

# Propagate attribute

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*Version 1.0.2, by Giorgio Bianchini*

**Description:** Propagates an attribute on the tree.

**Module type:** FurtherTransformation

**Module ID:** 85eee26d-29b6-4470-8184-f42ebe9a2567

This module propagates the value of an attribute from the tips of the tree towards the root or vice versa.

## Parameters

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### Attribute

**Control type:** Attribute selector

**Default value:** Support

This parameter determines the attribute that is propagated."

### Attribute type

**Control type:** Attribute type

**Default value:** Number

**Possible values:**

- String
- Number

This parameter determines the type of attribute that is propagated.

### Direction

**Control type:** Drop-down list

**Default value:** From tips to root

**Possible values:**

- From tips to root
- From root to tips

This parameter determines whether the attribute values are propagated from the tips towards the root of the tree or vice versa.

## Propagation mode (from tips to root)

**Control type:** Drop-down list

**Default value:** Average

**Possible values:**

- Average
- Minimum
- Maximum

If the attribute is a Number and the propagation direction is `From tips to root`, this parameter determines the way the attribute values of the children of a node are coalesced to produce the attribute value for the parent node. If the selected value is `Average`, the average of the attribute values of the children is used; if the value is `Minimum`, the minimum value is selected; if the value is `Maximum`, the maximum value is selected. In all cases, not-a-number (NaN) values are excluded.

## Propagation mode (from root to tips)

**Control type:** Drop-down list

**Default value:** Preserve

**Possible values:**

- Preserve
- Divide equally
- Subtract

If the attribute is a Number and the propagation direction is `From root to tips`, this parameter determines the way the attribute values for the children of a node are computed starting from the value of the attribute for the parent node. If the value is `Preserve`, the child nodes inherit the same value as their parent. If the value is `Divide equally`, the value of the attribute for the parent is divided equally between all children (note that in this way the attribute values decreases exponentially). If the value is `Subtract`, the value of the attribute for the children is determined by subtracting a fixed amount (determined by the [Subtract value](#) parameter) from the parent value.

Default value

**Control type:** Text box

**Default value:** NaN

This parameter determines the default value of the attribute that is used for nodes where the attribute is not present.

## Subtract value

**Control type:** Number spin box

**Default value:** 0

**Range:** (  $-\infty$ ,  $+\infty$  )

This parameter determines the value that is subtracted from the parent node value to compute the child node value when the [Propagation mode](#) is `Subtract`.

## Overwrite existing values

**Control type:** Check box

**Default value:** Unchecked

This check box determines whether the attribute value is overwritten for nodes which already have a value that has been specified for the attribute.

## Apply

**Control type:** Button

This button applies the changes to the other parameters and triggers a redraw of the tree.