

## 12.1.14 Editors - Geometry Nodes Editor - Header - Add Menu - Geometry - Operations

### Table of content

Detailed table of content.....	1
Add menu - Geometry - Operations.....	3
Bake.....	4
Bounding Box.....	4
Convex Hull.....	5
Delete Geometry.....	5
Duplicate Elements.....	6
Sort Elements.....	6
Merge by Distance.....	8
Transform Geometry.....	8
Separate Components.....	9
Separate Geometry.....	10
Split to Instances.....	11

### Detailed table of content

### Detailed table of content

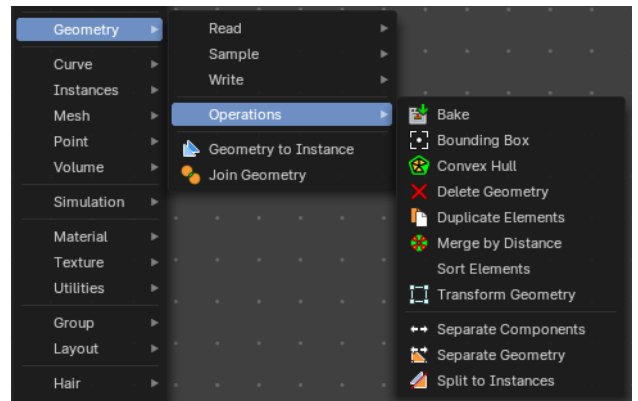
Detailed table of content.....	1
Add menu - Geometry - Operations.....	3
Bake.....	4
Input.....	4
Geometry.....	4
Properties.....	4
Animation / Still.....	4
Output.....	4
Geometry.....	4
Bounding Box.....	4
Inputs.....	4
Geometry.....	4
Output.....	4
Bounding Box.....	4
Min.....	4
Max.....	4
Convex Hull.....	5
Inputs.....	5
Geometry.....	5
Output.....	5
Convex Hull.....	5
Delete Geometry.....	5
Inputs.....	5
Geometry.....	5
Selection.....	5
Properties.....	5
Domain.....	5

Mode.....	5
Output.....	5
Geometry.....	5
Duplicate Elements.....	6
Inputs.....	6
Geometry.....	6
Selection.....	6
Amount.....	6
Properties.....	6
Domain.....	6
Output.....	6
Geometry.....	6
Duplicate Index.....	6
Sort Elements.....	6
Input.....	6
Geometry.....	6
Selection.....	7
Group ID.....	7
Sort Weight.....	7
Properties.....	7
Domain.....	7
Point.....	7
Face.....	7
Edge.....	7
Spline.....	7
Instance.....	7
Output.....	7
Geometry.....	7
Merge by Distance.....	8
Input.....	8
Geometry.....	8
Selection.....	8
Distance.....	8
Properties.....	8
Mode.....	8
All.....	8
Connected.....	8
Output.....	8
Geometry.....	8
Transform Geometry.....	8
Mode.....	8
Components.....	9
Inputs.....	9
Geometry.....	9
Translation.....	9
Rotation.....	9
Scale.....	9
Output.....	9
Geometry.....	9
Matrix.....	9
Inputs.....	9
Geometry.....	9
Transform.....	9

- Output..... 9
  - Geometry..... 9
- Separate Components..... 9
  - Inputs..... 9
    - Geometry..... 9
  - Outputs..... 10
    - Mesh..... 10
    - Point Cloud..... 10
    - Curve..... 10
    - Volume..... 10
    - Instance..... 10
- Separate Geometry..... 10
  - Inputs..... 10
    - Geometry..... 10
    - Selection..... 10
  - Properties..... 10
    - Domain..... 10
  - Outputs..... 11
  - Selection..... 11
    - Inverted..... 11
- Split to Instances..... 11
  - Inputs..... 11
    - Geometry..... 11
    - Selection..... 11
    - Group ID..... 11
  - Properties..... 11
    - Domain..... 11
  - Outputs..... 11
  - Instances..... 11
    - Group ID..... 11

## Add menu - Geometry - Operations

Here you find nodes to modify the geometry.

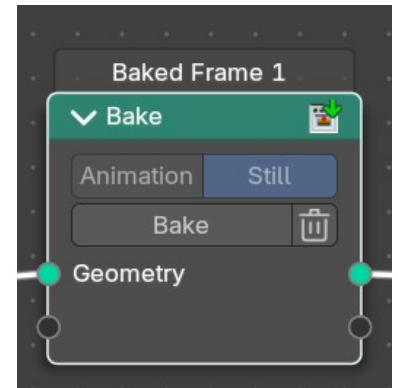


## Bake

Allows saving and loading per-calculated geometry node data. This allows you to bake and “freeze” node tree parts to achieve better performance, where any data up to the node will no-longer be evaluated. Another use is to bake data for use with a render engine.

To bake, the file must be saved first.

**Note:** When baked, the header of the node will show how many frames have been baked.



## Input

### Geometry

Standard geometry input. You can bake multiple geometry inputs.

## Properties

### Animation / Still

Bake an animation or a single frame. Note that the bake node does not do automatic caching.

## Operators

### Bake

The bake operator button. Press this to bake.

### Delete Geometry Node Bake

Delete baked data of a single bake node or simulation.

## Output

### Geometry

Standard geometry output.

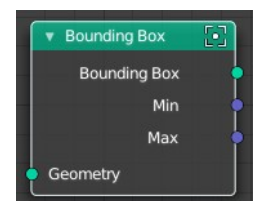
## Bounding Box

The Bounding Box geometry node allows you to work with the values of a bounding box.

## Inputs

### Geometry

Standard geometry input.



## Output

### ***Bounding Box***

Standard output.

### ***Min***

The minimum values of the bounding box.

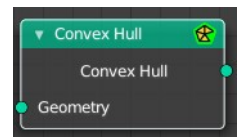
### ***Max***

The maximum values of the bounding box.

---

## Convex Hull

The node allows you to work with the values of a convex hull of this object.



## Inputs

### ***Geometry***

Standard geometry input.

## Output

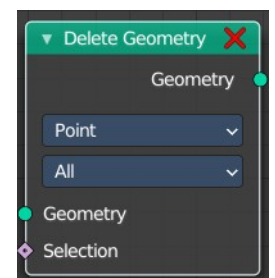
### ***Convex Hull***

Standard output.

---

## Delete Geometry

The node allows you to work with the values of a convex hull of this object.



## Inputs

### ***Geometry***

Standard geometry input.

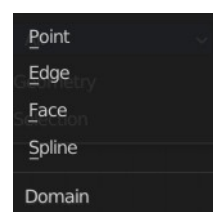
### ***Selection***

A selection of the geometry

## Properties

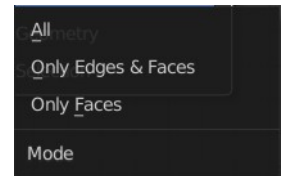
### ***Domain***

What element to delete.



## Mode

Delete mode. Names should be self explaining.



## Output

### Geometry

Standard output.

## Duplicate Elements

Duplicates a part of a geometry a dynamic number of times.

## Inputs

### Geometry

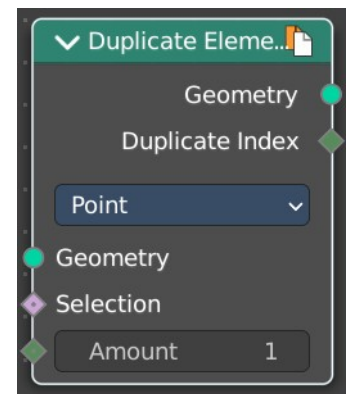
Standard geometry input.

### Selection

A selection of the geometry.

### Amount

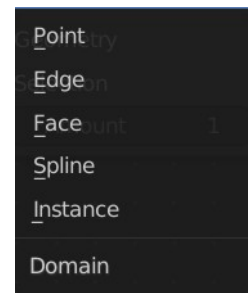
Number of times the geometry should be duplicated.



## Properties

### Domain

What element to duplicate.



## Output

### Geometry

Standard output.

### Duplicate Index

The index of the duplicated elements.

## Sort Elements

The *Sort Elements* node rearranges geometry elements by changing their indices.

### Input

#### **Geometry**

The input geometry.

#### **Selection**

A selection of the input geometry. If left blank, all elements are sorted. Non selected elements will be keep their current indices.

#### **Group ID**

Group ID input value. A group is defined as all elements with the same group id. Elements with the same group ID are sorted together. If this is not a field, the node has no affect.

#### **Sort Weight**

The sorted values used to do the reordering. If this is not a field, the node has no affect.

### Properties

#### **Domain**

##### **Point**

The fields are evaluated on points, control points, and vertices.

##### **Face**

The fields are evaluated on the edges of the mesh component.

##### **Edge**

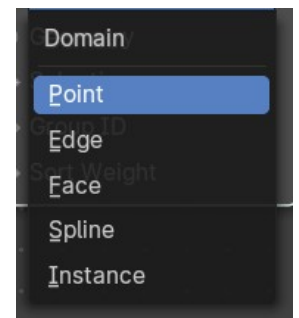
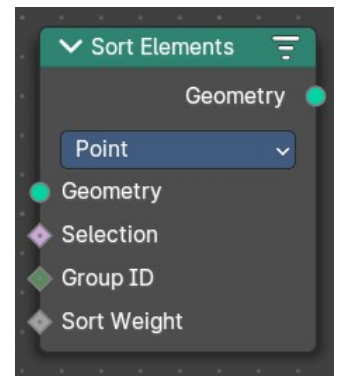
The fields are evaluated on the faces of the mesh component.

##### **Spline**

The fields are evaluated on the splines in the curve component.

##### **Instance**

The fields are evaluated on the top-level instances. Realized instances are ignored.



## Output

### Geometry

The output geometry.

---

## Merge by Distance

Welds the selected geometry below a given distance into one vertice.

### Input

#### Geometry

The input geometry.

#### Selection

A selection of the input geometry.

#### Distance

The merge distance. Everything below this distance will be merged into one vertice.

### Properties

#### Mode

##### All

Merges all vertices in reach.

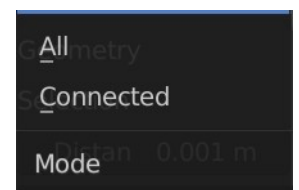
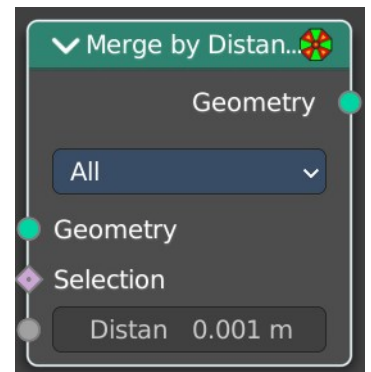
##### Connected

Merges just vertices that are connected by edges.

## Output

### Geometry

The output geometry.



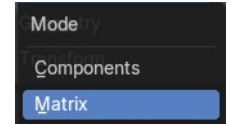


## Transform Geometry

Move, rotate or scale the geometry. The transformation is applied to the entire geometry, and not per element. For example, you can not rotate individual point cloud points with this node.

### Mode

The transformation mode for the node.



### Components

Uses single values and vectors.

### Inputs

#### Geometry

Standard geometry input.

#### Translation

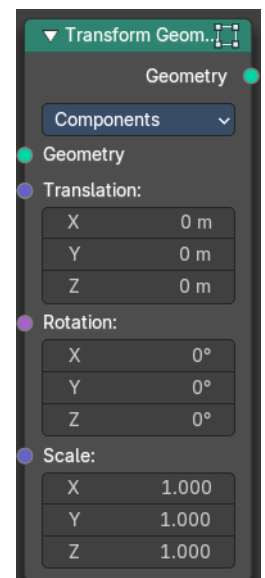
Translates the geometry in local space of the modified object.

#### Rotation

Euler rotation in local space.

#### Scale

Scale to transform the geometries in local space.



### Output

#### Geometry

Standard geometry output.

### Matrix

Uses a matrix to transform.

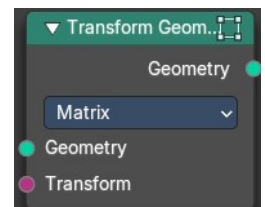
### Inputs

#### Geometry

Standard geometry input.

#### Transform

Transform matrix input



## Output

### **Geometry**

Standard geometry output.

---

## Separate Components

Splits a geometry into its components.

## Inputs

### **Geometry**

Geometry input.

## Outputs

### **Mesh**

Mesh component of the input geometry.

### **Point Cloud**

Point cloud component of the input geometry.

### **Curve**

Curve component of the input geometry.

### **Volume**

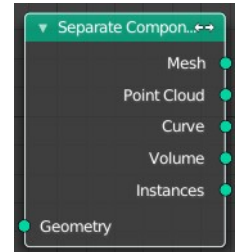
Volume component of the input geometry.

In case that the input contains multiple volume instances, only the first volume component will be calculated.

### **Instance**

The single instances of the geometry.

---



## Separate Geometry

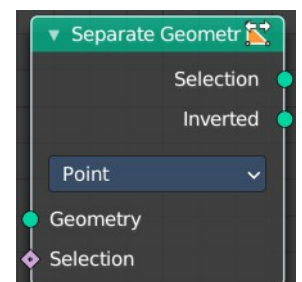
Separates a selection of a geometry into its own object.

Tip: when you combine it with the Compare Floats nodem then you get a more precise control of which parts are separated to a given output geometry.

## Inputs

### **Geometry**

Geometry input.



## Selection

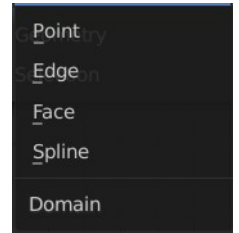
Selection input.

## Properties

### Domain

What kind of geometry to separate.

Note that when selecting a domain that doesn't modify all components, the unmodified components will appear in both outputs.



## Outputs

### Selection

Separated selection.

### Inverted

The inverted separated selection.

## Split to Instances

This node allows splitting up a geometry into groups. A group is defined as all elements with the same group id.

The node supports meshes, curves, point clouds and instances. Note that it only works on the top-level geometry. It does not go into nested instances because it also generates new instances.

## Inputs

### Geometry

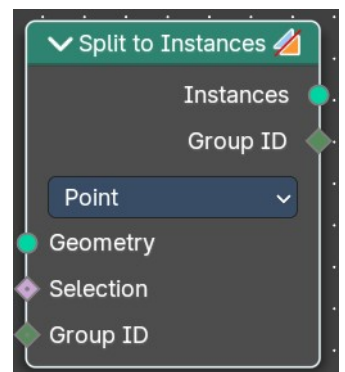
Geometry input.

### Selection

Selection input.

### Group ID

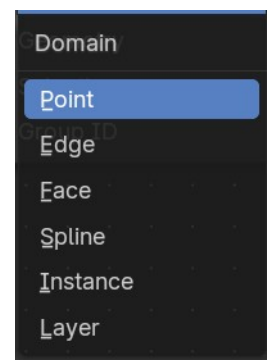
Group ID input value.



## Properties

### Domain

What kind of geometry to separate.



Note that when selecting a domain that doesn't modify all components, the unmodified components will appear in both outputs.

## **Outputs**

### **Instances**

Instances output. An Instance per group.

### ***Group ID***

Group ID output value.