GRAPHML CHEAT-SHEET

| ELEMENT | SYNTAX | DESCRIPTION & PARAMETERS | EXAMPLE |
| --- | --- | --- | --- |
|  | MAIN ELEMENTS | | |
| GRAPML | <graphml version="..." engine="...">  <!-- content... -->  </graphml> | [ROOT ELEMENT]  Contains all graphml elements of the current document.  Each graphml document should only contain one graphml element.  version [optional]  The graphml version:   * latest [default] (the latest supported graphml version) * 0.0.1   engine [optional]  The engine to use:   * cairo [default] ([libcairo](https://www.cairographics.org/)) | <graphml version="latest" engine="cairo">  <!-- content... -->  </graphml> ... |
| IMG | <img id= "..." w="..." h="...">  <!-- content... -->  </img> | [CHILD OF <graphml>]  Contains all instructions the render an image.  Various img elements may be used to create various images.  id [optional]  The image id:   * Any non empty string can be used.   w  The image width:   * A relative value.   h  The image height:   * A relative value. | <graphml>  <img id= "myimage" w="400" h="400">  <!-- content... -->  </img>  </graphml> |
|  | GRADIENT ELEMENTS  (Elements used during gradients creation) | | |
| GRADIENT | <gradient id="..." type="..." begin="..." end="...">  <colorstop step="..." color="..." />  <colorstop step="..." color="..." />  <colorstop step="..." color="..." />  <!-- more colorstops -->  </gradient> | [CHILD OF <graphml>]  Generates a stored gradient that can be used in any image in the current graphml document.  id  The gradient id:   * Any string can be used.   type  The gradient type:   * linear * radial   begin [depends on type]  Gradient begin point-data:   * [if type is linear]: Xi,Yi [else if type is radial]: Xi,Yi,Ri *Where >>* Xi -> the initial X coordinate, Yi -> the initial Y coordinate, Ri -> the initial Radius, << Are relative values.   end [depends on type]  Gradient end point-data:   * [if type is linear]: Xf,Yf [else if type is radial]: Xf,Yf,Rf *Where >>* Xi -> the final X coordinate, Yi -> the final Y coordinate, Ri -> the final Radius, << Are relative values. | <gradient id="grad1" type="linear" begin="0%, 0%" end="100%,100%">  <colorstop step="0%" color="rgb(255,90,0)" />  <colorstop step="50%" color="rgb(255,90,255)" />  <colorstop step="100%" color="rgb(0,90,255)" />  </gradient>  Imagem  <gradient id="grad1" type="radial" begin="50%, 50%,10%" end="50%,50% 50%">  <colorstop step="0%" color="rgb(255,90,0)" />  <colorstop step="50%" color="rgb(255,90,255)" />  <colorstop step="100%" color="rgb(0,90,255)" />  </gradient>  Imagem |
| COLORSTOP | [CHILD OF <gradient>]  Gradient color stop.  step  The position to place a color:   * A relative value.   color  The color to be placed:   * A color in the format r,g,b or r,g,b,a *Where >> r -> red channel, g -> green channel, b -> blue channel, a -> alpha channel* << Are all relative values. Or in the format  rgb(r,g,b)or rgba(r,g,b,a)  *Where >> r,g,b,a* << Are values between (including) 0 and 255. |
|  | I/O ELEMENTS  (Elements used to import or export images) | | |
| IMPORT | <import id="..." filename="..." /> | [CHILD OF <graphml>]  Imports an image, allowing graphml to use it for drawing (with paint, fill or stroke).  id  The image id:   * Any non empty string can be used.   filename [PNG file]  The image id:   * The path of the image to import. | <import id="image1" filename="image.png" /> |
| EXPORT | <export filename=“..."/> | [CHILD OF <img>]  Exports an image.  filename [PNG file]  The image id:   * The path of the image to export. | <export filename="image.png"/> |
|  | PATH ELEMENTS  (Elements used to specify the draw path) | | |
| PATH | <path id="...">  <move x="..." y="..."/>  <line x="..." y="..." mode ="..."/>  <curve begin="..." middle="..."  end="..." mode =“..."/>  <arc center="..." radius="..."  begin="..." end="..."/>  <rect x="..." y="..."  w="..." h="..."/>  <close />  </path> | [CHILD OF <graphml>]  Creates a path, tha can be use by graphml:apply to draw (with fill or stroke).  id  The path id:   * Any non empty string can be used. | <path id="path1">  <move x="50%" y="10%"/>  <!-- moves the graphml "pencil" to relatively to the position 10%,50% -->  <line x="-(40%)" y="40%" mode="relative" />  <curve begin="10%,50%" middle="50%,100%" end="90%,50%"/>  <close/>  </path>  Imagem  <path id="path2">  <rect x="10%" y="10%" w="80%" h="80%" />  <move x="80%" y="50%" />  <arc center="50%,50%" radius="30%" begin="0" end="rad(360)" />  </path>  Imagem |
| MOVE | [CHILD OF <path>]  Moves the graphml “pencil” to a new position.  x  The new position X coordinate:   * A relative value.   y  The new position Y coordinate:   * A relative value. |
| LINE | [CHILD OF <path>]  Creates a line to a specified position.  x  The new position X coordinate:   * A relative value.   y  The new position Y coordinate:   * A relative value.   mode  The line mode:   * normal [default] (the x, y coordinates will be the end point of the line). * relative (the x, y coordinates will used to determine the end point of the line, by appending the current point).  Caution: this mode can only be used if a previous non relative path operation was realized. |
| CURVE | [CHILD OF <path>]  Creates a curve to a specified position.  begin  The start point of the curve:   * Xb,Yb *Where >>* Xb -> the initial X coordinate, Yb -> the initial Y coordinate, << Are relative values.   middle  The middle point of the curve:   * Xm,Ym *Where >>* Xm -> the middle X coordinate, Ym -> the middle Y coordinate, << Are relative values.   end  The end point of the curve:   * Xe,Ye *Where >>* Xe -> the end X coordinate, Ye -> the end Y coordinate, << Are relative values.   mode  The curve mode:   * normal [default] (similar to line normal mode) [Described in PAINT] * relative (similar to line relative mode) [Described in PAINT] |
| CLOSE | [CHILD OF <path>]  Causes graphml to close the path. |
| RECT | <rect x="..." y="..." w="..." h="..." >  <!-- graphml drawing instructions -->  </rect> | [CHILD OF <path> | <img>]  Causes graphml to draw content inside of a rectangle shape.  The rect element can also be used inside of paths, as shown before.  x  The rectangle X coordinate:   * A relative value.   y  The rectangle Y coordinate:   * A relative value.   w  The rectangle width:   * A relative value.   h  The rectangle height:   * A relative value. | <rect x="10%" y="10%" w="80%" h="80%" >  <!-- graphml drawing instructions -->  </rect>  Imagem |
| ARC | <arc center="..." radius="..." begin="..." end="...">  <!-- graphml drawing instructions -->  </arc> | [CHILD OF <path> | <img>]  Causes graphml to draw content inside of an arc shape.  The arc element can also be used inside of paths, as shown before.  center  The arc center:   * X, Y *Where >>* X -> the arc center X coordinate, Y -> the arc center Y coordinate, << Are relative values.   radius  The arc radius:   * A relative value.   begin  The arc begin angle:   * A radian value.   end  The arc end angle:   * A radian value. | <arc center="50%,50%" radius="50%"  begin="0" end="rad(360)">  <fill color="rgb(50,50,50)"/>  </arc>  Imagem  <arc center="50%,50%" radius="50%"  begin="0" end="rad(270)">  <fill color="rgb(50,50,50)"/>  </arc>  Imagem |
| APPLY | <apply path="...">  <!-- graphml drawing instructions -->  </apply> | [CHILD OF <img>]  Allows graphml to draw content inside of a path.  path  The path to draw:   * Id of a valid path. | <apply path="path3">  <!-- graphml drawing instructions -->  </apply> |
| PAINT | <paint image="..." /> | [CHILD OF <img>]  Causes graphml to draw content to the whole image.  image [unique to gradient and color arg]  The id of the image to paint:   * Image id (string).   gradient [unique to image and color arg]  The id of the gradient to paint:   * Gradient id (string).   color [unique to gradient and image arg]  The color to paint:   * [Described in COLORSTOP] | <paint image="img1" /> |
| <paint gradient="..." /> | <paint gradient="grad1" /> |
| <paint color="..." /> | <paint color="rgb(0,0,0)" /> |
| FILL | <fill image="..." /> | [CHILD OF <img>]  Causes graphml to draw content to the current rect, arc or path.  image  [Described in PAINT]  gradient  [Described in PAINT]  color  [Described in PAINT] | <fill image="img1" /> |
| <fill gradient="..." /> | <fill gradient="grad1" /> |
| <fill color="..." /> | <fill color="rgb(0,0,0)" /> |
| STROKE | <stroke width="..." cap="..." join="..." imagem="..."/> | [CHILD OF <img>]  Causes graphml to stroke content to the current rect, arc or path.  image  [Described in PAINT]  gradient  [Described in PAINT]  color  [Described in PAINT]  cap  Line cap mode (line bounds):   * butt , round or square   join  Line join mode (line connections):   * bevel , round or miter | <stroke width="10%" cap="round" join="bevel" color=“rgb(50,50,50) />  Imagem  <stroke width="10%" cap="butt" join="round" color=“rgb(50,50,50)”/>  Imagem  <stroke width="10%" cap="square" join="miter" color=“rgb(50,50,50)"/>  Imagem |
| <stroke width="..." cap="..." join="..." gradient="..."/> |
| <stroke width="..." cap="..." join="..." color="..."/> |
| TRANSLATE | <translate x="..." y="...">  <!-- graphml instructions -->  </translate> | [CHILD OF <img>]  Causes graphml to move the position where a draw event is about to happen.  The translate element moves the current draw point allowing image changing the original x and y coordinates of its children.  x  X coordinate translation:   * A relative value.   y  Y coordinate translation:   * A relative value. | <translate x="0.3" y="0.3">  <arc center="50%,50%" radius="20%" begin="0" end="rad(360)">  <fill color="rgb(50,50,50)" />  </arc>  </translate>  Imagem |
| SCALE | <scale x="..." y="...">  <!-- graphml instructions -->  </scale> | [CHILD OF <img>]  The scale element causes graphml to change the scale of its children, making them bigger ou smaller than the expected.  x  The scale to be applied in the X orientation:   * A relative non-zero value.   y  The scale to be applied in the Y orientation:   * A relative non-zero value. | <scale x="50%" y="30%">  <arc center="50%,50%" radius="50%" begin="0" end="rad(360)">  <fill color="rgb(50,50,50)" />  </arc>  </scale>  Imagem |
| ROTATE | <rotate rad="...">  <!-- graphml instructions -->  </rotate> | [CHILD OF <img>]  Causes graphml to rotate the its children before drawing, using the point 0,0 has reference.  rad  The number of radians to rotate:   * A radian value. | <translate x="50%" y="-(20%)" >  <rotate rad="rad(45)">  <rect x="30%" y="30%" w="40%" h="40%">  <fill color="rgb(50,50,50)" />  </rect>  </rotate>  </translate>  Imagem |