




# GRAPHML CHEAT-SHEET

ELEMENT	SYNTAX	DESCRIPTION & PARAMETERS	EXAMPLE
	MAIN ELEMENTS		
GRAPML	<pre>&lt;graphml version="..." engine="..."&gt;   &lt;!-- content... --&gt; &lt;/graphml&gt;</pre>	<p>[ROOT ELEMENT]</p> <p>Contains all graphml elements of the current document. Each graphml document should only contain one graphml element.</p> <p><b>version</b> [optional] The graphml version: ► <b>latest</b> [default] (the latest supported graphml version) ► <b>0.0.1</b></p> <p><b>engine</b> [optional] The engine to use: ► <b>cairo</b> [default] (<a href="#">libcairo</a>)</p>	<pre>&lt;graphml version="latest" engine="cairo"&gt;   &lt;!-- content... --&gt; &lt;/graphml&gt;  ...</pre>
IMG	<pre>&lt;img id= "..." w="..." h="..."&gt;   &lt;!-- content... --&gt; &lt;/img&gt;</pre>	<p>[CHILD OF &lt;graphml&gt;]</p> <p>Contains all instructions the render an image. Various img elements may be used to create various images.</p> <p><b>id</b> [optional] The image id: ► Any non empty string can be used.</p> <p><b>w</b> The image width: ► A relative value.</p> <p><b>h</b> The image height: ► A relative value.</p>	<pre>&lt;graphml&gt;   &lt;img id= "myimage" w="400" h="400"&gt;     &lt;!-- content... --&gt;   &lt;/img&gt; &lt;/graphml&gt;</pre>
	GRADIENT ELEMENTS (Elements used during gradients creation)		

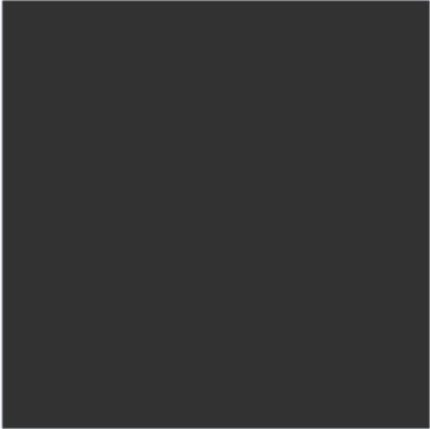
ELEMENT	SYNTAX	DESCRIPTION & PARAMETERS	EXAMPLE
GRADIENT	<pre>&lt;gradient id="..." type="..." begin="..." end="..."&gt;   &lt;colorstop step="..." color="..." /&gt;   &lt;colorstop step="..." color="..." /&gt;   &lt;colorstop step="..." color="..." /&gt;   &lt;!-- more colorstops --&gt; &lt;/gradient&gt;</pre>	<p>[CHILD OF &lt;graphml&gt;]</p> <p>Generates a stored gradient that can be used in any image in the current graphml document.</p> <p><b>id</b> The gradient id: ► Any string can be used.</p> <p><b>type</b> The gradient type: ► <b>linear</b> ► <b>radial</b></p> <p><b>begin</b> [depends on <b>type</b>] Gradient begin point-data: ► [if <b>type is linear</b>]: Xi,Yi [else if <b>type is radial</b>]: Xi,Yi,Ri <i>Where</i> &gt;&gt; Xi -&gt; the initial X coordinate, Yi -&gt; the initial Y coordinate, Ri -&gt; the initial Radius, &lt;&lt; Are relative values.</p> <p><b>end</b> [depends on <b>type</b>] Gradient end point-data: ► [if <b>type is linear</b>]: Xf,Yf [else if <b>type is radial</b>]: Xf,Yf,Rf <i>Where</i> &gt;&gt; Xi -&gt; the final X coordinate, Yi -&gt; the final Y coordinate, Ri -&gt; the final Radius, &lt;&lt; Are relative values.</p>	<pre>&lt;gradient id="grad1" type="linear" begin="0%, 0%" end="100%,100%"&gt;   &lt;colorstop step="0%" color="rgb(255,90,0)" /&gt;   &lt;colorstop step="50%" color="rgb(255,90,255)" /&gt;   &lt;colorstop step="100%" color="rgb(0,90,255)" /&gt; &lt;/gradient&gt;</pre>  <pre>&lt;gradient id="grad1" type="radial" begin="50%, 50%,10%" end="50%,50% 50%"&gt;   &lt;colorstop step="0%" color="rgb(255,90,0)" /&gt;   &lt;colorstop step="50%" color="rgb(255,90,255)" /&gt;   &lt;colorstop step="100%" color="rgb(0,90,255)" /&gt; &lt;/gradient&gt;</pre> 

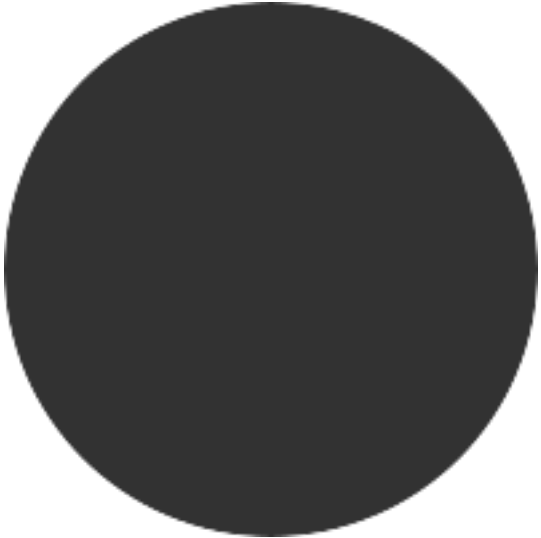

ELEMENT	SYNTAX	DESCRIPTION & PARAMETERS	EXAMPLE
COLORSTOP		<div>[CHILD OF &lt;gradient&gt;]</div> <p>Gradient color stop.</p> <p><b>step</b></p> <p>The position to place a color:</p> <ul style="list-style-type: none"><li>► A relative value.</li></ul> <p><b>color</b></p> <p>The color to be placed:</p> <ul style="list-style-type: none"><li>► A color in the format r,g,b or r,g,b,a Where &gt;&gt; r -&gt; red channel, g -&gt; green channel, b -&gt; blue channel, a -&gt; alpha channel &lt;&lt; Are all relative values. Or in the format rgb(r,g,b)or rgba(r,g,b,a)</li></ul> <p>Where &gt;&gt; r,g,b,a &lt;&lt; Are values between (including) 0 and 255.</p>	
	<div>I/O ELEMENTS</div> <div>(Elements used to import or export images)</div>		
IMPORT	<code>&lt;import id="..." filename="..." /&gt;</code>	<div>[CHILD OF &lt;graphml&gt;]</div> <p>Imports an image, allowing graphml to use it for drawing (with paint, fill or stroke).</p> <p><b>id</b></p> <p>The image id:</p> <ul style="list-style-type: none"><li>► Any non empty string can be used.</li></ul> <p><b>filename</b> [PNG file]</p> <p>The image id:</p> <ul style="list-style-type: none"><li>► The path of the image to import.</li></ul>	<code>&lt;import id="image1" filename="image.png" /&gt;</code>

ELEMENT	SYNTAX	DESCRIPTION & PARAMETERS	EXAMPLE
EXPORT	<code>&lt;export filename="..." /&gt;</code>	<div>[CHILD OF &lt;img&gt;]</div> <div>Exports an image.</div> <div><b>filename</b> [PNG file]</div> <div>The image id:</div> <div>►The path of the image to export.</div>	<code>&lt;export filename="image.png" /&gt;</code>
<div>PATH ELEMENTS</div> <div>(Elements used to specify the draw path)</div>			
PATH	<code>&lt;path id="..."&gt;   &lt;move x="..." y="..." /&gt;   &lt;line x="..." y="..." mode = "..." /&gt;   &lt;curve begin="..." middle="..."     end="..." mode = "..." /&gt; &lt;/path&gt;</code>	<div>[CHILD OF &lt;graphml&gt;]</div> <div>Creates a path, tha can be use by graphml:apply to draw (with fill or stroke).</div> <div><b>id</b></div> <div>The path id:</div> <div>►Any non empty string can be used.</div>	<code>&lt;path id="path1"&gt;   &lt;move x="50%" y="10%" /&gt;   &lt;!-- moves the graphml "pencil" to relatively to the position 10%,50% --&gt;   &lt;line x="-(40%" y="40%" mode="relative" /&gt;   &lt;curve begin="10%,50%" middle="50%,100%" end="90%,50%" /&gt;   &lt;close /&gt; &lt;/path&gt;</code>
MOVE	<code>&lt;arc center="..." radius="..."   begin="..." end="..." /&gt; &lt;rect x="..." y="..."   w="..." h="..." /&gt; &lt;close /&gt; &lt;/path&gt;</code>	<div>[CHILD OF &lt;path&gt;]</div> <div>Moves the graphml "pencil" to a new position.</div> <div><b>x</b></div> <div>The new position X coordinate:</div> <div>►A relative value.</div> <div><b>y</b></div> <div>The new position Y coordinate:</div> <div>►A relative value.</div>	

ELEMENT	SYNTAX	DESCRIPTION & PARAMETERS	EXAMPLE
LINE		<div>[CHILD OF &lt;path&gt;]</div> <p>Creates a line to a specified position.</p> <p><b>x</b> The new position X coordinate: ► A relative value.</p> <p><b>y</b> The new position Y coordinate: ► A relative value.</p> <p><b>mode</b> The line mode: ► <b>normal</b> [default] (the x, y coordinates will be the end point of the line). ► <b>relative</b> (the x, y coordinates will used to determine the end point of the line, by appending the current point). <b>Caution:</b> this mode can only be used if a previous non relative path operation was realized.</p>	

ELEMENT	SYNTAX	DESCRIPTION & PARAMETERS	EXAMPLE
CURVE		<div>[CHILD OF &lt;path&gt;]</div> <p>Creates a curve to a specified position.</p> <p><b>begin</b></p> <p>The start point of the curve:</p> <ul style="list-style-type: none"><li>► <b>Xb,Yb</b> <i>Where &gt;&gt;</i> Xb -&gt; the initial X coordinate, Yb -&gt; the initial Y coordinate, &lt;&lt; Are relative values.</li></ul> <p><b>middle</b></p> <p>The middle point of the curve:</p> <ul style="list-style-type: none"><li>► <b>Xm,Ym</b> <i>Where &gt;&gt;</i> Xm -&gt; the middle X coordinate, Ym -&gt; the middle Y coordinate, &lt;&lt; Are relative values.</li></ul> <p><b>end</b></p> <p>The end point of the curve:</p> <ul style="list-style-type: none"><li>► <b>Xe,Ye</b> <i>Where &gt;&gt;</i> Xe -&gt; the end X coordinate, Ye -&gt; the end Y coordinate, &lt;&lt; Are relative values.</li></ul> <p><b>mode</b></p> <p>The curve mode:</p> <ul style="list-style-type: none"><li>► <b>normal</b> [default] (similar to line normal mode) [Described in <b>PAINT</b>]</li><li>► <b>relative</b> (similar to line relative mode) [Described in <b>PAINT</b>]</li></ul>	
CLOSE		<div>[CHILD OF &lt;path&gt;]</div> <p>Causes graphml to close the path.</p>	


ELEMENT	SYNTAX	DESCRIPTION & PARAMETERS	EXAMPLE
RECT	<pre>&lt;rect x="..." y="..." w="..." h="..." &gt;   &lt;!-- graphml drawing instructions --&gt; &lt;/rect&gt;</pre>	<p>[CHILD OF &lt;path&gt;   &lt;img&gt;]</p> <p>Causes graphml to draw content inside of a rectangle shape.</p> <p>The rect element can also be used inside of paths, as shown before.</p> <p><b>x</b> The rectangle X coordinate: ▶A relative value.</p> <p><b>y</b> The rectangle Y coordinate: ▶A relative value.</p> <p><b>w</b> The rectangle width: ▶A relative value.</p> <p><b>h</b> The rectangle height: ▶A relative value.</p>	<pre>&lt;rect x="10%" y="10%" w="80%" h="80%" &gt;   &lt;!-- graphml drawing instructions --&gt; &lt;/rect&gt;</pre> 


ELEMENT	SYNTAX	DESCRIPTION & PARAMETERS	EXAMPLE
ARC	<pre>&lt;arc center="..." radius="..." begin="..." end="..."&gt;   &lt;!-- graphml drawing instructions --&gt; &lt;/arc&gt;</pre>	<p>[CHILD OF &lt;path&gt;   &lt;img&gt;]</p> <p>Causes graphml to draw content inside of an arc shape.</p> <p>The arc element can also be used inside of paths, as shown before.</p> <p><b>center</b> The arc center: ► X, Y Where &gt;&gt; X -&gt; the arc center X coordinate, Y -&gt; the arc center Y coordinate, &lt;&lt; Are relative values.</p> <p><b>radius</b> The arc radius: ► A relative value.</p> <p><b>begin</b> The arc begin angle: ► A radian value.</p> <p><b>end</b> The arc end angle: ► A radian value.</p>	<pre>&lt;arc center="50%,50%" radius="50%" begin="0" end="rad(360)"&gt;   &lt;fill color="rgb(50,50,50)" /&gt; &lt;/arc&gt;</pre>  <pre>&lt;arc center="50%,50%" radius="50%" begin="0" end="rad(270)"&gt;   &lt;fill color="rgb(50,50,50)" /&gt; &lt;/arc&gt;</pre> 



ELEMENT	SYNTAX	DESCRIPTION & PARAMETERS	EXAMPLE
APPLY	<pre>&lt;apply path="..."&gt;   &lt;!-- graphml drawing instructions --&gt; &lt;/apply&gt;</pre>	<p>[CHILD OF &lt;img&gt;]</p> <p>Allows graphml to draw content inside of a path.</p> <p><b>path</b></p> <p>The path to draw:</p> <ul style="list-style-type: none"><li>► Id of a valid path.</li></ul>	<pre>&lt;apply path="path3"&gt;   &lt;!-- graphml drawing instructions --&gt; &lt;/apply&gt;</pre>
PAINT	<pre>&lt;paint image="..." /&gt;</pre>	<p>[CHILD OF &lt;img&gt;]</p> <p>Causes graphml to draw content to the whole image.</p>	<pre>&lt;paint image="img1" /&gt;</pre>
	<pre>&lt;paint gradient="..." /&gt;</pre>	<p><b>image</b> [unique to <b>gradient</b> and <b>color</b> arg]</p> <p>The id of the image to paint:</p> <ul style="list-style-type: none"><li>► Image id (string).</li></ul>	<pre>&lt;paint gradient="grad1" /&gt;</pre>
	<pre>&lt;paint color="..." /&gt;</pre>	<p><b>gradient</b> [unique to <b>image</b> and <b>color</b> arg]</p> <p>The id of the gradient to paint:</p> <ul style="list-style-type: none"><li>► Gradient id (string).</li></ul> <p><b>color</b> [unique to <b>gradient</b> and <b>image</b> arg]</p> <p>The color to paint:</p> <ul style="list-style-type: none"><li>► [Described in <b>COLORSTOP</b>]</li></ul>	<pre>&lt;paint color="rgb(0,0,0)" /&gt;</pre>
FILL	<pre>&lt;fill image="..." /&gt;</pre>	<p>[CHILD OF &lt;img&gt;]</p> <p>Causes graphml to draw content to the current rect, arc or path.</p>	<pre>&lt;fill image="img1" /&gt;</pre>
	<pre>&lt;fill gradient="..." /&gt;</pre>	<p><b>image</b></p> <p>[Described in <b>PAINT</b>]</p>	<pre>&lt;fill gradient="grad1" /&gt;</pre>
	<pre>&lt;fill color="..." /&gt;</pre>	<p><b>gradient</b></p> <p>[Described in <b>PAINT</b>]</p> <p><b>color</b></p> <p>[Described in <b>PAINT</b>]</p>	<pre>&lt;fill color="rgb(0,0,0)" /&gt;</pre>
STROKE	<pre>&lt;stroke width="..." cap="..." join="..." imagem="..." /&gt;</pre>	<p>[CHILD OF &lt;img&gt;]</p> <p>Causes graphml to stroke content to the current rect, arc or path.</p>	<pre>&lt;stroke width="10%" cap="round" join="bevel" color="rgb(50,50,50)" /&gt;</pre>

ELEMENT	SYNTAX	DESCRIPTION & PARAMETERS	EXAMPLE
	<pre>&lt;stroke width="..." cap="..." join="..." gradient="..."/&gt;</pre>	<p><b>image</b> [Described in <b>PAINT</b>]</p> <p><b>gradient</b> [Described in <b>PAINT</b>]</p> <p><b>color</b> [Described in <b>PAINT</b>]</p> <p><b>cap</b> Line cap mode (line bounds): ► <b>butt , round or square</b></p> <p><b>join</b> Line join mode (line connections): ► <b>bevel , round or miter</b></p>	

ELEMENT	SYNTAX	DESCRIPTION & PARAMETERS	EXAMPLE
	<pre>&lt;stroke width="..." cap="..." join="..." color="..."/&gt;</pre>		
TRANSLATE	<pre>&lt;translate x="..." y="..."&gt;   &lt;!-- graphml instructions --&gt; &lt;/translate&gt;</pre>	<p>[CHILD OF &lt;img&gt;]</p> <p>Causes graphml to move the position where a draw event is about to happen.</p> <p>The translate element moves the current draw point allowing image changing the original x and y coordinates of its children.</p> <p><b>x</b> X coordinate translation: ►A relative value.</p> <p><b>y</b> Y coordinate translation: ►A relative value.</p>	<pre>&lt;translate x="0.3" y="0.3"&gt;   &lt;arc center="50%,50%" radius="20%" begin="0" end="rad(360)"&gt;     &lt;fill color="rgb(50,50,50)" /&gt;   &lt;/arc&gt; &lt;/translate&gt;</pre> 

ELEMENT	SYNTAX	DESCRIPTION & PARAMETERS	EXAMPLE
SCALE	<pre>&lt;scale x="..." y="..."&gt;   &lt;!-- graphml instructions --&gt; &lt;/scale&gt;</pre>	<p>[CHILD OF &lt;img&gt;]</p> <p>The scale element causes graphml to change the scale of its children, making them bigger ou smaller than the expected.</p> <p><b>x</b> The scale to be applied in the X orientation: ►A relative <b>non-zero</b> value.</p> <p><b>y</b> The scale to be applied in the Y orientation: ►A relative <b>non-zero</b> value.</p>	<pre>&lt;scale x="50%" y="30%"&gt;   &lt;arc center="50%,50%" radius="50%" begin="0" end="rad(360)"&gt;   &lt;fill color="rgb(50,50,50)" /&gt; &lt;/arc&gt; &lt;/scale&gt;</pre> 
ROTATE	<pre>&lt;rotate rad="..."&gt;   &lt;!-- graphml instructions --&gt; &lt;/rotate&gt;</pre>	<p>[CHILD OF &lt;img&gt;]</p> <p>Causes graphml to rotate the its children before drawing, using the point 0,0 has reference.</p> <p><b>rad</b> The number of radians to rotate: ►A radian value.</p>	<pre>&lt;translate x="50%" y="-(20%" &gt;   &lt;rotate rad="rad(45)"&gt;     &lt;rect x="30%" y="30%" w="40%" h="40%"&gt;       &lt;fill color="rgb(50,50,50)" /&gt;     &lt;/rect&gt;   &lt;/rotate&gt; &lt;/translate&gt;</pre> 