



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

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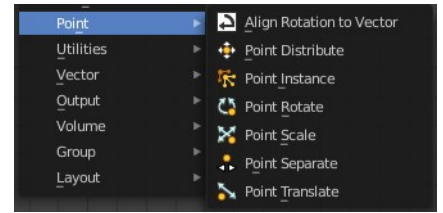
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## Add menu - Point

Point related nodes.



## Align Rotation to Vector

The Align Rotation to Vector node rotates points into a given direction. It uses the Rotation attribute for that.

### Inputs

#### Geometry

Standard geometry input.

#### Factor

Determines how much the points are rotated towards the vector. Zero effectively disables the node and one means that the points are aligned with the vector perfectly.

#### Vector

The direction vector that points should be rotated to. The vector is in the local space of the object that is being modified. When it is all zeros for a point, it is not rotated at all.



### Properties

#### Axis

Local axis of the object that is to be rotated towards the vector input.

#### Factor

Type of the Factor input socket.

#### Vector

Type of the Vector input socket.

### Outputs

#### Geometry

Standard geometry output.

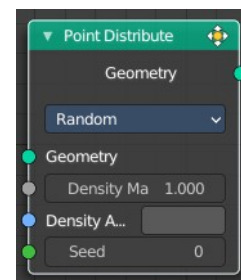
## Point Distribute

The Point Distribute node distributes points on the surface of the input geometry object.

### Inputs

#### **Geometry**

Standard geometry input. Note that only meshes are supported.



#### **Distance Min**

The minimal distance points can have to each other. Note that this option is only available on distribution methods that supports it.

#### **Density Max**

The point density for the point distribution. In other words, how many points there will be within one square meter. Note that this will be capped on distributions with the Distance Min option. If the density is greater than what the minimal distance allows, no new points will be added after this threshold has been passed.

#### **Density Attribute**

Which attribute to use for influencing the point density. The input values are mapped between zero and the Density.

#### **Seed**

Random seed input.

### Properties

This properties most probably just shows under some circumstances, which we haven't managed to reproduce yet. The Blender manual does not give any hint here.

#### **Distribution Method**

##### **Random**

Distribute points randomly on the surface.

##### **Poisson Disk**

Project points on the surface evenly with a Poisson disk distribution.

##### **Seed**

The random seed to use when generating points.

### Output

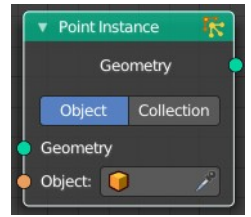
#### **Geometry**

Generated points.

## Point Instance

The Point Instance node instances an element to each of the points present in the input geometry. It works for both point cloud and mesh vertices.

Note that this node only works if the modifier belongs to a point cloud object.



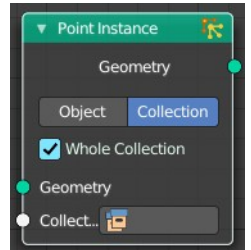
### Inputs

#### Geometry

Standard geometry input.

#### Object / Collection

The object or collection to instantiate.



### Properties

#### Instance Type

Instance an object or a collection. The input type changes dependant of the choice here.

### Outputs

#### Geometry

Standard geometry output.

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## Point Rotate

Rotates points.

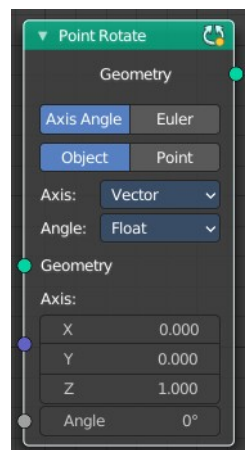
### Inputs

#### Geometry

Use the rotation of an existing geometry.

#### Rotation

The input rotation. Baset at a vector, or based at an attribute.



### Properties

#### Rotate Type

#### Axis Angle

Rotate around an axis by an angle.

## Euler

Rotate around the x, y and z axis.

## Rotate Space

### Object

Rotate points in the local space of the object.

### Point

Rotate every point in its local space.

## Input Type Rotation

If the rotation is based at an attribute or at an vector.

## Outputs

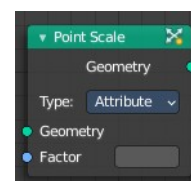
### Geometry

Standard geometry output.

---

## Point Scale

Changes the scale attribute of every point in the geometry by the specified amount. Either from the attribute input or a vector input. Note that the Attribute Vector Math Node comes also with the Multiply operation and the scale attribute functionality.



The scale attribute is used by the Point Instance Node to determine the size of every instanced object or collection.

## Inputs

### Geometry

Standard geometry input.

### Translation

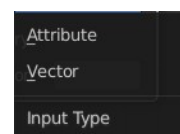
The attribute or vector input.

## Properties

### Type

#### Attribute

Use the values from the attribute to move each point by a different amount.



#### Vector

Use a single vector to translate every single point. Equivalent to the Transform Node.

## Output

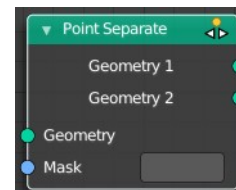
### **Geometry**

Standard geometry output.

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## Point Separate

Produces two output geometries. The point cloud component of the input geometry is split between the two outputs, based on the threshold and the input attribute



Tip! To get a more precise result you can combine the node with the Attribute Compare node.

## Inputs

### **Mask**

The name of the attribute used to calculate which geometry output each point will belong to. Any value of “true” will move to the second output, and any value of “false” will move the point to the first output.

If the attribute has any data type besides boolean, the value will be implicitly converted, so a value of exactly zero is false, and any other value is true.

## Outputs

### **Geometry 1**

Points with a mask attribute value of “true” will be moved to the first input.

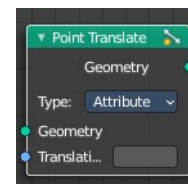
### **Geometry 2**

Points with a mask attribute value of “false” will be moved to the first input.

---

## Point Translate

Moves every point of the geometry by the specified amount. Either from the attribute input or a vector input. Note that the Attribute Vector Math Node comes also with the Addition operation and the position attribute.



## Inputs

### **Geometry**

Standard geometry input.

### **Translation**

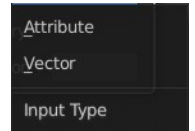
The attribute or vector input.

## Properties

### *Type*

#### **Attribute**

Use the values from the attribute to move each point by a different amount.



#### **Vector**

Use a single vector to translate every single point. Equivalent to the Transform Node.

### **Output**

#### ***Geometry***

Standard geometry output.