Chart Generator Plugin

This plugin contains plugin components to generate charts in Appian as Appian documents.

Smart Service: Create Chart

Overview

This smart service creates images of charts and saves them in Appian as Appian documents.

Properties
- Category: Document Generation
- Assignment Options: Unattended

Data Tab

The Data Tab displays the static inputs of the smart service by default.
After configuring the necessary static inputs listed below, you must configure additional custom inputs to provide the data series display on the charts.

Input	Type	Required	Multiple
Chart Settings	Type	Yes	No
Create New Document	Boolean	Yes	No
New Document Name	Text	No	No
New Document Description	Text	No	No
Save In Folder	Folder	No	No
Existing Document	Document	No	No

Configuring the Static Inputs
- Set the input "Create New Document" to create a new Appian document for the chart instead of creating a new version of an existing document. When setting the input "Create New Document" to TRUE, use the following inputs for the new document to be created
    - Use the input "New Document Name" to provide the name of the new document

- ○ Use the input "New Document Description" to provide the description of the new document
  - ○ Use the input "Save In Folder" to specify in which folder the new document is created
- Set the input "Existing Document" to an existing document to specify that the new chart is created as a new version of this existing document instead of as a new document altogether
- Use the input "Chart Settings" to provide general settings to the chart. This input is a JSON String representing several settings as listed below

Setting	Type	Description
type	Text	**REQUIRED.** Type of the chart. Available types are "LINE", "COLUMN", "PIE", "DONUT
width	Integer	**REQUIRED.** Width of the chart image
height	Integer	**REQUIRED.** Height of the chart image
title	Text	Title to display on top of the chart
titleFontSize	Integer	Size of the font used to display the chart title
showTitle	Boolean	Set to TRUE to display the title. Set to FALSE to hide the title
xLabel	Text	Name/Label of the X axis
xLabelValues	Text Array	Values to display on the X axis
xLabelAngle	Integer	Rotation angle of the X label values. A positive number rotates the label values counterclockwise
yLabel	Text	Name/label of the Y axis
axisLabelFontSize	Integer	Size of the font used to display the label/title of the X and Y axis
axisValueFontSize	Integer	Size of the font used to display the values of the X and Y axis
showLegend	Boolean	Set to TRUE to show the chart legend. Set to FALSE to hide the chart legend. Default is TRUE
legendPosition	Text	Position of the chart legend relative to the chart. Set to "RIGHT" to display the legend to the right of the chart. Set to "BOTTOM" to display the legend under

		the chart.
legendFontSize	Integer	Size of the font used to display the chart legend.
yAxisMax	Number	Maximum value on the Y axis. Use this setting to manually increase the range of data displayed on the Y axis of the chart
showAnnotations	Boolean	Set to TRUE to show the annotations in the chart. For a COLUMN chart, the values of each column is shown above the columns
annotationsAngle	Integer	Rotation angle of the annotations. By default, the annotations are displayed horizontally from left to right. A value of 90 rotates the annotations 90 degrees to the left, displaying them vertically
annotationsFontSize	Integer	Size of the font used to display the annotations

Configuring the Custom Inputs For the Chart Data

Custom inputs are created by adding new "Custom Inputs" to the list of inputs in the smart service. Custom inputs are used to create data series to display in the charts.

To create a new data serie
- Add a new custom input to the smart service
- Set the type of the custom input to "DataSeries"
- Set the data serie's attributes as follow

Attribute	Type	Description
name	Text	Name of the data serie. This is used by the chart legend
values	Number Array	Values of the data serie
settings	Text	JSON string representation of the settings of the data serie. The list of data serie settings is provided below

Data Series Settings

Setting	Type	Description
marker	Text	**Only applies to charts of type "LINE".**

		Defines the type of marker to display on a line/data serie of a line chart. Available values are "NONE", "CIRCLE", "DIAMOND", "SQUARE", "TRIANGLEDOWN", "TRIANGLEUP", "CROSS", "PLUS", "TRAPEZOID", "OVAL", "RECTANGLE"
color	Text	Hexadecimal value of the color to use to draw the serie in the chart.

Outputs

Output	Type	Description
Generated Chart	Document	Appian Document representing the chart image created by the smart service

Examples

Line Chart

This example creates a line chart with 2 data series with different markers.

Chart Settings to configure in the smart service static input "Chart Settings"
```
{"width":500, "height":300, "type":"LINE", "title":"Sample Line
Chart", "ylabel":"Label of the Y Axis", "xlabel":"Label of the X
Axis", "xlabelvalues":["one", "2", "three"], "xlabelangle":30,
"legendPosition":"bottom"}
```

First smart service custom input of type DataSeries to create a data serie with diamond shaped markers
```
'type!{http://types.appiancorp.com/ps}DataSeries'(name: "Serie
1",values: {1,2,3},settings: a!toJson({marker:"diamond"}))
```

Second smart service custom input of type DataSeries to create a data serie with circle shaped markers
```
'type!{http://types.appiancorp.com/ps}DataSeries'(name: "Serie
2",values: {2,3,1},settings: a!toJson({marker:"circle"}))
```

Pie Chart

This example creates a pie chart with 5 data series with different colors.

Chart Settings to configure in the smart service static input "Chart Settings"

```
{"width":500, "height":300, "type":"PIE", "title":"Sample Pie Chart",
"showTitle":"true", "titlefontsize":"20", "legendPosition":"bottom",
"legendfontsize":10, "showlegend":true, "yaxismax":50.0,
"showannotations":true, "annotationsangle":90,
"annotationsfontsize":12}
```

First smart service custom input of type DataSeries to create a data serie with gold pie

```
'type!{http://types.appiancorp.com/ps}DataSeries'(
     name: "Gold",
     values: { 12 },
     settings: a!toJson({ color: "d3a46a" }))
```

Second smart service custom input of type DataSeries to create a data serie with silver pie

```
'type!{http://types.appiancorp.com/ps}DataSeries'(
     name: "Silver",
     values: { 24 },
     settings: a!toJson({ color: "c0c0c0" }))
```

Third smart service custom input of type DataSeries to create a data serie with platinum pie

```
'type!{http://types.appiancorp.com/ps}DataSeries'(
     name: "Platinum",
     values: { 36 },
     settings: a!toJson({ color: "e5e1e6" }))
```

Fourth smart service custom input of type DataSeries to create a data serie with copper pie

```
'type!{http://types.appiancorp.com/ps}DataSeries'(
     name: "Copper",
     values: { 11 },
     settings: a!toJson({ color: "e5e4e2" }))
```

Fifth smart service custom input of type DataSeries to create a data serie with silver pie

```
'type!{http://types.appiancorp.com/ps}DataSeries'(
     name: "Zinc",
     values: { 17 },
     settings: a!toJson({ color: "92898a" }))
```

Donut Chart

This example creates a donut chart with 5 data series with different colors.

Chart Settings to configure in the smart service static input "Chart Settings"

```
{"width":500, "height":300, "type":"DONUT", "title":"Sample Donut
Chart", "showtitle":"true", "titlefontsize":"20",
"legendPosition":"bottom", "legendfontsize":10, "showlegend":true,
"yaxismax":50.0, "showannotations":true, "annotationsangle":90,
"annotationsfontsize":12,"donutthickness":0.6}
```

First smart service custom input of type DataSeries to create a data serie with A donut slice
```
'type!{http://types.appiancorp.com/ps}DataSeries'(
      name: "A",
      values: { 12 },
      settings: a!toJson({ color: "dfbbb1" }))
```

Second smart service custom input of type DataSeries to create a data serie with B donut slice
```
'type!{http://types.appiancorp.com/ps}DataSeries'(
      name: "B",
      values: { 24 },
      settings: a!toJson({ color: "f56476" }))
```

Third smart service custom input of type DataSeries to create a data serie with C donut slice
```
'type!{http://types.appiancorp.com/ps}DataSeries'(
      name: "C",
      values: { 36 },
      settings: a!toJson({ color: "e43f6f" }))
```

Fourth smart service custom input of type DataSeries to create a data serie with D donut slice
```
'type!{http://types.appiancorp.com/ps}DataSeries'(
      name: "D",
      values: { 11 },
      settings: a!toJson({ color: "be3e82" }))
```

Fifth smart service custom input of type DataSeries to create a data serie with E donut slice
```
'type!{http://types.appiancorp.com/ps}DataSeries'(
      name: "E",
      values: { 17 },
      settings: a!toJson({ color: "5e4352" }))
```