

Node Library for Civil 3D Dynamo

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7.2	03/19/2023	Improvements	AHU

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General information

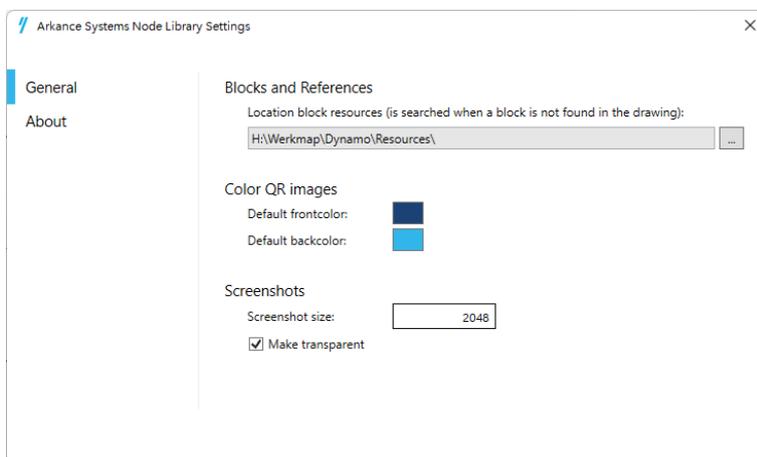
Arkance Systems Netherlands provides a node library for free use in Civil 3D Dynamo, also for commercial use. No warranties are given.

License

The library is provided under [CC-BY-ND](#) license.

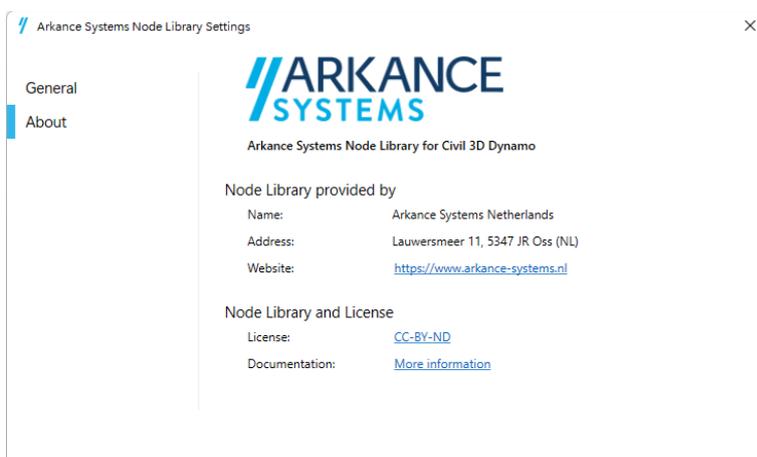
Application settings

Some of the nodes requires settings. They are saved in the Windows Registry and can be set via a dialog. That dialog is found in the menu *Packages > Arkance Systems Settings*. A dialog appears:



About

The About-tab shows information about Arkance Systems:



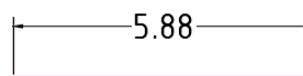
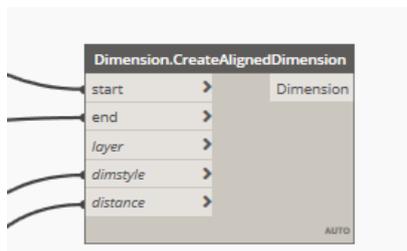
Overview of custom Zero Touch Nodes

AutoCAD > Annotation > Dimension

All dimensions can be placed on a given Layout.

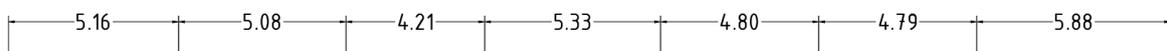
CreateAlignedDimension

Create an Aligned Dimension from startpoint to endpoint. A layer, dimstyle and a movement is optional. Positive movement is upwards, negative downwards. If no layer is provided, the DIMLAYER variable is used.



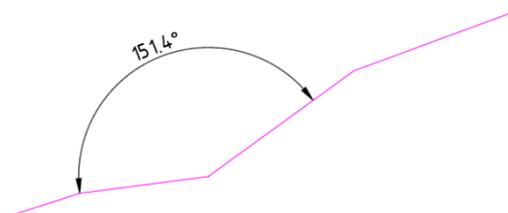
CreateAlignedDimensions

Create a series of Aligned Dimensions between the given points. A layer, dimstyle and a movement is optional.



CreateAngularDimension

Create an Angular Dimension from centerpoint to startpoint and endpoint. A layer, dimstyle and a movement is optional.



CreateArcLengthDimension

Create an arc length Dimension from startpoint to endpoint. A layer, dimstyle and a movement is optional.

CreateDiametricDimension

Create a Diametric Dimension from startpoint to endpoint. A layer, dimstyle and a movement is optional.

CreateHorizontalDimension

Create a Horizontal Dimension from startpoint to endpoint. A layer, dimstyle and a movement is optional.

CreateRadialDimension

Create a Radial Dimension from centerpoint to startpoint A layer, dimstyle and a movement is optional.

CreateVerticalDimension

Create a Vertical Dimension from startpoint to endpoint. A layer, dimstyle and a movement is optional.

SetStyle

Sets the style of the dimension.

SetTextOverride

Sets the text of the dimension.

AutoCADHandle

Returns the AutoCAD Handle.

AutoCADObject

Returns an object. Can be used with other nodes that expects an generic object.

IsAnnotative

Returns true if the dimension is annotative.

Layer

Returns the layer name.

Measurement

Returns the true value of the measured distance.

Style

Returns the style of the dimension.

TextOverride

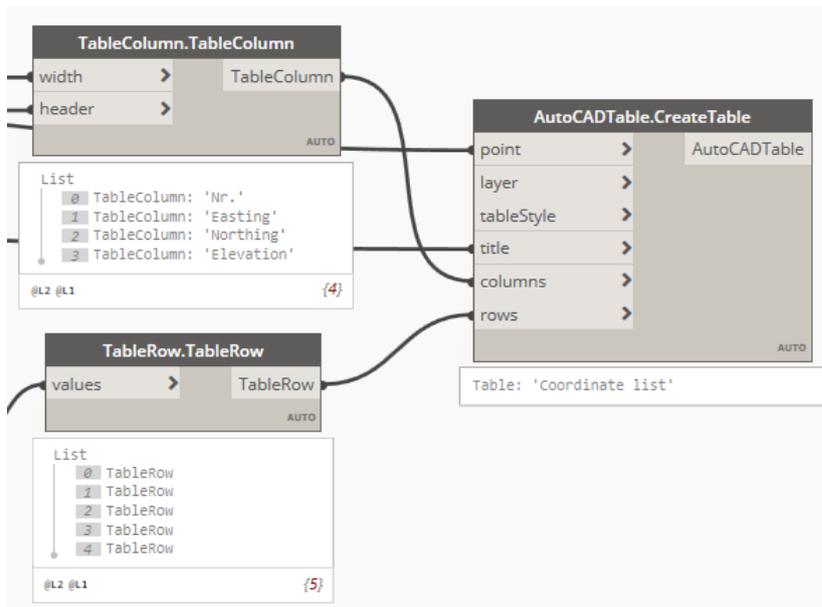
Returns the text if the dimension has overridden text.

AutoCAD > Annotation > Table > AutoCADTable

All tables can be placed on a given Layout.

CreateTable

Create an AutoCAD Table.



Coordinate list			
Nr.	Easting	Northing	Elevation
1	132009.435	407664.218	-2.58
2	132021.764	407658.719	-3.01
3	132018.540	407652.178	-2.74
4	132030.214	407661.257	-2.60
5	132011.328	407670.581	-2.54

Break

Breaks a table at the given height. Enter 0 or a negative value to unbreak the table.

DeleteMultipleColumns

Delete one or more sequenced columns.

DeleteMultipleRows

Delete one or more sequenced rows.

DeleteSingleColumns

Delete a list of columns.

DeleteSingleRows

Delete a list of rows.

GetFromObject

Returns a selected object as Table.

GetAllTables

Returns a list of all Tables in the drawing.

InsertMultipleColumns

Insert a number of columns.

InsertMultipleRows

Insert a number of rows.

MergeCells

Merge the given cells to one single cell.

SetColumnWidth

Sets the width of the given columns.

SetRowHeight

Sets the height of the given rows.

SetStyle

Set the Table style.

AutoCADHandle

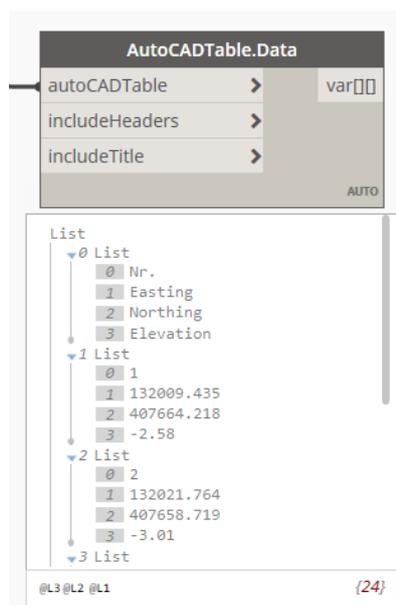
Returns the AutoCAD handle.

AutoCADObject

Returns an object. Can be used with other nodes that expects an generic object.

AllData

Returns the data of all cells from third row and below. If title and header are included, then the first two rows are included.



Cell

Returns the cell by the zero-index column and row number.

ColumnCells

Returns the cells of the given zero-index column number.

ColumnData

Returns the values of each row for the given column.

Columns

Returns the columns of the table as TableColumn object. Actually the contents of the second row.

Layer

Returns the layer of the table.

Position

Returns the insertion point of the table.

RowCells

Returns the cells of the given zero-index row number.

RowData

Returns the values of each cell in the given row.

Rows

Returns the rows of the table as TableRow object.

Style

Returns the style of the table.

Title

Returns the title of the table. Actually the contents of first row, first column.

AutoCAD > Annotation > Table > TableCell

Column

Returns the zero-index column number.

Row

Returns the zero-index row number.

Value

Returns the contents of the cell.

AutoCAD > Annotation > Table > TableColumn

TableColumn

Creates a TableColumn object that can be used to create a table.

Width

Returns the column width.

Header

Returns the column header.

AutoCAD > Annotation > Table > TableRow

TableRow

Creates a TableRow object that can be used to create a table.

Values

Returns a list of values (strings, numbers or blocks).

AutoCAD > Annotation > Text

All texts can be placed on a given Layout.

CreateText

Create a Single Line Text. Angle, Annotative State, height, textstyle, layer, horizontal and vertical mode are optional. Textstyle, height and layer are from drawing settings if not given.

CreateTexts

Create multiple Single Line Texts based on CoordinateSystems. Angle is calculated to the XAxis of the CoordinateSystem. Annotative State, height, textstyle, layer, horizontal and vertical mode are optional. Textstyle, height and layer are from drawing settings if not given.

AlignmentPoint

Returns the alignment point if alignment is set.

AttachmentPoint

Returns a string where the text is attached. Default "BaseLeft". Combination of horizontal and vertical mode.

AttachmentPoints

Returns a list of all possible attachment points.

Color

Returns the color of the text.

HasFields

Returns true if text contains fields.

Height

Returns the height of the text.

HorizontalMode

Returns the horizontal mode. Default "Left".

HorizontalModes

Returns a list of all possible horizontal modes.

IsAnnotative

Returns true if text is annotative.

IsHorizontalOrientedInLayout

Returns true if text is aligned horizontally in viewports.

Layer

Returns the layer of the text.

ObliqueAngle

Returns the obliquing angle in degrees.

Position

Returns the position of the text.

TextStyle

Returns the text style.

TextValue

Returns the visible text value.

TextWithFieldCodes

Returns the text with field codes.

VerticalMode

Returns the vertical mode of the text.

VerticalModes

Returns a list of all possible vertical modes.

WidthFactor

Returns the width factor (scale factor in X direction).

AutoCAD > Document

Annotation Scale name DropDown

Shows a DropDown Node where the user can select one of the Annotation Scales in the drawing.

**Block name DropDown**

Shows a DropDown Node where the user can select one of the blocks in the drawing:



Custom Hatch Pattern name DropDown

Shows a DropDown Node where the user can select one of the custom hatch patterns in the drawing.

Dimstyle name DropDown

Shows a DropDown Node where the user can select one of the dimstyles in the drawing.

External Reference name DropDown

Shows a DropDown Node where the user can select one of the External References in the drawing (Not nested at the moment).

Gradient Hatch Pattern name DropDown

Shows a DropDown Node where the user can select one of the gradient hatch patterns in the drawing.

Layer filtertype DropDown

Shows a DropDown Node where the user can select one of the layer filtertypes.

Layer name DropDown

Shows a DropDown Node where the user can select one of the layers in the drawing.

Layout name DropDown

Shows a DropDown Node where the user can select one of the layouts in the drawing.

Linetype name DropDown

Shows a DropDown Node where the user can select one of the linetypes in the drawing.

LineWeight name DropDown

Shows a DropDown Node where the user can select one of the LineWeights (only Metric).

Named View name DropDown

Shows a DropDown Node where the user can select one of the named views in the drawing.

Predefined Hatch Pattern name DropDown

Shows a DropDown Node where the user can select one of the predefined hatch patterns in the drawing.

Tablestyle name DropDown

Shows a DropDown Node where the user can select one of the tablestyles in the drawing.

Textstyle name DropDown

Shows a DropDown Node where the user can select one of the textstyles in the drawing.

UCS name DropDown

Shows a DropDown Node where the user can select one of the named UCSs in the drawing.

AutoCAD > Document > AnnotationScale

CreateAnnotationScale

Create a new Annotation Scale. Enter a name, the paper units and the drawing units. If the name exist then a counter is added to the name.

ApplyToObjects

Apply the Annotation Scale to one or more objects.

CleanupAnnotationScalesFromObjects

Remove all Annotation Scales from the selected objects, except the current Annotation Scale from the drawing.

GetAnnotationScaleByName

Get the Annotation Scale by the name.

GetAnnotationScales

Get a list of all Annotation Scales from the drawing.

GetCurrent

Returns the active Annotation Scale of the drawing.

RemoveFromObjects

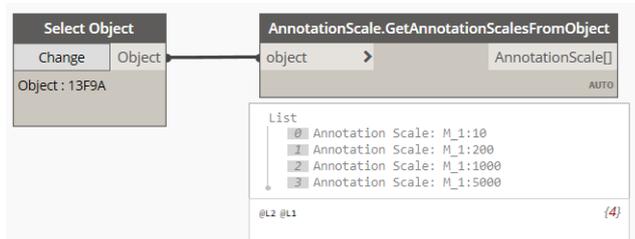
Remove the Annotation Scale from one or more objects.

SetAnnotationScalesToObject

Apply one or more Annotation Scales to the selected object.

GetAnnotationScalesFromObject

Get a list of all Annotation Scales from an object.



IsFromXref

Returns true if the Annotation Scale comes from an Xref.

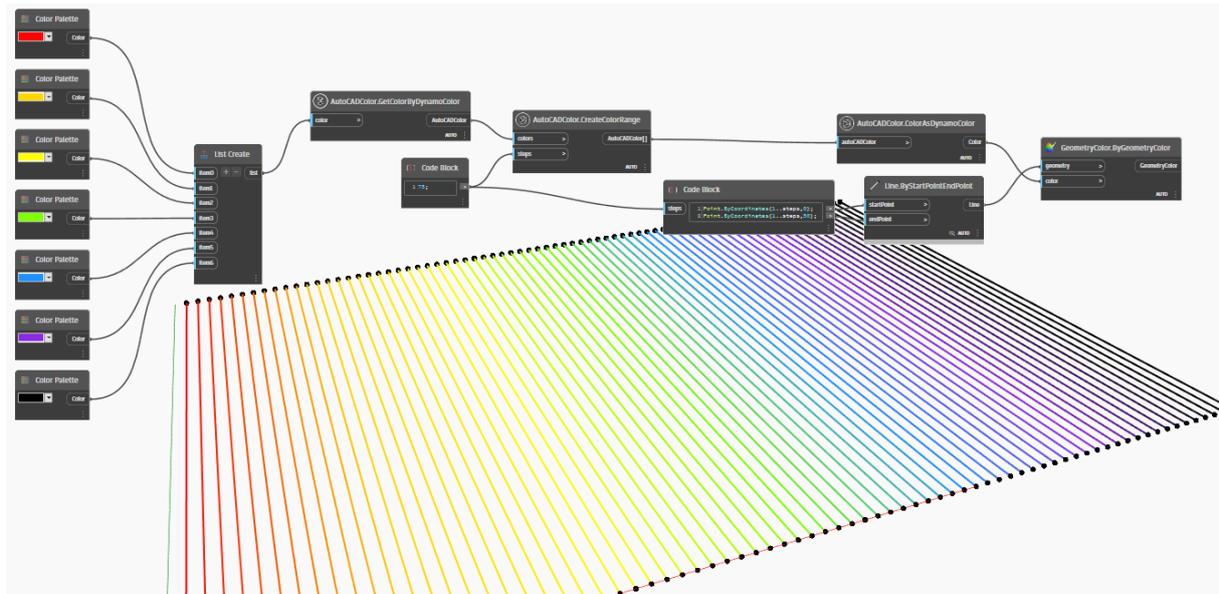
Name

Returns the name of the Annotation Scale.

AutoCAD > Document > AutoCADColor

CreateColorRange

Create a range between two or more given colors with a given step size.



ApplyToObjects

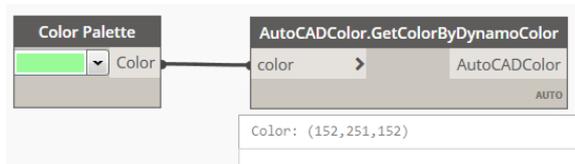
Apply the color to one or more objects.

GetColorByACI

Get the color by ACI index (0-256).

GetColorByDynamoColor

Get the color by Dynamo Color.



GetColorByHex

Get the color by a hexadecimal notation, i.e. #98A2F5.

GetColorByRGB

Get the color by red, green and blue values.

GetColorFromObject

Get the color of the selected object.

ColorAsDynamoColor

Returns the Dynamo color. Can be used to color objects in Dynamo with the same color as in AutoCAD.

ColorIndex

Returns the ACI value of the color.

IsByACI

Returns true if a color is created by ACI value.

IsByBlock

Returns true if a color is set as ByBlock.

IsByLayer

Returns true if a color is set as ByLayer.

RGB

Returns the red, green and blue values of the color.

RGBAsHex

Returns the hexadecimal notation of the color.

AutoCAD > Document > AutoCADLayer

CreateLayer

Create a layer. If name is in use, The existing layer is returned and modified. Optional parameters are description, linetype, lineweight, transparency, color, on, thawed, locked and plottable.

GetLayerByName

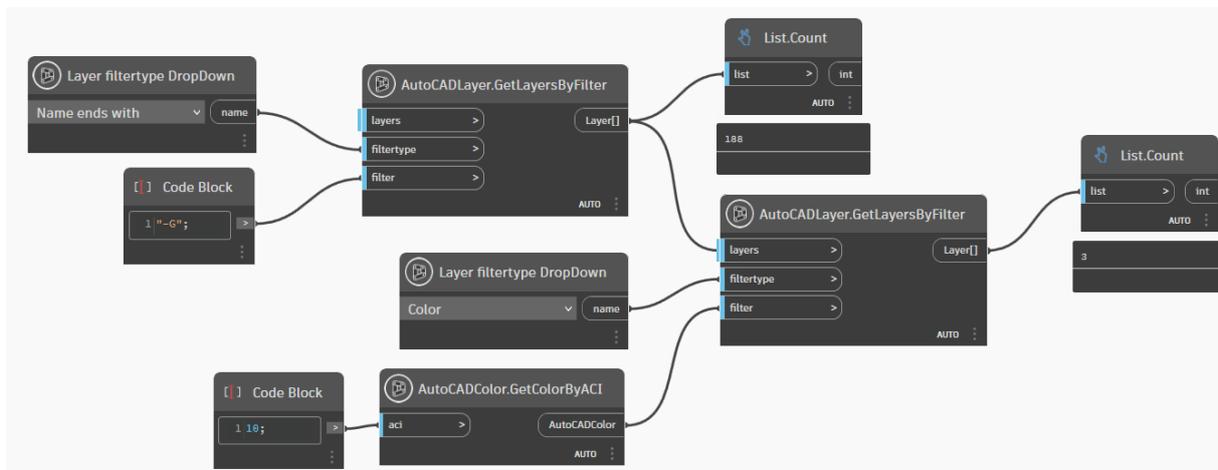
Get the layer by name.

GetLayers

Get a list of layers.

GetLayersByFilter

Filter the list of layers (recursively). Filter types can be found in a dropdown.



SetColor

Set the color to the layer.

SetColorInViewport

Set the viewport override color to the layer.

SetDescription

Set the description of the layer.

SetFrozen

Set the layer on frozen or thawed.

SetFrozenByDefault

Set the layer on default frozen or thawed for new viewports.

SetFrozenInViewport

Set the layer on frozen or thawed in the given viewport.

SetLinetype

Set the linetype of the layer.

SetLinetypeInViewport

Set the viewport override linetype of the layer.

SetLineWeight

Set the lineweight of the layer.

SetLineWeightInViewport

Set the viewport override lineweight of the layer.

SetLocked

Set the layer on locked or unlocked.

SetOff

Set the layer on or off.

SetPlottability

Set the layer plottability.

SetReconcilement

Set the reconcilement of the layer.

SetTransparency

Set the transparency of the layer in percent (0-90).

SetTransparencyInViewport

Set the viewport override transparency of the layer in percent (0-90).

Color

Returns the color of the layer.

Description

Returns the description of the layer.

FrozenByDefault

Returns true if the layer is frozen by default in new viewports.

GetViewportColor

Get the viewport override color.

GetViewportLinetype

Get the viewport override linetype.

GetViewportLineWeight

Get the viewport override lineweight.

GetViewportTransparency

Get the viewport override transparency percent (0-90).

HasOverrides

Returns true if layer has overrides in any viewport.

HasViewportOverrideColor

Returns true if layer has viewport overridden color.

HasViewportOverrideLinetype

Returns true if layer has viewport overridden linetype.

HasViewportOverrideLineWeight

Returns true if layer has viewport overridden lineweight.

HasViewportOverrides

Returns true if layer has overrides in the given viewport.

HasViewportOverrideTransparency

Returns true if layer has viewport overridden transparency.

IsFromXref

Returns true if the layer is from an external reference document.

IsFrozen

Returns true if the layer is frozen.

IsFrozenInViewport

Returns true if the layer is frozen in the given viewport.

IsLocked

Returns true if the layer is locked.

IsOff

Returns true if the layer is off.

IsPlottable

Returns true if the layer will be plot.

IsReconciled

Returns true if the layer is reconciled.

Linetype

Returns the linetype of the layer.

LineWeight

Returns the lineweight of the layer.

Name

Returns the name of the layer.

TransparencyPercent

Returns the percentage of the transparency of the layer.

AutoCAD > Document > DrawingProperties

GetSummary

Returns a Summary object with the Drawing Properties.

SetSummary

Sets the Drawing Properties with new values. Leave items empty to keep original values.

Author

Returns the author of the drawing.

Comments

Returns the comments of the drawing.

CustomProperties

Returns a dictionary of Custom Properties.

HyperlinkBase

Returns the hyperlink base of the drawing.

Keywords

Returns a list of keywords.

LastSavedBy

Returns the username of the person who saved the drawing.

RevisionNumber

Returns a revision number.

Subject

Returns the subject of the drawing.

Title

Returns the title of the drawing.

AutoCAD > Document > DrawOrder**BringAboveObject**

Bring the object above another object.

BringToFront

Bring the object to top.

SendToBack

Bring the object to bottom.

SendUnderObject

Bring the object under another object.

SetRelativeDrawOrder

Sets the DrawOrder of the objects to their appearance in the list.

SwapOrder

Swap the order of both objects.

IsFirstBelowSecond

Returns true if the first object is below the second.

AutoCAD > Document > ExternalReference

CreateImageReference

Places a bitmap into AutoCAD as Image Reference. If the bitmap is a bitmap object (not a filename), it is saved in the given file location.

GetExternalReferenceByName

Returns the External Reference by name.

GetExternalReferences

Returns a list of all External References. Currently no nested XRefs.

AsBlock

Returns XRef as Block.

AsBlockReferences

Returns a list of all BlockReferences which point to the External Reference. Can be used to extract entities of the XRef. Be aware of rotated and moved XRefs.

IsLoaded

Returns true if XRef is loaded.

IsNested

Returns true if XRef is nested.

IsOverlay

Returns true if XRef is an overlay.

IsResolved

Returns true if XRef is resolved.

Name

Returns the name of the XRef.

Path

Returns the file path to the External Reference.

AutoCAD > Document > GeoLocation

GetNameAndDescription

Returns the name and description of the drawing GeoLocation.

HasGeoLocation

Returns true or false if a drawing contains a GeoLocation.

AutoCAD > Document > Layout**GetActiveLayout**

Returns the active layout if not ModelSpace is active.

GetLayoutByName

Returns the layout with that name.

GetLayouts

Returns a list of all layouts, except Model.

GetModelLayout

Returns the Model layout.

GetViewports

Returns a list of all viewports on the layout.

AnnoAllVisible

Returns the value of the variable AnnoAllVisible.

IsCentered

Returns true if the layout is centered on the print.

IsLineWeightsPrinted

Returns true if LineWeights are printed.

IsPlotStypeVisible

Returns true if the plotstyle is visible on screen.

IsTransparencyPrinted

Returns true if Transparency is printed.

Name

Returns the name of the layout.

NumberOfViewports

Returns the number of viewports.

Origin

Returns the origin of the layout.

PaperSizeHeight

Returns the height of paper size.

PaperSizeWidth

Returns the width of paper size.

PlotWindowMaxPoint

Returns the top right point of the printed area.

PlotWindowMinPoint

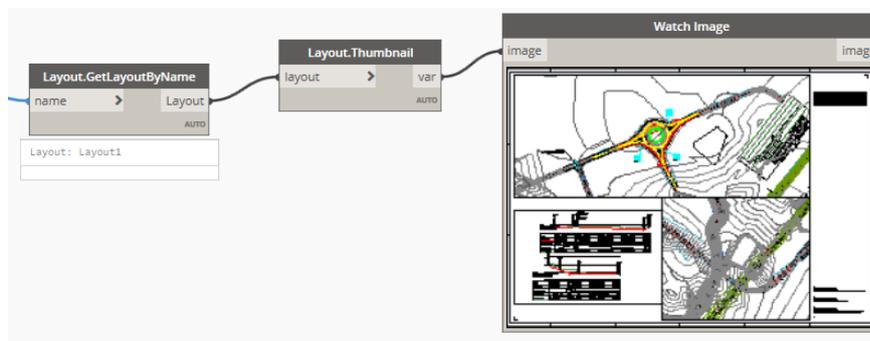
Returns the bottom left point of the printed area.

TabOrder

Returns the number of the tab at the bottom.

Thumbnail

Returns a preview of the layout (must be generated first, is not done automatically). Not very useful but fun.



AutoCAD > Document > Linetype

ApplyToObjects

Apply the linetype to the selected objects.

GetLinetypeByName

Get the linetype by name.

GetLinetypeFromObject

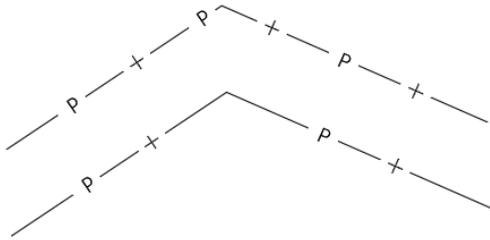
Get the linetype of the selected object.

GetLinetypes

Get a list of linetypes from the drawing.

SetLinetypeGeneration

Set linetype generation on or off to the selected object. It effects the way polylines will apply the linestyle along the vertices.



The upper line has linetype generation enabled and the linetype definition is applied over the vertices.

The lower line applies the linetype definition between the vertices.

SetLinetypeScale

Set the linetype scale to the selected objects.

Description

Get the description of the linetype.



LinetypeScale

Get the linetype scale of the selected object.

Name

Get the name of the linetype.

AutoCAD > Document > LineWeight (Metric only)

ApplyToObjects

Apply the lineweight to the selected objects.

GetLineWeightByName

Get the lineweight by name.

GetLineWeightFromObject

Get the lineweight of the selected object.

GetLineWeights

Get a list of lineweights available in the drawing.

Name

Returns the name of the lineweight.

Names

Returns a list of available lineweight names (only Metric).

AutoCAD > TextStyle

ApplyToObjects

Apply the textstyle to the selected objects.

GetCurrent

Returns the active textstyle.

GetTextStyleByName

Returns the textstyle with the given name.

GetTextStyleFromObject

Returns the textstyle from an object.

GetTextStyles

Returns a list of available textstyles.

FontFileName

Returns the font filename.

IsAnnotative

Returns true if the textstyle is annotative.

IsHorizontalOrientedInLayout

Returns true if the textstyle aligns texts horizontally in viewports.

IsShapeFile

Returns true if the textstyle uses a shape file.

Name

Returns the name of the textstyle.

ObliqueAngle

Returns the obliquing angle in degrees.

TextSize

Returns the textsize of the style.

TextSizeLastUsed

Returns the textsize of last placed text.

WidthFactor

Returns the width factor (scale factor in X direction).

AutoCAD > UCS

CreateUCS

Create a new UCS based on a point and X and Y vectors.

CreateUCSByCoordinateSystem

Create a new UCS based on a Coordinate System.

CreateUCSByThreePoints

Create a new UCS based on three points.

GetNamedUCSs

Returns a list of named UCSs.

GetUCSByName

Returns the UCS with the given name.

CoordinateSystem

Returns the Coordinate System of the UCS.

Name

Returns the name of the UCS.

Origin

Returns the origin of the UCS.

XAxis

Returns the XAxis of the UCS.

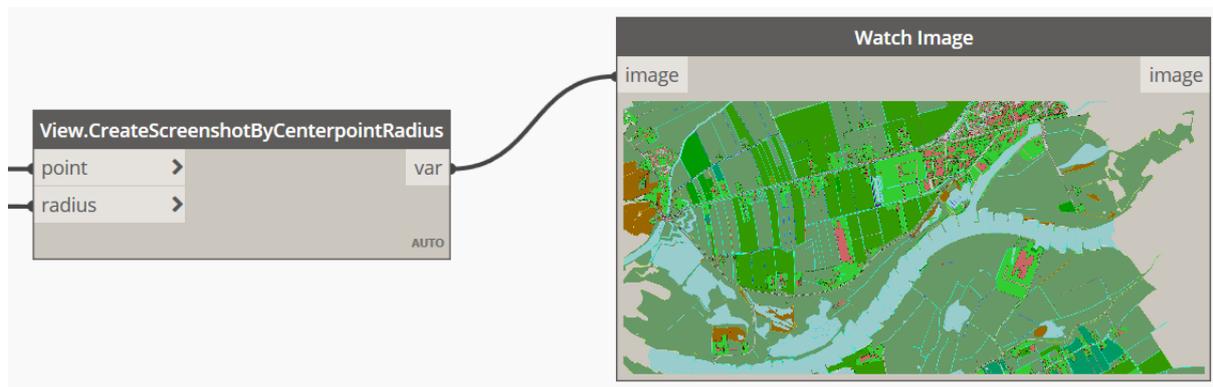
YAxis

Returns the YAxis of the UCS.

AutoCAD > View

CreateScreenshotByCenterpointRadius

Returns a bitmap of the screen by centerpoint and radius. Radius is recalculated to width and height.



CreateScreenshotByTwoPoints

Returns a bitmap of the screen by two points.

CreateScreenshotByView

Returns a bitmap of the screen by a given view.

CreateViewByCenterpointRadius

Creates named view by centerpoint and radius. Radius is recalculated to width and height.

CreateViewByTwoPoints

Creates named view by two points.

CreateViewByUCS

Creates named view by a given UCS.

GetNamedViewByName

Returns a named view.

GetNamedViews

Returns a list of named views.

ZoomToObjects

Zooms AutoCAD window to the extents of given objects.

ZoomToView

Zooms AutoCAD window to the given view.

ZoomToWindow

Zooms AutoCAD window to two given points.

CategoryName

Returns the category name of the named view.

CenterPoint

Returns the centerpoint of the named view.

CurrentView

Returns the active view.

HasUCS

Returns true if the named view has an UCS.

Height

Returns the height of the named view.

IsAssociatedToViewport

Returns true if the named view is associated to a viewport.

IsPaperspaceView

Returns true if the named view is a Paperspace View.

Name

Returns the name of the named view.

UCS

Returns the UCS of the named view.

ViewDirection

Returns the view direction of the named view.

ViewTwist

Returns the twist of the named view.

Width

Returns the width of the named view.

AutoCAD > Geometry > BlockReference

CreateBlockReference

Creates a block reference in the drawing at the given location.

If the name of the block is not available in the drawing, the node will search in a given Resources folder. You can set the location to that folder via the menu *Packages > Arkance Systems Settings*. If a DWG is found in that location with the given name, it will be inserted in the drawing.

Attributes can be filled by providing a list of strings.

The rotation is optional and expects a vector.

Attributes

Returns a list of attribute names and values.

ResourcesFolderContents

Returns a list of all available blocks in the 'Resources' folder.

AutoCAD > Geometry > DBPoint

CreateDBPoints

Place AutoCAD points in the drawing, not to be confused with CogoPoints.

AutoCADHandle

Returns the AutoCAD handle.

AutoCADObject

Returns an object. Can be used with other nodes that expects an generic object.

Layer

Returns the layer name.

Location

Returns a point of the location.

AutoCAD > Geometry > Face

Area2D

Returns the 2D area of an AutoCAD 3D Face.

Area3D

Returns the 3D area of an AutoCAD 3D Face.

Centroid

Returns the centroid of an AutoCAD 3D Face.

Normal

Returns the normal of an AutoCAD 3D Face.

NumberOfVertices

Returns the number of vertices (3 or 4) of an AutoCAD 3D Face.

Vertices

Returns the vertices of an AutoCAD 3D Face.

AutoCAD > Geometry > Hatch

CreateGradient

Creates a Gradient Hatch in AutoCAD.

CreateHatch

Creates a Hatch in AutoCAD.

GetFromObject

Returns a selected object as Hatch.

HatchPatterns

Returns a list of hatch patterns. There are also dropdown nodes available to split the list in predefined, custom and gradient.

SetAssociative

Sets the hatch associative to the boundary objects.

SetBackgroundColor

Sets the background color.

SetElevation

Sets the elevation of the hatch.

SetGradientAngle

Sets the angle in degrees of the gradient.

SetGradientColors

Set the gradient colors.

SetGradientShift

Sets the shift of the gradient.

SetPatternAngle

Sets the pattern angle in degrees.

SetPatternDouble

Sets the pattern double.

SetPatternOrigin

Sets the pattern origin.

SetPatternScale

Sets the pattern scale.

SetPatternSpace

Sets the pattern space.

Area

Returns the area of the hatch.

AutoCADHandle

Returns the AutoCAD handle.

AutoCADObject

Returns an object. Can be used with other nodes that expects an generic object.

BackgroundColor

Returns the background color.

Elevation

Returns the elevation of the hatch.

GradientAngle

Returns the angle of the gradient in degrees.

GradientColors

Returns the gradient colors.

GradientName

Returns the gradient name.

GradientShift

Returns the shift of the gradient.

IsAssociative

Returns true if the hatch is associative.

IsGradient

Returns true if the hatch is a gradient.

IsOneColorGradient

Returns true if the gradient is just one color.

IsPatternDouble

Returns true if the pattern double is true.

IsSolidFill

Returns true if the hatch is a solid fill.

Layer

Returns the layer of the hatch.

PatternAngle

Returns the angle of the pattern.

PatternName

Returns the name of the pattern.

PatternOrigin

Returns the origin of the pattern.

PatternScale

Returns the scale of the pattern.

PatternSpace

Returns the space of the pattern.

Type

Returns the type of the hatch.

AutoCAD > Geometry > Polyline2D

ConvertToPolyCurve

Convert an AutoCAD 2D Polyline to a PolyCurve in Dynamo.

CreatePolyline2D

Create an AutoCAD 2D Polyline by vertices. Optional bulges, start widths, end widths, a layout, layer, elevation, is closing and global width can be given.

Area

Returns the area of the polyline.

Elevation

Returns the elevation.

EndPoint

Returns the end point.

GlobalWidth

Returns the global width.

HasBulges

Returns true if the polyline has bulges.

Is2DPolyline

Returns true if the given object is a 2D Polyline.

IsClosed

Returns true if the polyline is closed. Optional a really closed request can be done (a polyline can share the end and start point location and still be open).

IsLinetypeGeneration

Returns true if the linetype generation is on.

Length

Returns the length.

NumberOfVertices

Returns the number of vertices.

Segments

Returns a list of Polyline2DSegment objects (arcs and lines).

SelfIntersectingPoints

Returns a list of intersecting points between its segments.

SetClosed

Close the polyline.

SetElevation

Sets the elevation.

SetGlobalWidth

Sets the global width.

SetLinetypeGeneration

Sets the linetype generation to true or false.

StartPoint

Returns the start point.

Vertices

Returns the vertices.

AutoCAD > Geometry > Polyline3D

ConvertToPolyCurve

Convert an AutoCAD 3D Polyline to a PolyCurve in Dynamo.

CreatePolyline3D

Create an AutoCAD 3D Polyline by vertices. Optional a layout, layer and is closing can be given.

Elevations

Returns a list of all elevations.

EndPoint

Returns the end point.

Is3DPolyline

Returns true if the given object is a 3D Polyline.

IsClosed

Returns true if the polyline is closed. Optional a really closed request can be done (a polyline can share the end and start point location and still be open).

Length

Returns the length.

NumberOfVertices

Returns the number of vertices.

Segments

Returns a list of Polyline3DSegment objects (lines).

SetClosed

Close the polyline.

StartPoint

Returns the start point.

Vertices

Returns the vertices.

AutoCAD > Geometry > Spline

CreateSpline

Creates a spline object in AutoCAD. Optional the spline can be closed and drawn in 3D.

GetFromObject

Returns a selected object as Spline.

AutoCADHandle

Returns the AutoCAD handle.

AutoCADObject

Returns an object. Can be used with other nodes that expects an generic object.

Layer

Returns the layer name.

Locations

Returns a list of points of the vertices.

SplineType

Returns the type of the spline.

AutoCAD > Geometry > Transient

These objects are non-existing and cannot be selected in the drawing. They are cleaned-up when a REGEN command is performed. They can be used to add notes in a drawing without pollute it with real objects, or copy existing objects to present them in signal colors (everything in grey except the objects you want to present in red or green, for instance).

CreateCircles

Place transient circles in the drawing at the given location.

CreateEntities

Place transient copies of objects in the drawing. I.e. all objects that have a specific property.

CreatePolyline

Place transient polylines in the drawing. Optional a width can be set.

CreateText

Place transient texts in the drawing.

AutoCAD > Geometry > Viewport

FreezeLayers

Freeze the given layers in the viewport.

GetAllDocumentViewports

Returns a list of all viewports of all layouts.

GetFromObject

Returns the selected object as viewport.

SetLock

Set the viewport lock.

ThawAllLayers

Thaw all layers in the viewport.

ThawLayers

Thaw the given layers in the viewport.

AnnotationScale

Returns the Annotation Scale of the viewport.

AutoCADHandle

Returns the AutoCAD Handle of the viewport.

AutoCADObject

Returns the viewport as object.

CenterPoint

Returns the center point of the viewport.

CustomScale

Returns the custom scale of the viewport. It is safer to use this than the Annotation Scale.

FrozenLayers

Returns the layers that are frozen in the viewport.

IsLocked

Returns true if the viewport is frozen.

IsUCSFollowed

Returns true if UCS is rotated to the viewport.

Layer

Returns the layer of the viewport.

UCS

Returns the UCS of the viewport.

AutoCAD > Geometry > WGSPoint

WGSPoint

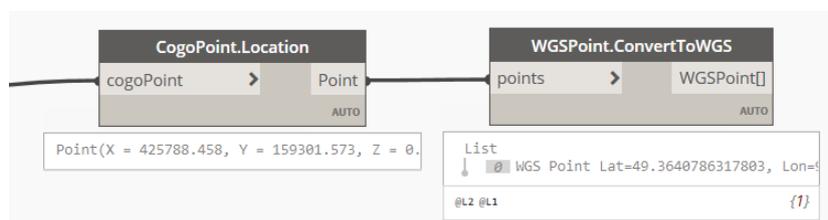
Creates a WGS point by a given latitude, longitude and elevation. Values are set in signed degrees.

ConvertToPoint

Convert a WGS point to a coordinate. A Coordinate System in the drawing is necessary.

ConvertToWGS

Convert a coordinate to WGS. A Coordinate System in the drawing is necessary.



Elevation

Returns the elevation.

Latitude

Returns the latitude in signed degrees.

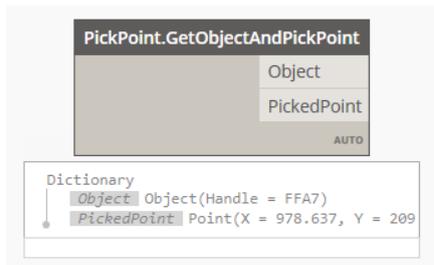
Longitude

Returns the longitude in signed degrees.

AutoCAD > Selection > PickPoint

GetObjectAndPickPoint

Returns the selected object in AutoCAD after picking and the picked location.



AutoCAD > Variables

SetGeomarkerVisibility

Set the visibility of the Geomarker (unselectable red dot in drawings).

SetPointStyle

Set the point mode style and size of AutoCAD points. Mimics the result of the command PTYPE.

SetSystemVariable

Sets a value to the given variable.

GetCurrentAnnotationScale

Returns the name of the current Annotation Scale.

GetCurrentLayer

Returns the current drawing layer.

GetCurrentLayout

Returns the current drawing layout.

GetDimScale

Returns the current Dim scale.

GetDimStyle

Returns the current Dim style name.

GetDrawingLocation

Returns the file location of the saved drawing.

GetDrawingName

Returns the drawing file name.

GetSystemVariable

Returns the value of the given variable.

GetTextSize

Returns the current text size.

GetTextStyle

Returns the current text style name.

GetUnitsLengthPrecision

Returns the number of decimal places of linear measurements.

Civil3D > Annotation > Label > ProfileViewLabel

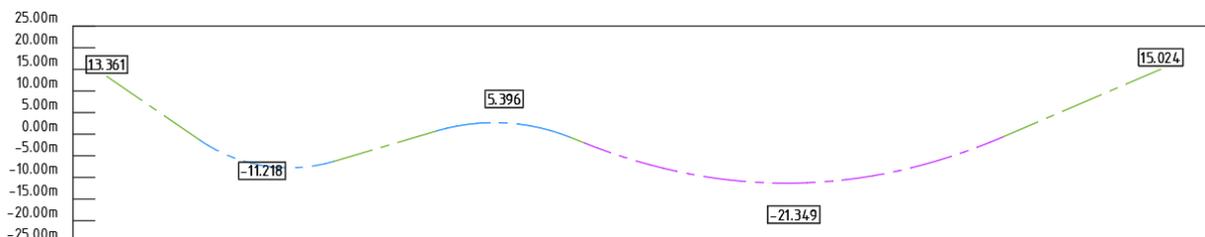
All labels are placed on the default template layer with the default template style.

CreateDepthLabel

Creates a Depth label at the given start and end stations and elevations.

CreateStationElevationLabel

Creates a StationElevation label at the given stations and elevations.

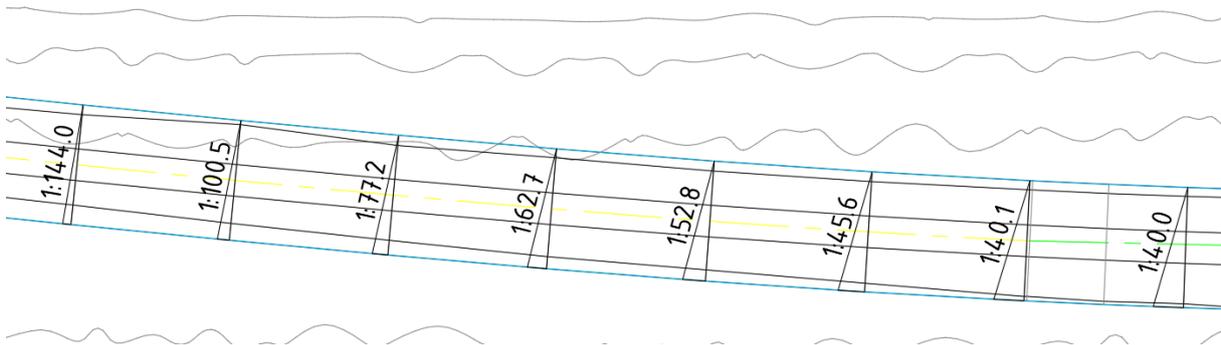
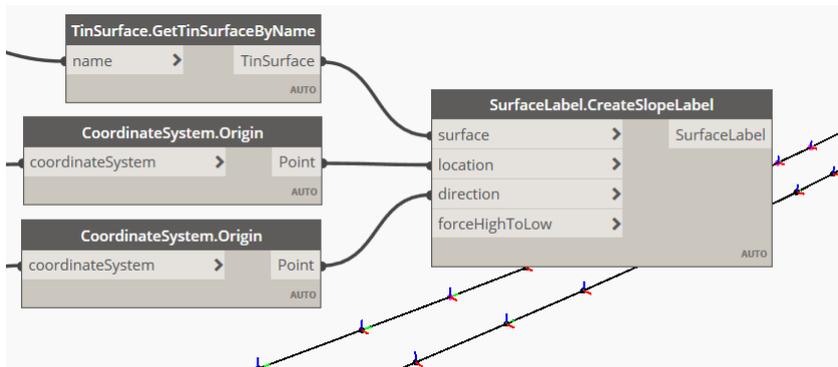


Civil3D > Annotation > Label > SurfaceLabel

All labels are placed on the default template layer with the default template style.

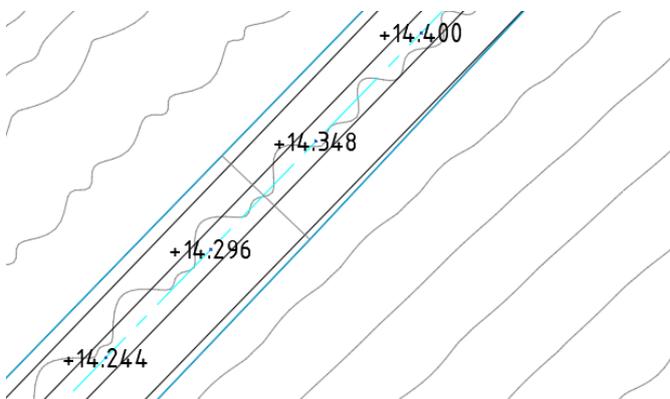
CreateSlopeLabel

Create a slope label. Feed the node with a location and a direction. Default an arrow is forced from high to low (if the direction elevation is higher, the label is reversed).



CreateSpotElevationLabel

Creates a spot elevation label. I.e. along Alignment points or 2D geometry.



Civil3D > Annotation > Table > Civil3DTable

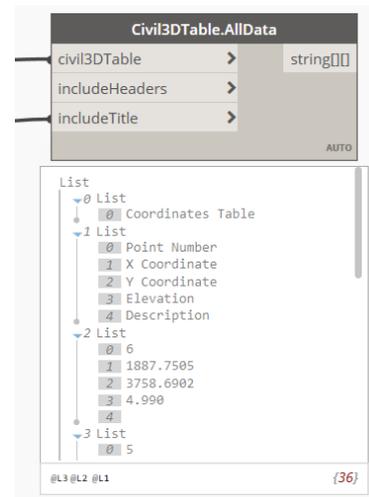
GetFromObject

Returns the given object as a Civil 3D Table.

AllData

Returns a list of values of the table.

Coordinates Table				
Point Number	X Coordinate	Y Coordinate	Elevation	Description
6	1887.7505	3758.6902	4.990	
5	1845.5149	3763.5988	6.830	
4	1859.2660	3802.8673	7.010	
3	1874.1380	3785.3231	2.360	Oak
2	1889.8174	3810.3971	4.970	
1	1908.6326	3785.3231	5.440	



AutoCADHandle

Returns the AutoCAD Handle of the table.

AutoCADObject

Returns the table as an AutoCAD object.

ColumnData

Returns the values of the given column.

Columns

Returns the column names.

Extents

Returns the geometric bounding-box of the table.

Layer

Returns the layer of the table.

RowData

Returns the values of the given row.

Style

Returns the style name of the table.

Title

Returns the title name of the table.

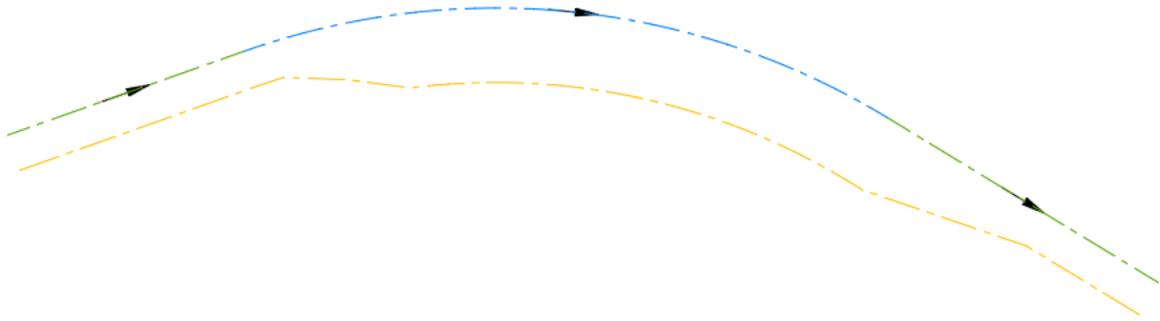
Civil3D > Geometry > Alignment

CreateOffsetAlignment

Creates an Offset Alignment. Start and end station are optional.

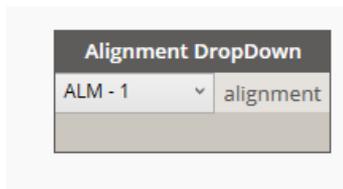
AddWidening

Adds a widening to an offset Alignment.



Alignment DropDown

Shows a dropdown with the available Alignments.



AlignmentType DropDown

Shows a dropdown with the Alignment Types

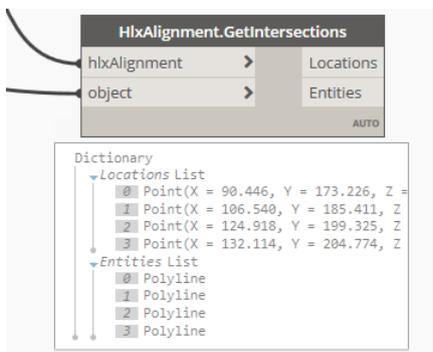
GetAlignmentsByType

Returns all Alignments of the given type.

GetFromObject

Returns a selected object as Alignment.

GetIntersections



Returns all intersections of crossing objects (currently Polylines only) and the crossing object itself.

SitelessAlignment DropDown

Shows a dropdown with the available Siteless Alignments.

EndPoint

Returns the endpoint of the Alignment.

GetDynamoGeometry

Creates Dynamo polycurve. Parabolic sub-entities are converted to short straight lines.

IsSiteless

Returns true if the Alignment is siteless.

OffsetDistance

Returns the signed offset distance if Alignment is Offset Alignment.

OffsetSide

Returns the offset side (1 or -1) if Alignment is Offset Alignment.

Parent

Returns the parent Alignment of the Offset Alignment.

Profiles

Returns a list of profiles.

ProfileViews

Returns a list of Profile Views.

Site

Returns the site where it belongs. Empty if it is a siteless Alignment.

StartPoint

Returns the startpoint of the Alignment.

Style

Returns the style name.

Type

Returns the type name as a string.

Civil3D > Geometry > CogoPoint

CreateCogoPoints

Creates new CogoPoints by Dynamo points.

GetCogoPointByNumber

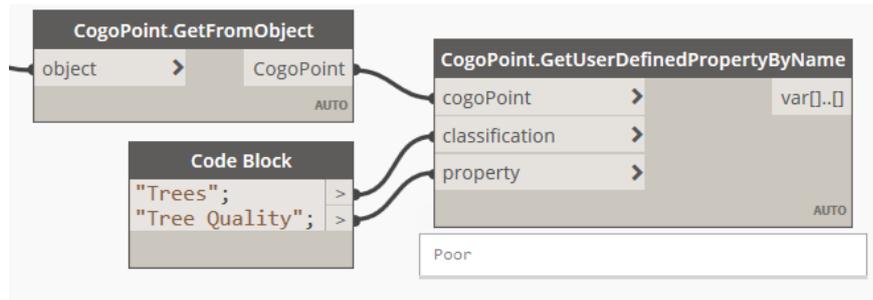
Returns the CogoPoint with the given number.

GetFromObject

Returns a selected object as CogoPoint.

GetUserDefinedPropertyByName

Returns the value of the given user defined property of a given classification.



Location

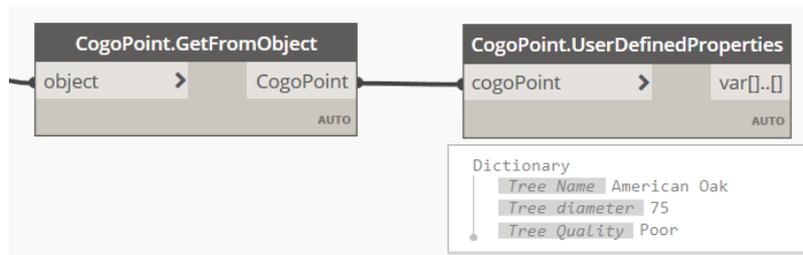
Returns the XYZ location of the CogoPoint.

Number

Returns the CogoPoint number.

UserDefinedProperties

Returns a list of User Defined Properties and values.



Civil3D > Geometry > CogoPointGroup

CreateCogoPointGroup (CogoPoints)

Create a new CogoPoint Group with the given CogoPoints.

CreateCogoPointGroup (Points)

Create a new CogoPoint Group with newly created CogoPoints based on the given Dynamo points.

CogoPointGroup name DropDown

Shows a dropdown with the available CogoPointGroups.

GetCogoPointGroupByName

Returns the CogoPoint Group with the given name.

Civil3D > Geometry > Corridor

Corridor DropDown

Shows a dropdown with the available Corridors.

GetFromObject

Returns a selected object as Corridor.

LinkCodes

Returns a list of Link Codes.

PointCodes

Returns a list of Point Codes.

ShapeCodes

Returns a list of Shape Codes.

CodeSetStyleName

Returns the CodeSet style name.

CorridorFeaturelines

Returns all base and offset Corridor FeatureLines. It is a custom CorridorFeatureLine object, not compatible with the core object.

CorridorFeaturelinesByCode

Returns base and offset Corridor FeatureLines by code.

Surfaces

Returns a list of Corridor Surfaces.

Civil3D > Geometry > CorridorFeatureLine

This object is a custom object, not compatible with the core CorridorFeatureLine object.

Baseline

Returns the baseline of the FeatureLine.

CodeName

Returns the code.

Corridor

Returns the Corridor.

EndPoint

Returns the end point.

GetDynamoGeometry

Returns Dynamo PolyCurves.

IsOffset

Returns true if the FeatureLine is an offset.

OffsetBaselineName

Returns the offset Baseline name.

StartPoint

Returns the start point.

StationsAndOffsets

Returns a list of stations, offsets and elevations.

Style

Returns the style name.

Vertices

Returns a list of vertices.

Civil3D > Geometry > FeatureLine

GetAllFeatureLines

Returns a list of all FeatureLines in the drawing.

GetFeatureLineByName

Returns the FeatureLine with the given name.

GetFromObject

Returns a selected object as FeatureLine.

GetPointAtDistance

Returns a point at the given distance along the FeatureLine.

GetSitelessFeatureLines

Returns a list of siteless FeatureLines.

AutoCADHandle

Returns the AutoCAD handle.

AutoCADObject

Returns an object. Can be used with other nodes that expects an generic object

Description

Returns the description.

EndPoint

Returns the end point.

GetDynamoGeometry

Returns a Dynamo PolyCurve of the FeatureLine. Curves are processed as a collection of short lines.

GradeAtDistance

Returns the grade at the given distance along the FeatureLine.

Length

Returns the 3D length.

Name

Returns the name.

SiteName

Returns the site name.

StartPoint

Returns the start point.

Statistics

Returns a list of statistics of the FeatureLine. I.e. 2D and 3D length, minimum and maximum elevation and grade.

Style

Returns the style name.

Civil3D > Geometry > Parcel**GetFromObject**

Returns a selected object as Parcel.

GetParcelByNumber

Returns the Parcel with the given number.

Area

Returns the area.

AutoCADHandle

Returns the AutoCAD handle.

AutoCADObject

Returns an object. Can be used with other nodes that expects an generic object

Description

Returns the description.

GetDynamoGeometry

Creates a Dynamo polycurve from the geometry.

Name

Returns the name.

Number

Returns the Parcel number.

Site

Returns the Site of the Parcel.

Civil3D > Geometry > Profile

CreateLayoutProfile

Creates a Civil 3D Layout Profile along the Alignment. A list of stations and elevations is expected. Currently there is no check for incorrect or unsorted values.

CreateSurfaceProfile

Creates a Civil 3D Surface Profile along the Alignment.

GetDynamoGeometrySideView

Returns a PolyCurve representing the profile in side view (Inside the Profile View).

GetDynamoGeometryTopView

Returns a PolyCurve representing the profile in top view (along the Alignment).

GetElevationAtDistance

Returns the elevation at the given distance along the profile.

GetFromObject

Returns a selected object as Profile.

GetProfileByName

Returns the profile with the given name.

Alignment

Returns the connected Alignment.

IsVisibleInProfileView

Returns true if Profile is visible in Profile View.

PVIs

Returns a list of stations and elevations (StationElevation object) of the PVIs.

SetVisibilityInProfileView

Sets the visibility of the Profile in the given Profile View.

Statistics

Returns a list of statistics. I.e. 2D and 3D length, minimum and maximum elevation, start and end point and elevation.

Style

Returns the style name. If a Profile View is given, the override style name is returned, if the style is overridden.

TopographicalEndPoint

Returns the endpoint in top view.

TopographicalStartPoint

Returns the startpoint in top view.

Type

Returns the type.

Civil3D > Geometry > ProfileView

Exaggeration

Returns the exaggeration of the Profile View.

GetFromObject

Returns a selected object as Profile View.

IsLeftToRight

Returns true if view direction is from left to right.

Alignment

Returns the connected Alignment.

AutoCADHandle

Returns the AutoCAD handle.

AutoCADObject

Returns an object. Can be used with other nodes that expects an generic object

Description

Returns the description.

ElevationMax

Returns the maximum elevation.

ElevationMin

Returns the minimum elevation.

Extents

Returns the geometric bounding-box of the Profile View.

GetStationElevationFromXY

Returns a station and elevation of a point inside the Profile View.

GetXYFromStationElevation

Returns a point inside the Profile View based on a station and elevation.

Layer

Returns the layer of the Profile View.

Location

Returns the location of the Profile View.

Name

Returns the name of the Profile View.

StationEnd

Returns the end station of the Profile View.

StationStart

Returns the start station of the Profile View.

StyleName

Returns the style name of the Profile View.

Civil3D > Geometry > StationElevation

StationElevation

An object that combines a station and an elevation value. A list of these objects is used to create a Layout Profile. Optional an offset value can be given.

Elevation

Returns the elevation.

Offset

Returns the offset to the Baseline.

Station

Returns the station.

Civil3D > Geometry > Surface

GetBoundedVolume

Returns a bounded volume.

GetFromObject

Returns a selected object as TinSurface.

GetPointsOnGrid

Returns a list of Dynamo points with a given grid distance. The returned points have a Surface elevation.

GetPointsOnSpots

Returns a list of Dynamo points on the given spots. The returned points have a Surface elevation, or are null when not on the Surface.

GridSurface DropDown

Shows a dropdown with the available GridSurfaces.

GridVolumeSurface DropDown

Shows a dropdown with the available GridVolumeSurfaces.

RaiseSurface

Raise or lower the Surface by a given distance.

SetSurfacesElevationAnalysis

Sets an elevation analysis to the given Surfaces between the start and end elevation with a stepsize. Minimum of two colors is required.

SetVolumeSurfaceElevationAnalysis

Sets an elevation analysis to the given Surface between the start and end elevation with a stepsize. Colors for positive and negative values are necessary.

TinSurface DropDown

Shows a dropdown with the available TinSurfaces.

TinVolumeSurface DropDown

Shows a dropdown with the available TinVolumeSurfaces.

BottomAndTopElevation

Returns the most lower and upper elevations of the given Surfaces.

GridSurfaceStatistics

Returns a list of statistics. I.e. Number of points, 2D and 3D area, minimum, maximum and mean elevation.

PointLeftBottom

Returns the left bottom bound location.

PointRightTop

Returns the right top bound location.

Style

Returns the style name.

TinSurfaceStatistics

Returns a list of statistics. I.e. Number of points, 2D and 3D area, minimum, maximum and mean elevation.

Type

Returns the type name.

Civil3D > Land > Site

CreateSite

Create a new site.

GetAlignments

Returns a list of Site Alignments.

GetFeatureLines

Returns a list of Site FeatureLines.

GetParcels

Returns a list of Site Parcels.

GetSiteByName

Returns the Site with the given name.

GetSites

Return a list of Sites in the drawing.

Site name DropDown

Shows a dropdown with the available Site names.

Description

Returns the description.

Name

Returns the name.

Computer > Clipboard

SetClipboardText

Put text on the Windows Clipboard.

GetClipboardText

Returns the text value of the Windows Clipboard.

Computer > FileSystem

CreateFolder

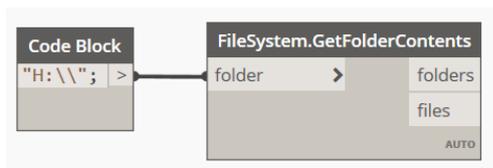
Create a folder.

GetDynamoVersion

Returns the version of Dynamo.

GetFolderContents

Returns a list of folders and files.



GetPathToAppData

Returns the location to AppData.

GetPathToArkanceSystemsLibrary

Returns the location to the installed path of the library.

GetPathToDesktop

Returns the location to the Desktop.

GetPathToDocuments

Returns the location to Documents.

GetPathToLocalAppdata

Returns the location to Local AppData.

GetPathToProgramFiles

Returns the location to Program Files.

GetPathToProgramFilesX86

Returns the location to Program Files (x86).

GetPathToTempFolder

Returns the location to the Temp folder.

Computer > Variables

ComputerName

Returns the name of the computer.

OSName

Returns the name of the operating system.

UserDomainName

Returns the User Domain name.

UserName

Returns the Windows user name.

DrillControl > AsbuiltDrill

AsbuiltDrills

Returns a list of as-built drills created by Drill Control.

AddedByCompany

Returns the company who processed the drill.

AddedByOperator

Returns the name of the operator who processed the drill.

Alignment

Returns the trace alignment.

Date

Returns the as-built date.

Description

Returns the description.

DiameterDrillhole

Returns the diameter of the drillhole in meters.

DiameterOutside

Returns the diameter of the outside pipe or bundle in meters.

DrillType

Returns the type of the drill (pipe or bundle).

ElevationReference

Returns the elevation reference.

Foreman

Returns the name of the foreman.

Material

Returns the material name.

MaterialSpecification

Returns the specification of the material.

Name

Returns the name of the drill.

ProfileAsbuilt

Returns the as-built drill as Profile.

ProfileEG

Returns the existing ground as Profile.

ProfileProjectedDesign

Returns the projected design drill as Profile.

ProfileView

Returns the Profile View.

Rig

Returns the used rig.

TableBundleOrPipeData

Returns the table with pipe or bundle information.

TablePoints

Returns the table with the points of the drill.

Thumbnail

Returns the preview of the as-built drill (if generated).

WallThickness

Returns the wall thickness of the pipe in meters.

DrillControl > DesignDrill**DesignDrills**

Returns a list of design drills created by Drill Control.

AddedByCompany

Returns the company who processed the drill.

AddedByOperator

Returns the name of the operator who processed the drill.

Alignment

Returns the trace alignment.

CreatedAs

Returns the creation method (parametric, continuous curve, from polyline)

Description

Returns the description.

DiameterDrillhole

Returns the diameter of the drillhole in meters.

DiameterOutside

Returns the diameter of the outside pipe or bundle in meters.

DrillType

Returns the type of the drill (pipe or bundle).

ElevationReference

Returns the elevation reference.

Material

Returns the material name.

MaterialSpecification

Returns the specification of the material.

Name

Returns the name of the drill.

ProfileDesign

Returns the design drill as Profile.

ProfileEG

Returns the existing ground as Profile.

ProfileView

Returns the Profile View.

TableBundleOrPipeData

Returns the table with pipe or bundle information.

TableTangentPoints

Returns the table with the tangentpoints of the drill.

Thumbnail

Returns the preview of the design drill (if generated).

WallThickness

Returns the wall thickness of the pipe in meters.

DrillControl > DesignTrace

DesignTraces

Returns a list of design traces created by Drill Control.

AddedByCompany

Returns the company who processed the drill.

AddedByOperator

Returns the name of the operator who processed the drill.

Alignment

Returns the trace as alignment.

Description

Returns the description.

Name

Returns the name of the trace.

Thumbnail

Returns the preview of the trace (if generated).

DrillControl > Project

ProjectInformation

Returns the project information of the drawing created by Drill Control.

Client

Returns the name of the client.

Code

Returns the project code or project number.

Description

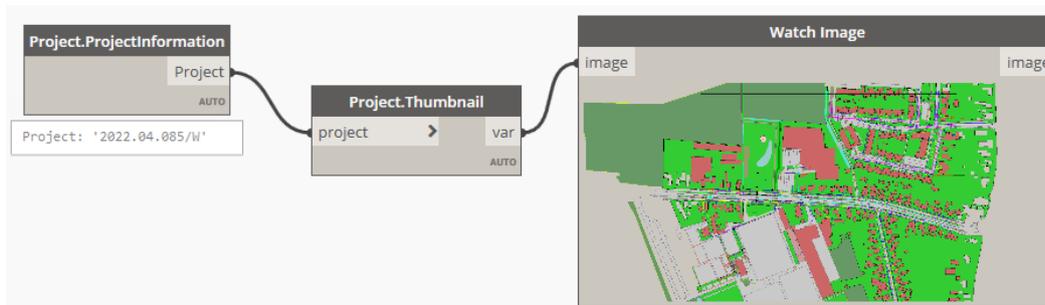
Returns the description.

Location

Returns the location of the project.

Thumbnail

Returns the preview of the project (if generated).



Functions > Data > Dictionary

CreateDictionary

Creates a dictionary with keys and values. The core dictionary only supports textual keys, this version accepts anything as long as the keys are unique.

Add

Adds a new key and value pair to the dictionary.

Count

Returns the number of items in the dictionary.

FindKey

Returns the key(s) that contain the given value.

FindValue

Returns the value that belongs to the given key.

Keys

Returns a list of keys.

Values

Returns a list of values.

Functions > Dates

AddDays

Returns a new DateTime object with the given days added.

GetDateTime

Returns a DateTime object based on the given values.

GetDateTimeValues

Returns several values of a DateTime object.

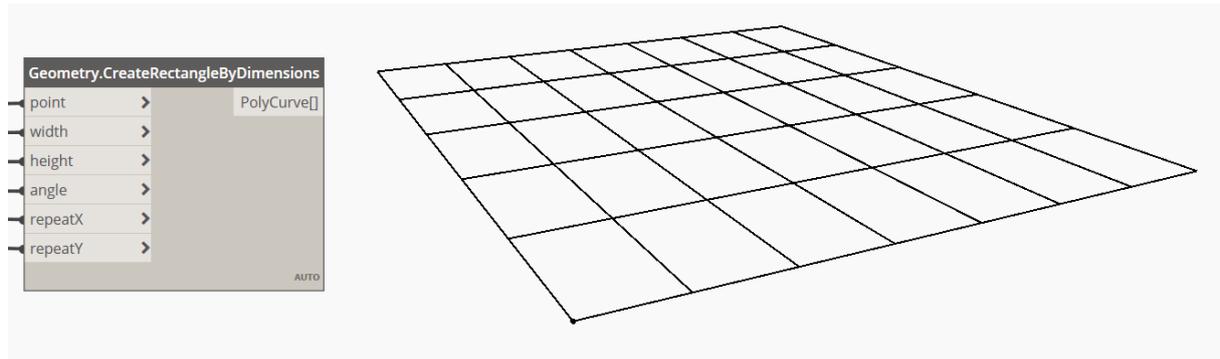
GetToday

Returns the current DateTime object.

Functions > Geometry

CreateRectangleByDimensions

Returns a series of rectangle PolyCurves.



CreateRectangleByTwoPoints

Returns a rectangle PolyCurve by two points.

PolyCurveToPolygon

Creates a Polygon of a PolyCurve. Arcs are converted into a series of points. Ideal to use when you want to find something inside a Polygon when you only have a PolyCurve.

GetCentroid

Returns the true centroid of a figure. The centroid is always inside the figure.



GetFlattenPoints

Returns a list of Dynamo points where the elevation part is stripped.

GetMidPointFromTwoPoints

Returns a Dynamo point in the mid of two given points.

GetPointFromXYZ

Returns a Dynamo point with the given XYZ values.

GetPolarPoint

Returns a calculated point from a base point with a given angle in degrees and a distance.

GetVertices

Returns a list of Dynamo points of the vertices of a polycurve. If closed, the first vertice is returned as last point.

GetXYZFromPoint

Returns XYZ values of a Dynamo point.

ImpliedSelection

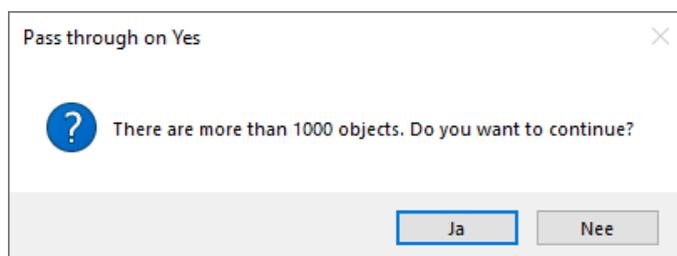
Creates an AutoCAD selection of the given objects. I.e. select all objects in the drawing that have a particular Property Set value, because you can't do that with the Quick Select function.

PassThroughAttYes

Shows a message dialog with a Yes/No button. It can be used to break long lasting graphs.

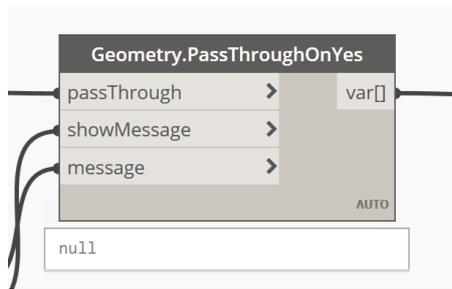


When run and there are less objects, the objects are automatically passed through. If there are more, a messagebox is shown:



If you click No, the output will be null and no objects are passed through. If Yes, the script continues.

If you accidentally scripted to create millions of CogoPoints, it is a great way to have a breakpoint.



StatisticsOfPointCollection

Returns a list of statistics of a collection of Dynamo Points. I.e. Minimum, maximum and mean elevation.

Functions > Numbers

AngleToVector

Returns the vector of the given angle in degrees.

Ceiling

Returns an upwards rounded number with optional decimals. 4.3 becomes 5 with zero decimals, 4.271 becomes 4.28 with two decimals.

DegreesToRadian

Returns radians from decimal degrees.

Floor

Returns a downwards rounded number with optional decimals. See *Ceiling*.

Get2DArea

Returns a 2D area of a series of points.

GetHorizontalAngle

Returns the horizontal angle in radians between two points. X-axis to the east is 0, Y-axis upwards is 0.5 PI, and so on.

GetHorizontalDistance

Returns the 2D distance between two points.

GetLengthOfPoints

Returns the length of a figure through a series of points.

Minus1

Returns the given value minus 1.

Plus1

Returns the given value plus 1.

RadianToDegree

Returns decimal degrees from radians.

Round

Returns a rounded number with decimals.

VectorToAngle

Returns the angle in degrees of a vector.

IsEvenNumber

Returns true if a number is even.

IsMultiplyOf

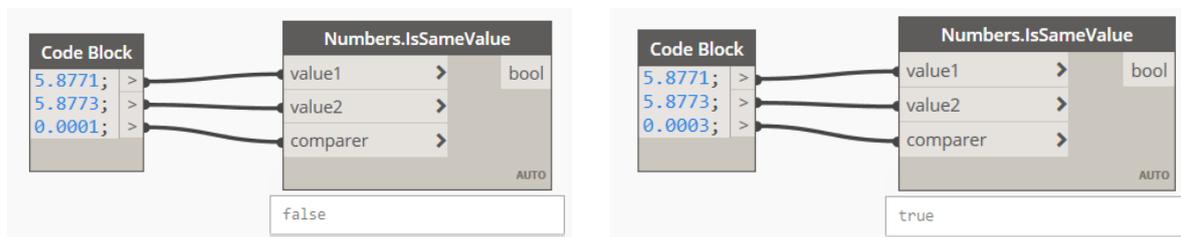
Returns true if a value is a multiply of another value.

IsOddNumber

Returns true if a number is odd.

IsSameValue

Returns true if a value is almost the same. Double values tend to differ after 8 decimals because of the natural anomaly of the double. A computer calculation as $48.5 - 47.5$ can result in 0.999999943267 instead of 1 . Comparing 0.999999943267 with 1 result in false, unless you give a small comparer to the node.



Functions > QR Codes

Several QR Code types can be created as image and placed in the drawing on a given Layout. In the settings dialog you can set a predefined front and back color, and if the type icon must be added to the QR image. Default the QR image is saved in the same path as the drawing.

CreateQRCodeEvent

Creates a QR image for events. A start and end date and a textual location are needed.

CreateQRCodeLocation

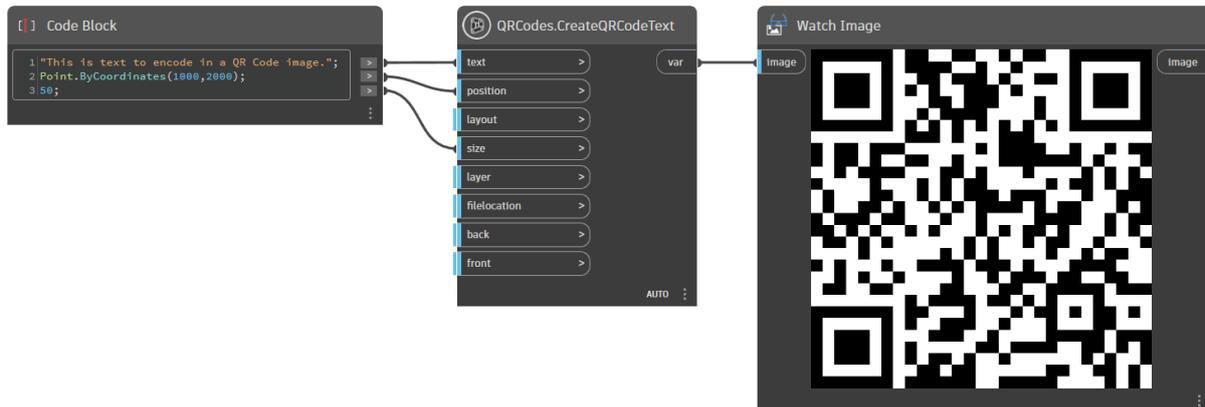
Creates a QR image for locations. A point needed, which is automatically converted to Lat/Lon.

CreateQRCodePhoneNumber

Creates a QR image for phone numbers. A phone number is needed. When scanned, the number can be dialed directly.

CreateQRCodeText

Creates a QR image.



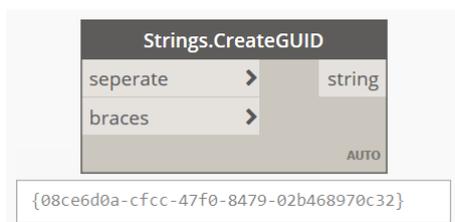
CreateQRCodeUrl

Creates a QR image for web links. An URL is needed.

Functions > Strings

CreateGUID

Returns a unique GUID value.



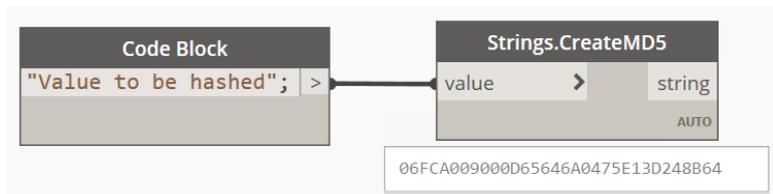
Braces and separator are optional. Can be used as unique identifier.

CreateGUIDs

Returns a list of unique GUID values.

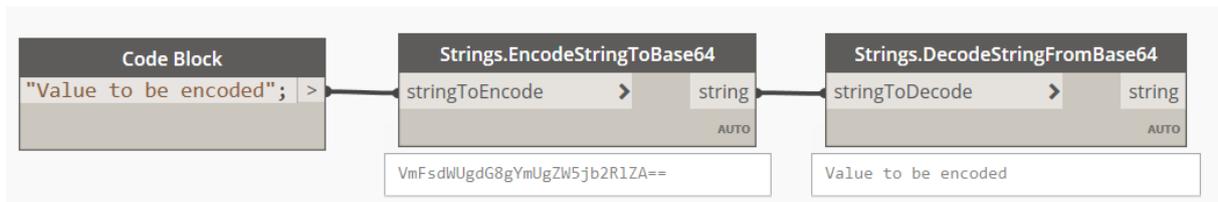
CreateMD5

Returns a MD5 hash of a string.



DecodeStringFromBase64

Returns a decoded string from a Base64 encoded value.

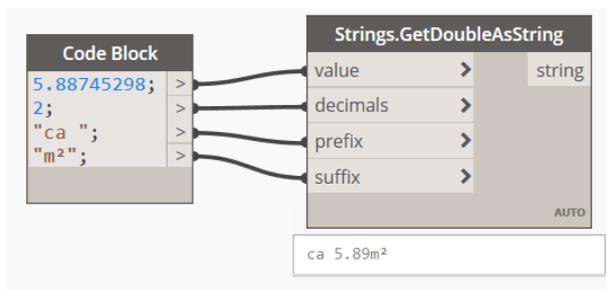


EncodeStringToBase64

Returns a Base64 encoded value from a string.

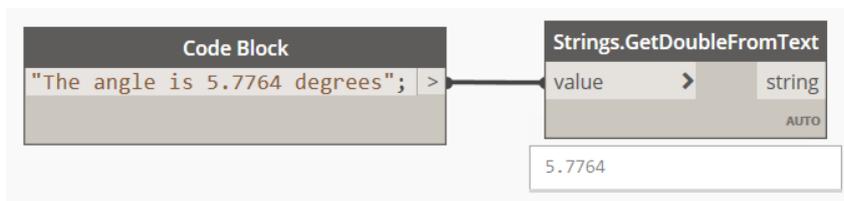
GetDoubleAsString

Returns a rounded double as a text object. Optional you can add a prefix or suffix.



GetDoubleFromText

Returns a string with only numeric characters in a text value.



The node does not always work as expected. The string "I have 2 eggs and 1 sandwich" returns "21".

GetIntegerFromText

Returns a string with only the numeric characters in a text value, without a decimal separator.

ToLower

Returns a string where each character is lower case.

ToUpper

Returns a string where each character is upper case.

WriteTextCommandLine

Write text strings to the Command Line. Ideal when processing a list and you want to see the result.

CharacterCount

Returns the occurrence of a character in a string.

Geometry > Polyline2DSegment**ConvertToCurve**

Convert segment to Dynamo Curve object.

Bulge

Returns the bulge value.

CenterPoint

Returns the center point if segment is an arc.

EndAngle

Returns the end angle.

EndPoint

Returns the end point.

EndWidth

Returns the width at the end.

IsClockwise

Returns true if the arc is clockwise drawn.

IsLinear

Returns true if the segment is a line.

Length

Returns the length.

MidPoint

Returns the midpoint.

Radius

Returns the radius if the segment is an arc.

StartAngle

Returns the start angle.

StartPoint

Returns the start point.

StartWidth

Returns the width at the beginning.

Geometry > Polyline3DSegment

ConvertToCurve

Convert the segment to a Dynamo Curve object.

EndPoint

Returns the end point.

Grade

Returns the grade of the segment.

Length

Returns the length.

MidPoint

Returns the midpoint.

Slope

Returns the slope of the segment.

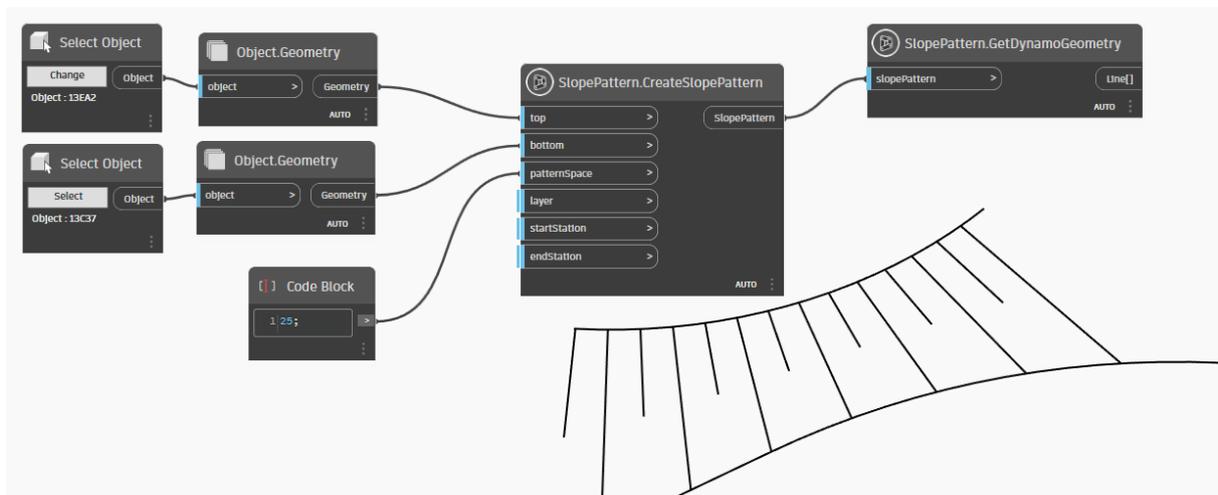
StartPoint

Returns the start point.

Geometry > SlopePattern

CreateSlopePattern

Creates a slope pattern in AutoCAD between two given Dynamo PolyCurves as unnamed block. The slope lines are alternating full or half length. Optional a start and end station can be set.



AutoCADHandle

Returns the AutoCAD Handle.

AutoCADObject

Returns an object. Can be used with other nodes that expects an generic object.

EndStation

Returns the end station.

GetDynamoGeometry

Returns the lines of the slope pattern.

Layer

Returns the layer.

PatternSpace

Returns the space between the slope lines.

StartStation

Returns the start station.

Geometry > Triangle

A Triangle is a virtual geometric form between three points.

ConvertTo3DFace

Convert to an AutoCAD Face 3D.

ConvertToMesh

Convert a series of Triangles to a Dynamo Mesh.

ConvertToPolyCurve

Convert to a Dynamo PolyCurve.

CreateTriangle

Creates a Triangle by three points.

GetFromObjects

Gets Triangles from AutoCAD Face 3Ds.

GetTrianglesFromMesh

Gets Triangles from a Dynamo Mesh.

GetTrianglesFromTinSurface

Gets Triangles from a Tin Surface.

Area2D

Returns the 2D area.

Area3D

Returns the 3D area.

Centroid

Returns the centroid.

GetPlane

Returns the Plane of the Triangle.

Grade

Returns the grade.

HasAngleGreaterThan

Returns true if one of the angles is greater than given angle in degrees.

HasSideLongerThan

Returns true if one of the side lengths is greater than given distance.

IsPointOnTriangle

Returns true if a point is on the face of the Triangle.

IsPointOnSide

Returns true if a point is exactly on one of the sides.

Normal

Returns the normal.

PointOnTriangle

Returns a point that is projected on the face of the Triangle.

Segments

Returns three Polyline3DSegments.

Slope

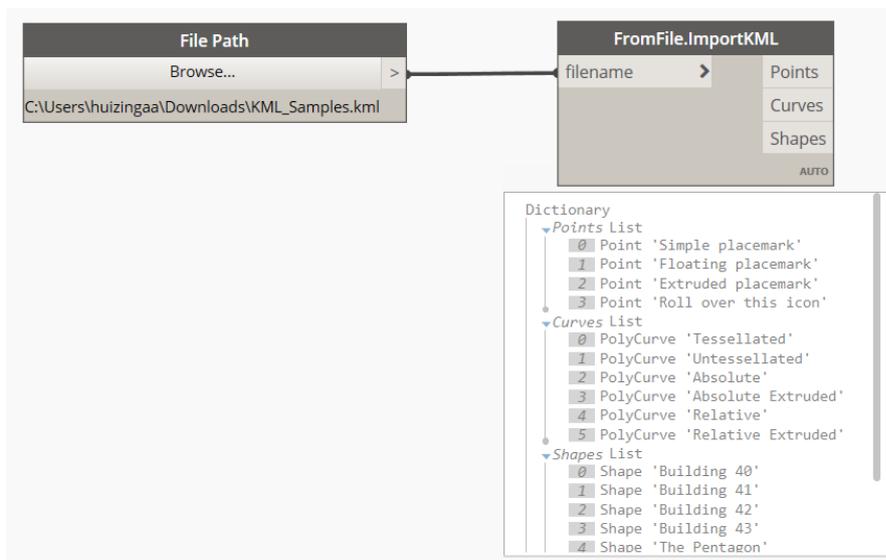
Returns the slope.

Vertices

Returns the vertices.

Import > FromFile (KML, GPX, OpenStreetMap)

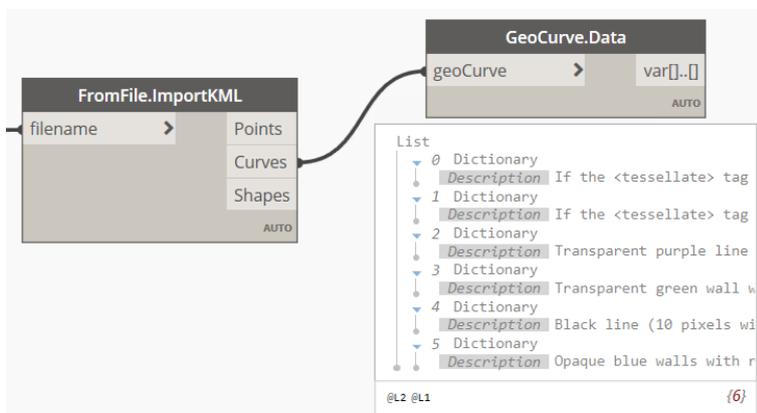
Import functions that returns points, curves and shapes with data.



Can be used to import geometry from external files like Open Street Map:



Each GeoObject (Point, Curve or Shape) contains a label, style name, data and geometry.



ImportGPX

Returns a list of geometry objects from a GPX file. See *GeoPoint* and *GeoCurve*.

ImportKML

Returns a list of geometry objects from a Google Earth file. See *GeoPoint* and *GeoCurve*.

ImportOSM

Returns a list of geometry objects from an Open Street Map file. See *GeoPoint* and *GeoCurve*.

Import > GeoCurve

Data

Returns a dictionary of keys and values attached to a GeoCurve.

Label

Returns a label attached to a GeoCurve.

PolyCurve

Returns the geometry of a GeoCurve.

StyleName

Returns the style name of the GeoCurve.

Import > GeoPoint

Data

Returns a dictionary of keys and values attached to a GeoPoint.

Label

Returns a label attached to a GeoPoint.

Point

Returns the geometry of a GeoPoint.

StyleName

Returns the style name of the GeoPoint.

Import > GeoShape

Data

Returns a dictionary of keys and values attached to a GeoShape.

Inner

Returns the inner geometry of a GeoShape as a list of PolyCurves.

Label

Returns a label attached to a GeoShape.

Outer

Returns the outer geometry of a GeoShape as a PolyCurve.

PolyCurves

Returns the geometry of a GeoShape as a list of PolyCurves, where the first element is the outer boundary.

StyleName

Returns the style name of the GeoShape.

Map3D > Geometry > MPolygon

CreateMPolygon

Creates a MPolygon from an exterior polyline. Optional interior boundaries, a layout, layer, patternname, angle and scale can be given.

GetFromObject

Returns a MPolygon object from a selected one.

SetElevation

Sets the elevation.

SetPatternAngle

Sets the pattern angle.

SetPatternColor

Sets the pattern color.

SetPatternDouble

Sets the pattern double.

SetPatternScale

Sets the pattern scale.

SetPatternSpace

Sets the pattern space.

Area

Returns the area.

AutoCADHandle

Returns the AutoCAD Handle.

AutoCADObject

Returns an object. Can be used with other nodes that expects an generic object.

Elevation

Returns the elevation.

Hatch

Returns the hatch of the MPolygon.

IsPatternDouble

Returns true if the pattern double is true.

Layer

Returns the layer.

PatternAngle

Returns the pattern angle.

PatternName

Returns the pattern name.

PatternScale

Returns the pattern scale.

PatternSpace

Returns the pattern space.

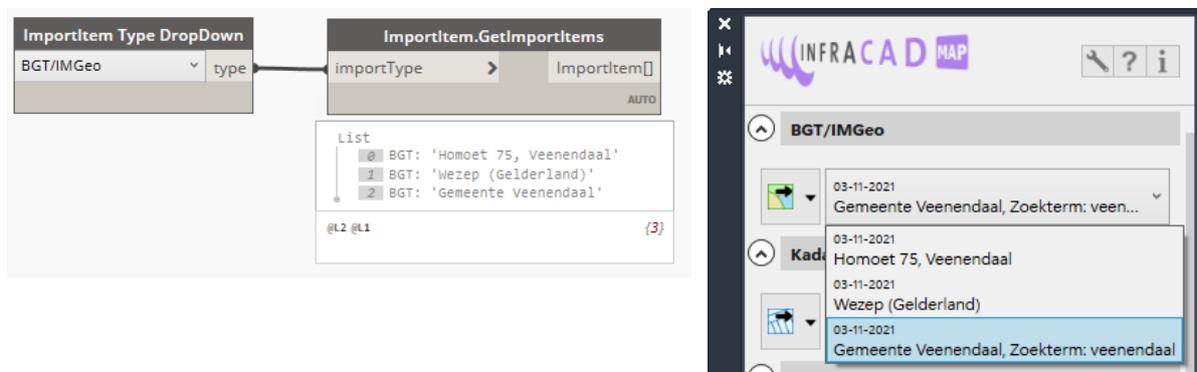
Perimeter

Returns the perimeter.

CountryKit > Nederland > InfraCADMap > ImportItem

ImportItems

Haalt de Import Items op van een bepaald type:



De gevonden items komen overeen met wat er in de Palette wordt getoond.

ImportItem Type DropDown

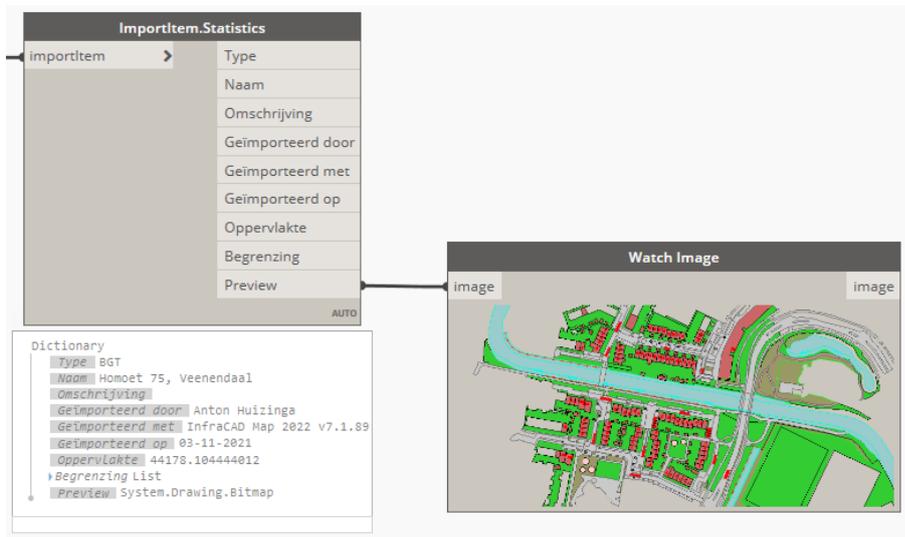
DropDown lijst van Import Item Types.

Objecten

Haalt een lijst met objecten op die horen bij de opgegeven ImportItem.

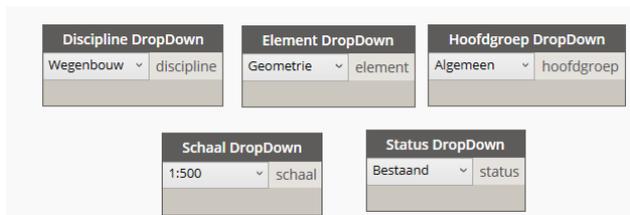
Statistieken

Toont de statistieken van een ImportItem.



CountryKit > Nederland > NLCS

Diverse nodes om NLCS elementen uit een DropDown te kiezen:

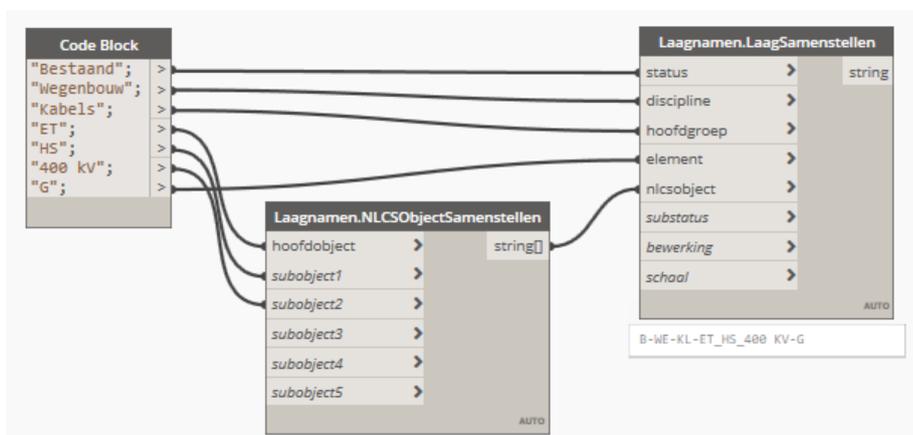


CountryKit > Nederland > NLCS > Laagnamen

Diverse nodes om NLCS-achtige laagnamen te construeren. De laagkleur en lijntypes worden niet toegepast.

LaagSamenstellen

Laagnaam samenstellen op basis van parameters.



NLCSObjectSamenstellen

Object samenstellen uit hoofdobject en max 5 subobjecten.

Discipline

Retourneert de NLCS discipline op basis van een waarde. Bijvoorbeeld "wegenbouw" wordt "WE".

Element

Retourneert de NLCS elementcode op basis van een waarde. Bijvoorbeeld "geometrie" wordt "G".

Hoofdgroep

Retourneert de NLCS hoofdgroep op basis van een waarde. Bijvoorbeeld "kabels" wordt "KL".

Schaal

Retourneert de NLCS schaal op basis van een waarde. Bijvoorbeeld "1:500" wordt "500".

Status

Retourneert de NLCS status op basis van een waarde. Bijvoorbeeld "nieuw" wordt "N".

Disciplines

Retourneert een lijst met beschikbare disciplines. Indien gevuld met een parameter, dan wordt de bijbehorende discipline getoond. Bijvoorbeeld "OI" wordt "Ondergrondse Infrastructuur".

Elementen

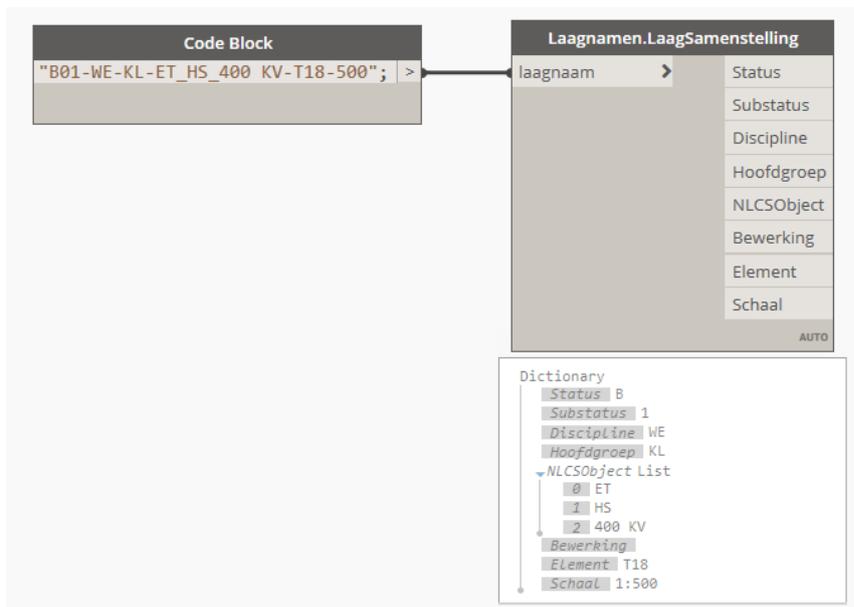
Retourneert een lijst met elementcodes. Indien gevuld met een parameter, dan wordt de bijbehorende elementcode getoond.

Hoofdgroepen

Retourneert een lijst met hoofdgroepen. Indien gevuld met een parameter, dan wordt de bijbehorende hoofdgroep getoond.

LaagSamenstelling

Splitst een NLCS laagnaam op in delen.



The screenshot shows a 'Code Block' containing the code: `"B01-WE-KL-ET_HS_400 KV-T18-500"; >`. This code is linked to a 'Laagnamen.LaagSamenstelling' object. The object has several properties: `laagnaam`, `Status`, `Substatus`, `Discipline`, `Hoofdgroep`, `NLCSObject`, `Bewerking`, `Element`, and `Schaal`. Below the object is a 'Dictionary' showing the following values: `Status`: B, `Substatus`: 1, `Discipline`: WE, `Hoofdgroep`: KL, `NLCSObject List`: [0] ET, [1] HS, [2] 400 KV, `Bewerking`, `Element`: T18, `Schaal`: 1:500.

NLCSObjectSamenstelling

Splitst een NLCS object op in delen.

Schalen

Retourneert een lijst met NLCS schalen. Indien gevuld met een parameter, dan wordt de bijbehorende schaal getoond.

Statussen

Retourneert een lijst met NLCS statussen. Indien gevuld met een parameter, dan wordt de bijbehorende schaal getoond.

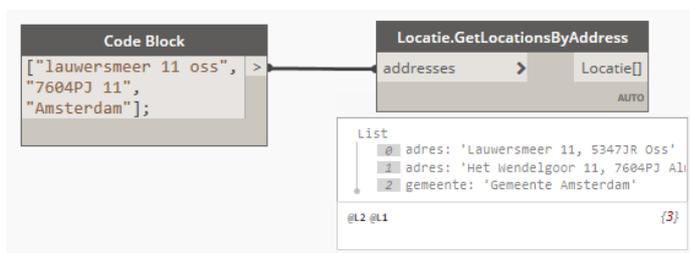
Teksthoogten

Retourneert een lijst met NLCS teksthoogten.

CountryKit > Nederland > PDOK > Locatie

Locaties van adressen

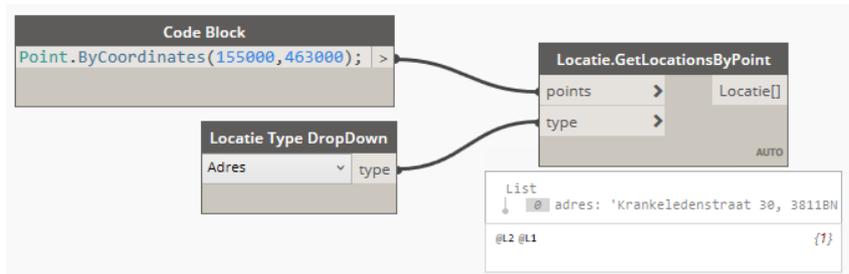
Retourneert een lijst met locaties op basis van een adres.



The screenshot shows a 'Code Block' containing the code: `["lauwersmeer 11 oss", "7604PJ 11", "Amsterdam"]; >`. This code is linked to a `Locatie.GetLocationsByAddress` object. The object has a property `addresses` of type `Locatie[]`. Below the object is a 'List' showing the following values: [0] adres: 'Lauwersmeer 11, 5347JR Oss', [1] adres: 'Het Wendelgoor 11, 7604PJ Al', [2] gemeente: 'Gemeente Amsterdam'. The list is labeled `@L2 @L1` and has a count of `{3}`.

Locaties van punten

Retourneert een lijst met locaties op basis van een RD punt.



Locatie Type DropDown

DropDown met de mogelijke Locatie Types.

Statistieken

Statistieken van een locatie.

