

Dashboard Property Reference

5.2.0

August 2014

This document applies to Apama 5.2.0 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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About this documentation

Apama Dashboard Builder supports the design and deployment of dashboards that allow end users to visualize and interact with Apama scenarios and DataViews. Users of Dashboard Builder can incorporate a variety of visualization objects into their dashboards. This document provides reference information on those objects intended for the visualization of complex data: graphs, tables, and trend charts. Each visualization object is covered in a section that includes a complete listing of the object's properties.

This document assumes that you have already read *Introduction to Apama*, as well as *Building Dashboards in Developing Apama Applications*.

[Preface](#)

How This Book Is Organized

The information in this book is organized as follows:

- **"Introduction" on page 11** describes the scope of the document, and provides general information about working with the Dashboard Builder Object Properties panel.
- **"Graph Objects" on page 13** covers the visualization objects in the Graphs tab of the Dashboard Builder, including bar graphs, heat maps, legends, pie graphs, radar graphs, and XY graphs.
- **"Table Objects" on page 146** covers the visualization objects in the Tables tab of the Dashboard Builder, including standard tables and rotated tables.
- **"Trend Objects" on page 181** covers the visualization objects in the Trends tab of the Dashboard Builder, including sparkline charts, stock charts, and trend graphs.
- **"Drill-Down Specification" on page 258** covers the Drill Down Properties dialog, which sets the `drillDownTarget` property for all graph, table, and trend objects.

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Documentation roadmap

On Windows platforms, the specific set of documentation provided with Apama depends on whether you choose the Developer, Server, or User installation option. On UNIX platforms, only the Server option is available.

Apama provides documentation in three formats:

- HTML viewable in a Web browser
- PDF
- Eclipse Help (if you select the Apama Developer installation option)

On Windows, to access the documentation, select **Start > All Programs > Software AG > Apama 5.2 > Apama Documentation**. On UNIX, display the `index.html` file, which is in the `doc` directory of your Apama installation directory.

The following table describes the PDF documents that are available when you install the Apama Developer option. A subset of these documents is provided with the Server and User options.

Title	Contents
<i>What's New in Apama</i>	Describes new features and changes since the previous release.
<i>Installing Apama</i>	Instructions for installing the Developer, Server, or User Apama installation options.
<i>Introduction to Apama</i>	Introduction to developing Apama applications, discussions of Apama architecture and concepts, and pointers to sources of information outside the documentation set.
<i>Using Apama Studio</i>	Instructions for using Apama Studio to create and test Apama projects; write, profile, and debug EPL programs; write JMon programs; develop custom blocks; and store, retrieve and playback data.
<i>Developing Apama Applications in Event Modeler</i>	Instructions for using Apama Studio's Event Modeler editor to develop scenarios. Includes information about using standard functions, standard blocks, and blocks generated from scenarios.
<i>Developing Apama Applications in EPL</i>	Introduces Apama's Event Processing Language (EPL) and provides user guide type information for how to write EPL programs. EPL is the native interface to the correlator. This document also provides information for using the standard correlator plug-ins.
<i>Apama EPL Reference</i>	Reference information for EPL: lexical elements, syntax, types, variables, event definitions, expressions, statements.
<i>Developing Apama Applications in Java</i>	Introduces the Apama in-process API for Java, referred to as JMon, and provides user guide type information for how to write Java programs that run on the correlator. Reference information in Javadoc format is also available.

Title	Contents
<i>Building Dashboards</i>	Describes how to create dashboards, which are the end-user interfaces to running scenario instances and data view items.
<i>Dashboard Property Reference</i>	Reference information on the properties of the visualization objects that you can include in your dashboards.
<i>Dashboard Function Reference</i>	Reference information on dashboard functions, which allow you to operate on correlator data before you attach it to visualization objects.
<i>Developing Adapters</i>	Describes how to create adapters, which are components that translate events from non-Apama format to Apama format.
<i>Developing Clients</i>	Describes how to develop C, C++, Java, or .NET clients that can communicate with and interact with the correlator.
<i>Writing Correlator Plug-ins</i>	Describes how to develop formatted libraries of C, C++ or Java functions that can be called from EPL.
<i>Deploying and Managing Apama Applications</i>	<p>Describes how to:</p> <ul style="list-style-type: none"> • Use the Management & Monitoring console to configure, start, stop, and monitor the correlator and adapters across multiple hosts. • Deploy dashboards over wide area networks, including the internet, and provide dashboards with effective authorization and authentication. • Improve Apama application performance by using multiple correlators, and saving and reusing a snapshot of a correlator's state. • Use the Apama ADBC adapter to store and retrieve data in JDBC, ODBC, and Apama Sim databases. • Use the Apama Web Services Client adapter to invoke Web Services. • Use correlator-integrated messaging for JMS to reliably send and receive JMS messages in Apama applications. • Use Universal Messaging to connect correlators.
<i>Using the Dashboard Viewer</i>	Describes how to view and interact with dashboards that are receiving run-time data from the correlator.

Preface

Contacting customer support

You may open Apama Support Incidents online via the eService section of Empower at <http://empower.softwareag.com>. If you are new to Empower, send an email to empower@softwareag.com with your name, company, and company email address to request an account.

If you have any questions, you can find a local or toll-free number for your country in our Global Support Directory at https://empower.softwareag.com/public_directory.asp and give us a call.

Preface

Chapter 1: Introduction

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Users of Dashboard Builder can incorporate a variety of visualization objects into Apama dashboards, which allow end users to visualize and interact with Apama scenarios and DataViews. This document provides reference information on those objects intended for the visualization of complex data: graphs, tables, and trend charts. Each visualization object is covered in a section that includes a complete listing of the object's properties.

This document assumes that you have already read *Introduction to Apama*, as well as the *Building Dashboards in Developing Apama Applications*.

Objects for complex-data visualization

This document covers the visualization objects contained in the following tabs of the Dashboard Builder Object Palette:

- **Graphs:** Bar graphs, heat maps, legends, pie graphs, radar graphs, and XY graphs. See ["Graph Objects" on page 13](#)
- **Tables:** Standard tables and rotated tables. See ["Table Objects" on page 146](#)
- **Trends:** Sparkline charts, stock charts, and trend graphs. See ["Trend Objects" on page 181](#)

There is also an appendix on the **Drill Down Properties** dialog, which sets a drill-down-related property for all graph, table, and trend objects. See ["Drill-Down Specification" on page 258](#).

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About the Object Properties window

To open the **Object Properties** window, select **Edit | Object Properties...** or click the **Object Properties** button on the toolbar. In the **Object Properties** window, you can view and edit the property values of an object selected in the Builder canvas area.

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Editing property values

Property names listed in the first column of the **Object Properties** panel cannot be changed. Property values, listed in the second column, can be set to static values or attached to dynamic data.

Blue text signifies that a property value is static and cannot be attached to a dynamic data source.

Green text signifies that a property value is currently attached to a dynamic data source and therefore it is no longer possible to edit this value directly in the Object Properties panel. See Building Dashboards in Developing Apama Applications for information on attaching properties to data.

To remove a data attachment and restore the ability to edit property values directly in the Object Properties panel, right-click on the property name and select **Detach from Data** from the popup menu. An object property has been detached from the data source when the property name and value are no longer green.

Introduction

Copying and pasting property values

Copying and pasting makes it easy to transfer property values from one object to another.

There are two options for copying object properties:

- Copy all properties: To copy all object properties, both static properties and data attachments, select an object and click the copy button on the toolbar.
- Copy single property: To copy an individual property from the **Object Properties** window, right-click on the property name and select **Copy**. To copy a property from the **Edit Function** dialog, right-click in a text field and select **Copy**.

There are four options for pasting object properties:

- Paste data attachments: To paste only data attachments, select one or more objects and click on the paste data attachments button on the toolbar or use the keyboard shortcut **Ctrl+Shift+V**.

Note: Only properties common to both objects are pasted onto the selected object or objects.

- Paste static properties: To paste only the static properties, select one or more objects and click on the paste static properties button on the toolbar. Note: Only properties common to both objects are pasted onto the selected object or objects.
- Paste all properties: To paste all properties, select one or more objects and click on the paste all properties button on the toolbar. This pastes all static properties as well as all data attachments. Note: Only properties common to both objects are pasted onto the selected object or objects.
- Paste single property: To paste an individual property into the Object Properties window, right-click on the property name and select **Paste**. The **Paste** option is enabled only if the copied attribute can be set on the selected property (data attachments, for example, cannot be pasted onto static properties). To paste a property in the Edit Function dialog, right-click in a text field and select **Paste**.

Introduction

Chapter 2: Graph Objects

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■ Radar graph	90
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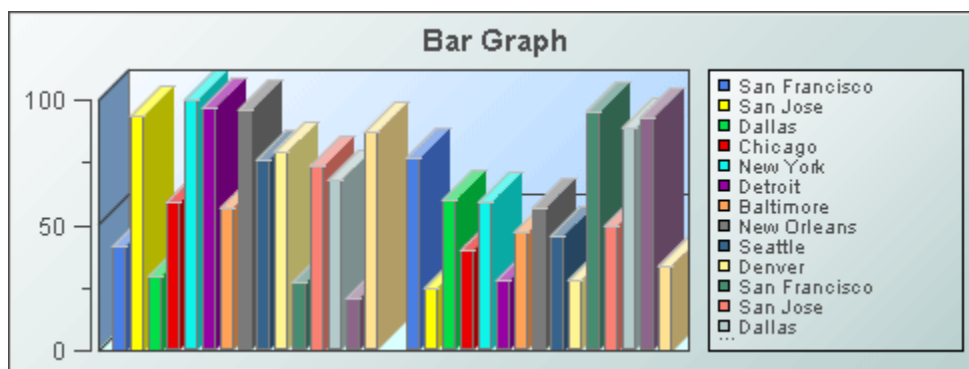
This chapter describes the visualization objects in the Graphs tab of the Dashboard Builder Object Palette:

Bar graphs

Bar graphs visualize tabular data that has one or more numerical columns. Typically, the visualized data also has one non-numerical column, whose values are used as graph labels that uniquely identify each row.

A bar graph can visualize data in either of two ways:

- Row series visualization: One group of bars is shown for each numeric column in the data attachment. Within each group, there is a bar for each row in the data attachment.
- Column series visualization: one group of bars is shown for each row in your data attachment. Within each group, there is a bar for each numeric column in the data attachment.



Use the "[valueTable](#)" on [page 28](#) property to attach data to a bar graph. Use the "[rowSeriesFlag](#)" on [page 27](#) property to specify row series or column series visualization.

You can attach additional data to a bar graph by using the "[traceValueTable](#)" on [page 27](#) property. Data attached to this property is visualized with plotted points, or *trace markers*, rather than bars.

A bar graph can visualize trace data in either of two ways:

- Row series visualization: One group of trace markers is shown for each numeric column in the data attachment. Within each group, there is a marker for each row in the data attachment.
- Column series visualization: one group of trace markers is shown for each row in your data attachment. Within each group, there is a marker for each numeric column in the data attachment

The points within a group are connected to one another by a polyline, or *trace line*.

The current section covers the following kinds of bar graphs:

- Bar graph
- 3-D Stacked bar graph
- Grouped bar graph with traces

These visualization objects all share the same properties. They differ from one another only with regard to their default values for these properties. When one of these objects is selected in the Builder canvas, the Object Class Name that appears at the top of the Object Properties pane is `obj_bargraph`.

The Object Properties panel organizes bar graph properties into the following groups:

- ["Bar graph: Alert group" on page 15](#)
- ["Bar graph: Background group" on page 21](#)
- ["Bar graph: Bar group" on page 23](#)
- ["Bar graph: Column group" on page 26](#)
- ["Bar graph: Data group" on page 26](#)
- ["Bar graph: Data Format group" on page 29](#)
- ["Bar graph: Data Label group" on page 30](#)
- ["Bar graph: Historian group" on page 32](#)
- ["Bar graph: Interaction group" on page 32](#)
- ["Bar graph: Label group" on page 35](#)
- ["Bar graph: Layout group" on page 36](#)
- ["Bar graph: Legend group" on page 39](#)
- ["Bar graph: Marker group" on page 40](#)
- ["Bar graph: Object group" on page 40](#)
- ["Bar graph: Plot Area group" on page 42](#)
- ["Bar graph: Trace group" on page 43](#)
- ["Bar graph: X-Axis group" on page 45](#)
- ["Bar graph: Y-Axis group" on page 45](#)

Graph Objects

Bar graph: Alert group

Properties in this group allow you to specify changes in the appearance of bars, trace lines, and trace markers in response to changes in the status of plotted data elements. You can either specify threshold values (see ["valueHighAlarm" on page 16](#), ["valueHighWarning" on page 17](#), ["valueLowAlarm" on page 18](#), and ["valueLowWarning" on page 20](#)) or attach a data table to ["traceValueAlarmStatusTable" on page 16](#) that indicates the status of each element of the table that is attached to ["traceValueTable" on page 27](#).

Alert group properties

This group includes the following properties:

- ["traceValueAlarmStatusTable" on page 16](#)
- ["valueHighAlarm" on page 16](#)
- ["valueHighAlarmColor" on page 16](#)
- ["valueHighAlarmEnabledFlag" on page 16](#)
- ["valueHighAlarmLineVisFlag" on page 17](#)
- ["valueHighAlarmMarkColor" on page 17](#)
- ["valueHighAlarmMarkStyle" on page 17](#)
- ["valueHighWarning" on page 17](#)
- ["valueHighWarningColor" on page 17](#)
- ["valueHighWarningEnabledFlag" on page 18](#)
- ["valueHighWarningLineVisFlag" on page 18](#)
- ["valueHighWarningMarkColor" on page 18](#)
- ["valueHighWarningMarkStyle" on page 18](#)
- ["valueLowAlarm" on page 18](#)
- ["valueLowAlarmColor" on page 19](#)
- ["valueLowAlarmEnabledFlag" on page 19](#)
- ["valueLowAlarmLineVisFlag" on page 19](#)
- ["valueLowAlarmMarkColor" on page 19](#)
- ["valueLowAlarmMarkStyle" on page 19](#)
- ["valueLowWarning" on page 20](#)
- ["valueLowWarningColor" on page 20](#)
- ["valueLowWarningEnabledFlag" on page 20](#)
- ["valueLowWarningLineVisFlag" on page 20](#)

- ["valueLowWarningMarkColor"](#) on page 20
- ["valueLowWarningMarkStyle"](#) on page 20

traceValueAlarmStatusTable

Attach an alarm table containing status indexes to this property in order to enable rule based alarm statuses for trace markers. The table attached to `traceValueAlarmStatusTable` must have the same number of rows and columns as ["traceValueTable"](#) on page 27. For each data element in ["traceValueTable"](#) on page 27, the status index at the corresponding position in `traceValueAlarmStatusTable` is used to set the alarm status of the marker that represents the data element.

Following are the valid indexes are:

- 0: Use normal marker color and style. See ["traceProperties"](#) on page 44.
- 1: Use low alarm marker color and style ["valueLowAlarmMarkColor"](#) on page 19 and ["valueLowAlarmMarkStyle"](#) on page 19.
- 2: Use low warning marker color and style. See ["valueLowWarningMarkColor"](#) on page 20 and ["valueLowWarningMarkStyle"](#) on page 20.
- 3: Use high warning marker color and style. See ["valueHighWarningMarkColor"](#) on page 18 and ["valueHighWarningMarkStyle"](#) on page 18.
- 4: Use high alarm marker color and style. See ["valueHighAlarmMarkColor"](#) on page 17 and ["valueHighAlarmMarkStyle"](#) on page 17.
- -1: Determine marker color and style by comparing the value to the enabled alarm thresholds

If no data is attached to `traceValueAlarmStatusTable`, the alarm status for a trace marker is determined by comparing the marker's value to the enabled thresholds. See ["valueHighAlarm"](#) on page 16, ["valueHighWarning"](#) on page 17, ["valueLowAlarm"](#) on page 18, and ["valueLowWarning"](#) on page 20.

This property is in the Alert property group.

valueHighAlarm

Specifies the threshold value used by ["valueHighAlarmLineVisFlag"](#) on page 17, ["valueHighAlarmMarkColor"](#) on page 17, ["valueHighAlarmMarkStyle"](#) on page 17, and ["valueHighAlarmColor"](#) on page 16.

This property is in the Alert property group.

valueHighAlarmColor

When the value of a bar or trace segment is greater than or equal to ["valueHighAlarm"](#) on page 16, its color changes to the `valueHighAlarmColor`, provided ["valueHighAlarmEnabledFlag"](#) on page 16 is selected.

This property is in the Alert property group.

valueHighAlarmEnabledFlag

Select to enable the high alarm threshold. See ["valueHighAlarm"](#) on page 16.

This property is in the Alert property group.

valueHighAlarmLineVisFlag

Select to display a dashed line at the high alarm threshold. The color of the line is set to "valueHighAlarmMarkColor" on page 17. This line is displayed only if "valueHighAlarmEnabledFlag" on page 16 is selected.

This property is in the Alert property group.

valueHighAlarmMarkColor

When a trace marker's value is greater than or equal to "valueHighAlarm" on page 16, the marker changes to valueHighAlarmMarkColor and "valueHighAlarmMarkStyle" on page 17, provided "valueHighAlarmEnabledFlag" on page 16 is selected and no data is attached to "traceValueAlarmStatusTable" on page 16.

If data is attached to "traceValueAlarmStatusTable" on page 16, a marker changes to valueHighAlarmMarkColor and "valueHighAlarmMarkStyle" on page 17 when the marker's corresponding element in the attached alarm status table is 4.

If data is attached to "traceValueAlarmStatusTable" on page 16, and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to "traceValueAlarmStatusTable" on page 16.

This property is in the Alert property group.

valueHighAlarmMarkStyle

When a trace marker's value is greater than or equal to "valueHighAlarm" on page 16, the marker changes to "valueHighAlarmMarkColor" on page 17 and valueHighAlarmMarkStyle, provided "valueHighAlarmEnabledFlag" on page 16 is selected and no data is attached to "traceValueAlarmStatusTable" on page 16.

If data is attached to "traceValueAlarmStatusTable" on page 16, a marker changes to "valueHighAlarmMarkColor" on page 17 and valueHighAlarmMarkStyle when the marker's corresponding element in the attached alarm status table is 4.

If data is attached to "traceValueAlarmStatusTable" on page 16, and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to "traceValueAlarmStatusTable" on page 16.

This property is in the Alert property group.

valueHighWarning

Specifies the threshold value used by "valueHighWarningLineVisFlag" on page 18, "valueHighWarningMarkColor" on page 18, "valueHighWarningMarkStyle" on page 18, and "valueHighWarningColor" on page 17.

This property is in the Alert property group.

valueHighWarningColor

When the value of a bar or trace segment is greater than or equal to "valueHighWarning" on page 17 but less than "valueHighAlarm" on page 16, its color changes to valueHighWarningColor, provided "valueHighWarningEnabledFlag" on page 18 is selected.

This property is in the Alert property group.

valueHighWarningEnabledFlag

Select to enable the high warning threshold. See ["valueHighWarning" on page 17](#).

This property is in the Alert property group.

valueHighWarningLineVisFlag

Select to display a dashed line at the high warning threshold. The color of the line is set to ["valueHighWarningMarkColor" on page 18](#). This line is displayed only if ["valueHighWarningEnabledFlag" on page 18](#) is selected.

This property is in the Alert property group.

valueHighWarningMarkColor

When a trace marker's value is greater than or equal to ["valueHighWarning" on page 17](#) but less than ["valueHighAlarm" on page 16](#), the marker changes to `valueHighWarningMarkColor` and ["valueHighWarningMarkStyle" on page 18](#), provided ["valueHighWarningEnabledFlag" on page 18](#) is selected and no data is attached to ["traceValueAlarmStatusTable" on page 16](#).

If data is attached to ["traceValueAlarmStatusTable" on page 16](#), a marker changes to `valueHighWarningMarkColor` and ["valueHighWarningMarkStyle" on page 18](#) when the marker's corresponding element in the attached alarm status table is 3.

If data is attached to ["traceValueAlarmStatusTable" on page 16](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as of no data were attached to ["traceValueAlarmStatusTable" on page 16](#).

This property is in the Alert property group.

valueHighWarningMarkStyle

When a trace marker's value is greater than or equal to ["valueHighWarning" on page 17](#) but less than ["valueHighAlarm" on page 16](#), the marker changes to ["valueHighWarningMarkColor" on page 18](#) and `valueHighWarningMarkStyle`, provided ["valueHighWarningEnabledFlag" on page 18](#) is selected and no data is attached to ["traceValueAlarmStatusTable" on page 16](#).

If data is attached to ["traceValueAlarmStatusTable" on page 16](#), a marker changes to ["valueHighWarningMarkColor" on page 18](#) and `valueHighWarningMarkStyle` when the marker's corresponding element in the attached alarm status table is 3.

If data is attached to ["traceValueAlarmStatusTable" on page 16](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as of no data were attached to ["traceValueAlarmStatusTable" on page 16](#).

This property is in the Alert property group.

valueLowAlarm

Specifies the threshold value used by ["valueLowAlarmLineVisFlag" on page 19](#), ["valueLowAlarmMarkColor" on page 19](#), ["valueLowAlarmMarkStyle" on page 19](#), and ["valueLowAlarmColor" on page 19](#).

This property is in the Alert property group.

valueLowAlarmColor

When the value of a bar or trace segment is less than or equal to ["valueLowAlarm" on page 18](#), its color changes to `valueLowAlarmColor`, provided ["valueLowAlarmEnabledFlag" on page 19](#) is selected.

This property is in the Alert property group.

valueLowAlarmEnabledFlag

Select to enable the low alarm threshold. See ["valueLowAlarm" on page 18](#).

This property is in the Alert property group.

valueLowAlarmLineVisFlag

Select to display a dashed line at the low alarm threshold. The color of the line is set to ["valueLowAlarmMarkColor" on page 19](#). This line is displayed only if ["valueLowAlarmEnabledFlag" on page 19](#) is selected.

This property is in the Alert property group.

valueLowAlarmMarkColor

When a trace marker's value is less than or equal to ["valueLowAlarm" on page 18](#), the marker changes to `valueLowAlarmMarkColor` and ["valueLowAlarmMarkStyle" on page 19](#), provided ["valueLowAlarmEnabledFlag" on page 19](#) is selected and no data is attached to ["traceValueAlarmStatusTable" on page 16](#).

If data is attached to ["traceValueAlarmStatusTable" on page 16](#), a marker changes to `valueLowAlarmMarkColor` and ["valueLowAlarmMarkStyle" on page 19](#) when the marker's corresponding element in the attached alarm status table is 1.

If data is attached to ["traceValueAlarmStatusTable" on page 16](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as of no data were attached to ["traceValueAlarmStatusTable" on page 16](#).

This property is in the Alert property group.

valueLowAlarmMarkStyle

When a trace marker's value is less than or equal to ["valueLowAlarm" on page 18](#), the marker changes to ["valueLowAlarmMarkColor" on page 19](#) and `valueLowAlarmMarkStyle`, provided ["valueLowAlarmEnabledFlag" on page 19](#) is selected and no data is attached to ["traceValueAlarmStatusTable" on page 16](#).

If data is attached to ["traceValueAlarmStatusTable" on page 16](#), a marker changes to ["valueLowAlarmMarkColor" on page 19](#) and `valueLowAlarmMarkStyle` when the marker's corresponding element in the attached alarm status table is 1.

If data is attached to ["traceValueAlarmStatusTable" on page 16](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as of no data were attached to ["traceValueAlarmStatusTable" on page 16](#).

This property is in the Alert property group.

valueLowWarning

Specifies the threshold value used by "valueLowWarningLineVisFlag" on page 20, "valueLowWarningMarkColor" on page 20, "valueLowWarningMarkStyle" on page 20, and "valueLowWarningColor" on page 20.

This property is in the Alert property group.

valueLowWarningColor

When the value of a bar or trace segment is less than or equal to "valueLowWarning" on page 20 but greater than "valueLowAlarm" on page 18, it changes to "valueLowWarningColor" on page 20, provided "valueLowWarningEnabledFlag" on page 20 is selected.

This property is in the Alert property group.

valueLowWarningEnabledFlag

Select to enable the low warning threshold. See "valueLowWarning" on page 20.

This property is in the Alert property group.

valueLowWarningLineVisFlag

Select to display a dashed line at the low warning threshold. The color of the line is set to "valueLowWarningMarkColor" on page 20. This line is displayed only if "valueLowWarningEnabledFlag" on page 20 is selected.

This property is in the Alert property group.

valueLowWarningMarkColor

When a trace marker's value is less than or equal to "valueLowWarning" on page 20 but greater than "valueLowAlarm" on page 18, the marker changes to valueLowWarningMarkColor and "valueLowWarningMarkStyle" on page 20, provided "valueLowWarningEnabledFlag" on page 20 is selected and no data is attached to "traceValueAlarmStatusTable" on page 16.

If data is attached to "traceValueAlarmStatusTable" on page 16, a marker changes to valueLowWarningMarkColor and "valueLowWarningMarkStyle" on page 20 when the marker's corresponding element in the attached alarm status table is 2.

If data is attached to "traceValueAlarmStatusTable" on page 16, and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to "traceValueAlarmStatusTable" on page 16.

This property is in the Alert property group.

valueLowWarningMarkStyle

When a trace marker's value is less than or equal to "valueLowWarning" on page 20 but greater than "valueLowAlarm" on page 18, the marker changes to "valueLowWarningMarkColor" on page 20 and valueLowWarningMarkStyle, provided "valueLowWarningEnabledFlag" on page 20 is selected and no data is attached to "traceValueAlarmStatusTable" on page 16.

If data is attached to "traceValueAlarmStatusTable" on page 16, a marker changes to "valueLowWarningMarkColor" on page 20 and valueLowWarningMarkStyle when the marker's corresponding element in the attached alarm status table is 2.

If data is attached to ["traceValueAlarmStatusTable" on page 16](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["traceValueAlarmStatusTable" on page 16](#).

This property is in the Alert property group.

Bar graphs

Bar graph: Background group

Properties in this group control the visibility and appearance of the portion of the graph that serves as the background of both the plot area and legend.

Background group properties

The group contains the following properties:

- ["bgBorderColor" on page 21](#)
- ["bgBorderFlag" on page 21](#)
- ["bgColor" on page 21](#)
- ["bgEdgeWidth" on page 22](#)
- ["bgGradientColor2" on page 22](#)
- ["bgGradientMode" on page 22](#)
- ["bgRaisedFlag" on page 22](#)
- ["bgRoundness" on page 22](#)
- ["bgShadowFlag" on page 23](#)
- ["bgStyleFlag" on page 23](#)
- ["bgVisFlag" on page 23](#)
- ["borderPixels" on page 23](#)

bgBorderColor

Sets the color of the border (see [bgBorderFlag](#)) of the background rectangle. Select the ... button and choose a color from the palette. Close the Color Chooser window when you are done.

bgBorderFlag

Select to display a border around the background rectangle.

This property is in the Background property group.

bgColor

Sets the background color. Select the ... button and choose a color from the palette. Close the Color Chooser window when you are done.

This property is in the Background property group.

bgEdgeWidth

Sets the width in pixels of the 3D edge on the background rectangle. This property is only used if `bgBorderFlag` is selected.

This property is in the Background property group.

bgGradientColor2

Sets the color for the second color in the gradient. The default is white. The `bgColor` property sets the first color in the gradient.

This property is in the Background property group.

bgGradientMode

Display a gradient in the background rectangle. Select from the following options:

- None: No gradient
- Diagonal Edge: Gradient is drawn at a 45 degree angle from the top left to the bottom right corner of the object.
- Diagonal Center: Gradient is drawn at a 45 degree angle from the center to the top left and the bottom right corners of the object.
- Horizontal Edge: Gradient is drawn horizontally from the top to the bottom of the object.
- Horizontal Center: Gradient is drawn horizontally from the center to the top and bottom of the object.
- Vertical Edge: Gradient is drawn vertically from the left to the right of the object.
- Vertical Center: Gradient is drawn vertically from the center to the left and right of the object.

This property is in the Background property group.

bgRaisedFlag

Reverses the direction of the gradient, as well as that of the 3D edge if the `bgStyle` selected is 3D Rectangle.

This property is in the Background property group.

bgRoundness

Sets the arc length of the rounded corners. This property is only available if the `bgStyle` selected is Round Rectangle.

The value of `bgRoundness` cannot exceed half the value of the `objWidth` or the `objHeight`. If `bgRoundness` does exceed that value, half of `objWidth` or `objHeight` (whichever is smaller) will be used instead. For example if `objWidth` is 100 and `objHeight` is 50, then the value of `bgRoundness` cannot exceed 25. If it does, then half the value of `objHeight` (25) will be used instead. This property is in the Background property group.

bgShadowFlag

Select to display a drop shadow on the background rectangle.

This property is in the Background property group.

bgStyleFlag

Choose one of the following three options from the drop down menu:

- **Rectangle:** Select to display a background rectangle.
- **3D Rectangle:** Select to display a 3D edge on the background rectangle. If selected, use `bgEdgeWidth` to set the width of the 3D edge.
- **Round Rectangle:** Select to display a background rectangle with rounded edges. If selected, use `bgRoundness` to set the arc length of the rounded corners.

This property is in the Background property group.

bgVisFlag

Select to display the background rectangle.

This property is in the Background property group.

borderPixels

Sets the width in pixels of the border between the chart and the edge of the background rectangle.

This property is in the Background property group.

[Bar graphs](#)

Bar graph: Bar group

Properties in this group control the appearance of the graph's bars, including gradient style, color, and fill style. The group also includes properties that control the visibility and appearance of the text used to display bar values, including font, color, size, and position. You can also specify an image to be displayed within each bar.

Bar group properties

This group contains the following properties:

- ["barGradientStyle" on page 24](#)
- ["barImage" on page 24](#)
- ["barProperties" on page 24](#)
- ["barValueTextColor" on page 25](#)
- ["barValueTextFont" on page 25](#)
- ["barValueTextHeight" on page 25](#)

- ["barValueTextPos" on page 26](#)
- ["barValueVisFlag" on page 26](#)

barGradientStyle

Select one of the following in order to set the gradient style of the bars:

- None: Default setting.
- Shaded: Display bars with a flat gradient
- Rounded: Display bars with a rounded gradient

This property is in the Bar property group.

barImage

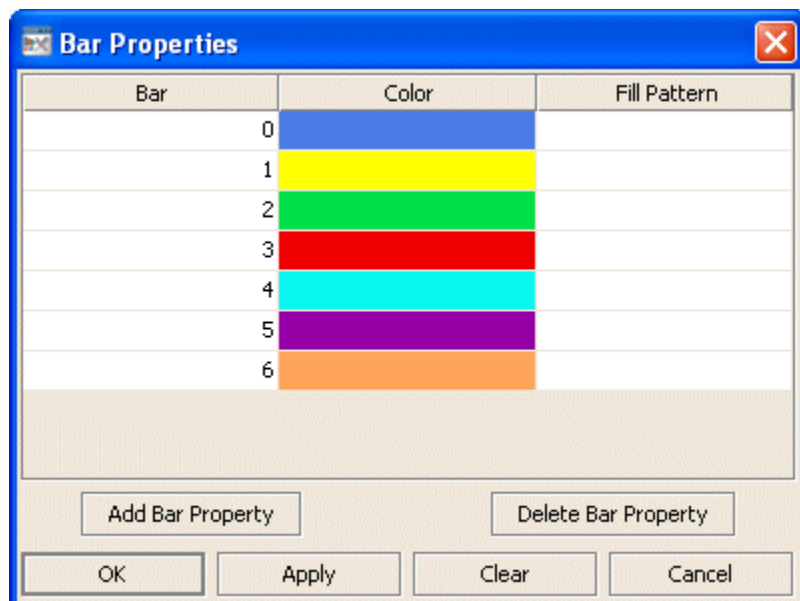
Specifies an image (.gif, .jpg, or .png file) to display in each bar. Select the name of the image file from the drop down menu, or enter the pathname of the file. The drop down menu contains the names of image files located in the current directory (typically, the `dashboards` directory of your project directory, under your Apama installation's work directory), as well as image files located in the first level of subdirectories. If you enter a pathname, use an absolute pathname or a pathname that is relative to the current directory.

Note: If necessary, the image will be stretched to fit the bar size.

This property is in the Bar property group.

barProperties

Specifies the color and fill pattern for each bar in the graph. In the Object Properties window, double-click on `barProperties` in the Property Name field to bring up the Bar Properties dialog. In the Bar Properties dialog you can assign attributes to each bar in a bar graph.



The dialog contains three columns of fields:

- **Bar:** There is one entry for each bar that is currently displaying data in the bar graph. The Color and Fill Pattern columns list the current settings for each bar.
- **Color:** Select the ellipsis button in the Color column and choose a color from the palette to set the color of the bar. Close the Color Chooser window.
- **Fill Pattern:** Select the ellipsis button in the Fill Pattern column and choose a pattern from the palette to set the fill pattern of the bar. Close the Fill Pattern window.

Note: The fill patterns in your bar graph are ignored unless the "[barGradientStyle](#)" on page 24 property is set to None.

The dialog contains the following buttons:

- **Add Bar Property:** Click to add a Bar Property entry. This does not add a bar to your graph, it adds a bar entry so that you can set properties for bars that will display data that is not yet available. This is useful if the data attachment is not available when you setup your bar graph, or if the number of rows or columns returned by your data attachment varies.
- **Delete Bar Property:** Removes the last bar property entry from the Bar Properties dialog.
- **OK:** Applies values and closes the dialog.
- **Apply:** Applies values without closing the dialog.
- **Reset:** Resets all fields to last values applied.
- **Clear:** Clears all fields. Detaches object from data source (once Apply or OK is selected).
- **Cancel:** Closes the dialog with last values applied.

This property is in the Bar property group.

barValueTextColor

Sets the color of the text used to display bar values. This property is visible in the Builder's Object Properties pane only if "[barValueVisFlag](#)" on page 26 is selected.

To set the color, select the ... button and choose a color from the palette. Close the Color Chooser window when you are done.

This property is in the Bar property group.

barValueTextFont

Sets the font of the text used to display bar values. This property is visible in the Builder's Object Properties pane only if "[barValueVisFlag](#)" on page 26 is selected. To set the font, select an item from the drop down list.

This property is in the Bar property group.

barValueTextHeight

Sets the point size of the text used to display bar values. This property is visible in the Builder's Object Properties pane only if "[barValueVisFlag](#)" on page 26 is selected. To set the point size, enter a number in the text field.

This property is in the Bar property group.

barValueTextPos

Sets the position, relative to the bar, of the text used to display bar values. This property is visible in the Builder's Object Properties pane only if ["barValueVisFlag" on page 26](#) is selected. To set the text position, choose an item from the drop down list. By default, digits after a decimal point are not displayed on the labels.

This property is in the Bar property group.

barValueVisFlag

Select to display a value for each bar. Selecting this property causes the following properties to appear in the Object Properties panel:

- ["barValueTextColor" on page 25](#)
- ["barValueTextFont" on page 25](#)
- ["barValueTextHeight" on page 25](#)
- ["barValueTextPos" on page 26](#)

This property is in the Bar property group.

[Bar graphs](#)

Bar graph: Column group

This group contains one property, ["columnsToHide" on page 26](#), which controls which data-attachment columns are used for plotted data or labels.

columnsToHide

Specifies columns from the data attachment to exclude from being used for plotted data or labels. Data from the ["labelColumnName" on page 31](#) column will be used for labels even if that column name is also specified in the `columnsToHide` property. Columns specified in the `columnsToHide` property can still be used in the `drillDownColumnSubs` property.

This property is in the Column property group.

[Bar graphs](#)

Bar graph: Data group

Properties in this group control what data appears in the graph, and whether the data appears in column series or row series form.

Data group properties

The group contains the following properties:

- ["rowSeriesFlag" on page 27](#)

- ["traceValueDivisor" on page 27](#)
- ["traceValueTable" on page 27](#)
- ["traceYAxisValueMax" on page 28](#)
- ["traceYAxisValueMin" on page 28](#)
- ["valueDivisor" on page 28](#)
- ["valueTable" on page 28](#)
- ["yValueMax" on page 29](#)
- ["yValueMin" on page 29](#)

rowSeriesFlag

This property controls how row and column data populate the graph:

- If the ["rowSeriesFlag" on page 27](#) checkbox is selected, one group of bars is shown for each numeric column in your data attachment. Within each group, there is a bar for each row in the data attachment.

If ["xAxisFlag" on page 45](#) is enabled, each group is labeled with the name of the corresponding numeric column.

By default, each bar within a group has a different color. If ["rowLabelVisFlag" on page 31](#) is selected, the legend indicates the mapping between each bar's color and the label-column value of the bar's corresponding row (see ["labelColumnName" on page 31](#)). If both ["rowLabelVisFlag" on page 31](#) and ["rowNameVisFlag" on page 31](#) are deselected, the legend indicates the mapping between each bar's color and an integer identifier for the bar's corresponding row.

- If the ["rowSeriesFlag" on page 27](#) checkbox is not selected, one group of bars is shown for each row in your data attachment. Within each group, there is a bar for each numeric column in the data attachment.

If both ["rowLabelVisFlag" on page 31](#) and ["xAxisFlag" on page 45](#) are enabled, each group is labeled with the label-column value for the group's corresponding row (see ["labelColumnName" on page 31](#)). If ["rowLabelVisFlag" on page 31](#) is disabled and ["xAxisFlag" on page 45](#) is enabled, each group is labeled with an integer identifier for the group's corresponding row.

By default, each bar within a group has a different color. The legend indicates the mapping between each bar's color and the name of the bar's corresponding numeric column.

This property is in the Data property group.

traceValueDivisor

Divides trace values by the number entered.

The default is 1.

This property is in the Data property group.

traceValueTable

Attach your data to the `traceValueTable` property to add one or more traces to your bar graph. Right-click on the property name in the Object Properties panel, and select a menu item under **Attach to Data**. The attached data table should have one or more numerical columns. Typically, the data

attachment has one non-numerical column, whose values uniquely identify each row (that is, no two rows of the table have the same value for the non-numerical column).

The property ["rowSeriesFlag" on page 27](#) controls how row and column data populate the graph:

- If the ["rowSeriesFlag" on page 27](#) checkbox is selected, one trace line is shown for each row your data attachment. Within each trace line, there is a mark for each numeric column in the data attachment. The height of a given mark in a given trace line is proportional to the value of the mark's corresponding numerical column for the trace line's corresponding row.

By default, each trace line has a different color. If ["rowLabelVisFlag" on page 31](#) is selected, the legend indicates the mapping between each line's color and the trace-label-column value of the bar's corresponding row (see ["traceLabelColumnName" on page 31](#)).

- If the ["rowSeriesFlag" on page 27](#) checkbox is not selected, one trace line is shown for each numeric column in your data attachment. Within each trace line, there is a mark for each row of the data attachment. The height of a given mark in a given trace line is proportional to the value of the trace line's corresponding numerical column for the mark's corresponding row.

By default, each trace line has a different color. The legend indicates the mapping between each trace line's color and the name of the trace line's corresponding numeric column.

This property is in the Data property group.

traceYAxisValueMax

When ["traceYAxisFlag" on page 46](#) is selected, the ["traceYAxisValueMin" on page 28](#) and `traceYAxisValueMax` properties are used to control the range of the trace y-axis if ["yAxisAutoScaleMode" on page 46](#) is set to Off or On-include Min/Max.

This property is in the Data property group.

traceYAxisValueMin

When ["traceYAxisFlag" on page 46](#) is selected, the `traceYAxisValueMin` and ["traceYAxisValueMax" on page 28](#) properties are used to control the range of the trace y-axis if ["yAxisAutoScaleMode" on page 46](#) is set to Off or On-include Min/Max.

This property is in the Data property group.

valueDivisor

Divides bar and y-axis values by the number entered.

The default is 1.

This property is in the Data property group.

valueTable

Attach your data to the `valueTable` property. Right-click on the property name in the Object Properties panel, and select a menu item under Attach to Data. The attached data table should have one or more numerical columns. Typically, the data attachment has one non-numerical column, whose values uniquely identify each row (that is, no two rows of the table have the same value for the non-numerical column).

The property ["rowSeriesFlag" on page 27](#) controls how row and column data populate the graph:

- If the ["rowSeriesFlag" on page 27](#) checkbox is selected, one group of bars is shown for each numeric column in your data attachment. Within each group, there is a bar for each row in the data attachment. The height of a given bar in a given group is proportional to the value of the group's corresponding numerical column for the bar's corresponding row.

If ["xAxisFlag" on page 45](#) is enabled, each group is labeled with the name of the corresponding numeric column.

By default, each bar within a group has a different color. If ["rowLabelVisFlag" on page 31](#) is selected, the legend indicates the mapping between each bar's color and the label-column value of the bar's corresponding row (see ["labelColumnName" on page 31](#)). If both ["rowLabelVisFlag" on page 31](#) and ["rowNameVisFlag" on page 31](#) are deselected, the legend indicates the mapping between each bar's color and an integer identifier for the bar's corresponding row.

- If the ["rowSeriesFlag" on page 27](#) checkbox is not selected, one group of bars is shown for each row in your data attachment. Within each group, there is a bar for each numeric column in the data attachment. The height of a given bar in a given group is proportional to the value of the bar's corresponding numerical column for the group's corresponding row.

If both ["rowLabelVisFlag" on page 31](#) and ["xAxisFlag" on page 45](#) are enabled, each group is labeled with the label-column value for the group's corresponding row (see ["labelColumnName" on page 31](#)). If ["rowLabelVisFlag" on page 31](#) is disabled and ["xAxisFlag" on page 45](#) is enabled, each group is labeled with an integer identifier for the group's corresponding row.

By default, each bar within a group has a different color. The legend indicates the mapping between each bar's color and the name of the bar's corresponding numeric column.

This property is in the Data property group.

yValueMax

The ["yValueMin" on page 29](#) and `yValueMax` properties control the range of the y-axis if the ["yAxisAutoScaleMode" on page 46](#) is set to Off. In addition, if ["yAxisAutoScaleMode" on page 46](#) is set to On - Include Min/Max, the dashboard calculates the smallest y-axis range that includes both ["yValueMin" on page 29](#) and `yValueMax` as well as all plotted points.

This property is in the Data property group.

yValueMin

The `yValueMin` and ["yValueMax" on page 29](#) properties control the range of the y-axis if the ["yAxisAutoScaleMode" on page 46](#) is set to Off. In addition, if ["yAxisAutoScaleMode" on page 46](#) is set to On - Include Min/Max, the dashboard calculates the smallest y-axis range that includes both `yValueMin` and ["yValueMax" on page 29](#) as well as all plotted points.

This property is in the Data property group.

Bar graphs

Bar graph: Data Format group

Properties on this group control the format of displayed bar values as well as numerical and date labels.

Data Format group properties

The group includes the following properties:

- ["labelColumnFormat" on page 30](#)
- ["traceYValueFormat" on page 30](#)
- ["yValueFormat" on page 30](#)

labelColumnFormat

Sets the format of numeric or date labels displayed on the x-axis, in the legend, and in tooltips.

Select or enter the format specification. Use syntax from the Java `DecimalFormat` class for numeric labels, and syntax from the Java `SimpleDateFormat` class for date labels.

To enable tooltips, select the ["mouseOverFlag" on page 35](#).

This property is in the Data Format property group.

traceYValueFormat

Sets the numeric format of bar values displayed in the legend and in tooltips.

Select or enter a format. Use syntax from the Java `DecimalFormat` class. To enable tooltips, select the ["mouseOverFlag" on page 35](#).

This property is in the Data Format property group.

yValueFormat

Sets the numeric format of bar values displayed on bars, in the legend and in tooltips

Select or enter a format. Use syntax from the Java `DecimalFormat` class. To enable tooltips, select the ["mouseOverFlag" on page 35](#).

This property is in the Data Format property group.

[Bar graphs](#)

Bar graph: Data Label group

Properties in this group control the labels that are used along the x-axis or in the legend.

Data Label group properties

The group contains the following properties:

- ["columnDisplayNames" on page 31](#)
- ["labelColumnName" on page 31](#)
- ["rowLabelVisFlag" on page 31](#)
- ["rowNameVisFlag" on page 31](#)
- ["traceLabelColumnName" on page 31](#)

columnDisplayNames

Sets alternate display names for the columns of the data attached to ["valueTable" on page 28](#). Column names are displayed either along the x-axis or in the legend, depending on whether or not the ["rowSeriesFlag" on page 27](#) is selected.

This property is in the Data Label property group.

labelColumnName

Sets the label column. By default, the label column is the first non-numeric text column in your data attachment, if there is one. Data from the label column is used to label either the x-axis or the legend, depending on whether ["rowSeriesFlag" on page 27](#) is enabled.

If both ["rowSeriesFlag" on page 27](#) and ["rowLabelVisFlag" on page 31](#) are enabled, data from the label column will be used in the legend.

If ["rowSeriesFlag" on page 27](#) is not enabled and both ["rowLabelVisFlag" on page 31](#) and ["xAxisFlag" on page 45](#) are enabled, data from the label column will appear on the x-axis.

This property is in the Data Label property group.

rowLabelVisFlag

Determines whether or not data from the label column is used in chart labels. (By default, the label column is the first non-numeric column in your data attachment. You can override this default with ["labelColumnName" on page 31](#).)

If both ["rowSeriesFlag" on page 27](#) and ["rowLabelVisFlag" on page 31](#) are enabled, data from the label column is used in the legend. If ["rowSeriesFlag" on page 27](#) is enabled and both ["rowLabelVisFlag" on page 31](#) and ["rowNameVisFlag" on page 31](#) are disabled, integer row identifiers are used in the legend.

If ["rowSeriesFlag" on page 27](#) is not enabled and both ["rowLabelVisFlag" on page 31](#) and ["xAxisFlag" on page 45](#) are enabled, data from the label column will appear on the x-axis. If ["rowSeriesFlag" on page 27](#), ["rowLabelVisFlag" on page 31](#), and ["rowNameVisFlag" on page 31](#) are disabled, and ["xAxisFlag" on page 45](#) is enabled, integer row identifiers are used on the x-axis.

This property is in the Data Label property group.

rowNameVisFlag

Determines whether generated row names are used in chart labels. Enable this property if your data attachment has no label column (see ["labelColumnName" on page 31](#)). Note that if both ["rowNameVisFlag" on page 31](#) and ["rowLabelVisFlag" on page 31](#) are enabled, row names and label-column values can appear side-by-side in chart labels.

This property is in the Data Label property group.

traceLabelColumnName

Sets the trace label column. By default, the trace label column is the first non-numeric text column in your data attachment. Data from the label column is used in the legend, if ["rowSeriesFlag" on page 27](#) is enabled.

If both ["rowSeriesFlag" on page 27](#) and ["rowLabelVisFlag" on page 31](#) are enabled, data from the label column will be used in the legend.

This property is in the Data Label property group.

[Bar graphs](#)

Bar graph: Historian group

Do not use the properties in this group.

historyTableName

Do not use this property.

This property is in the Historian property group.

historyTableRowNameFlag

Do not use this property.

This property is in the Historian property group.

[Bar graphs](#)

Bar graph: Interaction group

Properties in this group control various forms of interaction between the end user and the graph, including scrolling, highlighting, and activating commands, drill downs, and tooltips.

Interaction group properties

The group includes the following properties:

- ["command" on page 33](#)
- ["commandCloseWindowOnSuccess" on page 33](#)
- ["commandConfirm" on page 33](#)
- ["commandConfirmText" on page 34](#)
- ["drillDownColumnSubs" on page 34](#)
- ["drillDownSelectMode" on page 34](#)
- ["drillDownTarget" on page 34](#)
- ["mouseOverFlag" on page 35](#)
- ["mouseOverHighlightFlag" on page 35](#)
- ["scrollbarMode" on page 35](#)
- ["scrollbarSize" on page 35](#)

command

Assign a command or group of commands to this stock chart by right-clicking on the `command` property name in the Object Properties window. Select Define Command and choose SYSTEM, APAMA, or MULTIPLE. For information on the Define Command dialog, see Building Dashboards in *Developing Apama Applications*.

Once a command or command group has been assigned to this object, you can activate it from a deployed dashboard or from the Dashboard Builder:

- Dashboard Builder: Double click on the object.
- Web-based deployment: Single click on the object or else right click on it and select Execute Command from the popup menu.
- Local deployment: By default, single-click on the object or else right-click on it and select Execute Command from the popup menu. To override the default, select Tools > Options in the Builder (do this before you generate the deployment package), and uncheck Single-Click for Drill Down and Commands in the General tab. This allows the end user to use either a double click or a right click.

When you activate a command, any defined drill down substitutions are performed, and then the command is executed.

If you assign multiple commands, the commands are launched in an arbitrary order, and are executed asynchronously; there is no guarantee that one command will finish before the next one in the sequence starts.

This property is in the Interaction property group.

commandCloseWindowOnSuccess

Select this property to automatically close the window that initiates a SYSTEM command when the command is executed successfully. This applies to SYSTEM commands only, and is not supported at all for thin-client, Web-page deployments.

With APAMA commands, the window is closed whether or not the command is executed successfully. For MULTIPLE commands, the window closes when the first command in the command group succeeds.

This property is in the Interaction property group.

commandConfirm

By default, when the end user executes a command (see the `command` property), the command confirmation dialog is disabled. To control this option for each individual object, use the `commandConfirm` check box. If confirmation is required for a MULTIPLE command group, a single confirmation dialog is presented; if you confirm the execution, all individual commands in the group are executed with no further confirmation. If the you cancel the execution, none of the commands in the group is executed.

You can also override the confirmation status of individual objects with an application-wide policy. Select Tools | Options and choose from three confirmation values:

- Do not confirm: Indicates that no commands require confirmation (regardless of each object's confirmation status).

- **Confirm all:** Indicates that all commands require confirmation (regardless of each object's confirmation status).
- **Use object confirm flag (default):** Indicates that the confirmation status of each object will determine whether confirmation is required.

This property is in the Interaction property group.

commandConfirmText

Use this property to write your own text for the confirmation dialog. Otherwise, default text is used.

See `commandConfirm`.

This property is in the Interaction property group.

drillDownColumnSubs

Use this property to direct a dashboard to assign data-table column values to specified dashboard variables when the end user activates a drilldown on this object. In the **Object Properties** window, double-click on `drillDownColumnSubs` in the Property Name field to bring up the **Drill Down Column Substitutions** dialog.

The dialog has the following fields and buttons:

- **Substitution String:** Enter the dashboard variable next to the name of the data table column whose value you want assigned to the variable. Press **Enter**.
- **Add Column:** Enter the name of a column and click the Add Column button to insert a column into the table.
- **Clear:** Click the Clear button to remove all variables listed.

The Column Name list is populated based on the table's data attachment. If you have not yet attached the table to data, this list is empty.

Once you have selected which column values to pass in as substitutions, double-click on any element in your object to open a drill down window that displays corresponding values.

This property is in the Interaction property group.

drillDownSelectMode

Use this property to control how a drill down display is activated. Select one of the following:

- **Anywhere** to activate a drill down display by double-clicking anywhere on the chart.
- **Element Only** to enable a drill down display only when you double-click on an element of the chart, such as a bar or candlestick.

This property is in the Interaction property group.

drillDownTarget

To specify a drill down display, double click on `drillDownTarget` in the Property Name field to bring up the **Drill Down Properties** dialog. See ["Drill-Down Specification" on page 258](#).

This property is in the Interaction property group.

mouseoverFlag

Select this property to enable tooltips for your bar graph. To display a tooltip, point to a bar or trace marker with your mouse. The tooltip will contain information from your data attachment about that bar or marker.

This property is in the Interaction property group.

mouseoverHighlightFlag

Select this property to enable bar highlighting. To highlight a bar in red, point to the bar.

This property is in the Interaction property group.

scrollbarMode

Select one of the following to set the behavior of the x-axis scroll bar in the graph:

- **Never:** Default setting. Some bars may get clipped.
- **As Needed:** Display the scroll bar when there is not enough space to display all of the bars in the plot area. Each bar uses at least `minSpacePerBar` pixels along the x-axis.
- **Always:** Display a scroll bar at all times.

Note: If "[drawHorizontalFlag](#)" on [page 37](#) is selected, the x-axis is vertical.

This property is in the Interaction property group.

scrollbarSize

Specify the height of the horizontal scroll bar and the width of the vertical scroll bar, in pixels.

The default value is -1, which sets the size to the system default

This property is in the Interaction property group.

[Bar graphs](#)

Bar graph: Label group

Properties in this group control the graph's main label (which defaults to Bar Graph), including text, alignment, color, font, and size.

Label group properties

The group includes the following properties:

- "[label](#)" on [page 36](#)
- "[labelTextAlignX](#)" on [page 36](#)
- "[labelTextColor](#)" on [page 36](#)
- "[labelTextFont](#)" on [page 36](#)

- ["labelTextHeight" on page 36](#)

label

Specifies the text for the chart label. Click the ellipsis for multi-line text.

The default is Bar Graph.

This property is in the Label property group.

labelTextAlignX

Sets the alignment of the chart label (see the ["label" on page 36](#) property). Select Left, Center, or Right from the drop down list.

This property is in the Label property group.

labelTextColor

Specifies the color of the chart label text (see the ["label" on page 36](#) property). Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Label property group.

labelTextFont

Specifies the font of the chart label text (see the ["label" on page 36](#) property). Select an item from drop down list.

This property is in the Label property group.

labelTextHeight

Specifies the point size of the chart label text (see the ["label" on page 36](#) property).

This property is in the Label property group.

[Bar graphs](#)

Bar graph: Layout group

Properties in this group control the layout of bars and axis labels, including alignment and spacing of bars, as well as spacing and rotation of axis labels. You can also specify 3D bars, as well as a horizontal, stacked, or waterfall arrangement for the bars.

Layout group properties

This group contains the following properties:

- ["barCenterFlag" on page 37](#)
- ["barFitFlag" on page 37](#)
- ["draw3dDepth" on page 37](#)
- ["draw3dFlag" on page 37](#)

- ["drawHorizontalFlag" on page 37](#)
- ["drawStackedFlag" on page 37](#)
- ["drawWaterfallFlag" on page 37](#)
- ["horizAxisLabelRotationAngle" on page 38](#)
- ["horizAxisMinLabelHeight" on page 38](#)
- ["minSpaceBetweenBars" on page 38](#)
- ["minSpaceBetweenGroups" on page 38](#)
- ["minSpacePerBar" on page 38](#)

barCenterFlag

Select to center the bars in the plot area. If not selected, the bars will be left or top aligned, depending on ["drawHorizontalFlag" on page 37](#). This property is only used if the ["barFitFlag" on page 37](#) is not selected.

This property is in the Layout property group.

barFitFlag

Select to stretch the bars to fit the available space in the plot area. If deselected, the ["minSpacePerBar" on page 38](#) property is used to determine the bar width.

This property is in the Layout property group.

draw3dDepth

Sets the depth in pixels of the bars, provided ["draw3dFlag" on page 37](#) is enabled.

This property is in the Layout property group.

draw3dFlag

Select to change the display of the bars from 2D to 3D.

This property is in the Layout property group.

drawHorizontalFlag

Select to have the bars in your graph displayed horizontally.

This property is in the Layout property group.

drawStackedFlag

Select to stack each bar group in your graph.

This property is in the Layout property group.

drawWaterfallFlag

Select to stack each bar group in your graph with an offset between bar sections.

This property is in the Layout property group.

horizAxisLabelRotationAngle

Sets the amount of rotation of labels on the horizontal axis. Values range from 0 to 90 degrees. A value of 0 causes the bar graph to automatically pick the optimum angle of rotation (this is the default).

This property is in the Layout property group.

horizAxisMinLabelHeight

Sets the minimum amount of space to reserve for labels on the horizontal axis. If axis labels vary over time, this property can be used to reserve a consistent amount of space to prevent overlapping.

This property is in the Layout property group.

minSpaceBetweenBars

Set the minimum space between bars, in pixels.

This property is in the Layout property group.

minSpaceBetweenGroups

Set the minimum space between bar groups, in pixels.

This property is in the Layout property group.

minSpacePerBar

Sets the minimum width for each bar, in pixels, provided "[drawHorizontalFlag](#)" on page 37 is disabled.

The default value is 1.

This property is in the Layout property group.

vertAxisMinLabelWidth

Specifies the minimum width in pixels for the vertical axis labels.

This property is in the Layout property group.

waterfallBarConnectFlag

If "[drawWaterfallFlag](#)" on page 37 is checked, select to connect the bar sections in each bar group.

This property is in the Layout property group.

waterfallTotalBarColor

Specifies the color for the bar that shows the sum of the bar sections in each bar group. See "[waterfallTotalFlag](#)" on page 39.

This property is in the Layout property group.

waterfallTotalBarFStyle

Do not use this property.

This property is in the Layout property group.

waterfallTotalBarLabel

Specifies the label for the bar that shows the sum of the bar sections in each bar group. See ["waterfallTotalFlag" on page 39](#).

This property is in the Layout property group.

waterfallTotalFlag

If ["drawWaterfallFlag" on page 37](#) is checked, select to display a bar that shows the sum of the bar sections in each bar group.

This property is in the Layout property group.

[Bar graphs](#)

Bar graph: Legend group

Properties in this group control the visibility, appearance, and content of the graph legend.

Legend group properties

The group contains the following properties:

- ["legendBgColor" on page 39](#)
- ["legendBgGradientFlag" on page 39](#)
- ["legendValueVisFlag" on page 39](#)
- ["legendVisFlag" on page 40](#)
- ["legendWidthPercent" on page 40](#)

legendBgColor

Specifies the background color of the legend. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Legend property group.

legendBgGradientFlag

Select to display a gradient in the legend background.

This property is in the Legend property group.

legendValueVisFlag

Select to display the numerical values of your data in the legend.

This property is in the Legend property group.

legendVisFlag

Select to display the legend.

This property is in the Legend property group.

legendWidthPercent

Set the percent of the total width of the object used for the legend.

This property is in the Legend property group.

[Bar graphs](#)

Bar graph: Marker group

Properties in this group control the appearance of trace markers (but see also the "[Bar graph: Trace group](#)" on page 43 property group).

Marker group properties

The group contains the following properties:

- "[markDefaultSize](#)" on page 40
- "[markScaleMode](#)" on page 40

markDefaultSize

Sets the size of the markers (see "[traceProperties](#)" on page 44) in pixels. Supply an integer value that is between 1 and 18, inclusive.

This property is in the Marker property group.

markScaleMode

Sets the scale mode for trace marks. Select one of the following from the drop down menu:

- No Scale: All marks, across and within traces, are the same size.
- Scale by Trace: Scale marks according to the trace in which they reside, that is, marks in the first trace are the largest, across all traces, and the marks in the last trace are the smallest.
- Scale Within Trace: Scale marks according to the relative order of the data within each trace.

This property is in the Marker property group.

[Bar graphs](#)

Bar graph: Object group

Properties in this group control the visibility and transparency of the graph as a whole. They also control (or reflect) the overall position and dimensions of the graph. In addition, a property in this group reflects the generated name of this individual graph.

Object group properties

This group contains the following properties:

- ["anchor" on page 41](#)
- ["dock" on page 41](#)
- ["objHeight" on page 41](#)
- ["objName" on page 41](#)
- ["objWidth" on page 42](#)
- ["objX" on page 42](#)
- ["objY" on page 42](#)
- ["transparencyPercent" on page 42](#)
- ["visFlag" on page 42](#)

anchor

Select zero or more of Top, Left, Bottom, and Right in order to control the object's placement. The `anchor` property is only applied when the display is resized either by changing the Background Properties on the display or by resizing the window in Layout mode. If an object has the `dock` property set, the `anchor` property is ignored. See About resize modes in *Building Dashboards* for detailed information.

dock

Select None (default), Top, Left, Bottom, Right, or Fill in order to control the object's placement in Layout resize mode. See About resize modes in *Building Dashboards* for detailed information.

objHeight

Set the height of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time height of the chart.

This property is in the Object property group.

objName

An identifier that is generated by the Dashboard Builder. This name can be used by other objects' properties in order to refer to the named chart, as with, for example, the ["graphName" on page 69](#) property of the ["Legend" on page 66](#) visualization object.

This property is in the Object property group.

objWidth

Set the width of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time width of the chart.

This property is in the Object property group.

objX

Sets the X coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

objY

Sets the Y coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

transparencyPercent

Sets the transparency of this chart.

This property is in the Object property group.'

visFlag

Deselect to make this visualization object invisible in the current dashboard.

This property is in the Object property group.

Bar graphs

Bar graph: Plot Area group

Properties in this group control the appearance of the plot area, the rectangular area that serves as background for the bars (but not for the legend or axis labels—see "[Bar graph: Background group](#)" on page 21).

Plot Area group properties

The group includes the following properties:

- "[gridBgColor](#)" on page 43
- "[gridBgGradientFlag](#)" on page 43
- "[gridBgImage](#)" on page 43
- "[gridColor](#)" on page 43
- "[traceFillStyle](#)" on page 43

gridBgColor

Sets the color of the plot area. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Plot Area property group.

gridBgGradientFlag

Select to display a gradient in the grid background. Set the color of the grid background with the ["labelTextAlignX" on page 36](#) property.

This property is in the Plot Area property group.

gridBgImage

Specify an image (.gif, .jpg, or .png file) to display in the plot area. Select the name of the image file from the drop down menu, or enter the pathname of the file. The drop down menu contains the names of image files located in the current directory (typically, the `dashboards` directory of your project directory, under your Apama installation's work directory), as well as image files located in the first level of subdirectories. If you enter a pathname, use an absolute pathname or a pathname that is relative to the current directory.

This property is in the Plot Area property group.

gridColor

Sets the color of the horizontal line or lines in the plot area that mark y-axis major divisions. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Plot Area property group.

Bar graphs

Bar graph: Trace group

Properties in this group control the appearance of trace lines and trace markers (but see also the ["Bar graph: Marker group" on page 40](#) property group), including color, style, and line width.

Trace group properties

This group includes the following properties:

- ["traceFillStyle" on page 43](#)
- ["traceProperties" on page 44](#)
- ["traceShadowFlag" on page 45](#)

traceFillStyle

Set `traceFillStyle` to one of the following fill styles for the area under the trace:

- Solid

- Transparent
- Gradient
- Transparent Gradient
- None

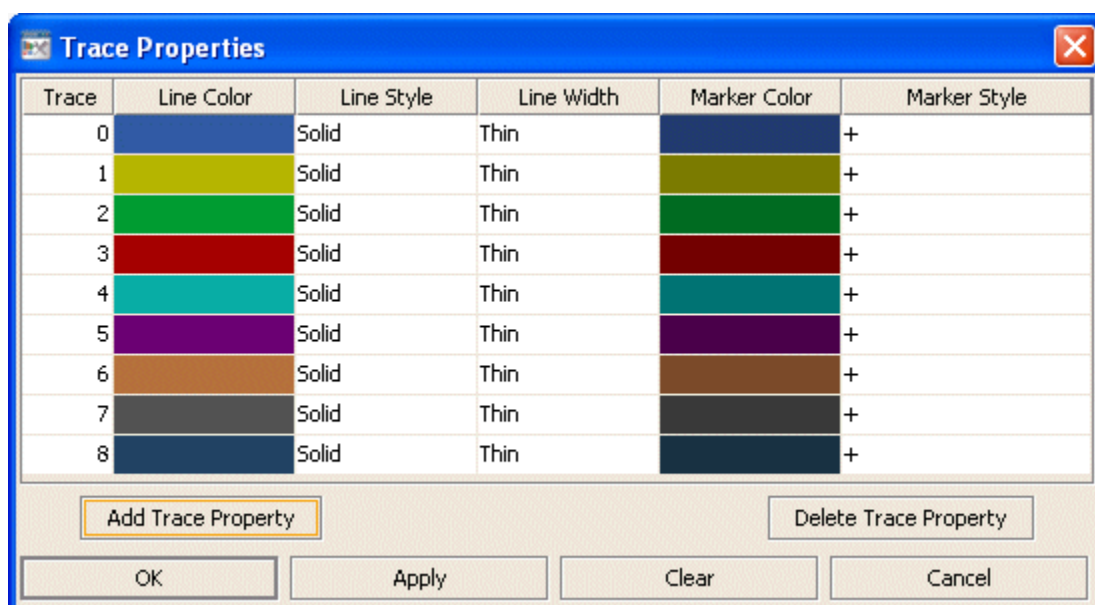
None is the default.

This property is in the Trace property group.

traceProperties

Specify the line color, line style, line width, marker color and marker style of all traces.

In the **Object Properties** window, double-click on `traceProperties` in the Property Name field to bring up the **Trace Properties** dialog. In the **Trace Properties** dialog you can assign attributes to each plotting trace in your graph.



The dialog has six columns of fields:

- **Trace:** One field for each trace that is currently in the graph. Current settings for each trace are shown.
- **Line Color:** Select the ellipsis button in the Color column and choose a color from the palette. Close the **Color Chooser** window.
- **Line Style:** Select the ellipsis button in the Line Style column and choose a style from the drop down menu. Choose either No Line, Solid, Dotted, Dashed, or Dot Dashed.
- **Line Width:** Select the ellipsis button in the Line Width column and choose a size from the drop down menu. Choose either Thin, Medium or Thick.
- **Marker Color:** Select the ellipsis button in the Marker Color column and choose a color from the palette. Close the Color Chooser window.

- **Marker Style:** Select the ellipsis button in the Marker Style column and choose a style from the drop down menu. Choose either No Marker, Dot, +, *, o, x, Filled Circle, Filled Diamond, Filled Triangle, Filled Square, or Filled Star.

The dialog contains the following buttons:

- **Add Trace Property:** Click to add a trace property field. The data for the trace does not have to be available yet. You may consider adding and assigning attributes to more traces than your data currently needs for when you have more data to show. It is not necessary to set properties for each trace you currently or subsequently have. This is optional and can be done after additional data is displayed in a subsequent new trace.
- **Delete Trace Property:** Removes the last trace property field from the Trace Properties dialog.
- **OK:** Applies values and closes the dialog.
- **Apply:** Applies values without closing the dialog.
- **Reset:** Resets all fields to last values applied.
- **Clear:** Clears all fields. Detaches object from data source (once Apply or OK is selected).
- **Cancel:** Closes the dialog with last values applied.

This property is in the Trace property group.

traceShadowFlag

Select to enable trace shadows.

This property is in the Trace property group.

[Bar graphs](#)

Bar graph: X-Axis group

This property group includes a property, "[xAxisFlag](#)" on page 45, that controls the visibility of x-axis labels.

xAxisFlag

Select to display x-axis labels.

This property is in the X-Axis property group.

[Bar graphs](#)

Bar graph: Y-Axis group

Properties in this group control the visibility and range of the y-axis or y-axes, as well as y-axis label formats and y-axis divisions. They also control the visibility of y-axis grid lines (but see also the "[Bar graph: Plot Area group](#)" on page 42 property group).

Y-Axis group properties

The group includes the following properties:

- ["traceYAxisFlag" on page 46](#)
- ["traceYAxisFormat" on page 46](#)
- ["traceYAxisMajorDivisions" on page 46](#)
- ["traceYAxisMinorDivisions" on page 46](#)
- ["yAxisAutoScaleMode" on page 46](#)
- ["yAxisFlag" on page 47](#)
- ["yAxisFormat" on page 47](#)
- ["yAxisGridMode" on page 47](#)
- ["yAxisMajorDivisions" on page 47](#)
- ["yAxisMinorDivisions" on page 47](#)

traceYAxisFlag

Select this property to plot the traces against a y-axis that is separate from the bars. The `traceYAxisFlag` property is unavailable if the ["drawHorizontalFlag" on page 37](#) property is selected. The trace y-axis will be drawn to the right of the plot area.

This property is in the Y-Axis property group.

traceYAxisFormat

Select or enter the numeric format of trace values displayed on the y-axis. Use syntax from the Java `DecimalFormat` class.

This property is in the Y-Axis property group.

traceYAxisMajorDivisions

Specify the number of major divisions on the trace y-axis. This option only applies if the ["traceYAxisFlag" on page 46](#) is on.

This property is in the Y-Axis property group.

traceYAxisMinorDivisions

Specify the number of minor divisions on the trace y-axis. This option only applies if the ["traceYAxisFlag" on page 46](#) is on.

This property is in the Y-Axis property group.

yAxisAutoScaleMode

Select one of the following modes to control the y-axis range:

- Off: The ["yValueMin" on page 29](#) and ["yValueMax" on page 29](#) properties determine the range of the y-axis. This is the default.

- On: The dashboard calculates the y-axis range according to data values being plotted.
- On - Include Min/Max: The dashboard calculates the smallest range (with rounding) that includes "yValueMin" on page 29 and "yValueMax" on page 29 as well as all plotted points.

This property is in the Y-Axis property group.

yAxisFlag

Select to display the y-axis.

This property is in the Y-Axis property group.

yAxisFormat

Sets the numeric format of values displayed on the y-axis. Select or enter a format. Use syntax from the Java `DecimalFormat` class.

This property is in the Y-Axis property group.

yAxisGridMode

Controls the alignment of grid lines drawn to the left and right of the bar graph. Select one of the following:

Bar Axis: Align grid lines with the left y-axis. This is the default

Trace Axis: Align with the right y-axis.

Bar and Trace Axis: Draw two sets of grid lines, one aligned with the left y-axis and the other with the right y-axis.

This property is in the Y-Axis property group.

yAxisMajorDivisions

Specify the number of major divisions on the y-axis.

This property is in the Y-Axis property group.

yAxisMinorDivisions

Specify the number of minor divisions on the y-axis.

This property is in the Y-Axis property group.

Bar graphs

Heat map

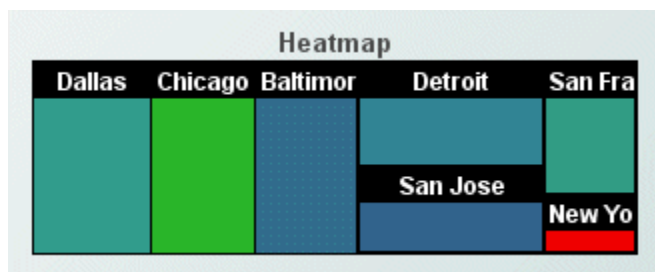
Heat maps visualize data by displaying rectangles of various sizes and colors. Complex heat maps display a hierarchy of rectangles, where a rectangle's level in the hierarchy is represented by its level of geometric nesting within other rectangles.

Heat maps visualize tabular data that contains one or more *index* columns as well as one or more numerical columns.

You specify the data to be visualized with the `valueTable` property.

You designate the index columns by specifying a column name or list of column names as the value of the property `nodeIndexColumnNames`.

If there are two or more non-index numerical columns, the first is the *size-data* column and the second is the *color-data* column. If there is only one non-index numerical column, it serves as both the size-data column and the color-data column.



Graph Objects

Heat maps with one index column

A heat map with a single index column contains one rectangle for each unique value in the index column.

For a given index value, the area of the corresponding rectangle is proportional to the result of aggregating the values in the size-data column in those rows whose index column contains the index value. You specify the type of aggregation to use (`sum`, `count`, `average`, `min`, or `max`) with the `sizeValueGroupType` property.

In addition, for a given index value, the color of the corresponding rectangle is determined by the result of aggregating the values in the color-data column in those rows whose index column contains the index value (see ["Mapping from possible aggregation results to colors" on page 49](#)). You specify the type of aggregation to use (`sum`, `count`, `average`, `min`, or `max`) with the `colorValueGroupType` property.

Important: Negative aggregated values are treated as 0.

Heat map

Heat maps with multiple index columns

Heat maps with multiple index columns display a rectangle hierarchy. The number of levels of the hierarchy is the number of columns from the visualized data table that are specified as index columns.

In such a heat map, there is a rectangle at level n for each unique sequence of values from the first n index columns, for every level between 1 and the number of index columns, inclusive.

For a given such sequence of n index values, the area of the corresponding rectangle is proportional to the result of aggregating the values in the size-data column in those rows whose first n index

columns contain the values in the sequence. You specify the type of aggregation to use (`sum`, `count`, `average`, `min`, or `max`) with the `sizeValueGroupType` property.

In addition, for a given such sequence of n index values, the color of the corresponding rectangle is determined by the result of aggregating the values in the color-data column in those rows whose first n index columns contain the values in the sequence. You specify the type of aggregation to use (`sum`, `count`, `average`, `min`, or `max`) with the `colorValueGroupType` property.

Important: Negative aggregated values are treated as **0**.

Heat map

Mapping from possible aggregation results to colors

The possible color-data aggregation results are mapped to colors as follows:

- If `colorValueAutoScaleMode` is `Off`
 - The possible aggregation result value specified in `colorValueMin` is mapped to the color specified by `minColor`.
 - The possible aggregation result value specified in `colorValueMax` is mapped to the color specified by `maxColor`.
- If `colorValueAutoScaleMode` is `On`
 - The smallest actual aggregation result for the current display is mapped to the color specified by `minColor`.
 - The largest actual aggregation result for the current display is mapped to the color specified by `maxColor`.
- If `colorValueAutoScaleMode` is `Off - Include Min/Max`
 - `minColor` is mapped to the smaller of `colorValueMin` and the smallest actual aggregation result for the current display.
 - `maxColor` is larger of `colorValueMax` and the largest actual aggregation result for the current display.

In all three cases, possible aggregation result values that are in between those mapped to `minColor` and `maxColor` are mapped through interpolation, using the colors between `minColor` and `maxColor` arranged either in gradient order or color-wheel order (as determined by `linearColorMappingFlag`).

Heat map

Drill down displays

Since data in a heat map is aggregated, the value shown in a node might not be the same as the value passed down to a drill down display. For example, suppose your heat map is attached to a table where the index column is `Plant` and the size column is `Units Completed`. If you have two rows where the `Plant` is `San Francisco`, then the node size is based on the total of the `Units Completed` values for

both rows. However when you drill down, the drill down value for Units Completed will be the value in the first row in the table where the Plant is San Francisco.

[Heat map](#)

Object class name

When a heat map object is selected in the Builder canvas, the Object Class Name that appears at the top of the Object Properties pane is `obj_heatmap`.

[Heat map](#)

Heat map property groups

The Object Properties panel organizes heat map properties into the following groups:

- ["Heat map: Background properties" on page 50](#)
- ["Heat map: Data group" on page 53](#)
- ["Heat map: Data format group" on page 54](#)
- ["Heat map: Data Label group" on page 55](#)
- ["Heat map: Historian group" on page 56](#)
- ["Heat map: Interaction group" on page 56](#)
- ["Heat map: Label group" on page 59](#)
- ["Heat map: Layout group" on page 61](#)
- ["Heat map: Node group" on page 61](#)
- ["Heat map: Object group" on page 63](#)
- ["Heat map: Quality group" on page 64](#)

[Heat map](#)

Heat map: Background properties

Properties in this group control the visibility and appearance of the map's background.

Background properties

The group contains the following properties:

- ["bgBorderColor" on page 51](#)
- ["bgBorderFlag" on page 51](#)
- ["bgColor" on page 51](#)

- ["bgEdgeWidth" on page 51](#)
- ["bgGradientColor2" on page 51](#)
- ["bgGradientMode" on page 51](#)
- ["bgRaisedFlag" on page 52](#)
- ["bgRoundness" on page 52](#)
- ["bgShadowFlag" on page 52](#)
- ["bgStyle" on page 52](#)
- ["bgVisFlag" on page 52](#)
- ["borderPixels" on page 53](#)

bgBorderColor

Sets the color of the border (see `bgBorderFlag`) of the background rectangle. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

bgBorderFlag

Select to display a border around the background rectangle.

This property is in the Background property group.

bgColor

Sets the background color. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Background property group.

bgEdgeWidth

Sets the width in pixels of the 3D edge on the background rectangle. This property is only used if `bgBorderFlag` is selected.

This property is in the Background property group.

bgGradientColor2

Sets the color for the second color in the gradient. The default is white. The `bgColor` property sets the first color in the gradient.

This property is in the Background property group.

bgGradientMode

Display a gradient in the background rectangle. Select from the following options:

- None: No gradient
- Diagonal Edge: Gradient is drawn at a 45 degree angle from the top left to the bottom right corner of the object.

- **Diagonal Center:** Gradient is drawn at a 45 degree angle from the center to the top left and the bottom right corners of the object.
- **Horizontal Edge:** Gradient is drawn horizontally from the top to the bottom of the object.
- **Horizontal Center:** Gradient is drawn horizontally from the center to the top and bottom of the object.
- **Vertical Edge:** Gradient is drawn vertically from the left to the right of the object.
- **Vertical Center:** Gradient is drawn vertically from the center to the left and right of the object.

This property is in the Background property group.

bgRaisedFlag

Reverses the direction of the gradient, as well as that of the 3D edge if the `bgStyle` selected is 3D Rectangle.

This property is in the Background property group.

bgRoundness

Sets the arc length of the rounded corners. This property is only available if the `bgStyle` selected is Round Rectangle.

The value of `bgRoundness` cannot exceed half the value of the `objWidth` or the `objHeight`. If `bgRoundness` does exceed that value, half of `objWidth` or `objHeight` (whichever is smaller) will be used instead. For example if `objWidth` is 100 and `objHeight` is 50, then the value of `bgRoundness` cannot exceed 25. If it does, then half the value of `objHeight` (25) will be used instead. This property is in the Background property group.

bgShadowFlag

Select to display a drop shadow on the background rectangle.

This property is in the Background property group.

bgStyle

Choose one of the following three options from the drop down menu:

- **Rectangle:** Select to display a background rectangle.
- **3D Rectangle:** Select to display a 3D edge on the background rectangle. If selected, use `bgEdgeWidth` to set the width of the 3D edge.
- **Round Rectangle:** Select to display a background rectangle with rounded edges. If selected, use `bgRoundness` to set the arc length of the rounded corners.

This property is in the Background property group.

bgVisFlag

Select to display the background rectangle.

This property is in the Background property group.

borderPixels

Sets the width in pixels of the border between the chart and the edge of the background rectangle.

This property is in the Background property group.

[Heat map](#)

Heat map: Data group

Properties in this group control what data appears in the heat map, and how it is mapped to node size and color.

Data group properties

The group contains the following properties:

- ["colorValueAutoScaleMode" on page 53](#)
- ["colorValueDivisor" on page 53](#)
- ["colorValueGroupType" on page 53](#)
- ["colorValueMax" on page 54](#)
- ["colorValueMin" on page 54](#)
- ["nodeIndexColumnNames" on page 54](#)
- ["sizeValueDivisor" on page 54](#)
- ["sizeValueGroupType" on page 54](#)
- ["valueTable" on page 28](#)

colorValueAutoScaleMode

Controls how aggregation results are mapped to colors. See ["Mapping from possible aggregation results to colors" on page 49](#).

This property is in the Data property group.

colorValueDivisor

Divides `colorValueMin`, `colorValueMax`, and color-data aggregation results by the specified value.

This property is in the Data property group.

colorValueGroupType

Sets the type of aggregation to use for color data: sum, average, count, min, or max.

This property is in the Data property group.

colorValueMax

Controls how aggregation results are mapped to colors. See ["Mapping from possible aggregation results to colors" on page 49](#).

This property is in the Data property group.

colorValueMin

Controls how aggregation results are mapped to colors. See ["Mapping from possible aggregation results to colors" on page 49](#).

This property is in the Data property group.

nodeIndexColumnNames

Specify a semicolon-delimited list of index column names. If not specified, the first text column in the table attached to `valueTable` is used as the index column and the first two numeric columns are used as data columns.

This property is in the Data property group.

sizeValueDivisor

`sizeValueDivisor` Divides size-data aggregation results by the specified value.

.This property is in the Data property group.

sizeValueGroupType

Sets the type of aggregation to use for size data: sum, average, count, min, or max.

This property is in the Data property group.

valueTable

Specifies the data to be visualized. Tabular data attached to the `valueTable` property must contain one or more index columns and at least one data column. The heat map displays one level of nodes for each index column specified. Use the `nodeIndexColumnNames` property to specify column names. The first non-index numeric data column is used to control the size of each node. The second non-index numeric data column is used to control the color of the node. If only one data column is specified, it controls both node size and node color.

Data attached to `valueTable` is aggregated by unique index value. *Note:* Negative aggregated values are treated as 0. By default, both size and color data is subtotaled. Alternately, you can specify aggregation types using the `colorValueGroupType` and `sizeValueGroupType` properties.

See ["Heat map" on page 47](#) for more information.

This property is in the Data property group.

[Heat map](#)

Heat map: Data format group

Properties in this group control the format of tooltip-displayed data, as well as the mapping from color data to colors.

Data group properties

The group contains the following properties:

- ["colorValueFormat" on page 55](#)
- ["linearColorMappingFlag" on page 55](#)
- ["maxColor" on page 55](#)
- ["minColor" on page 55](#)
- ["sizeValueFormat" on page 55](#)

colorValueFormat

Sets the numeric format of the color value displayed in tool tips. Use syntax from the Java `DecimalFormat` class. To enable tool tips, select the `mouseOverFlag`.

This property is in the Data Format property group.

linearColorMappingFlag

If selected, possible aggregation result values that are in between those mapped to `minColor` and `maxColor` are mapped through interpolation, using the colors between `minColor` and `maxColor` arranged in gradient order. If deselected, the interpolation uses the colors arranged in color-wheel order.

This property is in the Data Format property group.

maxColor

Sets the maximum color. Possible node colors range from the `minColor` to `maxColor`. See ["Mapping from possible aggregation results to colors" on page 49](#).

This property is in the Data Format property group.

minColor

Sets the minimum color. Possible node colors range from the `minColor` to `maxColor`. See ["Mapping from possible aggregation results to colors" on page 49](#).

This property is in the Data Format property group.

sizeValueFormat

Sets the numeric format of the size value displayed in tool tips. Use syntax from the Java `DecimalFormat` class. To enable tool tips, select the `mouseOverFlag`.

This property is in the Data Format property group.

[Heat map](#)

Heat map: Data Label group

The property in this group, ["columnDisplayNames" on page 56](#), sets alternate display names for column names.

columnDisplayNames

Sets alternate display names for column names in your heat map data. Column names are displayed in tool tips.

This property is in the Data Label property group.

[Heat map](#)

Heat map: Historian group

Do not use the properties in this group.

historyTableName

Do not use this property.

This property is in the Historian property group.

historyTableRowNameFlag

Do not use this property.

This property is in the Historian property group.

[Heat map](#)

Heat map: Interaction group

Properties in this group control various forms of interaction between the end user and the graph, including scrolling, highlighting, and activating commands, drill downs, and tooltips.

Interaction group properties

The group includes the following properties:

- ["command" on page 57](#)
- ["commandCloseWindowOnSuccess" on page 57](#)
- ["commandConfirm" on page 57](#)
- ["commandConfirmText" on page 58](#)
- ["drillDownColumnSubs" on page 58](#)
- ["drillDownSelectMode" on page 58](#)
- ["drillDownTarget" on page 58](#)
- ["mouseOverAdditionalColumns" on page 59](#)

- ["mouseOverDefaultColumnsFlag" on page 59](#)
- ["mouseOverFlag" on page 59](#)

command

Assign a command or group of commands to this stock chart by right-clicking on the `command` property name in the **Object Properties** window. Select Define Command and choose SYSTEM, APAMA, or MULTIPLE. For information on the **Define Command** dialog, see Building Dashboards in *Developing Apama Applications*.

Once a command or command group has been assigned to this object, you can activate it from a deployed dashboard or from the Dashboard Builder:

- Dashboard Builder: Double click on the object.
- Web-based deployment: Single click on the object or else right click on it and select Execute Command from the popup menu.
- Local deployment: By default, single-click on the object or else right-click on it and select Execute Command from the popup menu. To override the default, select Tools > Options in the Builder (do this before you generate the deployment package), and uncheck Single-Click for Drill Down and Commands in the General tab. This allows the end user to use either a double click or a right click.

When you activate a command, any defined drill down substitutions are performed, and then the command is executed.

If you assign multiple commands, the commands are launched in an arbitrary order, and are executed asynchronously; there is no guarantee that one command will finish before the next one in the sequence starts.

This property is in the Interaction property group.

commandCloseWindowOnSuccess

Select this property to automatically close the window that initiates a SYSTEM command when the command is executed successfully. This applies to SYSTEM commands only, and is not supported at all for thin-client, Web-page deployments.

With APAMA commands, the window is closed whether or not the command is executed successfully. For MULTIPLE commands, the window closes when the first command in the command group succeeds.

This property is in the Interaction property group.

commandConfirm

By default, when the end user executes a command (see the `command` property), the command confirmation dialog is disabled. To control this option for each individual object, use the `commandConfirm` check box. If confirmation is required for a MULTIPLE command group, a single confirmation dialog is presented; if you confirm the execution, all individual commands in the group are executed with no further confirmation. If the you cancel the execution, none of the commands in the group is executed.

You can also override the confirmation status of individual objects with an application-wide policy. Select Tools | Options and choose from three confirmation values:

- **Do not confirm:** Indicates that no commands require confirmation (regardless of each object's confirmation status).
- **Confirm all:** Indicates that all commands require confirmation (regardless of each object's confirmation status).
- **Use object confirm flag (default):** Indicates that the confirmation status of each object will determine whether confirmation is required.

This property is in the Interaction property group.

commandConfirmText

Use this property to write your own text for the confirmation dialog. Otherwise, default text is used. See `commandConfirm`.

This property is in the Interaction property group.

drillDownColumnSubs

Use this property to direct a dashboard to assign data-table column values to specified dashboard variables when the end user activates a drilldown on this object. In the Object Properties window, double-click on `drillDownColumnSubs` in the Property Name field to bring up the Drill Down Column Substitutions dialog.

The dialog has the following fields and buttons:

- **Substitution String:** Enter the dashboard variable next to the name of the data table column whose value you want assigned to the variable. Press Enter.
- **Add Column:** Enter the name of a column and click the Add Column button to insert a column into the table.
- **Clear:** Click the Clear button to remove all variables listed.

The Column Name list is populated based on the table's data attachment. If you have not yet attached the table to data, this list is empty.

Once you have selected which column values to pass in as substitutions, double-click on any element in your object to open a drill down window that displays corresponding values.

This property is in the Interaction property group.

drillDownSelectMode

Use this property to control how a drill down display is activated. Select one of the following:

- **Anywhere** to activate a drill down display by double-clicking anywhere on the chart.
- **Element Only** to enable a drill down display only when you double-click on an element of the chart, such as a bar or candlestick.

This property is in the Interaction property group.

drillDownTarget

To specify a drill down display, double click on `drillDownTarget` in the Property Name field to bring up the **Drill Down Properties** dialog. See ["Drill-Down Specification" on page 258](#).

This property is in the Interaction property group.

mouseOverAdditionalColumns

Select the button to open a dialog to select which columns to include in tool tips and, optionally, specify a date format (or other numeric format) and value divisor (for numeric columns) for each column displayed. In the tool tip, the name and value for each selected column is displayed. If the `mouseOverDefaultColumnsFlag` is selected, then columns you include are inserted following the default columns in the tool tip. If specified, `columnDisplayNames` are applied to the columns you selected to include.

This property is in the Interaction property group.

mouseOverDefaultColumnsFlag

Select to include column names and values from `valueTable` (for index columns and data columns) in tool tips. If `columnDisplayNames` are specified, they will be applied to all column names.

This property is in the Interaction property group.

mouseOverFlag

Select to enable tool tips for your heat map. To display a tool tip, select the map and point to a node with your mouse. The tool tip will contain information from your data attachment about that node.

Note: Heat maps containing large data sets may run slowly on the Display Server if `mouseOverFlag` is selected.

This property is in the Interaction property group.

[Heat map](#)

Heat map: Label group

Properties in this group control the graph's main label (which defaults to Heatmap), including text, alignment, color, font, and size.

Label group properties

The group includes the following properties:

- ["label" on page 60](#)
- ["labelMinTabWidth" on page 60](#)
- ["labelTextAlignX" on page 60](#)
- ["labelTextAlignY" on page 60](#)
- ["labelTextColor" on page 60](#)
- ["labelTextFont" on page 60](#)
- ["labelTextHeight" on page 60](#)

label

Specifies the text for the chart label. Click the ellipsis for multi-line text.

The default is Heatmap.

This property is in the Label property group.

labelMinTabWidth

Sets minimum width of the label tab. This property only applies if `labelTextAlignY` is set to `TabTop`.

This property is in the Label property group.

labelTextAlignX

Sets the x-axis alignment of the chart label (see the `label` property). Select `Left`, `Center`, or `Right` from the drop down list.

This property is in the Label property group.

labelTextAlignY

Sets the y-axis position of the chart label (see the `label` property). Select one of the following from the drop down list:

- `Outside Top`: Well above the background rectangle
- `Top`: Just above the background rectangle
- `Title Top`: Along the top line of the background rectangle
- `Tab Top`: Just above the background rectangle. Height and width of the tab is dependent on the height and width of the text. Use the `labelMinTabWidth` property to specify a minimum tab width.
- `Inside Top`: Inside the top of the background rectangle

This property is in the Label property group.

labelTextColor

Specifies the color of the chart label text (see the `label` property). Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Label property group.

labelTextFont

Specifies the font of the chart label text (see the `label` property). Select an item from drop down list.

This property is in the Label property group.

labelTextHeight

Specifies the point size of the chart label text (see the `label` property).

This property is in the Label property group.

[Heat map](#)

Heat map: Layout group

Properties in this group affect the layout of nodes in the heat map.

Layout group properties

This group contains the following properties:

- ["adjustSizeForLabelFlag" on page 61](#)
- ["layoutStyle" on page 61](#)

adjustSizeForLabelFlag

Select to compress the ratio between the smaller nodes and larger nodes so that the size of smaller nodes is increased to accommodate labels. *Note:* This property only applies to nodes that display labels.

This property is in the Layout property group.

layoutStyle

Select from the following layout styles:

- **Squarified:** Nodes are more square in shape and ordered according to the size of the value from the top-left to the bottom-right.
- **Strip:** Nodes are more square in shape and ordered according to the order of the rows in the `valueTable`.
- **Slice Horizontal:** Nodes are short and wide and ordered according to the order of the rows in the `valueTable`.
- **Slice Vertical:** Nodes are tall and narrow and ordered according to the order of the rows in the `valueTable`.
- **Slice Best:** Nodes are laid out either like Slice Horizontal or Slice Vertical based on what fits best in the available space.
- **Slice Alternate Horizontal:** The layout alternates between Slice Horizontal and Slice Vertical based on the node depth. The top level nodes use Slice Horizontal.
- **Slice Alternate Vertical:** The layout alternates between Slice Horizontal and Slice Vertical based on the node depth. The top level nodes use Slice Vertical.

This property is in the Layout property group.

[Heat map](#)

Heat map: Node group

Properties in this group affect the appearance of nodes in the heat map.

Node group properties

This group contains the following properties:

- "nodeBgBorderHighlightFlag" on page 62
- "nodeBgBorderSize" on page 62
- "nodeBgColor" on page 62
- "nodeLabelNestDepth" on page 62
- "nodeLabelTextColor" on page 62
- "nodeLabelTextFont" on page 62
- "nodeLabelTextHeight" on page 63
- "nodeLabelVisFlag" on page 63

nodeBgBorderHighlightFlag

Select to draw a border highlight around the nodes. *Note:* This property is ignored if the `nodeBgBorderSize` is set to 0 or 1.

This property is in the Node property group.

nodeBgBorderSize

Specify (in pixels) the size of the border between nodes. If set to -1, the deepest nested level of nodes has a one pixel border and the border increases by two pixels for each level of nesting.

This property is in the Node property group.

nodeBgColor

Select the button and choose from the palette to set the background color for the nodes.

This property is in the Node property group.

nodeLabelNestDepth

Specify the number of nest levels to display node labels. If set to 0, then no labels are displayed.

This property is in the Node property group.

nodeLabelTextColor

Select the button and choose from the palette to set the text color for the node labels.

This property is in the Node property group.

nodeLabelTextFont

Select the font to use for the node labels.

This property is in the Node property group.

nodeLabelTextHeight

Specify the text height for the node labels.

This property is in the Node property group.

nodeLabelVisFlag

Select to display labels on the nodes. *Note:* This property is ignored if `nodeLabelNestDepth` is set to 0.

This property is in the Node property group.

[Heat map](#)

Heat map: Object group

Properties in this group control the visibility and transparency of the heat map as a whole. They also control (or reflect) the overall position and dimensions of the heat map. In addition, a property in this group reflects the generated name of this individual heat map.

Object group properties

This group contains the following properties:

- ["anchor"](#) on page 63
- ["dock"](#) on page 63
- ["objHeight"](#) on page 64
- ["objName"](#) on page 64
- ["objWidth"](#) on page 64
- ["objX"](#) on page 64
- ["objY"](#) on page 64
- ["transparencyPercent"](#) on page 64
- ["visFlag"](#) on page 64

anchor

Select zero or more of Top, Left, Bottom, and Right in order to control the object's placement. The `anchor` property is only applied when the display is resized either by changing the Background Properties on the display or by resizing the window in Layout mode. If an object has the `dock` property set, the `anchor` property is ignored. See About resize modes in *Building Dashboards* for detailed information.

dock

Select None (default), Top, Left, Bottom, Right, or Fill in order to control the object's placement in Layout resize mode. See About resize modes in *Building Dashboards* for detailed information.

objHeight

Set the height of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time height of the chart.

This property is in the Object property group.

objName

An identifier that is generated by the Dashboard Builder. This name can be used by other objects' properties in order to refer to the named chart, as with, for example, the ["graphName" on page 69](#) property of the ["Legend" on page 66](#) visualization object.

This property is in the Object property group.

objWidth

Set the width of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time width of the chart.

This property is in the Object property group.

objX

Sets the X coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

objY

Sets the Y coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

transparencyPercent

Sets the transparency of this chart.

This property is in the Object property group.'

visFlag

Deselect to make this visualization object invisible in the current dashboard.

This property is in the Object property group.

[Heat map](#)

Heat map: Quality group

Properties in this group allow you to color nodes based on data quality.

Quality group properties

This group contains the following properties:

- ["valueQuality" on page 65](#)
- ["valueQualityColumnName" on page 65](#)
- ["valueQualityEnabledFlag" on page 65](#)
- ["valueQualityLostData" on page 65](#)
- ["valueQualityLostDataColor" on page 65](#)
- ["valueQualityNoData" on page 66](#)
- ["valueQualityNoDataColor" on page 66](#)

valueQuality

Specify a value to compare to settings for the `valueQualityLostData` and `valueQualityNoData` properties. If the specified `valueQuality` matches, the selected corresponding `valueQuality*Color` is applied to all nodes in the heat map.

Note: The `valueQuality` property is ignored if the `valueQualityEnabledFlag` is deselected.

This property is in the Quality property group.

valueQualityColumnName

Specify a column in the `valueTable` to compare, per row, to settings for the `valueQualityLostData` and `valueQualityNoData` properties. If values in the specified `valueQualityColumnName` match, the selected corresponding `valueQuality*Color` is selectively applied to each node in the heat map. If the `valueTable` contains multiple rows for a single index, the highest data quality value is used.

Note: The `valueQualityColumnName` property is ignored if the `valueQualityEnabledFlag` is deselected.

This property is in the Quality property group.

valueQualityEnabledFlag

If selected, nodes are colored based on data quality.

This property is in the Quality property group.

valueQualityLostData

Enter the lost data value.

This property is in the Quality property group.

valueQualityLostDataColor

Select the button and choose from the palette to set the node color if the value matches the specified `valueQualityLostData`.

This property is in the Quality property group.

valueQualityNoData

Enter the no data value.

This property is in the Quality property group.

valueQualityNoDataColor

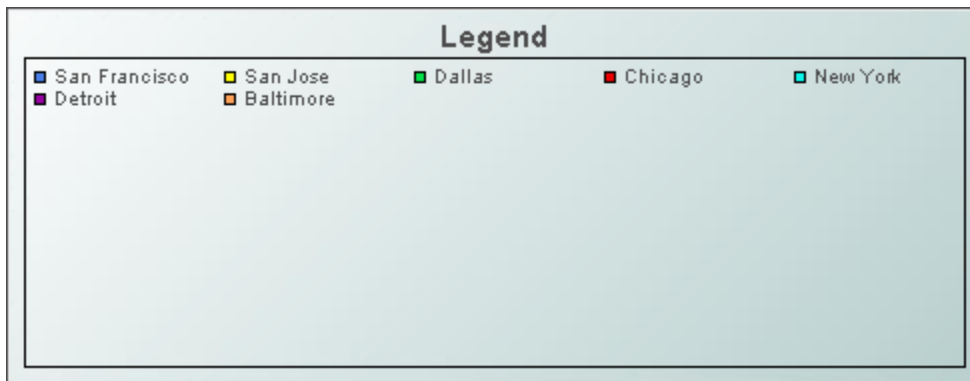
Select the button and choose from the palette to set the node color if the value matches the specified valueQualityNoData.

This property is in the Quality property group.

[Heat map](#)

Legend

The legend visualization object is useful for displaying a legend that is too lengthy for the built-in legends of the graph objects.



You can use a legend visualization object in conjunction with a bar graph, pie graph, radar graph, or XY graph.

The legend displays information from the graph object to which it is *connected*. Connect a legend to a graph object by setting the legend's ["graphName" on page 69](#) property to the value of the graph's objName property. Set up all formatting for the legend data in the graph object that it will reflect.

When this visualization object is selected in the Builder canvas, the Object Class Name that appears at the top of the Object Properties pane is obj_legend.

The Object Properties panel organizes legend properties into the following groups:

- ["Legend: Background group" on page 67](#)
- ["Legend: Data group" on page 69](#)
- ["Legend: Historian group" on page 69](#)
- ["Legend: Interaction group" on page 70](#)
- ["Legend: Label group" on page 71](#)
- ["Legend: Legend group" on page 72](#)

- ["Legend: Object group" on page 74](#)

Graph Objects

Legend: Background group

Properties in this group control the visibility and appearance of the legend's outer rectangle, which serves as the background of both the label (see ["label" on page 72](#)) and the legend's inner rectangle (see ["Legend: Legend group" on page 72](#)).

Background group properties

The group contains the following properties:

- ["bgBorderColor" on page 67](#)
- ["bgBorderFlag" on page 67](#)
- ["bgColor" on page 67](#)
- ["bgEdgeWidth" on page 68](#)
- ["bgGradientColor2" on page 68](#)
- ["bgGradientMode" on page 68](#)
- ["bgRaisedFlag" on page 68](#)
- ["bgRoundness" on page 68](#)
- ["bgShadowFlag" on page 68](#)
- ["bgStyleFlag" on page 69](#)
- ["bgVisFlag" on page 69](#)
- ["borderPixels" on page 69](#)

bgBorderColor

Sets the color of the border (see `bgBorderFlag`) of the background rectangle. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

bgBorderFlag

Select to display a border around the background rectangle.

This property is in the Background property group.

bgColor

Sets the background color. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Background property group.

bgEdgeWidth

Sets the width in pixels of the 3D edge on the background rectangle. This property is only used if `bgBorderFlag` is selected.

This property is in the Background property group.

bgGradientColor2

Sets the color for the second color in the gradient. The default is white. The `bgColor` property sets the first color in the gradient.

This property is in the Background property group.

bgGradientMode

Display a gradient in the background rectangle. Select from the following options:

- None: No gradient
- Diagonal Edge: Gradient is drawn at a 45 degree angle from the top left to the bottom right corner of the object.
- Diagonal Center: Gradient is drawn at a 45 degree angle from the center to the top left and the bottom right corners of the object.
- Horizontal Edge: Gradient is drawn horizontally from the top to the bottom of the object.
- Horizontal Center: Gradient is drawn horizontally from the center to the top and bottom of the object.
- Vertical Edge: Gradient is drawn vertically from the left to the right of the object.
- Vertical Center: Gradient is drawn vertically from the center to the left and right of the object.

This property is in the Background property group.

bgRaisedFlag

Reverses the direction of the gradient, as well as that of the 3D edge if the `bgStyle` selected is 3D Rectangle.

This property is in the Background property group.

bgRoundness

Sets the arc length of the rounded corners. This property is only available if the `bgStyle` selected is Round Rectangle.

The value of `bgRoundness` cannot exceed half the value of the `objWidth` or the `objHeight`. If `bgRoundness` does exceed that value, half of `objWidth` or `objHeight` (whichever is smaller) will be used instead. For example if `objWidth` is 100 and `objHeight` is 50, then the value of `bgRoundness` cannot exceed 25. If it does, then half the value of `objHeight` (25) will be used instead. This property is in the Background property group.

bgShadowFlag

Select to display a drop shadow on the background rectangle.

This property is in the Background property group.

bgStyleFlag

Choose one of the following three options from the drop down menu:

- **Rectangle:** Select to display a background rectangle.
- **3D Rectangle:** Select to display a 3D edge on the background rectangle. If selected, use `bgEdgeWidth` to set the width of the 3D edge.
- **Round Rectangle:** Select to display a background rectangle with rounded edges. If selected, use `bgRoundness` to set the arc length of the rounded corners.

This property is in the Background property group.

bgVisFlag

Select to display the background rectangle.

This property is in the Background property group.

borderPixels

Sets the width in pixels of the border between the chart and the edge of the background rectangle.

This property is in the Background property group.

[Legend](#)

Legend: Data group

The property in this group, "[graphName](#)" on page 69, controls what data appears in the graph.

graphName

To attach your legend to a given graph object, set this property to the value `objName` for the given graph object.

This property is in the Data property group.

[Legend](#)

Legend: Historian group

Do not use the properties in this group.

historyTableName

Do not use this property.

This property is in the Historian property group.

historyTableRowNameFlag

Do not use this property.

This property is in the Historian property group.

[Legend](#)

Legend: Interaction group

Properties in this group configure interaction between the end user and the graph, including commands and drill down interactions.

Interaction group properties

The group includes the following properties:

- ["command" on page 70](#)
- ["commandCloseWindowOnSuccess" on page 71](#)
- ["commandConfirm" on page 71](#)
- ["confirmText" on page 71](#)
- ["drillDownTarget" on page 71](#)

command

Assign a command or group of commands to this stock chart by right-clicking on the `command` property name in the **Object Properties** window. Select Define Command and choose SYSTEM, APAMA, or MULTIPLE. For information on the **Define Command** dialog, see the Building Dashboards in *Developing Apama Applications*.

Once a command or command group has been assigned to this object, you can activate it from a deployed dashboard or from the Dashboard Builder:

- Dashboard Builder: Double click on the object.
- Web-based deployment: Single click on the object or else right click on it and select Execute Command from the popup menu.
- Local deployment: By default, single-click on the object or else right-click on it and select Execute Command from the popup menu. To override the default, select Tools > Options in the Builder (do this before you generate the deployment package), and uncheck Single-Click for Drill Down and Commands in the General tab. This allows the end user to use either a double click or a right click.

When you activate a command, any defined drill down substitutions are performed, and then the command is executed.

If you assign multiple commands, the commands are launched in an arbitrary order, and are executed asynchronously; there is no guarantee that one command will finish before the next one in the sequence starts.

This property is in the Interaction property group.

commandCloseWindowOnSuccess

Select this property to automatically close the window that initiates a SYSTEM command when the command is executed successfully. This applies to SYSTEM commands only, and is not supported at all for thin-client, Web-page deployments.

With APAMA commands, the window is closed whether or not the command is executed successfully. For MULTIPLE commands, the window closes when the first command in the command group succeeds.

This property is in the Interaction property group.

commandConfirm

By default, when the end user executes a command (see the `command` property), the command confirmation dialog is disabled. To control this option for each individual object, use the `commandConfirm` check box. If confirmation is required for a MULTIPLE command group, a single confirmation dialog is presented; if you confirm the execution, all individual commands in the group are executed with no further confirmation. If the you cancel the execution, none of the commands in the group is executed.

You can also override the confirmation status of individual objects with an application-wide policy. Select Tools | Options and choose from three confirmation values:

- Do not confirm: Indicates that no commands require confirmation (regardless of each object's confirmation status).
- Confirm all: Indicates that all commands require confirmation (regardless of each object's confirmation status).
- Use object confirm flag (default): Indicates that the confirmation status of each object will determine whether confirmation is required.

This property is in the Interaction property group.

confirmText

Use this property to write your own text for the confirmation dialog. Otherwise, default text is used. See `commandConfirm`.

This property is in the Interaction property group.

drillDownTarget

To specify a drill down display, double click on `drillDownTarget` in the Property Name field to bring up the **Drill Down Properties** dialog. See ["Drill-Down Specification" on page 258](#).

This property is in the Interaction property group.

[Legend](#)

Legend: Label group

Properties in this group control the legend's main label (which defaults to Legend), including text, alignment, color, font, and size.

Label group properties

The group includes the following properties:

- ["label" on page 72](#)
- ["labelTextAlignX" on page 72](#)
- ["labelTextColor" on page 72](#)
- ["labelTextFont" on page 72](#)
- ["labelTextHeight" on page 72](#)

label

Specifies the text for the chart label. Click the ellipsis for multi-line text.

The default is Legend.

This property is in the Label property group.

labelTextAlignX

Sets the alignment of the chart label (see the ["label" on page 72](#) property). Select Left, Center, or Right from the drop down list.

This property is in the Label property group.

labelTextColor

Specifies the color of the chart label text (see the ["label" on page 72](#) property). Select the ... button and choose a color from the palette. Close the Color Chooser window when you are done.

This property is in the Label property group.

labelTextFont

Specifies the font of the chart label text (see the ["label" on page 72](#) property). Select an item from drop down list.

This property is in the Label property group.

labelTextHeight

Specifies the point size of the chart label text (see the ["label" on page 72](#) property).

This property is in the Label property group.

[Legend](#)

Legend: Legend group

Properties in this group control the visibility, appearance, and content of the legend.

Legend group properties

The group contains the following properties:

- ["legendBgColor" on page 73](#)
- ["legendBgGradientFlag" on page 73](#)
- ["legendVisFlag" on page 73](#)
- ["legendTextColor" on page 73](#)
- ["legendTextFont" on page 73](#)
- ["legendTextHeight" on page 74](#)
- ["legendValueMinSpace" on page 74](#)
- ["legendValueVisFlag" on page 74](#)
- ["legendVisFlag" on page 74](#)

legendBgColor

Sets the fill color of the legend inner rectangle. The inner rectangle is smaller than and in front of the legend's background rectangle (see ["bgColor" on page 67](#)). The chart label (see ["label" on page 72](#)) lies outside of the inner rectangle; the rest of the legend text lies within the inner rectangle.

To set the color, select the ... button and choose a color from the palette to set the background color of the legend. Close the **Color Chooser** window when you are done.

This property is in the Legend property group.

legendBgGradientFlag

Select to display a gradient in the legend inner rectangle (see ["legendBgColor" on page 73](#)).

This property is in the Legend property group.

legendVisFlag

Select to display the legend.

This property is in the Legend property group.

legendTextColor

Sets the color of the legend text (other than the chart label—see ["label" on page 72](#) and ["labelTextColor" on page 72](#)). To set the color, select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Legend property group.

legendTextFont

Sets the font of the legend text (other than the chart label—see ["label" on page 72](#) and ["labelTextFont" on page 72](#)). Select an item from the drop down menu.

This property is in the Legend property group.

legendTextHeight

Specifies the point size of the legend text (other than the chart label—see ["label" on page 72](#) and ["labelTextHeight" on page 72](#))

This property is in the Legend property group.

legendValueMinSpace

Specifies the minimum number of pixels between values and labels in the legend. This property applies only if ["legendValueVisFlag" on page 74](#) is enabled.

This property is in the Legend property group.

legendValueVisFlag

Select to display the numerical values of your data in the legend.

This property is in the Legend property group.

legendVisFlag

Select to display the legend.

This property is in the Legend property group.

[Legend](#)

Legend: Object group

Properties in this group control the visibility and transparency of the legend as a whole. They also control (or reflect) the overall position and dimensions of the legend object. In addition, a property in this group reflects the generated name of this individual legend.

Object group properties

- ["anchor" on page 75](#)
- ["dock" on page 75](#)
- ["objHeight" on page 75](#)
- ["objName" on page 75](#)
- ["objWidth" on page 75](#)
- ["objX" on page 75](#)
- ["objY" on page 75](#)
- ["transparencyPercent" on page 75](#)
- ["visFlag" on page 76](#)

anchor

Select zero or more of Top, Left, Bottom, and Right in order to control the object's placement. The `anchor` property is only applied when the display is resized either by changing the Background Properties on the display or by resizing the window in Layout mode. If an object has the `dock` property set, the `anchor` property is ignored. See About resize modes in *Building Dashboards* for detailed information.

dock

Select None (default), Top, Left, Bottom, Right, or Fill in order to control the object's placement in Layout resize mode. See About resize modes in *Building Dashboards* for detailed information.

objHeight

Set the height of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time height of the chart.

This property is in the Object property group.

objName

An identifier that is generated by the Dashboard Builder. This name can be used by other objects' properties in order to refer to the named chart.

This property is in the Object property group.

objWidth

Set the width of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time width of the chart.

This property is in the Object property group.

objX

Sets the X coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

objY

Sets the Y coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

transparencyPercent

Sets the transparency of this chart.

This property is in the Object property group.

visFlag

Deselect to make this visualization object invisible in the current dashboard.

This property is in the Object property group.

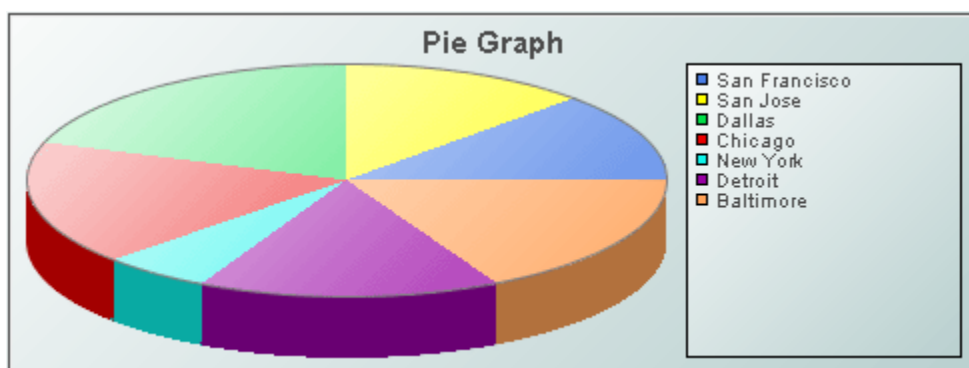
Legend

Pie graph

Pie graphs visualize one or more numerical columns from tabular data. A typical attachment has either one row and multiple numeric columns, or multiple rows with one numeric column and one non-numeric column (whose values are used as graph labels that uniquely identify each row).

A pie graph can visualize data in either of two ways:

- **Column series:** The first numeric column of the visualized data is used to populate the wedges in the pie. Each wedge corresponds to a row and displays that row's relative value.
- **Row series:** The first row of the visualized data is used to populate the wedges in the pie. Each wedge corresponds to a numerical column and displays that column's relative value.



Use the "[valueTable](#)" on [page 28](#) property to attach data to a pie graph. Use the "[rowSeriesFlag](#)" on [page 27](#) property to specify row series or column series visualization.

When a pie graph is selected in the Builder canvas, the Object Class Name that appears at the top of the Object Properties pane is `obj_pie`.

The Object Properties panel organizes pie graph properties into the following groups:

- "[Pie graph: Background group](#)" on [page 77](#)
- "[Pie graph: Column group](#)" on [page 79](#)
- "[Pie graph: Data group](#)" on [page 79](#)
- "[Pie graph: Data Format group](#)" on [page 80](#)
- "[Pie graph: Data Label group](#)" on [page 81](#)
- "[Pie graph: Historian group](#)" on [page 82](#)
- "[Pie graph: Interaction group](#)" on [page 82](#)
- "[Pie graph: Label group](#)" on [page 85](#)

- ["Pie graph: Legend group" on page 86](#)
- ["Pie graph: Object group" on page 87](#)
- ["Pie graph: Wedge group" on page 88](#)

Graph Objects

Pie graph: Background group

Properties in this group control the visibility and appearance of the portion of the graph that serves as the background of both the pie and the legend.

Background group properties

The group contains the following properties:

- ["bgBorderColor" on page 77](#)
- ["bgBorderFlag" on page 77](#)
- ["bgColor" on page 77](#)
- ["bgEdgeWidth" on page 78](#)
- ["bgGradientColor2" on page 78](#)
- ["bgGradientMode" on page 78](#)
- ["bgRaisedFlag" on page 78](#)
- ["bgRoundness" on page 78](#)
- ["bgShadowFlag" on page 78](#)
- ["bgStyleFlag" on page 79](#)
- ["bgVisFlag" on page 79](#)
- ["borderPixels" on page 79](#)

bgBorderColor

Sets the color of the border (see [bgBorderFlag](#)) of the background rectangle. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

bgBorderFlag

Select to display a border around the background rectangle.

This property is in the Background property group.

bgColor

Sets the background color. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Background property group.

bgEdgeWidth

Sets the width in pixels of the 3D edge on the background rectangle. This property is only used if `bgBorderFlag` is selected.

This property is in the Background property group.

bgGradientColor2

Sets the color for the second color in the gradient. The default is white. The `bgColor` property sets the first color in the gradient.

This property is in the Background property group.

bgGradientMode

Display a gradient in the background rectangle. Select from the following options:

- None: No gradient
- Diagonal Edge: Gradient is drawn at a 45 degree angle from the top left to the bottom right corner of the object.
- Diagonal Center: Gradient is drawn at a 45 degree angle from the center to the top left and the bottom right corners of the object.
- Horizontal Edge: Gradient is drawn horizontally from the top to the bottom of the object.
- Horizontal Center: Gradient is drawn horizontally from the center to the top and bottom of the object.
- Vertical Edge: Gradient is drawn vertically from the left to the right of the object.
- Vertical Center: Gradient is drawn vertically from the center to the left and right of the object.

This property is in the Background property group.

bgRaisedFlag

Reverses the direction of the gradient, as well as that of the 3D edge if the `bgStyle` selected is 3D Rectangle.

This property is in the Background property group.

bgRoundness

Sets the arc length of the rounded corners. This property is only available if the `bgStyle` selected is Round Rectangle.

The value of `bgRoundness` cannot exceed half the value of the `objWidth` or the `objHeight`. If `bgRoundness` does exceed that value, half of `objWidth` or `objHeight` (whichever is smaller) will be used instead. For example if `objWidth` is 100 and `objHeight` is 50, then the value of `bgRoundness` cannot exceed 25. If it does, then half the value of `objHeight` (25) will be used instead. This property is in the Background property group.

bgShadowFlag

Select to display a drop shadow on the background rectangle.

This property is in the Background property group.

bgStyleFlag

Choose one of the following three options from the drop down menu:

- **Rectangle:** Select to display a background rectangle.
- **3D Rectangle:** Select to display a 3D edge on the background rectangle. If selected, use `bgEdgeWidth` to set the width of the 3D edge.
- **Round Rectangle:** Select to display a background rectangle with rounded edges. If selected, use `bgRoundness` to set the arc length of the rounded corners.

This property is in the Background property group.

bgVisFlag

Select to display the background rectangle.

This property is in the Background property group.

borderPixels

Sets the width in pixels of the border between the chart and the edge of the background rectangle.

This property is in the Background property group.

[Pie graph](#)

Pie graph: Column group

This group contains one property, "[columnsToHide](#)" on [page 79](#), which controls which data-attachment columns are excluded from being used for charted data or labels.

columnsToHide

Specify columns from the data attachment to exclude from being used for charted data or labels.

Data from the "[labelColumnName](#)" on [page 81](#) column will be used for labels even if that column name is also specified in the `columnsToHide` property.

Columns specified in the `columnsToHide` property can still be used in the "[drillDownColumnSubs](#)" on [page 84](#) property.

This property is in the Column property group.

[Pie graph](#)

Pie graph: Data group

Properties in this group control what data appears in the graph, and whether the data appears in column series or row series form.

Data group properties

The group contains the following properties:

- ["rowSeriesFlag" on page 27](#)
- ["valueTable" on page 28](#)

rowSeriesFlag

This property controls whether row or column data populates the graph:

- When the `rowSeriesFlag` checkbox is not selected, the first numeric column from your data attachment is used to populate the wedges in the pie. Each wedge corresponds to a row in that column and displays that row's relative value.
- If the `rowSeriesFlag` checkbox is selected, the first row from your data attachment is used to populate the wedges in the pie. Each wedge corresponds to a numerical column in that row and displays that column's relative value. Column names are used in the legend.

This property is in the Data property group.

valueTable

Attach your data to the `valueTable` property. Right-click on the property name in the Object Properties panel, and select a menu item under Attach to Data. A typical attachment has either multiple rows, one numeric column, and one non-numeric column, or one row and multiple numeric columns.

The ["rowSeriesFlag" on page 27](#) property controls how row and column data populates the graph:

- When the ["rowSeriesFlag" on page 27](#) checkbox is not selected, the first numeric column from your data attachment is used to populate the wedges in the pie. Each wedge corresponds to a row in that column and displays that row's relative value.
- If the ["rowSeriesFlag" on page 27](#) checkbox is selected, the first row from your data attachment is used to populate the wedges in the pie. Each wedge corresponds to a numerical column in that row and displays that column's relative value. Column names are used in the legend.

This property is in the Data property group.

[Pie graph](#)

Pie graph: Data Format group

Properties on this group control the format of displayed wedge values as well as numerical and date labels.

Data Format group properties

The group includes the following properties:

- ["labelColumnFormat" on page 81](#)

- ["valueFormat" on page 81](#)

labelColumnFormat

Sets the format of numeric or date labels displayed in the legend, and in tooltips.

Select or enter the format specification. Use syntax from the Java `DecimalFormat` class for numeric labels, and syntax from the Java `SimpleDateFormat` class for date labels.

To enable tooltips, select the ["mouseOverFlag" on page 85](#).

This property is in the Data Format property group.

valueFormat

Select or enter the numeric format of wedge values displayed on wedges, in the legend and in tooltips. Use syntax from the Java `DecimalFormat` class. To enable tooltips, select the ["mouseOverFlag" on page 85](#).

This property is in the Data Format property group.

[Pie graph](#)

Pie graph: Data Label group

Properties in this group control the labels that are in the legend and in tooltips.

Data Label properties

The group contains the following properties:

- ["columnDisplayNames" on page 81](#)
- ["labelColumnName" on page 81](#)
- ["rowLabelVisFlag" on page 82](#)
- ["rowNameVisFlag" on page 82](#)

columnDisplayNames

Set alternate display names for the columns of the data attached to ["valueTable" on page 80](#). Column names are displayed in the legend, if ["rowSeriesFlag" on page 80](#) is selected.

This property is in the Data Label property group.

labelColumnName

Sets the label column. By default, the label column is the first non-numeric text column in your data attachment, if there is one. Note that the column `apama.instanceID` (contained in all `DataView` and scenario instance tables) is a non-numerical text column.

Data from the label column is used to label the legend, if ["rowSeriesFlag" on page 80](#) is disabled. Data from the label column is used in tooltips, if ["rowSeriesFlag" on page 80](#) and ["mouseOverFlag" on page 85](#) are enabled.

This property is in the Data Label property group.

rowLabelVisFlag

Determines whether or not data from the label column is used in the chart legend, when ["rowSeriesFlag" on page 27](#) is disabled. See ["labelColumnName" on page 81](#). If `rowLabelVisFlag` is disabled, integer row identifiers are used in the legend.

This property is in the Data Label property group.

rowNameVisFlag

If your data attachment has no label column (see ["labelColumnName" on page 81](#)), select this property to use generated row names in the legend when the ["rowSeriesFlag" on page 80](#) is not selected.

This property is in the Data Label property group.

[Pie graph](#)

Pie graph: Historian group

Do not use the properties in this group.

historyTableName

Do not use this property.

This property is in the Historian property group.

historyTableRowNameFlag

Do not use this property.

This property is in the Historian property group.

[Pie graph](#)

Pie graph: Interaction group

Properties in this group control various forms of interaction between the end user and the graph, including configuring command, drill down, and tooltip interactions.

Interaction group properties

The group includes the following properties:

- ["command" on page 83](#)
- ["commandCloseWindowOnSuccess" on page 83](#)
- ["commandConfirm" on page 83](#)

- "confirmText" on page 84
- "drillDownColumnSubs" on page 84
- "drillDownSelectMode" on page 84
- "drillDownTarget" on page 85
- "mouseOverFlag" on page 85

command

Assign a command or group of commands to this stock chart by right-clicking on the `command` property name in the Object Properties window. Select Define Command and choose SYSTEM, APAMA, or MULTIPLE. For information on the Define Command dialog, see the Building Dashboards in *Developing Apama Applications*.

Once a command or command group has been assigned to this object, you can activate it from a deployed dashboard or from the Dashboard Builder:

- Dashboard Builder: Double click on the object.
- Web-based deployment: Single click on the object or else right click on it and select Execute Command from the popup menu.
- Local deployment: By default, single-click on the object or else right-click on it and select Execute Command from the popup menu. To override the default, select Tools | Options in the Builder (do this before you generate the deployment package), and uncheck Single-Click for Drill Down and Commands in the General tab. This allows the end user to use either a double click or a right click.

When you activate a command, any defined drill down substitutions are performed, and then the command is executed.

If you assign multiple commands, the commands are launched in an arbitrary order, and are executed asynchronously; there is no guarantee that one command will finish before the next one in the sequence starts.

This property is in the Interaction property group.

commandCloseWindowOnSuccess

Select this property to automatically close the window that initiates a SYSTEM command when the command is executed successfully. This applies to SYSTEM commands only, and is not supported at all for thin-client, Web-page deployments.

With APAMA commands, the window is closed whether or not the command is executed successfully. For MULTIPLE commands, the window closes when the first command in the command group succeeds.

This property is in the Interaction property group.

commandConfirm

By default, when the end user executes a command (see the `command` property), the command confirmation dialog is disabled. To control this option for each individual object, use the `commandConfirm` check box. If confirmation is required for a MULTIPLE command group, a single confirmation dialog is presented; if you confirm the execution, all individual commands in the group

are executed with no further confirmation. If the you cancel the execution, none of the commands in the group is executed.

You can also override the confirmation status of individual objects with an application-wide policy. Select Tools | Options and choose from three confirmation values:

- **Do not confirm:** Indicates that no commands require confirmation (regardless of each object's confirmation status).
- **Confirm all:** Indicates that all commands require confirmation (regardless of each object's confirmation status).
- **Use object confirm flag (default):** Indicates that the confirmation status of each object will determine whether confirmation is required.

This property is in the Interaction property group.

confirmText

Use this property to write your own text for the confirmation dialog. Otherwise, default text is used. See `commandConfirm`.

This property is in the Interaction property group.

drillDownColumnSubs

Use this property to direct a dashboard to assign data-table column values to specified dashboard variables when the end user activates a drilldown on this object. In the Object Properties window, double-click on `drillDownColumnSubs` in the Property Name field to bring up the Drill Down Column Substitutions dialog.

The dialog has the following fields and buttons:

- **Substitution String:** Enter the dashboard variable next to the name of the data table column whose value you want assigned to the variable. Press Enter.
- **Add Column:** Enter the name of a column and click the Add Column button to insert a column into the table.
- **Clear:** Click the Clear button to remove all variables listed.

The Column Name list is populated based on the table's data attachment. If you have not yet attached the table to data, this list is empty.

Once you have selected which column values to pass in as substitutions, double-click on any element in your object to open a drill down window that displays corresponding values.

This property is in the Interaction property group.

drillDownSelectMode

Use this property to control how a drill down display is activated. Select one of the following:

- **Anywhere** to activate a drill down display by double-clicking anywhere on the chart.
- **Element Only** to enable a drill down display only when you double-click on an element of the chart, such as a bar or candlestick.

This property is in the Interaction property group.

drillDownTarget

To specify a drill down display, double click on `drillDownTarget` in the Property Name field to bring up the Drill Down Properties dialog. See ["Drill-Down Specification" on page 258](#).

This property is in the Interaction property group.

mouseoverFlag

Select this property to enable tooltips for your pie graph. To display a tooltip, point to a pie wedge with your mouse. The tooltip will contain information from your data attachment about that pie wedge.

This property is in the Interaction property group.

[Pie graph](#)

Pie graph: Label group

Properties in this group control the graph's main label (which defaults to Pie Graph), including text, alignment, color, font, and size.

Label group properties

The group includes the following properties:

- ["label" on page 85](#)
- ["labelTextAlignX" on page 85](#)
- ["labelTextColor" on page 85](#)
- ["labelTextFont" on page 86](#)
- ["labelTextHeight" on page 86](#)

label

Specifies the text for the chart label. Click the ellipsis for multi-line text.

The default is Pie Graph.

This property is in the Label property group.

labelTextAlignX

Sets the alignment of the chart label (see the ["label" on page 85](#) property). Select Left, Center, or Right from the drop down list.

This property is in the Label property group.

labelTextColor

Specifies the color of the chart label text (see the ["label" on page 85](#) property). Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Label property group.

labelTextFont

Specifies the font of the chart label text (see the ["label" on page 85](#) property). Select an item from drop down list.

This property is in the Label property group.

labelTextHeight

Specifies the point size of the chart label text (see the ["label" on page 85](#) property).

This property is in the Label property group.

[Pie graph](#)

Pie graph: Legend group

Properties in this group control the visibility, appearance, and content of the graph legend.

Legend group properties

The group contains the following properties:

- ["legendBgColor" on page 86](#)
- ["legendBgGradientFlag" on page 86](#)
- ["legendValueVisFlag" on page 86](#)
- ["legendVisFlag" on page 86](#)
- ["legendWidthPercent" on page 87](#)

legendBgColor

Select the ... button and choose a color from the palette to set the background color of the legend. Close the **Color Chooser** window when you are done.

This property is in the Legend property group.

legendBgGradientFlag

Select to display a gradient in the legend background.

This property is in the Legend property group.

legendValueVisFlag

Select to display the numerical values of your data in the legend.

This property is in the Legend property group.

legendVisFlag

Select to display the legend.

This property is in the Legend property group.

legendWidthPercent

Set the percent of the total width of the object used for the legend.

This property is in the Legend property group.

[Pie graph](#)

Pie graph: Object group

Properties in this group control the visibility and transparency of the graph as a whole. They also control (or reflect) the overall position and dimensions of the graph. In addition, a property in this group reflects the generated name of this individual graph.

Object group properties

This group contains the following properties:

- ["anchor" on page 87](#)
- ["dock" on page 87](#)
- ["objHeight" on page 87](#)
- ["objName" on page 88](#)
- ["objWidth" on page 88](#)
- ["objX" on page 88](#)
- ["objY" on page 88](#)
- ["transparencyPercent" on page 88](#)
- ["visFlag" on page 88](#)

anchor

Select zero or more of Top, Left, Bottom, and Right in order to control the object's placement. The `anchor` property is only applied when the display is resized either by changing the Background Properties on the display or by resizing the window in Layout mode. If an object has the `dock` property set, the `anchor` property is ignored. See About resize modes in *Building Dashboards* for detailed information.

dock

Select None (default), Top, Left, Bottom, Right, or Fill in order to control the object's placement in Layout resize mode. See About resize modes in *Building Dashboards* for detailed information.

objHeight

Set the height of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time height of the chart.

This property is in the Object property group.

objName

An identifier that is generated by the Dashboard Builder. This name can be used by other objects' properties in order to refer to the named chart.

This property is in the Object property group.

objWidth

Set the width of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time width of the chart.

This property is in the Object property group.

objX

Sets the X coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

objY

Sets the Y coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

transparencyPercent

Sets the transparency of this chart.

This property is in the Object property group.

visFlag

Deselect to make this visualization object invisible in the current dashboard.

This property is in the Object property group.

[Pie graph](#)

Pie graph: Wedge group

Properties in this group control the appearance of the pie's wedges, including thickness, gradient effect, and color.

Wedge group properties

This group contains the following properties:

- ["pieThickness" on page 89](#)

- ["wedgeGradientFlag" on page 89](#)
- ["wedgeProperties" on page 89](#)

pieThickness

Sets the thickness of the wedges in pixels.

This property is in the Wedge property group.

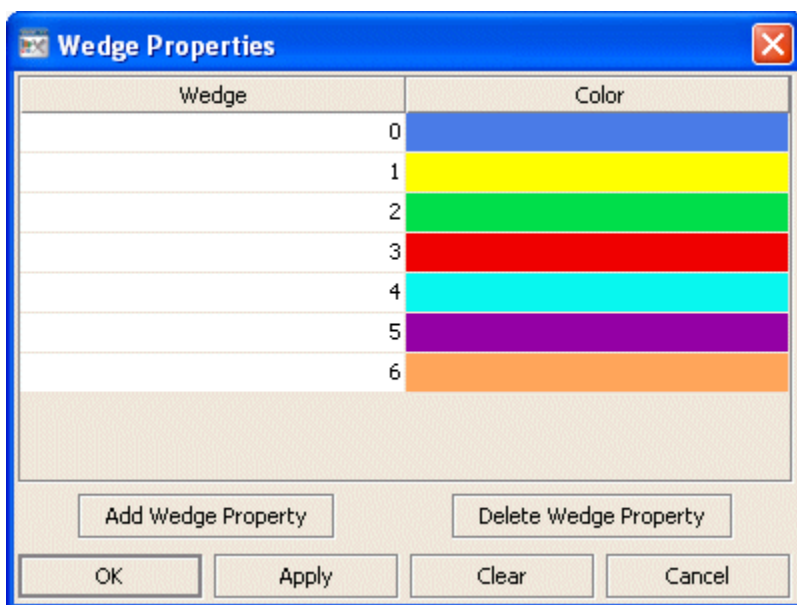
wedgeGradientFlag

Select the box to enable the gradient effect in the wedges.

This property is in the Wedge property group.

wedgeProperties

Use this property to assign a color to each wedge in a pie graph. In the Object Properties window, double-click on `wedgeProperties` in the Property Name field to bring up the **Wedge Properties** dialog.



Note: Before you assign attributes to wedges in your pie graph, it is recommended that you first attach the pie graph to data.

The **Wedge Properties** dialog has two columns of fields:

- **Wedge:** Each wedge from the pie graph is listed.
- **Color:** Select the ellipsis button in the and choose a color from the palette. Close the **Color Chooser** window.

The dialog has the following buttons:

- **Add Wedge Property:** Click to add a wedge entry field. The data for the wedge does not have to be available yet. You may consider adding and assigning attributes to more wedges than your data currently needs for when you have more data to show.
- **Delete Wedge Property:** Removes the last wedge entry field from the Wedge Properties dialog.

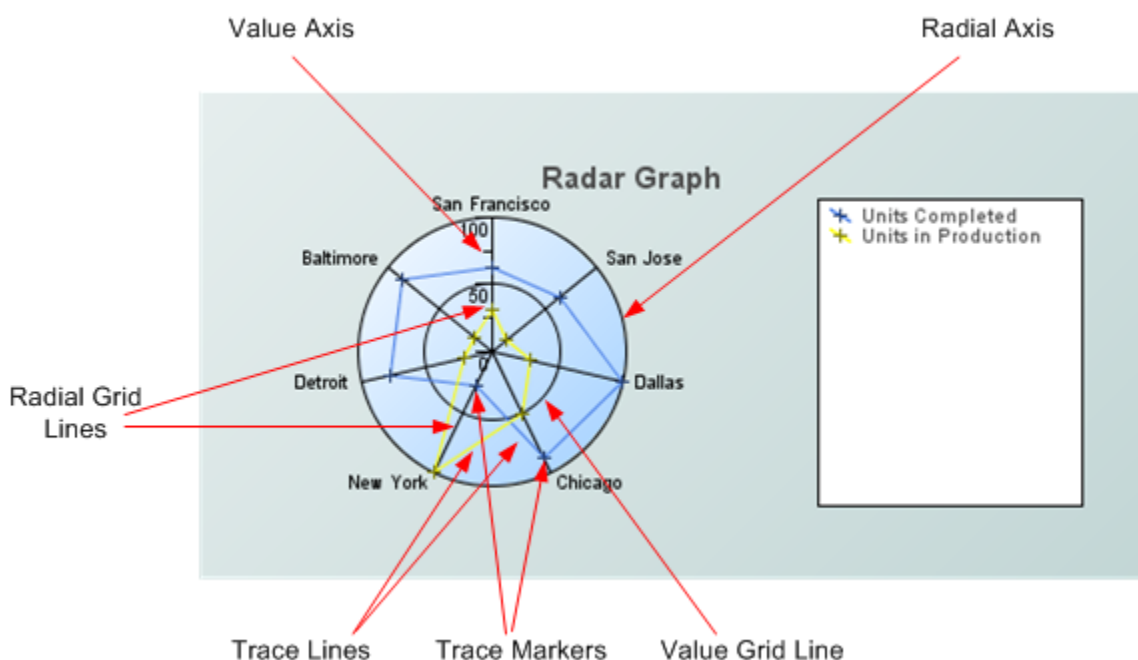
- **OK:** Applies values and closes the dialog.
- **Apply:** Applies values without closing the dialog.
- **Reset:** Resets all fields to last values applied.
- **Clear:** Clears all fields. Detaches object from data source (once Apply or OK is selected).
- **Cancel:** Closes the dialog with last values applied.

This property is in the Wedge property group.

[Pie graph](#)

Radar graph

Radar graphs visualize tabular data that has one or more numerical columns. Typically, the visualized data also has one non-numerical column whose values are used as graph labels that uniquely identify each row.



A radar graph can visualize data in either of two ways:

- **Row series visualization:** The graph displays one radial grid line for each numeric column of the visualized data, and one trace for each row of the data. A given trace intersects a given radial grid line at a distance (from the graph's center) that is proportional to the value of the grid line's corresponding column for the trace's corresponding row. A marker is displayed at the point of intersection.
- **Column series visualization:** The graph displays one radial grid line for each row of your data attachment, and one trace for each numeric column of your data attachment. A given trace intersects a given radial grid line at a distance (from the graph's center) that is proportional to the value of the trace's corresponding column for the grid line's corresponding row. A marker is displayed at the point of intersection.

Use the ["valueTable" on page 28](#) property to attach data to a radar graph. Use the ["rowSeriesFlag" on page 27](#) property to specify row series or column series visualization.

When a radar graph is selected in the Builder canvas, the Object Class Name that appears at the top of the Object Properties pane is `obj_radar`.

The Object Properties panel organizes radar graph properties into the following groups:

- ["Radar graph: Alert group" on page 91](#)
- ["Radar graph: Background group" on page 97](#)
- ["Radar graph: Column group" on page 99](#)
- ["Radar graph: Data group" on page 100](#)
- ["Radar graph: Data Format group" on page 102](#)
- ["Radar graph: Data Label group" on page 102](#)
- ["Radar graph: Historian group" on page 103](#)
- ["Radar graph: Interaction group" on page 104](#)
- ["Radar graph: Label group" on page 106](#)
- ["Radar graph: Legend group" on page 107](#)
- ["Radar graph: Marker group" on page 108](#)
- ["Radar graph: Object group" on page 109](#)
- ["Radar graph: Plot Area group" on page 110](#)
- ["Radar graph: Radial Axis group" on page 111](#)
- ["Radar graph: Trace group" on page 112](#)
- ["Radar graph: Value Axis group" on page 114](#)

Graph Objects

Radar graph: Alert group

Properties in this group allow you to specify changes in the appearance of trace lines and markers that signal changes in the status of specified data elements. You can specify threshold values (see ["valueHighAlarm" on page 93](#), ["valueHighWarning" on page 94](#), ["valueLowAlarm" on page 95](#), and ["valueHighWarning" on page 94](#)) or attach a data table to ["valueAlarmStatusTable" on page 92](#) that indicates the status of each element of the table that is attached to ["valueTable" on page 28](#).

Alert group properties

This group includes the following properties:

- ["valueAlarmStatusTable" on page 92](#)
- ["valueHighAlarm" on page 93](#)

- ["valueHighAlarmEnabledFlag"](#) on page 93
- ["valueHighAlarmLineVisFlag"](#) on page 93
- ["valueHighAlarmMarkColor"](#) on page 93
- ["valueHighAlarmMarkStyle"](#) on page 93
- ["valueHighWarning"](#) on page 94
- ["valueHighWarningEnabledFlag"](#) on page 94
- ["valueHighWarningLineVisFlag"](#) on page 94
- ["valueHighWarningMarkColor"](#) on page 94
- ["valueHighWarningMarkStyle"](#) on page 94
- ["valueLowAlarm"](#) on page 95
- ["valueLowAlarmEnabledFlag"](#) on page 95
- ["valueLowAlarmLineVisFlag"](#) on page 95
- ["valueLowAlarmMarkColor"](#) on page 95
- ["valueLowAlarmMarkStyle"](#) on page 95
- ["valueLowWarning"](#) on page 96
- ["valueLowWarningEnabledFlag"](#) on page 96
- ["valueLowWarningLineVisFlag"](#) on page 96
- ["valueLowWarningMarkColor"](#) on page 96
- ["valueLowWarningMarkStyle"](#) on page 96

valueAlarmStatusTable

Attach an alarm table containing status indexes to this property in order to enable rule based alarm statuses for trace markers. The table attached to `valueAlarmStatusTable` must have the same number of rows and columns as ["valueTable"](#) on page 28. For each data element in ["valueTable"](#) on page 28, the status index at the corresponding position in `valueAlarmStatusTable` is used to set the alarm status of the marker that represents the data element.

Following are the valid indexes are:

- 0: Use normal marker color and style. See ["traceProperties"](#) on page 44.
- 1: Use low alarm marker color and style ["valueLowAlarmMarkColor"](#) on page 95 and ["valueLowAlarmMarkStyle"](#) on page 95.
- 2: Use low warning marker color and style. See ["valueLowWarningMarkColor"](#) on page 96 and ["valueLowWarningMarkStyle"](#) on page 96.
- 3: Use high warning marker color and style. See ["valueHighWarningMarkColor"](#) on page 94 and ["valueHighWarningMarkStyle"](#) on page 94.
- 4: Use high alarm marker color and style. See ["valueHighAlarmMarkColor"](#) on page 93 and ["valueHighAlarmMarkStyle"](#) on page 93.

- -1: Determine marker color and style by comparing the value to the enabled alarm thresholds. See ["valueHighAlarm" on page 93](#), ["valueHighWarning" on page 94](#), ["valueLowAlarm" on page 95](#), and ["valueLowWarning" on page 96](#).

If no data is attached to `valueAlarmStatusTable`, the alarm status for a trace marker is determined by comparing the marker's value to the enabled thresholds. See ["valueHighAlarm" on page 93](#), ["valueHighWarning" on page 94](#), ["valueLowAlarm" on page 95](#), and ["valueLowWarning" on page 96](#).

This property is in the Alert property group.

valueHighAlarm

Specifies the threshold value used by ["valueHighAlarmLineVisFlag" on page 93](#), ["valueHighAlarmMarkColor" on page 93](#), and ["valueHighAlarmMarkStyle" on page 93](#).

This property is in the Alert property group.

valueHighAlarmEnabledFlag

Select to enable the high alarm threshold. See ["valueHighAlarm" on page 93](#).

This property is in the Alert property group.

valueHighAlarmLineVisFlag

Select to display a dashed line at the high alarm threshold. The color of the line is set to ["valueHighAlarmMarkColor" on page 93](#). This line is displayed only if ["valueHighAlarmEnabledFlag" on page 93](#) is selected.

This property is in the Alert property group.

valueHighAlarmMarkColor

When a trace marker's value is greater than or equal to ["valueHighAlarm" on page 93](#), the marker changes to `valueHighAlarmMarkColor` and ["valueHighWarningMarkStyle" on page 94](#), provided ["valueHighAlarmEnabledFlag" on page 93](#) is selected and no data is attached to ["valueAlarmStatusTable" on page 92](#).

If data is attached to ["valueAlarmStatusTable" on page 92](#), a marker changes to `valueHighAlarmMarkColor` and ["valueHighAlarmMarkStyle" on page 93](#) when the marker's corresponding element in the attached alarm status table is 4.

If data is attached to ["valueAlarmStatusTable" on page 92](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 92](#).

This property is in the Alert property group.

valueHighAlarmMarkStyle

When a trace marker's value is greater than or equal to `valueHighAlarm`, the marker changes to ["valueHighAlarmMarkColor" on page 93](#) and `valueHighAlarmMarkStyle`, provided ["valueHighAlarmEnabledFlag" on page 93](#) is selected and no data is attached to ["valueAlarmStatusTable" on page 92](#).

If data is attached to ["valueAlarmStatusTable" on page 92](#), a marker changes to ["valueHighAlarmMarkColor" on page 93](#) and `valueHighAlarmMarkStyle` when the marker's corresponding element in the attached alarm status table is 4.

If data is attached to ["valueAlarmStatusTable" on page 92](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 92](#).

This property is in the Alert property group.

valueHighWarning

Specifies the threshold value used by ["valueHighWarningLineVisFlag" on page 94](#), ["valueHighWarningMarkColor" on page 94](#), and ["valueHighWarningMarkStyle" on page 94](#).

This property is in the Alert property group.

valueHighWarningEnabledFlag

Select to enable the high warning threshold. See ["valueHighWarning" on page 94](#).

This property is in the Alert property group.

valueHighWarningLineVisFlag

Select to display a dashed line at the high warning threshold. The color of the line is set to ["valueHighWarningMarkColor" on page 94](#). This line is displayed only if ["valueHighWarningEnabledFlag" on page 94](#) is selected.

This property is in the Alert property group.

valueHighWarningMarkColor

When a trace marker's value is greater than or equal to ["valueHighWarning" on page 94](#) but less than ["valueHighAlarm" on page 93](#), the marker changes to `valueHighWarningMarkColor` and ["valueHighAlarmMarkStyle" on page 93](#), provided ["valueHighAlarmEnabledFlag" on page 93](#) is selected and no data is attached to ["valueAlarmStatusTable" on page 92](#).

If data is attached to ["valueAlarmStatusTable" on page 92](#), a marker changes to `valueHighWarningMarkColor` and ["valueHighWarningMarkStyle" on page 94](#) when the marker's corresponding element in the attached alarm status table is 3.

If data is attached to ["valueAlarmStatusTable" on page 92](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 92](#).

This property is in the Alert property group.

valueHighWarningMarkStyle

When a trace marker's value is greater than or equal to ["valueHighWarning" on page 94](#) but less than ["valueHighAlarm" on page 93](#), the marker changes to ["valueHighWarningMarkColor" on page 94](#) and `valueHighWarningMarkStyle`, provided ["valueHighWarningEnabledFlag" on page 94](#) is selected and no data is attached to ["valueAlarmStatusTable" on page 92](#).

If data is attached to ["valueAlarmStatusTable" on page 92](#), a marker changes to ["valueHighWarningMarkColor" on page 94](#) and `valueHighWarningMarkStyle` when the marker's corresponding element in the attached alarm status table is 3.

If data is attached to ["valueAlarmStatusTable" on page 92](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 92](#).

This property is in the Alert property group.

valueLowAlarm

Specifies the threshold value used by ["valueLowAlarmLineVisFlag" on page 95](#), ["valueLowAlarmMarkColor" on page 95](#), and ["valueLowWarningMarkStyle" on page 96](#).

This property is in the Alert property group.

valueLowAlarmEnabledFlag

Select to enable the low alarm threshold. See ["valueLowAlarm" on page 95](#).

This property is in the Alert property group.

valueLowAlarmLineVisFlag

Select to display a dashed line at the low alarm threshold. The color of the line is set to ["valueLowAlarmMarkColor" on page 95](#). This line is displayed only if ["valueLowAlarmEnabledFlag" on page 95](#) is selected.

This property is in the Alert property group.

valueLowAlarmMarkColor

When a trace marker's value is less than or equal to ["valueLowAlarm" on page 95](#), the marker changes to `valueLowAlarmMarkColor` and ["valueLowAlarmMarkStyle" on page 95](#), provided ["valueLowAlarmEnabledFlag" on page 95](#) is selected and no data is attached to ["valueAlarmStatusTable" on page 92](#).

If data is attached to ["valueAlarmStatusTable" on page 92](#), a marker changes to `valueLowAlarmMarkColor` and ["valueLowAlarmMarkStyle" on page 95](#) when the marker's corresponding element in the attached alarm status table is 1.

If data is attached to ["valueAlarmStatusTable" on page 92](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 92](#).

This property is in the Alert property group.

valueLowAlarmMarkStyle

When a trace marker's value is less than or equal to ["valueLowAlarm" on page 95](#), the marker changes to ["valueLowAlarmMarkColor" on page 95](#) and `valueLowAlarmMarkStyle`, provided ["valueLowAlarmEnabledFlag" on page 95](#) is selected and no data is attached to ["valueAlarmStatusTable" on page 92](#).

If data is attached to ["valueAlarmStatusTable" on page 92](#), a marker changes to ["valueLowAlarmMarkColor" on page 95](#) and `valueLowAlarmMarkStyle` when the marker's corresponding element in the attached alarm status table is 1.

If data is attached to ["valueAlarmStatusTable" on page 92](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 92](#).

This property is in the Alert property group.

valueLowWarning

Specifies the threshold value used by ["valueLowWarningLineVisFlag" on page 96](#), ["valueLowWarningMarkColor" on page 96](#), and ["valueLowWarningMarkStyle" on page 96](#).

This property is in the Alert property group.

valueLowWarningEnabledFlag

Select to enable the low warning threshold. See ["valueLowWarning" on page 96](#).

This property is in the Alert property group.

valueLowWarningLineVisFlag

Select to display a dashed line at the low warning threshold. The color of the line is set to ["valueLowWarningMarkColor" on page 96](#). This line is displayed only if ["valueLowWarningEnabledFlag" on page 96](#) is selected.

This property is in the Alert property group.

valueLowWarningMarkColor

When a trace marker's value is less than or equal to ["valueLowWarning" on page 96](#) but greater than ["valueLowAlarm" on page 95](#), the marker changes to `valueLowWarningMarkColor` and ["valueLowAlarmMarkStyle" on page 95](#), provided ["valueLowWarningEnabledFlag" on page 96](#) is selected and no data is attached to ["valueAlarmStatusTable" on page 92](#).

If data is attached to ["valueAlarmStatusTable" on page 92](#), a marker changes to `valueLowWarningMarkColor` and ["valueLowWarningMarkStyle" on page 96](#) when the marker's corresponding element in the attached alarm status table is 2.

If data is attached to ["valueAlarmStatusTable" on page 92](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 92](#).

This property is in the Alert property group.

valueLowWarningMarkStyle

When a trace marker's value is less than or equal to ["valueLowWarning" on page 96](#) but greater than ["valueLowAlarm" on page 95](#), the marker changes to ["valueLowWarningMarkColor" on page 96](#) and `valueLowWarningMarkStyle`, provided ["valueLowWarningEnabledFlag" on page 96](#) is selected and no data is attached to ["valueAlarmStatusTable" on page 92](#).

If data is attached to ["valueAlarmStatusTable" on page 92](#), a marker changes to ["valueLowWarningMarkColor" on page 96](#) and `valueLowWarningMarkStyle` when the marker's corresponding element in the attached alarm status table is 2.

If data is attached to ["valueAlarmStatusTable" on page 92](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 92](#).

This property is in the Alert property group.

[Radar graph](#)

Radar graph: Background group

Properties in this group control the visibility and appearance of the portion of the graph that serves as the background of both the plot area and legend.

Background group properties

The group contains the following properties:

- ["bgBorderColor" on page 97](#)
- ["bgBorderFlag" on page 97](#)
- ["bgColor" on page 98](#)
- ["bgEdgeWidth" on page 98](#)
- ["bgGradientColor2" on page 98](#)
- ["bgGradientMode" on page 98](#)
- ["bgRaisedFlag" on page 98](#)
- ["bgRoundness" on page 98](#)
- ["bgShadowFlag" on page 99](#)
- ["bgStyleFlag" on page 99](#)
- ["bgVisFlag" on page 99](#)
- ["borderPixels" on page 99](#)

bgBorderColor

Sets the color of the border (see `bgBorderFlag`) of the background rectangle. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

bgBorderFlag

Select to display a border around the background rectangle.

This property is in the Background property group.

bgColor

Sets the background color. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Background property group.

bgEdgeWidth

Sets the width in pixels of the 3D edge on the background rectangle. This property is only used if `bgBorderFlag` is selected.

This property is in the Background property group.

bgGradientColor2

Sets the color for the second color in the gradient. The default is white. The `bgColor` property sets the first color in the gradient.

This property is in the Background property group.

bgGradientMode

Display a gradient in the background rectangle. Select from the following options:

- **None:** No gradient
- **Diagonal Edge:** Gradient is drawn at a 45 degree angle from the top left to the bottom right corner of the object.
- **Diagonal Center:** Gradient is drawn at a 45 degree angle from the center to the top left and the bottom right corners of the object.
- **Horizontal Edge:** Gradient is drawn horizontally from the top to the bottom of the object.
- **Horizontal Center:** Gradient is drawn horizontally from the center to the top and bottom of the object.
- **Vertical Edge:** Gradient is drawn vertically from the left to the right of the object.
- **Vertical Center:** Gradient is drawn vertically from the center to the left and right of the object.

This property is in the Background property group.

bgRaisedFlag

Reverses the direction of the gradient, as well as that of the 3D edge if the `bgStyle` selected is 3D Rectangle.

This property is in the Background property group.

bgRoundness

Sets the arc length of the rounded corners. This property is only available if the `bgStyle` selected is Round Rectangle.

The value of `bgRoundness` cannot exceed half the value of the `objWidth` or the `objHeight`. If `bgRoundness` does exceed that value, half of `objWidth` or `objHeight` (whichever is smaller) will be used instead. For example if `objWidth` is 100 and `objHeight` is 50, then the value of `bgRoundness` cannot exceed 25. If it does,

then half the value of `objHeight` (25) will be used instead. This property is in the Background property group.

bgShadowFlag

Select to display a drop shadow on the background rectangle.

This property is in the Background property group.

bgStyleFlag

Choose one of the following three options from the drop down menu:

- **Rectangle:** Select to display a background rectangle.
- **3D Rectangle:** Select to display a 3D edge on the background rectangle. If selected, use `bgEdgeWidth` to set the width of the 3D edge.
- **Round Rectangle:** Select to display a background rectangle with rounded edges. If selected, use `bgRoundness` to set the arc length of the rounded corners.

This property is in the Background property group.

bgVisFlag

Select to display the background rectangle.

This property is in the Background property group.

borderPixels

Sets the width in pixels of the border between the chart and the edge of the background rectangle.

This property is in the Background property group.

[Radar graph](#)

Radar graph: Column group

This group contains one property, "[columnsToHide](#)" on [page 99](#), which controls which data-attachment columns are excluded from being used for plotted data or labels.

columnsToHide

Specify columns from the data attachment to exclude from being used for plotted data or labels. Data from the "[labelColumnName](#)" on [page 103](#) column will be used for labels even if that column name is also specified in the `columnsToHide` property. Columns specified in the `columnsToHide` property can still be used in the "[drillDownColumnSubs](#)" on [page 105](#) property.

This property is in the Column property group.

[Radar graph](#)

Radar graph: Data group

Properties in this group control what data appears in the graph, as well as whether the data appears in column series or row series form.

The group contains the following properties:

- ["rowSeriesFlag" on page 100](#)
- ["valueDivisor" on page 100](#)
- ["valueDivisor" on page 100](#)
- ["valueMin" on page 101](#)
- ["valueTable" on page 101](#)

rowSeriesFlag

The `rowSeriesFlag` property controls how data populates the graph:

- If the `rowSeriesFlag` is enabled, the graph displays one radial grid line for each numeric column of your data attachment (see ["valueTable" on page 101](#)), and one trace for each row of your data attachment. A given trace intersects a given radial grid line at a distance (from the graph's center) that is proportional to the value of the grid line's corresponding column for the trace's corresponding row. A marker is displayed at the point of intersection.

If the attachment has a label column (see ["labelColumnName" on page 103](#)) and `rowLabelVisFlag` is selected, values from that column are used as legend labels. If `radialAxisLabelVisFlag` is enabled, the numerical column names appear as labels along the radial axis.

- If the `rowSeriesFlag` is disabled, the graph displays one radial grid line for each row of your data attachment (see ["valueTable" on page 101](#)), and one trace for each numeric column of your data attachment. A given trace intersects a given radial grid line at a distance (from the graph's center) that is proportional to the value of the trace's corresponding column for the grid line's corresponding row. A marker is displayed at the point of intersection.

If the attachment has a label column (see ["labelColumnName" on page 103](#)) and both ["rowLabelVisFlag" on page 103](#) and ["radialAxisLabelVisFlag" on page 112](#) are enabled, values from that column appear as labels along the radial axis. Numerical column names are used as legend labels.

This property is in the Data property group.

valueDivisor

Specifies a value by which to divide data table values in order to arrive at the plotted value for this chart.

The default value is 1. If this property is set to 0, the dashboard uses 1 as the divisor.

This property is in the Data property group.

valueMax

The ["valueMin" on page 101](#) and `valueMax` properties control the range of the value axis if ["valueAxisAutoScaleMode" on page 115](#) is set to Off. In this case, the chart origin (the bottom of the value axis) is labeled with ["valueMin" on page 101](#). The intersection of the value axis and the radial axis (the top of the value axis) is labeled with `valueMax`.

In addition, if ["valueAxisAutoScaleMode" on page 115](#) is set to On - Include Min/Max, the dashboard calculates the smallest x-axis range that includes both ["valueMin" on page 101](#) and `valueMax` as well as all plotted points.

This property is in the Data property group.

valueMin

The `valueMin` and ["valueMax" on page 101](#) properties control the range of the value axis if ["valueAxisAutoScaleMode" on page 115](#) is set to Off. In this case, the chart origin (the bottom of the value axis) is labeled with `valueMin`. The intersection of the value axis and the radial axis (the top of the value axis) is labeled with ["valueMax" on page 101](#).

In addition, if ["valueAxisAutoScaleMode" on page 115](#) is set to On - Include Min/Max, the dashboard calculates the smallest x-axis range that includes both `valueMin` and ["valueMax" on page 101](#) as well as all plotted points.

This property is in the Data property group.

valueTable

Attach your data to the `valueTable` property. Right-click on the property name in the Object Properties panel, and select a menu item under Attach to Data.

The attached data table should have one or more numerical columns. Typically, the data attachment also has one non-numerical column, the label column (see ["labelColumnName" on page 103](#)) whose values uniquely identify each row (that is, no two rows of the table have the same value for the label column).

The ["rowSeriesFlag" on page 100](#) property controls how data populates the graph:

- If the ["rowSeriesFlag" on page 100](#) is enabled, the graph displays one radial grid line for each numeric column of your data attachment, and one trace for each row of your data attachment. A given trace intersects a given radial grid line at a distance (from the graph's center) that is proportional to the value of the grid line's corresponding column for the trace's corresponding row. A marker is displayed at the point of intersection.

If the attachment has a label column and ["rowLabelVisFlag" on page 103](#) is selected, values from that column are used in the legend in order to identify each trace. If ["radialAxisLabelVisFlag" on page 112](#) is enabled, the numerical column names appear as labels along the radial axis.

- If the ["rowSeriesFlag" on page 100](#) is disabled, the graph displays one radial grid line for each row of your data attachment, and one trace for each numeric column of your data attachment. A given trace intersects a given radial grid line at a distance (from the graph's center) that is proportional to the value of the trace's corresponding column for the grid line's corresponding row. A marker is displayed at the point of intersection.

If the attachment has a label column and both ["rowLabelVisFlag" on page 103](#) and ["radialAxisVisFlag" on page 112](#) are enabled, values from that column appear as labels along the radial axis. Numerical column names are used in the legend in order to identify each trace.

This property is in the Data property group.

[Radar graph](#)

Radar graph: Data Format group

Properties on this group control the format of displayed values as well as numerical and date labels.

The group includes the following properties:

- ["labelColumnFormat" on page 102](#)
- ["valueFormat" on page 102](#)

labelColumnFormat

Sets the format of numeric or date labels displayed in the legend, along the radial axis, and in tooltips.

Select or enter the format specification. Use syntax based on the Java `DecimalFormat` class for numeric labels, and syntax based on the Java `SimpleDateFormat` class for date labels.

To enable tooltips, select the ["mouseOverFlag" on page 106](#).

This property is in the Data Format property group.

valueFormat

Sets the numeric format of trace values displayed in tooltips.

Select or enter a format. Use syntax from the Java `DecimalFormat` class. To enable tooltips, select the ["mouseOverFlag" on page 106](#) property.

This property is in the Data Format property group.

[Radar graph](#)

Radar graph: Data Label group

Properties in this group control the labels that are used along the radial axis or in the legend.

Data Label group properties

The group contains the following properties:

- ["columnDisplayNames" on page 103](#)
- ["labelColumnName" on page 103](#)
- ["rowLabelVisFlag" on page 103](#)

- ["rowNameVisFlag" on page 103](#)

columnDisplayNames

Set alternate display names for the columns of the data attached to ["valueTable" on page 101](#). Column names label the radial axes or are used in the legend, depending on whether or not ["rowSeriesFlag" on page 100](#) is selected.

This property is in the Data Label property group.

labelColumnName

Sets the label column. By default, the label column is the first non-numeric text column in your data attachment, if there is one. Data from the label column either appears as labels along the radial axis or else is used in the legend, depending on whether ["rowSeriesFlag" on page 100](#) is enabled.

If both ["rowSeriesFlag" on page 100](#) and ["rowLabelVisFlag" on page 103](#) are enabled, data from the label column is used in the legend.

If ["rowSeriesFlag" on page 100](#) is not enabled and both ["rowLabelVisFlag" on page 103](#) and ["radialAxisLabelVisFlag" on page 112](#) are enabled, data from the label column appears as labels the radial axis.

This property is in the Data Label property group.

rowLabelVisFlag

Determines whether or not data from the label column is used in chart labels. See ["labelColumnName" on page 103](#). If `rowLabelVisFlag` is disabled, integer row identifiers either appear as labels along the radial axis (if ["rowSeriesFlag" on page 100](#) is disabled and ["radialAxisLabelVisFlag" on page 112](#) is enabled) or else are used in the legend (if ["rowSeriesFlag" on page 100](#) is enabled).

This property is in the Data Label property group.

rowNameVisFlag

If your data attachment has no label column (see ["labelColumnName" on page 103](#)), select this property to use generated row names in chart labels.

This property is in the Data Label property group.

[Radar graph](#)

Radar graph: Historian group

Do not use the properties in this group.

historyTableName

Do not use this property.

This property is in the Historian property group.

historyTableRowNameFlag

Do not use this property.

This property is in the Historian property group.

[Radar graph](#)

Radar graph: Interaction group

Properties in this group control various forms of interaction between the end user and the graph, including command, drill down, and tooltip interactions.

Interaction group properties

The group includes the following properties:

- ["command" on page 104](#)
- ["commandCloseWindowOnSuccess" on page 105](#)
- ["commandConfirm" on page 105](#)
- ["confirmText" on page 105](#)
- ["drillDownColumnSubs" on page 105](#)
- ["drillDownSelectMode" on page 106](#)
- ["drillDownTarget" on page 106](#)
- ["mouseOverFlag" on page 106](#)

command

Assign a command or group of commands to this stock chart by right-clicking on the `command` property name in the **Object Properties** window. Select Define Command and choose SYSTEM, APAMA, or MULTIPLE. For information on the **Define Command** dialog, see the Building Dashboards in *Developing Apama Applications*.

Once a command or command group has been assigned to this object, you can activate it from a deployed dashboard or from the Dashboard Builder:

- Dashboard Builder: Double click on the object.
- Web-based deployment: Single click on the object or else right click on it and select Execute Command from the popup menu.
- Local deployment: By default, single-click on the object or else right-click on it and select Execute Command from the popup menu. To override the default, select Tools > Options in the Builder (do this before you generate the deployment package), and uncheck Single-Click for Drill Down and Commands in the General tab. This allows the end user to use either a double click or a right click.

When you activate a command, any defined drill down substitutions are performed, and then the command is executed.

If you assign multiple commands, the commands are launched in an arbitrary order, and are executed asynchronously; there is no guarantee that one command will finish before the next one in the sequence starts.

This property is in the Interaction property group.

commandCloseWindowOnSuccess

Select this property to automatically close the window that initiates a **SYSTEM** command when the command is executed successfully. This applies to **SYSTEM** commands only, and is not supported at all for thin-client, Web-page deployments.

With APAMA commands, the window is closed whether or not the command is executed successfully. For **MULTIPLE** commands, the window closes when the first command in the command group succeeds.

This property is in the Interaction property group.

commandConfirm

By default, when the end user executes a command (see the `command` property), the command confirmation dialog is disabled. To control this option for each individual object, use the `commandConfirm` check box. If confirmation is required for a **MULTIPLE** command group, a single confirmation dialog is presented; if you confirm the execution, all individual commands in the group are executed with no further confirmation. If the you cancel the execution, none of the commands in the group is executed.

You can also override the confirmation status of individual objects with an application-wide policy. Select **Tools | Options** and choose from three confirmation values:

- **Do not confirm:** Indicates that no commands require confirmation (regardless of each object's confirmation status).
- **Confirm all:** Indicates that all commands require confirmation (regardless of each object's confirmation status).
- **Use object confirm flag (default):** Indicates that the confirmation status of each object will determine whether confirmation is required.

This property is in the Interaction property group.

confirmText

Use this property to write your own text for the confirmation dialog. Otherwise, default text is used. See `commandConfirm`.

This property is in the Interaction property group.

drillDownColumnSubs

Use this property to direct a dashboard to assign data-table column values to specified dashboard variables when the end user activates a drilldown on this object. In the **Object Properties** window, double-click on `drillDownColumnSubs` in the Property Name field to bring up the **Drill Down Column Substitutions** dialog.

The dialog has the following fields and buttons:

- **Substitution String:** Enter the dashboard variable next to the name of the data table column whose value you want assigned to the variable. Press **Enter**.
- **Add Column:** Enter the name of a column and click the Add Column button to insert a column into the table.
- **Clear:** Click the Clear button to remove all variables listed.

The Column Name list is populated based on the table's data attachment. If you have not yet attached the table to data, this list is empty.

Once you have selected which column values to pass in as substitutions, double-click on any element in your object to open a drill down window that displays corresponding values.

This property is in the Interaction property group.

drillDownSelectMode

Use this property to control how a drill down display is activated. Select one of the following:

- Anywhere to activate a drill down display by double-clicking anywhere on the chart.
- Element Only to enable a drill down display only when you double-click on an element of the chart, such as a bar or candlestick.

This property is in the Interaction property group.

drillDownTarget

To specify a drill down display, double click on `drillDownTarget` in the Property Name field to bring up the **Drill Down Properties** dialog. See ["Drill-Down Specification" on page 258](#).

This property is in the Interaction property group.

mouseOverFlag

Select this property to enable tooltips for your radar graph. To display a tooltip, point to a trace marker with your mouse. The tooltip will contain information from your data attachment about that marker.

This property is in the Interaction property group.

[Radar graph](#)

Radar graph: Label group

Properties in this group control the graph's main label (which defaults to Radar Graph), including text, alignment, color, font, and size.

Label group properties

The group includes the following properties:

- ["label" on page 107](#)
- ["labelTextAlignX" on page 107](#)

- ["labelTextColor" on page 107](#)
- ["labelTextFont" on page 107](#)
- ["labelTextHeight" on page 107](#)

label

Specifies the text for the chart label. Click the ellipsis for multi-line text.

The default is Radar Graph.

This property is in the Label property group.

labelTextAlignX

Sets the alignment of the chart label (see the ["label" on page 107](#) property). Select Left, Center, or Right from the drop down list.

This property is in the Label property group.

labelTextColor

Specifies the color of the chart label text (see the ["label" on page 107](#) property). Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Label property group.

labelTextFont

Specifies the font of the chart label text (see the ["label" on page 107](#) property). Select an item from drop down list.

This property is in the Label property group.

labelTextHeight

Specifies the point size of the chart label text (see the ["label" on page 107](#) property).

This property is in the Label property group.

[Radar graph](#)

Radar graph: Legend group

Properties in this group control the visibility and appearance of the graph legend.

Legend group properties

The group contains the following properties:

- ["legendBgColor" on page 108](#)
- ["legendBgGradientFlag" on page 108](#)
- ["legendVisFlag" on page 108](#)

- ["legendWidthPercent" on page 108](#)

legendBgColor

Select the ... button and choose a color from the palette to set the background color of the legend. Close the **Color Chooser** window when you are done.

This property is in the Legend property group.

legendBgGradientFlag

Select to display a gradient in the legend background.

This property is in the Legend property group.

legendVisFlag

Select to display the legend.

This property is in the Legend property group.

legendWidthPercent

Set the percent of the total width of the object used for the legend.

This property is in the Legend property group.

[Radar graph](#)

Radar graph: Marker group

Properties in this group control the appearance of trace markers (but see also the ["Radar graph: Trace group" on page 112](#) property group).

Marker group properties

The group contains the following properties:

- ["markDefaultSize" on page 108](#)
- ["markScaleMode" on page 108](#)

markDefaultSize

Sets the size of the trace markers in pixels. Supply an integer value that is between 1 and 18, inclusive.

This property is in the Marker property group.

markScaleMode

Sets the scale mode for trace marks. Select one of the following from the drop down menu:

- No Scale: All marks, across and within traces, are the same size.

- **Scale by Trace:** Scale marks according to the trace in which they reside, that is, marks in the first trace are the largest, across all traces, and the marks in the last trace are the smallest.
- **Scale Within Trace:** Scale marks according to the relative order of the data within each trace.

This property is in the Marker property group.

[Radar graph](#)

Radar graph: Object group

Properties in this group control the visibility and transparency of the graph as a whole. They also control (or reflect) the overall position and dimensions of the graph. In addition, a property in this group reflects the generated name of this individual graph.

Object group properties

This group contains the following properties:

- ["anchor" on page 109](#)
- ["dock" on page 109](#)
- ["objHeight" on page 109](#)
- ["objName" on page 110](#)
- ["objWidth" on page 110](#)
- ["objX" on page 110](#)
- ["objY" on page 110](#)
- ["transparencyPercent" on page 110](#)
- ["visFlag" on page 110](#)

anchor

Select zero or more of Top, Left, Bottom, and Right in order to control the object's placement. The `anchor` property is only applied when the display is resized either by changing the Background Properties on the display or by resizing the window in Layout mode. If an object has the `dock` property set, the `anchor` property is ignored. See About resize modes in *Building Dashboards* for detailed information.

dock

Select None (default), Top, Left, Bottom, Right, or Fill in order to control the object's placement in Layout resize mode. See About resize modes in *Building Dashboards* for detailed information.

objHeight

Set the height of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time height of the chart.

This property is in the Object property group.

objName

An identifier that is generated by the Dashboard Builder. This name can be used by other objects' properties in order to refer to the named chart.

This property is in the Object property group.

objWidth

Set the width of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time width of the chart.

This property is in the Object property group.

objX

Sets the X coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

objY

Sets the Y coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

transparencyPercent

Sets the transparency of this chart.

This property is in the Object property group.

visFlag

Deselect to make this visualization object invisible in the current dashboard.

This property is in the Object property group.

[Radar graph](#)

Radar graph: Plot Area group

Properties in this group control the appearance of the plot area, the rectangular area that serves as background for the axes, grid lines, and trace lines (but not for the legend or radial axis labels—see ["Radar graph: Background group" on page 97](#)).

Plot Area group properties

The group includes the following properties:

- ["gridColor" on page 111](#)
- ["plotBgColor" on page 111](#)

- ["plotBgGradientFlag" on page 111](#)
- ["plotBgImage" on page 111](#)

gridColor

To set the color of the grid lines, select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Plot Area property group.

plotBgColor

To set the color of the plot area, select the ... button and choose a color from the palette to set the background color. Close the **Color Chooser** window when you are done.

This property is in the Plot Area property group.

plotBgGradientFlag

Select to display a gradient in the plot area background. Set the color of the plot area background with the ["plotBgColor" on page 111](#) property.

This property is in the Plot Area property group.

plotBgImage

Specify an image (.gif, .jpg, or .png file) to display in the plot area. Select the name of the image file from the drop down menu, or enter the pathname of the file. The drop down menu contains the names of image files located in the current directory (typically, the `dashboards` directory of your project directory, under your Apama installation's work directory), as well as image files located in the first level of subdirectories. If you enter a pathname, use an absolute pathname or a pathname that is relative to the current directory.

This property is in the Plot Area property group.

[Radar graph](#)

Radar graph: Radial Axis group

Properties in this group control the visibility and appearance of the radial axis, radial axis labels, and radial grid lines.

Radial Axis group

The group includes the following properties:

- ["radialAxisColor" on page 112](#)
- ["radialAxisLabelVisFlag" on page 112](#)
- ["radialAxisLineStyle" on page 112](#)
- ["radialAxisMinLabelWidth" on page 112](#)
- ["radialAxisVisFlag" on page 112](#)

- ["radialGridLineStyle" on page 112](#)
- ["radialGridVisFlag" on page 112](#)

radialAxisColor

To set the color of the radial axis and radial axis label, select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Radial Axis property group.

radialAxisLabelVisFlag

Controls the visibility of the labels that appear along the radial axis.

This property is in the Radial Axis property group.

radialAxisLineStyle

Controls the style of the radial axis. Choose either No Line, Solid, Dotted, Dashed, or Dot Dashed.

This property is in the Radial Axis property group.

radialAxisMinLabelWidth

Specifies the minimum width in pixels for the labels that appear along the radial axis.

This property is in the Radial Axis property group.

radialAxisVisFlag

Controls the visibility of the radial axis.

This property is in the Radial Axis property group.

radialGridLineStyle

Controls the style of the radial grid lines. Choose either No Line, Solid, Dotted, Dashed, or Dot Dashed.

This property is in the Radial Axis property group.

radialGridVisFlag

Controls the visibility of the radial grid lines.

This property is in the Radial Axis property group.

[Radar graph](#)

Radar graph: Trace group

Properties in this group control the appearance of trace lines and trace markers (but see also the ["Radar graph: Marker group" on page 108](#) group), including color, style, and line width.

Trace group properties

This group includes the following properties:

- ["traceFillStyle" on page 113](#)
- ["traceProperties" on page 113](#)

traceFillStyle

Set `traceFillStyle` to one of the following fill styles for the area under the trace:

- Solid
- Transparent
- Gradient
- Transparent Gradient
- None

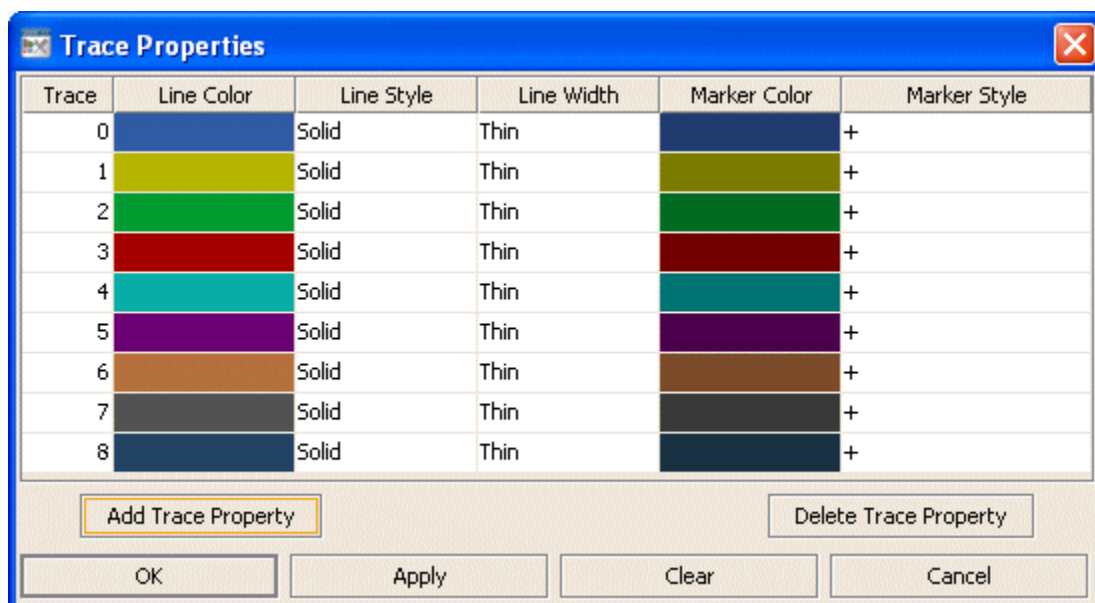
None is the default.

This property is in the Trace property group.

traceProperties

Specify the line color, line style, line width, marker color and marker style of all traces.

In the **Object Properties** window, double-click on `traceProperties` in the Property Name field to bring up the **Trace Properties** dialog. In the **Trace Properties** dialog you can assign attributes to each plotting trace in your graph.



The dialog has six columns of fields:

- **Trace:** One field for each trace that is currently in the graph. Current settings for each trace are shown.

- **Line Color:** Select the ellipsis button in the Color column and choose a color from the palette. Close the Color Chooser window.
- **Line Style:** Select the ellipsis button in the Line Style column and choose a style from the drop down menu. Choose either No Line, Solid, Dotted, Dashed, or Dot Dashed.
- **Line Width:** Select the ellipsis button in the Line Width column and choose a size from the drop down menu. Choose either Thin, Medium or Thick.
- **Marker Color:** Select the ellipsis button in the Marker Color column and choose a color from the palette. Close the Color Chooser window.
- **Marker Style:** Select the ellipsis button in the Marker Style column and choose a style from the drop down menu. Choose either No Marker, Dot, +, *, o, x, Filled Circle, Filled Diamond, Filled Triangle, Filled Square, or Filled Star.

The dialog contains the following buttons:

- **Add Trace Property:** Click to add a trace property field. The data for the trace does not have to be available yet. You may consider adding and assigning attributes to more traces than your data currently needs for when you have more data to show. It is not necessary to set properties for each trace you currently or subsequently have. This is optional and can be done after additional data is displayed in a subsequent new trace.
- **Delete Trace Property:** Removes the last trace property field from the Trace Properties dialog.
- **OK:** Applies values and closes the dialog.
- **Apply:** Applies values without closing the dialog.
- **Reset:** Resets all fields to last values applied. Specify the line color, line style, line width, marker color and marker style of all traces.

This property is in the Trace property group.

[Radar graph](#)

Radar graph: Value Axis group

Properties in this group control the visibility and range of the value axis, as well as value-axis label formats and value-axis divisions. They also control the visibility of value-axis grid lines.

Value Axis group properties

The group includes the following properties:

- ["valueAxisAutoScaleMode" on page 115](#)
- ["valueAxisColor" on page 115](#)
- ["valueAxisFlag" on page 115](#)
- ["valueAxisFormat" on page 115](#)
- ["valueAxisLineStyle" on page 115](#)
- ["valueAxisMajorDivisions" on page 115](#)

- ["valueAxisMinorDivisions" on page 116](#)
- ["valueGridLineStyle" on page 116](#)
- ["valueGridVisFlag" on page 116](#)

valueAxisAutoScaleMode

Select one of the following modes to control the y-axis range:

- Off: The ["valueMin" on page 101](#) and ["valueMax" on page 101](#) properties determine the range of the value axis. This is the default. The chart origin (the bottom of the value axis) is labeled with ["valueMin" on page 101](#). The intersection of the value axis and the radial axis (the top of the value axis) is labeled with ["valueMax" on page 101](#).
- On: The dashboard calculates the value axis range according to data values being plotted.
- On - Include Min/Max: The dashboard calculates the smallest range that includes both ["valueMin" on page 101](#) and ["valueMax" on page 101](#) as well as all plotted points.

This property is in the Value Axis property group.

valueAxisColor

To set the color of the value axis and value axis labels, select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Value Axis property group.

valueAxisFlag

Controls the visibility of the value axis.

This property is in the Value Axis property group.

valueAxisFormat

Sets the format of the numerical labels that appear along the value axis. Select or enter the format specification. Use syntax based on the Java `DecimalFormat` class.

This property is in the Value Axis property group.

valueAxisLineStyle

Controls the style of the value axis. Choose either No Line, Solid, Dotted, Dashed, or Dot Dashed.

This property is in the Value Axis property group.

valueAxisMajorDivisions

Specifies the number of major divisions on the value axis. Each major division is separated by a value grid line. A numeric label appears along the value axis at the intersections with the grid lines (as well as at the origin and at the intersection with the radial axis).

This property is in the Value Axis property group.

valueAxisMinorDivisions

Specifies the number of minor divisions on the value axis. Each minor division is separated by a horizontal tick mark.

This property is in the Value Axis property group.

valueGridLineStyle

Controls the style of the value grid lines. Choose either No Line, Solid, Dotted, Dashed, or Dot Dashed.

This property is in the Value Axis property group.

valueGridVisFlag

Controls the visibility of the value grid lines.

This property is in the Value Axis property group.

[Radar graph](#)

XY graph

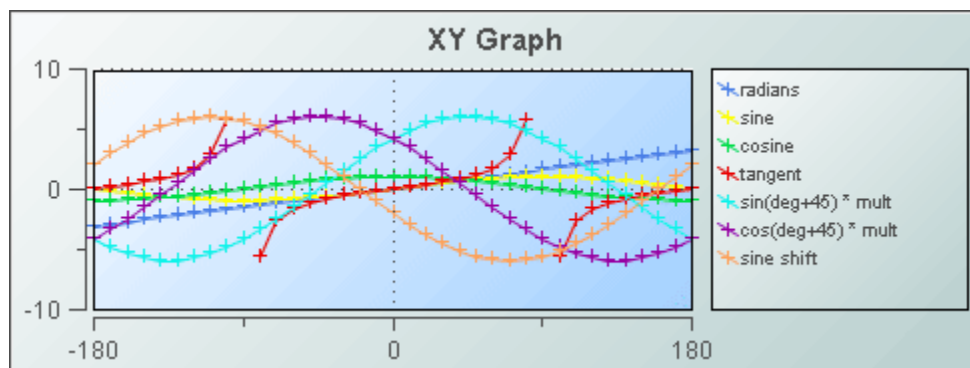
XY graphs visualize tabular data that has at least two rows with two or more numeric columns. An XY graph can visualize data in either of two ways:

- Row series visualization: The graph has one trace for each non-first row of the visualized data. (The first row is used for the x components of the plotted points, as described below.) Within each trace, there is a plotted point for each column of the data.

For a given point in a given trace, the x component is the value of the point's corresponding column for the first row of the visualized data, and the y component is the value of that column for the trace's corresponding row.

- Column series visualization: The graph has one trace for each numeric column of the visualized data, except for the first numeric column. (The first numeric column is used for the x components of the plotted points, as described below.) Within each trace, there is a plotted point for each row of the data.

For a given point in a given trace, the x component is the value of the first numeric column for the point's corresponding row, and the y component is the value of the trace's corresponding column for the point's corresponding row.



Use the ["valueTable" on page 28](#) property to attach data to an XY graph. Use the ["rowSeriesFlag" on page 27](#) property to specify row series or column series visualization.

When an XY graph is selected in the Builder canvas, the Object Class Name that appears at the top of the Object Properties pane is `obj_xygraph`.

The Object Properties panel organizes XY graph properties into the following groups:

- ["XY graph: Alert group" on page 117](#)
- ["XY graph: Background group" on page 124](#)
- ["XY graph: Column group" on page 127](#)
- ["XY graph: Data group" on page 127](#)
- ["XY graph: Data Format group" on page 129](#)
- ["XY graph: Data Label group" on page 130](#)
- ["XY graph: Historian group" on page 131](#)
- ["XY graph: Interaction group" on page 131](#)
- ["XY graph: Label group" on page 135](#)
- ["XY graph: Legend group" on page 136](#)
- ["XY graph: Marker group" on page 137](#)
- ["XY graph: Object group" on page 138](#)
- ["XY graph: Plot Area group" on page 139](#)
- ["XY graph: Trace group" on page 140](#)
- ["XY graph: X-Axis group" on page 142](#)
- ["XY graph: Y-Axis group" on page 144](#)

Graph Objects

XY graph: Alert group

Properties in this group allow you to specify changes in the appearance of trace lines and markers that signal changes in the status of specified data elements. You can specify threshold values (see ["valueHighAlarm" on page 119](#), ["valueHighWarning" on page 120](#), ["valueLowAlarm" on page 122](#), and ["valueLowWarning" on page 123](#)) or attach a data table to ["valueAlarmStatusTable" on page 118](#) that indicates the status of each element of the table that is attached to ["valueTable" on page 28](#).

Alert group properties

This group includes the following properties:

- ["valueAlarmStatusTable" on page 118](#)
- ["valueHighAlarm" on page 119](#)

- ["valueHighAlarmEnabledFlag"](#) on page 119
- ["valueHighAlarmLineVisFlag"](#) on page 119
- ["valueHighAlarmMarkColor"](#) on page 119
- ["valueHighAlarmMarkStyle"](#) on page 120
- ["valueHighAlarmTraceColor"](#) on page 120
- ["valueHighAlarmTraceStyle"](#) on page 120
- ["valueHighWarning"](#) on page 120
- ["valueHighWarningEnabledFlag"](#) on page 120
- ["valueHighWarningLineVisFlag"](#) on page 121
- ["valueHighWarningMarkColor"](#) on page 121
- ["valueHighWarningMarkStyle"](#) on page 121
- ["valueHighWarningTraceColor"](#) on page 121
- ["valueHighWarningTraceStyle"](#) on page 121
- ["valueLowAlarm"](#) on page 122
- ["valueLowAlarmEnabledFlag"](#) on page 122
- ["valueLowAlarmLineVisFlag"](#) on page 122
- ["valueLowAlarmMarkColor"](#) on page 122
- ["valueLowAlarmMarkStyle"](#) on page 122
- ["valueLowAlarmTraceColor"](#) on page 123
- ["valueLowAlarmTraceStyle"](#) on page 123
- ["valueLowWarning"](#) on page 123
- ["valueLowWarningEnabledFlag"](#) on page 123
- ["valueLowWarningLineVisFlag"](#) on page 123
- ["valueLowWarningMarkColor"](#) on page 123
- ["valueLowWarningMarkStyle"](#) on page 124
- ["valueLowWarningTraceColor"](#) on page 124
- ["valueLowWarningTraceStyle"](#) on page 124

valueAlarmStatusTable

Attach an alarm table containing status indexes to this property in order to enable rule based alarm statuses for trace markers. The table attached to `valueAlarmStatusTable` must have the same number of rows and columns as ["valueTable"](#) on page 28. For each data element in ["valueTable"](#) on page 28, the status index at the corresponding position in `valueAlarmStatusTable` is used to set the alarm status of the marker that represents the data element.

Following are the valid indexes are:

- 0: Use normal marker color and style. See ["traceProperties"](#) on page 141.
- 1: Use low alarm marker color and style ["valueLowAlarmMarkColor"](#) on page 122 and ["valueLowAlarmMarkStyle"](#) on page 122.
- 2: Use low warning marker color and style. See ["valueLowWarningMarkColor"](#) on page 123 and ["valueLowWarningMarkStyle"](#) on page 124.
- 3: Use high warning marker color and style. See ["valueHighWarningMarkColor"](#) on page 121 and ["valueHighWarningMarkStyle"](#) on page 121.
- 4: Use high alarm marker color and style. See ["valueHighAlarmMarkColor"](#) on page 119 and ["valueHighAlarmMarkStyle"](#) on page 120.
- -1: Determine marker color and style by comparing the value to the enabled alarm thresholds. See ["valueHighAlarm"](#) on page 119, ["valueHighWarning"](#) on page 120, ["valueLowAlarm"](#) on page 122, and ["valueLowWarning"](#) on page 123.

If no data is attached to `valueAlarmStatusTable`, the alarm status for a trace marker is determined by comparing the marker's value to the enabled thresholds. See ["valueHighAlarm"](#) on page 119, ["valueHighWarning"](#) on page 120, ["valueLowAlarm"](#) on page 122, and ["valueLowWarning"](#) on page 123.

This property is in the Alert property group.

valueHighAlarm

Specifies the threshold value used by ["valueHighAlarmLineVisFlag"](#) on page 119, ["valueHighAlarmMarkColor"](#) on page 119, ["valueHighAlarmMarkStyle"](#) on page 120, ["valueHighAlarmTraceColor"](#) on page 120, and ["valueHighAlarmTraceStyle"](#) on page 120.

This property is in the Alert property group.

valueHighAlarmEnabledFlag

Select to enable the high alarm threshold. See ["valueHighAlarm"](#) on page 119.

This property is in the Alert property group.

valueHighAlarmLineVisFlag

Select to display a dotted line at the high alarm threshold. The color of the line is set to ["valueHighAlarmMarkColor"](#) on page 119. This line is displayed only if ["valueHighAlarmEnabledFlag"](#) on page 119 is selected.

This property is in the Alert property group.

valueHighAlarmMarkColor

When a trace marker's value is greater than or equal to ["valueHighAlarm"](#) on page 119, the marker changes to `valueHighAlarmMarkColor` and ["valueHighAlarmMarkStyle"](#) on page 120, provided ["valueHighAlarmEnabledFlag"](#) on page 119 is selected and no data is attached to ["valueAlarmStatusTable"](#) on page 118.

If data is attached to ["valueAlarmStatusTable"](#) on page 118, a marker changes to `valueHighAlarmMarkColor` and ["valueHighAlarmMarkStyle"](#) on page 120 when the marker's corresponding element in the attached alarm status table is 4.

If data is attached to ["valueAlarmStatusTable" on page 118](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 118](#).

This property is in the Alert property group.

valueHighAlarmMarkStyle

When a trace marker's value is greater than or equal to ["valueHighAlarm" on page 119](#), the marker changes to ["valueHighAlarmMarkColor" on page 119](#) and `valueHighAlarmMarkStyle`, provided ["valueHighAlarmEnabledFlag" on page 119](#) is selected and no data is attached to ["valueAlarmStatusTable" on page 118](#).

If data is attached to ["valueAlarmStatusTable" on page 118](#), a marker changes to ["valueHighAlarmMarkColor" on page 119](#) and `valueHighAlarmMarkStyle` when the marker's corresponding element in the attached alarm status table is 4.

If data is attached to ["valueAlarmStatusTable" on page 118](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 118](#).

This property is in the Alert property group.

valueHighAlarmTraceColor

When the value of any segment of a trace line is greater than or equal to ["valueHighAlarm" on page 119](#), that segment of the trace line changes to `valueHighAlarmTraceColor` and ["valueHighAlarmTraceStyle" on page 120](#), provided ["valueHighAlarmEnabledFlag" on page 119](#) is selected.

This property is in the Alert property group.

valueHighAlarmTraceStyle

When the value of any segment of a trace line is greater than or equal to ["valueHighAlarm" on page 119](#), that segment of the trace line changes to ["valueHighAlarmTraceColor" on page 120](#) and `valueHighAlarmTraceStyle`, provided ["valueHighAlarmEnabledFlag" on page 119](#) is selected.

This property is in the Alert property group.

valueHighWarning

Specifies the threshold value used by ["valueHighWarningLineVisFlag" on page 121](#), ["valueHighWarningMarkColor" on page 121](#), ["valueHighWarningMarkStyle" on page 121](#), ["valueHighWarningTraceColor" on page 121](#), and ["valueHighWarningTraceStyle" on page 121](#).

This property is in the Alert property group.

valueHighWarningEnabledFlag

Select to enable the high warning threshold. See ["valueHighWarning" on page 120](#).

This property is in the Alert property group.

valueHighWarningLineVisFlag

Select to display a dotted line at the high warning threshold. The color of the line is set to "valueHighWarningMarkColor" on page 121. This line is displayed only if "valueHighWarningEnabledFlag" on page 120 is selected.

This property is in the Alert property group.

valueHighWarningMarkColor

When a trace marker's value is greater than or equal to "valueHighWarning" on page 120 but less than "valueHighAlarm" on page 119, the marker changes to valueHighWarningMarkColor and "valueHighWarningMarkStyle" on page 121, provided "valueHighWarningEnabledFlag" on page 120 is selected and no data is attached to "valueAlarmStatusTable" on page 118.

If data is attached to "valueAlarmStatusTable" on page 118, a marker changes to valueHighWarningMarkColor and "valueHighWarningMarkStyle" on page 121 when the marker's corresponding element in the attached alarm status table is 3.

If data is attached to "valueAlarmStatusTable" on page 118, and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to "valueAlarmStatusTable" on page 118.

This property is in the Alert property group.

valueHighWarningMarkStyle

When a trace marker's value is greater than or equal to "valueHighWarning" on page 120 but less than "valueHighAlarm" on page 119, the marker changes to "valueHighWarningMarkColor" on page 121 and valueHighWarningMarkStyle, provided "valueHighWarningEnabledFlag" on page 120 is selected and no data is attached to "valueAlarmStatusTable" on page 118.

If data is attached to "valueAlarmStatusTable" on page 118, a marker changes to "valueHighWarningMarkColor" on page 121 and valueHighWarningMarkStyle when the marker's corresponding element in the attached alarm status table is 3.

If data is attached to "valueAlarmStatusTable" on page 118, and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to "valueAlarmStatusTable" on page 118.

This property is in the Alert property group.

valueHighWarningTraceColor

When the value of any segment of a trace line is greater than or equal to "valueHighWarning" on page 120 property but less than "valueHighAlarm" on page 119, that segment of the trace line changes to valueHighWarningTraceColor and "valueHighWarningTraceStyle" on page 121, provided "valueHighWarningEnabledFlag" on page 120 is selected.

This property is in the Alert property group.

valueHighWarningTraceStyle

When the value of any segment of a trace line is greater than or equal to "valueHighWarning" on page 120 property but less than "valueHighAlarm" on page 119, that segment of the trace line

changes to ["valueHighWarningTraceColor" on page 121](#) and `valueHighWarningTraceStyle`, provided ["valueHighWarningEnabledFlag" on page 120](#) is selected.

This property is in the Alert property group.

valueLowAlarm

Specifies the threshold value used by ["valueLowAlarmLineVisFlag" on page 122](#), ["valueLowAlarmMarkColor" on page 122](#), ["valueLowAlarmMarkStyle" on page 122](#), ["valueLowAlarmTraceColor" on page 123](#), and ["valueLowAlarmTraceStyle" on page 123](#).

This property is in the Alert property group.

valueLowAlarmEnabledFlag

Select to enable the low alarm threshold. See ["valueLowAlarm" on page 122](#).

This property is in the Alert property group.

valueLowAlarmLineVisFlag

Select to display a dotted line at the low alarm threshold. The color of the line is set to ["valueLowAlarmMarkColor" on page 122](#). This line is displayed only if ["valueLowAlarmEnabledFlag" on page 122](#) is selected.

This property is in the Alert property group.

valueLowAlarmMarkColor

When a trace marker's value is less than or equal to ["valueLowAlarm" on page 122](#), the marker changes to `valueLowAlarmMarkColor` and ["valueLowAlarmMarkStyle" on page 122](#), provided ["valueLowAlarmEnabledFlag" on page 122](#) is selected and no data is attached to ["valueAlarmStatusTable" on page 118](#).

If data is attached to ["valueAlarmStatusTable" on page 118](#), a marker changes to `valueLowAlarmMarkColor` and ["valueLowAlarmMarkStyle" on page 122](#) when the marker's corresponding element in the attached alarm status table is 1.

If data is attached to ["valueAlarmStatusTable" on page 118](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 118](#).

This property is in the Alert property group.

valueLowAlarmMarkStyle

When a trace marker's value is less than or equal to ["valueLowAlarm" on page 122](#), the marker changes to ["valueLowAlarmMarkColor" on page 122](#) and `valueLowAlarmMarkStyle`, provided ["valueLowAlarmEnabledFlag" on page 122](#) is selected and no data is attached to ["valueAlarmStatusTable" on page 118](#).

If data is attached to ["valueAlarmStatusTable" on page 118](#), a marker changes to ["valueLowAlarmMarkColor" on page 122](#) and `valueLowAlarmMarkStyle` when the marker's corresponding element in the attached alarm status table is 1.

If data is attached to ["valueAlarmStatusTable" on page 118](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 118](#).

This property is in the Alert property group.

valueLowAlarmTraceColor

When the value of any segment of a trace line is less than or equal to ["valueLowAlarm" on page 122](#), that segment of the trace line changes to `valueLowAlarmTraceColor` and ["valueLowAlarmTraceStyle" on page 123](#), provided ["valueLowAlarmEnabledFlag" on page 122](#) is selected.

This property is in the Alert property group.

valueLowAlarmTraceStyle

When the value of any segment of a trace line is less than or equal to ["valueLowAlarm" on page 122](#), that segment of the trace line changes to ["valueLowAlarmTraceColor" on page 123](#) and `valueLowAlarmTraceStyle`, provided ["valueLowAlarmEnabledFlag" on page 122](#) is selected.

This property is in the Alert property group.

valueLowWarning

Specifies the threshold value used by ["valueLowWarningLineVisFlag" on page 123](#), ["valueLowAlarmMarkColor" on page 122](#), ["valueLowWarningMarkStyle" on page 124](#), ["valueLowWarningTraceColor" on page 124](#), and ["valueLowWarningTraceStyle" on page 124](#).

This property is in the Alert property group.

valueLowWarningEnabledFlag

Select to enable the low warning threshold. See ["valueLowWarning" on page 123](#).

This property is in the Alert property group.

valueLowWarningLineVisFlag

Select to display a dotted line at the low warning threshold. The color of the line is set to ["valueLowWarningMarkColor" on page 123](#). This line is displayed only if ["valueLowWarningEnabledFlag" on page 123](#) is selected.

This property is in the Alert property group.

valueLowWarningMarkColor

When a trace marker's value is less than or equal to ["valueLowWarning" on page 123](#) but greater than ["valueLowAlarm" on page 122](#), the marker changes to `valueLowWarningMarkColor` and ["valueLowWarningMarkStyle" on page 124](#), provided ["valueLowWarningEnabledFlag" on page 123](#) is selected and no data is attached to ["valueAlarmStatusTable" on page 118](#).

If data is attached to ["valueAlarmStatusTable" on page 118](#), a marker changes to `valueLowWarningMarkColor` and ["valueLowWarningMarkStyle" on page 124](#) when the marker's corresponding element in the attached alarm status table is 2.

If data is attached to ["valueAlarmStatusTable" on page 118](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 118](#).

This property is in the Alert property group.

valueLowWarningMarkStyle

When a trace marker's value is less than or equal to ["valueLowWarning" on page 123](#) but greater than ["valueLowAlarm" on page 122](#), the marker changes to ["valueLowWarningMarkColor" on page 123](#) and `valueLowWarningMarkStyle`, provided ["valueLowWarningEnabledFlag" on page 123](#) is selected and no data is attached to ["valueAlarmStatusTable" on page 118](#).

If data is attached to ["valueAlarmStatusTable" on page 118](#), a marker changes to ["valueLowWarningMarkColor" on page 123](#) and `valueLowWarningMarkStyle` when the marker's corresponding element in the attached alarm status table is 2.

If data is attached to ["valueAlarmStatusTable" on page 118](#), and the marker's corresponding element in the attached alarm status table is -1, marker color and style behave as if no data were attached to ["valueAlarmStatusTable" on page 118](#).

This property is in the Alert property group.

valueLowWarningTraceColor

When the value of any segment of a trace line is less than or equal to ["valueLowWarning" on page 123](#) but greater than ["valueLowAlarm" on page 122](#), that segment of the trace line changes to `valueLowWarningTraceColor` and ["valueLowWarningTraceStyle" on page 124](#), provided ["valueLowWarningEnabledFlag" on page 123](#) is selected.

This property is in the Alert property group.

valueLowWarningTraceStyle

When the value of any segment of a trace line is less than or equal to ["valueLowWarning" on page 123](#) property but greater than ["valueLowAlarm" on page 122](#), that segment of the trace line changes to ["valueLowWarningTraceColor" on page 124](#) and `valueLowWarningTraceStyle`, provided ["valueLowWarningEnabledFlag" on page 123](#) is selected.

This property is in the Alert property group.

[XY graph](#)

XY graph: Background group

Properties in this group control the visibility and appearance of the portion of the graph that serves as the background of both the plot area and legend.

Background group properties

The group contains the following properties:

- ["bgBorderColor" on page 125](#)
- ["bgBorderFlag" on page 125](#)
- ["bgColor" on page 125](#)
- ["bgEdgeWidth" on page 125](#)
- ["bgGradientColor2" on page 125](#)

- ["bgGradientMode" on page 125](#)
- ["bgRaisedFlag" on page 126](#)
- ["bgRoundness" on page 126](#)
- ["bgShadowFlag" on page 126](#)
- ["bgStyleFlag" on page 126](#)
- ["bgVisFlag" on page 126](#)
- ["borderPixels" on page 126](#)

bgBorderColor

Sets the color of the border (see `bgBorderFlag`) of the background rectangle. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

bgBorderFlag

Select to display a border around the background rectangle.

This property is in the Background property group.

bgColor

Sets the background color. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Background property group.

bgEdgeWidth

Sets the width in pixels of the 3D edge on the background rectangle. This property is only used if `bgBorderFlag` is selected.

This property is in the Background property group.

bgGradientColor2

Sets the color for the second color in the gradient. The default is white. The `bgColor` property sets the first color in the gradient.

This property is in the Background property group.

bgGradientMode

Display a gradient in the background rectangle. Select from the following options:

- None: No gradient
- Diagonal Edge: Gradient is drawn at a 45 degree angle from the top left to the bottom right corner of the object.
- Diagonal Center: Gradient is drawn at a 45 degree angle from the center to the top left and the bottom right corners of the object.
- Horizontal Edge: Gradient is drawn horizontally from the top to the bottom of the object.

- **Horizontal Center:** Gradient is drawn horizontally from the center to the top and bottom of the object.
- **Vertical Edge:** Gradient is drawn vertically from the left to the right of the object.
- **Vertical Center:** Gradient is drawn vertically from the center to the left and right of the object.

This property is in the Background property group.

bgRaisedFlag

Reverses the direction of the gradient, as well as that of the 3D edge if the `bgStyle` selected is 3D Rectangle.

This property is in the Background property group.

bgRoundness

Sets the arc length of the rounded corners. This property is only available if the `bgStyle` selected is Round Rectangle.

The value of `bgRoundness` cannot exceed half the value of the `objWidth` or the `objHeight`. If `bgRoundness` does exceed that value, half of `objWidth` or `objHeight` (whichever is smaller) will be used instead. For example if `objWidth` is 100 and `objHeight` is 50, then the value of `bgRoundness` cannot exceed 25. If it does, then half the value of `objHeight` (25) will be used instead. This property is in the Background property group.

bgShadowFlag

Select to display a drop shadow on the background rectangle.

This property is in the Background property group.

bgStyleFlag

Choose one of the following three options from the drop down menu:

- **Rectangle:** Select to display a background rectangle.
- **3D Rectangle:** Select to display a 3D edge on the background rectangle. If selected, use `bgEdgeWidth` to set the width of the 3D edge.
- **Round Rectangle:** Select to display a background rectangle with rounded edges. If selected, use `bgRoundness` to set the arc length of the rounded corners.

This property is in the Background property group.

bgVisFlag

Select to display the background rectangle.

This property is in the Background property group.

borderPixels

Sets the width in pixels of the border between the chart and the edge of the background rectangle.

This property is in the Background property group.

XY graph

XY graph: Column group

This group contains one property, "[columnsToHide](#)" on page 127, which controls which data-attachment columns are excluded from being used for plotted data or labels.

columnsToHide

Specifies columns from the data attachment to exclude from being used for plotted data or labels. Data from the "[labelColumnName](#)" on page 130 column are used for labels even if that column name is also specified in the `columnsToHide` property. Columns specified in the `columnsToHide` property can still be used in the "[drillDownColumnSubs](#)" on page 133 property.

This property is in the Column property group.

XY graph

XY graph: Data group

Properties in this group control what data appears in the graph, as well as whether the data appears in column series or row series form.

Data group properties

The group contains the following properties:

- "[rowSeriesFlag](#)" on page 127
- "[valueTable](#)" on page 128
- "[xValueDivisor](#)" on page 128
- "[xValueMax](#)" on page 128
- "[xValueMin](#)" on page 129
- "[yValueDivisor](#)" on page 129
- "[yValueMax](#)" on page 129
- "[yValueMin](#)" on page 129

rowSeriesFlag

Controls how x and y data populate the graph:

- If the `rowSeriesFlag` checkbox is selected, the graph has one trace for each non-first row of your data attachment. (The first row is used for the x components of the plotted points, as described below.) Within each trace, there is a plotted point for each column of your attachment.

For a given point in a given trace, the x component is the value of the point's corresponding column for the first row of your attachment, and the y component is the value of that column for the trace's

corresponding row. Values from the label column (see ["labelColumnName" on page 130](#)) or generated row identifiers are used as labels in the legend.

- If the `rowSeriesFlag` checkbox is not selected, there is a trace for each numeric column of your data attachment, except for the first numeric column. (The first numeric column is used for the x components of the plotted points, as described below.) Within each trace, there is a plotted point for each row of your attachment.

For a given point in a given trace, the x component is the value of the first numeric column for the point's corresponding row, and the y component is the value of the trace's corresponding column for the point's corresponding row. Column names appear in the legend.

This property is in the Data property group.

valueTable

Attach your data to the `valueTable` property. Your data attachment must contain at least two rows and at least two numeric columns. The property ["rowSeriesFlag" on page 127](#) controls how x and y data populate the graph:

- If the ["rowSeriesFlag" on page 127](#) checkbox is selected, the graph has one trace for each non-first row of your data attachment. (The first row is used for the x components of the plotted points, as described below.) Within each trace, there is a plotted point for each column of your attachment.

For a given point in a given trace, the x component is the value of the point's corresponding column for the first row of your attachment, and the y component is the value of that column for the trace's corresponding row. Values from the label column (see ["labelColumnName" on page 130](#)) or generated row identifiers are used as labels in the legend.

- If the ["rowSeriesFlag" on page 127](#) checkbox is not selected, there is a trace for each numeric column of your data attachment, except for the first numeric column. (The first numeric column is used for the x components of the plotted points, as described below.) Within each trace, there is a plotted point for each row of your attachment.

For a given point in a given trace, the x component is the value of the first numeric column for the point's corresponding row, and the y component is the value of the trace's corresponding column for the point's corresponding row. Column names appear in the legend.

This property is in the Data property group.

xValueDivisor

The x values are divided by the value entered into the `xValueDivisor`. The default is 1.

This property is in the Data property group.

xValueMax

The ["xValueMin" on page 129](#) and `xValueMax` properties control the range of the x-axis if ["xAxisAutoScaleMode" on page 142](#) is set to Off. In addition, if ["xAxisAutoScaleMode" on page 142](#) is set to On - Include Min/Max, the dashboard calculates the smallest x-axis range that includes both ["xValueMin" on page 129](#) and `xValueMax` as well as all plotted points.

This property is in the Data property group.

xValueMin

The `xValueMin` and `"xValueMax"` on page 128 properties control the range of the x-axis if `"xAxisAutoScaleMode"` on page 142 is set to Off. In addition, if `"xAxisAutoScaleMode"` on page 142 is set to On - Include Min/Max, the dashboard calculates the smallest x-axis range that includes both `xValueMin` and `"xValueMax"` on page 128 as well as all plotted points.

This property is in the Data property group.

yValueDivisor

The y values are divided by the value entered into the `yValueDivisor`. The default is 1.

This property is in the Data property group.

yValueMax

The `"yValueMin"` on page 129 and `yValueMax` properties control the range of the y-axis if the `"yAxisAutoScaleMode"` on page 144 is set to Off. In addition, if `"yAxisAutoScaleMode"` on page 144 is set to On - Include Min/Max, the dashboard calculates the smallest y-axis range that includes both `"yValueMin"` on page 129 and `yValueMax` as well as all plotted points.

This property is in the Data property group.

yValueMin

The `yValueMin` and `"yValueMax"` on page 129 properties control the range of the y-axis if the `"yAxisAutoScaleMode"` on page 144 is set to Off. In addition, if `"yAxisAutoScaleMode"` on page 144 is set to On - Include Min/Max, the dashboard calculates the smallest y-axis range that includes both `yValueMin` and `"yValueMax"` on page 129 as well as all plotted points.

This property is in the Data property group.

XY graph

XY graph: Data Format group

Properties on this group control the format of displayed values as well as numerical and date labels.

Data Format group properties

The group includes the following properties:

- `"labelColumnFormat"` on page 129
- `"xValueFormat"` on page 130
- `"yValueFormat"` on page 130

labelColumnFormat

Select or enter the format of numeric or date labels displayed in the legend and popup legend (see `"legendPopupFlag"` on page 136).

For numeric labels, use syntax from the Java `DecimalFormat` class.

For date labels, use from the Java `SimpleDateFormat` class.

This property is in the Data Format property group.

xValueFormat

Sets the numeric format of trace values displayed in the legend and popup legend.

Select or enter a format. Use syntax from the Java `DecimalFormat` class.

This property is in the Data Format property group.

yValueFormat

Sets the numeric format of trace values displayed in the legend and popup legend.

Select or enter a format. Use syntax from the Java `DecimalFormat` class.

This property is in the Data Format property group.

[XY graph](#)

XY graph: Data Label group

Properties in this group control the labels that are used in the legend.

Data Label group properties

The group contains the following properties:

- ["columnDisplayNames" on page 130](#)
- ["labelColumnName" on page 130](#)
- ["rowLabelVisFlag" on page 131](#)
- ["rowNameVisFlag" on page 131](#)

columnDisplayNames

Sets alternate display names for column names in your XY graph's data. Column names are displayed in the legend when ["rowSeriesFlag" on page 27](#) is not selected.

This property is in the Data Label property group.

labelColumnName

Sets the label column. By default, the label column is the first non-numeric text column in your data attachment, if there is one (for Apama data tables, `apama.instanceID` is used if there is no other non-numeric column).

Data from the label column is used to label the legend, if both ["rowLabelVisFlag" on page 131](#) and ["rowSeriesFlag" on page 127](#) are enabled.

This property is in the Data Label property group.

rowLabelVisFlag

Determines whether data from the label column (see ["labelColumnName" on page 130](#)) is used for legend labels. Data from the label column is used to label the legend if both `rowLabelVisFlag` and ["rowSeriesFlag" on page 127](#) are enabled.

This property is in the Data Label property group.

rowNameVisFlag

If your data attachment has no label column (see ["labelColumnName" on page 130](#)), select this property to use generated row names in the legend when the ["rowSeriesFlag" on page 127](#) is not selected.

This property is in the Data Label property group.

[XY graph](#)

XY graph: Historian group

Do not use the properties in this group.

historyTableName

Do not use this property.

This property is in the Historian property group.

historyTableRowNameFlag

Do not use this property.

This property is in the Historian property group.

[XY graph](#)

XY graph: Interaction group

Properties in this group control various forms of interaction between the end user and the graph, including scrolling, zooming, and activating commands, drill downs, and tooltips.

Interaction group properties

The group includes the following properties:

- ["command" on page 132](#)
- ["commandCloseWindowOnSuccess" on page 132](#)
- ["commandConfirm" on page 133](#)
- ["confirmText" on page 133](#)

- "cursorColor" on page 133
- "cursorFlag" on page 133
- "drillDownColumnSubs" on page 133
- "drillDownSelectMode" on page 134
- "drillDownTarget" on page 134
- "scrollbarMode" on page 134
- "scrollbarSize" on page 134
- "mouseOverFlag" on page 134
- "zoomEnabledFlag" on page 135

command

Assign a command or group of commands to this stock chart by right-clicking on the `command` property name in the **Object Properties** window. Select **Define Command** and choose **SYSTEM**, **APAMA**, or **MULTIPLE**. For information on the **Define Command** dialog, see the Building Dashboards in *Developing Apama Applications*.

Once a command or command group has been assigned to this object, you can activate it from a deployed dashboard or from the Dashboard Builder:

- Dashboard Builder: Double click on the object.
- Web-based deployment: Single click on the object or else right click on it and select **Execute Command** from the popup menu.
- Local deployment: By default, single-click on the object or else right-click on it and select **Execute Command** from the popup menu. To override the default, select **Tools > Options** in the Builder (do this before you generate the deployment package), and uncheck **Single-Click for Drill Down and Commands** in the **General** tab. This allows the end user to use either a double click or a right click.

When you activate a command, any defined drill down substitutions are performed, and then the command is executed.

If you assign multiple commands, the commands are launched in an arbitrary order, and are executed asynchronously; there is no guarantee that one command will finish before the next one in the sequence starts.

This property is in the Interaction property group.

commandCloseWindowOnSuccess

Select this property to automatically close the window that initiates a **SYSTEM** command when the command is executed successfully. This applies to **SYSTEM** commands only, and is not supported at all for thin-client, Web-page deployments.

With **APAMA** commands, the window is closed whether or not the command is executed successfully. For **MULTIPLE** commands, the window closes when the first command in the command group succeeds.

This property is in the Interaction property group.

commandConfirm

By default, when the end user executes a command (see the `command` property), the command confirmation dialog is disabled. To control this option for each individual object, use the `commandConfirm` check box. If confirmation is required for a MULTIPLE command group, a single confirmation dialog is presented; if you confirm the execution, all individual commands in the group are executed with no further confirmation. If the you cancel the execution, none of the commands in the group is executed.

You can also override the confirmation status of individual objects with an application-wide policy. Select Tools | Options and choose from three confirmation values:

- Do not confirm: Indicates that no commands require confirmation (regardless of each object's confirmation status).
- Confirm all: Indicates that all commands require confirmation (regardless of each object's confirmation status).
- Use object confirm flag (default): Indicates that the confirmation status of each object will determine whether confirmation is required.

This property is in the Interaction property group.

confirmText

Use this property to write your own text for the confirmation dialog. Otherwise, default text is used. See "[commandConfirm](#)" on page 133.

This property is in the Interaction property group.

cursorColor

To set the color of the cursor (see "[cursorFlag](#)" on page 133), select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Interaction property group.

cursorFlag

Select to enable the cursor. When the cursor is enabled, point to a location on a trace to see a cursor line at that location and display the time and values of all traces at the cursor line on the legend. Hold down the control key to snap the cursor to the closest data point. Select the "[legendPopupFlag](#)" on page 136 to display the legend along the cursor.

This property is in the Interaction property group.

drillDownColumnSubs

Use this property to direct a dashboard to assign data-table column values to specified dashboard variables when the end user activates a drilldown on this object. In the **Object Properties** window, double-click on `drillDownColumnSubs` in the Property Name field to bring up the **Drill Down Column Substitutions** dialog.

The dialog has the following fields and buttons:

- Substitution String: Enter the dashboard variable next to the name of the data table column whose value you want assigned to the variable. Press Enter.

- **Add Column:** Enter the name of a column and click the Add Column button to insert a column into the table.
- **Clear:** Click the Clear button to remove all variables listed.

The Column Name list is populated based on the table's data attachment. If you have not yet attached the table to data, this list is empty.

Once you have selected which column values to pass in as substitutions, double-click on any element in your object to open a drill down window that displays corresponding values.

This property is in the Interaction property group.

drillDownSelectMode

Use this property to control how a drill down display is activated. Select one of the following:

- **Anywhere** to activate a drill down display by double-clicking anywhere on the chart.
- **Element Only** to enable a drill down display only when you double-click on an element of the chart, such as a bar or candlestick.

This property is in the Interaction property group.

drillDownTarget

To specify a drill down display, double click on `drillDownTarget` in the Property Name field to bring up the **Drill Down Properties** dialog. See ["Drill-Down Specification" on page 258](#).

This property is in the Interaction property group.

scrollbarMode

Select one of the following from the `scrollbarMode` property to set the behavior of the scroll bar in the table:

- **Never:** Default setting
- **Always:** Display a scroll bar at all times.
- **As Needed:** Display the scroll bar when necessitated by zooming in the trace area or when you have X or Y values that are outside of the min/max range.

This property is in the Interaction property group.

scrollbarSize

Specifies the height of the horizontal scroll bar and the width of the vertical scroll bar, in pixels. The default value is -1, which sets the size to the system default.

This property is in the Interaction property group.

mouseOverFlag

Select to enable tooltips for your graph. To display a tooltip, point to a trace marker with your mouse. The tooltip contains information from your data attachment about that trace marker. This property applies only if ["legendPopupFlag" on page 136](#) is disabled.

This property is in the Interaction property group.

zoomEnabledFlag

Select to enable zooming within the graph. Click in the graph's trace area and drag the cursor until a desired range is selected. While dragging, a rectangle is drawn to show the zoom area. The rectangle's default color is yellow (this can be changed in the "[cursorColor](#)" on page 133 property). After the zoom is performed, the graph stores up to four zoom operations in queue. To zoom out, press the **Shift** key and click in the graph's trace area.

This property is in the Interaction property group.

[XY graph](#)

XY graph: Label group

Properties in this group control the graph's main label (which defaults to XY Graph), including text, alignment, color, font, and size.

Label group properties

The group includes the following properties:

- "[label](#)" on page 135
- "[labelTextAlignX](#)" on page 135
- "[labelTextColor](#)" on page 135
- "[labelTextFont](#)" on page 136
- "[labelTextHeight](#)" on page 136

label

Specifies the text for the chart label. Click the ellipsis for multi-line text.

The default is XY Graph.

This property is in the Label property group.

labelTextAlignX

Sets the alignment of the chart label (see the "[label](#)" on page 135 property). Select Left, Center, or Right from the drop down list.

This property is in the Label property group.

labelTextColor

Specifies the color of the chart label text (see the "[label](#)" on page 135 property). Select the ... button and choose a color from the palette. Close the Color Chooser window when you are done.

This property is in the Label property group.

labelTextFont

Specifies the font of the chart label text (see the ["label" on page 135](#) property). Select an item from drop down list.

This property is in the Label property group.

labelTextHeight

Specifies the point size of the chart label text (see the ["label" on page 135](#) property).

This property is in the Label property group.

[XY graph](#)

XY graph: Legend group

Properties in this group control the visibility and appearance of the graph legend.

Legend group properties

The group contains the following properties:

- ["legendBgColor" on page 136](#)
- ["legendBgGradientFlag" on page 136](#)
- ["legendPopupFlag" on page 136](#)
- ["legendValueMinSpace" on page 137](#)
- ["legendValueVisFlag" on page 137](#)
- ["legendVisFlag" on page 137](#)
- ["legendWidthPercent" on page 137](#)

legendBgColor

Select the ... button and choose a color from the palette to set the background color of the legend. Close the **Color Chooser** window when you are done.

This property is in the Legend property group.

legendBgGradientFlag

Select to display a gradient in the legend background.

This property is in the Legend property group.

legendPopupFlag

Select to display the legend along the cursor.

This property is in the Legend property group.

legendValueMinSpace

Specifies the minimum number of pixels between values and labels in the legend. This property applies only if "[legendValueVisFlag](#)" on [page 137](#) is enabled.

This property is in the Legend property group.

legendValueVisFlag

Select to display the numerical values of your data in the legend.

This property is in the Legend property group.

legendVisFlag

Select to display the legend.

This property is in the Legend property group.

legendWidthPercent

Set the percent of the total width of the object used for the legend.

This property is in the Legend property group.

[XY graph](#)

XY graph: Marker group

Properties in this group control the appearance of trace markers (but see also the "[XY graph: Trace group](#)" on [page 140](#) property group).

Marker group properties

The group contains the following properties:

- "[markDefaultSize](#)" on [page 137](#)
- "[markScaleMode](#)" on [page 137](#)

markDefaultSize

Sets the size of the markers in pixels. Supply an integer value that is between 1 and 18, inclusive.

This property is in the Marker property group.

markScaleMode

Sets the scale mode for trace marks. Select one of the following from the drop down menu:

- No Scale: All marks, across and within traces, are the same size.
- Scale by Trace: Scale marks according to the trace in which they reside, that is, marks in the first trace are the largest, across all traces, and the marks in the last trace are the smallest.
- Scale Within Trace: Scale marks according to the relative order of the data within each trace.

This property is in the Marker property group.

XY graph

XY graph: Object group

Properties in this group control the visibility and transparency of the graph as a whole. They also control (or reflect) the overall position and dimensions of the graph. In addition, a property in this group reflects the generated name of this individual graph.

Object group properties

This group contains the following properties:

- "anchor" on page 138
- "dock" on page 138
- "objHeight" on page 138
- "objName" on page 138
- "objWidth" on page 139
- "objX" on page 139
- "objY" on page 139
- "transparencyPercent" on page 139
- "visFlag" on page 139

anchor

Select zero or more of Top, Left, Bottom, and Right in order to control the object's placement. The `anchor` property is only applied when the display is resized either by changing the Background Properties on the display or by resizing the window in Layout mode. If an object has the `dock` property set, the `anchor` property is ignored. See About resize modes in *Building Dashboards* for detailed information.

dock

Select None (default), Top, Left, Bottom, Right, or Fill in order to control the object's placement in Layout resize mode. See About resize modes in *Building Dashboards* for detailed information.

objHeight

Set the height of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time height of the chart.

This property is in the Object property group.

objName

An identifier that is generated by the Dashboard Builder. This name can be used by other objects' properties in order to refer to the named chart.

This property is in the Object property group.

objWidth

Set the width of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time width of the chart.

This property is in the Object property group.

objX

Sets the X coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

objY

Sets the Y coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

transparencyPercent

Sets the transparency of this chart.

This property is in the Object property group.

visFlag

Deselect to make this visualization object invisible in the current dashboard.

This property is in the Object property group.

[XY graph](#)

XY graph: Plot Area group

Properties in this group control the appearance of the plot area, the rectangular area that serves as background for the grid lines and trace lines (but not for the legend or axis labels—see ["XY graph: Background group" on page 124](#)).

Plot Area group properties

The group includes the following properties:

- ["gridBgColor" on page 140](#)
- ["gridBgGradientFlag" on page 140](#)
- ["gridBgImage" on page 140](#)
- ["gridColor" on page 140](#)

gridBgColor

To set the color of the plot area, select the ... button and choose a color from the palette to set the background color. Close the Color Chooser window when you are done.

This property is in the Plot Area property group.

gridBgGradientFlag

Select to display a gradient in the grid background. Set the color of the grid background with the `gridBgColor` property.

This property is in the Plot Area property group.

gridBgImage

Specify an image (.gif, .jpg, or .png file) to display in the plot area. Select the name of the image file from the drop down menu, or enter the pathname of the file. The drop down menu contains the names of image files located in the current directory (by default, the `dashboards` directory of your Apama installation's work directory), as well as image files located in the first level of subdirectories. If you enter a pathname, use an absolute pathname or a pathname that is relative to the current directory.

This property is in the Plot Area property group.

gridColor

Sets the color of the dotted, horizontal midline of the plot area. Select the ... button and choose a color from the palette. Close the Color Chooser window when you are done.

This property is in the Plot Area property group.

[XY graph](#)

XY graph: Trace group

Properties in this group control the appearance of trace lines and trace markers (but see also the "[XY graph: Marker group](#)" on page 137 property group), including color, style, and line width.

Trace group properties

This group includes the following properties:

- "[traceFillStyle](#)" on page 140
- "[traceProperties](#)" on page 141

traceFillStyle

Set `traceFillStyle` to one of the following fill styles for the area under the trace:

- Solid
- Transparent
- Gradient

- Transparent Gradient
- None

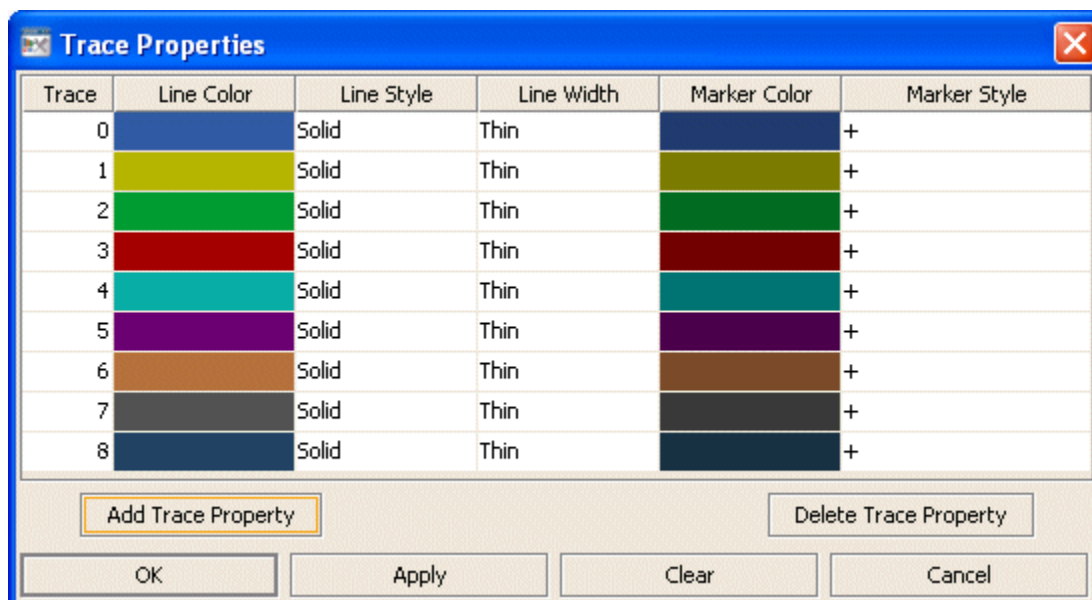
None is the default.

This property is in the Trace property group.

traceProperties

Specify the line color, line style, line width, marker color and marker style of all traces.

In the **Object Properties** window, double-click on `traceProperties` in the Property Name field to bring up the **Trace Properties** dialog. In the **Trace Properties** dialog you can assign attributes to each plotting trace in your graph.



The dialog has six columns of fields:

- **Trace:** One field for each trace that is currently in the graph. Current settings for each trace are shown.
- **Line Color:** Select the ellipsis button in the Color column and choose a color from the palette. Close the Color Chooser window.
- **Line Style:** Select the ellipsis button in the Line Style column and choose a style from the drop down menu. Choose either No Line, Solid, Dotted, Dashed, or Dot Dashed.
- **Line Width:** Select the ellipsis button in the Line Width column and choose a size from the drop down menu. Choose either Thin, Medium or Thick.
- **Marker Color:** Select the ellipsis button in the Marker Color column and choose a color from the palette. Close the Color Chooser window.
- **Marker Style:** Select the ellipsis button in the Marker Style column and choose a style from the drop down menu. Choose either No Marker, Dot, +, *, o, x, Filled Circle, Filled Diamond, Filled Triangle, Filled Square, or Filled Star.

The dialog contains the following buttons:

- **Add Trace Property:** Click to add a trace property field. The data for the trace does not have to be available yet. You may consider adding and assigning attributes to more traces than your data currently needs for when you have more data to show. It is not necessary to set properties for each trace you currently or subsequently have. This is optional and can be done after additional data is displayed in a subsequent new trace.
- **Delete Trace Property:** Removes the last trace property field from the Trace Properties dialog.
- **OK:** Applies values and closes the dialog.
- **Apply:** Applies values without closing the dialog.
- **Reset:** Resets all fields to last values applied. Specify the line color, line style, line width, marker color and marker style of all traces.

This property is in the Trace property group.

[XY graph](#)

XY graph: X-Axis group

Properties in this group control the visibility and scaling of the x-axis, as well as x-axis label formats and x-axis divisions. They also control x-axis sorting and reversing.

X-Axis group properties

The group includes the following properties:

- ["xAxisAutoScaleMode" on page 142](#)
- ["xAxisAutoScaleRoundFlag" on page 143](#)
- ["xAxisFlag" on page 143](#)
- ["xAxisFormat" on page 143](#)
- ["xAxisLabel" on page 143](#)
- ["xAxisLabelTextHeight" on page 143](#)
- ["xAxisMajorDivisions" on page 143](#)
- ["xAxisMinorDivisions" on page 143](#)
- ["xAxisReverseFlag" on page 143](#)
- ["xValueSortFlag" on page 143](#)

xAxisAutoScaleMode

Select one of the following modes to control the x-axis range:

- **Off:** The ["xValueMin" on page 129](#) and ["xValueMax" on page 128](#) properties determine the range of the x-axis. This is the default.
- **On:** The dashboard calculates the x-axis range according to data values being plotted.

- On - Include Min/Max: The dashboard calculates the smallest range that includes "[xValueMin](#)" on [page 129](#) and "[xValueMax](#)" on [page 128](#) as well as all plotted points.

This property is in the X-Axis property group.

xAxisAutoScaleRoundFlag

Select to round values on the x-axis.

This property is in the X-Axis property group.

xAxisFlag

Select to display the x-axis.

This property is in the X-Axis property group.

xAxisFormat

Sets the numeric format of values displayed on the x-axis. Select or enter a format. Use syntax from the Java `DecimalFormat` class.

This property is in the X-Axis property group.

xAxisLabel

Specifies the x-axis label.

This property is in the X-Axis property group.

xAxisLabelTextHeight

Specifies the height in pixels of the x-axis labels.

This property is in the X-Axis property group.

xAxisMajorDivisions

Specify the number of major divisions on the x-axis.

This property is in the X-Axis property group.

xAxisMinorDivisions

Specify the number of minor divisions on the x- axis.

This property is in the X-Axis property group.

xAxisReverseFlag

Select to reverse the order of the x-axis values and plot values decreasing from left to right.

This property is in the X-Axis property group.

xValueSortFlag

Select to sort data from lowest to highest x values.

This property is in the X-Axis property group.

XY graph

XY graph: Y-Axis group

Properties in this group control the visibility and scaling of the y-axis, as well as y-axis label formats and y-axis divisions. They also control whether there is a single y-axis, or one per trace.

Y-Axis group properties

The group includes the following properties:

- ["yAxisAutoScaleMode" on page 144](#)
- ["yAxisFlag" on page 144](#)
- ["yAxisFormat" on page 144](#)
- ["yAxisLabel" on page 145](#)
- ["yAxisLabelTextHeight" on page 145](#)
- ["yAxisMajorDivisions" on page 145](#)
- ["yAxisMinLabelWidth" on page 145](#)
- ["yAxisMinorDivisions" on page 145](#)
- ["yAxisMultiRangeFlag" on page 145](#)

yAxisAutoScaleMode

Select one of the following modes to control the y-axis range:

- Off: The ["yValueMin" on page 129](#) and ["yValueMax" on page 129](#) properties determine the range of the y-axis. This is the default.
- On: The dashboard calculates the y-axis range according to data values being plotted.
- On - Include Min/Max: The dashboard calculates the smallest range (with rounding) that includes both ["yValueMin" on page 129](#) and ["yValueMax" on page 129](#) as well as all plotted points.

This property is in the Y-Axis property group.

yAxisFlag

Select to display the y-axis.

This property is in the Y-Axis property group.

yAxisFormat

Sets the numeric format of values displayed on the y-axis.

Select or enter a format. Use syntax from the Java `DecimalFormat` class.

This property is in the Y-Axis property group.

yAxisLabel

Specifies the y-axis label.

This property is in the Y-Axis property group.

yAxisLabelTextHeight

Specifies the height in pixels of the y-axis labels.

This property is in the Y-Axis property group.

yAxisMajorDivisions

Specifies the number of major divisions on the y-axis.

This property is in the Y-Axis property group.

yAxisMinLabelWidth

Specifies the minimum width in pixels for the y-axis labels.

This property is in the Y-Axis property group.

yAxisMinorDivisions

Specifies the number of minor divisions on the y-axis.

This property is in the Y-Axis property group.

yAxisMultiRangeFlag

Select to enable one axis per trace with each trace having its own range.

This property is in the Y-Axis property group.

[XY graph](#)

Chapter 3: Table Objects

■ Standard tables	146
■ Rotated tables	169

This chapter describes the visualization objects in the Tables tab of the Dashboard Builder tool.

Standard tables

Standard tables display tabular data in a straightforward manner. For each row of the data, there is a row of the displayed table; for each column in the data, there is a column in the displayed table, with the exception of those specified as hidden. Hidden columns can still be used in labels and drill-down substitutions.

Tables are particularly useful as a starting point for drill down. By default, tables are configured to set a number of predefined substitution variables when the end user activates drill down.

Table				
Plant	Units in Production	Units Completed	Status	On Schedule
San Francisco	42	77	online	<input type="checkbox"/>
San Jose	94	25	online	<input checked="" type="checkbox"/>
Dallas	30	60	online	<input checked="" type="checkbox"/>
Chicago	59	40	offline	<input type="checkbox"/>
New York	100	59	waiting for ...	<input type="checkbox"/>
Detroit	97	28	waiting for ...	<input type="checkbox"/>
Baltimore	57	47	waiting for ...	<input type="checkbox"/>
New Orleans	96	57	waiting for ...	<input type="checkbox"/>

Use the ["valueTable" on page 159](#) property to attach data to a standard table. Use the ["columnsToHide" on page 156](#) property to specify columns to be omitted from the display.

Include a new line character (\n) in cell text to display multi-line text.

To copy displayed table data to the system clipboard so that it can be pasted into another application, right click and select Copy Table Values or Copy Cell Value.

This section covers the following table visualizations:

- Table
- Table with Row Labels
- Table without Grid

These visualizations all share the same properties. They differ from one another only with regard to their default values for these properties. When one of these objects is selected in the Builder canvas, the Object Class Name that appears at the top of the Object Properties pane is `obj_table02`.

See also ["Rotated tables" on page 169](#), which covers a table with a different set of properties.

The Object Properties panel organizes standard table properties into the following groups:

- "Standard table: Alert group" on page 148
- "Standard table: Background group" on page 150
- "Standard table: Cell group" on page 152
- "Standard table: Column group" on page 153
- "Standard table: Column Header group" on page 157
- "Standard table: Data group" on page 158
- "Standard table: Data Label group" on page 159
- "Standard table: Grid group" on page 159
- "Standard table: Historian group" on page 160
- "Standard table: Interaction group" on page 160
- "Standard table: Label group" on page 164
- "Standard table: Object group" on page 165
- "Standard table: Row Header group" on page 167
- "Standard table: Sort group" on page 168

The rule's action is performed on those cells specified by the first field that bear the specified comparison relation to the specified value, or else for the rows that contain those cells, or for the columns that contain those cells (depending on how the Target field is set—see below).

The third field is populated with values from the table's data attachment, based on the selected comparison field, along with the options top(5) and bottom(5). Select top(5) to specify the five highest values among the cells specified by the first Condition field. Select bottom(5) to specify the five lowest values among the cells specified by the first Condition field. Once you make a selection, you can edit the number in parentheses.

- **Action:** Use this field to specify the rule's action.

In the first drop down menu, select one of the following:

- **Set Background Color To:** controls the color of cell backgrounds.
- **Set Font Color To:** controls the color of cell text.
- **Hide Rows:** controls the visibility of the rows containing the cells specified by the Condition fields.
- **Display Image:** replaces cell values with an image. Select the name of the image file from the drop down menu, or enter the pathname of the file (a .gif, .jpg, or .png file). The drop down menu contains the names of image files located in the current directory (typically, the `dashboards` directory of your project directory, under your Apama installation's work directory), as well as image files located in the first level of subdirectories. If you enter a pathname, use an absolute pathname or a pathname that is relative to the current directory.

In the second drop down menu, choose which color to apply to the background or font, enter or select an image, or enter the name of a dashboard variable to use as the value of this field.

- **Target:** Use this field to control the cells to which the action is applied. Select one of the following from the drop down list:
 - **Rows:** applies the action to the rows that contain the cells specified in the Condition fields.

- **Cells:** applies the action to the cells specified in the Condition fields.
- **Columns:** applies the action to the columns that contain the cells specified in the Condition fields.

You must select Rows if the action is Hide Rows.

In the **Filter Properties** dialog, double-click on an existing rule to edit it. Click the Remove button to delete a rule. Click Clear to remove all rules. Use the Move Up and Move Down buttons to control the order in which the rules are applied.

This property is in the Alert property group.

Table Objects

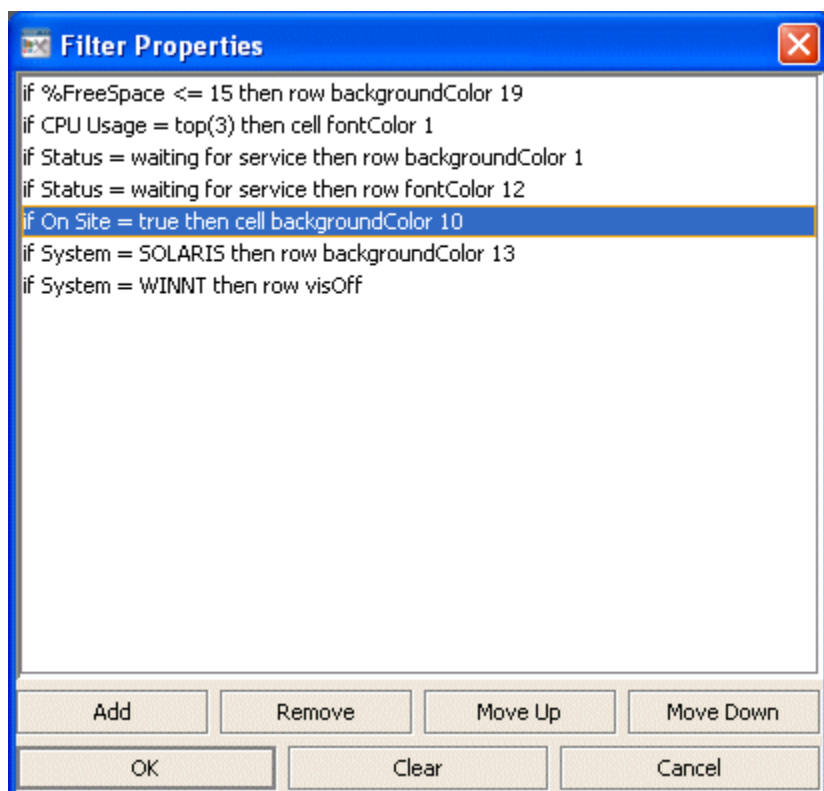
Standard table: Alert group

This property group contains "[filterProperties](#)" on page 148, which specifies how to modify table appearance at runtime in response to changes in the values of individual cells.

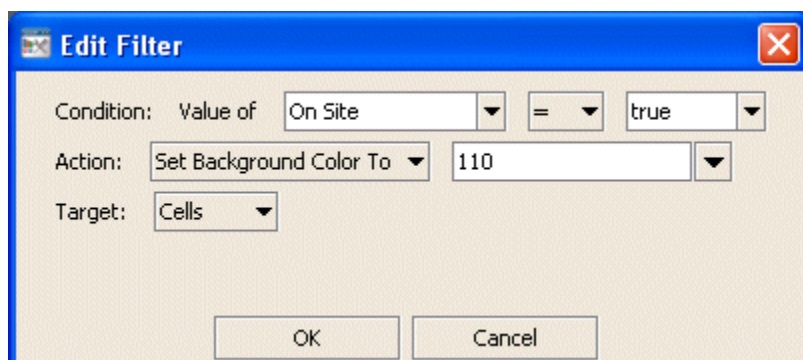
filterProperties

Specifies rules that are applied at runtime in order to set text color, background color, row visibility, and cell images based on the values of individual cells. The rules are applied in the order in which they are listed in the **Filter Properties** dialog, therefore later rules may override the effects of earlier rules.

In the **Object Properties** window, double-click on `filterProperties` in the Property Name field. The **Filter Properties** dialog appears.



Click the Add button in the **Filter Properties** dialog to add a rule. The **Edit Filter** dialog appears.



The dialog has the following fields and buttons:

- **Condition:** Use these fields to specify the cells for which the rule's action is to be performed. The first field specifies a group of cells and the second and third fields specify a condition. The action is performed for those cells in the specified group that meet the specified condition, or else for the rows containing those cells, or for the columns contain those cells (depending on how the Target field is set—see below).

In the first field, supply a column name to specify all cells in a column. Supply Column Header to specify all column header cells. Supply Row Name for all implicit row name cells.

In the second field, select a comparison relation.

In the third field, select or enter a value or dashboard variable name.

[Standard tables](#)

Standard table: Background group

Properties in this group control the visibility and appearance of the rectangle that serves as the background of the table and the table's main label (see label).

Background group properties

The group contains the following properties:

- ["bgBorderColor" on page 150](#)
- ["bgBorderFlag" on page 150](#)
- ["bgColor" on page 150](#)
- ["bgEdgeWidth" on page 150](#)
- ["bgGradientColor2" on page 151](#)
- ["bgGradientMode" on page 151](#)
- ["bgRaisedFlag" on page 151](#)
- ["bgRoundness" on page 151](#)
- ["bgShadowFlag" on page 151](#)
- ["bgStyleFlag" on page 151](#)
- ["bgVisFlag" on page 152](#)
- ["borderPixels" on page 152](#)
- ["tableBgColor" on page 152](#)

bgBorderColor

Sets the color of the border (see [bgBorderFlag](#)) of the background rectangle. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

bgBorderFlag

Select to display a border around the background rectangle.

This property is in the Background property group.

bgColor

Sets the background color. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Background property group.

bgEdgeWidth

Sets the width in pixels of the 3D edge on the background rectangle. This property is only used if ["bgBorderFlag" on page 150](#) is selected.

This property is in the Background property group.

bgGradientColor2

Sets the color for the second color in the gradient. The default is white. The `bgColor` property sets the first color in the gradient.

This property is in the Background property group.

bgGradientMode

Display a gradient in the background rectangle. Select from the following options:

- None: No gradient
- Diagonal Edge: Gradient is drawn at a 45 degree angle from the top left to the bottom right corner of the object.
- Diagonal Center: Gradient is drawn at a 45 degree angle from the center to the top left and the bottom right corners of the object.
- Horizontal Edge: Gradient is drawn horizontally from the top to the bottom of the object.
- Horizontal Center: Gradient is drawn horizontally from the center to the top and bottom of the object.
- Vertical Edge: Gradient is drawn vertically from the left to the right of the object.
- Vertical Center: Gradient is drawn vertically from the center to the left and right of the object.

This property is in the Background property group.

bgRaisedFlag

Reverses the direction of the gradient, as well as that of the 3D edge if the `bgStyle` selected is 3D Rectangle.

This property is in the Background property group.

bgRoundness

Sets the arc length of the rounded corners. This property is only available if the `bgStyle` selected is Round Rectangle.

The value of `bgRoundness` cannot exceed half the value of the `objWidth` or the `objHeight`. If `bgRoundness` does exceed that value, half of `objWidth` or `objHeight` (whichever is smaller) will be used instead. For example if `objWidth` is 100 and `objHeight` is 50, then the value of `bgRoundness` cannot exceed 25. If it does, then half the value of `objHeight` (25) will be used instead. This property is in the Background property group.

bgShadowFlag

Select to display a drop shadow on the background rectangle.

This property is in the Background property group.

bgStyleFlag

Choose one of the following three options from the drop down menu:

- **Rectangle:** Select to display a background rectangle.
- **3D Rectangle:** Select to display a 3D edge on the background rectangle. If selected, use `bgEdgeWidth` to set the width of the 3D edge.
- **Round Rectangle:** Select to display a background rectangle with rounded edges. If selected, use `bgRoundness` to set the arc length of the rounded corners.

This property is in the Background property group.

bgVisFlag

Select to display the background rectangle.

This property is in the Background property group.

borderPixels

Sets the width in pixels of the border between the chart and the edge of the background rectangle.

This property is in the Background property group.

tableBgColor

Sets the color of empty space in the table. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Background property group.

[Standard tables](#)

Standard table: Cell group

Properties in this group control the appearance of cell text and cell background color.

Cell group properties

The group contains the following properties:

- ["cellBgColor" on page 152](#)
- ["cellBgStripedContrast" on page 153](#)
- ["cellBgStripedFlag" on page 153](#)
- ["cellTextColor" on page 153](#)
- ["cellTextFont" on page 153](#)
- ["cellTextSize" on page 153](#)

cellBgColor

Sets the background color of the cells. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Cell property group.

cellBgStripedContrast

Specifies the contrast level for the stripes if "[cellBgStripedFlag](#)" on [page 153](#) is enabled.

This property is in the Cell property group.

cellBgStripedFlag

Specifies alternating striped rows. Alternate rows have a lighter shade of the color specified in "[cellBgColor](#)" on [page 152](#).

This property is in the Cell property group.

cellTextColor

Sets the text color of the cells. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Cell property group.

cellTextFont

Sets the font for cell text. Select an item from the drop down menu.

This property is in the Cell property group.

cellTextSize

Sets the point size of the cell text. The default is 11 points. If you enter a negative value, the default is used.

This property is in the Cell property group.

[Standard tables](#)

Standard table: Column group

Properties in this group control the visibility, width, and resize behavior of table columns, as well as the format and alignment of cell text within each column.

Column group properties

The group contains the following properties:

- "[autoResizeFlag](#)" on [page 154](#)
- "[columnAlignment](#)" on [page 154](#)
- "[columnFormat](#)" on [page 154](#)
- "[columnProperties](#)" on [page 155](#)
- "[columnsToHide](#)" on [page 156](#)
- "[indexColumns](#)" on [page 157](#)

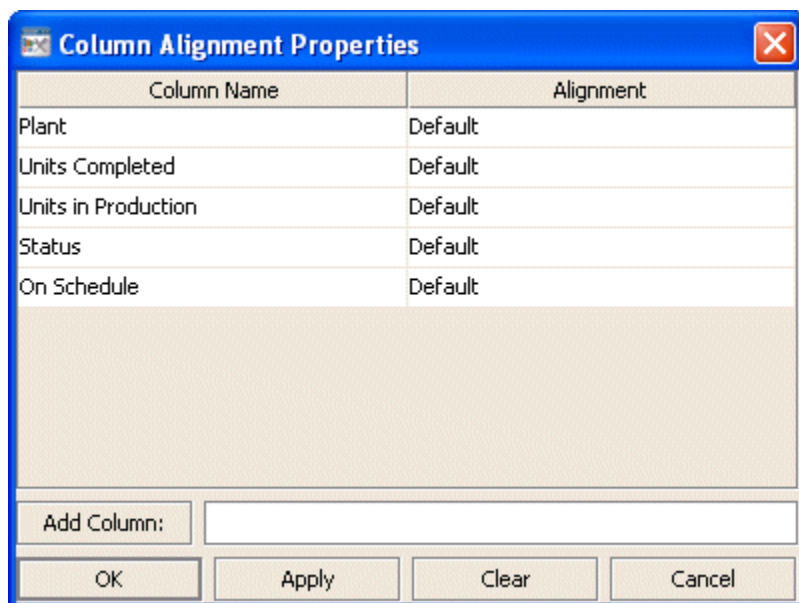
autoResizeFlag

When this property is enabled, column widths change automatically to accommodate table resizing. When this property is disabled, column width is fixed at the values specified by "[columnProperties](#)" on page 155.

This property is in the Column property group.

columnAlignment

Specifies the alignment of text within each column. Select the ellipsis button. The **Column Alignment Properties** dialog appears.



Select one of the following alignment specifications from the drop down menu in the Alignment column:

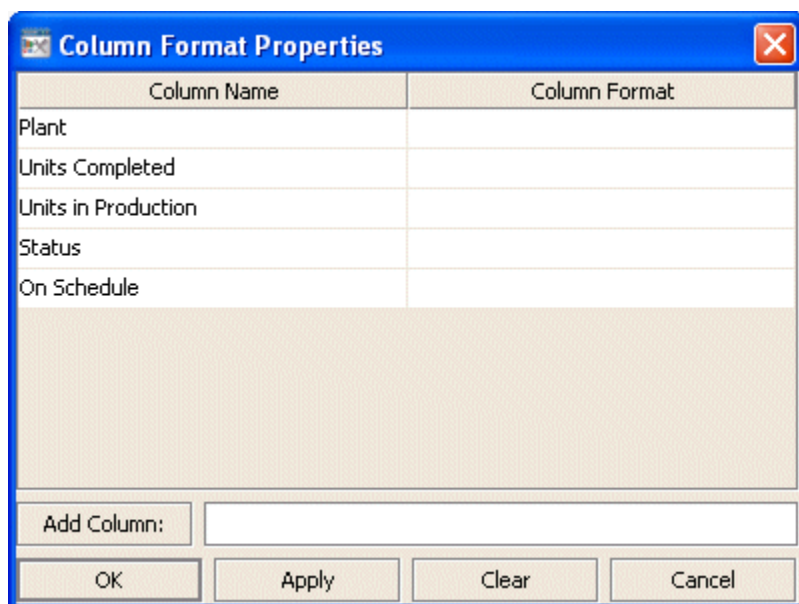
- Default
- Left
- Center
- Right

The default setting depends on the type of column.

This property is in the Column property group.

columnFormat

Specifies formats for numerical and date columns. In the **Object Properties** window, double-click on `columnFormat` in the Property Name field. The **Column Format Properties** dialog appears.



The Column Name list is populated based on the table's data attachment. If you have not yet attached the table to data, this list is empty.

In the Column Format column of the dialog, enter a format or select a format from the drop down menu, and press **Enter**. Specify numerical formats based on the Java format specification, or with the following shorthand:

- \$ for US dollar money values
- \$\$ for US dollar money values with additional formatting, () for non-money values, formatted similar to money
- # for positive or negative whole values

Specify date formats based on the Java date specification.

The dialog has the following buttons:

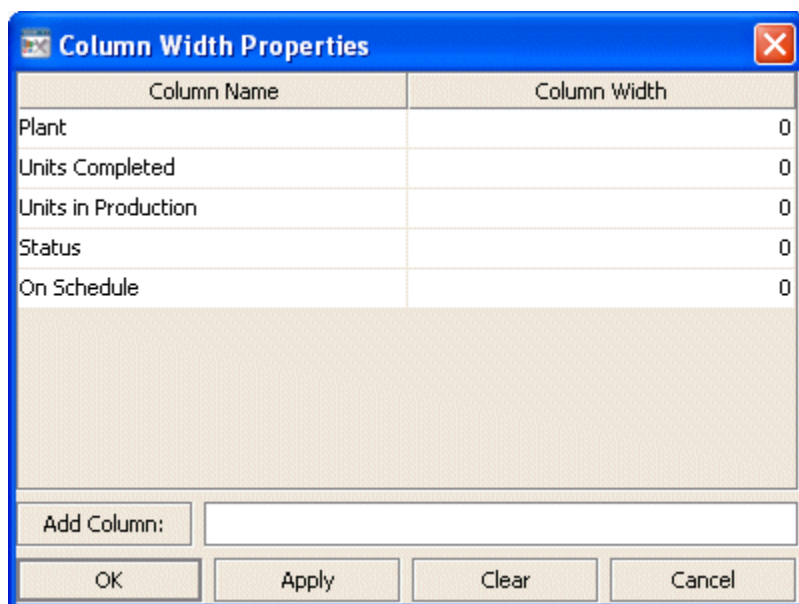
- Add Column: Enter the name of the column and click the Add Column button to insert a column into the table.
- Clear: Click the Clear button to clear all cells in the Column Format column of the dialog.

Note: Text columns that contain text representing numbers are treated as if they are numeric columns, so number formats can be applied.

This property is in the Column property group.

columnProperties

Specifies the width of each column. In the **Object Properties** window, double-click on `columnProperties` in the Property Name field. The **Column Width Properties** dialog appears.



The Column Name list is populated based on the table's data attachment. If you have not yet attached the table to data, this list is empty.

In the Column Width column of the dialog, enter the width in pixels.

The dialog has the following buttons:

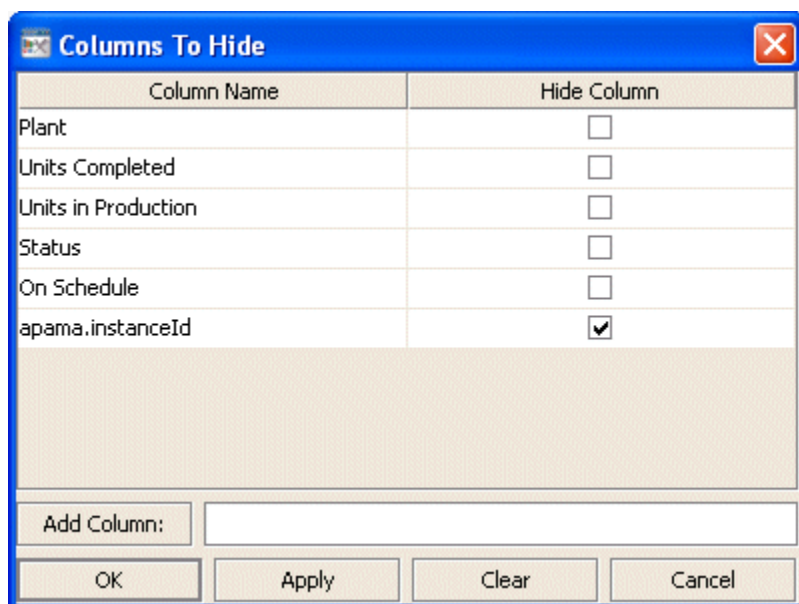
- **Add Column:** Enter the name of the column and click the Add Column button to insert a column into the table.
- **Clear:** Click the Clear button to clear all cells in the Column Width column of the dialog.

This property is in the Column property group.

columnsToHide

Specifies columns from the data attachment to exclude from being displayed in the table. Columns specified in the `columnsToHide` property can still be used in the ["drillDownColumnSubs"](#) on page 162 property.

In the **Object Properties** window, double-click on `columnsToHide` in the Property Name field. The **Columns To Hide** dialog appears.



The Column Name list is populated based on the table's data attachment. If you have not yet attached the table to data, this list is empty.

In the Hide Column column of the dialog, click the checkbox for each column that you want to hide.

The dialog has the following buttons:

- **Add Column:** Enter the name of the column and click the Add Column button to insert a column into the table.
- **Clear:** Click the Clear button to clear all cells in the Column Width column of the dialog.

Dashboard Builder displays a warning message if you attempt to hide the row header column.

This property is in the Column property group.

indexColumns

Use this property in order to maintain the highlight of selected rows after data updates or table sorts are executed. In the Object Properties window, double-click on `indexColumns` in the Property Name field. The **Index Columns** dialog appears. Select one or more columns whose values uniquely identify each row.

This property is in the Column property group.

[Standard tables](#)

Standard table: Column Header group

Properties in this group control the color, font, and size of column-header text, as well as the column-header background color.

Column Header group properties

The group contains the following properties:

- ["columnHeaderBgColor" on page 158](#)
- ["columnHeaderTextColor" on page 158](#)
- ["columnHeaderTextFont" on page 158](#)
- ["columnHeaderTextSize" on page 158](#)

columnHeaderBgColor

Sets the background color of the column headers. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Column Header property group.

columnHeaderTextColor

Sets the text color of the column headers. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Column Header property group.

columnHeaderTextFont

Sets the font for column header text. Select an item from the drop down menu.

This property is in the Column Header property group.

columnHeaderTextSize

Sets the point size of the column header text. The default is 11 points. If you enter a negative value, the default is used.

This property is in the Column Header property group.

[Standard tables](#)

Standard table: Data group

Properties in this group determine what data populates the table.

Data group properties

The group contains the following properties:

- ["insertNewRowsAtTopFlag" on page 159](#)
- ["insertNewRowsFlag" on page 159](#)
- ["maxNumberOfRows" on page 159](#)
- ["rowLabelMode" on page 159](#)
- ["valueTable" on page 159](#)

insertNewRowsAtTopFlag

Controls whether new rows are inserted at the top or bottom of the table, if ["insertNewRowsFlag" on page 159](#) is enabled.

This property is in the Data property group.

insertNewRowsFlag

Controls whether the table contents are replaced or augmented with new data sent to the dashboard. If this property is enabled, the table contents are augmented through the addition of new rows. If this property is not enabled, new data replaces the table contents.

This property is in the Data property group.

maxNumberOfRows

Sets the maximum number of rows that the table can contain. Enter a value that is less than or equal to 131072.

This property is in the Data property group.

rowLabelMode

Supply a positive value to enable a row-header column consisting of generated row IDs.

This property is in the Data property group.

valueTable

Attach your data to the `valueTable` property. Right-click on the property name in the Object Properties panel, and select a menu item under Attach to Data.

This property is in the Data property group.

[Standard tables](#)

Standard table: Data Label group

This property group contains the property ["columnDisplayNames" on page 159](#), which specifies non-default column-header text.

columnDisplayNames

Sets alternate display names for the columns of the data attached to ["valueTable" on page 159](#).

This property is in the Data Label property group.

[Standard tables](#)

Standard table: Grid group

Properties in this group control the visibility of the horizontal and vertical lines that separate table rows and columns.

Grid group properties

The group contains the following properties:

- ["gridHorizontalVisFlag" on page 160](#)
- ["gridVerticalVisFlag" on page 160](#)

gridHorizontalVisFlag

Controls the visibility of the horizontal lines that separate table rows.

This property is in the Grid property group.

gridVerticalVisFlag

Controls the visibility of the vertical lines that separate table columns.

This property is in the Grid property group.

[Standard tables](#)

Standard table: Historian group

Do not use the properties in this group.

historyTableName

Do not use this property.

This property is in the Historian property group.

historyTableRowNameFlag

Do not use this property.

This property is in the Historian property group.

[Standard tables](#)

Standard table: Interaction group

Properties in this group control various forms of interaction between the end user and the table, including scrolling, highlighting, selecting rows, and activating commands, drill downs, and tooltips. There is also a property that controls end-user keyboard navigation with the Tab key. See also the ["Standard table: Sort group" on page 168](#) property group.

Interaction group properties

The group contains the following properties:

- "columnResizeEnabledFlag" on page 161
- "command" on page 161
- "commandCloseWindowOnSuccess" on page 162
- "commandConfirm" on page 162
- "confirmText" on page 162
- "drillDownColumnSubs" on page 162
- "drillDownSelectionMode" on page 163
- "drillDownTarget" on page 163
- "editDataEnabledFlag" on page 163
- "editDataLocalVarName" on page 163
- "multiSelectFlag" on page 163
- "rowHighlightEnabledFlag" on page 163
- "scrollToSelectionFlag" on page 164
- "scrollbarMode" on page 164
- "tabIndex" on page 164

columnResizeEnabledFlag

If selected, the end user can resize table columns by dragging the vertical separators between the column headers. This property also enables resize by dragging for the Dashboard Builder.

Note: This property is ignored for thin client (Display Server) deployments.

This property is in the Interaction property group.

command

Assign a command or group of commands to this stock chart by right-clicking on the `command` property name in the **Object Properties** window. Select Define Command and choose SYSTEM, APAMA, or MULTIPLE. For information on the **Define Command** dialog, see the Building Dashboards in *Developing Apama Applications*.

Once a command or command group has been assigned to this object, you can activate it from a deployed dashboard or from the Dashboard Builder:

- Dashboard Builder: Double click on the object.
- Web-based deployment: Single click on the object or else right click on it and select Execute Command from the popup menu.
- Local deployment: By default, single-click on the object or else right-click on it and select Execute Command from the popup menu. To override the default, select Tools > Options in the Builder (do this before you generate the deployment package), and uncheck Single-Click for Drill Down and Commands in the General tab. This allows the end user to use either a double click or a right click.

When you activate a command, any defined drill down substitutions are performed, and then the command is executed.

If you assign multiple commands, the commands are launched in an arbitrary order, and are executed asynchronously; there is no guarantee that one command will finish before the next one in the sequence starts.

This property is in the Interaction property group.

commandCloseWindowOnSuccess

Select this property to automatically close the window that initiates a **SYSTEM** command when the command is executed successfully. This applies to **SYSTEM** commands only, and is not supported at all for thin-client (Display Server) deployments.

With APAMA commands, the window is closed whether or not the command is executed successfully. For **MULTIPLE** commands, the window closes when the first command in the command group succeeds.

This property is in the Interaction property group.

commandConfirm

By default, when the end user executes a command (see the ["command" on page 161](#) property), the command confirmation dialog is disabled. To control this option for each individual object, use the `commandConfirm` check box. If confirmation is required for a **MULTIPLE** command group, a single confirmation dialog is presented; if you confirm the execution, all individual commands in the group are executed with no further confirmation. If you cancel the execution, none of the commands in the group is executed.

You can also override the confirmation status of individual objects with an application-wide policy. Select **Tools | Options** and choose from three confirmation values:

- **Do not confirm:** Indicates that no commands require confirmation (regardless of each object's confirmation status).
- **Confirm all:** Indicates that all commands require confirmation (regardless of each object's confirmation status).
- **Use object confirm flag (default):** Indicates that the confirmation status of each object will determine whether confirmation is required.

This property is in the Interaction property group.

confirmText

Use this property to write your own text for the confirmation dialog. Otherwise, default text is used. See ["commandConfirm" on page 162](#).

This property is in the Interaction property group.

drillDownColumnSubs

Use this property to direct a dashboard to assign data-table column values to specified dashboard variables when the end user activates a drilldown on this object. In the **Object Properties** window, double-click on `drillDownColumnSubs` in the Property Name field to bring up the **Drill Down Column Substitutions** dialog.

The dialog has the following fields and buttons:

- **Substitution String:** Enter the dashboard variable next to the name of the data table column whose value you want assigned to the variable. Press **Enter**.
- **Add Column:** Enter the name of a column and click the Add Column button to insert a column into the table.
- **Clear:** Click the Clear button to remove all variables listed.

The Column Name list is populated based on the table's data attachment. If you have not yet attached the table to data, this list is empty.

Once you have selected which column values to pass in as substitutions, double-click on any element in your object to open a drill down window that displays corresponding values.

This property is in the Interaction property group.

drillDownSelectMode

Use this property to control how a drill down display is activated. Select one of the following:

- **Anywhere** to activate a drill down display by double-clicking anywhere on the chart.
- **Element Only** to enable a drill down display only when you double-click on an element of the chart, such as a bar or candlestick.

This property is in the Interaction property group.

drillDownTarget

To specify a drill down display, double click on `drillDownTarget` in the Property Name field to bring up the **Drill Down Properties** dialog. See ["Drill-Down Specification" on page 258](#).

This property is in the Interaction property group.

editDataEnabledFlag

Do not use this property.

This property is in the Interaction property group.

editDataLocalVarName

Do not use this property.

This property is in the Interaction property group.

multiSelectFlag

Enables the selection of multiple rows. When the user selects multiple rows and drills down, the drill down substitution values contain a semi colon delimited list of values, one value for each row that can be used with most data sources in the Filter fields of the **Attach To Data** dialogs.

This property is in the Interaction property group.

rowHighlightEnabledFlag

Enables highlighting of an entire row when a cell in the row is selected by the end user.

This property is in the Interaction property group.

scrollToSelectionFlag

When this property is enabled, the selected row is made visible whenever the table is updated or redrawn. If multiple rows are selected, the topmost selected row is made visible.

This property is in the Interaction property group.

scrollbarMode

Select one of the following to set the behavior of the table scroll bars:

- **Never:** Default setting. Some rows or columns may get clipped.
- **As Needed:** Display a scroll bar or scroll bars when there is not enough space to display all of the rows or columns.
- **Always:** Display scroll bars at all times.

This property is in the Interaction property group.

tabIndex

Defines the order in which this table object receives focus (relative to other table objects and control objects) during keyboard navigation using the **Tab** key. Initial focus is given to the object with the smallest positive `tabIndex` value. The tabbing order proceeds in ascending order. If multiple objects share the same `tabIndex` value, initial focus and tabbing order are determined by the alpha-numeric order of the table names. Tables with a `tabIndex` value of 0 are last in the tabbing order.

Note: This property does not apply to thin-client (Display Server) deployments, or to objects that are disabled, invisible, or have a value of less than 0.

This property is in the Interaction property group.

[Standard tables](#)

Standard table: Label group

Properties in this group control the table's main label, including text, alignment, color, font, and size.

Label group properties

The group contains the following properties:

- ["label" on page 165](#)
- ["labelTextAlignX" on page 165](#)
- ["labelTextColor" on page 165](#)
- ["labelTextFont" on page 165](#)
- ["labelTextHeight" on page 165](#)

label

Specifies the text for the chart label. Click the ellipsis for multi-line text.

The default is Table, Table with Row Labels, or Table without Grid.

This property is in the Label property group.

labelTextAlignX

Sets the alignment of the chart label (see the ["label" on page 165](#) property). Select Left, Center, or Right from the drop down list.

This property is in the Label property group.

labelTextColor

Specifies the color of the chart label text (see the ["label" on page 165](#) property). Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Label property group.

labelTextFont

Specifies the font of the chart label text (see the ["label" on page 165](#) property). Select an item from drop down list.

This property is in the Label property group.

labelTextHeight

Specifies the point size of the chart label text (see the ["label" on page 165](#) property).

This property is in the Label property group.

[Standard tables](#)

Standard table: Object group

Properties in this group control the visibility and transparency of the table as a whole. They also control (or reflect) the overall position and dimensions of the table. In addition, a property in this group reflects the generated name of this individual table.

Object group properties

The group contains the following properties:

- ["anchor" on page 166](#)
- ["dock" on page 166](#)
- ["objHeight" on page 166](#)
- ["objName" on page 166](#)
- ["objWidth" on page 166](#)

- ["objX" on page 166](#)
- ["objY" on page 166](#)
- ["visFlag" on page 166](#)

anchor

Select zero or more of Top, Left, Bottom, and Right in order to control the object's placement. The `anchor` property is only applied when the display is resized either by changing the Background Properties on the display or by resizing the window in Layout mode. If an object has the `dock` property set, the `anchor` property is ignored. See About resize modes in *Building Dashboards* for detailed information.

dock

Select None (default), Top, Left, Bottom, Right, or Fill in order to control the object's placement in Layout resize mode. See About resize modes in *Building Dashboards* for detailed information.

objHeight

Set the height of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time height of the chart.

This property is in the Object property group.

objName

An identifier that is generated by the Dashboard Builder. This name can be used by other objects' properties in order to refer to the named chart.

This property is in the Object property group.

objWidth

Set the width of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time width of the chart.

This property is in the Object property group.

objX

Sets the X coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

objY

Sets the Y coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

visFlag

Deselect to make this visualization object invisible in the current dashboard.

This property is in the Object property group.

Standard tables

Standard table: Row Header group

A property in this group specifies whether the cells in the first column are considered to be row headers. If this property is selected, other properties control row-header text color, font, point size, and background color.

Row Header group properties

The group contains the following properties:

- ["rowHeaderBgColor" on page 167](#)
- ["rowHeaderEnabledFlag" on page 167](#)
- ["rowHeaderFilterColorsEnabledFlag" on page 167](#)
- ["rowHeaderTextColor" on page 168](#)
- ["rowHeaderTextFont" on page 168](#)
- ["rowHeaderTextSize" on page 168](#)

rowHeaderBgColor

Sets the background color of row-header cells, provide ["rowHeaderEnabledFlag" on page 167](#) is enabled. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Row Header property group.

rowHeaderEnabledFlag

Specifies that the cells in the first column are row headers When this property is enabled, you can set the appearance of the row-header column using ["rowHeaderBgColor" on page 167](#), ["rowHeaderTextColor" on page 168](#), ["rowHeaderTextFont" on page 168](#), and ["rowHeaderTextSize" on page 168](#) properties.

Dashboard Builder displays a warning message if you attempt to hide the row-header column by using the ["columnsToHide" on page 156](#) property.

This property is in the Row Header property group.

rowHeaderFilterColorsEnabledFlag

Disable this property to disable the effect of ["filterProperties" on page 148](#) on the background color or text color of cells in the row-header column, provided ["rowHeaderEnabledFlag" on page 167](#) is enabled. Note that this does not override the effects of ["filterProperties" on page 148](#) on row visibility.

This property is in the Row Header property group.

rowHeaderTextColor

Sets the text color for row-header cells, provided "[rowHeaderEnabledFlag](#)" on page 167 is enabled. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Row Header property group.

rowHeaderTextFont

Sets the font for row-header cells, provided "[rowHeaderEnabledFlag](#)" on page 167 is enabled. Select an item from the drop down list.

This property is in the Row Header property group.

rowHeaderTextSize

Sets the text point size for row-header cells, provided "[rowHeaderEnabledFlag](#)" on page 167 is enabled.

This property is in the Row Header property group.

[Standard tables](#)

Standard table: Sort group

Properties in this group control the order in which table rows appear, as well as whether the end user can re-sort table rows by clicking on a column header.

Sort group properties

The group contains the following properties:

- "[showSortIconFlag](#)" on page 168
- "[sortAscendingFlag](#)" on page 169
- "[sortColumnName](#)" on page 169

showSortIconFlag

When this property is enabled, the end user can click a column's header to sort the table rows according to the values in that column. The "[sortAscendingFlag](#)" on page 169 property determines whether the sort is initially ascending or descending. Clicking a column header again reverses the sort order. In Dashboard Builder, "[sortAscendingFlag](#)" on page 169 changes in real time to reflect the current sort order, and "[sortColumnName](#)" on page 169 changes in real time to reflect the current sort column.

In addition, when this property is enabled, a sort icon (an arrow head) appears next to the header of the current sort column (determined initially by "[sortColumnName](#)" on page 169). The direction in which the arrow head points indicates whether the current sort order is ascending or descending.

This property is in the Sort property group.

sortAscendingFlag

Determines whether the current sort order is ascending or descending. See ["sortColumnName" on page 169](#) and ["showSortIconFlag" on page 168](#).

This property is in the Sort property group.

sortColumnName

Sets the column whose values determine the order in which table rows appear. If ["sortAscendingFlag" on page 169](#) is enabled, rows with earlier values (either numerically or alphabetically) appear first. See also ["showSortIconFlag" on page 168](#).

This property is in the Sort property group.

[Standard tables](#)

Rotated tables

Rotated tables display tabular data by swapping rows and columns. For each row of the data, there is a column in the displayed table; for each column in the data, there is a row in the displayed table.

Rotated Table						
Plant	San Franci...	San Jose	Dallas	Chicago	New York	De
Units in Pr...	40	54	80	23	84	45
Units Com...	94	94	96	61	68	53
Status	online	online	offline	waiting for ...	waiting for ...	wa
On Schedule	true	true	true	false	false	fal

Use the ["valueTable" on page 174](#) property to attach data to a rotated table.

Include a new line character (\n) in the cell text to display multi-line text.

To copy data to the system clipboard so that it can be pasted into another application, right-click and select Copy Table Values or Copy Cell Value.

When a rotated table is selected in the Builder canvas, the Object Class Name that appears at the top of the Object Properties pane is obj_table03.

The Object Properties panel organizes rotated table properties into the following groups:

- ["Rotated table: Background group" on page 170](#)
- ["Standard table: Cell group" on page 152](#)
- ["Rotated table: Column group" on page 173](#)
- ["Rotated table: Data group" on page 174](#)
- ["Rotated table: Grid group" on page 175](#)
- ["Rotated table: Historian group" on page 175](#)
- ["Rotated table: Interaction group" on page 175](#)
- ["Rotated table: Label group" on page 178](#)

- ["Rotated table: Object group" on page 179](#)

Table Objects

Rotated table: Background group

Properties in this group control the visibility and appearance of the rectangle that serves as the background of the table and the table's main label (see ["label" on page 178](#)).

Background group properties

The group contains the following properties:

- ["bgBorderColor" on page 170](#)
- ["bgBorderFlag" on page 170](#)
- ["bgColor" on page 170](#)
- ["bgEdgeWidth" on page 171](#)
- ["bgGradientColor2" on page 171](#)
- ["bgGradientMode" on page 171](#)
- ["bgRaisedFlag" on page 171](#)
- ["bgRoundness" on page 171](#)
- ["bgShadowFlag" on page 171](#)
- ["bgStyleFlag" on page 172](#)
- ["bgVisFlag" on page 172](#)
- ["borderPixels" on page 172](#)

bgBorderColor

Sets the color of the border (see `bgBorderFlag`) of the background rectangle. Select the ... button and choose a color from the palette. Close the Color Chooser window when you are done.

bgBorderFlag

Select to display a border around the background rectangle.

This property is in the Background property group.

bgColor

Sets the background color. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Background property group.

bgEdgeWidth

Sets the width in pixels of the 3D edge on the background rectangle. This property is only used if "bgBorderFlag" on page 170 is selected.

This property is in the Background property group.

bgGradientColor2

Sets the color for the second color in the gradient. The default is white. The `bgColor` property sets the first color in the gradient.

This property is in the Background property group.

bgGradientMode

Display a gradient in the background rectangle. Select from the following options:

- None: No gradient
- Diagonal Edge: Gradient is drawn at a 45 degree angle from the top left to the bottom right corner of the object.
- Diagonal Center: Gradient is drawn at a 45 degree angle from the center to the top left and the bottom right corners of the object.
- Horizontal Edge: Gradient is drawn horizontally from the top to the bottom of the object.
- Horizontal Center: Gradient is drawn horizontally from the center to the top and bottom of the object.
- Vertical Edge: Gradient is drawn vertically from the left to the right of the object.
- Vertical Center: Gradient is drawn vertically from the center to the left and right of the object.

This property is in the Background property group.

bgRaisedFlag

Reverses the direction of the gradient, as well as that of the 3D edge if the `bgStyle` selected is 3D Rectangle.

This property is in the Background property group.

bgRoundness

Sets the arc length of the rounded corners. This property is only available if the `bgStyle` selected is Round Rectangle.

The value of `bgRoundness` cannot exceed half the value of the `objWidth` or the `objHeight`. If `bgRoundness` does exceed that value, half of `objWidth` or `objHeight` (whichever is smaller) will be used instead. For example if `objWidth` is 100 and `objHeight` is 50, then the value of `bgRoundness` cannot exceed 25. If it does, then half the value of `objHeight` (25) will be used instead. This property is in the Background property group.

bgShadowFlag

Select to display a drop shadow on the background rectangle.

This property is in the Background property group.

bgStyleFlag

Choose one of the following three options from the drop down menu:

- **Rectangle:** Select to display a background rectangle.
- **3D Rectangle:** Select to display a 3D edge on the background rectangle. If selected, use `bgEdgeWidth` to set the width of the 3D edge.
- **Round Rectangle:** Select to display a background rectangle with rounded edges. If selected, use `bgRoundness` to set the arc length of the rounded corners.

This property is in the Background property group.

bgVisFlag

Select to display the background rectangle.

This property is in the Background property group.

borderPixels

Sets the width in pixels of the border between the chart and the edge of the background rectangle.

This property is in the Background property group.

[Rotated tables](#)

Rotated table: Cell group

Properties in this group control the appearance of cell text and cell background color.

Cell group properties

The group contains the following properties:

- ["cellBgColor" on page 172](#)
- ["cellBgStripedContrast" on page 173](#)
- ["cellBgStripedFlag" on page 173](#)
- ["cellTextColor" on page 173](#)
- ["cellTextFont" on page 173](#)
- ["cellTextSize" on page 173](#)

cellBgColor

Sets the background color of the cells. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Cell property group.

cellBgStripedContrast

Specifies the contrast level for the stripes if ["cellBgStripedFlag" on page 173](#) is enabled.

This property is in the Cell property group.

cellBgStripedFlag

Specifies alternating striped rows. Alternate rows have a lighter shade of the color specified in ["cellBgColor" on page 172](#).

This property is in the Cell property group.

cellTextColor

Sets the text color of the cells. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Cell property group.

cellTextFont

Sets the font for cell text. Select an item from the drop down menu.

This property is in the Cell property group.

cellTextSize

Sets the point size of the cell text.

This property is in the Cell property group.

[Rotated tables](#)

Rotated table: Column group

Properties in this group control the width and resize-behavior of table columns.

Column group properties

The group contains the following properties:

- ["autoResizeFlag" on page 173](#)
- ["columnProperties" on page 174](#)

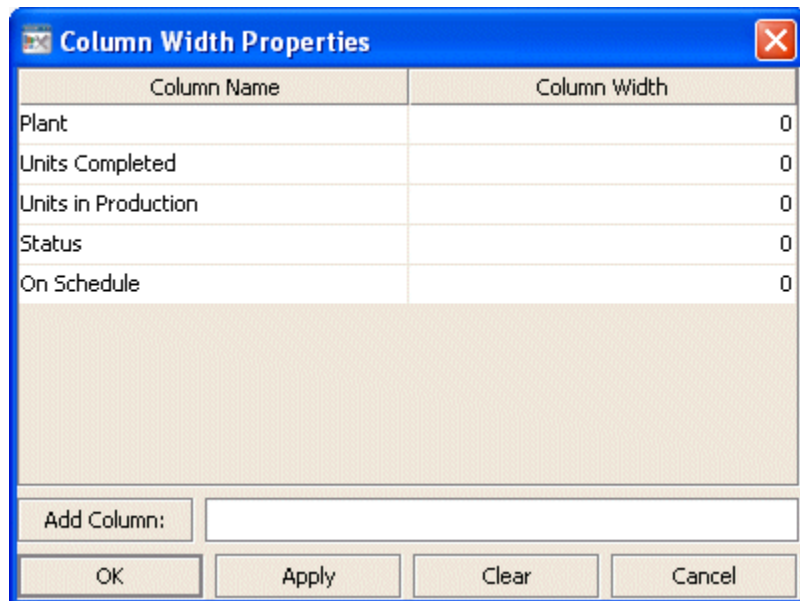
autoResizeFlag

When this property is enabled, column widths change automatically to accommodate table resizing. When this property is disabled, column width is fixed at the values specified by ["columnProperties" on page 174](#).

This property is in the Column property group.

columnProperties

Specifies the width of each column. In the **Object Properties** window, double-click on `columnProperties` in the Property Name field. The **Column Width Properties** dialog appears.



The Column Name list is populated based on the table's data attachment. If you have not yet attached the table to data, this list is empty.

In the Column Width column of the dialog, enter the width in pixels.

The dialog has the following buttons:

- **Add Column:** Enter the name of the column and click the Add Column button to insert a column into the table.
- **Clear:** Click the Clear button to clear all cells in the Column Width column of the dialog.

This property is in the Column property group.

[Rotated tables](#)

Rotated table: Data group

The property in this group, "[valueTable](#)" on page 174, determines what data populates the table.

valueTable

Attach your data to the `valueTable` property. Right-click on the property name in the Object Properties panel, and select a menu item under Attach to Data.

This property is in the Data property group.

[Rotated tables](#)

Rotated table: Grid group

Properties in this group control the visibility of the horizontal and vertical lines that separate table rows and columns.

Grid group properties

The group contains the following properties:

- ["gridHorizontalVisFlag" on page 175](#)
- ["gridVerticalVisFlag" on page 175](#)

gridHorizontalVisFlag

Controls the visibility of the horizontal line that separate table rows.

This property is in the Grid property group.

gridVerticalVisFlag

Controls the visibility of the vertical line that separate table columns.

This property is in the Grid property group.

[Rotated tables](#)

Rotated table: Historian group

Do not use the properties in this group.

historyTableName

Do not use this property.

This property is in the Historian property group.

historyTableRowNameFlag

Do not use this property.

This property is in the Historian property group.

[Rotated tables](#)

Rotated table: Interaction group

Properties in this group control command and drill-down of interaction between the end user and the table.

Interaction group properties

The group contains the following properties:

- ["command" on page 176](#)
- ["commandCloseWindowOnSuccess" on page 176](#)
- ["commandConfirm" on page 177](#)
- ["confirmText" on page 177](#)
- ["drillDownColumnSubs" on page 177](#)
- ["drillDownSelectMode" on page 177](#)
- ["drillDownTarget" on page 178](#)

command

Assign a command or group of commands to this stock chart by right-clicking on the `command` property name in the **Object Properties** window. Select Define Command and choose SYSTEM, APAMA, or MULTIPLE. For information on the **Define Command** dialog, see the Building Dashboards in *Developing Apama Applications*.

Once a command or command group has been assigned to this object, you can activate it from a deployed dashboard or from the Dashboard Builder:

- Dashboard Builder: Double click on the object.
- Web-based deployment: Single click on the object or else right click on it and select Execute Command from the popup menu.
- Local deployment: By default, single-click on the object or else right-click on it and select Execute Command from the popup menu. To override the default, select Tools > Options in the Builder (do this before you generate the deployment package), and uncheck Single-Click for Drill Down and Commands in the General tab. This allows the end user to use either a double click or a right click.

When you activate a command, any defined drill down substitutions are performed, and then the command is executed.

If you assign multiple commands, the commands are launched in an arbitrary order, and are executed asynchronously; there is no guarantee that one command will finish before the next one in the sequence starts.

This property is in the Interaction property group.

commandCloseWindowOnSuccess

Select this property to automatically close the window that initiates a SYSTEM command when the command is executed successfully. This applies to SYSTEM commands only, and is not supported at all for thin-client, Web-page deployments.

With APAMA commands, the window is closed whether or not the command is executed successfully. For MULTIPLE commands, the window closes when the first command in the command group succeeds.

This property is in the Interaction property group.

commandConfirm

By default, when the end user executes a command (see the ["command" on page 176](#) property), the command confirmation dialog is disabled. To control this option for each individual object, use the `commandConfirm` check box. If confirmation is required for a MULTIPLE command group, a single confirmation dialog is presented; if you confirm the execution, all individual commands in the group are executed with no further confirmation. If the you cancel the execution, none of the commands in the group is executed.

You can also override the confirmation status of individual objects with an application-wide policy. Select Tools | Options and choose from three confirmation values:

- Do not confirm: Indicates that no commands require confirmation (regardless of each object's confirmation status).
- Confirm all: Indicates that all commands require confirmation (regardless of each object's confirmation status).
- Use object confirm flag (default): Indicates that the confirmation status of each object will determine whether confirmation is required.

This property is in the Interaction property group.

confirmText

Use this property to write your own text for the confirmation dialog. Otherwise, default text is used. See ["commandConfirm" on page 177](#).

This property is in the Interaction property group.

drillDownColumnSubs

Use this property to direct a dashboard to assign data-table column values to specified dashboard variables when the end user activates a drilldown on this object. In the Object Properties window, double-click on `drillDownColumnSubs` in the Property Name field to bring up the Drill Down Column Substitutions dialog.

The dialog has the following fields and buttons:

- Substitution String: Enter the dashboard variable next to the name of the data table column whose value you want assigned to the variable. Press **Enter**.
- Add Column: Enter the name of a column and click the Add Column button to insert a column into the table.
- Clear: Click the Clear button to remove all variables listed.

The Column Name list is populated based on the table's data attachment. If you have not yet attached the table to data, this list is empty.

Once you have selected which column values to pass in as substitutions, double-click on any element in your object to open a drill down window that displays corresponding values.

This property is in the Interaction property group.

drillDownSelectMode

Use this property to control how a drill down display is activated. Select one of the following:

- Anywhere to activate a drill down display by double-clicking anywhere on the chart.
- Element Only to enable a drill down display only when you double-click on an element of the chart, such as a bar or candlestick.

This property is in the Interaction property group.

drillDownTarget

To specify a drill down display, double click on `drillDownTarget` in the Property Name field to bring up the Drill Down Properties dialog. See ["Drill-Down Specification" on page 258](#).

This property is in the Interaction property group.

[Rotated tables](#)

Rotated table: Label group

Properties in this group control the table's main label, including text, alignment, color, font, and size.

Label group properties

The group contains the following properties:

- ["label" on page 178](#)
- ["labelTextAlignX" on page 178](#)
- ["labelTextColor" on page 178](#)
- ["labelTextFont" on page 179](#)
- ["labelTextHeight" on page 179](#)

label

Specifies the text for the chart label. Click the ellipsis for multi-line text.

The default is Table.

This property is in the Label property group.

labelTextAlignX

Sets the alignment of the chart label (see the ["label" on page 178](#) property). Select Left, Center, or Right from the drop down list.

This property is in the Label property group.

labelTextColor

Specifies the color of the chart label text (see the ["label" on page 178](#) property). Select the ... button and choose a color from the palette. Close the Color Chooser window when you are done.

This property is in the Label property group.

labelTextFont

Specifies the font of the chart label text (see the ["label" on page 178](#) property). Select an item from drop down list.

This property is in the Label property group.

labelTextHeight

Specifies the point size of the chart label text (see the ["label" on page 178](#) property).

This property is in the Label property group.

[Rotated tables](#)

Rotated table: Object group

Properties in this group control the visibility and transparency of the table as a whole. They also control (or reflect) the overall position and dimensions of the table. In addition, a property in this group reflects the generated name of this individual table.

Object group properties

The group contains the following properties:

- ["anchor" on page 179](#)
- ["dock" on page 179](#)
- ["objHeight" on page 180](#)
- ["objName" on page 180](#)
- ["objWidth" on page 180](#)
- ["objX" on page 180](#)
- ["objY" on page 180](#)
- ["visFlag" on page 180](#)

anchor

Select zero or more of Top, Left, Bottom, and Right in order to control the object's placement. The `anchor` property is only applied when the display is resized either by changing the Background Properties on the display or by resizing the window in Layout mode. If an object has the `dock` property set, the `anchor` property is ignored. See About resize modes in *Building Dashboards* for detailed information.

dock

Select None (default), Top, Left, Bottom, Right, or Fill in order to control the object's placement in Layout resize mode. See About resize modes in *Building Dashboards* for detailed information.

objHeight

Set the height of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time height of the chart.

This property is in the Object property group.

objName

An identifier that is generated by the Dashboard Builder. This name can be used by other objects' properties in order to refer to the named chart.

This property is in the Object property group.

objWidth

Set the width of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time width of the chart.

This property is in the Object property group.

objX

Sets the X coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

objY

Sets the Y coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

visFlag

Deselect to make this visualization object invisible in the current dashboard.

This property is in the Object property group.

[Rotated tables](#)

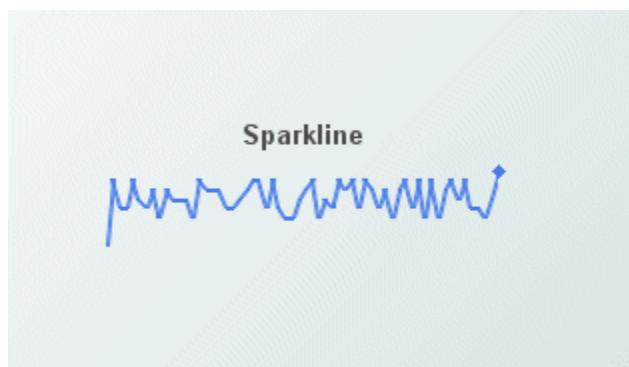
Chapter 4: Trend Objects

■ Sparkline charts	181
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This chapter describes the visualization objects in the Trends tab of the Dashboard Builder tool.

Sparkline charts

Sparkline charts are generally used to present trends and variations in a simple and condensed way. As the name implies there is a line associated with data, but no background or axis. It is possible to add labels at the beginning and ending points of the line, which then can be toggled on and off.



Attach scalar data to the `value` property or tabular data to the `valueTable` property. Tabular data attached to the `valueTable` property should have two columns: the first must contain numeric values or time stamps (x-axis values), and the second column should contain the corresponding (y-axis) numeric values.

When a sparkline chart is selected in the Builder canvas, the Object Class Name that appears at the top of the Object Properties pane is `obj_sparkline`.

The Object Properties panel organizes stock chart properties into the following groups:

- "Sparkline chart: Alert group" on page 182
- "Sparkline chart: Background group" on page 184
- "Sparkline chart: Data group" on page 187
- "Sparkline chart: Data Format group" on page 188
- "Sparkline chart: Historian group" on page 188
- "Sparkline chart: Interaction group" on page 188
- "Sparkline chart: Label group" on page 191
- "Sparkline chart: Legend group" on page 192

- ["Sparkline chart: Marker group" on page 194](#)
- ["Sparkline chart: Object group" on page 194](#)
- ["Sparkline chart: Plot Area group" on page 196](#)
- ["Sparkline chart: Trace group" on page 196](#)
- ["Sparkline chart: X-Axis group" on page 198](#)
- ["Sparkline chart: Y-Axis group" on page 199](#)

Trend Objects

Sparkline chart: Alert group

Properties in this group allow you to set marker colors and styles based on a threshold value.

Alert group properties

The group contains the following properties:

- ["valueHighAlarmEnabledFlag" on page 182](#)
- ["valueHighAlarm" on page 182](#)
- ["valueHighAlarmLineVisFlag" on page 183](#)
- ["valueHighAlarmMarkColor" on page 183](#)
- ["valueHighAlarmMarkStyle" on page 183](#)
- ["valueHighAlarmTraceColor" on page 183](#)
- ["valueHighAlarmTraceStyle" on page 183](#)
- ["valueLowAlarmEnabledFlag" on page 183](#)
- ["valueLowAlarm" on page 183](#)
- ["valueLowAlarmLineVisFlag" on page 183](#)
- ["valueLowAlarmMarkColor" on page 184](#)
- ["valueLowAlarmMarkStyle" on page 184](#)
- ["valueLowAlarmTraceColor" on page 184](#)
- ["valueLowAlarmTraceStyle" on page 184](#)

valueHighAlarmEnabledFlag

Select to enable the high alarm threshold and related properties.

This property is in the Alert property group.

valueHighAlarm

Set the value of the high alarm threshold.

This property is in the Alert property group.

valueHighAlarmLineVisFlag

Select to display a dotted line at the high alarm threshold. The color of the line is set to the `valueHighAlarmMarkColor`.

This property is in the Alert property group.

valueHighAlarmMarkColor

When a trace marker's value is greater than or equal to the `valueHighAlarm` property, the marker will change to the `valueHighAlarmMarkColor` and `valueHighAlarmMarkStyle`.

This property is in the Alert property group.

valueHighAlarmMarkStyle

When a trace marker's value is greater than or equal to the `valueHighAlarm` property, the marker will change to the `valueHighAlarmMarkColor` and `valueHighAlarmMarkStyle`.

This property is in the Alert property group.

valueHighAlarmTraceColor

When the value of any segment of a trace line is greater than or equal to the `valueHighAlarm` property, that segment of the trace line will change to the `valueHighAlarmTraceColor` and `valueHighAlarmTraceStyle`.

Note: If `valueHighAlarmTraceStyle` is set to No Line, then `valueHighAlarmTraceColor` will not change.

This property is in the Alert property group.

valueHighAlarmTraceStyle

When the value of any segment of a trace line is greater than or equal to the `valueHighAlarm` property, that segment of the trace line will change to the `valueHighAlarmTraceColor` and `valueHighAlarmTraceStyle`.

Note: If `valueHighAlarmTraceStyle` is set to No Line, then `valueHighAlarmTraceColor` will not change.

This property is in the Alert property group.

valueLowAlarmEnabledFlag

Select to enable the low alarm threshold and related properties:

This property is in the Alert property group.

valueLowAlarm

Set the value of the low alarm threshold.

This property is in the Alert property group.

valueLowAlarmLineVisFlag

Select to display a dotted line at the low alarm threshold. The color of the line is set to the `valueLowAlarmMarkColor`.

This property is in the Alert property group.

valueLowAlarmMarkColor

When the trace marker's value is less than or equal to the `valueLowAlarm` property, the marker will change to the `valueLowAlarmMarkColor` and `valueLowAlarmMarkStyle`.

This property is in the Alert property group.

valueLowAlarmMarkStyle

When the trace marker's value is less than or equal to the `valueLowAlarm` property, the marker will change to the `valueLowAlarmMarkColor` and `valueLowAlarmMarkStyle`.

This property is in the Alert property group.

valueLowAlarmTraceColor

When the value of any segment of a trace line is less than or equal to the `valueLowAlarm` property, that segment of the trace line will change to the `valueLowAlarmTraceColor` and `valueLowAlarmTraceStyle`.

This property is in the Alert property group.

valueLowAlarmTraceStyle

When the value of any segment of a trace line is less than or equal to the `valueLowAlarm` property, that segment of the trace line will change to the `valueLowAlarmTraceColor` and `valueLowAlarmTraceStyle`.

This property is in the Alert property group.

[Sparkline charts](#)

Sparkline chart: Background group

Properties in this group control the visibility and appearance of the portion of the graph that serves as the background of the plot area.

Background group properties

The group contains the following properties:

- ["bgBorderColor" on page 185](#)
- ["bgBorderFlag" on page 185](#)
- ["bgColor" on page 185](#)
- ["bgEdgeWidth" on page 185](#)
- ["bgGradientColor2" on page 185](#)
- ["bgGradientMode" on page 185](#)
- ["bgRaisedFlag" on page 186](#)
- ["bgRoundness" on page 186](#)

- ["bgShadowFlag" on page 186](#)
- ["bgStyleFlag" on page 186](#)
- ["bgVisFlag" on page 186](#)
- ["borderPixels" on page 186](#)

bgBorderColor

Sets the color of the border (see `bgBorderFlag`) of the background rectangle. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Background property group.

bgBorderFlag

Select to display a border around the background rectangle.

This property is in the Background property group.

bgColor

Sets the background color. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Background property group.

bgEdgeWidth

Sets the width in pixels of the 3D edge on the background rectangle. This property is only used if `bgBorderFlag` is selected.

This property is in the Background property group.

bgGradientColor2

Sets the color for the second color in the gradient. The default is white. The `bgColor` property sets the first color in the gradient.

This property is in the Background property group.

bgGradientMode

Display a gradient in the background rectangle. Select from the following options:

- None: No gradient
- Diagonal Edge: Gradient is drawn at a 45 degree angle from the top left to the bottom right corner of the object.
- Diagonal Center: Gradient is drawn at a 45 degree angle from the center to the top left and the bottom right corners of the object.
- Horizontal Edge: Gradient is drawn horizontally from the top to the bottom of the object.
- Horizontal Center: Gradient is drawn horizontally from the center to the top and bottom of the object.
- Vertical Edge: Gradient is drawn vertically from the left to the right of the object.

- **Vertical Center:** Gradient is drawn vertically from the center to the left and right of the object.

This property is in the Background property group.

bgRaisedFlag

Reverses the direction of the gradient, as well as that of the 3D edge if the `bgStyle` selected is 3D Rectangle.

This property is in the Background property group.

bgRoundness

Sets the arc length of the rounded corners. This property is only available if the `bgStyle` selected is Round Rectangle.

The value of `bgRoundness` cannot exceed half the value of the `objWidth` or the `objHeight`. If `bgRoundness` does exceed that value, half of `objWidth` or `objHeight` (whichever is smaller) will be used instead. For example if `objWidth` is 100 and `objHeight` is 50, then the value of `bgRoundness` cannot exceed 25. If it does, then half the value of `objHeight` (25) will be used instead.

This property is in the Background property group.

bgShadowFlag

Select to display a drop shadow on the background rectangle.

This property is in the Background property group.

bgStyleFlag

Choose one of the following three options from the drop down menu:

- **Rectangle:** Select to display a background rectangle.
- **3D Rectangle:** Select to display a 3D edge on the background rectangle. If selected, use `bgEdgeWidth` to set the width of the 3D edge.
- **Round Rectangle:** Select to display a background rectangle with rounded edges. If selected, use `bgRoundness` to set the arc length of the rounded corners.

This property is in the Background property group.

bgVisFlag

Select to display the background rectangle.

This property is in the Background property group.

borderPixels

Sets the width in pixels of the border between the chart and the edge of the background rectangle.

This property is in the Background property group.

[Sparkline charts](#)

Sparkline chart: Data group

Properties in this group control the data to which the chart is attached, as well as the y-axis range and the maximum number of data points contained in the chart.

Data group properties

This group includes the following properties:

- ["maxPointsPerTrace" on page 187](#)
- ["value" on page 187](#)
- ["valueDivisor" on page 187](#)
- ["valueTable" on page 187](#)
- ["yValueMax" on page 187](#)
- ["yValueMin" on page 188](#)

maxPointsPerTrace

The default is 1000. The maximum value for this property is 30000.

This property is in the Data property group.

value

Attach your scalar data to the `value` property.

This property is in the Data property group.

valueDivisor

Divides y-axis values by the number entered.

This property is in the Data property group.

valueTable

Attach your tabular data to the `valueTable` property. Tabular data attached must have two columns: the first must contain numeric values or time stamps (x-axis values) and the second column should contain the corresponding (y-axis) numeric values.

This property is in the Data property group.

yValueMax

Controls the range of y-axis if the `yAxisAutoScaleMode` is set to Off. Select On for the `yAxisAutoScaleMode` to calculate the y-axis range according to data values being plotted. To calculate the y-axis range including `yValueMin` and `yValueMax`, select On - Include Min/Max.

This property is in the Data property group.

yValueMin

Controls the range of y-axis if the `yAxisAutoScaleMode` is set to Off. Select On for the `yAxisAutoScaleMode` to calculate the y-axis range according to data values being plotted. To calculate the y-axis range including `yValueMin` and `yValueMax`, select On - Include Min/Max.

This property is in the Data property group.

[Sparkline charts](#)

Sparkline chart: Data Format group

This group contains the ["yValueFormat" on page 188](#) property, which controls the format of displayed values.

yValueFormat

Select or enter the numeric format of values displayed in the legend and popup legend. To enter a format, use syntax from the Java `DecimalFormat` class.

This property is in the Data Format property group.

[Sparkline charts](#)

Sparkline chart: Historian group

Do not use the properties in this group.

historyTableName

Do not use this property.

historyTableRowNameFlag

Do not use this property.

[Sparkline charts](#)

Sparkline chart: Interaction group

Properties in this group control various forms of interaction between the end user and the chart, including activating commands, drill downs, and tooltips.

Interaction group properties

The group includes the following properties:

- ["command" on page 189](#)

- ["commandCloseWindowOnSuccess" on page 189](#)
- ["commandConfirm" on page 189](#)
- ["confirmText" on page 190](#)
- ["cursorColor" on page 190](#)
- ["cursorFlag" on page 190](#)
- ["drillDownTarget" on page 190](#)
- ["legendPopupFlag" on page 190](#)

command

Assign a command or group of commands to this stock chart by right-clicking on the `command` property name in the **Object Properties** window. Select Define Command and choose SYSTEM, APAMA, or MULTIPLE. For information on the **Define Command** dialog, see *Building Dashboards in Developing Apama Applications*.

Once a command or command group has been assigned to this object, you can activate it from a deployed dashboard or from the Dashboard Builder:

- Dashboard Builder: Double click on the object.
- Web-based deployment: Single click on the object or else right click on it and select Execute Command from the popup menu.
- Local deployment: By default, single-click on the object or else right-click on it and select Execute Command from the popup menu. To override the default, select Tools > Options in the Builder (do this before you generate the deployment package), and uncheck Single-Click for Drill Down and Commands in the General tab. This allows the end user to use either a double click or a right click.

When you activate a command, any defined drill down substitutions are performed, and then the command is executed.

If you assign multiple commands, the commands are launched in an arbitrary order, and are executed asynchronously; there is no guarantee that one command will finish before the next one in the sequence starts.

This property is in the Interaction property group.

commandCloseWindowOnSuccess

Select this property to automatically close the window that initiates a SYSTEM command when the command is executed successfully. This applies to SYSTEM commands only, and is not supported at all for thin-client, Web-page deployments.

With APAMA commands, the window is closed whether or not the command is executed successfully. For MULTIPLE commands, the window closes when the first command in the command group succeeds.

This property is in the Interaction property group.

commandConfirm

By default, when the end user executes a command (see the `command` property), the command confirmation dialog is disabled. To control this option for each individual object, use the

`commandConfirm` check box. If confirmation is required for a MULTIPLE command group, a single confirmation dialog is presented; if you confirm the execution, all individual commands in the group are executed with no further confirmation. If the you cancel the execution, none of the commands in the group is executed.

You can also override the confirmation status of individual objects with an application-wide policy. Select Tools | Options and choose from three confirmation values:

- Do not confirm: Indicates that no commands require confirmation (regardless of each object's confirmation status).
- Confirm all: Indicates that all commands require confirmation (regardless of each object's confirmation status).
- Use object confirm flag (default): Indicates that the confirmation status of each object will determine whether confirmation is required.

This property is in the Interaction property group.

confirmText

Use this property to write your own text for the confirmation dialog. Otherwise, default text is used. See `commandConfirm`.

This property is in the Interaction property group.

cursorColor

Sets the color of the cursor. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

The default is yellow.

This property is in the Interaction property group.

cursorFlag

Select to enable the cursor. When the cursor is enabled, select the chart and point to a location on a trace to see a cursor line at that location and display the time and values of the trend line at the cursor line on the legend. Select the `legendPopupFlag` to display the legend along the cursor.

The cursor is disabled by default.

This property is in the Interaction property group.

drillDownTarget

To specify a drill down display, double click on `drillDownTarget` in the Property Name field to bring up the **Drill Down Properties** dialog. See ["Drill-Down Specification" on page 258](#).

This property is in the Interaction property group.

legendPopupFlag

Controls whether a legend pops up when the user mouses over the trend line.

This property is in the Interaction property group.

[Sparkline charts](#)

Sparkline chart: Label group

Properties in this group control the graph's main label (which defaults to Sparkline), including text, alignment, color, font, and size.

Label group properties

The group includes the following properties:

- ["label" on page 191](#)
- ["labelMinTabWidth" on page 191](#)
- ["labelTextAlignX" on page 191](#)
- ["labelTextAlignY" on page 191](#)
- ["labelTextColor" on page 192](#)
- ["labelTextFont" on page 192](#)
- ["labelTextHeight" on page 192](#)

label

Specifies the text for the chart label. Click the ellipsis for multi-line text.

The default is Sparkline.

This property is in the Label property group.

labelMinTabWidth

Sets minimum width of the label tab. This property only applies if `labelTextAlignY` is set to `TabTop`.

This property is in the Label property group.

labelTextAlignX

Sets the x-axis alignment of the chart label (see the `label` property). Select Left, Center, or Right from the drop down list.

This property is in the Label property group.

labelTextAlignY

Sets the y-axis position of the chart label (see the `label` property). Select one of the following from the drop down list:

- Outside Top: Well above the background rectangle
- Top: Just above the background rectangle
- Title Top: Along the top line of the background rectangle
- Tab Top: Just above the background rectangle. Height and width of the tab is dependent on the height and width of the text. Use the `labelMinTabWidth` property to specify a minimum tab width.

- **Inside Top:** Inside the top of the background rectangle

This property is in the Label property group.

labelTextColor

Specifies the color of the chart label text (see the `label` property). Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Label property group.

labelTextFont

Specifies the font of the chart label text (see the `label` property). Select an item from drop down list.

This property is in the Label property group.

labelTextHeight

Specifies the point size of the chart label text (see the `label` property).

This property is in the Label property group.

[Sparkline charts](#)

Sparkline chart: Legend group

Properties in this group control the visibility, appearance, and content of the chart legend.

Legend group properties

The group contains the following properties:

- ["legendBgColor" on page 192](#)
- ["legendBgGradientColor2" on page 193](#)
- ["legendBgGradientMode" on page 193](#)
- ["legendTimeFormat" on page 193](#)
- ["legendValueMinSpace" on page 193](#)
- ["legendVisFlag" on page 193](#)
- ["legendWidthPercent" on page 193](#)

legendBgColor

Select the ... button and choose a color from the palette to set the background color of the legend. Close the **Color Chooser** window when you are done.

This property is in the Legend property group.

legendBgGradientColor2

Sets the color for the second color in the gradient. The default is white. The `bgColor` property sets the first color in the gradient.

This property is in the Background property group.

legendBgGradientMode

Display a gradient in the legend background rectangle. Select from the following options:

- None: No gradient
- Diagonal Edge: Gradient is drawn at a 45 degree angle from the top left to the bottom right corner of the object.
- Diagonal Center: Gradient is drawn at a 45 degree angle from the center to the top left and the bottom right corners of the object.
- Horizontal Edge: Gradient is drawn horizontally from the top to the bottom of the object.
- Horizontal Center: Gradient is drawn horizontally from the center to the top and bottom of the object.
- Vertical Edge: Gradient is drawn vertically from the left to the right of the object.
- Vertical Center: Gradient is drawn vertically from the center to the left and right of the object.

This property is in the Background property group.

legendTimeFormat

Sets the format for the time displayed in the legend. Use syntax from the Java `SimpleDateFormat` class. For example, `MMMM dd, yyyy hh:mm:ss` results in the form August 30, 2010 05:32:12 PM. If no format is given, the `timeFormat` is used.

This property is in the Legend property group.

legendValueMinSpace

Specify the minimum distance in pixels between values and labels in the legend.

This property is in the Legend property group.

legendVisFlag

Select to display the legend.

This property is in the Legend property group.

legendWidthPercent

Sets the percent of the total width of the object used for the legend.

This property is in the Legend property group.

[Sparkline charts](#)

Sparkline chart: Marker group

This group contains the property "[markDefaultSize](#)" on page 194, which controls the size of the trace marker.

markDefaultSize

Sets the size, in pixels, of the marker at the end of the trace line. Supply an integer value that is between 1 and 18, inclusive.

This property is in the Marker property group.

[Sparkline charts](#)

Sparkline chart: Object group

Properties in this group control the visibility and transparency of the chart as a whole. They also control (or reflect) the overall position and dimensions of the chart. In addition, a property in this group reflects the generated name of this individual chart.

Object group properties

This group contains the following properties:

- "[anchor](#)" on page 194
- "[dock](#)" on page 195
- "[objHeight](#)" on page 195
- "[objName](#)" on page 195
- "[objWidth](#)" on page 195
- "[objX](#)" on page 195
- "[objY](#)" on page 195
- "[transparencyPercent](#)" on page 195
- "[visFlag](#)" on page 195

anchor

Select zero or more of Top, Left, Bottom, and Right in order to control the object's placement. The `anchor` property is only applied when the display is resized either by changing the Background Properties on the display or by resizing the window in Layout mode. If an object has the `dock` property set, the `anchor` property is ignored. See "About resize modes" in *Building Dashboards* for detailed information.

dock

objHeight

Sets the height of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the stock chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time height of the chart.

This property is in the Object property group.

objName

An identifier that is generated by the Dashboard Builder. This name can be used by other objects' properties in order to refer to the named stock chart.

This property is in the Object property group.

objWidth

Sets the width of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the stock chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time width of the chart.

This property is in the Object property group.

objX

Sets the X coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

objY

Sets the Y coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

transparencyPercent

Sets the transparency of this chart.

This property is in the Object property group.

visFlag

Deselect to make this visualization object invisible in the current dashboard.

This property is in the Object property group.

[Sparkline charts](#)

Sparkline chart: Plot Area group

The property in this group, "[traceBgColor](#)" on page 196, controls the color of the plot area.

traceBgColor

To set the color of the plot area, select the ... button and choose a color from the palette to set the background color. Close the **Color Chooser** window when you are done.

This property is in the Plot Area property group.

[Sparkline charts](#)

Sparkline chart: Trace group

The properties control the visibility and appearance of the trace line.

Trace group properties

The group includes the following properties:

- "[traceFillStyle](#)" on page 196
- "[traceLabel](#)" on page 197
- "[traceLineColor](#)" on page 197
- "[traceLineStyle](#)" on page 197
- "[traceLineThickness](#)" on page 197
- "[traceNMarkColor](#)" on page 197
- "[traceNMarkStyle](#)" on page 197
- "[traceNValueHistoryFlag](#)" on page 198

traceFillStyle

Select one of the following fill styles for from the drop down menu:

- Solid
- Transparent
- Gradient
- Transparent Gradient
- None

The default setting is None.

This property is in the Trace property group.

traceLabel

Enter a label for the trace line. This label appears in the chart's legend.

This property is in the Trace property group.

traceLineColor

Sets the trace line color. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Trace property group.

traceLineStyle

Select one of the following line styles for the trace line from the drop down menu:

- No Line
- Solid
- Dotted
- Dashed
- Dot Dashed

This property is in the Trace property group.

traceLineThickness

Select one of the following thickness specifications for the price trace line from the drop down menu:

- Thin
- Medium
- Thick

This property is in the Trace property group.

traceNMarkColor

Select the ... button and choose a color from the palette to set the trace marker color. Close the **Color Chooser** window when you are done.

This property is in the Trace property group.

traceNMarkStyle

Sets the style of the marker used on the trace. Select one of the following items from the drop down menu:

- No Marker
- Dot
- +
- *

- o
- x
- Filled Circle
- Filled Diamond
- Filled Triangle
- Filled Square
- Filled Star

This property is in the Trace property group.

trace/ValueHistoryFlag

Do not use this property.

This property is in the Trace property group.traceLabel Set a label for your trace.

[Sparkline charts](#)

Sparkline chart: X-Axis group

Properties in this group control the range of the x-axis.

X-Axis group properties

The group includes the following properties:

- ["timeRange" on page 198](#)
- ["timeRangeBegin" on page 198](#)
- ["timeRangeEnd" on page 199](#)

timeRange

Sets the total amount of time, in seconds, plotted on the chart.

If `timeRange` is set to -1, the time range is determined by the first and last timestamp found in the attached data.

Note: `timeRange` is ignored if both `timeRangeBegin` and `timeRangeEnd` are set.

The default is -1.0.

This property is in the X-Axis property group.

timeRangeBegin

Sets the start time value of the data to be plotted on the chart. Following are the supported formats:

- mm/dd/yyyy hh:mm:ss (e.g., 01/16/2004 12:30:03)
- yyyy-mm-dd hh:mm:ss (e.g., 2004-01-16 12:30:03)

- The number of milliseconds since midnight, January 1, 1970 UTC

Note: If only the time is specified, the current date is used.

This property is in the X-Axis property group.

timeRangeEnd

Sets the end time value of the data to be plotted on the chart. Following are the supported formats are:

- mm/dd/yyyy hh:mm:ss (e.g., 01/16/2010 12:30:03)
- yyyy-mm-dd hh:mm:ss (e.g., 2010-01-16 12:30:03)
- The number of milliseconds since midnight, January 1, 1970 UTC

Note: If only the time is specified, the current date is used.

This property is in the X-Axis property group.

[Sparkline charts](#)

Sparkline chart: Y-Axis group

This group contains the "[yAxisAutoScalMode](#)" on page 199 property, which controls the range of the y-axis.

yAxisAutoScalMode

Select how the y-axis range is calculated from the drop down menu:

- Off: The `yValueMin` and `yValueMax` properties determine the range of y-axis.
- On: - The dashboard calculates the y-axis range according to data values being plotted.
- On - Include Min/Max: The dashboard calculates the smallest range (with rounding) that includes `yValueMin` and `yValueMin` as well as all plotted points.

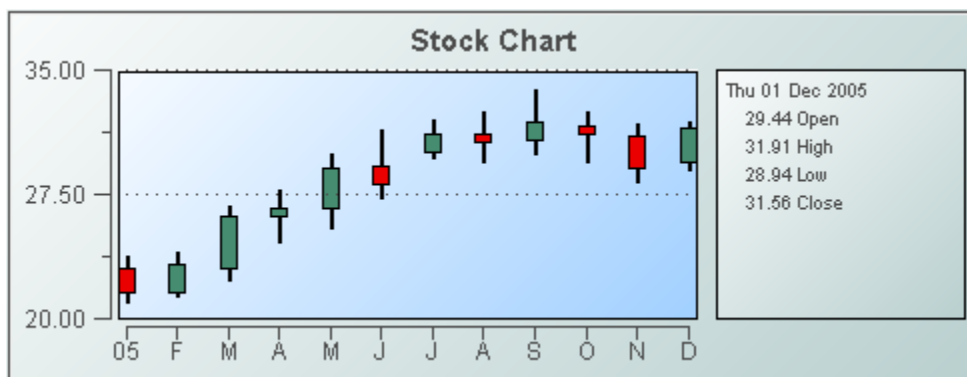
This property is in the Y-Axis property group.

[Sparkline charts](#)

Stock charts

Stock charts visualize live and historical data related to financial instrument trades. They can include overlays that allow the display of data from multiple instruments or the display of periodic events such as stock splits and earnings announcements.

Each plotted point on a stock chart encapsulates four pieces of quantitative information for a particular instrument and time period: opening value, high value, low value, and closing value. Each chart visualizes tabular data that includes a time-valued column as well four numerical columns (for opening, high, low, and closing values).



Use the ["priceTraceCurrentTable"](#) on page 213 and ["priceTraceHistoryTable"](#) on page 214 properties to attach data to a stock chart. Use the ["timeRangeMode"](#) on page 220 property to specify the duration of the time period represented by each plotted point.

Use the ["overlayCount"](#) on page 216 property to specify the number of overlays to be included in the chart. Use the ["overlayNCurrentTable"](#) on page 217 and ["overlayNHistoryTable"](#) on page 217 properties to add the N^{th} overlay.

When a stock chart is selected in the Builder canvas, the Object Class Name that appears at the top of the Object Properties pane is `obj_stockchart`.

The Object Properties panel organizes stock chart properties into the following groups:

- ["Stock chart: Background group"](#) on page 200
- ["Stock chart: Data group"](#) on page 203
- ["Stock chart: Data Format group"](#) on page 203
- ["Stock chart: Interaction group"](#) on page 203
- ["Stock chart: Historian group"](#) on page 207
- ["Stock chart: Label group"](#) on page 207
- ["Stock chart: Legend group"](#) on page 208
- ["Stock chart: Object group"](#) on page 209
- ["Stock chart: Plot Area group"](#) on page 211
- ["Stock chart: Price Trace group"](#) on page 212
- ["Stock chart: Trace group"](#) on page 216
- ["Stock chart: TraceN group"](#) on page 216
- ["Stock chart: X-Axis group"](#) on page 218
- ["Stock chart: Y-Axis group"](#) on page 222

Trend Objects

Stock chart: Background group

Properties in this group control the visibility and appearance of the portion of the chart that serves as the background of both the plot area and legend.

Background group properties

The group contains the following properties:

- ["bgBorderFlag" on page 201](#)
- ["bgColor" on page 201](#)
- ["bgEdgeWidth" on page 201](#)
- ["bgGradientColor2" on page 201](#)
- ["bgGradientMode" on page 201](#)
- ["bgRaisedFlag" on page 202](#)
- ["bgRoundness" on page 202](#)
- ["bgShadowFlag" on page 202](#)
- ["bgStyleFlag" on page 202](#)
- ["bgVisFlag" on page 202](#)
- ["borderPixels" on page 203](#)

bgBorderFlag

Select to display a border around the background rectangle.

This property is in the Background property group.

bgColor

Sets the background color. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Background property group.

bgEdgeWidth

Sets the width in pixels of the 3D edge on the background rectangle. This property is only used if `bgBorderFlag` is selected.

This property is in the Background property group.

bgGradientColor2

Sets the color for the second color in the gradient. The default is white. The `bgColor` property sets the first color in the gradient.

This property is in the Background property group.

bgGradientMode

Display a gradient in the background rectangle. Select from the following options:

- None: No gradient

- **Diagonal Edge:** Gradient is drawn at a 45 degree angle from the top left to the bottom right corner of the object.
- **Diagonal Center:** Gradient is drawn at a 45 degree angle from the center to the top left and the bottom right corners of the object.
- **Horizontal Edge:** Gradient is drawn horizontally from the top to the bottom of the object.
- **Horizontal Center:** Gradient is drawn horizontally from the center to the top and bottom of the object.
- **Vertical Edge:** Gradient is drawn vertically from the left to the right of the object.
- **Vertical Center:** Gradient is drawn vertically from the center to the left and right of the object.

This property is in the Background property group.

bgRaisedFlag

Reverses the direction of the gradient, as well as that of the 3D edge if the `bgStyle` selected is 3D Rectangle.

This property is in the Background property group.

bgRoundness

Sets the arc length of the rounded corners. This property is only available if the `bgStyle` selected is Round Rectangle.

The value of `bgRoundness` cannot exceed half the value of the `objWidth` or the `objHeight`. If `bgRoundness` does exceed that value, half of `objWidth` or `objHeight` (whichever is smaller) will be used instead. For example if `objWidth` is 100 and `objHeight` is 50, then the value of `bgRoundness` cannot exceed 25. If it does, then half the value of `objHeight` (25) will be used instead. This property is in the Background property group.

bgShadowFlag

Select to display a drop shadow on the background rectangle.

This property is in the Background property group.

bgStyleFlag

Choose one of the following three options from the drop down menu:

- **Rectangle:** Select to display a background rectangle.
- **3D Rectangle:** Select to display a 3D edge on the background rectangle. If selected, use `bgEdgeWidth` to set the width of the 3D edge.
- **Round Rectangle:** Select to display a background rectangle with rounded edges. If selected, use `bgRoundness` to set the arc length of the rounded corners.

This property is in the Background property group.

bgVisFlag

Select to display the background rectangle.

This property is in the Background property group.

borderPixels

Sets the width in pixels of the border between the chart and the edge of the background rectangle.

This property is in the Background property group.

[Stock charts](#)

Stock chart: Data group

Properties in this group control the y-axis range.

Data group properties

The group contains the following properties:

- ["yValueMax" on page 203](#)
- ["yValueMin" on page 203](#)

yValueMax

Controls the y-axis range.

This property is in the Data property group.

yValueMin

Controls the y-axis range.

This property is in the Data property group.

[Stock charts](#)

Stock chart: Data Format group

The property in this group, ["yValueFormat" on page 203](#), controls the numeric format of values displayed in the legend and popup legend.

yValueFormat

Select or enter the numeric format of values displayed in the legend and popup legend. To enter a format, use syntax from the Java `DecimalFormat` class.

This property is in the Data Format property group.

[Stock charts](#)

Stock chart: Interaction group

Properties in this group control various forms of interaction between the end user and the chart, including scrolling, zooming, and activating commands, drill downs, and tooltips.

Interaction group properties

The group includes the following properties:

- "command" on page 204
- "commandCloseWindowOnSuccess" on page 205
- "commandConfirm" on page 205
- "confirmText" on page 205
- "cursorColor" on page 205
- "cursorFlag" on page 205
- "drillDownColumnSubs" on page 206
- "drillDownSelectMode" on page 206
- "drillDownTarget" on page 206
- "mouseOverFlag" on page 206
- "scrollbarMode" on page 206
- "scrollbarSize" on page 207
- "zoomEnabledFlag" on page 207

command

Assign a command or group of commands to this stock chart by right-clicking on the `command` property name in the **Object Properties** window. Select Define Command and choose SYSTEM, APAMA, or MULTIPLE. For information on the **Define Command** dialog, see the Building Dashboards in *Developing Apama Applications*.

Once a command or command group has been assigned to this object, you can activate it from a deployed dashboard or from the Dashboard Builder:

- Dashboard Builder: Double click on the object.
- Web-based deployment: Single click on the object or else right click on it and select Execute Command from the popup menu.
- Local deployment: By default, single-click on the object or else right-click on it and select Execute Command from the popup menu. To override the default, select Tools > Options in the Builder (do this before you generate the deployment package), and uncheck Single-Click for Drill Down and Commands in the General tab. This allows the end user to use either a double click or a right click.

When you activate a command, any defined drill down substitutions are performed, and then the command is executed.

If you assign multiple commands, the commands are launched in an arbitrary order, and are executed asynchronously; there is no guarantee that one command will finish before the next one in the sequence starts.

This property is in the Interaction property group.

commandCloseWindowOnSuccess

Select this property to automatically close the window that initiates a SYSTEM command when the command is executed successfully. This applies to SYSTEM commands only, and is not supported at all for thin-client, Web-page deployments.

With APAMA commands, the window is closed whether or not the command is executed successfully. For MULTIPLE commands, the window closes when the first command in the command group succeeds.

This property is in the Interaction property group.

commandConfirm

By default, when the end user executes a command (see the ["command" on page 204](#) property), the command confirmation dialog is disabled. To control this option for each individual object, use the `commandConfirm` check box. If confirmation is required for a MULTIPLE command group, a single confirmation dialog is presented; if you confirm the execution, all individual commands in the group are executed with no further confirmation. If the you cancel the execution, none of the commands in the group is executed.

You can also override the confirmation status of individual objects with an application-wide policy. Select Tools | Options and choose from three confirmation values:

- Do not confirm: Indicates that no commands require confirmation (regardless of each object's confirmation status).
- Confirm all: Indicates that all commands require confirmation (regardless of each object's confirmation status).
- Use object confirm flag (default): Indicates that the confirmation status of each object will determine whether confirmation is required.

This property is in the Interaction property group.

confirmText

Use this property to write your own text for the confirmation dialog. Otherwise, default text is used. See ["commandConfirm" on page 205](#).

This property is in the Interaction property group.

cursorColor

Sets the color of the cursor, as well as the zoom-area rectangle (see ["zoomEnabledFlag" on page 207](#)). Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

The default is yellow.

This property is in the Interaction property group.

cursorFlag

Select to enable the cursor. When the cursor is enabled, select the chart and point to a location on a trace to see a cursor line at that location and display the time and values of all traces at the cursor line on the legend. Select the ["legendPopupFlag" on page 209](#) to display the legend along the cursor.

The cursor is disabled by default.

This property is in the Interaction property group.

drillDownColumnSubs

Use this property to direct a dashboard to assign data-table column values to specified dashboard variables when the end user activates a drilldown on this object. In the **Object Properties** window, double-click on `drillDownColumnSubs` in the Property Name field to bring up the **Drill Down Column Substitutions** dialog.

The dialog has the following fields and buttons:

- **Substitution String:** Enter the dashboard variable next to the name of the data table column whose value you want assigned to the variable. Press **Enter**.
- **Add Column:** Enter the name of a column and click the Add Column button to insert a column into the table.
- **Clear:** Click the Clear button to remove all variables listed.

The Column Name list is populated based on the table's data attachment. If you have not yet attached the table to data, this list is empty.

Once you have selected which column values to pass in as substitutions, double-click on any element in your object to open a drill down window that displays corresponding values.

This property is in the Interaction property group.

drillDownSelectMode

Use this property to control how a drill down display is activated. Select one of the following:

- **Anywhere** to activate a drill down display by double-clicking anywhere on the chart.
- **Element Only** to enable a drill down display only when you double-click on an element of the chart, such as a bar or candlestick.

This property is in the Interaction property group.

drillDownTarget

To specify a drill down display, double click on `drillDownTarget` in the Property Name field to bring up the **Drill Down Properties** dialog. See "[Drill-Down Specification](#)" on page 258.

This property is in the Interaction property group.

mouseOverFlag

Select to enable trace element tooltips. When the enabled, hold the mouse over a location to display in a tooltip the time and the open and close values of all traces at the location.

This property is in the Interaction property group.

scrollbarMode

Sets whether and when the scroll bar appears in the chart. Select one of the following from the drop down menu:

- **Never:** Default setting

- **Always:** Display a scroll bar at all times.
- **As Needed:** Display the scroll bar when necessitated by zooming in the trace area, or when more data is loaded into the chart than is displayed in the time range. For example, if the time range of the data in your data attachment is greater than ["timeRange" on page 219](#), setting `scrollbarMode` to **As Needed** will enable a scroll bar, allowing the end user to view all data loaded into the chart.

This property is in the Interaction property group.

scrollbarSize

Specifies the height of the horizontal scroll bar and the width of the vertical scroll bar, in pixels. The default value is -1, which sets the size to the system default.

This property is in the Interaction property group.

zoomEnabledFlag

Select to enable zooming within the chart. Click in the chart's trace area and drag the cursor until a desired range is selected. While dragging, a rectangle is drawn to show the zoom area. The rectangle's default color is yellow (this can be changed in the ["cursorColor" on page 205](#) property). After the zoom is performed, the chart stores up to four zoom operations in queue. To zoom out, press the shift key and click in the chart's trace area.

This property is in the Interaction property group.

[Stock charts](#)

Stock chart: Historian group

Do not use the properties in this group.

historyTableName

Do not use this property.

historyTableRowNameFlag

Do not use this property.

[Stock charts](#)

Stock chart: Label group

Properties in this group control the chart's main label (which defaults to Stock Chart), including text, alignment, color, font, and size.

Label group properties

The group includes the following properties:

- ["label" on page 208](#)

- ["labelTextAlignX" on page 208](#)
- ["labelTextColor" on page 208](#)
- ["labelTextFont" on page 208](#)
- ["labelTextHeight" on page 208](#)

label

Specifies the text for the chart label. Click the ellipsis for multi-line text.

The default is Stock Chart.

This property is in the Label property group.

labelTextAlignX

Specifies the alignment of the chart label. Select Left, Right, or Center from the drop down list.

This property is in the Label property group.

labelTextColor

Specifies the color of the chart label text. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Label property group.

labelTextFont

Specifies the font of the chart label text. Select an item from drop down list.

This property is in the Label property group.

labelTextHeight

Specifies the point size of the chart label text.

This property is in the Label property group.

[Stock charts](#)

Stock chart: Legend group

Properties in this group control the visibility, appearance, and content of the chart legend.

Legend group properties

The group contains the following properties:

- ["legendBgColor" on page 209](#)
- ["legendBgGradientFlag" on page 209](#)
- ["legendPopupFlag" on page 209](#)
- ["legendValueMinSpace" on page 209](#)

- ["legendValueVisFlag" on page 209](#)
- ["legendVisFlag" on page 209](#)
- ["legendWidthPercent" on page 209](#)

legendBgColor

Select the ... button and choose a color from the palette to set the background color of the legend. Close the **Color Chooser** window when you are done.

This property is in the Legend property group.

legendBgGradientFlag

Select to display a gradient in the legend background.

This property is in the Legend property group.

legendPopupFlag

When the ["cursorFlag" on page 205](#) property is enabled, select `legendPopupFlag` to display the legend along the cursor.

This property is in the Legend property group.

legendValueMinSpace

Specifies the minimum distance in pixels between values and labels in the legend.

This property is in the Legend property group.

legendValueVisFlag

Select to display the numerical values of your data in the legend. If ["cursorFlag" on page 205](#) is enabled, the numerical values are always shown in the legend.

This property is in the Legend property group.

legendVisFlag

Select to display the legend.

This property is in the Legend property group.

legendWidthPercent

Sets the percent of the total width of the object used for the legend.

This property is in the Legend property group.

[Stock charts](#)

Stock chart: Object group

Properties in this group control the visibility and transparency of the chart as a whole. They also control (or reflect) the overall position and dimensions of the chart. In addition, a property in this group reflects the generated name of this individual chart.

Object group properties

This group contains the following properties:

- ["anchor" on page 210](#)
- ["dock" on page 210](#)
- ["objHeight" on page 210](#)
- ["objName" on page 210](#)
- ["objWidth" on page 210](#)
- ["objX" on page 211](#)
- ["objY" on page 211](#)
- ["transparencyPercent" on page 211](#)
- ["visFlag" on page 211](#)

anchor

Select zero or more of Top, Left, Bottom, and Right in order to control the object's placement. The `anchor` property is only applied when the display is resized either by changing the Background Properties on the display or by resizing the window in Layout mode. If an object has the `dock` property set, the `anchor` property is ignored. See About resize modes in *Building Dashboards* for detailed information.

dock

Select None (default), Top, Left, Bottom, Right, or Fill in order to control the object's placement in Layout resize mode. See About resize modes in *Building Dashboards* for detailed information.

objHeight

Set the height of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time height of the chart.

This property is in the Object property group.

objName

An identifier that is generated by the Dashboard Builder. This name can be used by other objects' properties in order to refer to the named chart.

This property is in the Object property group.

objWidth

Set the width of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time width of the chart.

This property is in the Object property group.

objX

Sets the X coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

objY

Sets the Y coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

transparencyPercent

Sets the transparency of this chart.

This property is in the Object property group.

visFlag

Deselect to make this visualization object invisible in the current dashboard.

This property is in the Object property group.

[Stock charts](#)

Stock chart: Plot Area group

Properties in this group control the appearance of the plot area, the rectangular area that serves as background for the trace markers (but not for the legend or axis labels—see "[Stock chart: Background group](#)" on page 200). There is also a property that controls the color of the horizontal grid line or lines.

Plot Area group properties

The group includes the following properties:

- "[gridBgColor](#)" on page 211
- "[gridBgGradientFlag](#)" on page 212
- "[gridBgImage](#)" on page 212
- "[gridColor](#)" on page 212

gridBgColor

To set the color of the plot area, select the ... button and choose a color from the palette to set the background color. Close the **Color Chooser** window when you are done.

This property is in the Plot Area property group.

gridBgGradientFlag

Select to display a gradient in the plot area.

This property is in the Plot Area property group.

gridBgImage

Specify an image (.gif, .jpg, or .png file) to display in the plot area. Select the name of the image file from the drop down menu, or enter the pathname of the file. The drop down menu contains the names of image files located in the current directory (typically, the `dashboards` directory of your project directory, under your Apama installation's work directory), as well as image files located in the first level of subdirectories. If you enter a pathname, use an absolute pathname or a pathname that is relative to the current directory.

This property is in the Plot Area property group.

gridColor

Sets the color of the dotted, horizontal grid line in the plot area (see "[xAxisMajorDivisions](#)" on page 221). Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Plot Area property group.

[Stock charts](#)

Stock chart: Price Trace group

The properties control the visibility and appearance of the price trace, as well as the data to which it is attached.

Trace group properties

The group includes the following properties:

- "[priceTraceBarGainColor](#)" on page 213
- "[priceTraceBarLossColor](#)" on page 213
- "[priceTraceCurrentTable](#)" on page 213
- "[priceTraceFillStyle](#)" on page 214
- "[priceTraceHistoryTable](#)" on page 214
- "[priceTraceLabel](#)" on page 214
- "[priceTraceLineColor](#)" on page 215
- "[priceTraceLineStyle](#)" on page 215
- "[priceTraceLineThickness](#)" on page 215
- "[priceTraceType](#)" on page 215
- "[priceTraceVisFlag](#)" on page 216

priceTraceBarGainColor

Sets the color to indicate that a stock price value at market close is greater than value at market open. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

The default is green.

Note: This property does not apply if you have chosen Line for the "priceTraceType" on page 215 property or both Candlestick for "priceTraceType" on page 215 and None for "priceTraceFillStyle" on page 214.

This property is in the Price Trace property group.

priceTraceBarLossColor

Sets the color to indicate that a stock price value at market close is less than value at market open. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

The default is red.

Note: This property does not apply if you have chosen Line for the "priceTraceType" on page 215 property or both Candlestick for "priceTraceType" on page 215 and None for "priceTraceFillStyle" on page 214.

This property is in the Price Trace property group.

priceTraceCurrentTable

Attach your tabular data to the "priceTraceHistoryTable" on page 214 and priceTraceCurrentTable properties. The priceTraceCurrentTable property is used for viewing live data. The table in your data attachment should contain a single row that corresponds to and continually updates the last point on the graph.

Unless you attach this property to a scenario OHLC table, the table in your data attachment must contain the following five columns in this specific order:

- **Date:** Following are the supported formats for this column are:
 - mm/dd/yyyy hh:mm:ss (for example, 01/16/2010 12:30:03)
 - yyyy-mm-dd hh:mm:ss (for example, 2010-01-16 12:30:03)
 - The number of milliseconds since midnight, January 1, 1970 UTC
- **Open:** Value of stock price at first market open for defined time period
- **High:** High value of stock price for defined time period
- **Low:** Low value of stock price for defined time period
- **Close:** Value of stock price at last market close for defined time period

See Building Dashboards in *Developing Apama Applications* for information on attaching properties to data.

This property is in the Price Trace property group.

priceTraceFillStyle

Select one of the following candlestick fill styles for from the drop down menu:

- Solid
- Transparent
- Gradient
- Transparent Gradient
- None

This setting has an effect only if "[priceTraceType](#)" on [page 215](#) is set to CandleStick.

The default setting is None.

This property is in the Price Trace property group.

priceTraceHistoryTable

Attach your tabular data to the `priceTraceHistoryTable` or "[priceTraceCurrentTable](#)" on [page 213](#) property. The `priceTraceHistoryTable` property is used for viewing and analyzing historical data (data generated before the correlator first sends data to this particular chart). The table in your data attachment should contain multiple rows, each corresponding to a point on the graph.

Unless you attach this property to a scenario OHLC table, the table in your data attachment must contain the following five columns in this specific order:

- **Date:** Following are the supported formats for this column:
 - `mm/dd/yyyy hh:mm:ss` (for example, 01/16/2010 12:30:03)
 - `yyyy-mm-dd hh:mm:ss` (for example, 2010-01-16 12:30:03)
 - The number of milliseconds since midnight, January 1, 1970 UTC
- **Open:** Value of stock price at first market open for the defined time period
- **High:** High value of stock price for the defined time period
- **Low:** Low value of stock price for the defined time period
- **Close:** Value of stock price at last market close for the defined time period

See Building Dashboards in *Developing Apama Applications* for information on attaching properties to data.

This property is in the Price Trace property group.

priceTraceLabel

Enter a label for the price trace line. This label appears in the chart's legend, as well as in the tooltip enabled by the "[mouseOverFlag](#)" on [page 206](#) property.

This property is in the Price Trace property group.

priceTraceLineColor

Sets the price trace line color. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

Note: This property does not apply if you chose OHLC or Bar for "[priceTraceType](#)" on page 215.

This property is in the Price Trace property group.

priceTraceLineStyle

Select one of the following line styles for the price trace line from the drop down menu:

- No Line
- Solid
- Dotted
- Dashed
- Dot Dashed

This property is in the Price Trace property group.

priceTraceLineThickness

Select one of the following thickness specifications for the price trace line from the drop down menu:

- Thin
- Medium
- Thick

Note: This property does not apply if you chose OHLC or Candlestick for "[priceTraceType](#)" on page 215.

This property is in the Price Trace property group.

priceTraceType

Select one of the following trace types from the drop down menu:

- Line: A line graph that shows closing price values
- Bar: A bar graph that shows closing price values
- OHLC: A bar extending from the low to high price for each trading day. A left flange indicates the opening price and a right flange indicates the closing price. The "[priceTraceBarLossColor](#)" on page 213 and "[priceTraceBarGainColor](#)" on page 213 properties show whether the stock closed at a higher or lower price than the opening price.
- Candlestick: A bar extending from the opening to closing price for each trading period. The wicks on either end show the high and low for the trading period. The "[priceTraceBarLossColor](#)" on page 213 and "[priceTraceBarGainColor](#)" on page 213 properties show whether the stock closed at a higher or lower price than the opening price.

This property is in the Price Trace property group.

priceTraceVisFlag

Use the checkbox to control price trace visibility.

This property is in the Price Trace property group.

[Stock charts](#)

Stock chart: Trace group

Properties in this group control the number of overlays the chart contains, as well as the overlay fill style.

Trace group properties

The group includes the following properties:

- ["overlayCount" on page 216](#)
- ["overlayFillStyle" on page 216](#)

overlayCount

Sets the number of overlays. The maximum is nineteen. For each overlay, the Dashboard Builder automatically creates a set of properties in the Object Properties window.

This property is in the Trace property group.

overlayFillStyle

When the value of ["overlayNType" on page 218](#) is Line, this specifies the effect with which to fill the area from the line to the bottom of the graph. The color is determined by ["overlayNLineColor" on page 217](#). Select one of the following fill styles from the drop down menu:

- Solid
- Transparent
- Gradient
- Transparent Gradient.
- None (default)

This property is in the Trace property group.

[Stock charts](#)

Stock chart: TraceN group

There is one group of these properties for each overlay in the chart (see ["overlayCount" on page 216](#)). The properties control the visibility and appearance of overlays, as well as the data to which they are attached.

TraceN group properties

The group includes the following properties:

- ["overlayNCurrentTable" on page 217](#)
- ["overlayNHistoryTable" on page 217](#)
- ["overlayNLabel" on page 217](#)
- ["overlayNLineColor" on page 217](#)
- ["overlayNLineStyle" on page 217](#)
- ["overlayNLineThickness" on page 218](#)
- ["overlayNType" on page 218](#)
- ["overlayNVisFlag" on page 218](#)

overlayNCurrentTable

The `overlayNCurrentTable` and ["overlayNHistoryTable" on page 217](#) properties are used in conjunction with the ["priceTraceHistoryTable" on page 214](#) or ["priceTraceCurrentTable" on page 213](#) properties to compare data (for example, to compare the activity of several stocks). See Building Dashboards in *Developing Apama Applications* for information on attaching properties to data. To enable, set the ["overlayCount" on page 216](#) to the number of overlay traces that you want to show.

This property is in the TraceN property group.

overlayNHistoryTable

The ["overlayNCurrentTable" on page 217](#) and `overlayNHistoryTable` properties are used in conjunction with the ["priceTraceHistoryTable" on page 214](#) or ["priceTraceCurrentTable" on page 213](#) properties to compare data (e.g. to compare the activity of several stocks). See Building Dashboards in *Developing Apama Applications* for information on attaching properties to data. By default the overlays are disabled. To enable, set the ["overlayCount" on page 216](#) to the number of overlay traces you want to show.

This property is in the TraceN property group.

overlayNLabel

Enter a label for the overlay line. This label appears in legend and tooltip enabled by ["mouseOverFlag" on page 206](#).

This property is in the TraceN property group.

overlayNLineColor

Select the ... button and choose a color from the palette to set the overlay line color. Close the **Color Chooser** window when you are done.

This property is in the TraceN property group.

overlayNLineStyle

Select one of the following styles for the overlay line from the drop down menu:

- No Line
- Solid
- Dotted
- Dashed
- Dot Dashed

Note: This property does not apply if you chose Bar or Event for "[overlayNType](#)" on page 218.

This property is in the TraceN property group.

overlayNLineThickness

Select the following thickness of the overlay line from the drop down menu:

- Thin
- Medium
- Thick

Note: This property does not apply if you chose Bar or Event for "[overlayNType](#)" on page 218.

This property is in the TraceN property group.

overlayNType

Select one of the following overlay types from the drop down menu:

- Line: A line graph that shows closing price values
- Bar: A bar graph that shows closing price values
- Event: A series of markers representing company events such as stock splits, company merges, etc. The first letter of the "[overlayNLabel](#)" on page 217 is the letter that appears in each event marker.

This property is in the TraceN property group.

overlayNVisFlag

Use the checkbox to control overlay visibility.

This property is in the TraceN property group.

[Stock charts](#)

Stock chart: X-Axis group

Properties in this group control the range and labeling of the x-axis, as well as the time interval between plotted points.

X-Axis group properties

The group includes the following properties:

- ["timeFormat" on page 219](#)
- ["timeRange" on page 219](#)
- ["timeRangeBegin" on page 220](#)
- ["timeRangeEnd" on page 220](#)
- ["timeRangeMode" on page 220](#)
- ["tradeDayBegin" on page 221](#)
- ["tradeDayEnd" on page 221](#)
- ["tradeDayEndLabelFlag" on page 221](#)
- ["xAxisFlag" on page 221](#)
- ["xAxisLabel" on page 221](#)
- ["xAxisLabelTextHeight" on page 221](#)
- ["xAxisMajorDivisions" on page 221](#)
- ["xAxisMinorDivisions" on page 221](#)

timeFormat

Sets the format for the time displayed in the x-axis using syntax from the Java `SimpleDateFormat` class. This property is only used when the ["timeRangeMode" on page 220](#) is Continuous.

For example, MMMM dd, yyyy hh:mm:ss results in dates of the form August 30, 2010 05:32:12 PM. If no format is given, the date and time are not displayed on the x-axis.

Include a new line character (`\n`) to display multiple-line text in the time axis labels. For example, MMdd\nhh:mm:ss results in the following form:

```
08\30
05:32:12
```

If left blank, the axis is labeled with a default format based on the range.

This property is in the X-Axis property group.

timeRange

Sets the total amount of time, in seconds, plotted on the chart.

If `timeRange` is set to -1, the time range is determined by the first and last timestamp found in the ["priceTraceHistoryTable" on page 214](#) and ["priceTraceCurrentTable" on page 213](#). If both tables are empty, the chart uses the first and last timestamp of the first overlay trace that has a non-empty ["overlayNHistoryTable" on page 217](#) or ["overlayNCurrentTable" on page 217](#).

Note: `timeRange` is ignored if both ["timeRangeBegin" on page 220](#) and ["timeRangeEnd" on page 220](#) are set.

The default is -1.0.

This property is in the X-Axis property group.

timeRangeBegin

Sets the start time value of the data to be plotted on the chart. Following are the supported formats:

- mm/dd/yyyy hh:mm:ss (e.g., 01/16/2010 12:30:03)
- yyyy-mm-dd hh:mm:ss (e.g., 2010-01-16 12:30:03)
- The number of milliseconds since midnight, January 1, 1970 UTC

Note: If only the time is specified, the current date is used.

This property is in the X-Axis property group.

timeRangeEnd

Sets the end time value of the data to be plotted on the chart. Following are the supported formats are:

- mm/dd/yyyy hh:mm:ss (e.g., 01/16/2010 12:30:03)
- yyyy-mm-dd hh:mm:ss (e.g., 2010-01-16 12:30:03)
- The number of milliseconds since midnight, January 1, 1970 UTC

Note: If only the time is specified, the current date is used.

This property is in the X-Axis property group.

timeRangeMode

Select the `timeRangeMode` from the drop down menu. This property sets the interval between trace data points. `timeRangeMode` also affects the x-axis labels. With some time intervals, for example, x-axis labels are dates, while with other time intervals, x-axis labels are times. There are eight modes:

- Auto: Selects the setting that best matches the time intervals in the price trace data table.
- Intra-Day: Time intervals are less than one day, for example, hourly or every 15 minutes.
- Daily: Time intervals are days.
- Weekly: Time intervals are weeks.
- Monthly: Time intervals are months.
- Quarterly: Time intervals are quarters.
- Yearly: Time intervals are annual.
- Continuous: Plots each point using the corresponding timestamp from the data table. This data can vary in time intervals.

Note: If the price trace data is more granular than the time interval specified in your data attachment, the price trace data will be aggregated to match the `timeRangeMode`.

This property is in the X-Axis property group.

tradeDayBegin

Defines the daily start time of the trading day. This property is used only with intraday data (time intervals less than one day, for example, hourly or every 15 minutes). The default value is 09:30.

This property is in the X-Axis property group.

tradeDayEnd

Defines the daily end time of the trading day. This property is used only with intraday data (time intervals less than one day, for example, hourly or every 15 minutes). The default value is 16:00.

This property is in the X-Axis property group.

tradeDayEndLabelFlag

Select to show the last data point of a day and the first data point of the next day (which are equal values) with separate points on the chart. Otherwise, they are shown together at one point on the chart.

This property is only used with intraday data.

The default is disabled.

This property is in the X-Axis property group.

xAxisFlag

Select to display the x-axis.

This property is in the X-Axis property group.

xAxisLabel

Specifies a label to display below the x-axis.

This property is in the X-Axis property group.

xAxisLabelTextHeight

Specifies the height in pixels of the x-axis labels.

This property is in the X-Axis property group.

xAxisMajorDivisions

Specify the number of major divisions on the x-axis.

This property is in the X-Axis property group.

xAxisMinorDivisions

Specify the number of minor divisions on the x-axis.

Note: This property applies when the ["timeRangeMode" on page 220](#) property is set to Continuous.

This property is in the X-Axis property group.

Stock charts

Stock chart: Y-Axis group

Properties in this group control the visibility and scaling of the y-axis or y-axes, as well as y-axis labeling and y-axis divisions. They also control the visibility of y-axis grid lines (but see also the ["Stock chart: Plot Area group" on page 211](#) property group).

Y-Axis group properties

The group includes the following properties:

- ["yAxisAutoScaleMode" on page 222](#)
- ["yAxisFlag" on page 222](#)
- ["yAxisFormat" on page 222](#)
- ["yAxisLabel" on page 223](#)
- ["yAxisLabelTextHeight" on page 223](#)
- ["yAxisMajorDivisions" on page 223](#)
- ["yAxisMinLabelWidth" on page 223](#)
- ["yAxisMinorDivisions" on page 223](#)
- ["yAxisMultiRangeFlag" on page 223](#)
- ["yAxisPercentFlag" on page 223](#)

yAxisAutoScaleMode

Select how the y-axis range is calculated from the drop down menu:

- Off: The ["yValueMin" on page 203](#) and ["yValueMax" on page 203](#) properties determine the range of y-axis.
- On: - The dashboard calculates the y-axis range according to data values being plotted.
- On - Include Min/Max: The dashboard calculates the smallest range (with rounding) that includes ["yValueMin" on page 203](#) and ["yValueMax" on page 203](#) as well as all plotted points.

This property is in the Y-Axis property group.

yAxisFlag

Select to display the y-axis.

This property is in the Y-Axis property group.

yAxisFormat

Select or enter the numeric format of values displayed on the y-axis. To enter a format, use syntax from the Java `DecimalFormat` class.

This property is in the Y-Axis property group.

yAxisLabel

Specify label to display to the left of the y-axis.

This property is in the Y-Axis property group.

yAxisLabelTextHeight

Specify the height of the y-axis labels in pixels.

This property is in the Y-Axis property group.

yAxisMajorDivisions

Specify the number of major divisions on the y-axis. Major divisions are separated by horizontal grid lines. See ["gridColor" on page 212](#).

This property is in the Y-Axis property group.

yAxisMinLabelWidth

Specify the minimum width of the y-axis labels in pixels.

This property is in the Y-Axis property group.

yAxisMinorDivisions

Specify the number of minor divisions on the y-axis.

This property is in the Y-Axis property group.

yAxisMultiRangeFlag

Select to have one axis per trace, with each trace having its own range. The first trace is drawn on the outer left of the graph. The remaining traces are drawn on the inner left of the trace area.

Otherwise, all traces are plotted against a single y-axis.

The default is enabled.

This property is in the Y-Axis property group.

yAxisPercentFlag

Select to show the percent changed from the first data point instead of values for the y-axis.

This property is in the Y-Axis property group.

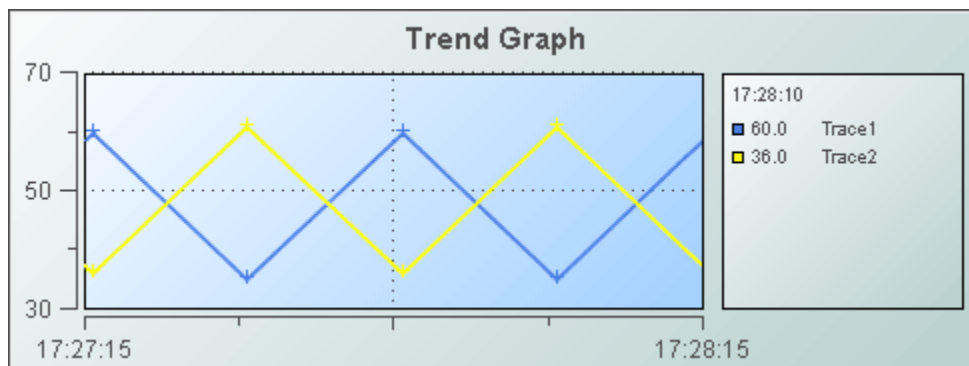
[Stock charts](#)

Trend graphs

Trend graphs visualize live and historical, time-indexed, quantitative data. Each graph contains one or more traces, and each trace visualizes tabular data that includes one, two, or three columns:

- One-column data contains a numerical column. The dashboard assigns a time stamp to each row as the data is received.

- Two-column data contains a time-valued column and a numerical column.
- Three-column data contains a time-valued column, a numerical column, and a string (data-label) column.



Use the ["traceCount" on page 245](#) property to specify the number of traces to be included in the chart. Use the ["traceNValue" on page 248](#) and ["traceNValueTable" on page 249](#) properties to attach data to the N^{th} overlay.

Alternatively, enable ["multiTraceTableFlag" on page 244](#) and use ["multiTraceHistoryValueTable" on page 244](#) and ["multiTraceCurrentValueTable" on page 243](#) in order to specify data for multiple traces by using a single history attachment and a single current value attachment.

Trend graphs include the following visualization objects from the Trends tab:

- Single Variable Trend
- Multiple Variable Trend
- Filled Trend
- Threshold Trend
- Single Trend with Marks

These visualizations all share the same properties. They differ from one another only with regard to their default values for these properties. When any of these objects is selected in the Builder canvas, the Object Class Name that appears at the top of the Object Properties pane is `obj_stockchart`.

The Object Properties panel organizes trend graph properties into the following groups:

- ["Trend graph: Alert group" on page 225](#)
- ["Trend graph: Background group" on page 230](#)
- ["Trend graph: Data group" on page 232](#)
- ["Trend graph: Data Format group" on page 233](#)
- ["Trend graph: Interaction group" on page 234](#)
- ["Trend graph: Label group" on page 238](#)
- ["Trend graph: Legend group" on page 239](#)
- ["Trend graph: Marker group" on page 240](#)
- ["Trend graph: Object group" on page 240](#)

- ["Trend graph: Plot Area group" on page 242](#)
- ["Trend graph: Trace group" on page 243](#)
- ["Trend graph: TraceN group" on page 245](#)
- ["Trend graph: Trace Groups group" on page 251](#)
- ["Trend graph: X-Axis group" on page 253](#)
- ["Trend graph: Y-Axis group" on page 255](#)

Trend Objects

Trend graph: Alert group

Properties in this group allow you to specify changes in the appearance of trace lines, and trace markers in response to changes in the status of plotted data elements. See also ["traceNValueAlarmStatus" on page 248](#) and ["traceNValueAlarmStatusTable" on page 249](#) in the ["Trend graph: TraceN group" on page 245](#) property group.

Alert group properties

This group includes the following properties:

- ["valueHighAlarm" on page 226](#)
- ["valueHighAlarmEnabledFlag" on page 226](#)
- ["valueHighAlarmLineVisFlag" on page 226](#)
- ["valueHighAlarmMarkColor" on page 226](#)
- ["valueHighAlarmMarkStyle" on page 226](#)
- ["valueHighAlarmTraceColor" on page 227](#)
- ["valueHighAlarmTraceStyle" on page 227](#)
- ["valueHighWarning" on page 227](#)
- ["valueHighWarningEnabledFlag" on page 227](#)
- ["valueHighWarningLineVisFlag" on page 227](#)
- ["valueHighWarningMarkColor" on page 227](#)
- ["valueHighWarningMarkStyle" on page 227](#)
- ["valueHighWarningTraceColor" on page 228](#)
- ["valueHighWarningTraceStyle" on page 228](#)
- ["valueLowAlarm" on page 228](#)
- ["valueLowAlarmEnabledFlag" on page 228](#)
- ["valueLowAlarmLineVisFlag" on page 228](#)
- ["valueLowAlarmMarkColor" on page 228](#)

- ["valueLowAlarmMarkStyle"](#) on page 228
- ["valueLowAlarmTraceColor"](#) on page 229
- ["valueLowAlarmTraceStyle"](#) on page 229
- ["valueLowWarning"](#) on page 229
- ["valueLowWarningEnabledFlag"](#) on page 229
- ["valueLowWarningLineVisFlag"](#) on page 229
- ["valueLowWarningMarkColor"](#) on page 229
- ["valueLowWarningMarkStyle"](#) on page 229
- ["valueLowWarningTraceColor"](#) on page 230
- ["valueLowWarningTraceStyle"](#) on page 230

valueHighAlarm

Specifies the threshold value used by ["valueHighAlarmLineVisFlag"](#) on page 226, ["valueHighAlarmMarkColor"](#) on page 226, ["valueHighAlarmMarkStyle"](#) on page 226, ["valueHighAlarmTraceColor"](#) on page 227, and ["valueHighAlarmTraceStyle"](#) on page 227.

This property is in the Alert property group.

valueHighAlarmEnabledFlag

Select to enable the high alarm threshold. See ["valueHighAlarm"](#) on page 226.

This property is in the Alert property group.

valueHighAlarmLineVisFlag

Select to display a dotted line at the high alarm threshold. The color of the line is set to ["valueHighAlarmMarkColor"](#) on page 226. This line is displayed only if ["valueHighAlarmEnabledFlag"](#) on page 226 is selected.

This property is in the Alert property group.

valueHighAlarmMarkColor

When a trace marker's value is greater than or equal to ["valueHighAlarm"](#) on page 226, the marker changes to `valueHighAlarmMarkColor` and ["valueHighAlarmMarkStyle"](#) on page 226, provided ["valueHighAlarmEnabledFlag"](#) on page 226 is selected. But see also ["traceNValueAlarmStatus"](#) on page 248 and ["traceNValueAlarmStatusTable"](#) on page 249.

This property is in the Alert property group.

valueHighAlarmMarkStyle

When a trace marker's value is greater than or equal to ["valueHighAlarm"](#) on page 226, the marker changes to ["valueHighAlarmMarkColor"](#) on page 226 and `valueHighAlarmMarkStyle`, provided ["valueHighAlarmEnabledFlag"](#) on page 226 is selected. But see also ["traceNValueAlarmStatus"](#) on page 248 and ["traceNValueAlarmStatusTable"](#) on page 249.

This property is in the Alert property group.

valueHighAlarmTraceColor

When the value of any segment of a trace line is greater than or equal to ["valueHighAlarm" on page 226](#), that segment of the trace line changes to `valueHighAlarmTraceColor` and ["valueHighAlarmTraceStyle" on page 227](#), provided ["valueHighAlarmEnabledFlag" on page 226](#) is selected.

This property is in the Alert property group.

valueHighAlarmTraceStyle

When the value of any segment of a trace line is greater than or equal to ["valueHighAlarm" on page 226](#), that segment of the trace line changes to ["valueHighAlarmTraceStyle" on page 227](#) and `valueHighAlarmTraceStyle`, provided ["valueHighAlarmEnabledFlag" on page 226](#) is selected.

This property is in the Alert property group.

valueHighWarning

Specifies the threshold value used by ["valueHighWarningLineVisFlag" on page 227](#), ["valueHighWarningMarkColor" on page 227](#), ["valueHighWarningMarkStyle" on page 227](#), ["valueHighWarningTraceColor" on page 228](#), and ["valueHighWarningTraceStyle" on page 228](#).

This property is in the Alert property group.

valueHighWarningEnabledFlag

Select to enable the high warning threshold. See ["valueHighWarning" on page 227](#).

This property is in the Alert property group.

valueHighWarningLineVisFlag

Select to display a dotted line at the high warning threshold. The color of the line is set to ["valueHighWarningMarkColor" on page 227](#). This line is displayed only if ["valueHighWarningEnabledFlag" on page 227](#) is selected.

This property is in the Alert property group.

valueHighWarningMarkColor

When a trace marker's value is greater than or equal to ["valueHighWarning" on page 227](#) but less than ["valueHighAlarm" on page 226](#), the marker changes to `valueHighWarningMarkColor` and ["valueHighWarningMarkStyle" on page 227](#), provided ["valueHighWarningEnabledFlag" on page 227](#) is selected. But see also ["traceNValueAlarmStatus" on page 248](#) and ["traceNValueAlarmStatusTable" on page 249](#).

This property is in the Alert property group.

valueHighWarningMarkStyle

When a trace marker's value is greater than or equal to ["valueHighWarning" on page 227](#) but less than ["valueHighAlarm" on page 226](#), the marker changes to ["valueHighWarningMarkColor" on page 227](#) and `valueHighWarningMarkStyle`, provided ["valueHighWarningEnabledFlag" on page 227](#) is selected. But see also ["traceNValueAlarmStatus" on page 248](#) and ["traceNValueAlarmStatusTable" on page 249](#).

This property is in the Alert property group.

valueHighWarningTraceColor

When the value of any segment of a trace line is greater than or equal to "[valueHighWarning](#)" on [page 227](#) property but less than "[valueHighAlarm](#)" on [page 226](#), that segment of the trace line changes to `valueHighWarningTraceColor` and "[valueHighWarningTraceStyle](#)" on [page 228](#), provided "[valueHighWarningEnabledFlag](#)" on [page 227](#) is selected.

This property is in the Alert property group.

valueHighWarningTraceStyle

When the value of any segment of a trace line is greater than or equal to "[valueHighWarning](#)" on [page 227](#) property but less than "[valueHighAlarm](#)" on [page 226](#), that segment of the trace line changes to "[valueHighWarningTraceColor](#)" on [page 228](#) and `valueHighWarningTraceStyle`, provided "[valueHighWarningEnabledFlag](#)" on [page 227](#) is selected.

This property is in the Alert property group.

valueLowAlarm

Specifies the threshold value used by "[valueLowAlarmLineVisFlag](#)" on [page 228](#), "[valueLowAlarmMarkColor](#)" on [page 228](#), "[valueLowAlarmMarkStyle](#)" on [page 228](#), "[valueLowAlarmTraceColor](#)" on [page 229](#), and "[valueLowAlarmTraceStyle](#)" on [page 229](#).

This property is in the Alert property group.

valueLowAlarmEnabledFlag

Select to enable the low alarm threshold. See "[valueLowAlarm](#)" on [page 228](#).

This property is in the Alert property group.

valueLowAlarmLineVisFlag

Select to display a dotted line at the low alarm threshold. The color of the line is set to "[valueLowAlarmMarkColor](#)" on [page 228](#). This line is displayed only if "[valueLowAlarmEnabledFlag](#)" on [page 228](#) is selected.

This property is in the Alert property group.

valueLowAlarmMarkColor

When a trace marker's value is less than or equal to "[valueLowAlarm](#)" on [page 228](#), the marker changes to `valueLowAlarmMarkColor` and "[valueLowAlarmMarkStyle](#)" on [page 228](#), provided "[valueLowAlarmEnabledFlag](#)" on [page 228](#) is selected. But see also "[traceNValueAlarmStatus](#)" on [page 248](#) and "[traceNValueAlarmStatusTable](#)" on [page 249](#).

This property is in the Alert property group.

valueLowAlarmMarkStyle

When a trace marker's value is less than or equal to "[valueLowAlarm](#)" on [page 228](#), the marker changes to "[valueLowAlarmMarkColor](#)" on [page 228](#) and `valueLowAlarmMarkStyle`, provided "[valueLowAlarmEnabledFlag](#)" on [page 228](#) is selected. But see also "[traceNValueAlarmStatus](#)" on [page 248](#) and "[traceNValueAlarmStatusTable](#)" on [page 249](#).

This property is in the Alert property group.

valueLowAlarmTraceColor

When the value of any segment of a trace line is less than or equal to "[valueLowAlarm](#)" on page 228, that segment of the trace line changes to `valueLowAlarmTraceColor` and "[valueLowAlarmTraceStyle](#)" on page 229, provided "[valueLowAlarmEnabledFlag](#)" on page 228 is selected.

This property is in the Alert property group.

valueLowAlarmTraceStyle

When the value of any segment of a trace line is less than or equal to "[valueLowAlarm](#)" on page 228, that segment of the trace line changes to "[valueLowAlarmTraceColor](#)" on page 229 and `valueLowAlarmTraceStyle`, provided "[valueLowAlarmEnabledFlag](#)" on page 228 is selected.

This property is in the Alert property group.

valueLowWarning

Specifies the threshold value used by "[valueLowWarningLineVisFlag](#)" on page 229, "[valueLowWarningMarkColor](#)" on page 229, "[valueLowWarningMarkStyle](#)" on page 229, "[valueLowWarningTraceColor](#)" on page 230, and "[valueLowWarningTraceStyle](#)" on page 230.

This property is in the Alert property group.

valueLowWarningEnabledFlag

Select to enable the low warning threshold. See "[valueLowWarning](#)" on page 229.

This property is in the Alert property group.

valueLowWarningLineVisFlag

Select to display a dotted line at the low warning threshold. The color of the line is set to "[valueLowWarningMarkColor](#)" on page 229. This line is displayed only if "[valueLowWarningEnabledFlag](#)" on page 229 is selected.

This property is in the Alert property group.

valueLowWarningMarkColor

When a trace marker's value is less than or equal to "[valueLowWarning](#)" on page 229 but greater than "[valueLowAlarm](#)" on page 228, the marker changes to `valueLowWarningMarkColor` and "[valueLowWarningMarkStyle](#)" on page 229, provided "[valueLowWarningEnabledFlag](#)" on page 229 is selected. But see also "[traceNValueAlarmStatus](#)" on page 248 and "[traceNValueAlarmStatusTable](#)" on page 249.

This property is in the Alert property group.

valueLowWarningMarkStyle

When a trace marker's value is less than or equal to "[valueLowWarning](#)" on page 229 but greater than "[valueLowAlarm](#)" on page 228, the marker changes to "[valueLowWarningMarkColor](#)" on page 229 and `valueLowWarningMarkStyle`, provided "[valueLowWarningEnabledFlag](#)"

on [page 229](#) is selected. But see also ["traceNValueAlarmStatus" on page 248](#) and ["traceNValueAlarmStatusTable" on page 249](#).

This property is in the Alert property group.

valueLowWarningTraceColor

When the value of any segment of a trace line is less than or equal to ["valueLowWarning" on page 229](#) but greater than ["valueLowAlarm" on page 228](#), that segment of the trace line changes to `valueLowWarningTraceColor` and ["valueLowWarningTraceStyle" on page 230](#), provided ["valueLowWarningEnabledFlag" on page 229](#) is selected.

This property is in the Alert property group.

valueLowWarningTraceStyle

When the value of any segment of a trace line is less than or equal to ["valueLowWarning" on page 229](#) property but greater than ["valueLowAlarm" on page 228](#), that segment of the trace line changes to ["valueLowWarningTraceColor" on page 230](#) and `valueLowWarningTraceStyle`, provided ["valueLowWarningEnabledFlag" on page 229](#) is selected.

This property is in the Alert property group.

[Trend graphs](#)

Trend graph: Background group

Properties in this group control the visibility and appearance of the portion of the graph that serves as the background of both the plot area and legend.

Background group properties

The group contains the following properties:

- ["bgBorderFlag" on page 231](#)
- ["bgColor" on page 231](#)
- ["bgEdgeWidth" on page 231](#)
- ["bgGradientColor2" on page 231](#)
- ["bgGradientMode" on page 231](#)
- ["bgRaisedFlag" on page 231](#)
- ["bgRoundness" on page 232](#)
- ["bgShadowFlag" on page 232](#)
- ["bgStyleFlag" on page 232](#)
- ["bgVisFlag" on page 232](#)
- ["borderPixels" on page 232](#)

bgBorderFlag

Select to display a border around the background rectangle.

This property is in the Background property group.

bgColor

Sets the background color. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Background property group.

bgEdgeWidth

Sets the width in pixels of the 3D edge on the background rectangle. This property is only used if `bgBorderFlag` is selected.

This property is in the Background property group.

bgGradientColor2

Sets the color for the second color in the gradient. The default is white. The `bgColor` property sets the first color in the gradient.

This property is in the Background property group.

bgGradientMode

Display a gradient in the background rectangle. Select from the following options:

- **None:** No gradient
- **Diagonal Edge:** Gradient is drawn at a 45 degree angle from the top left to the bottom right corner of the object.
- **Diagonal Center:** Gradient is drawn at a 45 degree angle from the center to the top left and the bottom right corners of the object.
- **Horizontal Edge:** Gradient is drawn horizontally from the top to the bottom of the object.
- **Horizontal Center:** Gradient is drawn horizontally from the center to the top and bottom of the object.
- **Vertical Edge:** Gradient is drawn vertically from the left to the right of the object.
- **Vertical Center:** Gradient is drawn vertically from the center to the left and right of the object.

This property is in the Background property group.

bgRaisedFlag

Reverses the direction of the gradient, as well as that of the 3D edge if the `bgStyle` selected is 3D Rectangle.

This property is in the Background property group.

bgRoundness

Sets the arc length of the rounded corners. This property is only available if the `bgStyle` selected is Round Rectangle.

The value of `bgRoundness` cannot exceed half the value of the `objWidth` or the `objHeight`. If `bgRoundness` does exceed that value, half of `objWidth` or `objHeight` (whichever is smaller) will be used instead. For example if `objWidth` is 100 and `objHeight` is 50, then the value of `bgRoundness` cannot exceed 25. If it does, then half the value of `objHeight` (25) will be used instead. This property is in the Background property group.

bgShadowFlag

Select to display a drop shadow on the background rectangle.

This property is in the Background property group.

bgStyleFlag

Choose one of the following three options from the drop down menu:

- **Rectangle:** Select to display a background rectangle.
- **3D Rectangle:** Select to display a 3D edge on the background rectangle. If selected, use `bgEdgeWidth` to set the width of the 3D edge.
- **Round Rectangle:** Select to display a background rectangle with rounded edges. If selected, use `bgRoundness` to set the arc length of the rounded corners.

This property is in the Background property group.

bgVisFlag

Select to display the background rectangle.

This property is in the Background property group.

borderPixels

Sets the width in pixels of the border between the chart and the edge of the background rectangle.

This property is in the Background property group.

[Trend graphs](#)

Trend graph: Data group

Properties in this group control the y-axis range, as well as the maximum number of data points contained in the chart. It also contains a flag that controls whether only historical data is included.

Data group properties

The group contains the following properties:

- ["historyOnlyFlag" on page 233](#)

- ["maxPointsPerTrace" on page 233](#)
- ["yValueMax" on page 233](#)
- ["yValueMin" on page 233](#)

historyOnlyFlag

When checked, the graph plots only data that is applied to the `traceNValueTable` properties and will ignore the `timeShift` property and any data that is applied to the `traceNValue` properties. This is useful when the same graph instance is to be used to view either historical data or historical data together with current data by setting substitutions on the display.

The default is unchecked.

This property is in the Data property group.

maxPointsPerTrace

The maximum number of data points contained in the chart. Specify a value between 2 and 30000, inclusive.

The default is 1000.

This property is in the Data property group.

yValueMax

Determines the range of the y-axis if the ["yAxisAutoScaleMode" on page 255](#) is set to Off. Select On for the ["yAxisAutoScaleMode" on page 255](#) to calculate the y-axis range according to data values being plotted. To calculate a y-axis range that always includes ["yValueMin" on page 233](#) and `yValueMax`, select On - Include Min/Max.

This property is used only if ["yAxisMultiRangeMode" on page 257](#) is set to Off or Classic.

This property is in the Data property group.

yValueMin

Controls the range of y-axis if the ["yAxisAutoScaleMode" on page 255](#) is set to Off. Select On for the ["yAxisAutoScaleMode" on page 255](#) to calculate the y-axis range according to data values being plotted. To calculate a y-axis range that always includes `yValueMin` and ["yValueMax" on page 233](#), select On - Include Min/Max.

This property is used only if ["yAxisMultiRangeMode" on page 257](#) is set to Off or Classic.

This property is in the Data property group.

Trend graphs

Trend graph: Data Format group

This group contains the ["yValueFormat" on page 234](#) property, which controls the format of displayed values.

yValueFormat

Select or enter the numeric format of values displayed in the legend and popup legend. To enter a format, use syntax from the Java `DecimalFormat` class.

This property is in the Data Format property group.

[Trend graphs](#)

Trend graph: Interaction group

Properties in this group control various forms of interaction between the end user and the chart, including scrolling and activating commands, drill downs, and tooltips.

Interaction group properties

This group contains the following properties:

- ["commandCloseWindowOnSuccess" on page 234](#)
- ["command" on page 234](#)
- ["commandConfirm" on page 235](#)
- ["confirmText" on page 235](#)
- ["cursorColor" on page 236](#)
- ["cursorFlag" on page 236](#)
- ["drillDownSelectMode" on page 236](#)
- ["drillDownTarget" on page 236](#)
- ["scrollbarMode" on page 237](#)
- ["scrollbarSize" on page 237](#)
- ["zoomEnabledFlag" on page 237](#)

commandCloseWindowOnSuccess

Select this property to automatically close the window that initiates a **SYSTEM** command when the command is executed successfully. This applies to **SYSTEM** commands only, and is not supported at all for thin-client, Web-page deployments.

With APAMA commands, the window is closed whether or not the command is executed successfully. For **MULTIPLE** commands, the window closes when the first command in the command group succeeds.

This property is in the Interaction property group.

command

Assign a command or group of commands to this stock chart by right-clicking on the `command` property name in the **Object Properties** window. Select Define Command and choose **SYSTEM**,

APAMA, or MULTIPLE. For information on the **Define Command** dialog, see the Building Dashboards in *Developing Apama Applications*.

Once a command or command group has been assigned to this object, you can activate it from a deployed dashboard or from the Dashboard Builder:

- Dashboard Builder: Double click on the object.
- Web-based deployment: Single click on the object or else right click on it and select **Execute Command** from the popup menu.
- Local deployment: By default, single-click on the object or else right-click on it and select **Execute Command** from the popup menu. To override the default, select **Tools > Options** in the Builder (do this before you generate the deployment package), and uncheck **Single-Click for Drill Down and Commands** in the **General** tab. This allows the end user to use either a double click or a right click.

When you activate a command, any defined drill down substitutions are performed, and then the command is executed.

If you assign multiple commands, the commands are launched in an arbitrary order, and are executed asynchronously; there is no guarantee that one command will finish before the next one in the sequence starts.

This property is in the Interaction property group.

commandConfirm

By default, when the end user executes a command (see ["command" on page 234](#)), the command confirmation dialog is disabled. To control this option for each individual object, use the `commandConfirm` check box. If confirmation is required for a MULTIPLE command group, a single confirmation dialog is presented; if you confirm the execution, all individual commands in the group are executed with no further confirmation. If the you cancel the execution, none of the commands in the group is executed.

You can also override the confirmation status of individual objects with an application-wide policy. Select **Tools | Options** and choose from three confirmation values:

- Do not confirm: Indicates that no commands require confirmation (regardless of each object's confirmation status).
- Confirm all: Indicates that all commands require confirmation (regardless of each object's confirmation status).
- Use object confirm flag (default): Indicates that the confirmation status of each object will determine whether confirmation is required.

This property is in the Interaction property group.

confirmText

Use this property to write your own text for the confirmation dialog. Otherwise, default text is used. See ["commandConfirm" on page 235](#).

This property is in the Interaction property group.

cursorColor

Sets the color of the cursor, as well as the zoom-area rectangle (see ["zoomEnabledFlag" on page 237](#)). Select the ... button and choose a color from the palette. Close the Color Chooser window when you are done.

The default is grey.

This property is in the Interaction property group.

cursorFlag

Select to enable the cursor. When the cursor is enabled, select the chart and point to a location on a trace to see a cursor line at that location and display the time and values of all traces at the cursor line on the legend. Select the ["legendPopupFlag" on page 239](#) to display the legend along the cursor.

The cursor is enabled by default.

This property is in the Interaction property group.

drillDownSelectMode

Use this property to control how a drill down display is activated. Select one of the following:

- Anywhere to activate a drill down display by double-clicking anywhere on the chart.
- Element Only to enable a drill down display only when you double-click on an element of the chart, that is, a trace point.

This property is in the Interaction property group.

drillDownTarget

To specify a drill down display, double click on `drillDownTarget` in the Property Name field to bring up the **Drill Down Properties** dialog. See ["Drill-Down Specification" on page 258](#).

Trend graphs support drill down from a trace point. If the trend graph has a `drillDownTarget` specified, clicking on a trace point sets the following predefined substitutions:

- `$traceNumber`: number of the trace (1 to 10) that contains the selected point
- `$traceLabel`: label of selected trace
- `$pointValue`: y value of point
- `$pointTimestamp`: timestamp of point
- `$pointLabel`: data label (if any) of point
- `$pointIndex`: position of point in trace data (0 to `maxPointsPerTrace`)

If the `drillDownSelectMode` property is set to Element Only, clicks on the graph that are not near a trace point are ignored. If `drillDownSelectMode` is set to Anywhere, a click anywhere on the graph triggers a drill down, but if the click is not near a trace point the substitutions listed above are not set.

Thin client (Display Server) deployments support mouseover text and drill down from data points on traces on the trend graph. If the trend graph's `cursorFlag` property is checked, this enables mouseover on the trace points. If the mouse is over a trace point, a browser tooltip box appears

displaying the legend values that correspond to that point. Following are the limitations on this feature:

- If this feature is used on a graph with many trace points, the performance of the browser may be sluggish when the display is loading or refreshing. To avoid this, set the `timeRange` property so that only a portion of the trace points are visible at a time.
- If a thin client display refresh occurs while positioning the mouse over a point, the browser tooltip may not appear or it may appear in the wrong location.
- When `maxPointsPerTrace` is exceeded on a trace (1000 by default), an old trace point is shifted out of the trace for each new point that is added. If this occurs between the time that the thin client display was last refreshed and the time that the user clicks on a point, the drilldown substitutions reflect the new set of data points. For example, if two points are shifted out of the trace, the drilldown substitutions are set as though the selected point were two positions to the right of the point the user actually clicked.

This property is in the Interaction property group.

scrollbarMode

Sets whether and when the scroll bar appears in the chart. Select one of the following from the drop down menu:

- **Never:** Default setting
- **Always:** Display a scroll bar at all times.
- **As Needed:** Display the scroll bar when necessitated by zooming in the trace area, or when more data is loaded into the chart than is displayed in the time range. For example, if the time range of the data in your data attachment is greater than ["timeRange" on page 253](#), setting ["scrollbarMode" on page 237](#) to As Needed will enable a scroll bar, allowing the end user to view all data loaded into the chart.

This property is in the Interaction property group.

scrollbarSize

Specify the height of the horizontal scroll bar and the width of the vertical scroll bar, in pixels. The default value is -1, which sets the size to the system default.

This property is in the Interaction property group.

zoomEnabledFlag

Select to enable zooming within the chart. Click in the chart's trace area and drag the ["cursorColor" on page 236](#) cursor until a desired range is selected. While dragging, a rectangle is drawn to show the zoom area. The rectangle's default color is yellow (this can be changed in the property). After the zoom is performed, the chart stores up to four zoom operations in queue. To zoom out, press the shift key and click in the chart's trace area.

This property is in the Interaction property group.

[Trend graphs](#)

Trend graph: Label group

Properties in this group control the chart's main label (which defaults to Stock Chart), including text, alignment, color, font, and size.

Label group properties

The group includes the following properties:

- ["label" on page 238](#)
- ["labelTextAlignX" on page 238](#)
- ["labelTextColor" on page 238](#)
- ["labelTextFont" on page 238](#)
- ["labelTextHeight" on page 238](#)

label

Specifies the text for the chart label. Click the ellipsis for multi-line text.

The default is Single Variable Trend, Multiple Variable Trend, Filled Trend, Threshold Trend, or Single Trend with Marks.

This property is in the Label property group.

labelTextAlignX

Sets the alignment of the chart label (see the ["label" on page 238](#) property). Select Left, Center, or Right from the drop down list.

This property is in the Label property group.

labelTextColor

Specifies the color of the chart label text (see the ["label" on page 238](#) property). Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Label property group.

labelTextFont

Specifies the font of the chart label text (see the ["label" on page 238](#) property). Select an item from drop down list.

This property is in the Label property group.

labelTextHeight

Specifies the point size of the chart label text (see the ["label" on page 238](#) property).

This property is in the Label property group.

Trend graphs

Trend graph: Legend group

Properties in this group control the visibility, appearance, and content of the chart legend.

Legend group properties

The group contains the following properties:

- ["legendBgColor" on page 239](#)
- ["legendBgGradientFlag" on page 239](#)
- ["legendPopupFlag" on page 239](#)
- ["legendTimeFormat" on page 239](#)
- ["legendValueMinSpace" on page 239](#)
- ["legendVisFlag" on page 240](#)
- ["legendWidthPercent" on page 240](#)

legendBgColor

Select the ... button and choose a color from the palette to set the background color of the legend. Close the **Color Chooser** window when you are done.

This property is in the Legend property group.

legendBgGradientFlag

Select the `legendBgGradientFlag` to display a gradient in the legend background.

This property is in the Legend property group.

legendPopupFlag

When the ["cursorFlag" on page 236](#) property is enabled, select `legendPopupFlag` to display the legend along the cursor.

This property is in the Legend property group.

legendTimeFormat

Sets the format for the time displayed in the legend. Use syntax from the Java `SimpleDateFormat` class. For example, `MMMM dd, yyyy hh:mm:ss` results in the form August 30, 2003 05:32:12 PM. If no format is given, the ["timeFormat" on page 253](#) is used.

This property is in the Legend property group.

legendValueMinSpace

Specify the minimum distance in pixels between values and labels in the legend.

This property is in the Legend property group.

legendVisFlag

Select to display the legend.

This property is in the Legend property group.

legendWidthPercent

Sets the percent of the total width of the object used for the legend.

This property is in the Legend property group.

[Trend graphs](#)

Trend graph: Marker group

Properties in this group control the size of trace markers.

Marker group properties

The group includes the following properties:

- ["markDefaultSize" on page 240](#)
- ["markScaleMode" on page 240](#)

markDefaultSize

Sets the size of the markers (see `traceNMarkStyle`) in pixels. Supply an integer value that is between 1 and 18, inclusive.

This property is in the Marker property group.

markScaleMode

Select one of the following from the drop down menu to set the scale mode:

- No Scale: All markers, across and within traces, are the same size.
- Scale by Trace: Scale markers according to the trace in which they reside, that is, markers in the first trace are the largest, across all traces, and the markers in the last trace are the smallest.
- Scale Within Trace: Scale markers according to the relative temporal order of the data within each trace, that is, the marker for the earliest data in any given trace is the smallest in that trace and the marker for the latest data in the trace is the largest in that trace.

This property is in the Marker property group.

[Trend graphs](#)

Trend graph: Object group

Properties in this group control the visibility and transparency of the chart as a whole. They also control (or reflect) the overall position and dimensions of the chart. In addition, a property in this group reflects the generated name of this individual chart.

Object group properties

This group contains the following properties:

- ["anchor" on page 241](#)
- ["dock" on page 241](#)
- ["objHeight" on page 241](#)
- ["objName" on page 241](#)
- ["objWidth" on page 241](#)
- ["objX" on page 242](#)
- ["objY" on page 242](#)
- ["transparencyPercent" on page 242](#)
- ["visFlag" on page 242](#)

anchor

Select zero or more of Top, Left, Bottom, and Right in order to control the object's placement. The `anchor` property is only applied when the display is resized either by changing the Background Properties on the display or by resizing the window in Layout mode. If an object has the `dock` property set, the `anchor` property is ignored. See About resize modes in *Building Dashboards* for detailed information.

dock

Select None (default), Top, Left, Bottom, Right, or Fill in order to control the object's placement in Layout resize mode. See About resize modes in *Building Dashboards* for detailed information.

objHeight

Sets the height of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the stock chart is selected. When you drag a handle of the bounding box, the displayed value for this property changes to reflect the real-time height of the chart.

This property is in the Object property group.

objName

An identifier that is generated by the Dashboard Builder. This name can be used by other objects' properties in order to refer to the named stock chart.

This property is in the Object property group.

objWidth

Sets the width of a chart by entering a value for this property or by dragging a handle of the bounding box that appears when the stock chart is selected. When you drag a handle of the

bounding box, the displayed value for this property changes to reflect the real-time width of the chart.

This property is in the Object property group.

objX

Sets the X coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

objY

Sets the Y coordinate of the center of this visualization object, relative to the lower left corner of the current dashboard. This value is set automatically when you position the object with the mouse.

This property is in the Object property group.

transparencyPercent

Sets the transparency of this chart.

This property is in the Object property group.

visFlag

Deselect to make this visualization object invisible in the current dashboard.

This property is in the Object property group.

[Trend graphs](#)

Trend graph: Plot Area group

Properties in this group control the appearance of the plot area, the rectangular area that serves as background for the traces (but not for the legend or axis labels—see ["Trend graph: Background group" on page 230](#)). There is also a property that controls the color of the horizontal grid line or lines.

Plot Area group

This group contains the following properties:

- ["gridColor" on page 242](#)
- ["traceBgColor" on page 243](#)
- ["traceBgGradientFlag" on page 243](#)
- ["traceBgImage" on page 243](#)

gridColor

Sets the color of the dotted, horizontal midline of the plot area. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the Plot Area property group.

traceBgColor

To set the color of the plot area, select the ... button and choose a color from the palette to set the background color. Close the **Color Chooser** window when you are done.

This property is in the Plot Area property group.

traceBgGradientFlag

Select to display a gradient in the plot area.

This property is in the Plot Area property group.

traceBgImage

Specify an image (.gif, .jpg, or .png file) to display in the plot area. Select the name of the image file from the drop down menu, or enter the pathname of the file. The drop down menu contains the names of image files located in the current directory (by default, the `dashboards` directory of your Apama installation's work directory), as well as image files located in the first level of subdirectories. If you enter a pathname, use an absolute pathname or a pathname that is relative to the current directory.

This property is in the Plot Area property group.

Trend graphs

Trend graph: Trace group

Properties in this group control the number of traces that the chart contains, as well as the trace fill style. They can also specify the trace data, if a single data table is used for multiple traces.

Trace group properties

The group contains the following properties:

- ["multiTraceCurrentValueTable" on page 243](#)
- ["multiTraceHistoryValueTable" on page 244](#)
- ["multiTraceTableFlag" on page 244](#)
- ["traceCount" on page 245](#)
- ["traceFillStyle" on page 245](#)

multiTraceCurrentValueTable

To display current data for multiple traces by using a single attachment, attach a table to this property. The first column in the data table must be a timestamp column. The remaining columns are expected to be Y data values to be plotted. The *N*th data column is used for trace *N*'s data, and the column name is used for `traceNLabel` (if not already assigned).

If the `multiTraceTableFlag` is checked, the number of traces whose properties are shown in the Builder's property sheet is determined by the number of data columns in the data table attachments

or by the `traceCount` property, whichever is larger. However, the number of traces that are plotted on the graph is determined by the number of data columns in the data table attachments.

Typically, the data attachment for `multiTraceHistoryValueTable` provides the initial data points to be plotted while `multiTraceCurrentValueTable` provides the new data points to be plotted while the display is viewed. If a trace plots only historical or only current data, only one of the properties needs to be attached to data. However if both properties are attached to data, be sure that the tables applied to both have the same number and type of columns.

When `multiTraceTableFlag` is checked, the properties `traceNValueTable` and `traceNValue` (for N between 1 and 10, inclusive) are not shown in the property sheet, since all trace data is expected to be provided via `multiTraceCurrentValueTable` or `multiTraceHistoryValueTable`.

This property is in the Trace property group.

multiTraceHistoryValueTable

To display historical data for multiple traces by using a single attachment, attach a table to this property. The first column in the data table must be a timestamp column. The remaining columns are expected to be Y data values to be plotted. The Nth data column is used for trace N's data, and the column name is used for `traceNLabel` (if not already assigned).

If `multiTraceTableFlag` is checked, the number of traces whose properties are shown in the Builder's property sheet is determined by the number of data columns in the data table attachments or by the `traceCount` property, whichever is larger. However, the number of traces that are plotted on the graph is determined by the number of data columns in the data table attachments.

Typically, the data attachment for `multiTraceHistoryValueTable` provides the initial data points to be plotted while `multiTraceCurrentValueTable` provides the new data points to be plotted while the display is viewed. If a trace plots only historical or only current data, only one of the properties needs to be attached to data. However if both properties are attached to data, be sure that the tables applied to both have the same number and type of columns.

When `multiTraceTableFlag` is checked, the properties `traceNValueTable` and `traceNValue` (for N between 1 and 10, inclusive) are not shown in the property sheet, since all trace data is expected to be provided via `multiTraceCurrentValueTable` or `multiTraceHistoryValueTable`.

This property is in the Trace property group.

multiTraceTableFlag

Controls whether data for multiple traces can be attached to the graph with a single table. When checked, the properties `multiTraceCurrentValueTable` and `multiTraceHistoryValueTable`, are shown in the Trace category.

When `multiTraceTableFlag` is checked, the properties `traceNValueTable` and `traceNValue` (for N between 1 and 10, inclusive) are not shown in the property sheet, since all trace data is expected to be provided via `multiTraceCurrentValueTable` OR `multiTraceHistoryValueTable`.

If `multiTraceTableFlag` is checked, the number of traces whose properties are shown in the Builder's property sheet is determined by the number of data columns in the data table attachments or by the `traceCount` property, whichever is larger. However, the number of traces that are plotted on the graph is determined by the number of data columns in the data table attachments.

This property is in the Trace property group.

traceCount

Sets the number of traces. The maximum is ten. For each overlay, the Dashboard Builder automatically creates a set of properties in the **Object Properties** window.

This property is in the Trace property group.

traceFillStyle

Specifies the effect with which to fill the area from the trace line to the bottom of the graph. The color is determined by "[traceNLineColor](#)" on page 246. Select one of the following fill styles from the drop down menu:

- Solid
- Transparent
- Gradient
- Transparent Gradient.
- None (default)

This property is in the Trace property group.

[Trend graphs](#)

Trend graph: TraceN group

The properties in this group control the visibility and appearance of the price trace, as well as the data to which it is attached (unless "[multiTraceTableFlag](#)" on page 244 is enabled). They also control y-axis visibility, scaling, and labeling. In addition, there are properties to which you can attach a data table that indicates the alarm status of plotted data—see the "[Trend graph: Alert group](#)" on page 225 property group.

TraceN group properties

The group includes the following properties:

- "[traceNLabel](#)" on page 246
- "[traceNLineColor](#)" on page 246
- "[traceNLineStyle](#)" on page 246
- "[traceNLineThickness](#)" on page 246
- "[traceNMarkColor](#)" on page 247
- "[traceNMarkStyle](#)" on page 247
- "[traceNType](#)" on page 247
- "[traceNValue](#)" on page 248
- "[traceNValueAlarmStatus](#)" on page 248
- "[traceNValueAlarmStatusTable](#)" on page 249

- ["traceNValueDivisor" on page 249](#)
- ["traceNValueHistoryFlag" on page 249](#)
- ["traceNValueTable" on page 249](#)
- ["traceNVisFlag" on page 250](#)
- ["traceNYAxisAutoScaleMode" on page 250](#)
- ["traceNYAxisFlag" on page 250](#)
- ["traceNYAxisGridVisFlag" on page 250](#)
- ["traceNYAxisMinLabelWidth" on page 250](#)
- ["traceNYAxisValueLabels" on page 251](#)
- ["traceNYAxisValueMax" on page 251](#)
- ["traceNYAxisValueMin" on page 251](#)

traceNLabel

Enter a label for the trace line. This label appears in the chart's legend.

This property is in the TraceN property group.

traceNLineColor

Sets the trace line color. Select the ... button and choose a color from the palette. Close the **Color Chooser** window when you are done.

This property is in the TraceN property group.

traceNLineStyle

Select one of the following line styles for the trace line from the drop down menu:

- No Line
- Solid
- Dotted
- Dashed
- Dot Dashed

This property is in the TraceN property group.

traceNLineThickness

Select one of the following thickness specifications for the price trace line from the drop down menu:

- Thin
- Medium
- Thick

This property is in the TraceN property group.

traceNMarkColor

Select the ... button and choose a color from the palette to set the trace marker color. Close the **Color Chooser** window when you are done.

This property is in the TraceN property group.

traceNMarkStyle

Sets the style of the marker used on the trace. Select one of the following items from the drop down menu:

- No Marker
- Dot
- +
- *
- o
- x
- Filled Circle
- Filled Diamond
- Filled Triangle
- Filled Square
- Filled Star

This property is in the TraceN property group.

traceNType

Sets the trace type. The valid values are Line (the default), Bar, and Event.

A Bar type trace draws a vertical bar for each data point, from zero to the point's Y value. The bar is just a vertical line whose width is determined by traceNLineThickness. The traceNLineColor and traceNLineStyle also control the appearance of the bar. If the point exceeds an alarm limit specified on the graph, the alarm color is used for the bar color. If traceNMarkStyle is set to any value other than None, the mark is drawn at the end of the bar.

For an Event type trace, no line is drawn. Instead, a small rectangle containing a single text character is drawn for each data point. The character is the first character of the corresponding data label if any, otherwise it is the first character of the trace label. The traceNColor property determines the color of edges of the box and the text character, unless the point exceeds an alarm limit specified on the graph, in which case the corresponding alarm color is used. The box's fill color is set to traceNMarkColor or the appropriate alarm mark color, if any. However, if the mark color is the same as the color used for the box edge and text, traceBgColor is used as the box fill color instead.

Each event box is positioned vertically according to the Y data value for the corresponding data point. However, if traceN is attached to a data table that provides data labels but no Y data values, an Event trace is plotted regardless of the traceNType setting. The event boxes are all drawn near the bottom of the trace area.

This property is in the TraceN property group.

traceNValue

To display current data, attach to this property. When you attach data to this property, the time displayed on the trend graph is automatically updated each time data is received. The table in your data attachment can contain either a single point of data, two columns of data, or three columns of data. If it contains a single point of data, the dashboard assigns the time stamp when the graph receives the data.

If it contains two columns of data, the first column must be the time value and the second column the value to plot.

Following are supported formats for the time value column:

- mm/dd/yyyy hh:mm:ss (for example, 01/16/2004 12:30:03)
- yyyy-mm-dd hh:mm:ss (for example, 2004-01-16 12:30:03)
- Number of milliseconds since midnight, January 1, 1970 UTC

In order to view all available data, you must set the properties ["timeRange" on page 253](#) to -1 and ["timeShift" on page 254](#) to a negative value. This negative value will be used to round the start and end times for the Y Axis. For example, if you specify -15 for the timeShift property, the start and end times for the Y Axis will be rounded to the nearest 15 seconds.

If the attachment contains three columns of data, the third column must be a string column, which is used as the data label for the corresponding data point. The data label for a point is shown in the fixed legend and in the popup legend, between the trace value and the trace label, and is enclosed in parentheses. If the `cursorFlag` property is checked, the data label shown in the legend is for the data point that is directly under or to the left of the cursor.

This property is in the TraceN property group.

traceNValueAlarmStatus

To apply an alarm status to traceN, enter an alarm status index, which indicates how to determine the marker color and style for each new plotted point derived from ["traceNValue" on page 248](#). Enter one of the following integers:

0: Normal marker color and style. See ["traceNMarkColor" on page 247](#) and ["traceNMarkStyle" on page 247](#).

1: Low alarm marker color and style: See ["valueLowAlarmMarkColor" on page 228](#) and ["valueLowAlarmMarkStyle" on page 228](#).

2: Low warning marker color and style. See ["valueLowWarningMarkColor" on page 229](#) and ["valueLowWarningMarkStyle" on page 229](#).

3: High warning marker color and style. See ["valueHighWarningMarkColor" on page 227](#) and ["valueHighWarningMarkStyle" on page 227](#).

4: High alarm marker color and style. See ["valueHighAlarmMarkColor" on page 226](#) and ["valueHighAlarmMarkStyle" on page 226](#).

-1: Determine marker color and style by comparing the value to the enabled alarm thresholds. See ["valueHighAlarm" on page 226](#), ["valueHighWarning" on page 227](#), ["valueLowAlarm" on page 228](#), and ["valueLowWarning" on page 229](#).

The default is -1.

This property is in the TraceN property group.

traceNValueAlarmStatusTable

Attach an alarm table containing status indexes to `traceNValueAlarmStatusTable` to enable rule based alarm statuses for trace markers. This table must have a time column (formatted like the time value in the ["traceNValueTable" on page 249](#)) and a value column where the value column contains alarm status values 0-4. The table must also have the same number of rows as the corresponding `traceNValueTable`. For each data element in ["traceNValueTable" on page 249](#), the status index at the corresponding position in `traceNValueAlarmStatusTable` is used to set the alarm status of the marker.

Valid indexes are:

0: Normal marker color and style. See ["traceNMarkColor" on page 247](#) and ["traceNMarkStyle" on page 247](#).

1: Low alarm marker color and style. See ["valueLowAlarmMarkColor" on page 228](#) and ["valueLowAlarmMarkStyle" on page 228](#).

2: Low warning marker color and style. See ["valueLowWarningMarkColor" on page 229](#) and ["valueLowWarningMarkStyle" on page 229](#).

3: High warning marker color and style. See ["valueHighWarningMarkColor" on page 227](#) and ["valueHighWarningMarkStyle" on page 227](#).

4: High alarm marker color and style. See ["valueHighAlarmMarkColor" on page 226](#) and ["valueHighAlarmMarkStyle" on page 226](#).

-1: Determine marker color and style by comparing the value to the enabled alarm thresholds. See ["valueHighAlarm" on page 226](#), ["valueHighWarning" on page 227](#), ["valueLowAlarm" on page 228](#), and ["valueLowWarning" on page 229](#).

If no data is attached to `traceNValueAlarmStatusTable`, then the alarm status for a trace marker is determined by comparing the marker's value to the enabled thresholds. See ["valueHighAlarm" on page 226](#), ["valueHighWarning" on page 227](#), ["valueLowAlarm" on page 228](#), and ["valueLowWarning" on page 229](#).

This property is in the TraceN property group.

traceNValueDivisor

All trace values are divided by the number entered into the `traceNValueDivisor`.

This property is in the TraceN property group.

traceNValueHistoryFlag

Do not use this property.

This property is in the TraceN property group.

traceNValueTable

To display historical data, attach to `traceNValueTable`, where n is the trace number, and include two columns in your attachment. The first column must be the time value and the second column the value to plot. Following are supported formats for the time value column:

- mm/dd/yyyy hh:mm:ss (for example, 01/16/2004 12:30:03)
- yyyy-mm-dd hh:mm:ss (for example, 2004-01-16 12:30:03)
- Number of milliseconds since midnight, January 1, 1970 UTC

In order to view all available data, you must set the properties ["timeRange" on page 253](#) to -1 and ["timeShift" on page 254](#) to a negative value. This negative value will be used to round the start and end times for the Y Axis. For example, if you specify -15 for the timeShift property, the start and end times for the Y Axis will be rounded to the nearest 15 seconds.

This property is in the TraceN property group.

traceNVisFlag

Select to control trace visibility. Mouse over a trace's entry in the legend and hold down the left mouse button in order to temporarily hide all other traces in the graph.

This property is in the TraceN property group.

traceNYAxisAutoScaleMode

Controls how the y-axis range is calculated for this trace, if ["yAxisMultiRangeMode" on page 257](#) is set to Multiple Axis or Strip Chart. Select one of the following from the drop down menu:

- Off: The ["traceNYAxisValueMin" on page 251](#) and ["traceNYAxisValueMax" on page 251](#) properties determine the range of the y-axis.
- On: - The dashboard calculates the y-axis range according to data values being plotted.
- On - Include Min/Max: The dashboard calculates the smallest range (with rounding) that includes ["traceNYAxisValueMin" on page 251](#) and ["traceNYAxisValueMax" on page 251](#) as well as all plotted points.

This property is in the TraceN property group.

traceNYAxisFlag

Controls the visibility of the labels and ticks for traceN, if ["yAxisMultiRangeMode" on page 257](#) is set to Multiple Axis or Strip Chart.

This property is in the TraceN property group.

traceNYAxisGridVisFlag

Set to display a horizontal line for each major y-axis division for traceN, if ["yAxisMultiRangeMode" on page 257](#) is set to Multiple Axis or Strip Chart.

This property is in the TraceN property group.

traceNYAxisMinLabelWidth

Specifies the minimum width of the y-axis labels in pixels, if ["yAxisMultiRangeMode" on page 257](#) is set to Multiple Axis or Strip Chart.

This property is in the TraceN property group.

traceNYAxisValueLabels

Set to display a text label or tick mark on the y-axis in place of a numerical value, if ["yAxisMultiRangeMode" on page 257](#) is set to Multiple Axis or Strip Chart. Include a value with no label to display a tick mark without a label. Use this format:

value1=label1,value2,value3=label2

Here is an example:

0=Off,1,2=On

This property is in the TraceN property group.

traceNYAxisValueMax

Controls the range of y-axis if the ["traceNYAxisAutoScaleMode" on page 250](#) is set to Off. Select On for the ["traceNYAxisAutoScaleMode" on page 250](#) to calculate the y-axis range according to data values being plotted. To calculate a y-axis range that always includes ["traceNYAxisValueMin" on page 251](#) and `traceNYAxisValueMax`, select On - Include Min/Max.

This property is used only if ["yAxisMultiRangeMode" on page 257](#) is set to Multiple Axis or Strip Chart.

This property is in the TraceN property group.

traceNYAxisValueMin

Controls the range of y-axis if the ["traceNYAxisAutoScaleMode" on page 250](#) is set to Off. Select On for the ["traceNYAxisAutoScaleMode" on page 250](#) to calculate the y-axis range according to data values being plotted. To calculate a y-axis range that always includes `traceNYAxisValueMin` and ["traceNYAxisValueMax" on page 251](#), select On - Include Min/Max.

This property is used only if ["yAxisMultiRangeMode" on page 257](#) is set to Multiple Axis or Strip Chart.

This property is in the TraceN property group.

[Trend graphs](#)**Trend graph: Trace Groups group**

The properties in this group allow you to form trace groups. A trace group is a collection of two or more traces, and is useful for the following:

- Identifying multiple traces that should share one vertical axis, in strip chart or multi-axis modes
- Identifying three traces to be combined as a banded trace

By default, the category contains a single property, `traceGroupCount`, with a default value of zero. Legal values are 0 through 5. If nonzero, the `traceGroupNTraceNumbers` and `traceGroupNBandedFlag` properties appear in the Trace Group category, for each groupN, where N is between 1 and `traceGroupCount`, inclusive.

Follow these steps to construct an example:

1. Set `traceCount` = 3.
2. Set `traceGroupCount` = 1 (this makes the next 2 properties appear).
3. Set `traceGroup1TraceNumbers` = 1, 2, 3.
4. Set `traceGroup1BandedFlag` = true (checked).
5. Attach trace 1, 2, and 3 to data.

Note also the following:

- For each trace that is in a group, the y axis for the group is visible unless `traceNYAxisVisFlag` or `traceVisFlag` is false (unchecked) for all traces in the group. Similarly, the group's y axis grid is visible unless the `traceNYAxisGridVisFlag` property is false for all traces in the group.
- If `traceN` is in a group, these properties are hidden: `traceNYAxisAutoScaleMode`, `traceNYAxisValueMax`, `traceNYAxisValueMin`. The graph's `yAxisAutoScaleMode`, `yValueMax`, and `yValueMin` properties are used to scale each group's y axis range.
- If `yAxisMultiRangeMode` is Multiple Axis, the color of the axis for a group is determined by `traceNLineColor` of the first visible trace in the group. In Multiple Axis mode it may not be visually obvious which traces belong to which groups, unless you assign a similar line color or style, or mark color or style, to all the traces in a group.

Trace Groups group properties

The group includes the following properties:

- ["traceGroupNBandedFlag" on page 252](#)
- ["traceGroupNTraceNumbers" on page 252](#)
- ["traceGroupCount" on page 252](#)

traceGroupNBandedFlag

If this property is checked, the group is expected to have three traces. The plot area beneath the first trace in the group (the low band trace) is filled, the second trace in the group (the value trace) is not filled, and the area above the third trace (the high band trace) is filled.

This property is in the TraceGroups property group.

traceGroupNTraceNumbers

Specifies a comma-separated list of the traces that belong to the group. If the trend graph is in strip chart mode or multi-axis mode, all the traces in the group share the same axis or strip.

This property is in the TraceGroups property group.

traceGroupCount

Sets the number of trace groups. The default is 0. Allowable values are 0 through 5. If nonzero, the properties `traceGroupNTraceNumbers` and `traceGroupNBandedFlag` appear in the Trace Group category, for each groupN, where N is between 1 and the value of `traceGroupCount`, inclusive.

This property is in the TraceGroups property group.

[Trend graphs](#)

Trend graph: X-Axis group

Properties in this group control the range and labeling of the x-axis.

X-Axis group properties

The group includes the following properties:

- ["timeFormat" on page 253](#)
- ["timeRange" on page 253](#)
- ["timeRangeBegin" on page 254](#)
- ["timeRangeEnd" on page 254](#)
- ["timeRangeOfHistory" on page 254](#)
- ["timeShift" on page 254](#)
- ["xAxisFlag" on page 254](#)
- ["xAxisGridVisFlag" on page 254](#)
- ["xAxisLabelTextHeight" on page 255](#)
- ["xAxisMajorDivisions" on page 255](#)
- ["xAxisMinorDivisions" on page 255](#)

timeFormat

Sets the format for the time displayed in the x-axis using syntax from the Java `SimpleDateFormat` class.

For example, `MMMM dd, yyyy hh:mm:ss` results in dates of the form August 30, 2003 05:32:12 PM. If no format is given, the date and time are not displayed on the x-axis.

Include a new line character ("`\n`") to display multiple-line text in the time axis labels. For example, `MM\dd\n'hh:mm:ss` results in the following form:

```
08\30
05:32:12
```

If left blank, the axis is labeled with a default format based on the range.

This property is in the X-Axis property group.

timeRange

Sets the total amount of time, in seconds, plotted on the chart.

If `timeRange` is set to `-1`, the time range is determined by the first and last timestamp found in the ["traceNValue" on page 248](#) and ["traceNValueTable" on page 249](#). If both tables are empty, the chart uses the first and last timestamp of the first overlay trace that has a non-empty `traceNValueTable` or `traceNValue`.

Note: `timeRange` is ignored if both ["timeRangeBegin" on page 254](#) and ["timeRangeEnd" on page 254](#) are set.

The default is -1.0.

This property is in the X-Axis property group.

timeRangeBegin

Sets the start time value of the data to be plotted on the chart. Following are the supported formats:

- mm/dd/yyyy hh:mm:ss (e.g., 01/16/2004 12:30:03)
- yyyy-mm-dd hh:mm:ss (e.g., 2004-01-16 12:30:03)
- The number of milliseconds since midnight, January 1, 1970 UTC

Note: If only the time is specified, the current date is used.

This property is in the X-Axis property group.

timeRangeEnd

Sets the end time value of the data to be plotted on the chart. Following are the supported formats are:

- mm/dd/yyyy hh:mm:ss (e.g., 01/16/2004 12:30:03)
- yyyy-mm-dd hh:mm:ss (e.g., 2004-01-16 12:30:03)
- The number of milliseconds since midnight, January 1, 1970 UTC

Note: If only the time is specified, the current date is used.

This property is in the X-Axis property group.

timeRangeOfHistory

Do not use this property

This property is in the X-Axis property group.

timeShift

Used to round the start and end times for the Y Axis. For example, if you specify -15 for the `timeShift` property, the start and end times for the Y Axis are rounded to the nearest 15 seconds.

The default value is -1.0.

This property is in the X-Axis property group.

xAxisFlag

Select to display the x-axis.

This property is in the X-Axis property group.

xAxisGridVisFlag

Set to display a vertical line for each major x-axis division.

This property is in the X-Axis property group.

xAxisLabelTextHeight

Specifies the height in pixels of the x-axis labels.

This property is in the X-Axis property group.

xAxisMajorDivisions

Specify the number of major divisions (long ticks) on the x-axis.

This property is in the X-Axis property group.

xAxisMinorDivisions

Specify the number of minor divisions (short ticks) on the x-axis.

This property is in the X-Axis property group.

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Trend graph: Y-Axis group

Properties in this group control the visibility and scaling of the y-axis or y-axes, as well as y-axis labeling and y-axis divisions. They also control the visibility of y-axis grid lines (but see also the ["Trend graph: TraceN group" on page 245](#) property group).

Y-Axis group properties

The group includes the following properties:

- ["yAxisAutoScaleMode" on page 255](#)
- ["yAxisAutoScaleVisTracesOnlyFlag" on page 256](#)
- ["yAxisFlag" on page 256](#)
- ["yAxisGridVisFlag" on page 256](#)
- ["yAxisLabelTextHeight" on page 256](#)
- ["yAxisMajorDivisions" on page 256](#)
- ["yAxisMinLabelWidth" on page 256](#)
- ["yAxisMinorDivisions" on page 256](#)
- ["yAxisMultiRangeMode" on page 257](#)
- ["yAxisPosition" on page 257](#)
- ["yAxisValueLabels" on page 257](#)

yAxisAutoScaleMode

Controls how the y-axis range is calculated. Select one of the following from the drop down menu:

- Off: The ["yValueMin" on page 233](#) and ["yValueMax" on page 233](#) properties determine the range of y-axis.

- On: - The dashboard calculates the y-axis range according to data values being plotted.
- On - Include Min/Max: The dashboard calculates the smallest range (with rounding) that includes "yValueMin" on page 233 and "yValueMax" on page 233 as well as all plotted points.

This property is in the Y-Axis property group.

yAxisAutoScaleVisTracesOnlyFlag

Specifies that only visible traces should be used in scaling the y-axis when "yAxisAutoScaleMode" on page 255 is not OFF. See "traceNVisFlag" on page 250.

This property is in the Y-Axis property group.

yAxisFlag

Controls the visibility of the labels and ticks for trace01, if "yAxisMultiRangeMode" on page 257 is set to Off or Classic.

This property is in the Y-Axis property group.

yAxisGridVisFlag

Set to display a horizontal line for each major y-axis division for trace01, if "yAxisMultiRangeMode" on page 257 is set to Off or Classic.

This property is in the Y-Axis property group.

yAxisLabelTextHeight

Specifies the height of the y-axis labels in pixels, if "yAxisMultiRangeMode" on page 257 is set to Off or Classic.

This property is in the Y-Axis property group.

yAxisMajorDivisions

Specifies the number of major divisions (wide ticks) on the y-axis, if "yAxisMultiRangeMode" on page 257 is set to Off or Classic.

This property is in the Y-Axis property group.

yAxisMinLabelWidth

Specifies the minimum width of the y-axis labels in pixels, if "yAxisMultiRangeMode" on page 257 is set to Off or Classic.

This property is in the Y-Axis property group.

yAxisMinorDivisions

Specifies the number of minor divisions (narrow ticks) on the y-axis, if "yAxisMultiRangeMode" on page 257 is set to Off or Classic.

This property is in the Y-Axis property group.

yAxisMultiRangeMode

To specify the appearance of the y-axis when this chart has multiple traces, select one of the following from the drop down menu:

- **Off:** Only a single set of labels and ticks appears on the y-axis. The label range is based on the following properties: ["yAxisAutoScaleMode" on page 255](#), ["yValueMin" on page 233](#), and ["yValueMax" on page 233](#).
- **Classic:** Ticks and labels for trace01 appear on the left, outside of the plot area. Labels for the remaining traces appear on the left, inside of the plot area. With this setting for `yAxisMultiRangeMode`, the ["yAxisPosition" on page 257](#) property is ignored. The label range for each trace is based on the following properties: `yAxisAutoScaleMode`, ["yValueMin" on page 233](#), and ["yValueMax" on page 233](#).
- **Multiple Axis:** A set of labels and ticks appears for each trace. The label range is determined independently for each trace, based on the following properties: ["traceNYAxisAutoScaleMode" on page 250](#), ["traceNYAxisValueMin" on page 251](#), ["traceNYAxisValueMax" on page 251](#).
- **Strip Chart:** The y-axis is divided into sections, one for each trace. The traces are not overlaid, but rather appear one on top of the other. A set of labels and ticks appears for each trace. The label range is determined independently for each trace, based on the following properties: ["traceNYAxisAutoScaleMode" on page 250](#), ["traceNYAxisValueMin" on page 251](#), ["traceNYAxisValueMax" on page 251](#).

This property is in the Y-Axis property group.

yAxisPosition

Specify the position of the y-axis ticks and labels. This property is ignored if ["yAxisMultiRangeMode" on page 257](#) is Multiple Axis or Strip Chart.

This property is in the Y-Axis property group.

yAxisValueLabels

Set to display a text label or tick mark on the y-axis in place of a numerical value, if ["yAxisMultiRangeMode" on page 257](#) is set to Off or Classic. Include a value with no label to display a tick mark without a label. Use this format:

value1=label1,value2,value3=label2

Here is an example:

0=Off,1,2=On

This property is in the Y-Axis property group.

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Chapter 5: Drill-Down Specification

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The Dashboard Builder allows you to build customized display hierarchies by assigning *drill-down targets* to a dashboard's visualization objects. A given object's drill-down target is a dashboard that is displayed when the end user *activates* the drill down, typically by clicking on the given object.

Using the Drill Down Properties dialog

In the Object Properties window, double-click on `drillDownTarget` in the Property Name field to bring up the **Drill Down Properties** dialog.

The **Drill Down Properties** dialog has the following fields and buttons:

- **Apply Drill Down To:** Choose one of the following from the drop down menu:
 - **New Window:** Open the targeted display file in a new display window. A new window is created each time this drill down is activated.
 - **Current Window:** Open the targeted display file in same window as the source object. With tabbed panels, open the targeted display in another tab if the display is already open; otherwise open in the selected tab.
 - **Named Window:** Open the targeted display file in a separate window defined by a specific name. The same window is reused each time this drill down is activated or if the end user activates another drill down with the same window name. If you choose this option, you must also enter a Window Name.
- **Window Name:** Enter a name for the window. The same window is reused for all drill down targets that reference this window name.

Entering main as a Window Name opens the targeted display in the top-level window. With multiple display panels, main opens the drill down in panelcenter.

Note: This field is valid only if the drill down is applied to a Named Window.

- **Drill Down Display Name:** Select the name of the targeted display (`.rtv`) file. The drop down menu contains the names of files located in the current directory (typically, the `dashboards` directory of your project directory, under your Apama installation's work directory), as well as files located in first level of subdirectories. If a display is not listed, enter the name (including relative path) of the file. If the file path is a URL and it contains spaces, the spaces must be replaced with `%20`.

Select Current Display to target the display that is currently in the target window. This is most useful when Current Display is used in conjunction with Current Window or Named Window. Only substitutions specified in the **Drill Down Properties** dialog will be applied when the drill down is activated, and this allows you to use the source object to control data displayed by all objects in the window.

- **Drill Down Branch Function Name:** Enter the name of a function (in your current display) that returns the text string you want appended to the end of the Drill Down Display Name. This enables you to drill down to different displays based on the result of the function.

If the Drill Down Display Name is set to Current Display this option is not enabled.

- **Remove Existing Substitutions:** Select the Remove Existing Substitutions checkbox to remove existing drill down substitutions on the drill down window. This option is enabled only when you drill down to the Current Window or a Named Window.
- **Window Position:** Set the position of a new drill-down window. This option applies only when the drill down opens in a new window. Choose one of the following:
 - **Default:** Positioned by your operating system's window manager.
 - **Center of Screen:** Centered on the screen.
 - **Center of Parent:** Centered relative to the parent window.
 - **Relative to Screen:** Offset horizontally and vertically from the top left corner of the screen by the number of pixels specified in Pixels from left and Pixels from top.
 - **Relative to Parent:** Offset horizontally and vertically from the top left corner of the parent window by the number of pixels specified in Pixels from left and Pixels from top.

- **Window Title:** Specify text in the title bar. If this field is left blank, then the title bar will display a default title. This option applies only when the drill down opens in a new window.
- **Window Mode:** Specify modality and stacking order of drill down windows. This option applies only when the drill down opens in a new window.

There are three Window Mode options:

- **Normal:** Allow user interaction in all windows. Stacking order is determined by the Drill Down Windows Always on Top setting in the General tab of the Application Options dialog.
- **Modal:** Allow user interaction only in this drill down window while it is open. Stacking order is on top of all other dashboards.
- **Topmost:** Allow user interaction in any dashboard. Stacking order is on top of all other dashboards. Additionally, all windows targeted from a Topmost window will automatically assume the topmost position. *Note:* Some platforms do not support this functionality. If more than one window is set to be in the Topmost position, stacking order is platform dependent.

If this property is used on drill downs in Web-based, applet deployments, depending on your Security Manager, you may need to modify the Java security settings on each client to include the following permission:

```
permission java.awt.AWTPermission"setWindowAlwaysOnTop";
```

- **Drill Down Substitutions:** Direct the dashboard to assign values to specified dashboard substitution variables when the end user activates a drilldown on this object. *Note:* Some drill down substitutions are automatically added for displays targeted from table objects.
 - **Add:** In the String field, enter a substitution variable. In the Value field, enter the value that you want assigned to the substitution variable. Click Add to insert the assignment into the listing.

Note: Substitution strings cannot contain the following:

- | . tab space , ; = < > ' " & / \ { } [] ()
- **Remove:** Select a substitution from the list and click Remove.
- **OK:** Applies values and closes the dialog.
- **Clear:** Clears all fields. Removes drill down target (once OK is selected).
- **Cancel:** Closes the dialog with last values applied.
- **Help:** Opens the **Help** dialog.

Drill-Down Specification

Activating drill downs

Once a drill down target has been assigned to an object, you can activate the drill down from a deployed dashboard or from the Dashboard Builder:

- **Dashboard Builder:** Double click on the object, or else right-click on it and select Drill Down from the popup menu.
- **Web-based deployment:** Single click on the object or else right click on it and select Drill Down from the popup menu.

- Local deployment: By default, single-click on the object or else right-click on it and select Drill Down from the popup menu. To override the default, select Tools | Options in the Builder (do this before you generate the deployment package), and uncheck Single-Click for Drill Down and Commands in the General tab. This allows the end user to use either a double click or a right click.

Note: If a command has been assigned to an object, then you must right-click and select Drill Down from the popup menu to activate the drill down.

[Drill-Down Specification](#)

About drilldown displays opened in Dashboard Builder

With the Dashboard Builder, when you open a drill-down display in a New Window or a Named Window, the window is subject to the following restrictions:

- The window does not have menus or a toolbar.
- You cannot edit the properties of objects in the that are in these drill down displays, although you can view these properties.
- You cannot paste objects into such drill-down displays, although you can copy objects from such drill-down displays and paste them into the top-level display.

It is possible to double-click on objects within drill-down windows in order to activate further drill down displays.

[Drill-Down Specification](#)