12.1.18 Editors - Geometry Nodes Editor - Header - Add Menu - Curve - Operations

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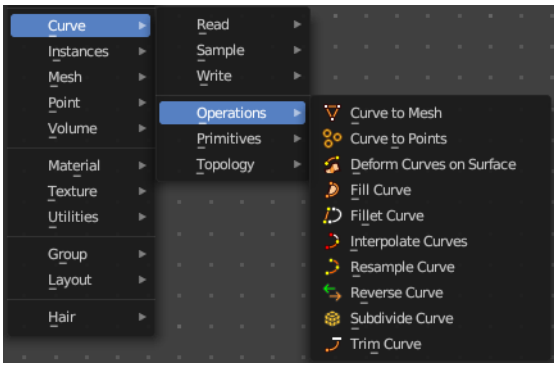
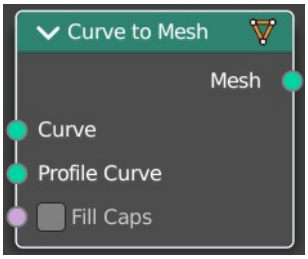
Add - Curve

Here you find curve related nodes.



Cuve to Mesh



Converts a curve object to a mesh object. Optionally, a profile curve can be provided to give the curve a custom shape.

Inputs

Curve

The input curve.

Profile Curve

If a profile curve is provided, it will be extruded along all splines. Otherwise the generated mesh will just be a chain of edges.

Fill Caps

For cyclic profile curve. Fill the ends of the generated mesh for each spline combination with an N-gon.

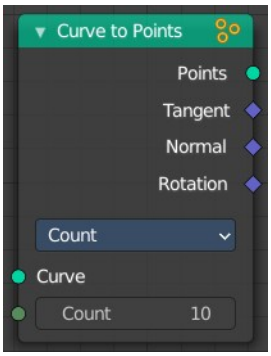
The resulting mesh is Manifold, the two new faces for each spline are simply connected to existing edges.

Outputs

Mesh

Standard mesh output.

Cuve to Points



Converts a curve object to a Point cloud.

Inputs

Curve

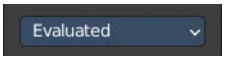
The input curve.

Properties

Mode

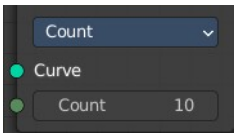
How to generate points from the input curve.

Evaluated



Create points from the evaluation points of the curve. This is based on the resolution attribute for nurbs and bezier splines.

Count

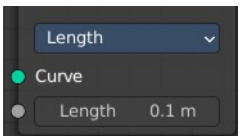


Sample each spline by evenly distributing the specified number of points along the spline.

Count Input

The number of points to distribute along the spline.

Length



Sample each spline by splitting the spline into segments by the specified length.

Length Input

The length of the single segments.

Outputs

Point

Generated point cloud.

Tangent

The normalized curve tangent at the sampled position, or the direct evaluated normal in Evaluated mode.

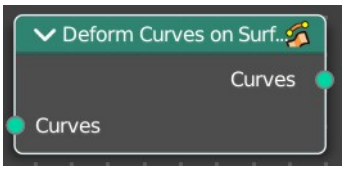
Normal

The normal value from the evaluated curve at each result point. This is the same value from the Normal Node at those positions.

Rotation

The Euler rotation build from the Tangent and Normal outputs.

Deform Curves on Surface



Curves that are attached to a surface can follow the surface at modification.

Inputs

Curves

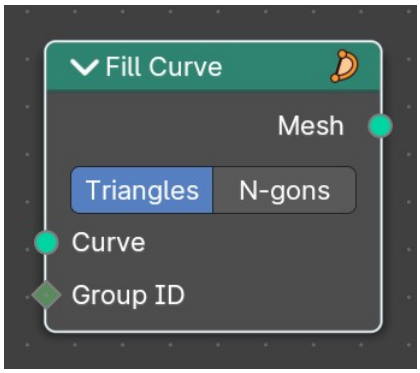
The input curve.

Outputs

Curves

The output curve.

Fill Curve



Fills the curve with mesh geometry. The mesh is only generated flat with a local Z of 0.

Inputs

Curve

The input curve.

Group Input

An index used to rgoup curves together. Filling is done separately for each group.

Properties

Mode

Triangles or N-gons

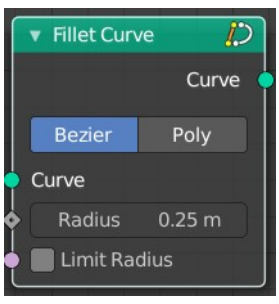
Fill the curve with either triangles, or use N-Gon geometry.

Outputs

Mesh

The output as mesh.

Fillet Curve



The Fillet Curve rounds corners on curve control points, similar to the effect of the Bevel Modifier on a 2D mesh.

A key difference is that the rounded portions created by the Fillet Curve node are always portions of a circle.

Input

Curve

The input curve.

Count

Polymode. Define the number of vertices that are created.

Radius

The radius of the arc

Limit Radius

Prevent overlapping when the defined radius exceeds the maximum possible radius for a given point.

Properties

Mode

Bezier

Creates a circular arc at vertices by changing handle lengths (applicable only for Bezier splines).

Poly

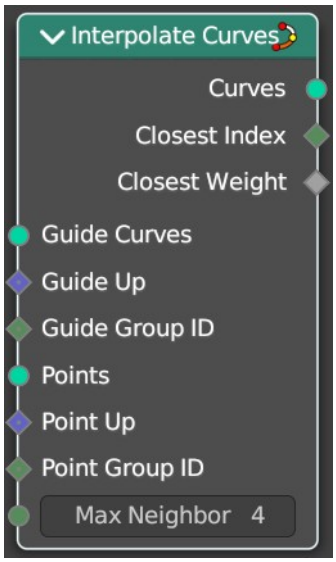
Creates a circular arc by creating vertices (as many as defined by the Count fields input) along the arc (applicable for all spline types).

Outputs

Curve

Standard geometry input with a curve component.

Interpolate Curves



Generates new curve parts by interpolating between existing curves.

Input

Guide Curves

The base curves to interpolate from.

Guide Up

An optional up vector that is typically a surface normal. Providing this up vector can improve the quality of the interpolation.

This up direction can be retrieved with a combination of the Sample UV Surface Node using the same geometry that the points were distributed on, and the Normal Node.

Guide Group ID

Splits guides into separate groups. New curves interpolate existing curves from a single group.

Points

The positions of the first root control points of the newly generated interpolated curves.

Points Up

Optional up vector that is typically a surface normal.

Point Group ID

The curve group to interpolate in.

Max Neighbor

Maximum amount of close guide curves that are taken into account for interpolation.

Outputs

Curves

The new curve.

Closest Index

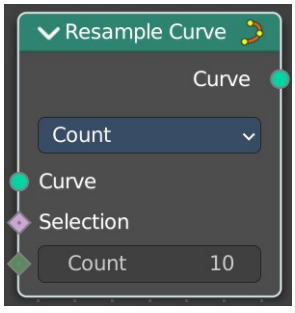
Index of the closest guide curve for each generated curve.

Note that internally this node mixes the data from multiple guide curves, with the maximum number of sources depending on the Max Neighbor input. This output is only the index of the curve with the largest weight.

Closest Weight

Weight of the closest guide curve for each generated curve.

Resample curve



Creates a poly spline for each input spline. In the Count and Length modes, the control points of the new poly splines will have uniform spacing.

Input

Curve

The input geometry.

Selection

A selection of the input geometry

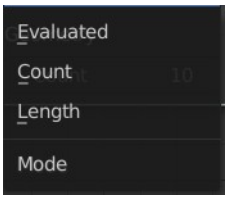
Count

The number of control points on the new splines.

Length

The approximate length between the control points of the new splines.

Properties



Mode

The resample mode.

Evaluated

Use the resolution attribute for spline and bezier curves.

Count

Use the count of the curve points.

Length

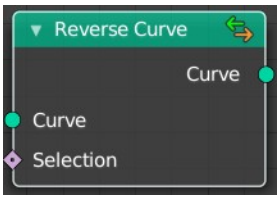
Use the length of the curve.

Output

Curve

Standard geometry output.

Reverse Curve



Reverses the direction of the spline. The start point becomes the end point and vice versa. The shape of the spline is not modified.

Inputs

Curve

The input curve.

Selection

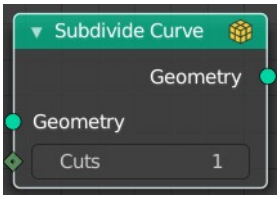
An optional selection attribute to determine which part of the spline should be reversed.

Outputs

Curve

Standard geometry output.

Subdivide Curve



Subdivides the curve. The shape is not changed.

Inputs

Geometry

The input curve.

Cuts

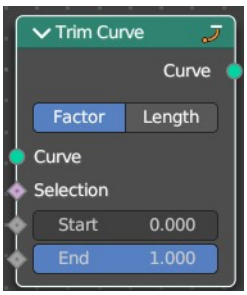
The number of cuts per segment.

Outputs

Geometry

Standard geometry output.

Trim Curve



The Curve Trim node shortens each spline in the curve by removing sections at the start and end of each spline.

Bézier splines will still output as Bézier splines. The first and last control point and its handles will be moved as necessary to preserve the shape. But NURBS splines will be transformed into poly splines in order to be trimmed.

Cyclic splines are currently not supported.

Note that if the Start input is larger than the End, then the resulting spline will have a single point, located at the sample location of the Start value.

Inputs

Curve

The input curve.

Selection

A selection of the curve.

Start

The start point of the spline, as a factor.

End

The end point of the spline, as a factor.

Properties

Mode

How to find endpoint positions for the trimmed spline.

Factor

The endpoint positions of each spline’s length is determined by a factor. The input values should be between 0 or 1.

Length

The endpoint positions of each spline is determined by a length from the start of each spline. The input values should be between 0 and the length of the splines.

Outputs

Curve

Standard geometry output.