

# Node shapes

---

*Version 1.0.0, by Giorgio Bianchini*

**Description:** Draws shapes on nodes, tips or branches.

**Module type:** Plotting

**Module ID:** 7434420a-1afd-46ee-aeaa-75ed8a5eeada

This module is used to draw shapes at each node in the tree. The size of the shape and its colour can vary from node to node based on the value of attributes of the nodes.



## Parameters

---

Show on

**Control type:** Drop-down list

**Default value:** Leaves

**Possible values:**

- Leaves
- Internal nodes
- All nodes

This parameter determines on which nodes the shapes are shown. If the value is `Leaves`, the shapes are only shown for terminal nodes (nodes with no child nodes). If the value is `Internal nodes` the shapes are shown only for internal nodes (nodes which have at least one child). If the value is `All nodes`, shapes are shown for both leaves and internal nodes.

Anchor

**Control type:** Drop-down list

**Default value:** Node

**Possible values:**

- Node
- Mid-branch
- Origin

This parameter determines the anchor for the centre of the shape. If the value is `Node`, the centre of the shape is anchored to the corresponding node. If the value is `Mid-branch`, the centre of the shape is aligned with the midpoint of the branch

connecting the node to its parent. If the value is `Origin`, the alignment depends on the value of the [Branch reference](#):

Branch reference	Origin
Rectangular	A point corresponding to the projection of the node on a line perpendicular 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 root node.
Circular	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 shape 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 shape is. The  $x$  coordinate corresponds to the line determined by the [Orientation reference](#); the  $y$  coordinate corresponds to the line perpendicular to this.

## Size

**Control type:** Number spin box (by node)

**Default value:** 8

**Range:** [ 0,  $+\infty$  )

**Default attribute:** `ShapeSize`

This parameter determines the size (diameter) of the shapes.

## Shape

**Control type:** Drop-down list

**Default value:** Polygon

**Possible values:**

- Circle
- Polygon

This parameter determines whether the shape is a circle or a polygon.

## Sides

**Control type:** Number spin box

**Default value:** 5

**Range:** [ 3,  $+\infty$  )

If the [Shape](#) is a `Polygon`, this parameter determines the number of sides of the polygon.

## Star

**Control type:** Check box

**Default value:** Checked

If this check box is checked, the polygon will have a star-like appearance.

## Angle

**Control type:** Slider

**Default value:** 0°

**Range:** [ 0°, 360° ]

This parameter determines the orientation of the shape with respect to the [Orientation reference](#). Changing this value rotates the shape around its centre.

## Auto fill colour by node

**Control type:** Check box

**Default value:** Checked

If this check box is checked, the fill colour of each shape is determined algorithmically in a pseudo-random way designed to achieve an aesthetically pleasing distribution of colours, while being reproducible if the same tree is rendered multiple times.

## Fill opacity

**Control type:** Slider


**Default value:** 100 %

**Range:** [ 0 %, 100 % ]

This parameter determines the opacity of the colour used if the [Auto fill colour by node](#) option is enabled.

## Fill colour

**Control type:** Colour (by node)

**Default value:**  #00A2E8 (opacity: 100%)

**Default attribute:** `Color`

## Stroke thickness

**Control type:** Number spin box

**Default value:** 0

**Range:** [ 0,  $+\infty$  )

This parameter determines the thickness of the stroke used to draw the shape.

## Auto stroke colour by node

**Control type:** Check box

**Default value:** Unchecked

If this check box is checked, the stroke colour of each shape is determined algorithmically in a pseudo-random way designed to achieve an aesthetically pleasing distribution of colours, while being reproducible if the same tree is rendered multiple times.

## Stroke opacity

**Control type:** Slider


**Default value:** 100 %

**Range:** [ 0 %, 100 % ]

This parameter determines the opacity of the colour used if the [Auto stroke colour by node](#) option is enabled.

## Stroke colour

**Control type:** Colour (by node)

**Default value:**  #000000 (opacity: 100%)

**Default attribute:** `color`