

```
/**
```

```
  USAGE:
```

```
  Chart(type, data, height, width, xaxis, yaxis, title, min, max, interval, id)
```

```
  PARAMETERS:
```

```
  type : str (one of 'circulargauge', 'column', 'multiseriescolumn', 'lineargauge', 'line', 'bar',  
'multiseriesbar', 'pie', 'pyramid', or 'funnel')
```

```
  data : list
```

```
  (optional) height : num (default: 450)
```

```
    Height of chart in pixel or percent.
```

```
    If value is greater or equal to 1, then value represents pixel, otherwise the value is a relative  
percentage.
```

```
  (optional) width : num (default: 450)
```

```
    Width of chart in pixel or percent.
```

```
    If value is greater or equal to 1, then value represents pixel, otherwise the value is a relative  
percentage.
```

```
  (optional) xaxis : str (default: 'Y-Axis')
```

```
    Label for X-Axis.
```

```
  (optional) yaxis : str (default: 'X-Axis')
```

```
    Label for Y-Axis.
```

```
  (optional) title : str (default: 'Title')
```

```
    Label for chart.
```

```
  (optional) min : num (default: 0)
```

```
    Lower bound for Linear Gauge chart type.
```

```
  (optional) max : num (default: 100)
```

```
    Upper bound for Linear Gauge chart type.
```

```
  (optional) interval : num (default: 10)
```

```
    Major interval for axis markers.
```

```
  (optional) id : str (default: nil)
```

```
    ID for chart component. Used for listening for events and interacting with chart through JavaScript.
```

```
  VERSIONS:
```

```
  1.0  2-Feb-10  robertm  initial version
```

```
  1.1  4-Mar-10  steveb   code clean-up
```

```
  1.2  29-Mar-10 steveb   better handling of error conditions; new default look for progress gauge
```

```
  1.3  16-Jul-10 steveb   fixed improper data handling for 'pie' type. support for min,max
```

```

***/

// GET VARIABLES FROM TEMPLATE CALL
var type = string.tolower($type ?? $0 ?? 'circulargauge');
var data = $data ?? $1 ?? 67;
var height = $height ?? $2 ?? 450;
var width = $width ?? $3 ?? 450;
var xaxis = $xaxis ?? $4;
var yaxis = $yaxis ?? $5;
var title = $title ?? $6;
var min = $min ?? $7;
var max = $max ?? $8;
var interval = $interval ?? $9 ?? 10;
var id = $id ?? $10;
var error;

// TODO (steveb): validate the 'data' field
// TODO (steveb): enable/disable animation

// format settings
let settings_xml = <settings>
  <animation enabled="True"/>
</settings>;

// format axis
var axes_xml = <axes>
  <x_axis>
    <title enabled=(xaxis is not nil)>
      <text> xaxis </text>
    </title>
    <labels>
      <format> "{%Value}{numDecimals:0}" </format>
    </labels>
  </x_axis>
  <y_axis position=((type == 'bar' || type == 'multiseriesbar') ? "opposite" : nil)>
    <title enabled=(yaxis is not nil)>
      <text> yaxis </text>
    </title>
    <labels>
      <format> "{%Value}{numDecimals:0}" </format>
    </labels>
    <scale major_interval=(interval) minor_interval=(interval / 4) minimum=(min) maximum=(max) />
  </y_axis>
</axes>;

// set defaults for min-max
let min = min ?? 0;
let max = max ?? 100;

```

```

// format data
var data_xml;
if((type != 'pie') && data is map) {
  let data_xml = <data>
    foreach (var series:points in data) {
      <series name=(series)>
        foreach (var p in points) {
          foreach(var label:value in p) {
            <point y=(value) name=(label)>
              <tooltip enabled="true">
                <format> "{%SeriesName} ({%Name}) - {%Value}" </format>
              </tooltip>
            </point>
          }
        }
      </series>
    }
  </data>;
} else if(data is list) {
  let data_xml = <data>
    <series name="Series 1">
      foreach(var d in data) {
        foreach(var label:value in d) {
          <point y=(value) name=(label) />
        }
      }
    </series>
  </data>;
}

// CHART BUILDS
var chart;
switch (type) {

// SINGLE-SERIES COLUMN CHART, INCOMING DATA MUST BE FORMATTED AS [{label1:value1},
{label2:value2}, {label3:value3}]
// MULTI-SERIES COLUMN CHART, INCOMING DATA MUST BE FORMATTED AS {series1:[{label1:value1},
{label2:value2}, {label3:value3}], series2:[{label1:value1}, {label2:value2}, {label3:value3}],
series3:[{label1:value1}, {label2:value2}, {label3:value3}]}
case 'column':
case 'multiseriescolumn':
case 'bar':
case 'multiseriesbar':

  // determine layout value
  var layout;
  switch(type) {
  case 'column':
  case 'multiseriescolumn':

```

```

    let layout = "CategorizedVertical";
case 'bar':
case 'multiseriesbar':
    let layout = "CategorizedHorizontal";
}

// generate chart xml
let chart = <anychart>
  settings_xml;
  <charts>
    <chart plot_type=(layout)>
      <data_plot_settings default_series_type="Bar" enable_3d_mode="true" z_aspect="0.25">
        <bar_series group_padding="0.2" >
          <tooltip_settings enabled="true"/>
        </bar_series>
      </data_plot_settings>
      <chart_settings>
        <title enabled=(title is not nil)>
          <text> title </text>
        </title>

        // check if we plotting a series of data points
        if(data is map) {
          <legend enabled="true" position="Bottom" align="Spread" ignore_auto_item="true"
padding="15">
            <format> "{%Icon} {%Name}" </format>
            <title enabled="false"/>
            <columns_separator enabled="true"/>
            <background>
              <inside_margin left="10" right="10"/>
            </background>
            <items>
              <item source="Series"/>
            </items>
          </legend>
        }
        axes_xml;
      </chart_settings>
      data_xml;
    </chart>
  </charts>
</anychart>;

// MULTI-SERIES LINE CHART, INCOMING DATA MUST BE FORMATTED AS {series1:[{label1:value1},
{label2:value2}, {label3:value3}, {label4:value4}], series2:[{label1:value1}, {label2:value2}, {label3:value3},
{label4:value4}], series3:[{label1:value1}, {label2:value2}, {label3:value3}, {label4:value4}]}
case "line":
  let chart = <anychart>
    settings_xml;
    <charts>

```

```

<chart plot_type="CategorizedVertical">
  <chart_settings>
    <title enabled=(title is not nil)>
      <text> title </text>
    </title>
    <legend enabled="true">
      <title enabled="false"/>
    </legend>
    axes_xml;
  </chart_settings>
  <data_plot_settings default_series_type="Spline">
    <line_series>
      <marker_settings>
        <marker size="8"/>
        <states>
          <hover>
            <marker size="12"/>
          </hover>
        </states>
      </marker_settings>
      <tooltip_settings enabled="True"/>
    </line_series>
  </data_plot_settings>
  data_xml;
</chart>
</charts>
</anychart>;

```

//3D PIE CHART, DATA VARIABLE MUST BE FORMATTED AS {name1:value1, name2:value2, name3:value3}

case 'pie':

```

let chart = '<anychart>
settings_xml;
<charts>
  <chart plot_type="Pie">
    <data_plot_settings enable_3d_mode="true">
      <pie_series>
        <tooltip_settings enabled="true">
          <format>
            {%Name} : {%Value}{numDecimals:0} ({%YPercentOfSeries}{numDecimals: 0}%)
          </format>
        </tooltip_settings>
        <label_settings enabled="true">
          <background enabled="false"/>
          <position anchor="Center" valign="Center" halign="Center" padding="20"/>
          <font color="White">
            <effects>
              <drop_shadow enabled="true" distance="2" opacity="0.5" blur_x="2" blur_y="2"/>
            </effects>
          </font>
          <format>{%YPercentOfSeries}{numDecimals:0}%</format>

```

```

        </label_settings>
    </pie_series>
</data_plot_settings>
<data>
    <series name="Series 1" type="Pie">'
    .. (
        foreach (var name:y in data) {
            '<point name="" .. name .. "" y="" .. y .. ""/>'
        }
    )..
    '</series>'
</data>
<chart_settings>
    <title enabled="true" padding="15">
        <text>' .. title .. '</text>'
    </title>
    <legend enabled="true" position="Bottom" align="Spread" ignore_auto_item="true"
padding="15">
        <format>{%Icon} {%Name} - {%YValue}{numDecimals:0}</format>
        <title enabled="false"/>
        <columns_separator enabled="false"/>
        <background>
            <inside_margin left="10" right="10"/>
        </background>
        <items>
            <item source="Points"/>
        </items>
    </legend>
</chart_settings>
</chart>
</charts>
</anychart>';

```

```

// PYRAMID/FUNNEL CHART, DATA VARIABLE MUST BE FORMATTED AS {label1:value1, label2:value2,
label3:value3}

```

```

case 'pyramid':

```

```

case 'funnel':

```

```

    var ispyramid = (type == 'pyramid');

```

```

    let chart = <anychart>

```

```

        settings_xml;

```

```

    <charts>

```

```

        <chart plot_type="Funnel">

```

```

            <chart_settings>

```

```

                <title enabled=(title is not nil)>

```

```

                    <text> title </text>

```

```

                </title>

```

```

                <data_plot_background enabled="false" />

```

```

                <legend enabled="false" />

```

```

            </chart_settings>

```

```

        <data_plot_settings enable_3d_mode="true">

```

```

    <funnel_series inverted=(ispyramid) neck_height=(ispyramid ? 0 : nil) fit_aspect="1"
min_width=(ispyramid ? 0 : nil) padding=(ispyramid ? 0 : nil) mode="Square">
    <animation enabled="true" type="Appear" show_mode="Smoothed" start_time="0.3"
duration="1.3" interpolation_type="Cubic"/>
    <connector enabled="true" color="Black" opacity="0.4"/>
    <tooltip_settings enabled="true">
        if(ispyramid) {
            <position anchor="CenterRight" padding="10" valign="Center" haligh="right"/>
        }
        <format> "{%Name} - {%YVvalue}{numDecimals:0}" </format>
    </tooltip_settings>
    <label_settings enabled="true">
        <animation enabled="true" type="Appear" show_mode="Smoothed" start_time="0.3"
duration="1.3" interpolation_type="Cubic"/>
        if(ispyramid) {
            <position anchor="Center" valign="Center" haligh="Center" padding="10"/>
        } else {
            <position anchor="center" padding="50"/>
        }
        <format> "{%Name} - {%YVvalue}{numDecimals:0}" </format>
        <background enabled="true">
            <corners type="Rounded" all="3"/>
        </background>
        <states>
            <hover>
                <background>
                    <border type="Solid" color="DarkColor(%Color)" thickness="2"/>
                </background>
            </hover>
            <pushed>
                <background>
                    <border type="Solid" color="#494949" thickness="2" opacity="0.7"/>
                </background>
            </pushed>
            <selected_hover>
                <background>
                    <border type="Solid" color="DarkColor(%Color)" thickness="2" opacity="0.7"/>
                </background>
            </selected_hover>
            <selected_normal>
                <background>
                    <border type="Solid" color="DarkColor(%Color)" thickness="2"/>
                </background>
            </selected_normal>
        </states>
    </label_settings>
    <funnel_style>
        <border color="Black" opacity="0.05"/>
        <states>
            <hover>

```

```

    <fill color="%Color"/>
    <hatch_fill enabled="true" type="Percent50" color="White" opacity="0.3"/>
  </hover>
  <selected_hover>
    <fill color="%Color"/>
    <hatch_fill type="Checkerboard" color="#404040" opacity="0.1"/>
  </selected_hover>
  <selected_normal>
    <fill color="%Color"/>
    <hatch_fill type="Checkerboard" color="Black" opacity="0.1"/>
  </selected_normal>
</states>
</funnel_style>
<marker_settings enabled="true">
  <marker type="None" anchor="Center" v_align="Center" h_align="Center" size="12"/>
  <fill color="Yellow"/>
  <border color="DarkColor(Yellow)"/>
  <states>
    <hover>
      <marker type="Star5"/>
    </hover>
    <pushed>
      <marker type="Star5" size="8"/>
    </pushed>
    <selected_hover>
      <marker type="Star5" size="14"/>
    </selected_hover>
    <selected_normal>
      <marker type="Star5"/>
    </selected_normal>
  </states>
</marker_settings>
</funnel_series>
</data_plot_settings>
data_xml;
</chart>
</charts>
</anychart>;

```

```
// CIRCULAR GAUGE CHART, DATA VARIABLE MUST BE A NUMBER
```

```
case 'circulargauge':
```

```

  let chart = <anychart>
    settings_xml;
    <margin all="0"/>
    <gauges>
      <gauge>
        <chart_settings>
          <title enabled=(title is not nil)>
            <text> title </text>
          </title>

```



```

<chart_background>
  <border enabled="false"/>
</chart_background>
</chart_settings>
<circular name="data">
  <axis radius="37" start_angle="85" sweep_angle="190" size="3">
    <labels align="Outside" padding="6">
      <format> "{%Value}{numDecimals:0}" </format>
    </labels>
    <scale_bar>
      <fill color="#292929"/>
    </scale_bar>
    <major_tickmark align="Center" length="10" padding="0"/>
    <minor_tickmark enabled="false"/>
    <color_ranges>
      <color_range start=(min) end=(max) align="Inside" start_size="15" end_size="15"
padding="6">
        <fill type="Gradient">
          <gradient>
            <key color="Red"/>
            <key color="Yellow"/>
            <key color="Green"/>
          </gradient>
        </fill>
        <border enabled="true" color="Black" opacity="0.4"/>
      </color_range>
    </color_ranges>
  </axis>
</frame>
  <inner_stroke enabled="false"/>
  <outer_stroke enabled="false"/>
  <background>
    <fill type="Gradient">
      <gradient angle="45">
        <key color="#FDFDFD"/>
        <key color="#F7F3F4"/>
      </gradient>
    </fill>
    <border enabled="true" color="#A9A9A9"/>
  </background>
  <effects enabled="false"/>
</frame>
<pointers>
  <pointer value=(data) name="value">
    <label enabled="true" under_pointers="true">
      <position placement_mode="ByPoint" x="50" y="60"/>
      <format> "{%Value}{numDecimals:0}%" </format>
      <background enabled="false"/>
    </label>
    <needle_pointer_style thickness="7" point_thickness="5" point_radius="3">

```

```

    <fill color="Rgb(230,230,230)"/>
    <border color="Black" opacity="0.7"/>
    <effects enabled="true">
      <bevel enabled="true" distance="2" shadow_opacity="0.6" highlight_opacity="0.6"/>
      <drop_shadow enabled="true" distance="1" blur_x="1" blur_y="1" opacity="0.4"/>
    </effects>
    <cap>
      <background>
        <fill type="Gradient">
          <gradient type="Linear" angle="45">
            <key color="#D3D3D3"/>
            <key color="#6F6F6F"/>
          </gradient>
        </fill>
        <border color="Black" opacity="0.9"/>
      </background>
      <effects enabled="true">
        <bevel enabled="true" distance="2" shadow_opacity="0.6" highlight_opacity="0.6"/>
        <drop_shadow enabled="true" distance="1.5" blur_x="2" blur_y="2" opacity="0.4"/>
      </effects>
    </cap>
  </needle_pointer_style>
  <animation enabled="true" start_time="0" duration="0.7" interpolation_type="Sine"/>
</pointer>
</pointers>
</circular>
</gauge>
</gauges>
</anychart>;

```

```
// LINEAR GAUGE, DATA VARIABLE MUST BE A NUMBER
```

```
case 'lineargauge':
```

```
  let chart = <anychart>
```

```
    settings_xml;
```

```
    <margin all="0"/>
```

```
    <gauges>
```

```
      <gauge>
```

```
        <chart_settings>
```

```
          <title>
```

```
            <text> title </text>
```

```
          </title>
```

```
          <chart_background>
```

```
            <border enabled="false"/>
```

```
          </chart_background>
```

```
        </chart_settings>
```

```
        <linear name="data">
```

```
          <axis size="0" position="50">
```

```
            <scale minimum=(min) maximum=(max) major_interval=(interval) minor_interval=(interval
```

```
          / 4) />
```

```
          <scale_bar enabled="false"/>
```

```

    <labels padding="5"/>
    <color_ranges>
      <color_range start=(min) end=(max) align="Outside" padding="0" start_size="8"
end_size="8">
        <fill type="Gradient">
          <gradient angle="90">
            <key color="Red"/>
            <key color="Yellow"/>
            <key color="Green"/>
          </gradient>
        </fill>
        <border enabled="true" type="Solid" color="Black" opacity="0.4"/>
      </color_range>

    </color_ranges>
  </axis>
  <pointers>
    <pointer type="Marker" value=(data) name="value" color="#4662B0">
      <tooltip enabled="true"/>
      <marker_pointer_style align="Outside" padding="5" width="10" height="10"/>
      <animation enabled="true" start_time="0" duration="1" interpolation_type="Elastic"/>
      <label enabled="true">
        <position placement_mode="ByAnchor" valign="Center" halign="Right" padding="45"/>
        <format> "{%Value}{numDecimals:0}%" </format>
        <background enabled="false"/>
      </label>
    </pointer>
  </pointers>
</linear>
</gauge>
</gauges>
</anychart>;

```

default:

```

  if(!error) {
    let error = "Invalid chart type selected (did not recognize '" .. type .. "')";
  }
}

```

// check if there was an error

```

if(error) {
  <p style="color: red"> error </p>
} else {
  anychart(chart, width, height, id);
}

```