header with 'graphomate server admin' and a 'LOGOUT' button. A sidebar on the left contains navigation links for 'Overview', 'Templates', 'Rulesets', and 'Audits'. The main content area displays a table of templates with columns for Name, Component, Description, and Changed. Each row includes action buttons: SHOW, RENAME, CLONE, DELETE, EXPORT, and EDIT. The 'EXPORT ALL' button at the top right of the table and the 'EXPORT' button for the first template, 'Demo-Server-Chart', are highlighted with red boxes. The table lists 11 templates, and the pagination at the bottom indicates '1-10 of 17' items, with page 1 selected.

Name ↑	Component	Description	Changed	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Demo-Server-Chart	charts		14.8.2018, 15:17:00	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Flagge	bubbles		14.8.2018, 11:05:37	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Flagge1	bubbles		14.8.2018, 12:20:01	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Hallo1	charts		30.8.2018, 10:28:35	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Hirarchie-standard-chart	charts		14.8.2018, 13:18:44	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Mean	charts		30.8.2018, 09:14:44	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
MitDatatypeRules	charts		17.8.2018, 13:42:16	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
PropSheetLight	bubbles		17.8.2018, 10:33:03	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Ruleset-in-Template	charts		8.8.2018, 10:34:35	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Threshold	charts		17.8.2018, 17:05:26	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT

A template with all its contents can be exported by clicking the *EXPORT* button in the template list. The browser will start the download of file which starts with the graphomate component id and after an underscore the template name will follow. The file extension will be *.gmt* which stands for *graphomate template*.

All templates can be exported together by clicking the *EXPORT ALL* button above the template list. A download of a file called *graphomate_templates_<date>.zip* will be started.

Both a single template and the collection of templates can be [imported](#) to the server.

Filter Template

graphomate server admin LOGOUT

Overview
Templates
Rulesets
Audits

Templates

ADD FILTER REFRESH EXPORT ALL IMPORT

Component

Name ↑	Component	Description	Changed							
Demo-Server-Chart	charts		14.8.2018, 15:17:00	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT	
Flagge	bubbles		14.8.2018, 11:05:37	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT	
Flagge1	bubbles		14.8.2018, 12:20:01	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT	
Hallo1	charts		30.8.2018, 10:28:35	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT	
Hirarchie-standard-chart	charts		14.8.2018, 13:18:44	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT	
Mean	charts		30.8.2018, 09:14:44	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT	
MitDatatypeRules	charts		17.8.2018, 13:42:16	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT	
PropSheetLight	bubbles		17.8.2018, 10:33:03	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT	
Ruleset-in-Template	charts		8.8.2018, 10:34:35	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT	
Threshold	charts		17.8.2018, 17:05:26	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT	

1-10 of 17 1 2 NEXT >

By clicking on *ADD FILTER* right above the list of templates, you can restrict the selection of templates. Select *Tag* to display templates with a specific tag or *Name* to display templates that contain the selected text in the name. Similarly, you can select templates based on their *description* or *author*. In addition, templates that are assigned to a specific *component* can be filtered. All filters can also be used simultaneously.

Import Template

graphomate server admin LOGOUT

- Overview
- Templates
- Rulesets
- Audits

Templates

ADD FILTER REFRESH EXPORT ALL **IMPORT**

Name ↑	Component	Description	Changed						
Demo-Server-Chart	charts		14.8.2018, 15:17:00	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Flagge	bubbles		14.8.2018, 11:05:37	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Flagge1	bubbles		14.8.2018, 12:20:01	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Hallo1	charts		30.8.2018, 10:28:35	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Hirarchie-standard-chart	charts		14.8.2018, 13:18:44	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Mean	charts		30.8.2018, 09:14:44	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
MitDatatypeRules	charts		17.8.2018, 13:42:16	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
PropSheetLight	bubbles		17.8.2018, 10:33:03	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Ruleset-in-Template	charts		8.8.2018, 10:34:35	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Threshold	charts		17.8.2018, 17:05:26	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT

1-10 of 17 1 2 NEXT >

A template or a collection of templates which has been [exported](#) can be as well imported. By clicking the *IMPORT* button above the template list the browser will prompt for the file to import. Choose the template with the *.gmt* extension or the collection of templates with the *.zip* extension and it will be saved on the server. Existing templates will not be overwritten.

Rename Template

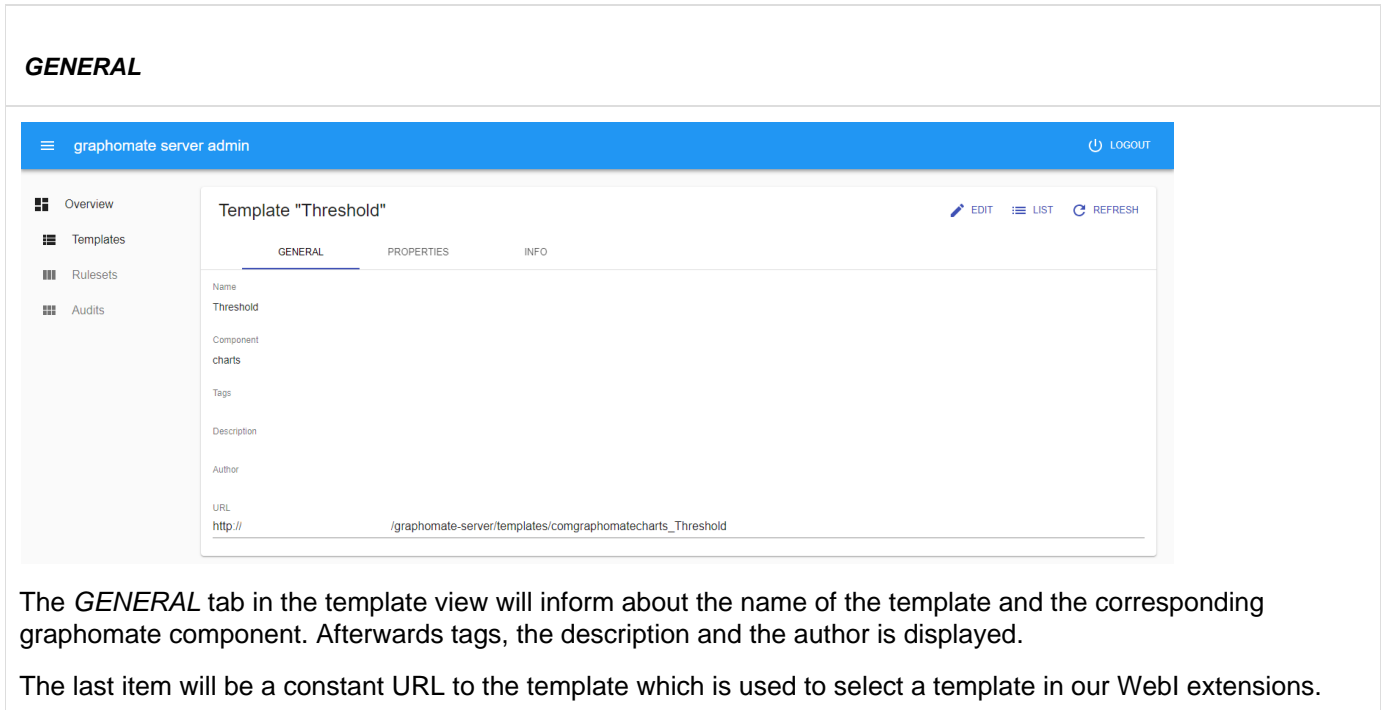
The screenshot shows the 'graphomate server admin' interface. On the left is a navigation menu with 'Overview', 'Templates', 'Rulesets', and 'Audits'. The main area is titled 'Templates' and contains a table with columns: Name, Component, Description, Changed, and actions. The table lists several templates, including 'Demo-Server-Chart', 'Flagge', 'Flagge1', 'Hallo1', 'Hirarchie-standard-chart', 'Mean', 'MitDatatypeRules', 'PropSheetLight', 'Ruleset-in-Template', and 'Threshold'. A red box highlights the 'RENAME' button for the 'Demo-Server-Chart' template. A 'Rename' dialog box is open, prompting the user to 'Choose new name' with a text input field. The input field contains the text 'Name' and a red error message below it: 'Name can not be empty!'. The dialog has 'CLOSE' and 'SAVE' buttons.

Name ↑	Component	Description	Changed	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Demo-Server-Chart	charts		14.8.2018, 15:17:00	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Flagge	bubbles		14.8.2018, 11:05:37	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Flagge1	bubbles				RENAME	CLONE	DELETE	EXPORT	EDIT
Hallo1	charts				RENAME	CLONE	DELETE	EXPORT	EDIT
Hirarchie-standard-chart	charts				RENAME	CLONE	DELETE	EXPORT	EDIT
Mean	charts				RENAME	CLONE	DELETE	EXPORT	EDIT
MitDatatypeRules	charts				RENAME	CLONE	DELETE	EXPORT	EDIT
PropSheetLight	bubbles		17.8.2018, 10:33:03	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Ruleset-in-Template	charts		8.8.2018, 10:34:35	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Threshold	charts		17.8.2018, 17:05:26	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT

You can rename a template by clicking on the *RENAME* button in the templates list. When doing so a dialog will prompt for the new name of the template. A valid name can consist out of letters, numbers and dashes.

Show Template

The show mode for a template can be used to examine the contents of a template. It will be divided in three tabs which are described in the following table. To *edit* the contents you have to click on the *EDIT* button at the top on the right.



GENERAL

graphomate server admin LOGOUT

Overview
Templates
Rulesets
Audits

Template "Threshold" EDIT LIST REFRESH

GENERAL PROPERTIES INFO

Name
Threshold

Component
charts

Tags

Description

Author

URL
http://graphomate-server/templates/comgraphomatecharts_Threshold

The *GENERAL* tab in the template view will inform about the name of the template and the corresponding graphomate component. Afterwards tags, the description and the author is displayed.

The last item will be a constant URL to the template which is used to select a template in our WebI extensions.

PROPERTIES

☰ graphomate server admin
🔌 LOGOUT

- ☰ Overview
- ☰ Templates
- ☰ Rulesets
- ☰ Audits

Template "Threshold"

GENERAL

PROPERTIES

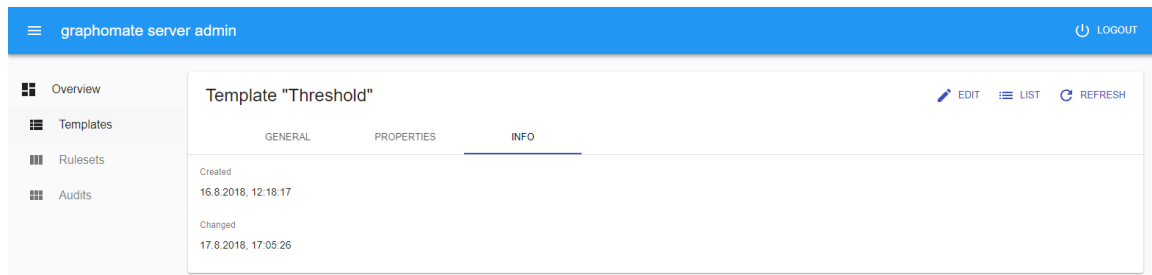
INFO

```

{
  "suppressRepeatingCategoryLabels": "false,true,false,false",
  "manualScaleMax": 150,
  "pinHeadRadius": 4,
  "highlightMode": "single",
  "offsetBarLabelOnTop": false,
  "deviationPinLineBlack": false,
  "lineBreakAxisLabel": "",
  "lineDotShape": "circle",
  "manualScalePercentMax": 20,
  "separatorColor": "#333333",
  "positiveOutlierThresholdPercent": 10,
  "highlightLabelAbsolute": true,
  "spacing": 0,
  "scalingHelperBarLineWidth": 2,
  "axisThickness": 3,
  "showPinHeadColor": false,
  "synchronizescaling": true,
  "elementsOffset": 0.5,
  "tooltipLabelFormatMode": "basic",
  "useFormattedData": false,
  "synchronizespadding": true,
  "signedLabels": false,
  "negativeOutlierThresholdPercent": -10,
  "barWidth": 0.5,
  "waterfallSumColor": "#2E2E2E",
  "fixedCategoryWidth": false,
  "seriesLabels": "[\"Series1\", \"Series2\", \"Series3\", \"Series4\", \"Series5\", \"Series6\", \"Series7\", \"Series8\", \"Series9\", \"Series10\"]",
  "categoryLabelRotation": 0,
  "forceBeforeSeparators": false,
  "pinHeadShape": "circle",
  "spaceFactorBaseChart": 0.5,
  "visibleElementLabels": "0,1,2,3,4,5,6,7,8,9",
  "thresholdLinesConfig": "{}",
  "fontFamily": "Arial",
  "forceTickInterval": false,
  "separatorLength": 10,
  "deviationsConfig": [{"label": "perc", "visible": false, "type": "percent", "base": 1, "measure": 0, "random": "u12ziuc9832mnn34xmc1"}, {"label": "abs", "visible": "absolute", "base": 1, "measure": 0, "random": "dsj01278hajsdkh3n23"}],
  "categoryCount": 0,
  "pinHeadMode": "front",
  "pickLabels": false,
  "deviationBarSizeFactor": 0.5,

```

The *PROPERTIES* tab will show the properties which are part of the template in the JSON representation.

INFO

The screenshot shows the 'graphomate server admin' interface. On the left is a navigation menu with 'Overview', 'Templates', 'Rulesets', and 'Audits'. The main content area displays 'Template "Threshold"' with tabs for 'GENERAL', 'PROPERTIES', and 'INFO'. The 'INFO' tab is active and shows the following data:

Event	Date and Time
Created	16.8.2018, 12:18:17
Changed	17.8.2018, 17:05:26

The *INFO* tab will show the date with time when template was created and when it was last changed.

Rulesets

graphomate server admin
LOGOUT

- Overview
- Templates
- Rulesets**
- Audits

[ADD FILTER](#)
[REFRESH](#)
[EXPORT ALL](#)
[IMPORT](#)
[CREATE](#)

Name ↑	Type	Description	Changed						
ChartsExample	Dimension		9/19/2018, 2:50:23 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
DatatypesYear	Dimension		8/29/2018, 5:10:10 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
DateTest	Property Dimension		9/18/2018, 4:28:38 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Demo-Continent	Dimension		8/14/2018, 2:27:26 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Demo-Datatype	Dimension		8/14/2018, 3:32:09 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
MonthOrder	Dimension		8/20/2018, 11:44:44 AM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult	Dimension		8/20/2018, 10:00:15 AM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult2	Dimension		8/15/2018, 2:41:23 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult3	Dimension		9/11/2018, 2:13:08 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
brain-twister	Dimension		9/13/2018, 12:19:56 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT

1-10 of 17 1 2 NEXT >

A ruleset is a collection of complex rules that defines how a compatible component (currently: graphomate charts) should extend its data. According to the rules, a component can derive new information based on the data assigned to it. With the help of a ruleset, for example, a graphomate charts component can derive data types from an existing month dimension.

All rulesets available on the server can be managed in the admin area. By clicking on the column header, the templates are sorted according to the content of the corresponding column. By clicking on [ADD FILTER](#), the displayed rulesets can be selected according to specific criteria. In the list of rulesets, their content can be displayed, a ruleset can be renamed, cloned, deleted, exported or its content edited. It is also possible to export or import all or one of the rulesets.

Clone Ruleset

The screenshot shows the 'graphomate server admin' interface. On the left is a navigation menu with 'Overview', 'Templates', 'Rulesets', and 'Audits'. The main area displays a 'Rulesets' table with columns for Name, Type, Description, and Changed. The table lists several rulesets, including 'ChartsExample', 'DatatypesYear', 'DateTest', 'Demo-Continent', 'Demo-Datatype', 'MonthOrder', 'RegionResult', 'RegionResult2', 'RegionResult3', and 'brain-twister'. Each row has action buttons: SHOW, RENAME, CLONE, DELETE, EXPORT, and EDIT. The 'CLONE' button for the 'ChartsExample' row is highlighted with a red box. A modal dialog titled 'Clone' is open, prompting the user to 'Choose new name' with a text input field and a 'Name can not be empty!' error message. The dialog has 'CLOSE' and 'CREATE' buttons.

Name ↑	Type	Description	Changed	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
ChartsExample	Dimension		9/19/2018, 2:50:23 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
DatatypesYear	Dimension		8/29/2018, 5:10:10 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
DateTest	Property Dimension		9/18/2018, 12:13:08 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Demo-Continent	Dimension		8/14/2018, 12:13:08 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Demo-Datatype	Dimension		8/14/2018, 12:13:08 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
MonthOrder	Dimension		8/20/2018, 12:13:08 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult	Dimension		8/20/2018, 12:13:08 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult2	Dimension		8/15/2018, 12:13:08 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult3	Dimension		9/11/2018, 2:13:08 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
brain-twister	Dimension		9/13/2018, 12:19:56 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT

You can clone a ruleset with all its contents by clicking on the *CLONE* button in the ruleset list. When doing so a dialog will prompt for the name of the cloned ruleset. A valid name can consist out of letters, numbers and dashes.

Create Ruleset

In the ruleset create mode a new ruleset can be created. It is divided in two tabs which will be described in the following table.

GENERAL

The screenshot shows the 'Create Ruleset' form in the 'GENERAL' tab. The form is titled 'Create Ruleset' and has two tabs: 'GENERAL' and 'RULESET'. The 'GENERAL' tab is active and contains the following fields:

- Name *
- Tags
- Description
- Author

At the bottom of the form, there are two buttons: 'SAVE' and 'SAVE AND CLOSE'.

In the *GENERAL* tab the field for the name is mandatory. A valid name can consist out of letters, numbers and dash. The field for the tags can be filled with a list of tags which are separated by comma. The description and the author

RULESET

The screenshot shows the 'Create RuleSet' interface in the 'RULESET' tab. The interface is divided into two main sections: 'GENERAL' and 'RULESET'. The 'RULESET' section contains a 'Result' table with the following columns: 'Type', 'Dimension Name', 'Operator', and 'Member Name'. Two rules are listed in the table, both with 'Dimension Member (...)' as the Type and 'equal' as the Operator. The interface also includes a 'SAVE' button and a 'SAVE AND CLOSE' button.

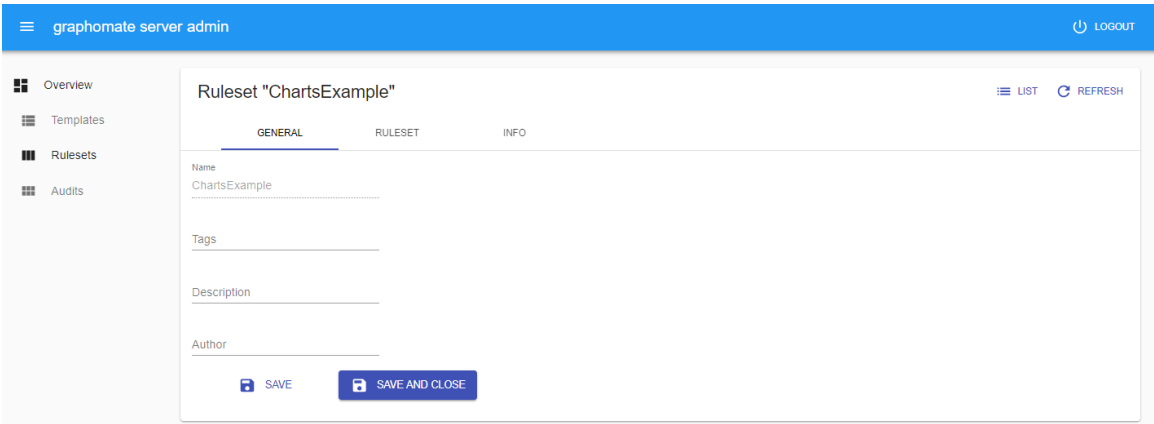
In the *RULESET* tab the definition of the ruleset can be created by using the Rulesbuilder.

By clicking the *SAVE* button the changes will be saved and the admin will change to edit mode. Clicking the *SAVE AND CLOSE* button will result in saving the changes and going back to the list view.

Edit Ruleset

In the ruleset edit mode the contents of a ruleset can be modified. It is divided in three tabs which will be described in the following table.

GENERAL



The screenshot shows the 'Edit Ruleset' interface for a ruleset named 'ChartsExample'. The interface is titled 'Ruleaset "ChartsExample"' and has three tabs: 'GENERAL', 'RULESET', and 'INFO'. The 'GENERAL' tab is active. The form contains the following fields:

- Name:** ChartsExample (deactivated)
- Tags:** (empty text field)
- Description:** (empty text field)
- Author:** (empty text field)

At the bottom of the form, there are two buttons: 'SAVE' and 'SAVE AND CLOSE'. The 'SAVE' button is disabled, while the 'SAVE AND CLOSE' button is active. The interface also includes a navigation menu on the left with options: Overview, Templates, Rulesets, and Audits. The top navigation bar shows 'graphomate server admin' and a 'LOGOUT' button.

In the *GENERAL* tab the field for the name is deactivated. To rename a ruleset you could use the [rename button](#) in the ruleset list.

The field for the tags can be filled with a list of tags which are separated by comma. The description and the author are free text fields.

RULESET

The screenshot shows the 'RULESET' configuration page for a rule named 'ChartsExample'. The interface includes a top navigation bar with 'graphomate server admin' and a 'LOGOUT' button. A left sidebar contains navigation options: 'Overview', 'Templates', 'Rulesets', and 'Audits'. The main content area is divided into three tabs: 'GENERAL', 'RULESET' (which is active), and 'INFO'. Below the tabs, there are fields for 'Output Type' (Dimension), 'Output Name' (Quarter), 'Default Result' (Q4), and 'Error Result' (ERR). The core of the interface is the 'Rulesbuilder', which consists of two 'Result' blocks. Each block starts with an 'OR' condition. The first block contains two rules: one with 'Dimension Member ...' type, 'Month' dimension name, 'equal' operator, and 'January' member name; the second with 'Dimension Member ...' type, 'Month' dimension name, 'equal' operator, and 'February' member name. The second 'Result' block contains two rules with 'Dimension Member ...' type, 'Dimension Name' dimension name, 'equal' operator, and 'Member Name' member name. Each rule in the builder has a copy icon and a delete icon.

In the *RULESET* tab the definition of the ruleset can be modified by using the [Rulesbuilder](#).

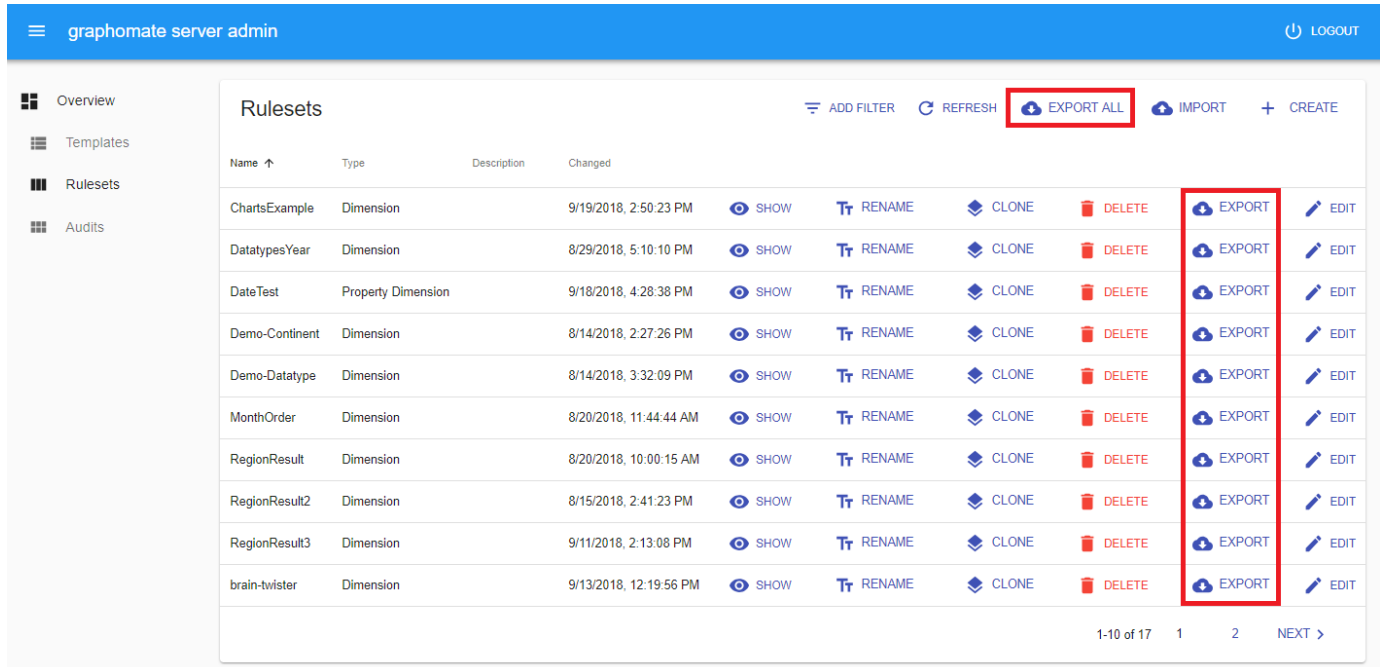
INFO

The screenshot shows the 'INFO' tab for a ruleset named 'ChartsExample'. The interface includes a blue header with 'graphomate server admin' and a 'LOGOUT' button. A left sidebar contains navigation options: Overview, Templates, Rulesets, and Audits. The main content area has tabs for 'GENERAL', 'RULESET', and 'INFO', with 'INFO' selected. It displays the 'Created' timestamp as '9/19/2018, 8:01:58 AM' and the 'Changed' timestamp as '9/19/2018, 2:50:23 PM'. At the bottom, there are two buttons: 'SAVE' and 'SAVE AND CLOSE'. In the top right corner of the main content area, there are 'LIST' and 'REFRESH' options.

In the *INFO* tab nothing can be changed, because the Changed timestamp will be updated automatically once the ruleset is saved.

By clicking the *SAVE* button the changes will be saved but the admin will stay in edit mode. Clicking the *SAVE AND CLOSE* button will result in saving the changes and going back to the list view.

Export Ruleset



The screenshot shows the 'Rulesets' management page in the Graphomate server admin interface. The page has a blue header with 'graphomate server admin' and a 'LOGOUT' button. A sidebar on the left contains navigation links for 'Overview', 'Templates', 'Rulesets', and 'Audits'. The main content area displays a table of rulesets with columns for Name, Type, Description, and Changed. Above the table are buttons for 'ADD FILTER', 'REFRESH', 'EXPORT ALL', 'IMPORT', and 'CREATE'. The 'EXPORT ALL' button is highlighted with a red box. The table lists 11 rulesets, each with a set of action buttons: SHOW, RENAME, CLONE, DELETE, EXPORT, and EDIT. The 'EXPORT' button for each row is highlighted with a red box. At the bottom right of the table, there is a pagination control showing '1-10 of 17' and 'NEXT >'.

Name ↑	Type	Description	Changed	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
ChartsExample	Dimension		9/19/2018, 2:50:23 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
DatatypesYear	Dimension		8/29/2018, 5:10:10 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
DateTest	Property Dimension		9/18/2018, 4:28:38 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Demo-Continent	Dimension		8/14/2018, 2:27:26 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Demo-Datatype	Dimension		8/14/2018, 3:32:09 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
MonthOrder	Dimension		8/20/2018, 11:44:44 AM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult	Dimension		8/20/2018, 10:00:15 AM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult2	Dimension		8/15/2018, 2:41:23 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult3	Dimension		9/11/2018, 2:13:08 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
brain-twister	Dimension		9/13/2018, 12:19:56 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT

A ruleset with all its contents can be exported by clicking the *EXPORT* button in the ruleset list. The browser will start the download of file with the name of the ruleset. The file extension will be *.gmr* which stands for *graphomate ruleset*.

All rulesets can be exported together by clicking the *EXPORT ALL* button above the ruleset list. A download of a file called *graphomate_rulesets_<date>.zip* will be started.

Both a single ruleset and the collection of rulesets can be [imported](#) to the server.

Filter Ruleset

The screenshot shows the 'Rulesets' page in the graphomate server admin interface. The page has a blue header with 'graphomate server admin' and a 'LOGOUT' button. A left sidebar contains navigation links for Overview, Templates, Rulesets, and Audits. The main content area features a table of rulesets and a set of action buttons at the top.

At the top right of the rulesets section, there are several action buttons: **ADD FILTER** (highlighted with a red box), **REFRESH**, **EXPORT ALL**, **IMPORT**, and **CREATE**. Below these buttons are two filter input fields: **Description** and **Name** (both highlighted with a red box).

Name ↑	Type	Description	Changed						
ChartsExample	Dimension		9/19/2018, 2:50:23 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
DatatypesYear	Dimension		8/29/2018, 5:10:10 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
DateTest	Property Dimension		9/18/2018, 4:28:38 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Demo-Continent	Dimension		8/14/2018, 2:27:26 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Demo-Datatype	Dimension		8/14/2018, 3:32:09 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
MonthOrder	Dimension		8/20/2018, 11:44:44 AM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult	Dimension		8/20/2018, 10:00:15 AM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult2	Dimension		8/15/2018, 2:41:23 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult3	Dimension		9/11/2018, 2:13:08 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
brain-twister	Dimension		9/13/2018, 12:19:56 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT

At the bottom right of the table, there is a pagination control showing '1-10 of 17' and page numbers '1' and '2', along with a 'NEXT >' button.

By clicking on *ADD FILTER* right above the list of rulesets, you can restrict the selection of rulesets. Select *Tag* to display rulesets with a specific tag or *Name* to display rulesets that contain the selected text in the name. Similarly, you can select rulesets based on their *description* or *author*. All filters can also be used simultaneously.

Import Ruleset

graphomate server admin LOGOUT

Overview
Templates
Rulesets
Audits

Rulesets

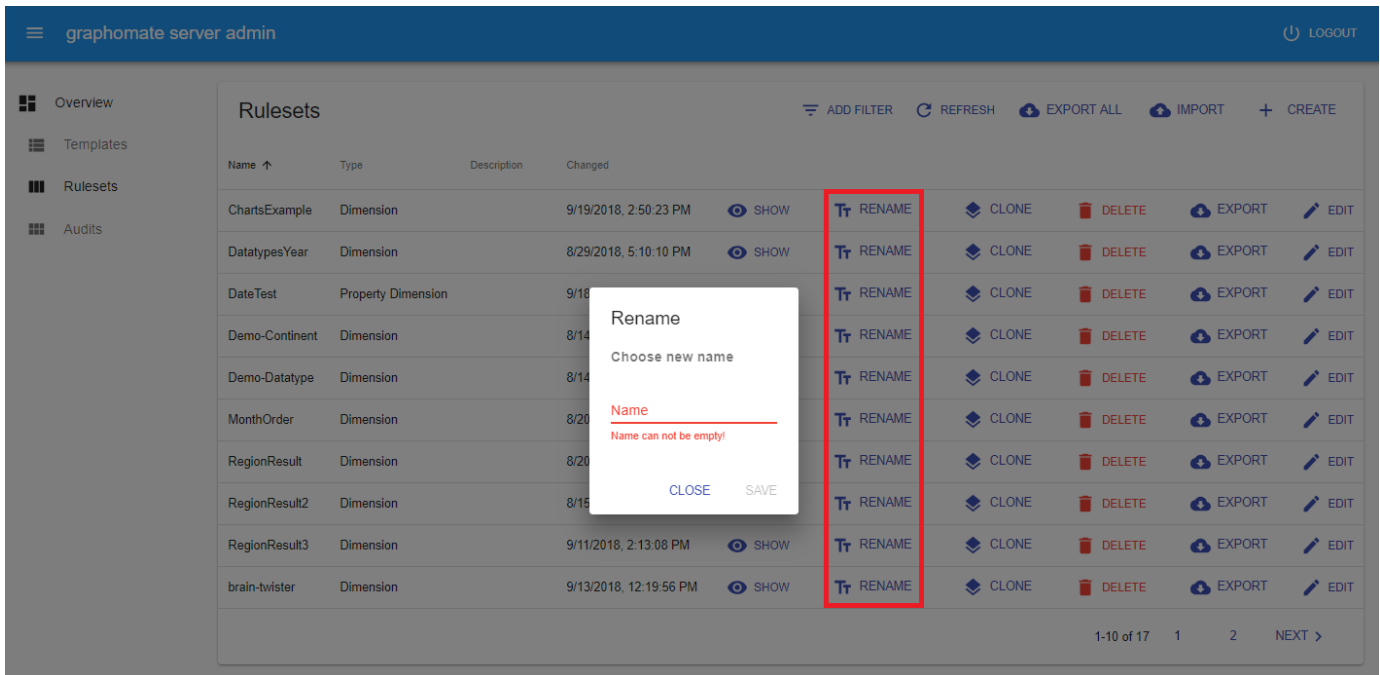
ADD FILTER REFRESH EXPORT ALL **IMPORT** + CREATE

Name ↑	Type	Description	Changed	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
ChartsExample	Dimension		9/19/2018, 2:50:23 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
DatatypesYear	Dimension		8/29/2018, 5:10:10 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
DateTest	Property Dimension		9/18/2018, 4:28:38 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Demo-Continent	Dimension		8/14/2018, 2:27:26 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
Demo-Datatype	Dimension		8/14/2018, 3:32:09 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
MonthOrder	Dimension		8/20/2018, 11:44:44 AM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult	Dimension		8/20/2018, 10:00:15 AM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult2	Dimension		8/15/2018, 2:41:23 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
RegionResult3	Dimension		9/11/2018, 2:13:08 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT
brain-twister	Dimension		9/13/2018, 12:19:56 PM	SHOW	RENAME	CLONE	DELETE	EXPORT	EDIT

1-10 of 17 1 2 NEXT >

A ruleset or a collection of rulesets which has been exported can be as well imported. By clicking the *IMPORT* button above the ruleset list the browser will prompt for the file to import. Choose the ruleset with the *.gmr* extension or the collection of rulesets with the *.zip* extension and it will be saved on the server. Existing rulesets will not be overwritten.

Rename Ruleset



The screenshot shows the 'graphomate server admin' interface. On the left is a navigation menu with 'Overview', 'Templates', 'Rulesets', and 'Audits'. The main area displays a table of 'Rulesets' with columns for Name, Type, Description, and Changed. The table contains several rows, including 'ChartsExample', 'DatatypesYear', 'DateTest', 'Demo-Continent', 'Demo-Datatype', 'MonthOrder', 'RegionResult', 'RegionResult2', 'RegionResult3', and 'brain-twister'. Each row has a set of action buttons: 'RENAME', 'CLONE', 'DELETE', 'EXPORT', and 'EDIT'. The 'RENAME' button for the 'ChartsExample' row is highlighted with a red box. A 'Rename' dialog box is open over this row, with the text 'Choose new name' and a text input field labeled 'Name'. Below the input field is a red error message: 'Name can not be empty!'. At the bottom of the dialog are 'CLOSE' and 'SAVE' buttons. The top right of the interface has a 'LOGOUT' button. The bottom right of the table shows pagination: '1-10 of 17', '1', '2', and 'NEXT >'.

You can rename a ruleset by clicking on the *RENAME* button in the ruleset list. When doing so a dialog will prompt for the new name of the ruleset. A valid name can consist out of letters, numbers and dashes.

Rulesbuilder

Overview

Ruleset "ChartsExample"

GENERAL	RULESET	INFO	
Output Type Dimension ▾	Output Name Quarter	Default Result Q4	Error Result ERR

The title shows the currently opened ruleset. The Ruleset tab contains the so-called Rulesbuilder. Here different rules can be created which can be applied to the data of the graphomate charts in order to derive information afterwards. A ruleset serves as a description for a newly generated dimension whose values are generated by applying rules.

In addition to a set of rules, a ruleset has the following properties:

- **Output Type:** If 'Dimension' is selected, a new dimension is created that is visible to the user. 'Property Dimension' leads to an invisible dimension that can only be used for special features of the components (Data Types, Number Format,...) and is not displayed in the component itself.
- **Output Name:** The name of the new dimension to be created based on the rules.
- **Default Result:** The name of the standard member that is to be assigned to all data points to which no rule applies. A 'data point' in this context refers to a cell in the tabular drilldown of the data.
- **Error Result:** The name of the member that is to be assigned to all data points when an error occurred during processing. An error could be caused, for example, by an invalid date format or a character string for number comparisons.

The plus button on the right side adds another rule to the ruleset.

The screenshot shows a configuration window for a rule named 'Q1'. At the top, there is a 'Result' field containing 'Q1'. Below it, an 'OR' logical operator is selected. Three expressions are listed, each connected to the 'OR' operator by a vertical line. Each expression consists of four fields: 'Type' (set to 'Dimension Member (Name)'), 'Dimension Name' (set to 'Month'), 'Operator' (set to 'equal'), and 'Member Name' (set to 'January', 'February', and 'March' respectively). On the right side of each expression, there are three icons: a plus sign, a copy icon, and a trash icon.

For each existing data point of a data source, the system checks whether at least one of the rules applies to it. The first applicable rule determines the value that the respective data point receives in the new dimension. A rule therefore consists of the following elements:

- **Result:** The name of the member which gets assigned to data points that satisfy this rule.
- **Expression Group:** A group of logically linked expressions. We offer the logical operators AND and OR. Groups of expressions can be nested as desired. To add new expressions or expression groups, use the two plus buttons on the right side.
- **Expression:** A line consists of 4 elements and is called 'expression'. It is applied to data points to be evaluated logically (true/false). The following evaluation properties are available for this:
 - **Type:** Defines the type of the base of the expression.
 - **Key/Name:** Defines the basic dimension or key figure of the expression.
 - **Operator:** Determines the operation between base value and comparison value.
 - **Member Name/Key/Value:** Sets the comparison value with which the base is compared using the operator.

In the example above, a new value named 'Q1' is created to get assigned to each data point for which one of the expressions (OR link) is positively validated. For example, the first expression validates positively for a data point if the name of the member from the dimension with the name 'Month' corresponds to the text 'January'.

Result
Q2

AND

Type	Dimension Name	Operator	Member Name
Dimension Member (Name)	Month	after (order)	March
Dimension Member (Name)	Month	before (order)	July

In this example, a member 'Q2' is defined that gets applied to all data points of the new dimension to which the following two expressions apply (AND linked):

- A data point whose name of its member from the dimension with the name 'Month' occurs in the list of members after the member with the name 'March'. This condition therefore includes all months that follow March in the list of known members (April to December assuming that the members of the datasource are in the correct order).
- A data point whose name of its member from the dimension with the name 'Month' occurs before the expression with the name 'July'. This condition therefore includes all months prior to July (January to June).

The intersection of the two sets of data points (AND linked) are all those whose members for the dimension 'Month' correspond to the months April, May and June. This gives them the value 'Q2' for the new dimension 'Quarter'.

Result
Q3

OR

Type	Dimension Key	Operator	Member Key
Dimension Member (Key)	month00000001	ends	ly
Dimension Member (Key)	month00000001	begins	A
Dimension Member (Key)	month00000001	reg ex	^Sep

The same principle can also be applied to the keys of the dimensions and members, whereby in most cases it must be ensured that internal keys are used. In this cryptic example, the first expression would correspond to the month 'July', the second to the month 'April' and 'August' and the last would match the month 'September'.

Expression Type

In addition to the 'Dimension Member' type used in the example, the 'Measure Value' type can also be used for expressions. This allows you to define an expression based on data values. In this case, the internal key or name of the key figure must be entered in the 'Measure Key/Name' field. Analogous to the above examples, the value of a data point can then be compared with a freely selectable 'member value' using an operator.

Operators

Different operators can be selected for different 'expression types'. All string comparisons are considered case insensitive. The following operators are available in all cases:

- equal: Checks whether the base value corresponds exactly to the entered comparison value.
- not equal: Checks whether the base value does not correspond to the entered comparison value.

For the 'Dimension Member (Key/Name)' type, the following operators can be selected:

- contains: Checks whether the base name/key contains the entered comparison name/key.
- begins: Checks whether the base name/key starts with the entered comparison name/key.
- ends: Checks whether the base name/key ends with the entered comparison name/key.
- reg ex: Checks whether the regular expression entered applies to the base name/key.
- before (order): Checks whether the base name/key occurs in the list of members before the specified comparison member/key. This operator only refers to the predetermined order of members which is not necessarily an alphabetical or ascending one.
- after (order): Checks whether the base name/key occurs in the list of members after the specified comparison member/key. This operator only refers to the predetermined order of members which is not necessarily an alphabetical or ascending one.
- before (time): Checks whether the base value is temporally before the comparison value. Can only be used in conjunction with a specified date format. For this, either {currentDate(format, locale)} or {date(date, format, locale)} must be used for the comparison value (see section 'Examples').
- after (time): checks whether the base value is temporally after the comparison value. Can only be used in conjunction with a specified date format. For this, either {currentDate(format, locale)} or {date(date, format, locale)} must be used for the comparison value (see section 'Examples').

The following operators are possible for the 'Measure Value (Key/Name)' type:

- less: Checks whether the base value is smaller than the entered comparison value.
- greater: Checks whether the base value is greater than the entered comparison value.
- less or equal: Checks whether the base value is less or equal to the entered comparison value.
- greater or equal: Checks whether the base value is greater or equal to the entered comparison value.

Wildcards

Type	Dimension Name	Operator	Member Name
Dimension Member (Name)	Month	equal	{currentDate(MMM,en)}

Current Date

For the 'Expression Type' 'Dimension Member (Key)' or 'Dimension Member (Name)' the member key or name to be checked can be wildcarded. This feature only applies to a small amount of use cases because we do not yet offer formatter functions to match the output of the wildcard to the actual format of member keys or names. However, it can be helpful in scenarios in which the keys or names of values correspond to generally valid date formats. In the example, a new member is created with the name 'AC'. All data points that have a member with the name 'August' (as of the Month this text was written) for their dimension with the name 'Month' get assigned the data type 'AC'. The wildcard expression is structured as follows: **{currentDate(format, locale)}** - where the format must correspond to a valid [momentjs](#) format and the locale ('de', 'fr' or 'en') is optional.

For example, {currentDate(MMMM,en)} corresponds to the current, written out, English month name.

Null

For the 'Expression Type' 'Measure Value (Key)' or 'Measure Value (Name)' the member key or name to be checked can be wildcarded using **{NULL}**, which allows a comparison with null values. So if data points can contain a null value and should be checked for it, a comparative operator can be used in conjunction with **{NULL}**.

Further Examples

The screenshot shows a query builder interface with the following structure:

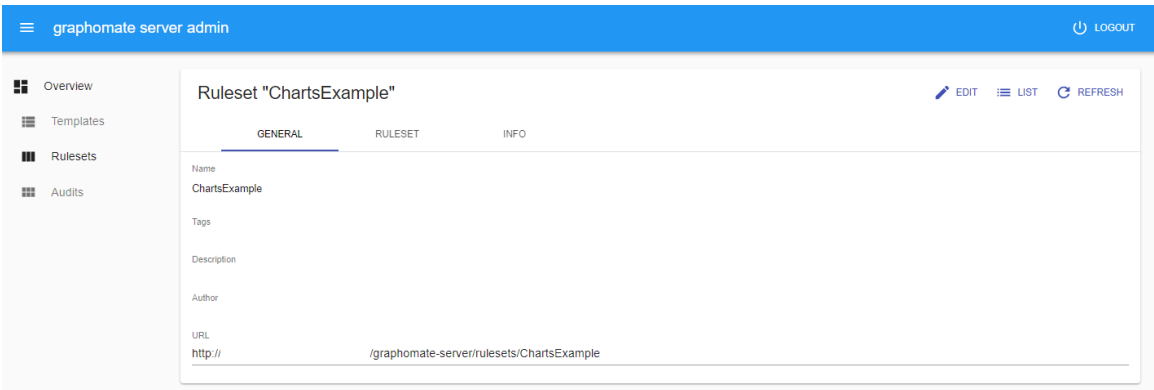
- Result:** PP
- Logic:** An OR operator (orange circle) connects two main branches.
 - Top Branch (Orange):** A single clause with:
 - Type: Dimension Member (Name)
 - Dimension Name: Year
 - Operator: before (time)
 - Member Name: {currentDate(YYYY)}
 - Bottom Branch (Blue):** An AND operator (blue circle) connects two clauses:
 - Top Clause (Blue):**
 - Type: Dimension Member (Name)
 - Dimension Name: Month
 - Operator: before (time)
 - Member Name: {currentDate(MMM,en)}
 - Bottom Clause (Blue):**
 - Type: Dimension Member (Name)
 - Dimension Name: Year
 - Operator: equal
 - Member Name: {currentDate(YYYY)}

Suppose there is a time hierarchy of months and years, and you want to assign data type PP to all data points in the past. To do this, expressions must be logically linked using the different levels of the time hierarchy. This example includes all data points that are dated with past years or lie in the current year before the current month.

Show Ruleset

The show mode for a ruleset can be used to examine the contents of a ruleset. It will be divided in three tabs which are described in the following table. To edit the contents you have to click on the *EDIT* button at the top on the right.

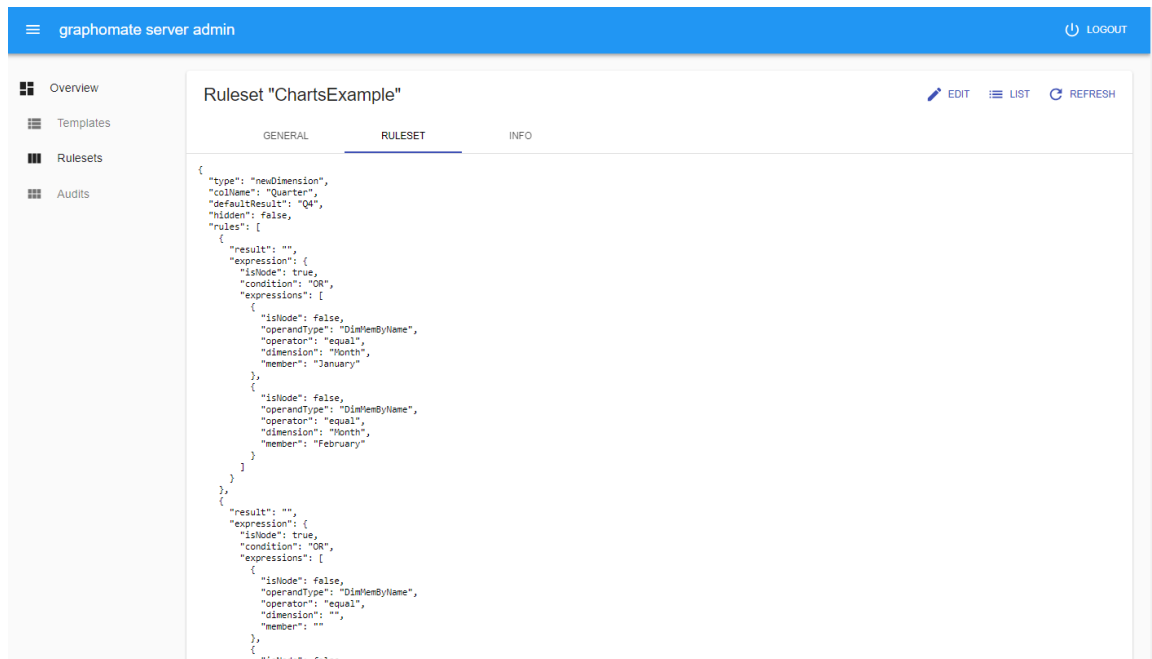
GENERAL



The *GENERAL* tab in the ruleset view will inform about the name of the ruleset, tags, the description and the author.

The last item will be a constant URL to the ruleset which has no specific use at the moment.

RULESET

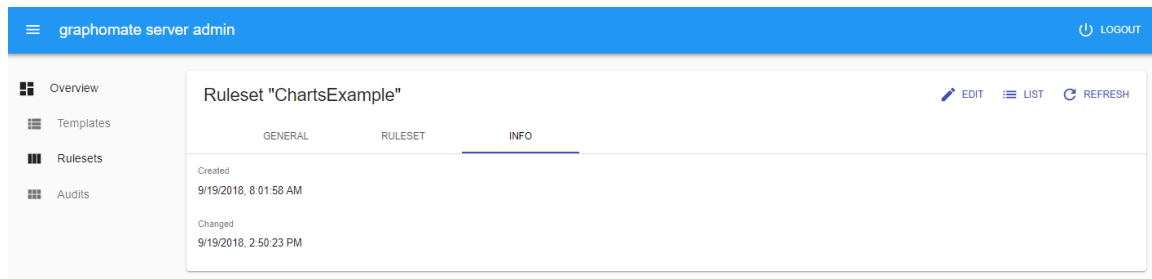


The screenshot displays the 'RULESET' tab for a ruleset named 'ChartsExample'. The interface includes a navigation menu on the left with options for Overview, Templates, Rulesets, and Audits. The main content area shows the JSON representation of the ruleset definition. The JSON is as follows:

```
{
  "type": "newDimension",
  "collName": "Quarter",
  "defaultResult": "Q4",
  "hidden": false,
  "rules": [
    {
      "result": "",
      "expression": {
        "isNode": true,
        "condition": "OR",
        "expressions": [
          {
            "isNode": false,
            "operandType": "DimMemByTime",
            "operator": "equal",
            "dimension": "Month",
            "member": "January"
          },
          {
            "isNode": false,
            "operandType": "DimMemByTime",
            "operator": "equal",
            "dimension": "Month",
            "member": "February"
          }
        ]
      }
    },
    {
      "result": "",
      "expression": {
        "isNode": true,
        "condition": "OR",
        "expressions": [
          {
            "isNode": false,
            "operandType": "DimMemByTime",
            "operator": "equal",
            "dimension": "",
            "member": ""
          },
          {
            "isNode": false,

```

The *RULESET* tab will show the ruleset definition in the JSON representation.

INFO

The screenshot shows the 'graphomate server admin' interface. On the left is a navigation menu with 'Overview', 'Templates', 'Rulesets', and 'Audits'. The main content area displays 'Ruleset "ChartsExample"' with tabs for 'GENERAL', 'RULESET', and 'INFO'. The 'INFO' tab is active and shows the following data:

Created
9/19/2018, 8:01:58 AM

Changed
9/19/2018, 2:50:23 PM

At the top right of the main content area, there are buttons for 'EDIT', 'LIST', and 'REFRESH'. At the top left of the main content area, there is a 'LOGOUT' button.

The *INFO* tab will show the date with time when ruleset was created and when it was last changed.

Audits

Graphomate Auditing is used to determine how many different users use specific Graphomate extensions.

The auditing is automatically activated when the server is installed.

All data is stored in a H2 Database. This database is stored at the *tomcat root* in a folder called *graphomate* named *auditing.db*.

The screenshot shows the 'graphomate server admin' interface. On the left is a navigation menu with 'Audits' selected. The main content area is titled 'Audits' and contains a table of audit records. At the top right of the main area are 'EXPORT' and 'ANONYMIZED EXPORT' buttons. The table lists the following entries:

Date and Time	File Path	Status
10.8.2018, 15:23:15	C:\Program Files (x86)\SAP BusinessObjects\tomcat\graphomate\anonymized_audit_20180810152315.csv	Anonymized
10.8.2018, 15:29:11	C:\Program Files (x86)\SAP BusinessObjects\tomcat\graphomate\anonymized_audit_20180810152911.csv	Anonymized
10.8.2018, 15:23:13	C:\Program Files (x86)\SAP BusinessObjects\tomcat\graphomate\audit_20180810152313.csv	Unanonymized
10.8.2018, 15:29:09	C:\Program Files (x86)\SAP BusinessObjects\tomcat\graphomate\audit_20180810152909.csv	Unanonymized
13.8.2018, 12:45:27	C:\Program Files (x86)\SAP BusinessObjects\tomcat\graphomate\audit_20180813124527.csv	Unanonymized
13.8.2018, 15:05:42	C:\Program Files (x86)\SAP BusinessObjects\tomcat\graphomate\audit_20180813150542.csv	Unanonymized
13.8.2018, 15:56:39	C:\Program Files (x86)\SAP BusinessObjects\tomcat\graphomate\audit_20180813155639.csv	Unanonymized
14.8.2018, 15:36:16	C:\Program Files (x86)\SAP BusinessObjects\tomcat\graphomate\audit_20180814153616.csv	Unanonymized
17.8.2018, 09:47:45	C:\Program Files (x86)\SAP BusinessObjects\tomcat\graphomate\audit_20180817094745.csv	Unanonymized

Export

To export the Auditing data, you need to log in to the Admin, and click on Audits. Then you should click the "EXPORT" button. The export will run in the background, and will show a dialog when it's finished. It will tell you the path on the server where the csv file can be found. All usernames in the exported file are anonymized, and can't be translated back to the real usernames.

The data will be exported with the following layout:

id	date of measure	username	name of component	name of SAP product	name of application
1	11.07.2018	mmustermann	com.graphomate.charts	Lumira Designer	TestReport

Properties

Here are the Properties described which are located in the *Additional Properties Sheet* of Lumira Designer extensions that are compatible with the *graphomate server*.

Server Configuration

Here you can enter the *Server URL* to which the component should connect and from which it should retrieve the templates.

If you have specified the URL to the server, a check mark indicates that a connection could be established.

If another server is used later, you can also press the button next to the Save button and edit the *Server URL*.

The hyperlink below the buttons allows you to jump to the admin.

Templating Configuration

If the current settings are to be saved as a template, a new template name can be entered in the input field with the name *Create Template* and confirmed by clicking the *Save current State* button. If the naming convention entered is correct, the template is saved on the server and a toast with the corresponding message is displayed in the lower part of the Additional Property Sheet. However, if the name entered does not meet the expected naming conventions, a toast with the permitted characters is displayed accordingly.

Templates stored on the server can be retrieved and applied via the Template List. Just select the desired template and press the *Apply* button. If you want to delete a template, select the template in the list and press the *Delete* button. If changes have been made to the templates on the server side, the list must be updated via the *Refresh List* button. Changes should then be visible.

Applied Rulesets

The dropdown menu displays all rulesets which are stored at the graphomate server. A ruleset is applied when the checkbox is activated.

Known Issues

At the moment there are no Known Issues

