

12.1.25 Editors - Geometry Nodes Editor - Header - Add Menu - Mesh

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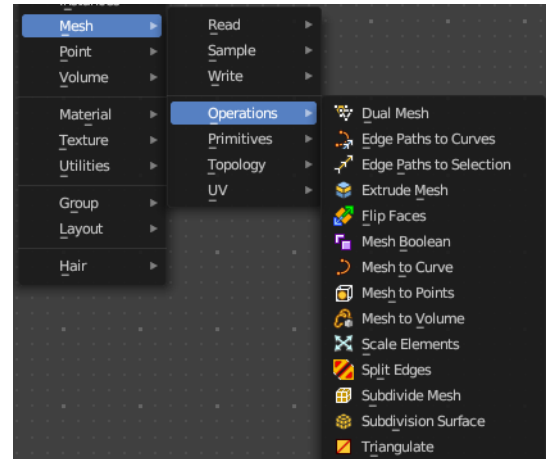
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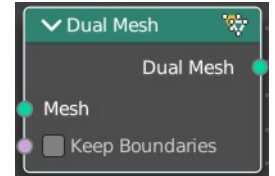
Add menu - Mesh - Operations

Nodes to modify the mesh geometry.



Dual Mesh

The Dual Mesh node calculates the dual of the input mesh. This means that faces get replaced with vertices and vertices with faces.



Inputs

Mesh

The input mesh.

Keep Boundaries

Keep the (non-manifold) boundaries of the mesh intact.

Outputs

Dual Mesh

The output mesh.

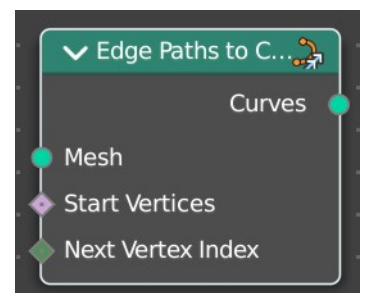
Edge Paths to Curves

Converts Edge Paths to Curves.

Inputs

Mesh

The input mesh.



Start Vertices

The start vertices of the edge path.

Next Vertex Index

The edge path by index.

Outputs

Curves

The output curve.

Edge Path to Selection

Calculates an edge path, and converts it to a selection

Inputs

Start Vertices

The start vertices of the edge path.

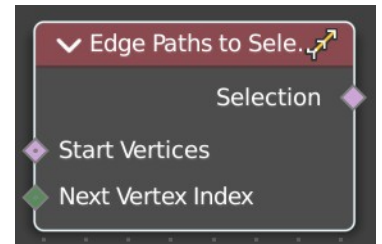
Next Vertex Index

The edge path by index.

Outputs

Selection

The selection



Extrude Mesh

Extrudes out geometry at the selection by a given amount.

Inputs

Mesh

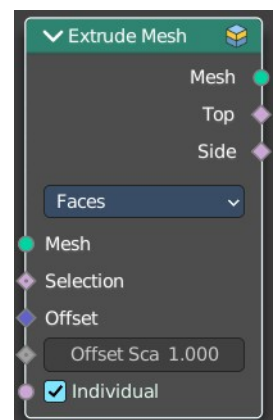
The input mesh.

Selection

A selection of the mesh.

Offset

The offset amount.



Offset Scale

The offset scale. Without an offset this is equal the amount.

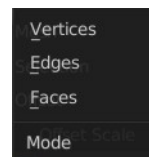
Individual

Just Faces mode. Extrude out individual faces.

Properties

Mode

What kind of elements to extrude out. Vertices, Edges or Faces.



Outputs

Mesh

The output mesh.

Top

The top elements of the extrusion.

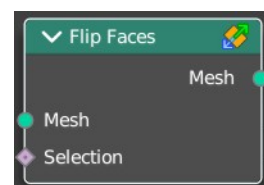
Side

The side elements of the extrusion.

Flip Faces

Flips the winding order of the selected faces.

Blender developers decided not to call it Flip Normals. Since "normals are derived data, changing them is only a side effect." However, what the node does is in fact to flip the normals.



Inputs

Mesh

The input mesh.

Selection

A selection of the input mesh.

Outputs

Dual Mesh

The output mesh.

Mesh Boolean

The Boolean Node allows you to cut, subtract, and join the geometry of two inputs. This node offers the same operations as the Boolean modifier.

Inputs

Geometry 1, 2

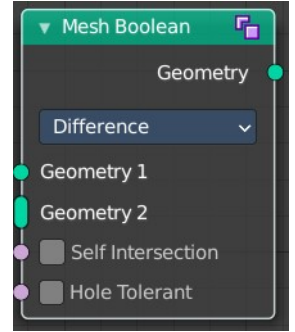
Standard geometry input.

Self Intersect

Allow self intersection.

Hole Tolerant

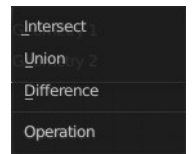
Allow holes.



Properties

Operation

The boolean operation.



Intersect

Produce a new geometry containing only the volume inside of both geometry 1 and geometry 2.

Union

The two input pieces of geometry are joined, then any interior elements are removed.

Difference

Geometry 2 is subtracted from geometry 1 (everything outside of geometry 2 is kept).

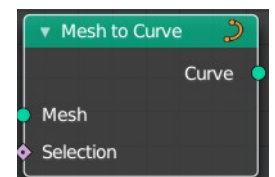
Output

Geometry

Standard geometry output.

Mesh to Curve

Converts a mesh geometry to a curve geometry.



Inputs

Mesh

Input mesh.

Selection

A selection of the input mesh.

Outputs

Curve

Standard curve output.

Mesh to Points

Converts a mesh geometry to a point geometry.

Inputs

Mesh

Input mesh.

Selection

A selection of the input mesh.

Position

The position of the points.

Radius

The radius of the points

Properties

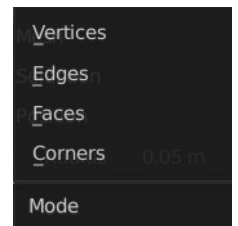
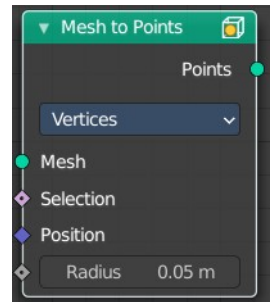
Mode

What geometry to convert to points.

Outputs

Curve

Standard curve output.



Mesh to Volume

Converts a mesh geometry to a Volume.

Inputs

Mesh

Input mesh.

Density

The density of the volume

Voxel Amount / Voxel Size

The voxel amount / the voxel size

Exterior Bandwidth

How much exterior bandwidth is calculated outside of the mesh. The larger the value the more unnecessary ray calculations happens.

Interior Bandwidth

Where to start the calculation inside of the volume.

Properties

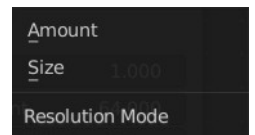
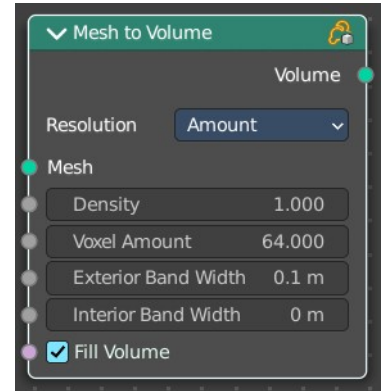
Resolution

How to calculate the volume. Based of the size or based at the amount.

Outputs

Volume

The volume output.



Scale Elements

Allows to scale the selected elements.

Inputs

Geometry

Standard geometry input.

Selection

A selection of the geometry.

Scale

The scale factor

Center

The center of the scaling.

Axis

Scale Mode Single axis only. Scale the selection separately along its single axis.

Properties

Domain

What kind of elements to scale.

Scale Mode

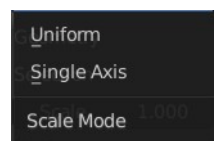
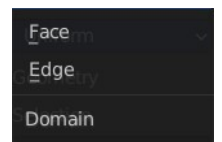
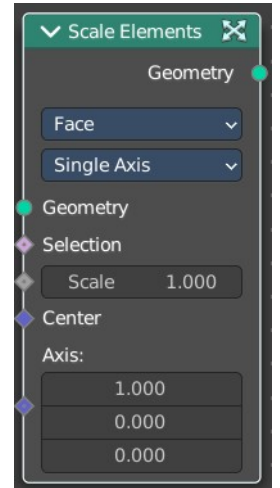
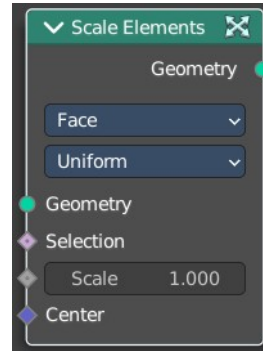
Uniform scales uniformly in all three world coordinates.

Single Axis scales separately in the single axis.

Outputs

Geometry

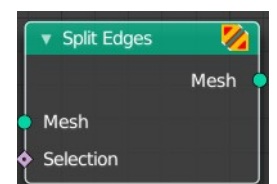
The output geometry.



Split Edges

Splits the edges of the geometry.

Note that splitting edges breaks the mesh topology.



Inputs

Mesh

Input mesh.

Selection

A selection of the input mesh.

Outputs

Mesh

Standard Mesh output.

Subdivide Mesh

Subdivides the geometry by a simple division.

Inputs

Geometry

Standard geometry input.

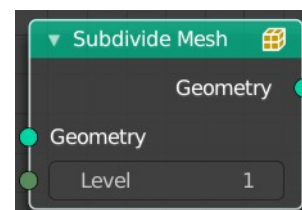
Level

To which degree the geometry will be deformed.

Outputs

Geometry

Standard geometry output.



Subdivision Surface

The Subdivision Surface node subdivides the geometry using Catmull-Clark deformation.

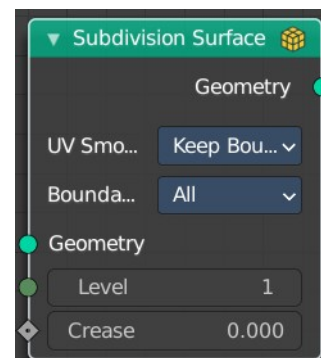
Inputs

Geometry

Standard geometry input.

Level

To which degree the geometry will be deformed.



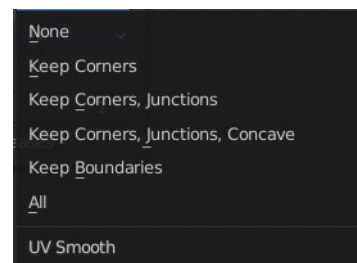
Creases

Control how smooth edges should be with Weighted Edge Creases.

Properties

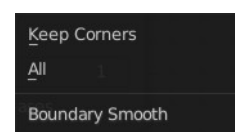
UV Smooth

The method to deal with smoothing the UV.



Boundary Smooth

Controls if open boundaries and corners are smooth.



Outputs

Geometry

Standard geometry output.

Triangulate

The Triangulate node triangulates all faces in a mesh.

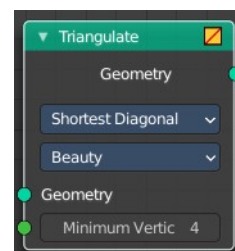
Inputs

Geometry

Standard geometry input.

Minimum Vertices

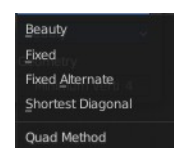
Minimum number of vertices a face must have to be triangulated. For example, setting this value to 5, will prevent triangulation of Quads and only triangulate N-gons.



Properties

Quad Method

A quad is a polygon with four edges.



Beauty

Split the quads in nice triangles, slower method.

Fixed

Split the quads on their 1st and 3rd vertices.

Fixed Alternate

Split the quads on their 2nd and 4th vertices.

Shortest Diagonal

Split the quads based on the diagonal distance between their vertices.

Polygon Method

Meant are N-Gons. Faces with more than four edges. Tris, Quads and N-Gons are all Polygons.



Beauty

Arrange the new triangles nicely, slower method.

Clip

Split the polygons using an ear-clipping algorithm (gives similar results to the tessellation used for the viewport rendering).

Outputs

Geometry

Standard geometry output.