



## 12.1.11 Editors - Geometry Nodes Editor - Header - Add Menu - Geometry - Sample

### Table of content

Detailed table of content.....	1
Add menu - Geometry - Sample.....	2
Geometry Proximity.....	2
Index of Nearest.....	3
Raycast.....	4
Sample Index.....	5
Sample Nearest.....	6

### Detailed table of content

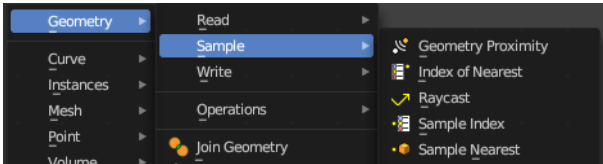
### Detailed table of content

Detailed table of content.....	1
Add menu - Geometry - Sample.....	2
Geometry Proximity.....	2
Inputs.....	2
Geometry.....	2
Group ID.....	2
Sample Position.....	3
Sample Group ID.....	3
Properties.....	3
Target Geometry.....	3
Outputs.....	3
Position.....	3
Distance.....	3
Is Valid.....	3
Index of Nearest.....	3
Inputs.....	3
Position.....	3
Group ID.....	3
Outputs.....	3
Index.....	3
Has Neighbor.....	3
Raycast.....	4
Inputs.....	4
Target Geometry.....	4
Attribute.....	4
Source Position.....	4
Ray Direction.....	4
Ray Length.....	4
Properties.....	4
Data Type.....	4
Mapping.....	4
Output.....	5
Is Hit.....	5

- Hit Position.....5
- Hit Normal.....5
- Hit Distance.....5
- Attribute.....5
- Sample Index.....5
  - Inputs.....5
    - Geometry.....5
    - Value.....5
    - Index.....5
  - Properties.....5
    - Data Type.....5
    - Domain.....6
    - Clamp.....6
  - Output.....6
    - Value.....6
- Sample Nearest.....6
  - Inputs.....6
    - Geometry.....6
    - Sample Position.....6
  - Properties.....6
    - Domain.....6
  - Output.....6
    - Index.....6

Add menu - Geometry - Sample

Here you find nodes to modify the geometry.



Geometry Proximity

This node finds the closest position on the target for each point in the input geometry.

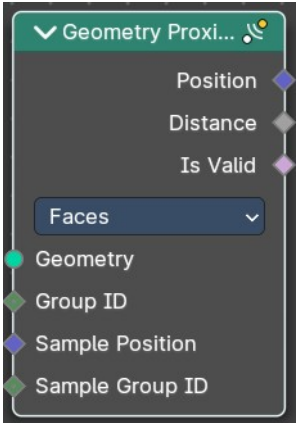
Inputs

Geometry

The target object.

Group ID

Is evaluated on the face domain, and splits the input mesh into multiple parts, each with its own id.



## Sample Position

The position where the computed location is stored.

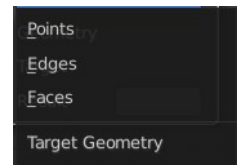
## Sample Group ID

Determines in which group the closest nearest surface is detected.

## Properties

### Target Geometry

The element of the target geometry to calculate the distance from.



## Outputs

### Position

Closest location on the surface of the target mesh, or the closest point in the target point cloud in Points mode.

### Distance

Distance from the source position to the closest location in the target.

### Is Valid

Whether the sampling was successful. It is false when the sampled group is empty.

## Index of Nearest

Retrieve values from specific geometry elements.

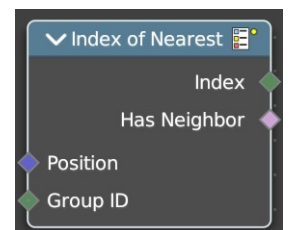
## Inputs

### Position

The position of the nearest element.

### Group ID

The group ID of the nearest element.



## Outputs

### Index

The Index of the nearest element.

### Has Neighbor

Has this element a neighbor.

## Raycast

This node sends a raycast and retrieves data from the hit target.

### Inputs

#### **Target Geometry**

This is actually the source object that sends the ray.

#### **Attribute**

Attribute input.

#### **Source Position**

Source position input.

#### **Ray Direction**

A vector 3 for the ray direction.

#### **Ray Length**

The length of the ray.

### Properties

#### **Data Type**

What data to calculate on hit.

#### **Mapping**

Mapping from the target geometry to hit points. Interpolated or nearest.

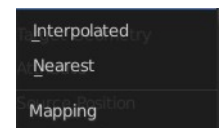
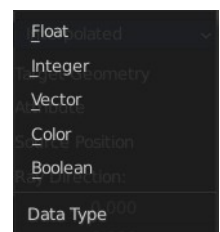
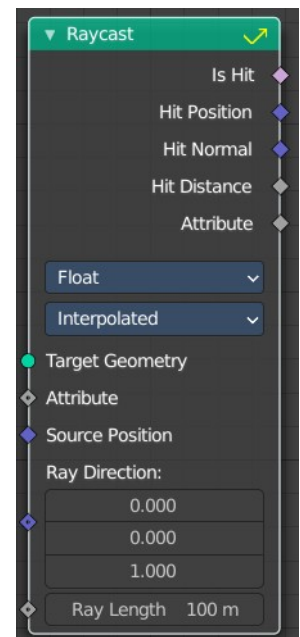
### Output

#### **Is Hit**

Has the raycast hit something?

#### **Hit Position**

The hit position if any.



## ***Hit Normal***

The normal of the hit point.

## ***Hit Distance***

The distance of the hit point.

## ***Attribute***

The attribute of the hit object.

# **Sample Index**

Retrieve values from specific geometry elements.

## **Inputs**

### ***Geometry***

The source object to take the data from.

### ***Value***

The value to retrieve.

### ***Index***

The index position of the value.

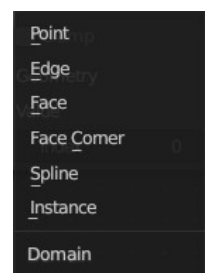
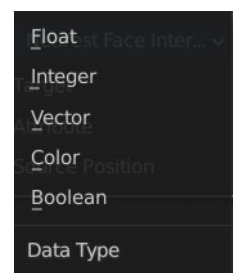
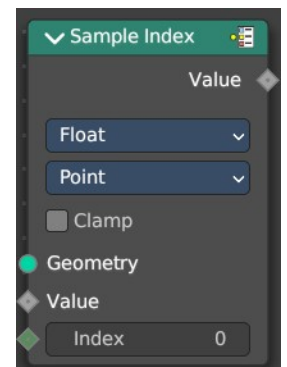
## **Properties**

### ***Data Type***

The type for the source and result data.

### ***Domain***

What kind of data to process.



## ***Clamp***

Clamp the indices to the size of the attribute domain.

## **Output**

### ***Value***

The output value.

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## **Sample Nearest**

Retreives the element of a geometry closest to a position.

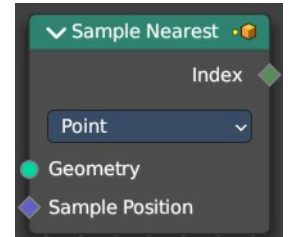
## **Inputs**

### ***Geometry***

The source object to take the data from.

### ***Sample Position***

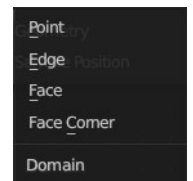
The position of the source object.



## **Properties**

### ***Domain***

What data to process.



## **Output**

### ***Index***

The index output.