Draw image

Version 1.0.0, by Giorgio Bianchini

Description: Draws an image.

Module type: Plotting

Module ID: `a26abc43-1b12-40c9-9e23-bd3de2718829`

This module can be used to draw an image file that has been loaded as an attachment.

Parameters

Image

Control type: Attachment

This parameter is used to choose the attachment that contains the image file.

Image format

Control type: Drop-down list

Default value: SVG

Possible values:

- SVG
- PDF
- XPS
- CBZ
- PNG
- JPEG
- BMP
- GIF
- TIFF
- PNM
- PAM
- EPUB
- FB2

This parameter selects the format of the image. Choosing the wrong format will cause the image not to be drawn on the plot.

Image size

Control type: Text box

This (read-only) text box contains the original size (width x height) of the image file (this appears only if the selected image format is correct).

Scale factor

Control type: Number spin box

Default value: 1

Range: [0, +∞)

This parameter determines the scale factor to use when drawing a raster(ised) image. It has no effect if the image is in SVG format. For image formats such as PDF and XPS, this determines the rasterisation resolution; thus, increasing this value may lead to a sharper image being drawn.

Node

Control type: Node

This parameter determines the node used as an anchor for positioning the image. If only a single node is selected, the anchor corresponds to that node. If more than one node is selected, the anchor corresponds to the last common ancestor (LCA) of all of them. Nodes are selected based on their `Name`.

Anchor

Control type: Drop-down list

Default value: Node

Possible values:

- Node
- Mid-branch
- Centre of leaves
- Origin

This parameter determines the anchor for the centre of the image. If the value is `Node`, the centre of the image is anchored to the corresponding node. If the value is `Mid-branch`, the centre of the image is aligned with the midpoint of the branch connecting the node to its parent. If the value is `Centre of leaves` or `Origin`, the alignment depends on the value of the Branch reference:

Branch reference	Centre of leaves	Origin

Rectangular	The smallest rectangle containing all the leaves that descend from the current node is computed. The anchor corresponds to the centre of this rectangle.	A point corresponding to the projection of the node on a line perpedicular to the direction in which the tree expands and passing through the root node. Usually (i.e. if the tree is horizontal), this means a point with the same horizontal coordinate as the root node and the same vertical coordinate as the current node.
Radial	The smallest rectangle containing all the leaves that descend from the current node is computed. The anchor corresponds to the centre of this rectangle.	The root node.
Circular	The centre of leaves is computed using polar coordinates: the minimum and maximum distance of the leaves that descend from the current node are computed, as well as the minimum and maximum angle. The anchor has a distance corresponding to the average of the minimum and maximum distance, and an angle corresponding to the average of the maximum and minimum angle.	The root node.

Orientation reference

Control type: Drop-down list

Default value: Branch

Possible values:

- Horizontal
- Branch

This parameter determines the direction along which the offset of the centre of the image from the anchor is computed. If the value is `Horizontal`, the offset `X` coordinate of the offset corresponds to an horizontal displacement and the `Y` coordinate to a vertical displacement; if the value is `Branch`, the `X` coordinate corresponds to a shift in the direction of the branch, while the `Y` coordinate corresponds to a shift in a direction perpendicular to the branch.

Branch reference

Control type: Drop-down list

Default value: Rectangular

Possible values:

- Rectangular
- Radial
- Circular

This parameter determines the algorithm used to compute branch orientations. For best results, the value of this parameter should correspond to the coordinates module actually used.

Position

Control type: Point

Default value: (0, 0)

This parameter determines how shifted from the anchor point the image is. The `X` coordinate corresponds to the line determined by the Orientation reference; the `Y` coordinate corresponds to the line perpendicular to this.

Width

Control type: Number spin box

Default value: 100

Range: [0, +∞)

The width of the image in plot units. For best results, the ratio between width and Height should be the same as in the original size of the image shown in the Image size text box.

Height

Control type: Number spin box

Default value: 100

Range: [0, +∞)

The height of the image in plot units. For best results, the ratio between Width and height should be the same as in the original size of the image shown in the Image size text box.

Further information

When the chosen Image or the Image format is changed, the Image size text box is updated to show the original size of the image; this can be useful in determining an appropriate Width and Height for the image.

If the image is in SVG format, it is loaded as a vector image. Most features of SVG are supported, but not all of them, notably gradients are not supported. If you need to embed an image with unsupported features, you will have to convert it in one of the other formats.

Even though PDF and XPS are vector formats, images in these formats are rasterised before drawing them on the tree. The Scale factor parameter can be used to determine the resolution of the rasterisation.