

# Curve to Points Node

The *Curve to Points* node generates a point cloud from a curve.



## Inputs

### Curve

Standard curve input.

### Count

Number of points generated. This input is only available for *Count* mode.

### Length

Length of the curve. This input is only available for *Length* mode.

## Properties

### Mode

#### Evaluated:

Creates points from the curve's evaluated points based on the [resolution](#) attribute for NURBS and Bézier splines. This mode will generally be the fastest, since the second step of sampling equal lengths is not necessary.

#### Count:

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

#### Length:

Sample each spline by splitting it into segments with specified length. The length will be rounded down so that a whole number of samples will fit in each input spline. To counteract jumping when the length of the spline changes, the [Trim Curve Node](#) can be used with a multiple of the length.

## Outputs

### Points

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, for convenience.