

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

### Table of content

Detailed table of content.....	1
Add menu - Point.....	4
Distribute Points In Grid.....	4
Distribute Points In Volume.....	5
Distribute Points on Faces.....	6
Points.....	8
Points to Cuves.....	8
Points to SDF Grid.....	9
Points to Vertices.....	9
Points to Volume.....	10
Set Point Radius.....	10

## Detailed table of content

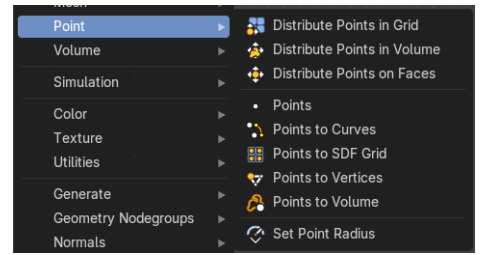
### Detailed table of content

Detailed table of content.....	1
Add menu - Point.....	4
Distribute Points In Grid.....	4
Inputs Random mode.....	4
Grid.....	4
Density.....	4
Seed.....	4
Inputs Grid mode.....	4
Grid.....	4
Spacing.....	4
Threshold.....	4
Properties.....	5
Distribution method.....	5
Random.....	5
Grid.....	5
Output.....	5
Points.....	5
Distribute Points In Volume.....	5
Inputs Random mode.....	5
Volume.....	5
Density.....	5
Seed.....	5
Inputs Grid mode.....	5
Volume.....	5
Spacing.....	6
Threshold.....	6
Properties.....	6
Distribution method.....	6
Random.....	6

Grid.....	6
Output.....	6
Points.....	6
Distribute Points on Faces.....	6
Inputs Random mode.....	6
Mesh.....	6
Selection.....	6
Density.....	7
Seed.....	7
Inputs Poisson Disk mode.....	7
Mesh.....	7
Selection.....	7
Distance Min.....	7
Distance <i>Max</i> .....	7
Density Factor.....	7
Seed.....	7
Properties.....	7
Distribution method.....	7
Random.....	7
Poisson Disk.....	7
Output.....	7
Points.....	7
Normal.....	7
Rotation.....	8
Points.....	8
Inputs.....	8
Count.....	8
Outputs.....	8
Mesh.....	8
Points to Cuves.....	8
Inputs.....	8
Points.....	8
Curve Group ID.....	8
Selection.....	8
Outputs.....	9
Mesh.....	9
Points to SDF Grid.....	9
Inputs.....	9
Points.....	9
Radius.....	9
Voxel size.....	9
Outputs.....	9
SDF Grid.....	9
Points to Vertices.....	9
Inputs.....	9
Points.....	9
Selection.....	9
Outputs.....	9
Mesh.....	9
Points to Volume.....	10
Inputs.....	10
Points.....	10

Density.....	10
Resolution Mode.....	10
Voxel Amount.....	10
Radius.....	10
Outputs.....	10
Volume.....	10
Set Point Radius.....	10
Inputs.....	10
Points.....	10
Selection.....	10
Radius.....	11
Outputs.....	11
Points.....	11

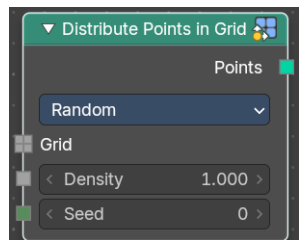
## Add menu - Point



### Distribute Points In Grid

Distributes points randomly in a grid.

Point, corner and polygon attributes of the input geometry are transferred to the generated points. That includes vertex weights and UV maps. Additionally, the node has Normal and Rotation outputs.

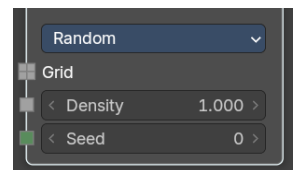


The node also generates a stable ID, which is then stored in the built-in id attribute. It is used as a stable identifier for each point. When the geometry is deformed or the density changes the values will be consistent for each remaining point. This attribute is used in the Random Value and Instance on Points nodes.

#### Inputs Random mode

##### **Grid**

The grid to import the points to.



##### **Density**

Density of the points.

##### **Seed**

The random seed for the point distribution.

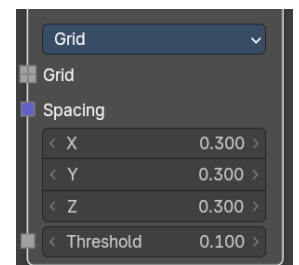
#### Inputs Grid mode

##### **Grid**

The grid to import the points to.

##### **Spacing**

The spacing between the grid points.



##### **Threshold**

Minimum density of a volume cell to contain a grid point.

## Properties

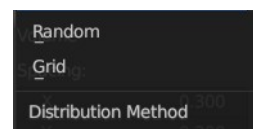
### *Distribution method*

#### Random

Distributes the points randomly. This allows overlappings.

#### Grid

Distributes the points along a grid with given width.



## Output

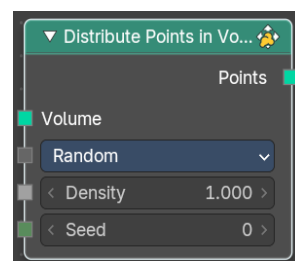
### Points

Points output.

## Distribute Points In Volume

Distributes points randomly in a volume.

Point, corner and polygon attributes of the input geometry are transferred to the generated points. That includes vertex weights and UV maps. Additionally, the node has Normal and Rotation outputs.



The node also generates a stable ID, which is then stored in the built-in id attribute. It is used as a stable identifier for each point. When the geometry is deformed or the density changes the values will be consistent for each remaining point. This attribute is used in the Random Value and Instance on Points nodes.

### Inputs Random mode

#### *Volume*

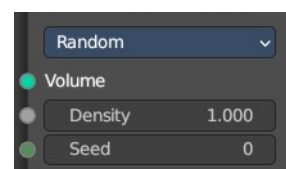
The volume to import the points to.

#### *Density*

Density of the points.

#### *Seed*

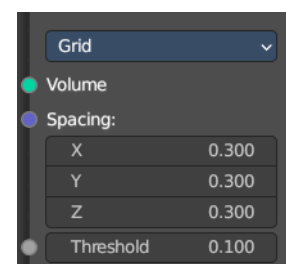
The random seed for the point distribution.



### Inputs Grid mode

#### *Volume*

The volume to import the points to.



## Spacing

The spacing between the grid points.

## Threshold

Minimum density of a volume cell to contain a grid point.

## Properties

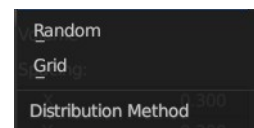
### Distribution method

#### Random

Distributes the points randomly. This allows overlappings.

#### Grid

Distributes the points along a grid with given width.



## Output

### Points

Points output.

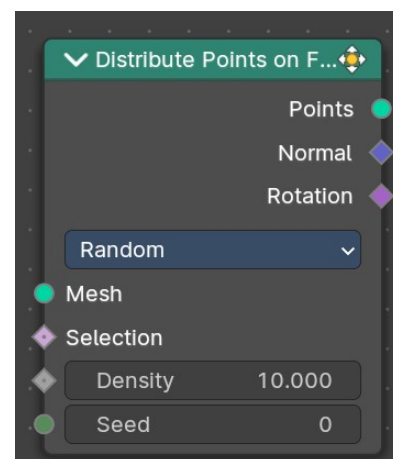
## Distribute Points on Faces

Distributes points randomly on the faces of a mesh geometry.

Point, corner and polygon attributes of the input geometry are transferred to the generated points. That includes vertex weights and UV maps.

Additionally, the node has Normal and Rotation outputs.

The node also generates a stable ID, which is then stored in the built-in id attribute. It is used as a stable identifier for each point. When the mesh is deformed or the density changes the values will be consistent for each remaining point. This attribute is used in the Random Value and Instance on Points nodes.



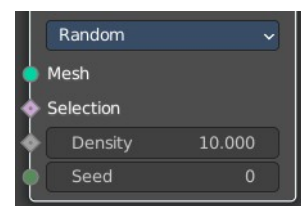
### Inputs Random mode

#### Mesh

Standard geometry input.

#### Selection

The selection of which face corners should be considered for point distribution.



## ***Density***

Density of the points.

## ***Seed***

The random seed for the point distribution.

## **Inputs Poisson Disk mode**

### ***Mesh***

Standard geometry input.

### ***Selection***

The selection of which face corners should be considered for point distribution.

### ***Distance Min***

The minimum distance that two points can have.

### ***Distance Max***

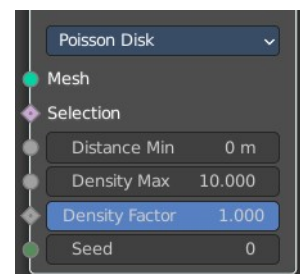
The maximum distance that two points can have.

### ***Density Factor***

Density of the points.

### ***Seed***

The random seed for the point distribution.



## **Properties**

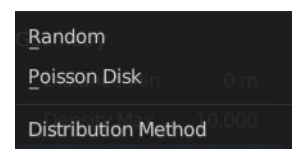
### ***Distribution method***

#### **Random**

Distributes the points randomly. This allows overlappings.

#### **Poisson Disk**

Distributes the points randomly, but prevents overlappings by defining a minimum and maximum distance.



## **Output**

### **Points**

Points output.

### **Normal**

Normal output.

## Rotation

Euler Rotation output. Please note that the Z axis of the result rotation will be arbitrary. The mesh normal used to create the rotation does not have enough information to set all three rotation axes.

---

## Points

Generates a single point or points with position, count and radius.

### Inputs

#### **Count**

The count of the generated points as an integer.

#### **Position**

The position of the points as a vector. This is a field meaning you can set the position per index or ID of the point.

#### **Radius**

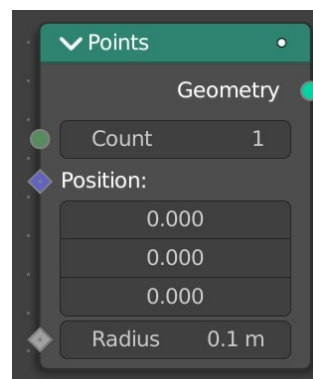
The radius of the points as a float. This is a field meaning you can set the scale per index or ID of the point.

### Outputs

#### **Mesh**

Standard mesh output.

---



## Points to Cuves

Generates a mesh vertex in the output geometry for each point cloud point in the input geometry.

### Inputs

#### **Points**

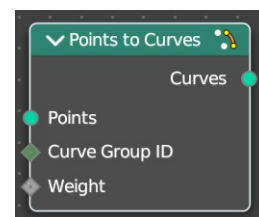
Points input.

#### **Curve Group ID**

A curve is created from every distinct group ID. All points with the same ID are put into the same curve.

#### **Selection**

Selection input.



## Outputs

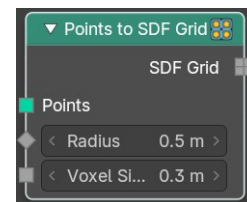
### *Mesh*

Standard mesh output.

---

## Points to SDF Grid

Generates a mesh vertex in the output geometry for each point cloud point in the input geometry.



## Inputs

### *Points*

Points input.

### *Radius*

The radius of the grid.

### *Voxel size*

The voxel size of the grid.

## Outputs

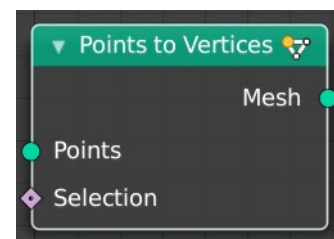
### *SDF Grid*

Standard mesh output.

---

## Points to Vertices

Generates a mesh vertex in the output geometry for each point cloud point in the input geometry.



## Inputs

### *Points*

Points input.

### *Selection*

Selection input.

## Outputs

### *Mesh*

Standard mesh output.

## Points to Volume

Creates a fog volume sphere around every point in the input geometry. The new volume grid is then called density.

### Inputs

#### *Points*

Points input.

#### *Density*

The density of the volume.

#### *Resolution Mode*

Base the voxel resolution at the amount or the size of the point cloud.

#### *Voxel Amount*

Voxel amount of the volume.

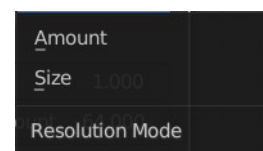
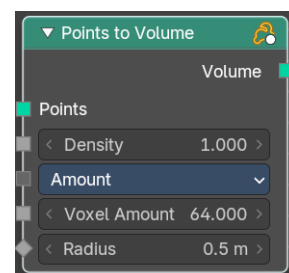
#### *Radius*

The radius of the generated volume around each point.

### Outputs

#### *Volume*

Standard geometry output.



## Set Point Radius

The Set Point Radius node controls the size each selected point cloud point should display with in the viewport.

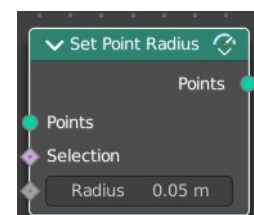
### Inputs

#### *Points*

Geometry input.

#### *Selection*

Selection input.



### ***Radius***

The radius of the points.

### **Outputs**

#### ***Points***

Standard geometry output.