

**Clayoo**<sup>®</sup>  
Clay Modeling for Rhino



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## Welcome

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Clayoo<sup>®</sup> is an advanced modeling application with the ability to effortlessly create any form efficiently and accurately, however complex.

It's like modeling by hand! This is the concept of Clayoo<sup>®</sup>. It doesn't matter whether you start from a sketch, curve, or a 3-D object, you can pull, push, and move until you get what you want.

Ideal for designing architecture, jewelry, consumer products, toys, aerospace, marine, furniture. Anyone who needs to create complex free-form shapes can use Clayoo<sup>®</sup>.

When precision is a must Clayoo<sup>®</sup> offers real-time tools to analyze distances, variance draft angle, thickness and more.

Not only modeling, but manufacturing. Clayoo<sup>®</sup> geometry is great for manufacturing prototypes and molds. When exporting to STL Clayoo<sup>®</sup> automatically generates closed meshes.

For reverse engineering with advanced re-topology tools Clayoo<sup>®</sup> allows you to easily create surfaces over digitized objects and to convert the result as NURBS surfaces.

## Key Benefits

### Unlimited creation and modification

- Model from any geometry: surfaces, solids, meshes, or from a sketch.
- Edit using the most advanced tool as join, break, divide, separate, offset, raise, move, extrude, plunge, shell, and much more. The possibilities are endless.
- Reverse engineer scan data, and STL meshes to Clayoo surfaces or NURBS.

### Control and accuracy

- Works accurately, freely, or both.
- Define more control points in areas that require it.
- Advanced offset, shell, and bridge connection.

### High performance definition of detail areas

Allows varying levels of detail across one object. For example, when modeling a face, you can use higher definition around the eyes and eyebrows.

### 100% compatibility with Rhino surfaces

The Clayoo plug-in has been created by TDM Solutions in and for Rhinoceros.



## System requirements

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Clayoo runs on ordinary Windows desktop and laptop computers, with:

### Minimal System Requirements

Pentium, Celeron, or higher processor.

200 MB disk space.

512 MB RAM. 1 GB or more is recommended.

OpenGL graphic card recommended.

Clayoo runs only on Windows 2000, Windows XP Pro, Windows XP Home, Windows Vista, Windows 7 including an Intel Mac with BootCamp.

### Recommended System Requierements

Intel Core i3 or higher processor.

200 MB disk space.

2Gb. 4 GB or more is recommended.

OpenGL graphic card

Windows 7 or higher. Clayoo does run on Windows 32-bit and 64-bit. Is highly recommended to use 64-bit.



## Getting help

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### **Support is included even before buying.**

There are several ways to access the support Clayoo:

#### Technical Forum

On the website of Clayoo ([www.Clayoo.com](http://www.Clayoo.com)) can find the forum. It's a great tool to ask your questions. It is best to get answers from Clayoo tech support and other users around the world.

#### Email

Write us to [support@tdmsolutions.com](mailto:support@tdmsolutions.com). The response time is 3 hours to 48 hours.

#### Phone

Telephone support is available on +34 937547774 (CET) from Monday to Thursday (9-13.30 and 14.30-18.00) and Friday (9-14).



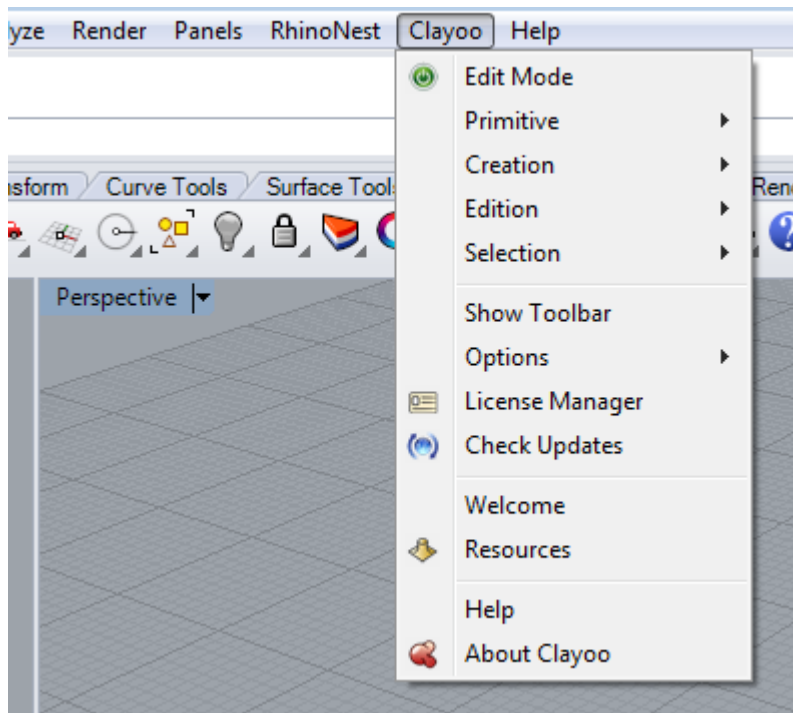
## Commands

---

All the Clayoo commands are available in three different ways: Menu, toolbar and typing the command name.

### Menu

As Rhinoceros, Clayoo creates a menu at the top of the screen. As you will see below, the menu is created using the same structure of the toolbars.



### Toolbar

The toolbar is the fastest way to access commands Clayoo. When installing Clayoo appears the main toolbar.



As we show below, there are icons that have a small triangle in the bottom right. If we click on these icons will show us another toolbar with more commands. The toolbars are native Rhinoceros Clayoo. For this reason, you can configure it at will.



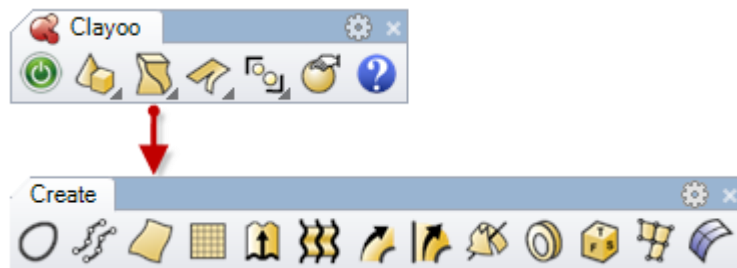
### Primitives Toolbar

This toolbar contains the commands to create basic geometries as plane, box, torus, cylinder,...



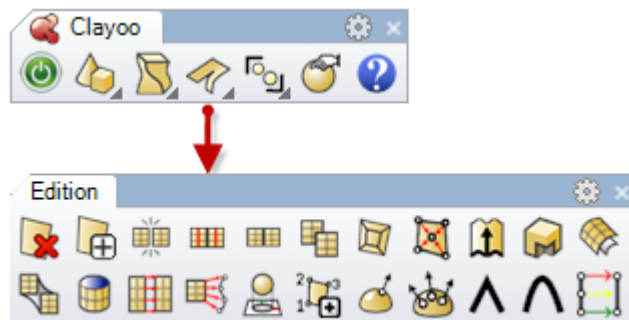
### Create Toolbar

This toolbar contains tools for creating Clayoo surfaces. There are several ways to create from curves, surfaces, meshes, ... The following sections detail each one of the tools.



### Edition Toolbar

This toolbar contains tools for editing Clayoo surfaces. Tools from delete, add, divide, shell, extrude,... The following sections detail each one of the tools.



### Selection Toolbar

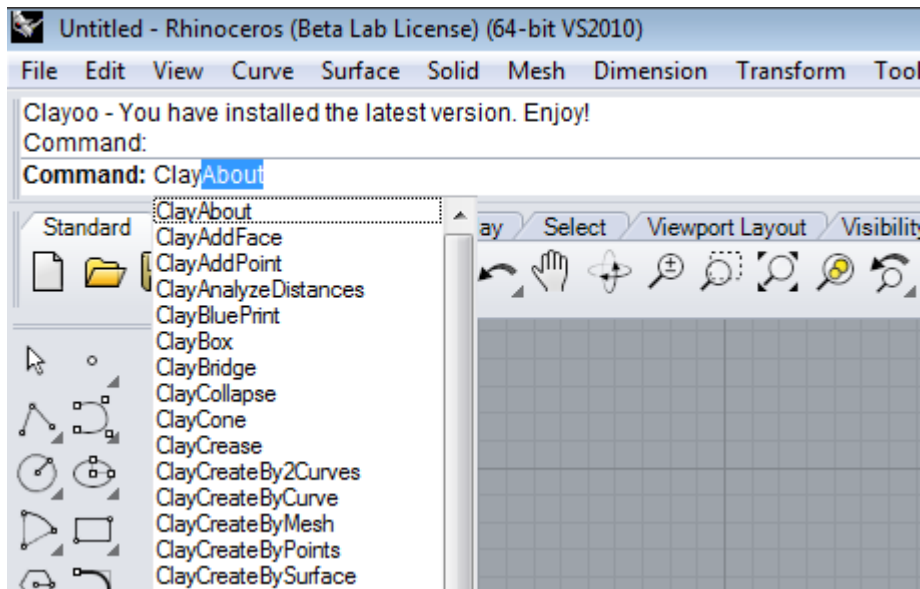
This toolbar contains tools for selecting Clayoo surfaces: Select All, None, Invert, Select edges, Selection U, Selection V,...





## Commands

All the commands of Clayoo start with Clay---. You can type the command in the CommandPrompt:














## Primitives

This toolbar contains the commands to create basic geometries as plane, box, torus, cylinder,...



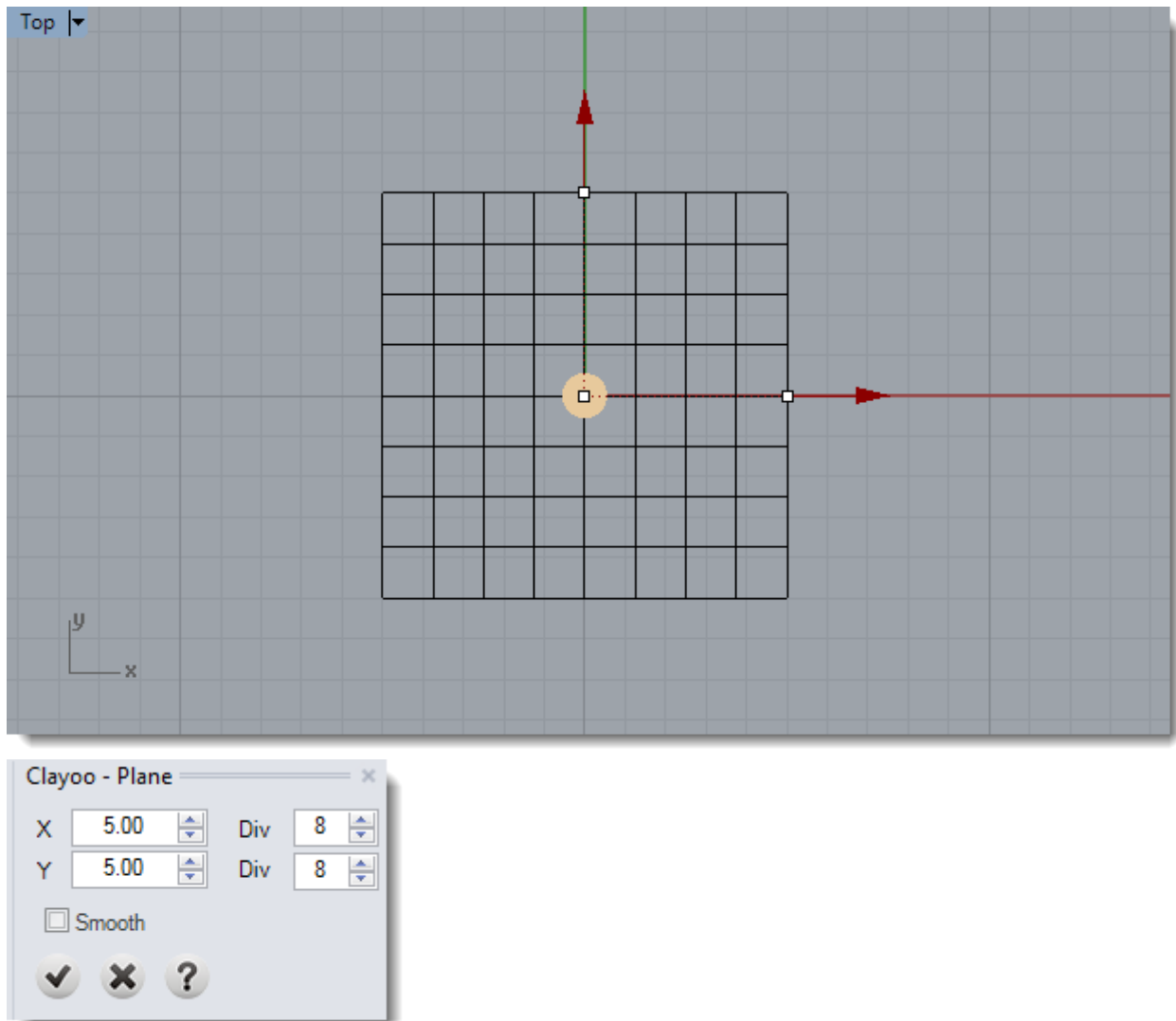
Primitive	Icon	Command
<a href="#"><u>Plane</u></a>		ClayPlane
<a href="#"><u>Box</u></a>		ClayBox
<a href="#"><u>Torus</u></a>		ClayTorus
<a href="#"><u>Cylinder</u></a>		ClayCylinder
<a href="#"><u>Sphere</u></a>		ClaySphere
<a href="#"><u>Ellipsoid</u></a>		ClayEllipsoid
<a href="#"><u>Cone</u></a>		ClayCone
<a href="#"><u>Truncated Cone</u></a>		ClayTruncatedCone
<a href="#"><u>Pipe</u></a>		ClayPipe



## Plane

	Toolbar	<b>Clayoo &gt; Primitives &gt; Plane</b>
	Menu	<b>Clayoo &gt; Primitives &gt; Plane</b>
	Command	<b>ClayPlane</b>

This tool allows us to create flat surfaces. By default, creates the surface in the CPlane of the active view.

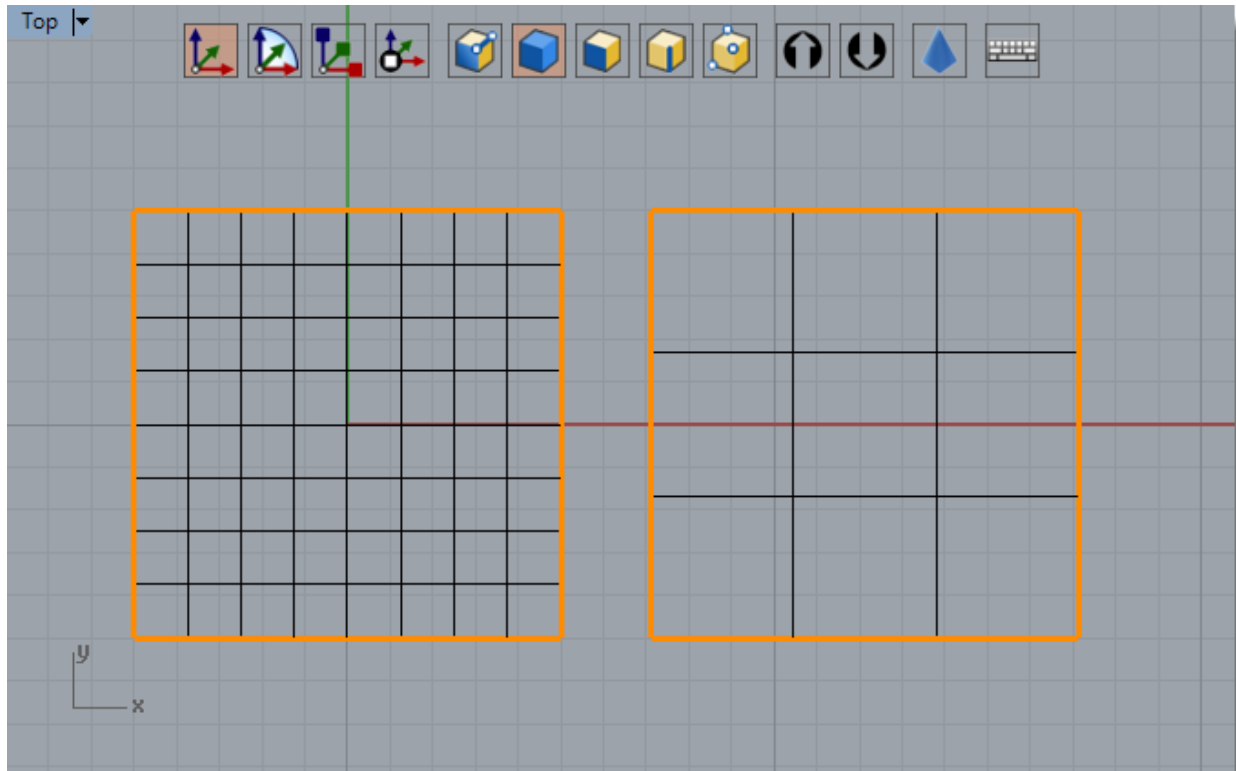


When you run the command, it will display a dialog where you can change the following parameters:

The values X and Y are the size. Also you can resize dynamically with the red arrows. You can double-click on the red arrows to define a value.

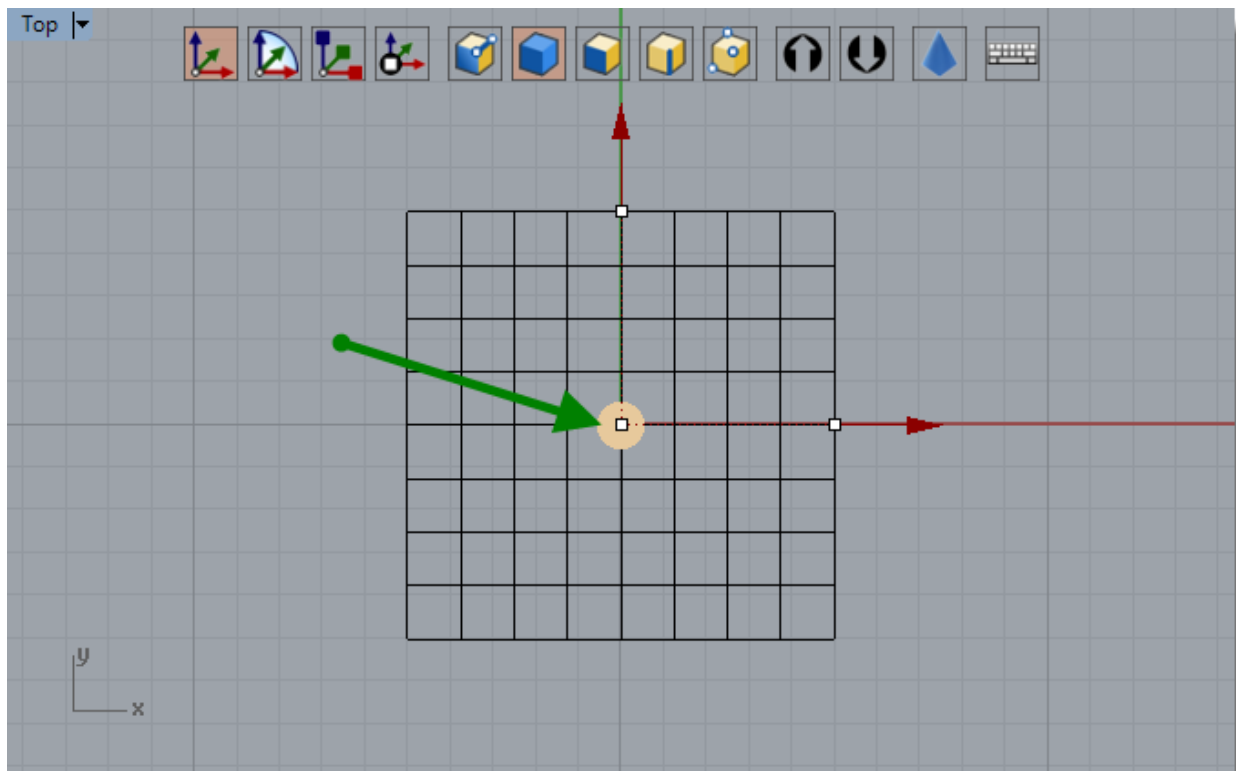
Div values specify the divisions in X and Y. This allows us to define more or less number of faces. Pressing CTRL will change all divisions at a time. The following shows the same surface with different divisions:





Smooth option allows to preview the Plane in smooth mode.

Displayed an orange circle in the center of the surface. This allows us to move the surface in the plane. Similarly, if we double click on the circle, you can pick a point.



Once defined the surface as needed, click the OK button, or X to cancel the command.



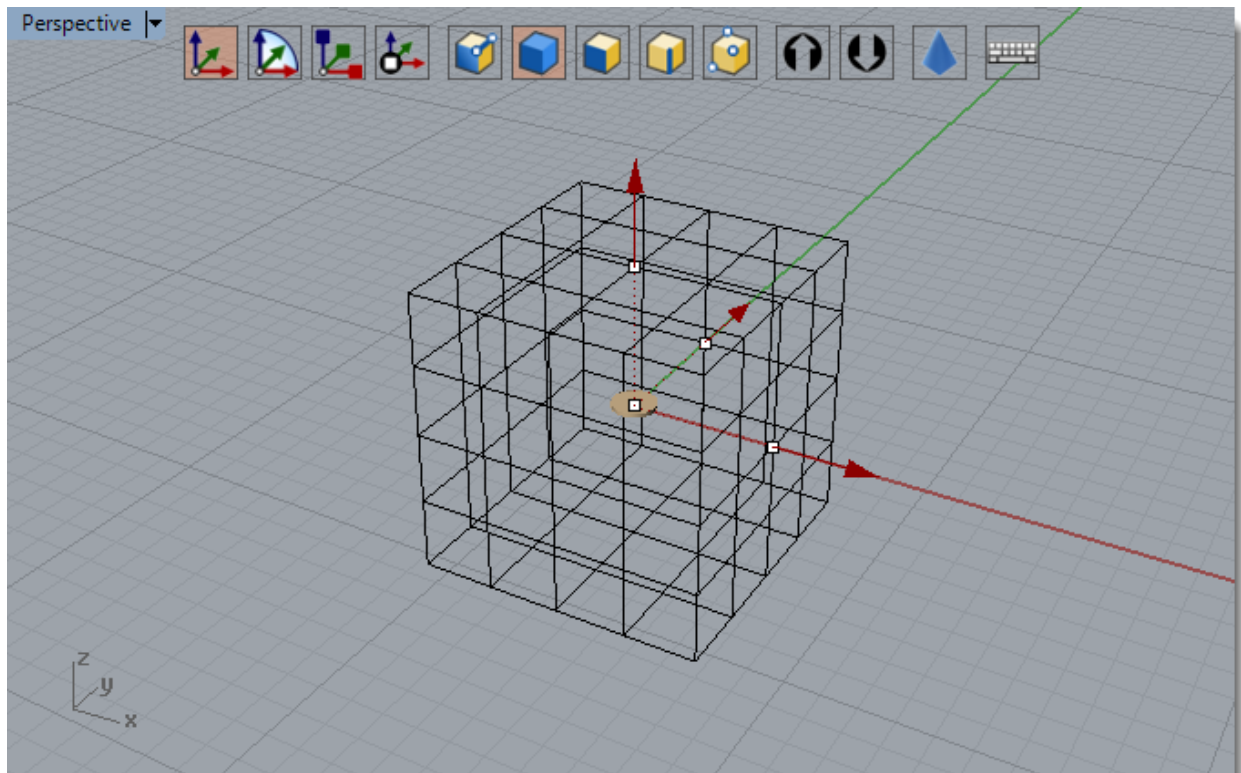
## Box



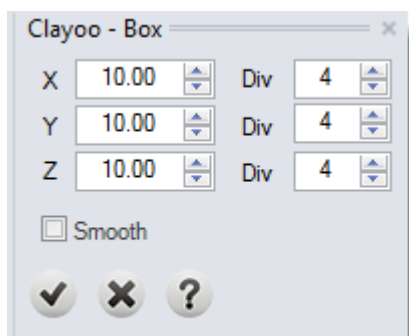
Toolbar  
Menu  
Command

**Clayoo > Primitives > Box**  
**Clayoo > Primitives > Box**  
**ClayBox**

This tool allows us to create a Box. By default, creates the surface in the CPlane of the active view.



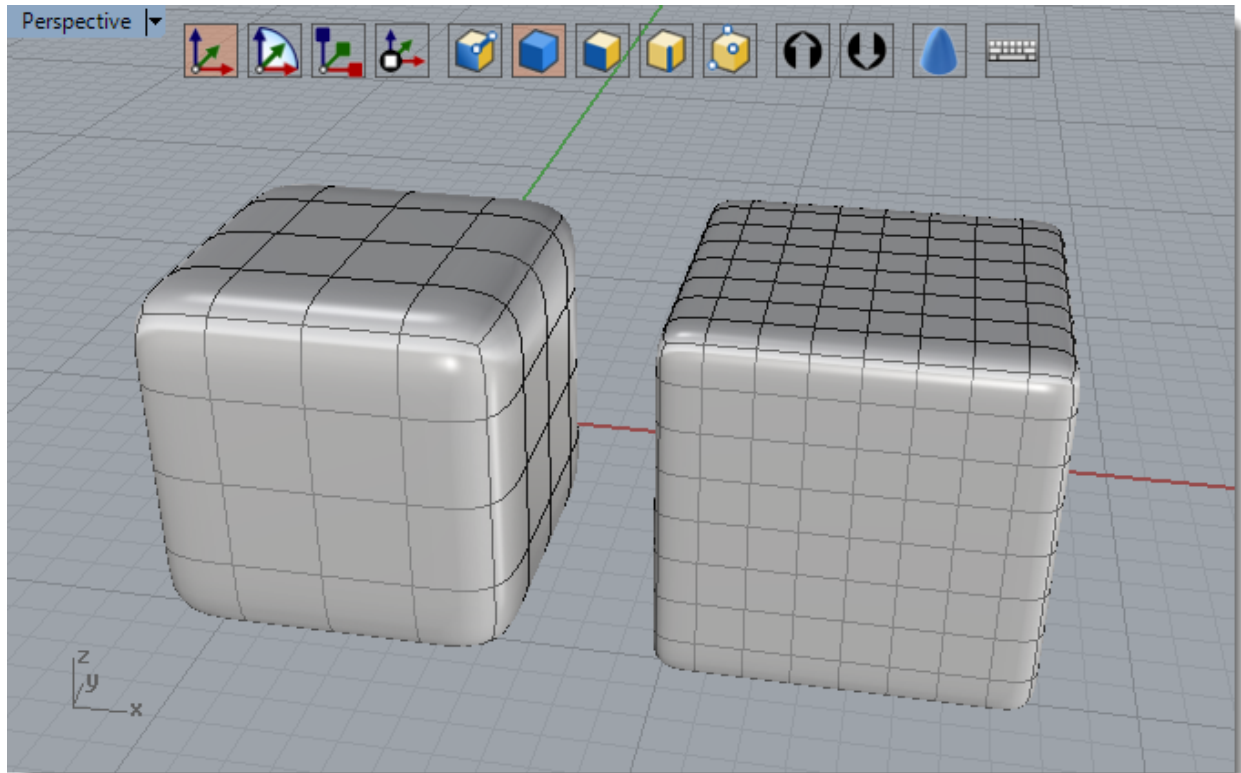
When you run the command, it will display a dialog where you can change the following parameters:



The values X, Y and Z are the size. Also you can resize dynamically with the red arrows. You can double-click on the red arrows to define a value.

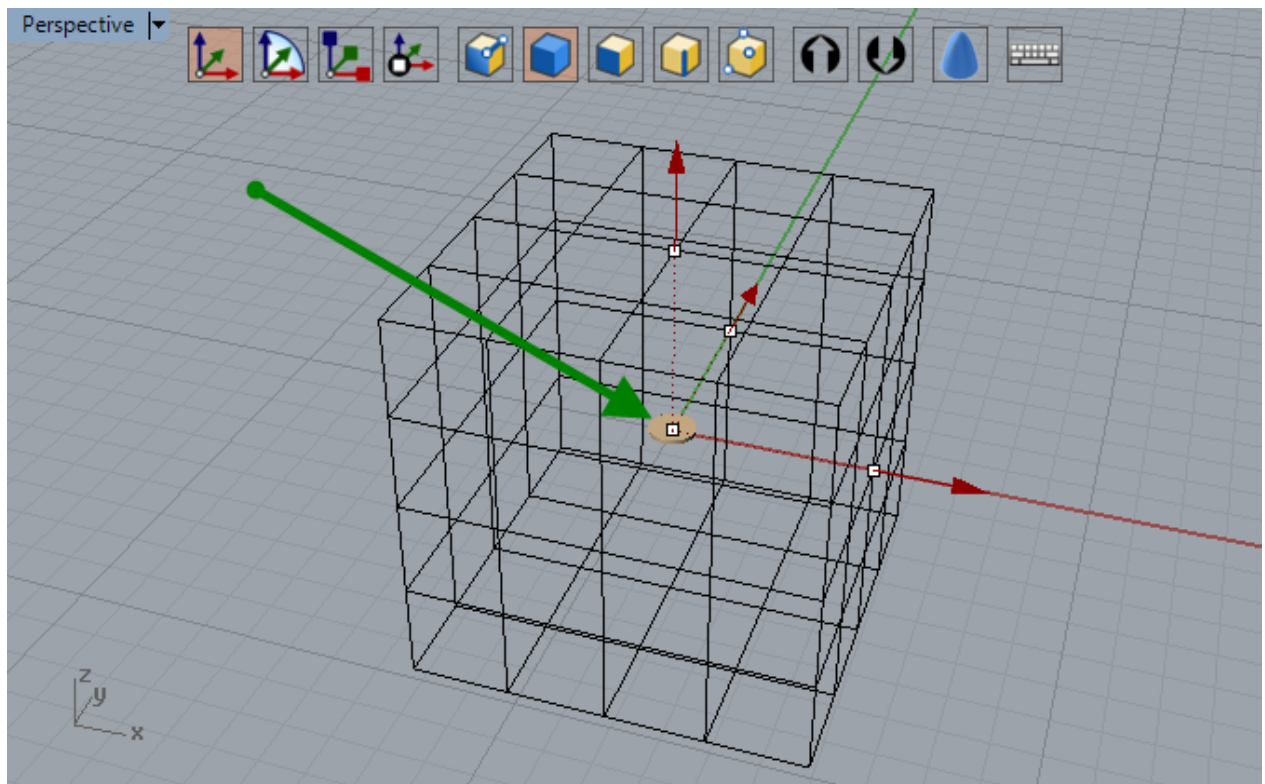
Div values specify the divisions in X, Y and Z. This allows us to define more or less number of faces. Pressing CTRL will change all divisions at a time. The following shows the same surface with different divisions:





Smooth option allows to preview the Box in smooth mode.

Displayed an orange circle in the center of the surface. This allows us to move the surface in the plane. Similarly, if we double click on the circle, you can pick a point.



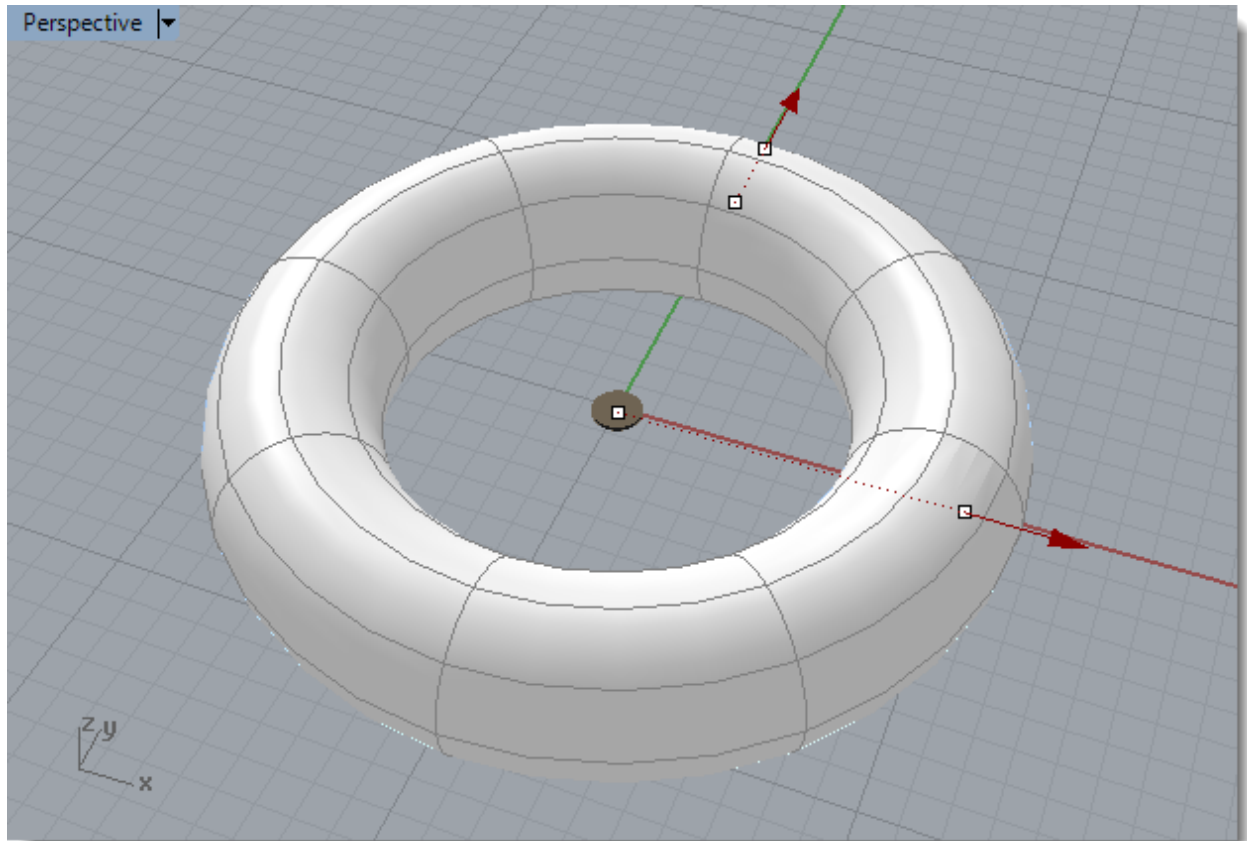
Once defined the surface as needed, click the OK button, or X to cancel the command.



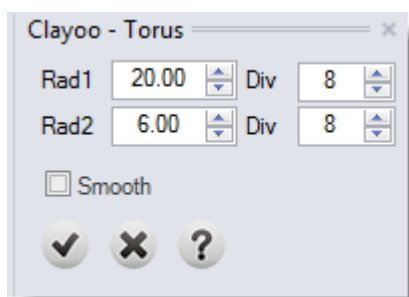
## Torus

Toolbar	<b>Clayoo &gt; Primitives &gt; Torus</b>
Menu	<b>Clayoo &gt; Primitives &gt; Torus</b>
Command	<b>ClayTorus</b>

This tool allows us to create a Torus. By default, creates the surface in the CPlane of the active view.

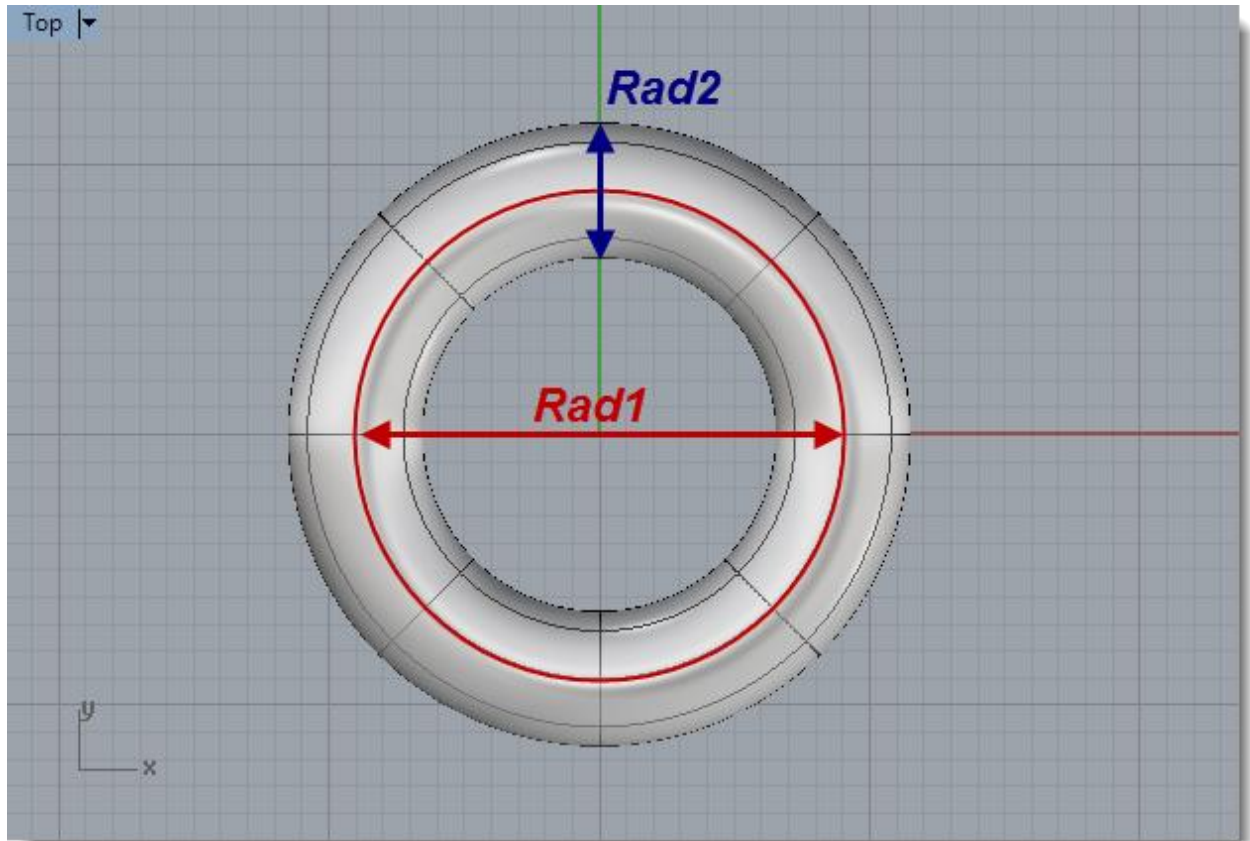


When you run the command, it will display a dialog where you can change the following parameters:

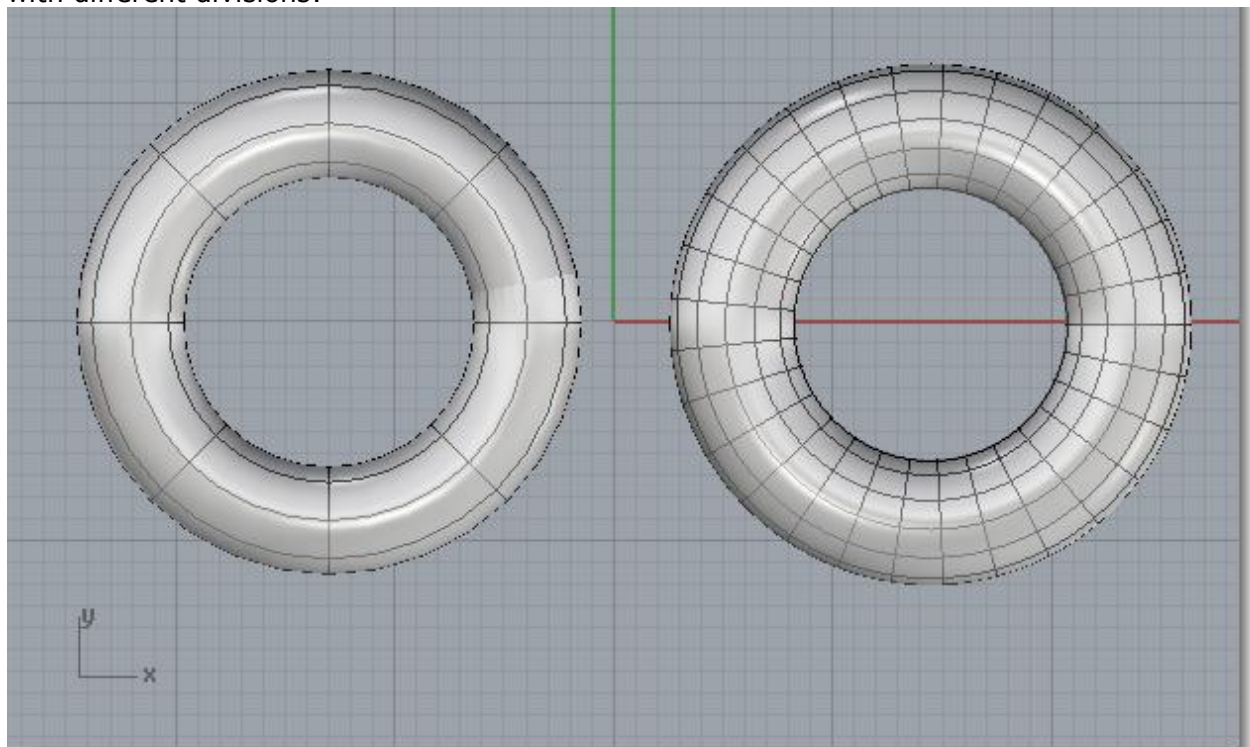


The values Radius 1 and Radius 2 are the size of the torus. Also you can resize dynamically with the red arrows. You can double-click on the red arrows to define a value.





Div values specify the divisions. This allows us to define more or less number of faces. Pressing CTRL will change all divisions at a time. The following shows the same surface with different divisions:

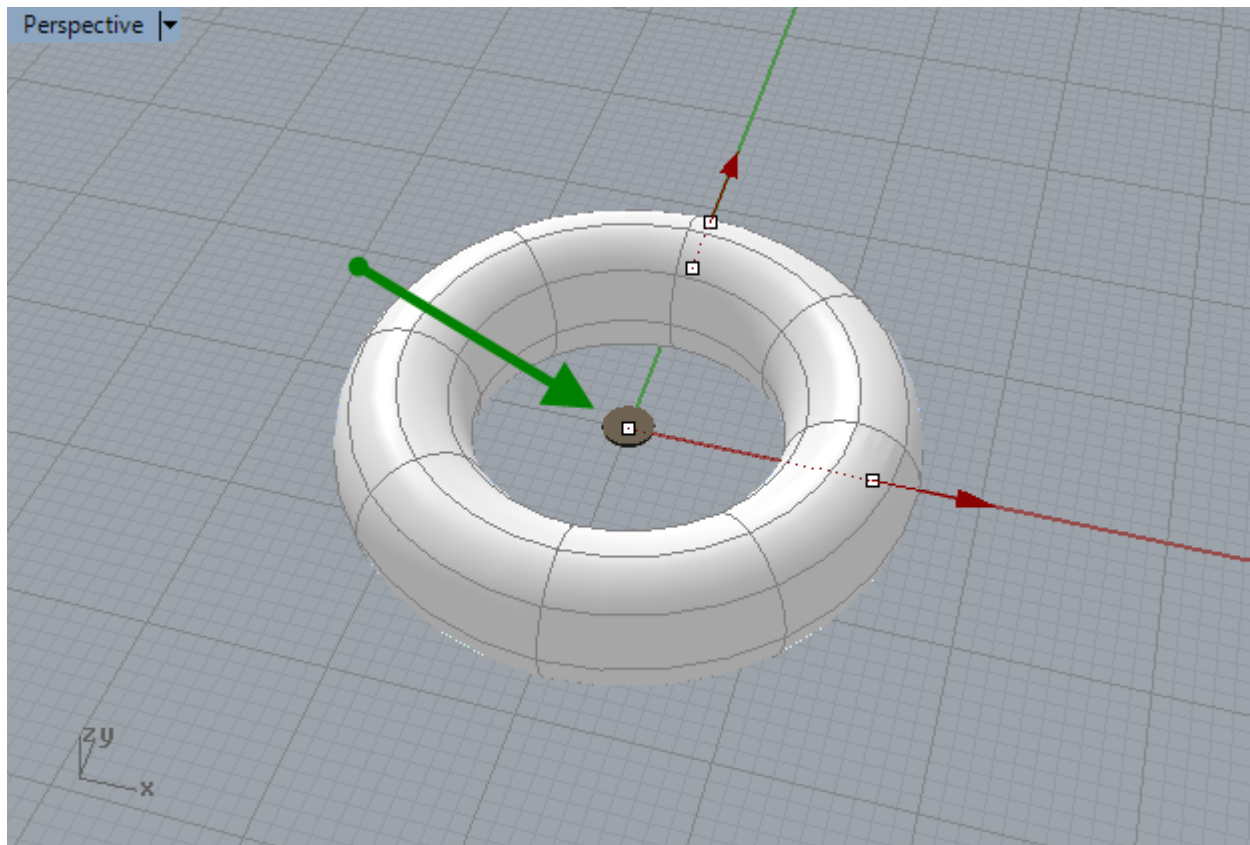


Smooth option allows to preview the Torus in smooth mode.

Displayed an orange circle in the center of the surface. This allows us to move the



surface in the plane. Similarly, if we double click on the circle, you can pick a point.



Once defined the surface as needed, click the OK button, or X to cancel the command.





## Cylinder



Toolbar

Menu

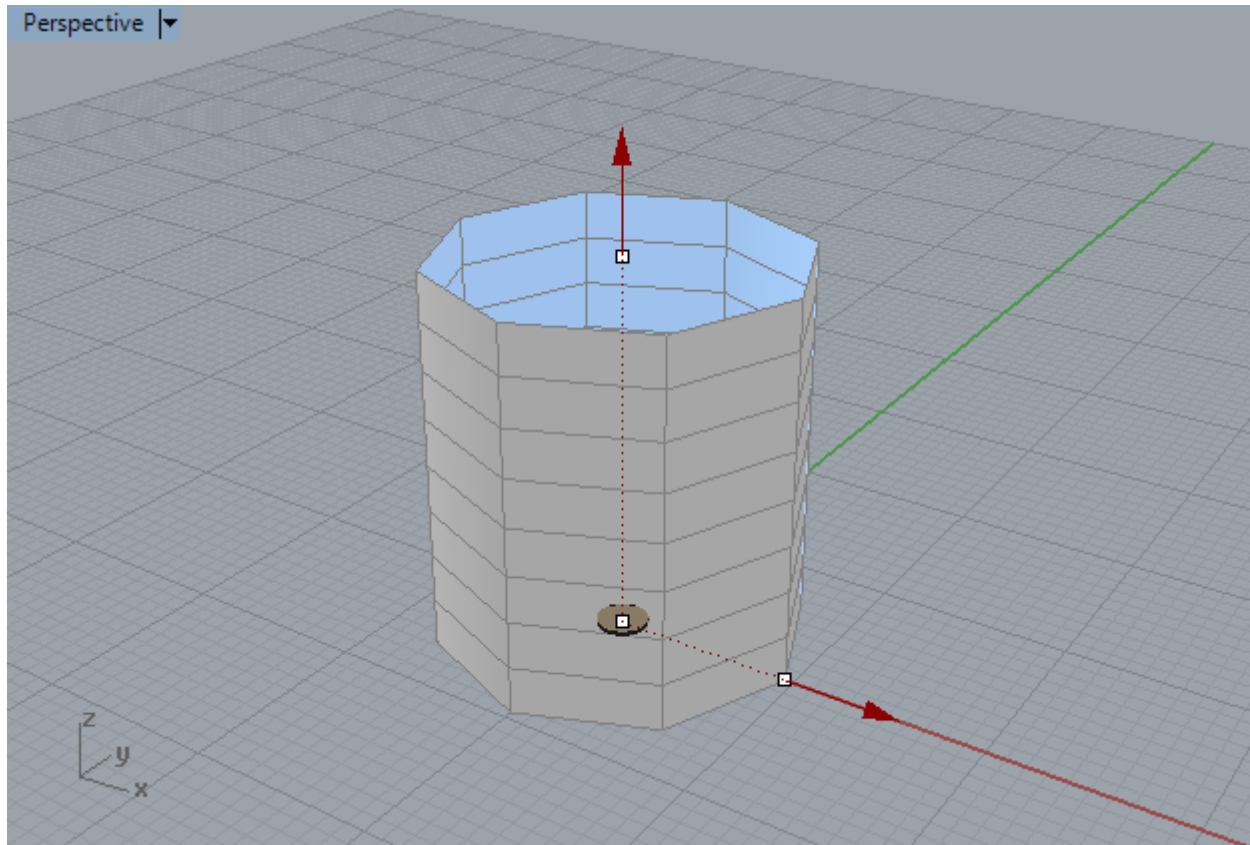
Command

**Clayoo > Primitives > Cylinder**

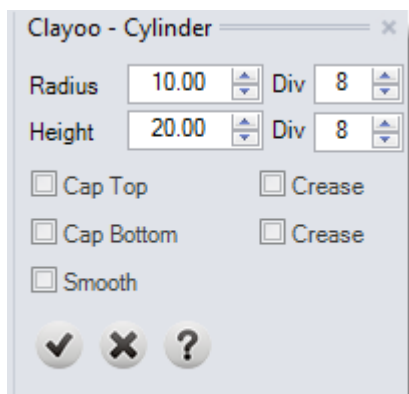
**Clayoo > Primitives > Cylinder**

**ClayCylinder**

This tool allows us to create a Cylinder. By default, creates the surface in the CPlane of the active view.



When you run the command, it will display a dialog where you can change the following parameters:

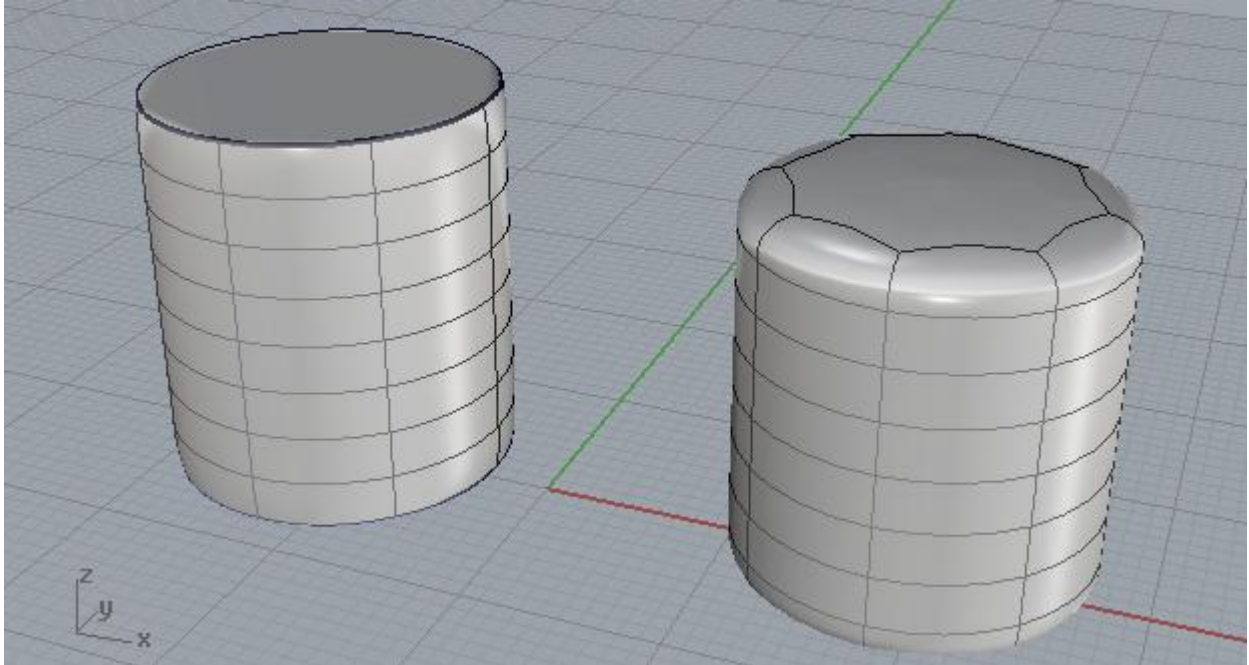


You can define the radius and the height. Also you can resize dynamically with the red arrows. You can double-click on the red arrows to define a value.



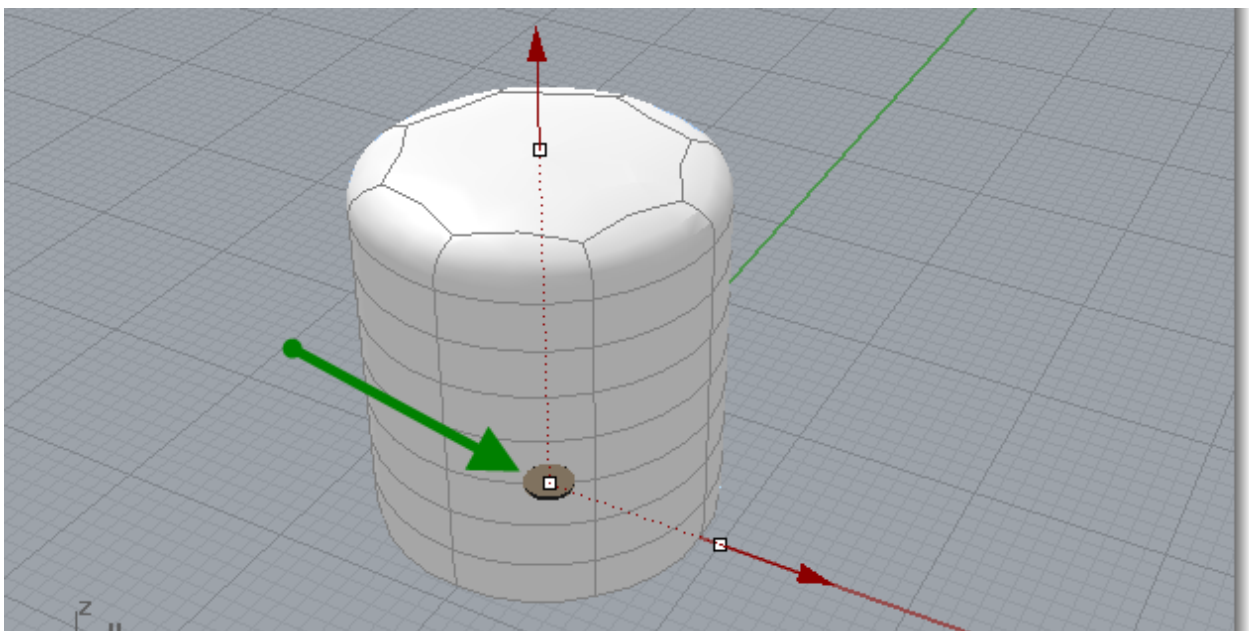
Div values specify the divisions. This allows us to define more or less number of faces. Pressing CTRL will change all divisions at a time. The following shows the same surface with different divisions:

Cap and Crease allows to cap the cylinder. (Left: Cap and Crease | Right: Cap)



Smooth option allows to preview the cylinder in smooth mode.

Displayed an orange circle in the center of the surface. This allows us to move the surface in the plane. Similarly, if we double click on the circle, you can pick a point.



Once defined the surface as needed, click the OK button, or X to cancel the command.



## Sphere



Toolbar

Menu

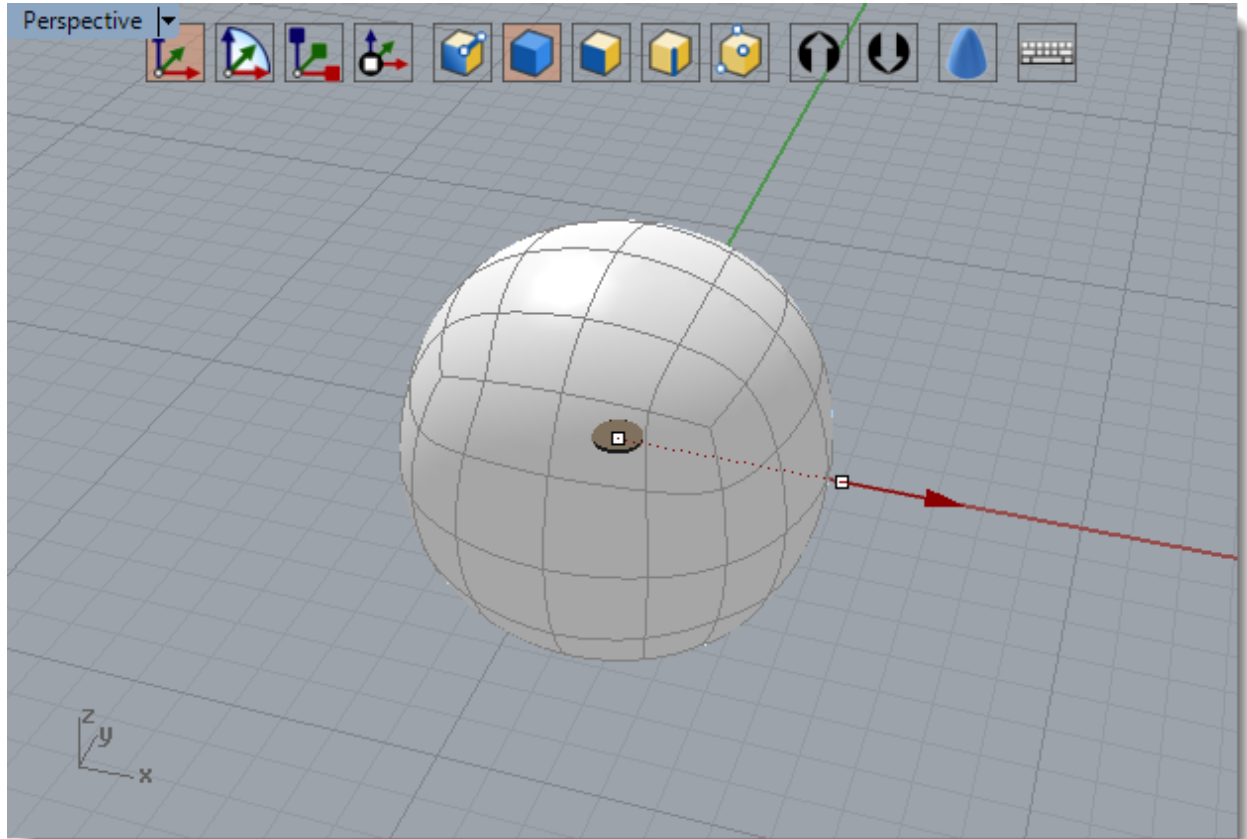
Command

**Clayoo > Primitives > Sphere**

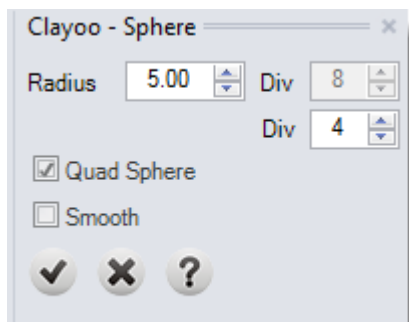
**Clayoo > Primitives > Sphere**

**ClaySphere**

This tool allows us to create a Sphere. By default, creates the surface in the CPlane of the active view.



When you run the command, it will display a dialog where you can change the following parameters:

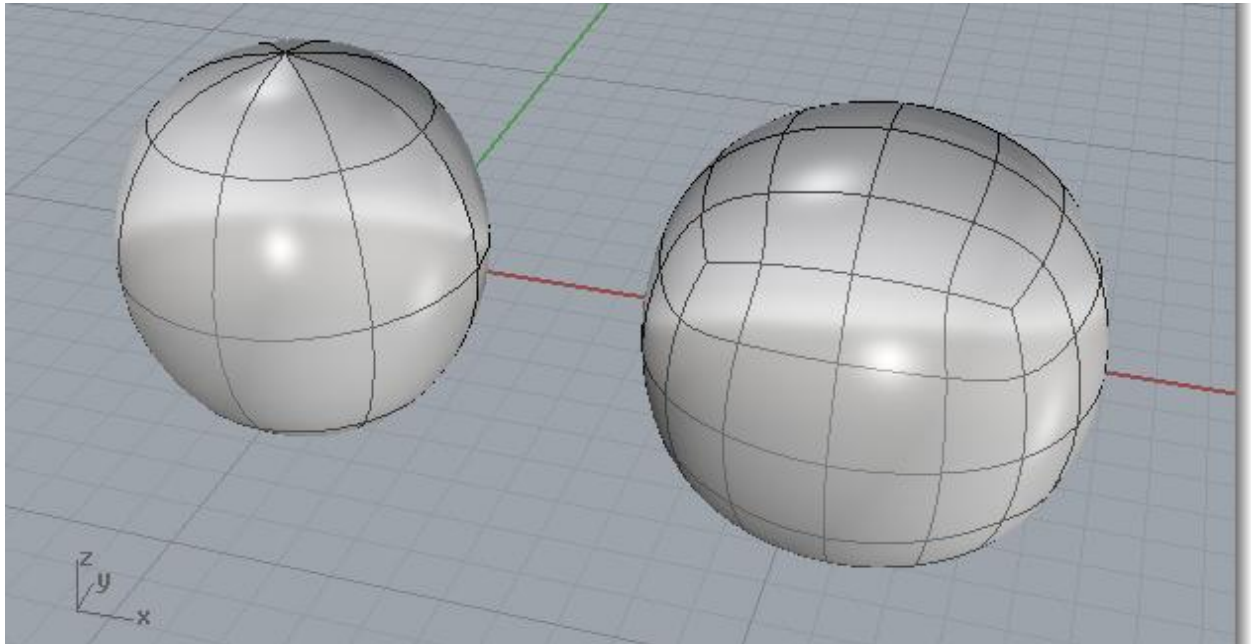


You can define the radius. Also you can resize dynamically with the red arrow. You can double-click on the red arrows to define a value.

Div values specify the divisions. This allows us to define more or less number of faces. Pressing CTRL will change all divisions at a time.

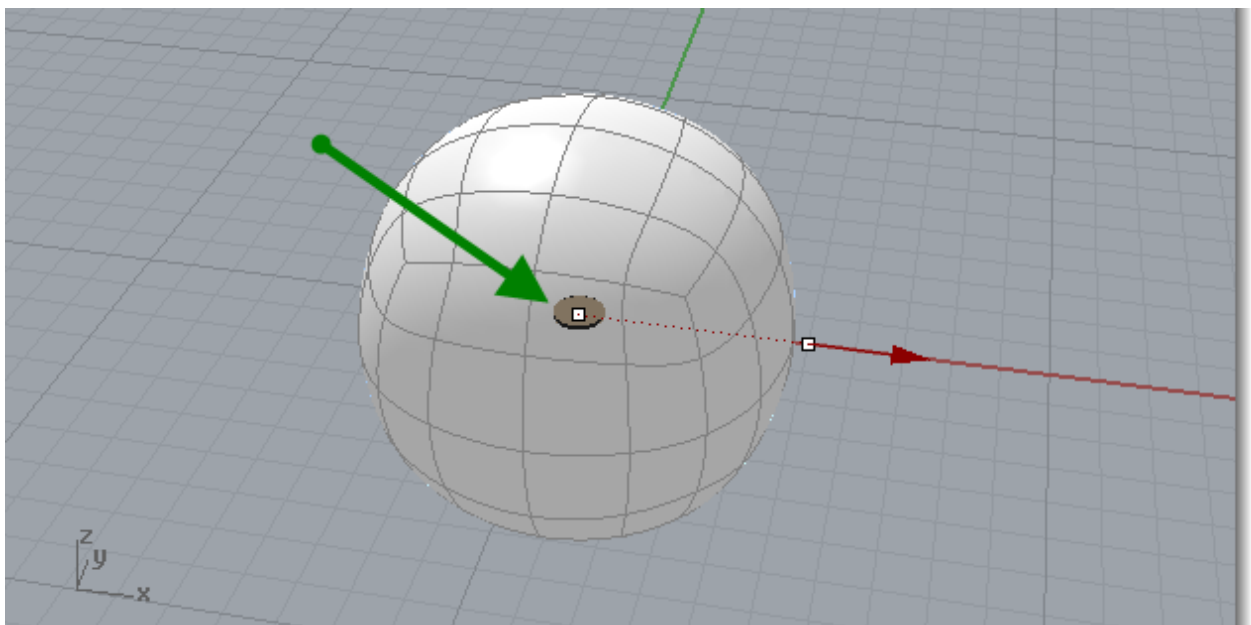


Quad Sphere allows to define the sphere in quad faces. (Left: Quad Sphere Unchecked | Right: Quad Sphere Checked)



Smooth option allows to preview the sphere in smooth mode.

Displayed an orange circle in the center of the surface. This allows us to move the surface in the plane. Similarly, if we double click on the circle, you can pick a point.



Once defined the surface as needed, click the OK button, or X to cancel the command.





## Ellipsoid



Toolbar

Menu

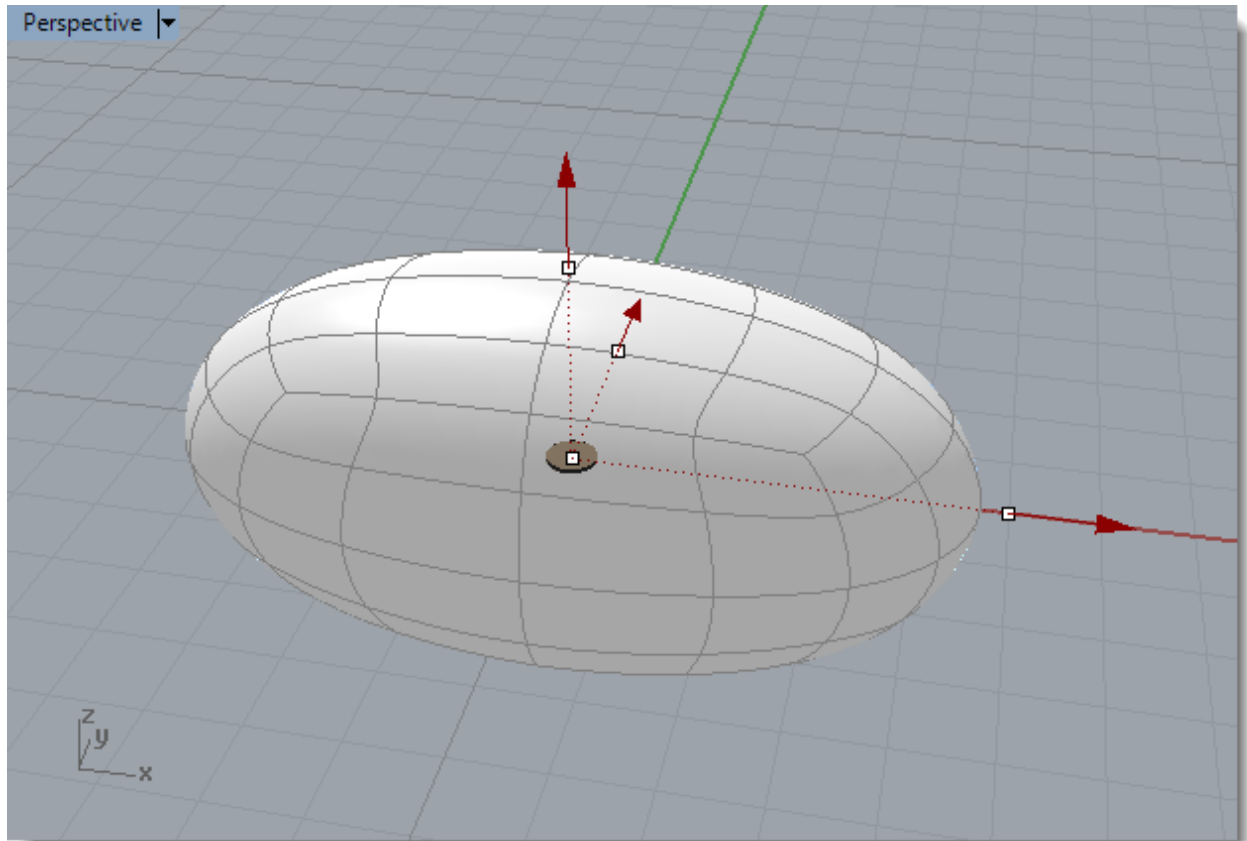
Command

**Clayoo > Primitives > Ellipsoid**

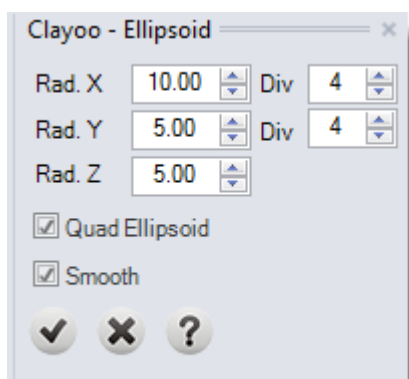
**Clayoo > Primitives > Ellipsoid**

**ClayEllipsoid**

This tool allows us to create a Ellipsoid. By default, creates the surface in the CPlane of the active view.



When you run the command, it will display a dialog where you can change the following parameters:

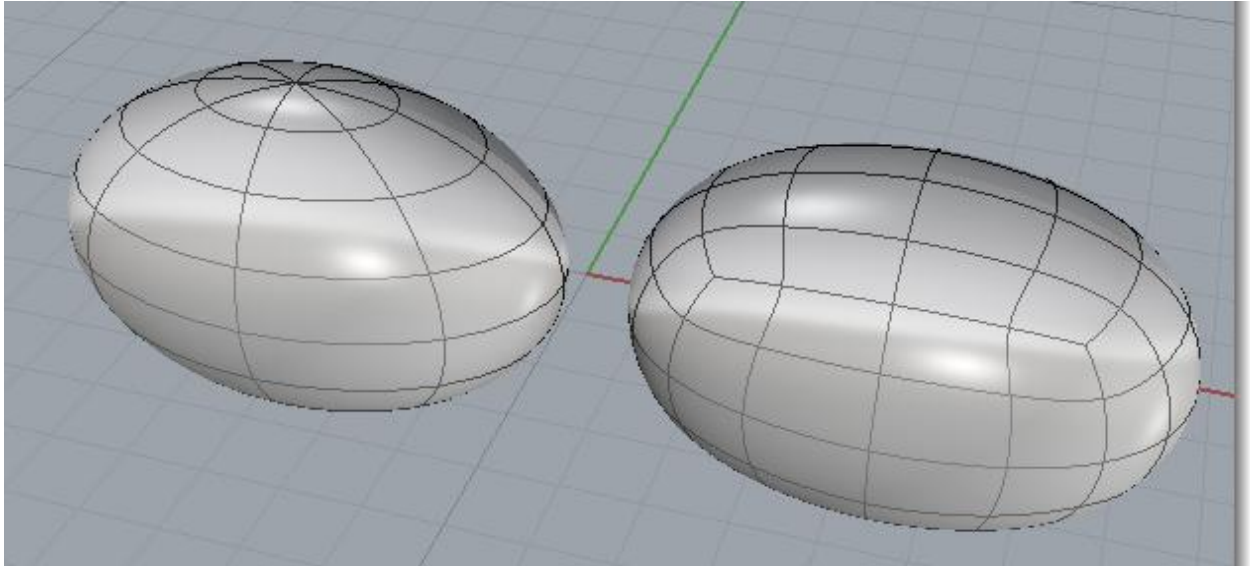


The values Radius X, Radius Y and Radius Z are the sizes. Also you can resize dynamically with the red arrows. You can double-click on the red arrows to define a value.



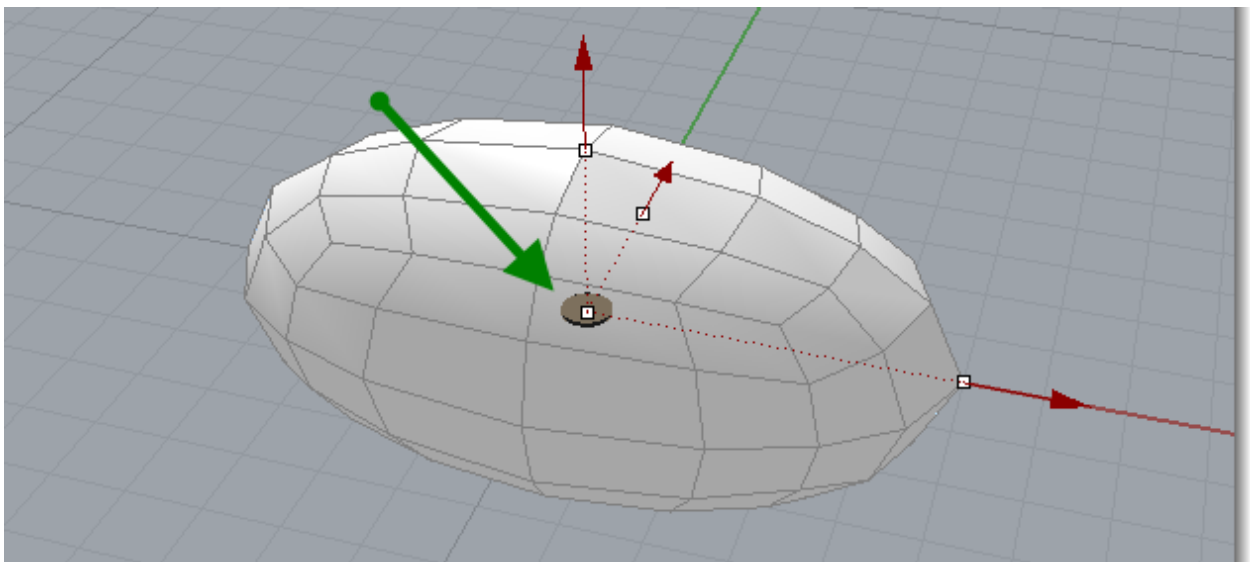
Div values specify the divisions in X, Y and Z. This allows us to define more or less number of faces. Pressing CTRL will change all divisions at a time.

Quad Ellipsoid allows to define the ellipsoid in quad faces. (Left: Quad Ellipsoid Unchecked | Right: Quad Ellipsoid Checked)



Smooth option allows to preview the Ellipsoid in smooth mode.

Displayed an orange circle in the center of the surface. This allows us to move the surface in the plane. Similarly, if we double click on the circle, you can pick a point.



Once defined the surface as needed, click the OK button, or X to cancel the command.





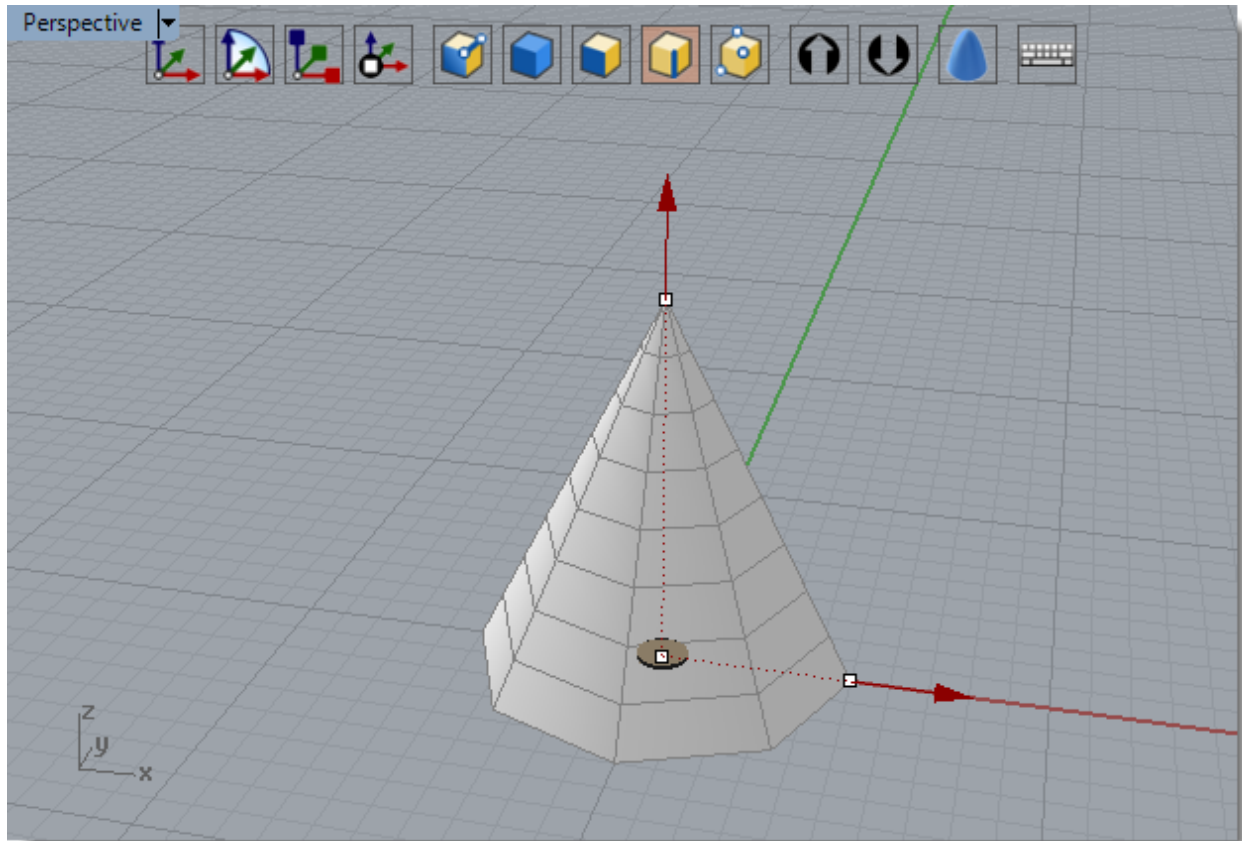
## Cone



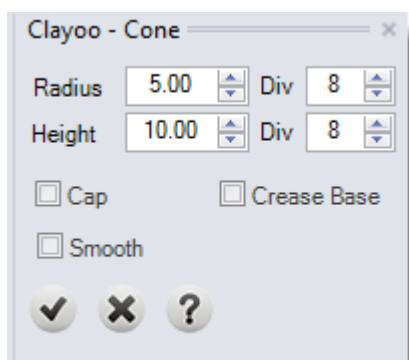
Toolbar  
Menu  
Command

**Clayoo > Primitives > Cone**  
**Clayoo > Primitives > Cone**  
**ClayCone**

This tool allows us to create a Cone. By default, creates the surface in the CPlane of the active view.



When you run the command, it will display a dialog where you can change the following parameters:

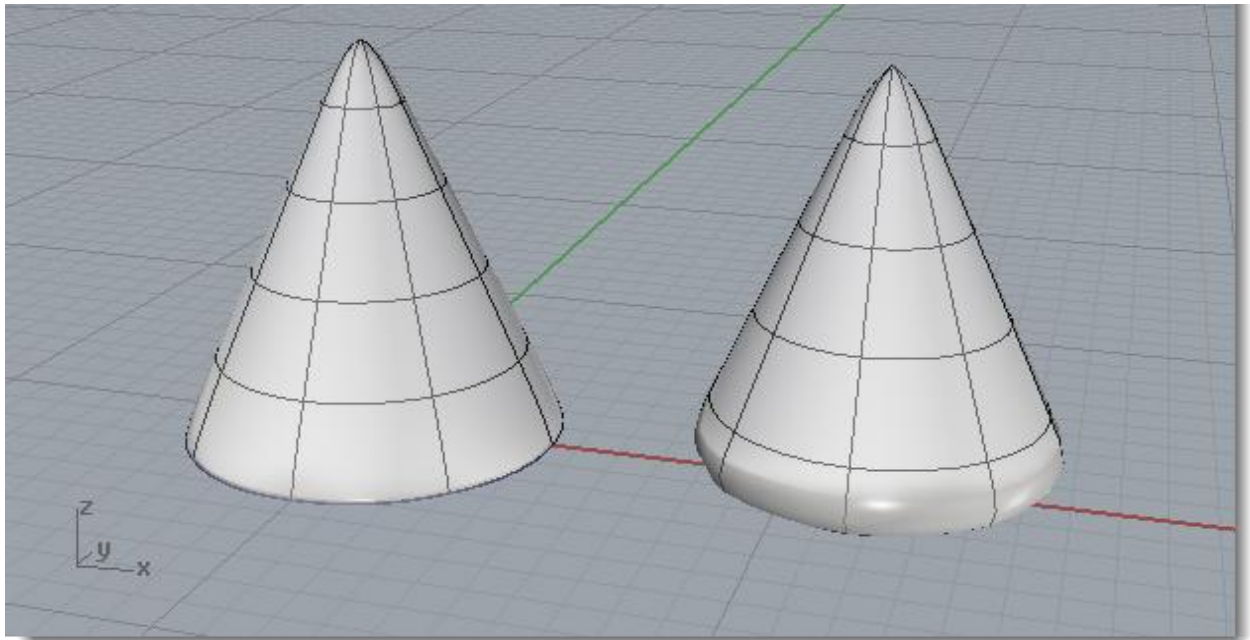


Radius and Height define the size of the cone. Also you can resize dynamically with the red arrows. You can double-click on the red arrows to define a value.

Div values specify the divisions. This allows us to define more or less number of faces. Pressing CTRL will change all divisions at a time.

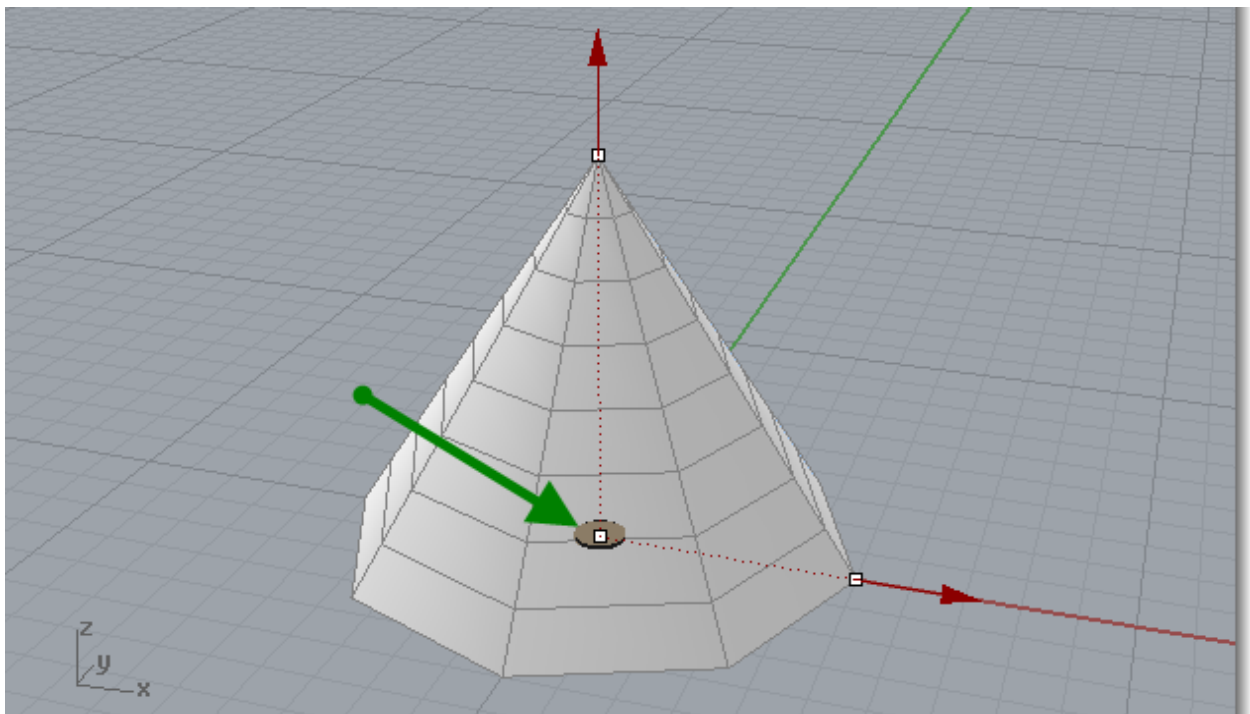


Cap and Crease allows to cap the cylinder. (Left: Cap and Crease | Right: Cap)



Smooth option allows to preview the Cone in smooth mode.

Displayed an orange circle in the center of the surface. This allows us to move the surface in the plane. Similarly, if we double click on the circle, you can pick a point.



Once defined the surface as needed, click the OK button, or X to cancel the command.



## Truncated Cone



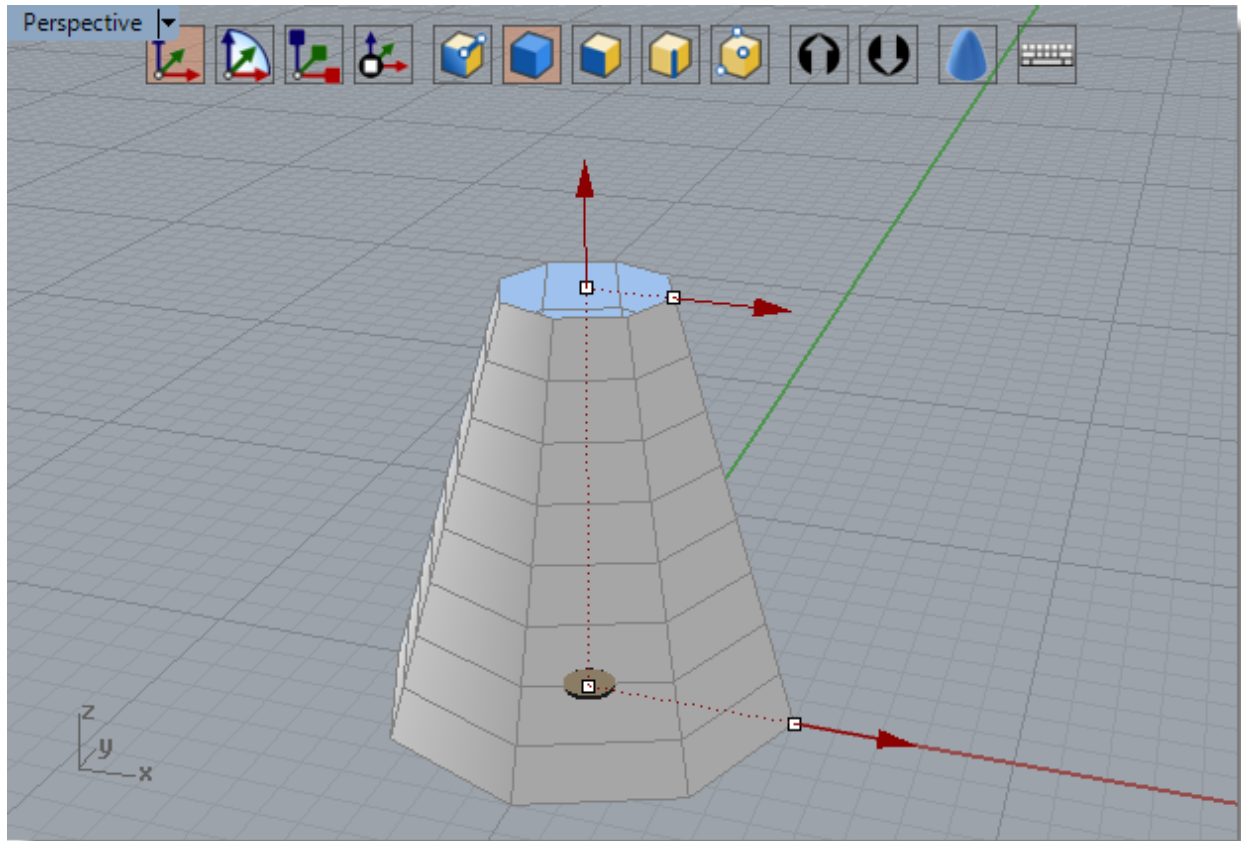
Toolbar  
Menu  
Command

**Clayoo > Primitives > Truncated Cone**

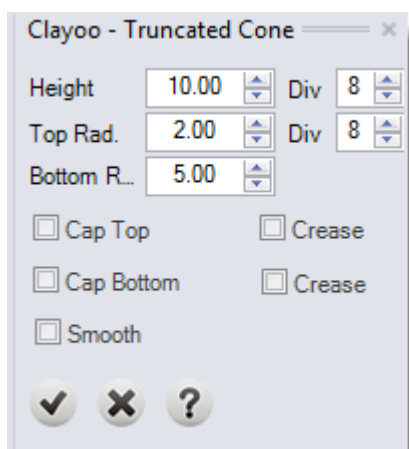
**Clayoo > Primitives > Truncated Cone**

**ClayTruncatedCone**

This tool allows us to create a Truncated Cone. By default, creates the surface in the CPlane of the active view.



When you run the command, it will display a dialog where you can change the following parameters:

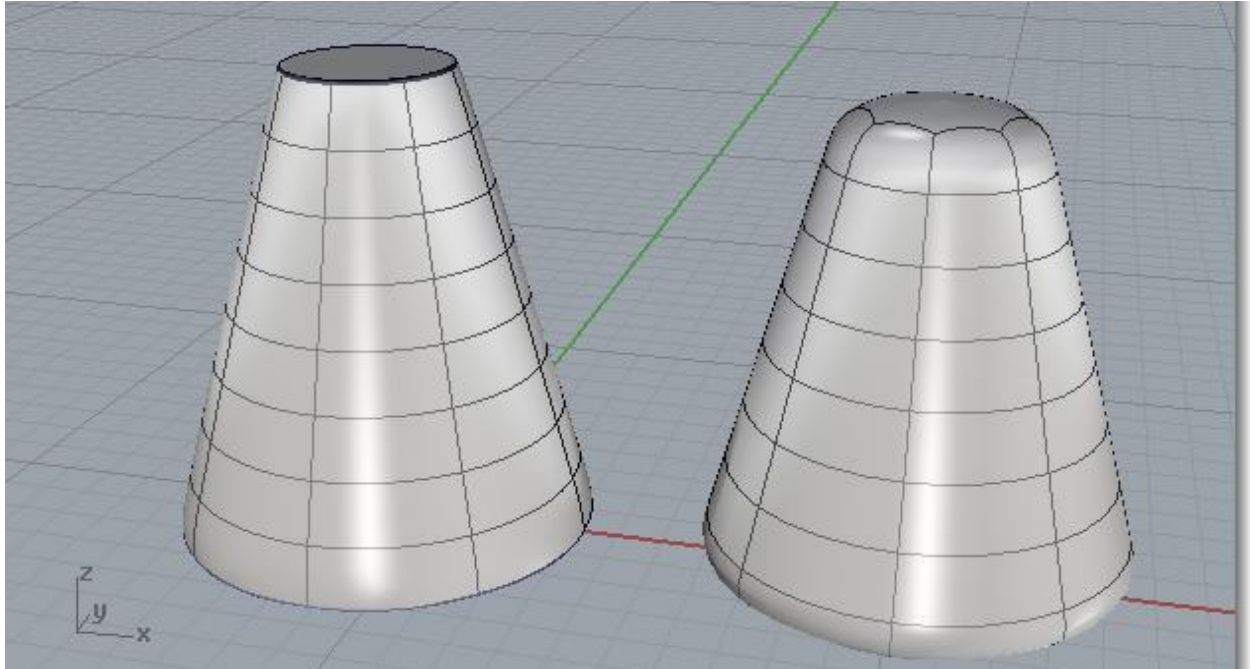


Radius and Height define the size of the cone. Also you can resize dynamically with the red arrows. You can double-click on the red arrows to define a value.



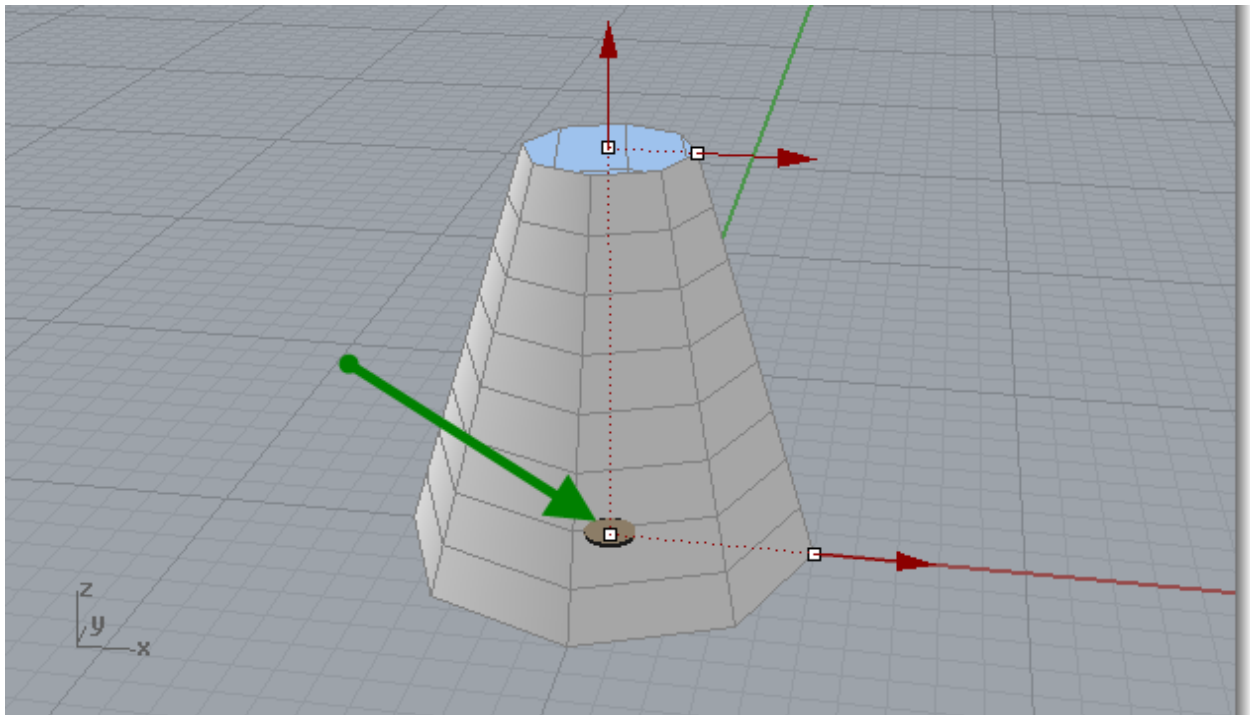
Div values specify the divisions. This allows us to define more or less number of faces. Pressing CTRL will change all divisions at a time.

Cap and Crease allows to cap the cylinder. (Left: Cap and Crease | Right: Cap)



Smooth option allows to preview the Truncated cone in smooth mode.

Displayed an orange circle in the center of the surface. This allows us to move the surface in the plane. Similarly, if we double click on the circle, you can pick a point.



Once defined the surface as needed, click the OK button, or X to cancel the command.



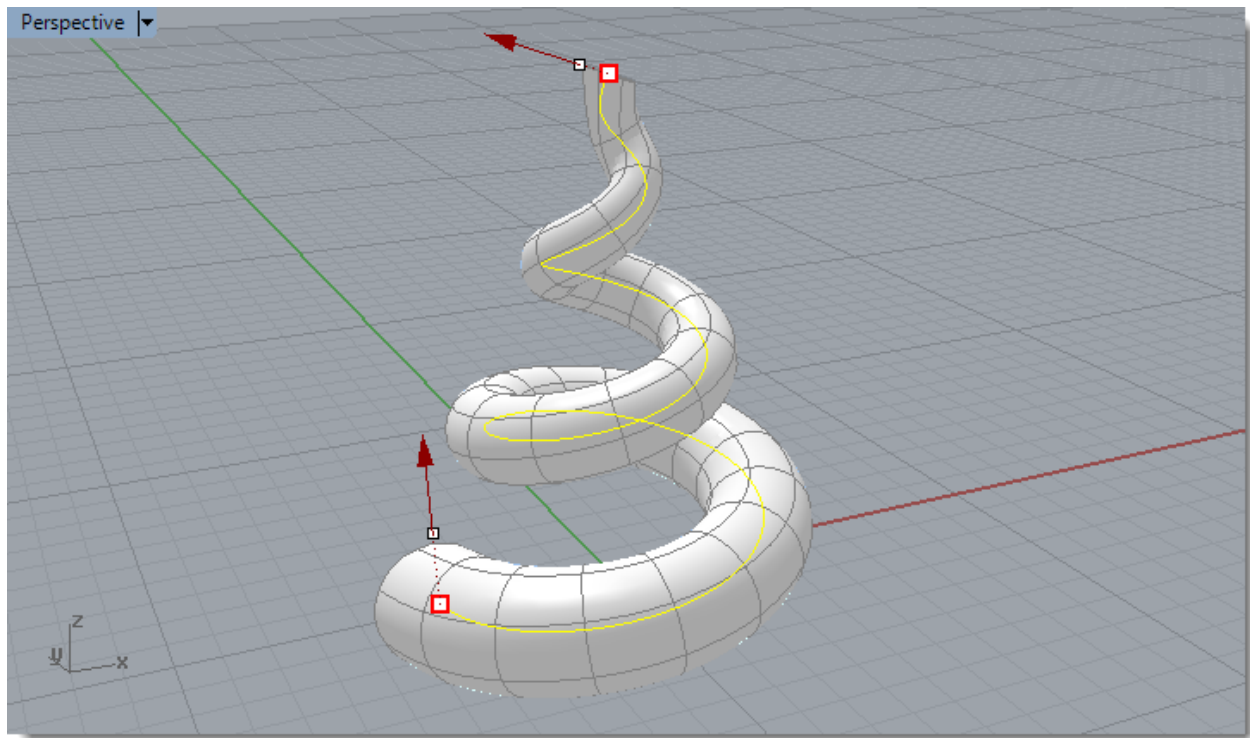
## Pipe



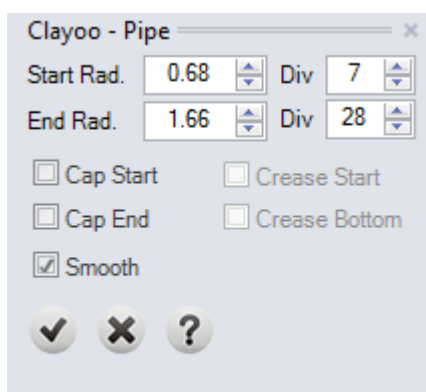
Toolbar  
Menu  
Command

**Clayoo > Primitives > Pipe**  
**Clayoo > Primitives > Pipe**  
**ClayPipe**

This tool allows us to create a pipes.



When you run the command, it will display a dialog where you can change the following parameters:



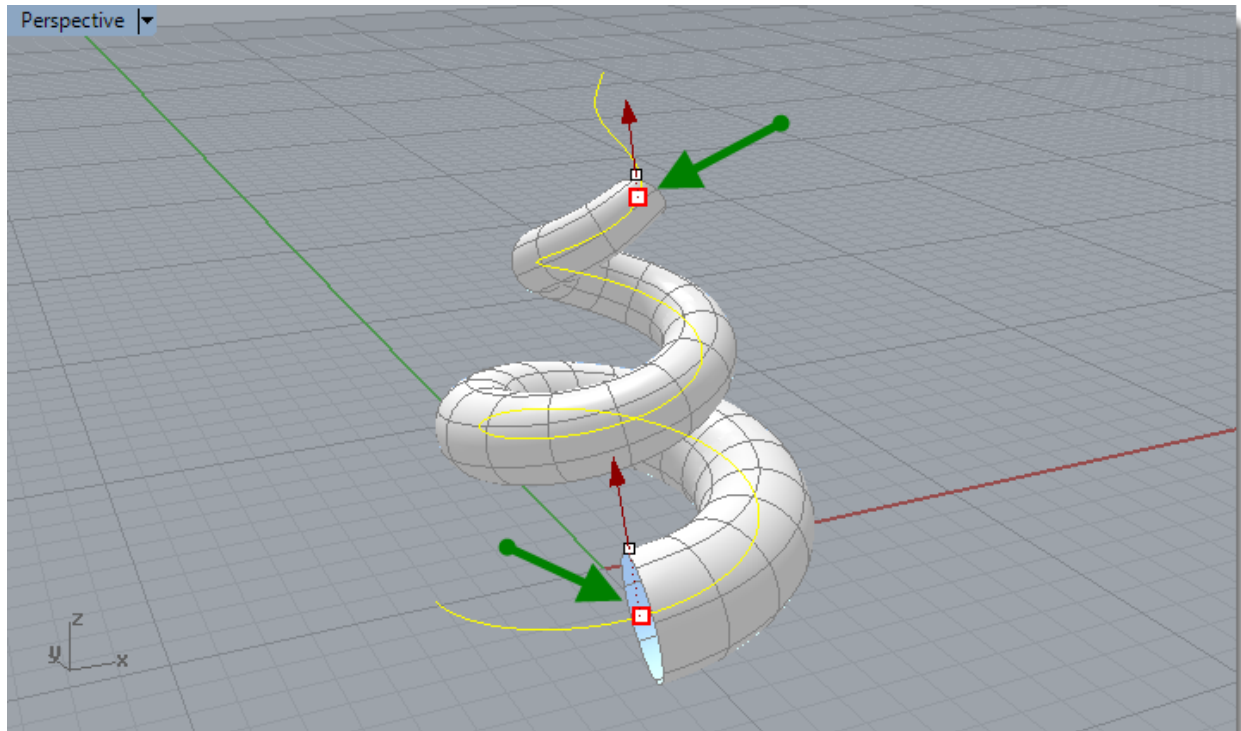
Start radius and End radius define the size of the pipe. Also you can resize dynamically with the red arrows. You can double-click on the red arrows to define a value.

Div values specify the divisions. This allows us to define more or less number of faces. Pressing CTRL will change all divisions at a time.

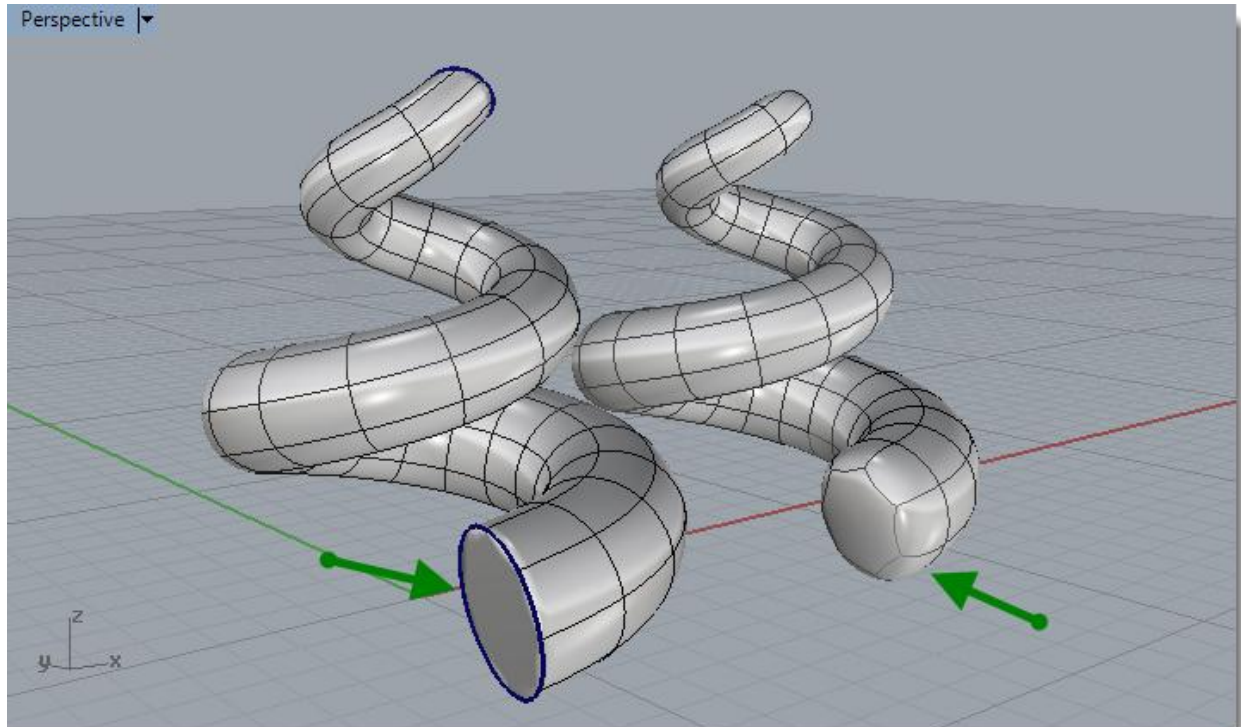
As you can see in the image, there are two squares. These squares define the start and



the end point. You can drag them in any point on the curve.



Cap and Crease allows to cap the cylinder. (Left: Cap and Crease | Right: Cap)



Smooth option allows to preview it in smooth mode.














Once defined the surface as needed, click the OK button, or X to cancel the command.



## Creation

This toolbar contains tools for creating Clayoo surfaces. There are several ways to create from curves, surfaces, meshes, ... The following sections detail each one of the tools.



Create	Icon	Command
<a href="#"><u>Create by curve</u></a>		ClayCreateByCurve
<a href="#"><u>Create by two curves</u></a>		ClayCreateBy2Curves
<a href="#"><u>Create by surfaces</u></a>		ClayCreateBySurface
<a href="#"><u>Create by Meshes</u></a>		ClayCreateByMesh
<a href="#"><u>Extrude</u></a>		ClayExtrude
<a href="#"><u>Loft</u></a>		ClayLoft
<a href="#"><u>Sweep 1</u></a>		ClaySweep1
<a href="#"><u>Sweep 2</u></a>		ClaySweep2
<a href="#"><u>Revolve</u></a>		ClayRevol
<a href="#"><u>Ring</u></a>		ClayRing
<a href="#"><u>Blueprint</u></a>		ClayBlueprint
<a href="#"><u>Retopology</u></a>		ClayRetopology
<a href="#"><u>To Nurbs</u></a>		ClayToNurbs



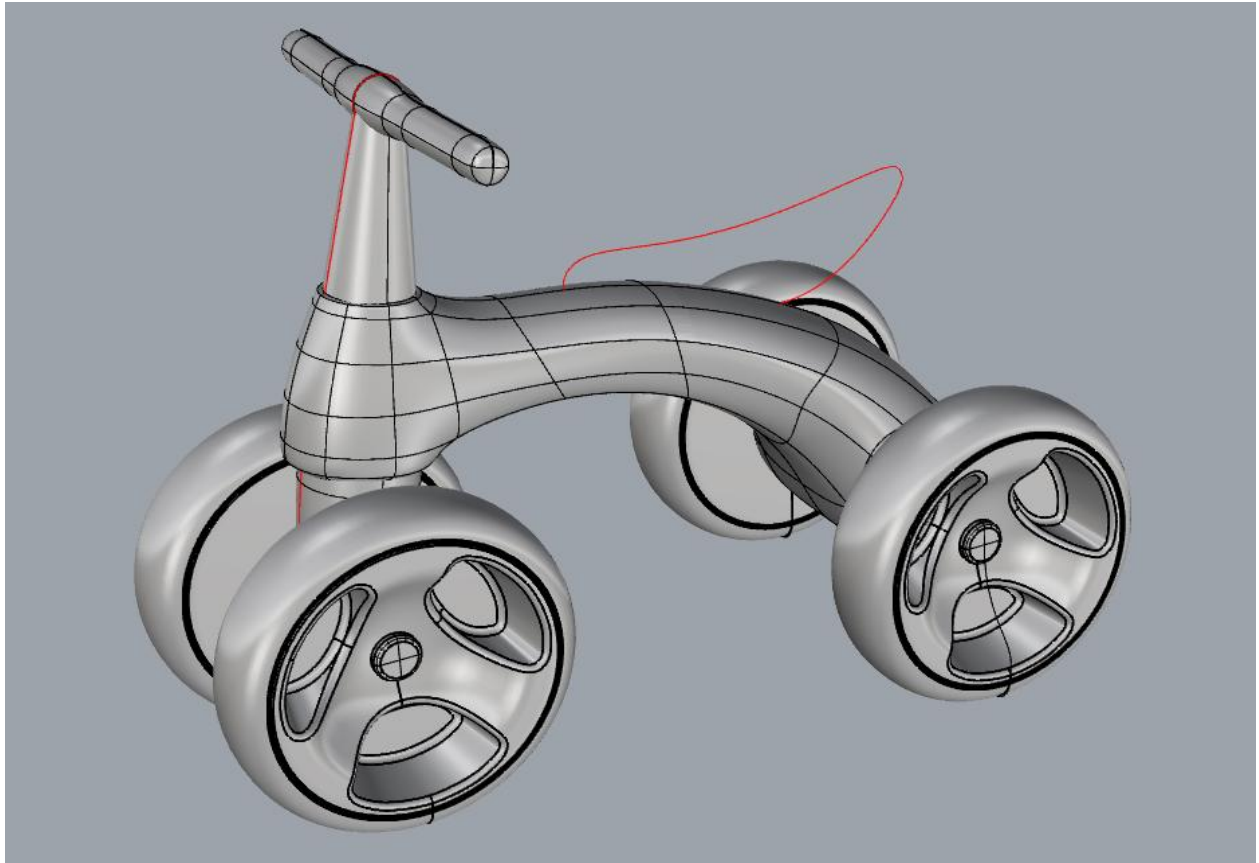
## Create by curve



Toolbar  
Menu  
Command

**Clayoo > Creation > Create by curve**  
**Clayoo > Creation > Create by curve**  
**ClayCreateByCurve**

This tool allows us to create a surface along a curve.



When you run the command you have to select a curve and then will display a dialog where you can change the following parameters:

Distance	<input type="text" value="12,00"/>
Divisions	<input type="text" value="4"/>
Div Along Curve	<input type="text" value="8"/>
<input type="checkbox"/> Cap	<input type="checkbox"/> Both Sides
<input type="checkbox"/> Crease Start	<input type="checkbox"/> Crease End
<input checked="" type="checkbox"/> Smooth	<input type="checkbox"/> Flip
<input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	

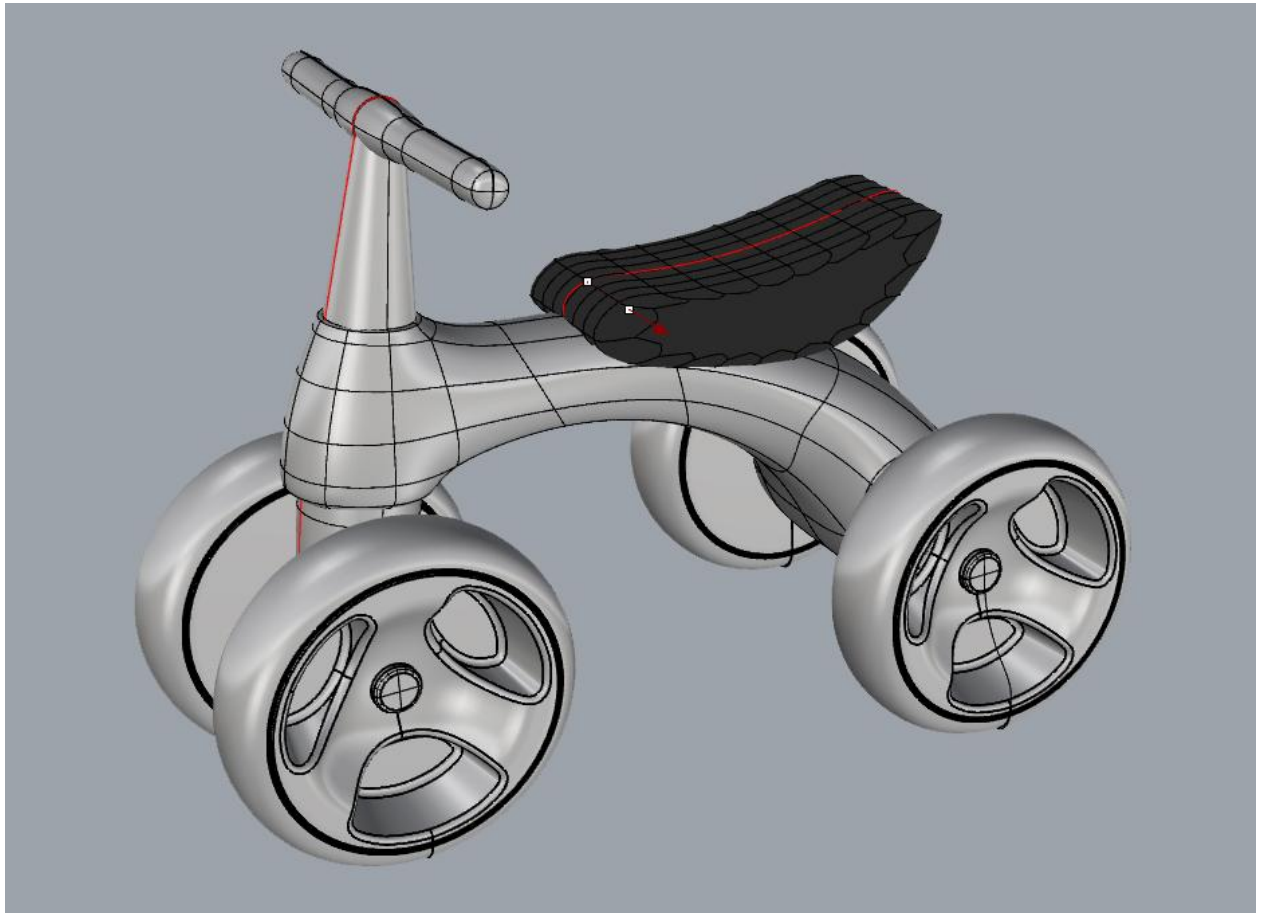
The distance defines the height and the divisions allows us to define more or less number of faces.

We can also choose the both sides option.

Smooth option allows to preview the Surface in smooth mode.

As you can see on the picture we can also select a closed curve, this allow us to create closed surfaces or solids.



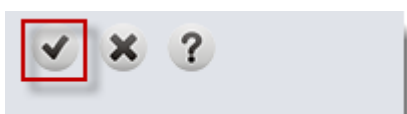


In this case the display dialog allow us to define more parameters:

Distance	<input type="text" value="6.00"/>
Divisions	<input type="text" value="4"/>
Div Along Curve	<input type="text" value="12"/>
<input checked="" type="checkbox"/> Cap	<input type="checkbox"/> Both Sides
<input type="checkbox"/> Crease Start	<input checked="" type="checkbox"/> Crease End
<input checked="" type="checkbox"/> Smooth	<input type="checkbox"/> Flip
<input checked="" type="button" value="✓"/> <input type="button" value="✗"/> <input type="button" value="ⓘ"/>	

The cap option to close the surface top and bottom and the crease to define sharp edges.

Once defined the surface as needed, click the OK button, or X to cancel the command.





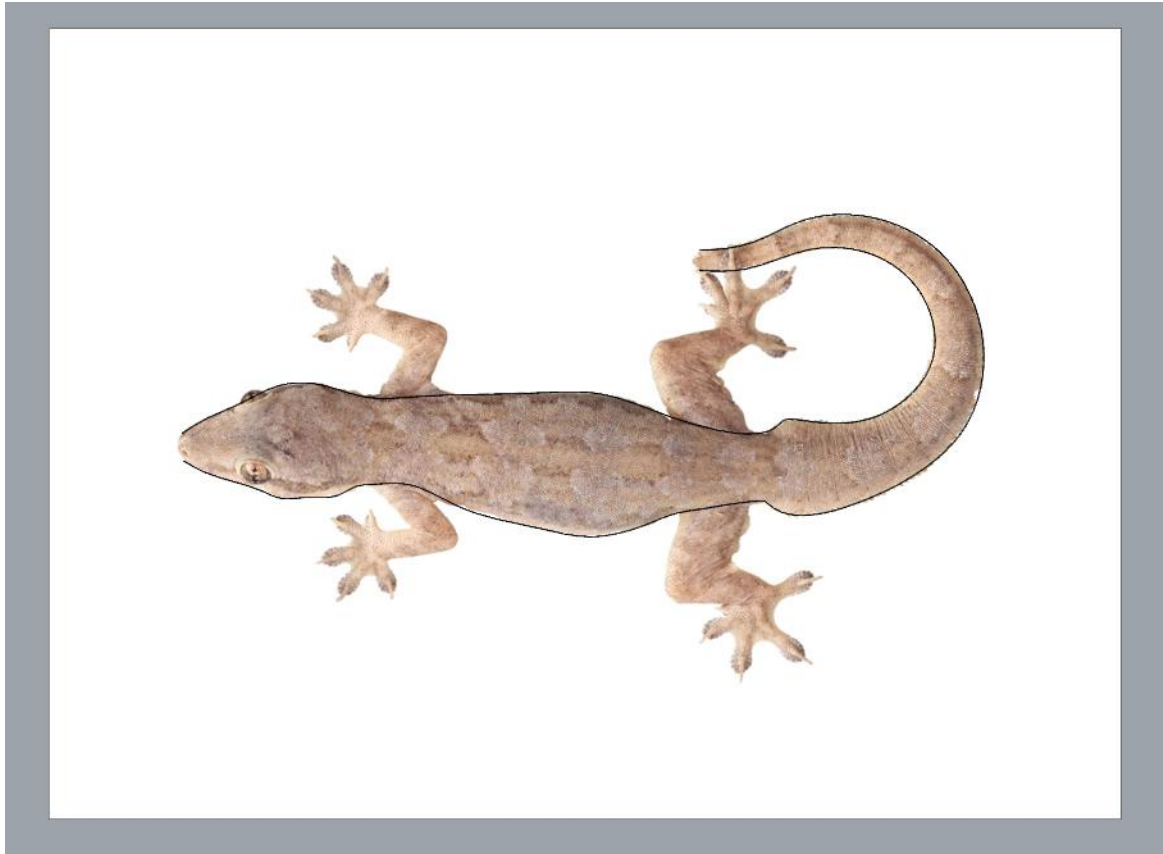
## Create by two curves



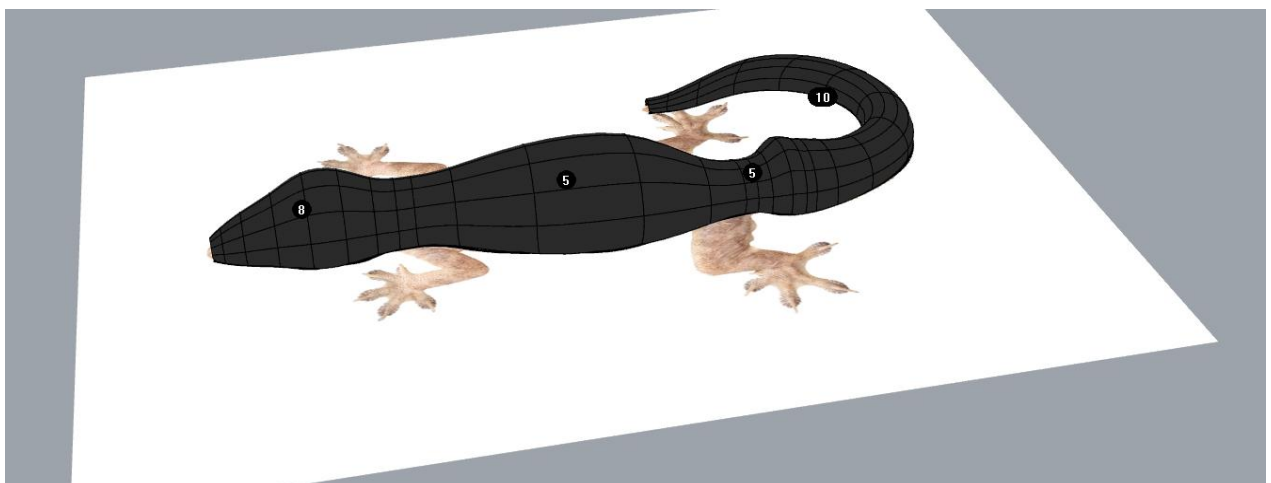
Toolbar  
Menu  
Command

**Clayoo > Creation > Create by two curves**  
**Clayoo > Creation > Create by two curves**  
**ClayCreateBy2Curves**

This tool allows us to create a surface or a solid along two curves.



When you run the command you have to select two curves and then will display a dialog where you can change the following parameters:





Curves Division	<input type="text" value="16"/>
Sides	<input type="text" value="6"/>
Height	<input type="text" value="4.00"/>

<input checked="" type="checkbox"/> Cap Start	<input checked="" type="checkbox"/> Cap End
<input type="checkbox"/> Crease Start	<input type="checkbox"/> Crease End
<input type="checkbox"/> Flip Curve 1	<input type="checkbox"/> Flip Curve 2
<input checked="" type="checkbox"/> Smooth	<input checked="" type="checkbox"/> Variable height
<input checked="" type="checkbox"/> Symmetry	<input type="checkbox"/> Flip

Add Slash

☒ ☐ ☐

The curves division and the sides allows us to define more or less number of faces.

The height defines the highest point when the variable height option is activated.

We can also choose the symmetry option.

Smooth option allows to preview the Plane in smooth mode.

The direction of each curve can be changed with the flip curve option.

The cap option to close the surface start and end. The crease to define sharp edges.

The Add Slash option allow us to define the surface orientation between the curves.

Once defined the surface as needed, click the OK button, or X to cancel the command.



## Create by surfaces



Toolbar

Menu

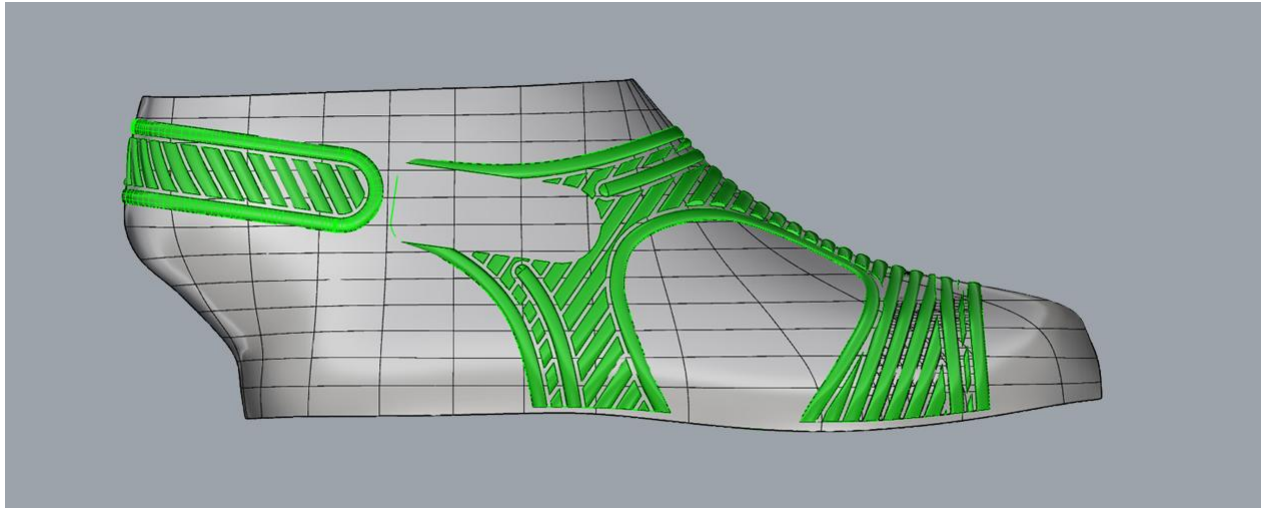
Command

**Clayoo > Creation > Create by surfaces**

**Clayoo > Creation > Create by surfaces**

**ClayCreateBySurface**

This tool allow us to create a surface based on a NURBS object.



When you run the command you have to select a NURBS object and then will display a dialog where you can change the following parameters:

Divisions X

Divisions Y

☒ Flip

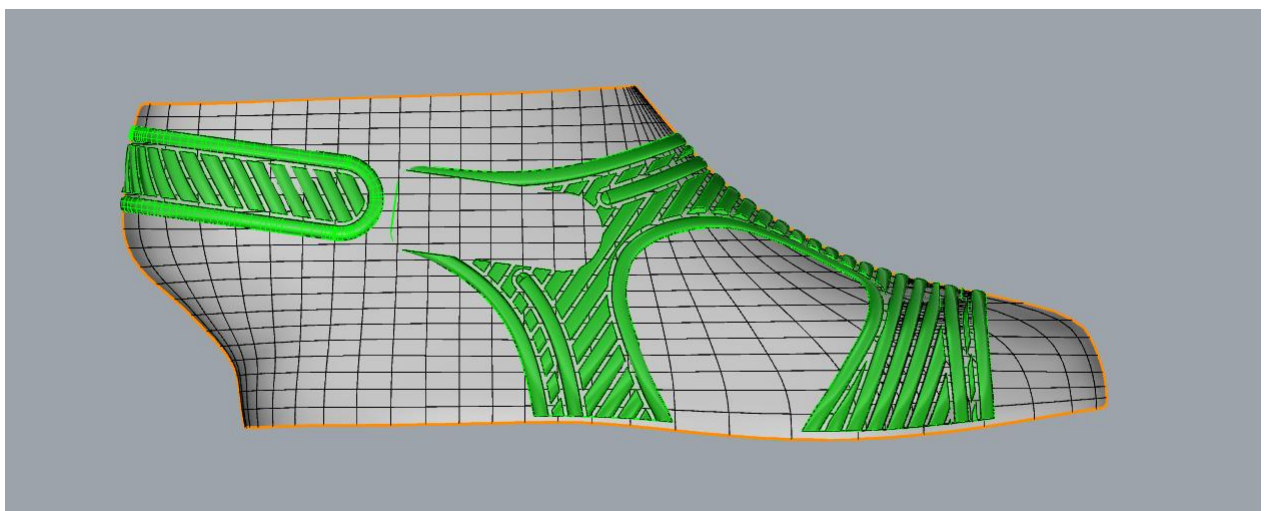
☐ Delete Input



The divisions allows us to define more or less number of faces.

The Flip option allow us to define the direction of the surface.

The Delete Input option allow us to remove the original NURBS object.



Once defined the surface as needed, click the OK button, or X to cancel the command.



## Create by meshes



Toolbar

Menu

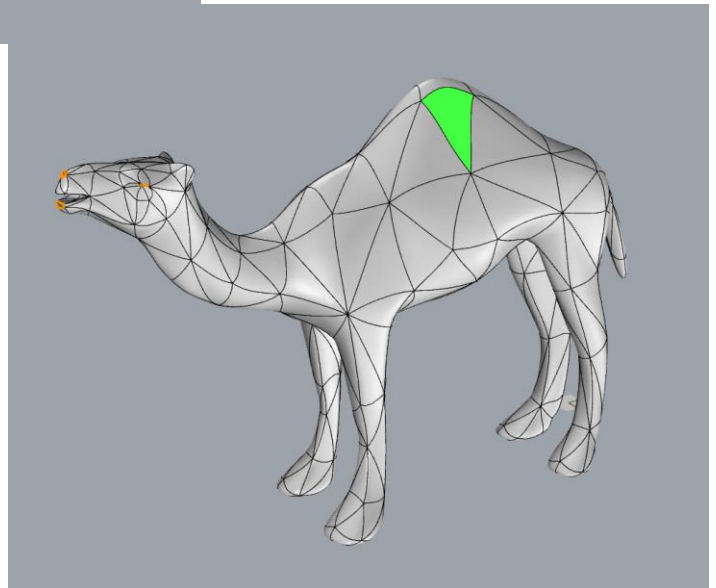
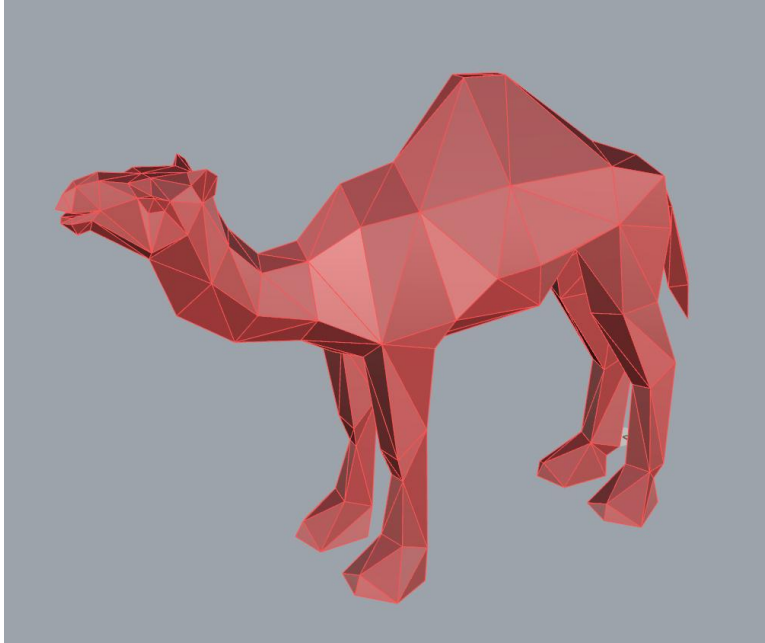
Command

**Clayoo > Creation > Create by meshes**

**Clayoo > Creation > Create by meshes**

**ClayCreateByMeshes**

This tool allow us to create surfaces based on a mesh object.



When you run the command you have to select a mesh object and then it will be converted in Clayoo surfaces.



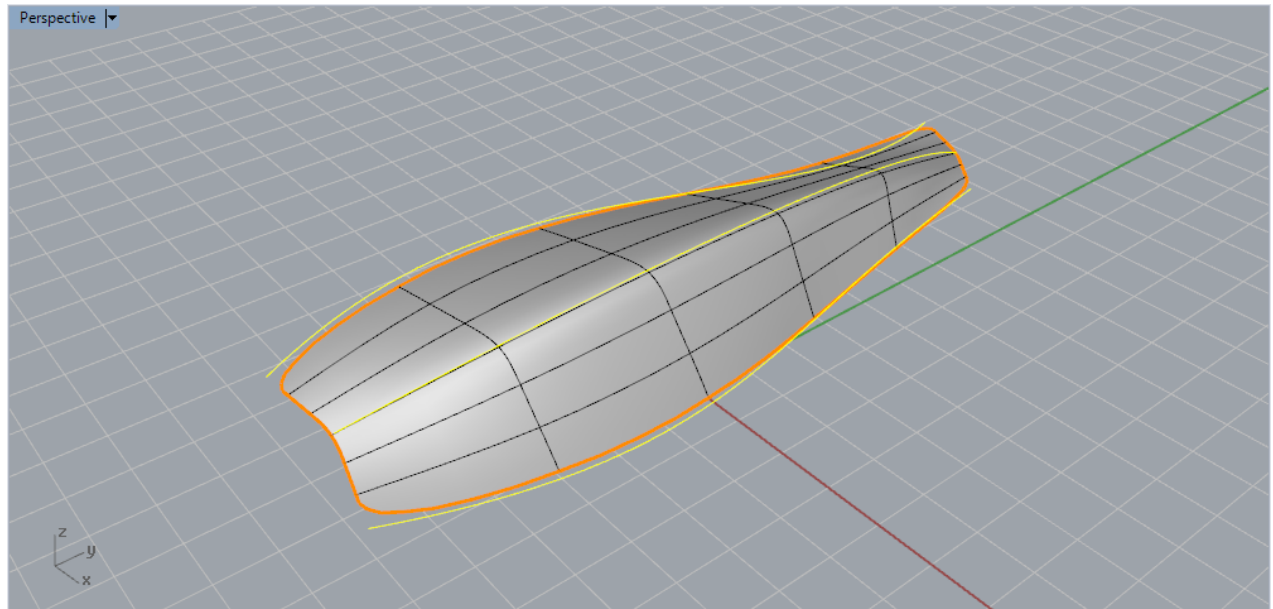
## Loft



Toolbar  
Menu  
Command

**Clayoo > Creation > Loft**  
**Clayoo > Creation > Loft**  
**ClayLoft**

This tool allow us to create a surface based on two or more curves.



When you run the command you have to select the curves in order and then will display a dialog where you can change the following parameters:

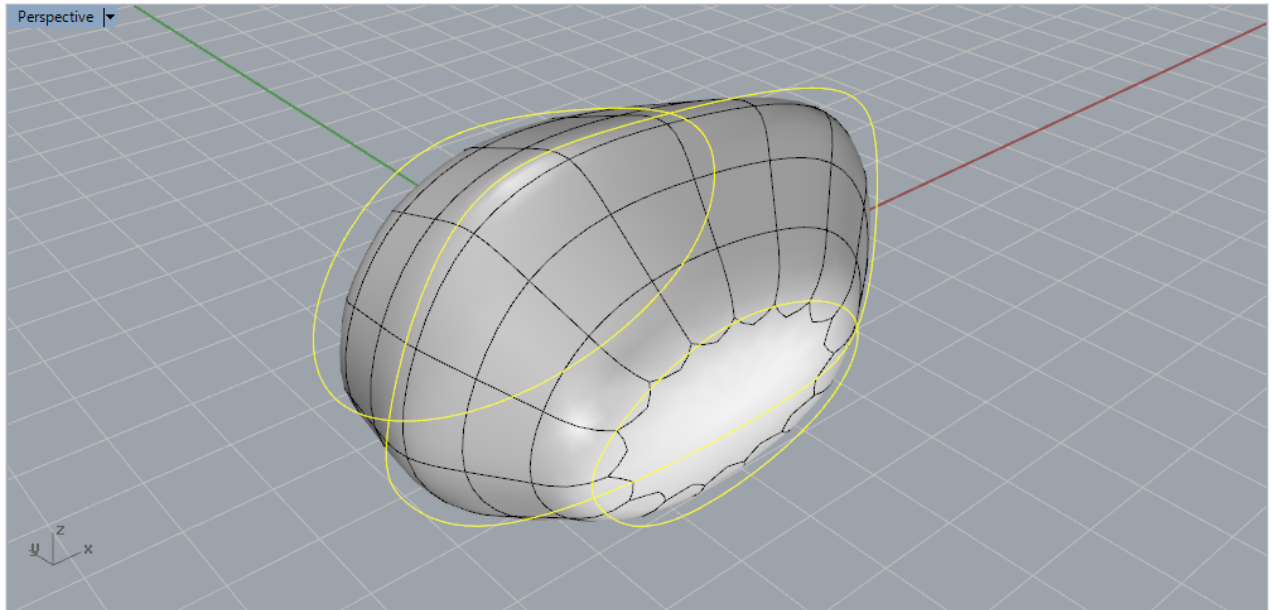
Curves Division	<input type="text" value="5"/>
Steps Between	<input type="text" value="3"/>
<input type="checkbox"/> Cap	<input type="checkbox"/> Flip
<input type="checkbox"/> Crease Start	<input type="checkbox"/> Crease End
<input checked="" type="checkbox"/> Preview	
<input checked="" type="button" value="✓"/> <input type="button" value="✗"/> <input type="button" value="ⓘ"/>	

The Curves Division and the Steps Between allows us to define more or less number of faces.

The Flip allow us to define the direction of the surface.

As you can see on the picture we can also select closed curves, this allow us to create closed surfaces or solids.





In this case the display dialog allow us to define more parameters:

Curves Division	<input type="text" value="15"/>
Steps Between	<input type="text" value="3"/>
<input checked="" type="checkbox"/> Cap	<input type="checkbox"/> Flip
<input type="checkbox"/> Crease Start	<input type="checkbox"/> Crease End
<input checked="" type="checkbox"/> Preview	
<input checked="" type="button" value="✓"/> <input type="button" value="✗"/> <input type="button" value="?"/>	


The cap option to close the surface top and bottom and the crease to define sharp edges.

Once defined the surface as needed, click the OK button, or X to cancel the command.

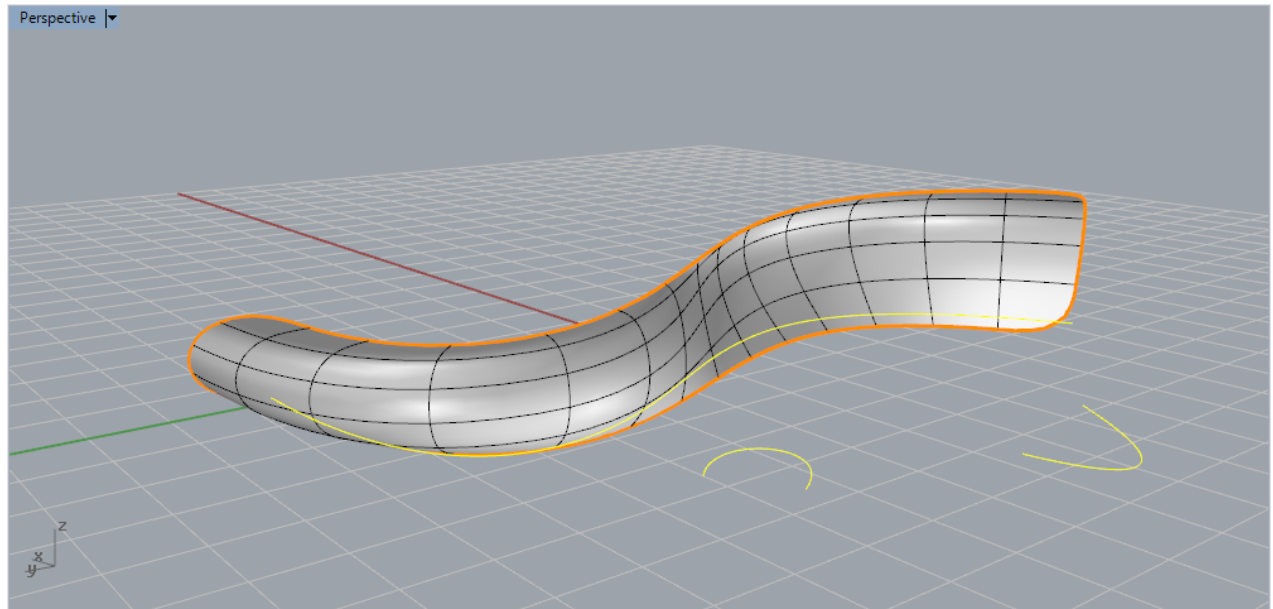






## Sweep 1



	Toolbar	<b>Clayoo &gt; Creation &gt; Sweep 1</b>
	Menu	<b>Clayoo &gt; Creation &gt; Sweep 1</b>
	Command	<b>ClaySweep1</b>

This tool allow us to create a surface based on a rail and profiles.



When you run the command you have to select the rail and the profiles, then will display a dialog where you can change the following parameters:




	Profile 1	5,66	6,12
	Profile 2	8,33	11,00

Div Along Curve

Div Seg.

☒ Preview Surface

☐ Flip

We can edit the height and within of both profiles as well as it's positions in the rail.

The Divisions Along Curve and the Segment Divisions allows us to define more or less number of faces.

The Flip allow us to define the surface direction.

Once defined the surface as needed, click the OK button, or X to cancel the command.



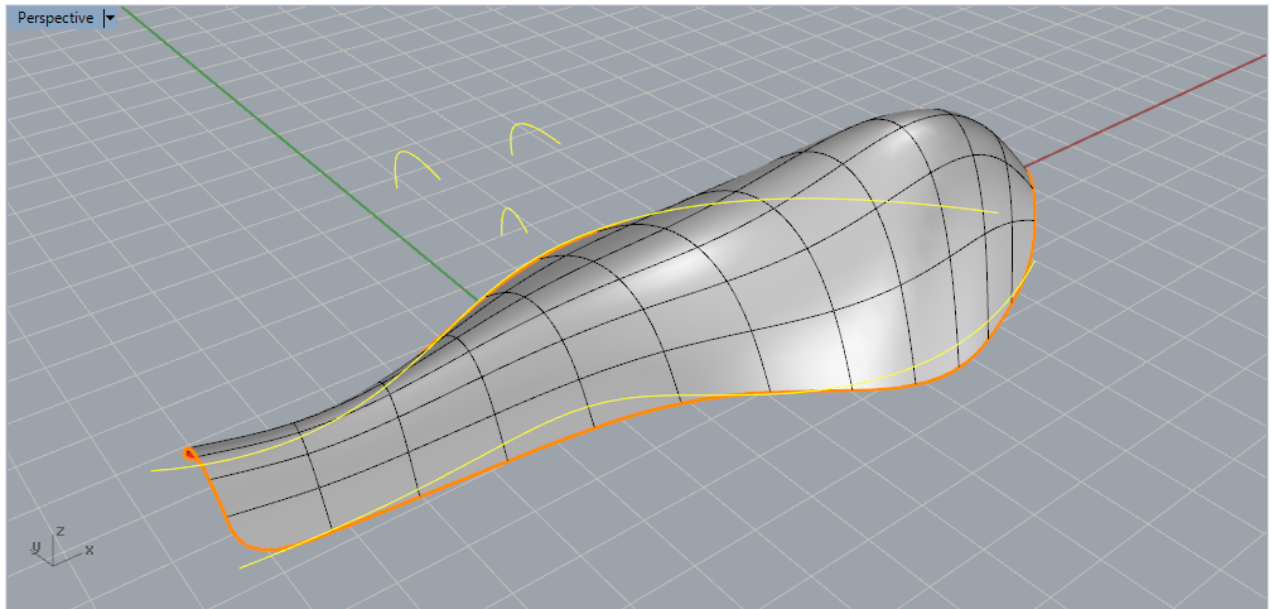
## Sweep 2



Toolbar  
Menu  
Command

**Clayoo > Creation > Sweep 2**  
**Clayoo > Creation > Sweep 2**  
**ClaySweep2**

This tool allow us to create a surface based on two rails and profiles.



When you run the command you have to select two rails and the profiles, then will display a dialog where you can change the following parameters:

+ 🗑️

Localize	Height	Flip
Profile 1	7,03	<input type="checkbox"/>
Profile 2	5,98	<input type="checkbox"/>
Profile 3	4,70	<input type="checkbox"/>

Div Along Curve

5

Div Seg.

5

☒ Preview Surface

☐ Flip Surface

☐ Keep Height

☐ Reverse

✓
✗
?

We can edit the direction of the profiles as well as it's positions in the rails.

The divisions options allows us to define more or less number of faces.

The Flip option allow us to define the surface direction.

The Keep Height option defines the same height across the surface.

The Reverse option allow us to invert the side which the surface is created.

Once defined the surface as needed, click the OK button, or X to cancel the command.



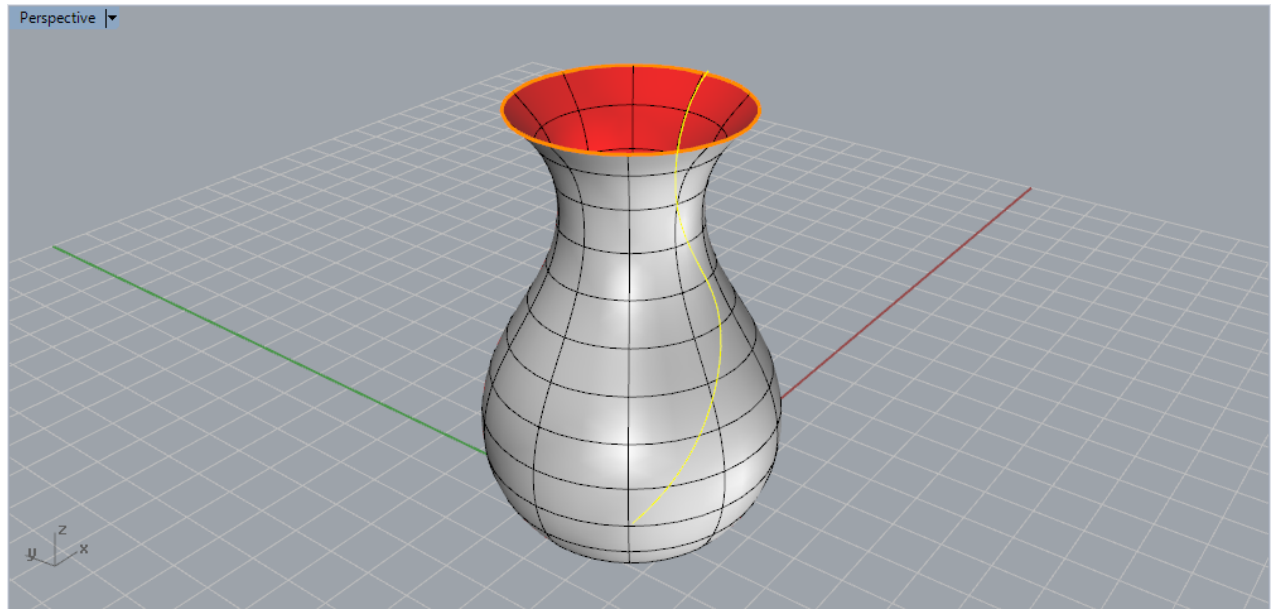
## Revolve



Toolbar  
Menu  
Command

**Clayoo > Creation > Revolve**  
**Clayoo > Creation > Revolve**  
**ClayRevolve**

This tool allow us to create a surface around an axis based on a curve.



When you run the command you have to select a curve and then will display a dialog where you can change the following parameters:

Divisions Along	<input type="text" value="14"/>
Divisions Across	<input type="text" value="10"/>
Angle to Fill	<input type="text" value="360"/>
Axis	<input type="text" value="X"/>
<input type="checkbox"/> Flip	<input checked="" type="checkbox"/> Preview
<input checked="" type="button" value="✓"/> <input type="button" value="✗"/> <input type="button" value="ⓘ"/>	

The divisions allows us to define more or less number of faces.

The Angle to Fill allow us to define a complete rotation or any other value.

The Axis can be defined by us or use the X,Y,Z.

The Flip allow us to define the surface direction.

Once defined the surface as needed, click the OK button, or X to cancel the command.



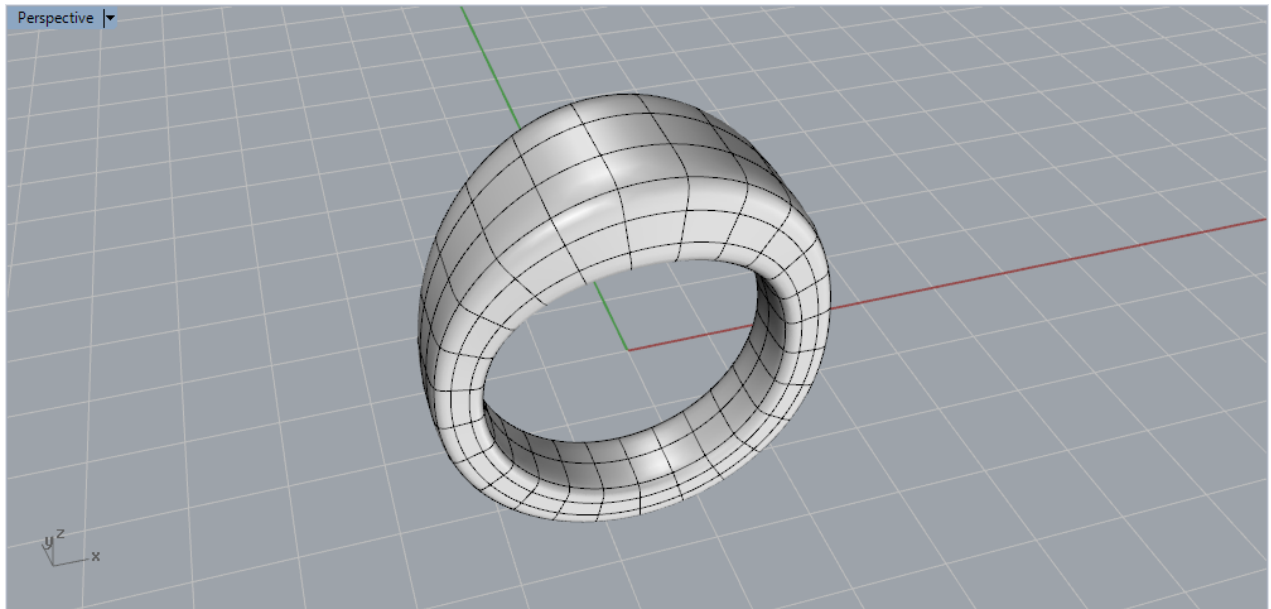
## Ring



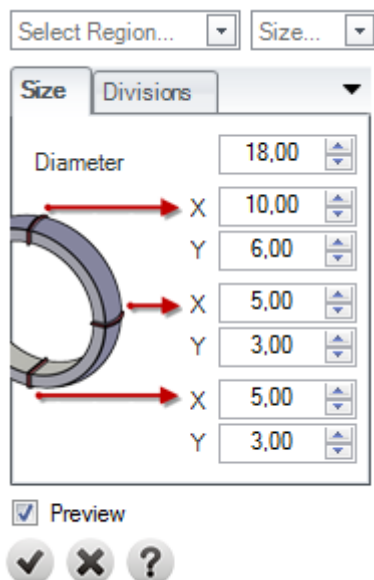
Toolbar  
Menu  
Command

**Clayoo > Creation > Ring**  
**Clayoo > Creation > Ring**  
**ClayRing**

This tool allow us to define a ring.



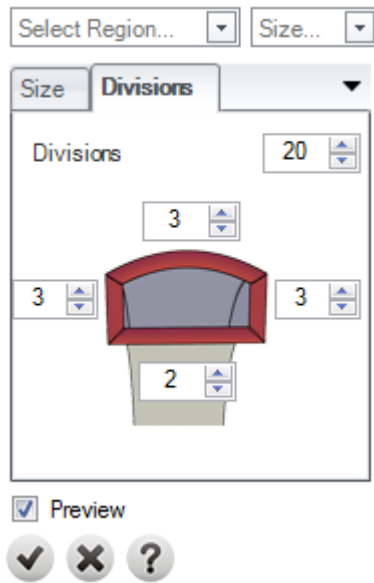
When you run the command will display a dialog where you can change the following parameters:



Size option to define the ring's measure.

The height and width of each profile.





The divisions allow us to define more or less number of faces.

Once defined the ring as needed, click the OK button, or X to cancel the command.





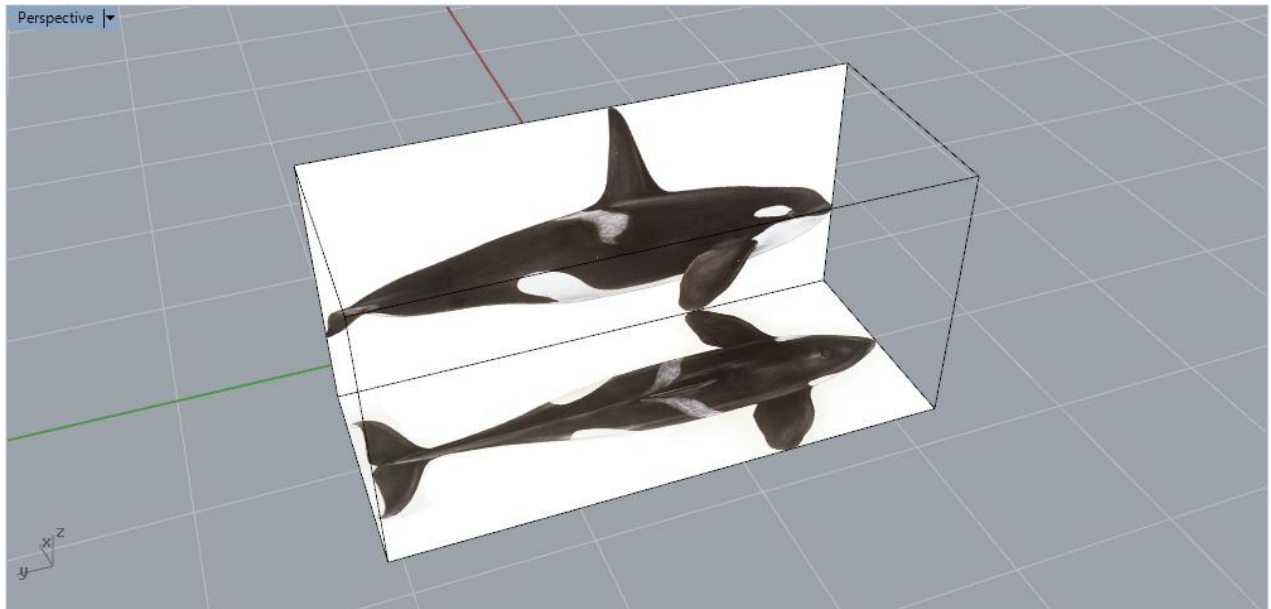
## Blueprint



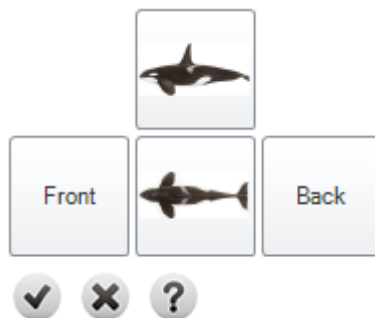
Toolbar  
Menu  
Command

**Clayoo > Creation > Blueprint**  
**Clayoo > Creation > Blueprint**  
**ClayBluePrint**

This tool allow us to create a box with images to be used as reference when modeling.



When you run the command will display a dialog where you can define the following parameters:



It's possible to choose images for the top view, the front view, the side view and the back view.

Once defined the images as needed, click the OK button, or X to cancel the command.





## Retopology



Toolbar

Menu

Command

**Clayoo > Creation > Retopology**

**Clayoo > Creation > Retopology**

**ClayRetopology**

This tool allow us to create a surface or a solid, face by face, based on a mesh object.



When you run the command you have to select a mesh and then pick vertex by vertex to create the surface faces on the selected mesh. With Shift we can drag the vertex.



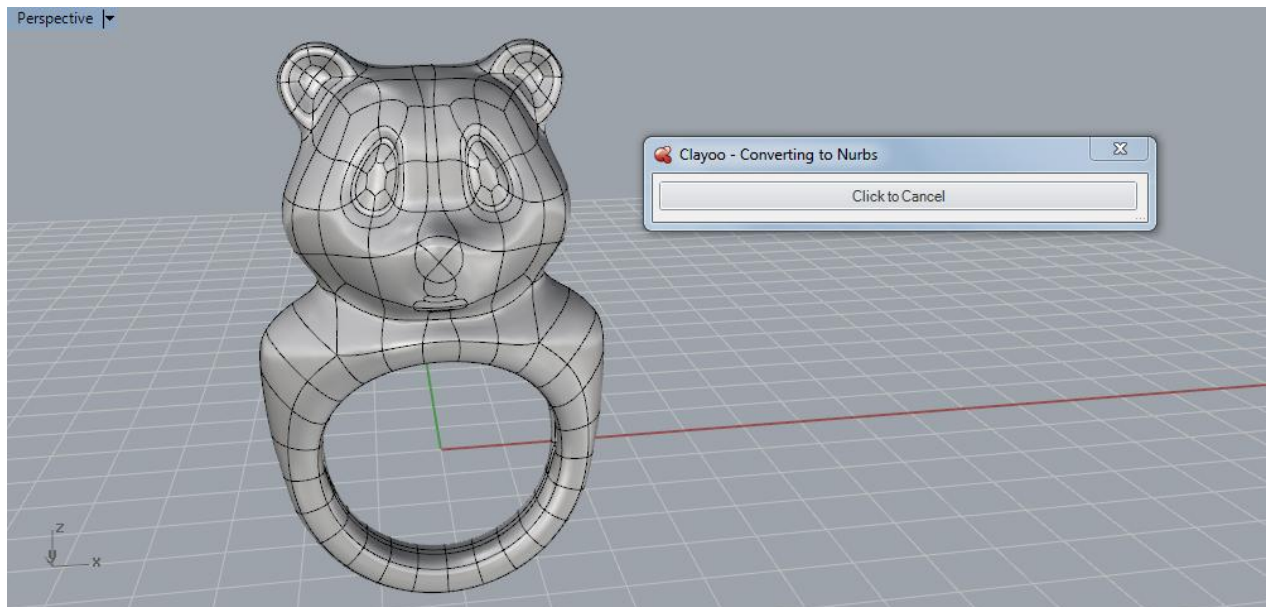
## To Nurbs



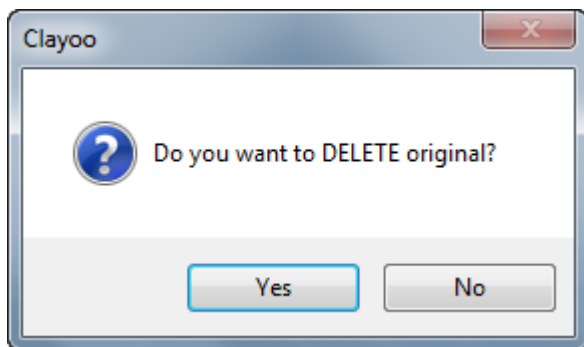
Toolbar  
Menu  
Command

**Clayoo > Creation > To Nurbs**  
**Clayoo > Creation > To Nurbs**  
**ClayToNurbs**

This tool allow us to convert any Clayoo object into a NURBS object.



After the conversion to NURBS will display the following dialog:



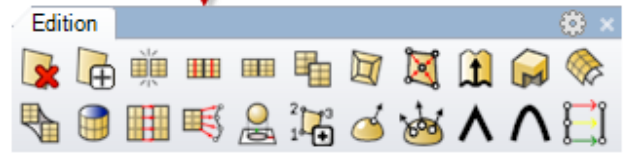
Choose NO if you want to keep the Clayoo object or YES to remove it.



























## Edition

This toolbar contains tools for editing Clayoo surfaces. Tools from delete, add, divide, shell, extrude,... The following sections detail each one of the tools.



Edition	Icon	Command
<a href="#">Delete</a>		ClayDelete
<a href="#">Add Face</a>		ClayAddFace
<a href="#">Divide</a>		ClayDivide
<a href="#">Split Sides</a>		ClaySplitSides
<a href="#">Merge</a>		ClayMerge
<a href="#">Extract</a>		ClayExtract
<a href="#">Inset</a>		ClayInset
<a href="#">Collapse</a>		ClayCollapse
<a href="#">Extrude</a>		ClayExtrude
<a href="#">Shell</a>		ClayShell
<a href="#">Offset</a>		ClayOffset
<a href="#">Bridge</a>		ClayBridge
<a href="#">Fill</a>		ClayFill
<a href="#">Match</a>		ClayMatch
<a href="#">Match to Curve</a>		ClayMatchToCurve
<a href="#">Project to Plane</a>		ClayProjectToPlane
<a href="#">Add Vertex</a>		ClayAddVertex
<a href="#">Flip</a>		ClayFlip
<a href="#">Unify normals</a>		ClayUnifyNormals
<a href="#">Create</a>		ClayCrease
<a href="#">Uncrease</a>		ClayUncrease
<a href="#">Analyze Distances</a>		ClayAnalyzeDistances



## Delete



Toolbar

Menu

Command

**Clayoo > Edition > Delete**

**Clayoo > Edition > Delete**

**ClayDelete or DEL key**

This tool allows us to delete objects, faces and edges.

### Object selection mode:

1. Select the object to delete. You can select more than one object by pressing the Shift key.
2. Click the Delete icon and remove the object.

### Faces selection mode:

1. Select the faces to be deleted. You can select more than one face by pressing the Shift key.
2. Click the Delete icon and delete the selected faces.

### Edges selection mode:

1. Select the edges to remove. You can select more than one edge by pressing the Shift key.
2. Click the Delete icon and delete the selected edges.

Remember that you can use window selection.



## Add Face



Toolbar  
Menu  
Command

**Clayoo > Edition > Add Face**

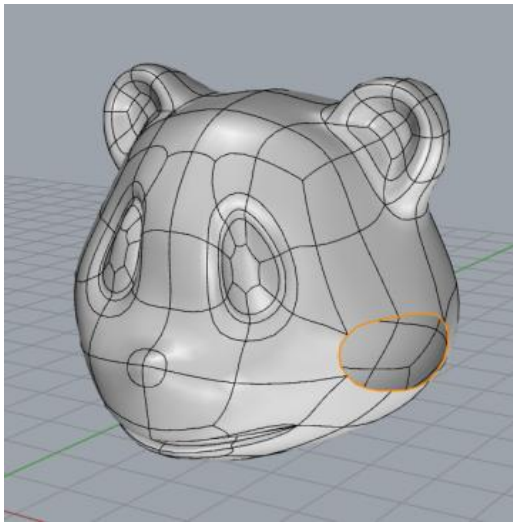
**Clayoo > Edition > Add Face**

**ClayAddFace**

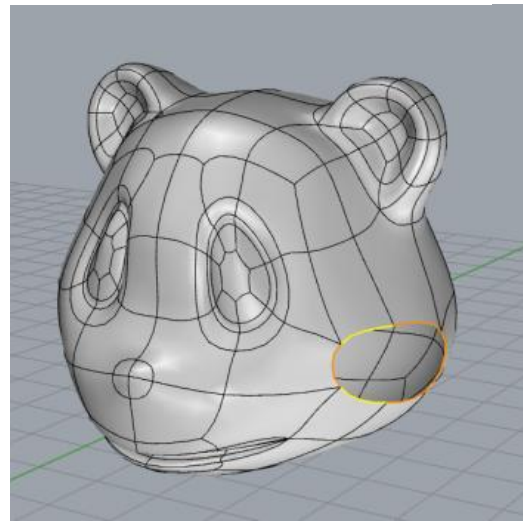
This tool allows us to create faces using edges or vertices at our option, controlling the topology. In case that our selection mode is not edges or vertices, Clayoo will change it automatically to use this command, and reset to its initial state when finish the command.

Consider the following examples to understand the possibilities:

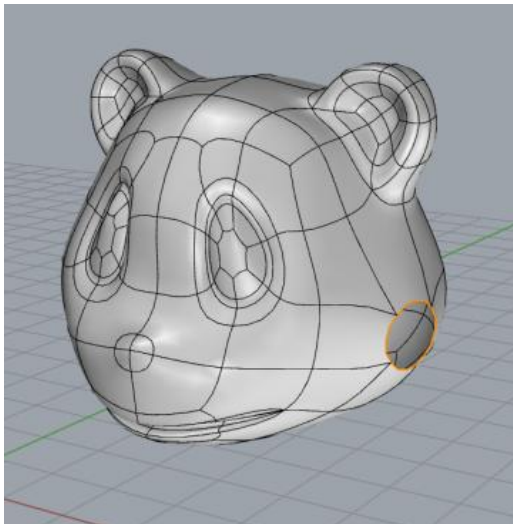
### The hole to cover



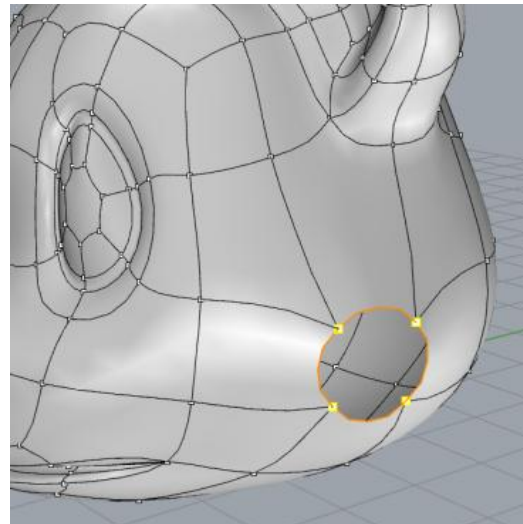
### Edges selected



### Another face was added



### Points selected



The face was added.



## Divide



Toolbar

Menu

Command

**Clayoo > Edition > Divide**

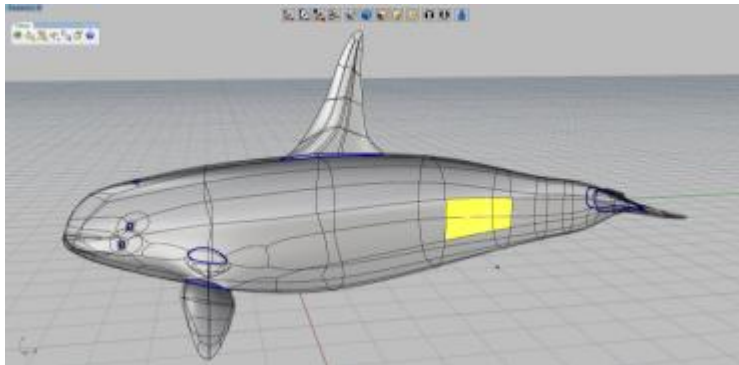
**Clayoo > Edition > Divide**

**ClayDivide**

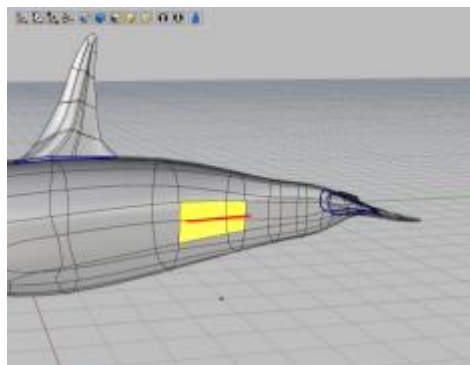
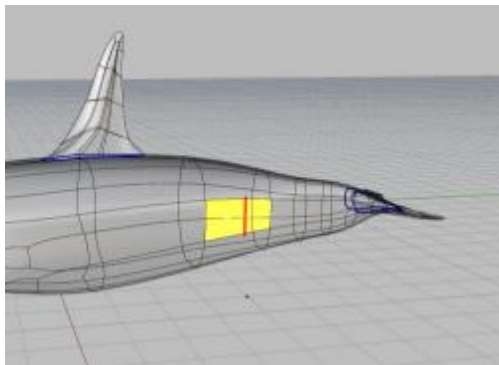
This is one of the most interesting Clayoo tools. We can split faces according to our needs. There are three workflows:

### If you have selected one or more faces:

This is the most basic division. We can split exactly in half sides of the faces, in the direction U, V, or both.

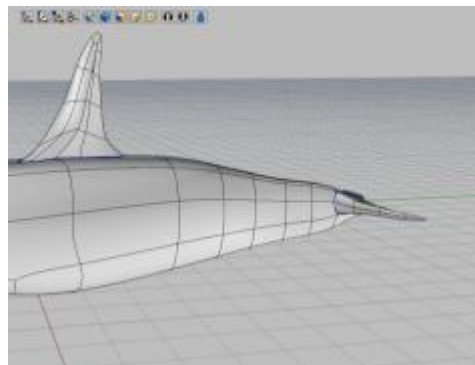
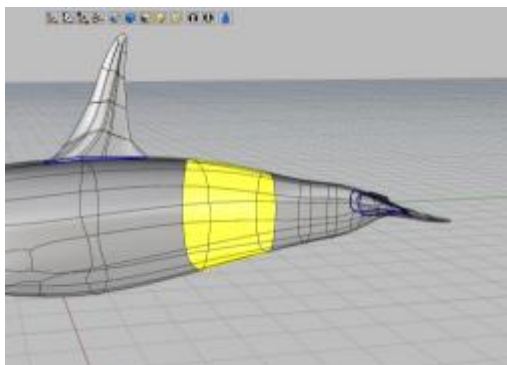


We can select the direction of the division dynamically.



### Loop of selected faces:

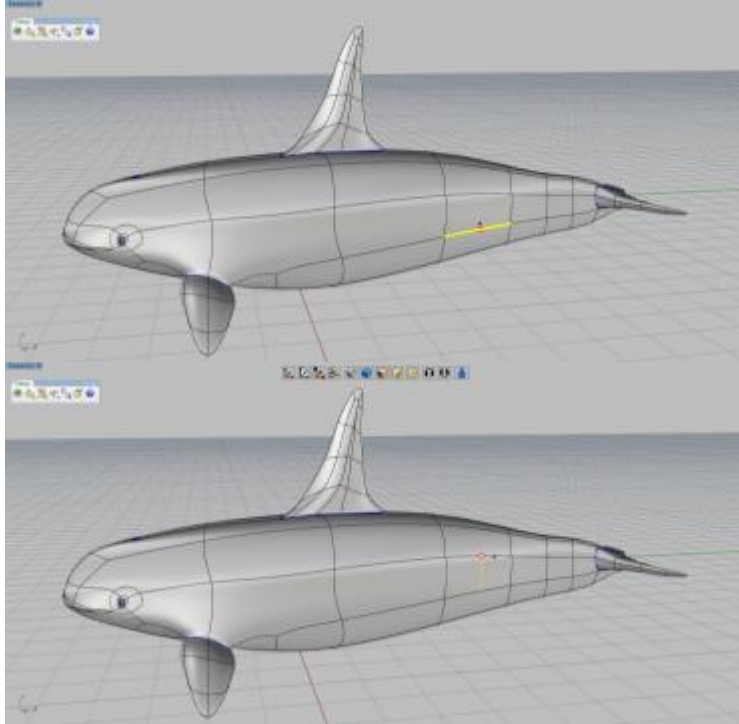
In case there is a loop of selected faces it will divide the faces in the direction of the loop.



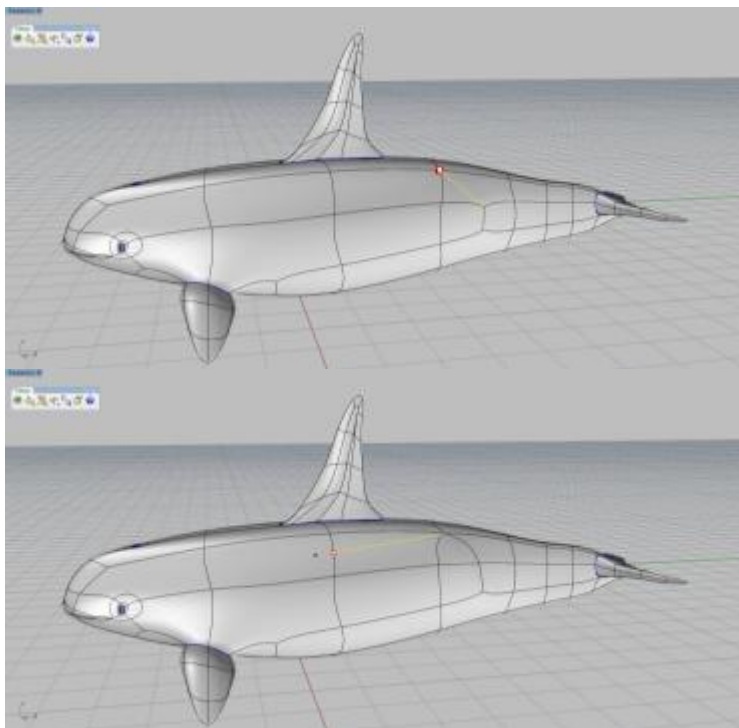


### If there are no faces selected:

In case there is no selected faces or the selected faces are not square, it will be divided dynamically selecting the points where the faces split. The points to select can be any position on an edge or vertices.




When we are dynamically dividing, the command will not be finished until you press enter.

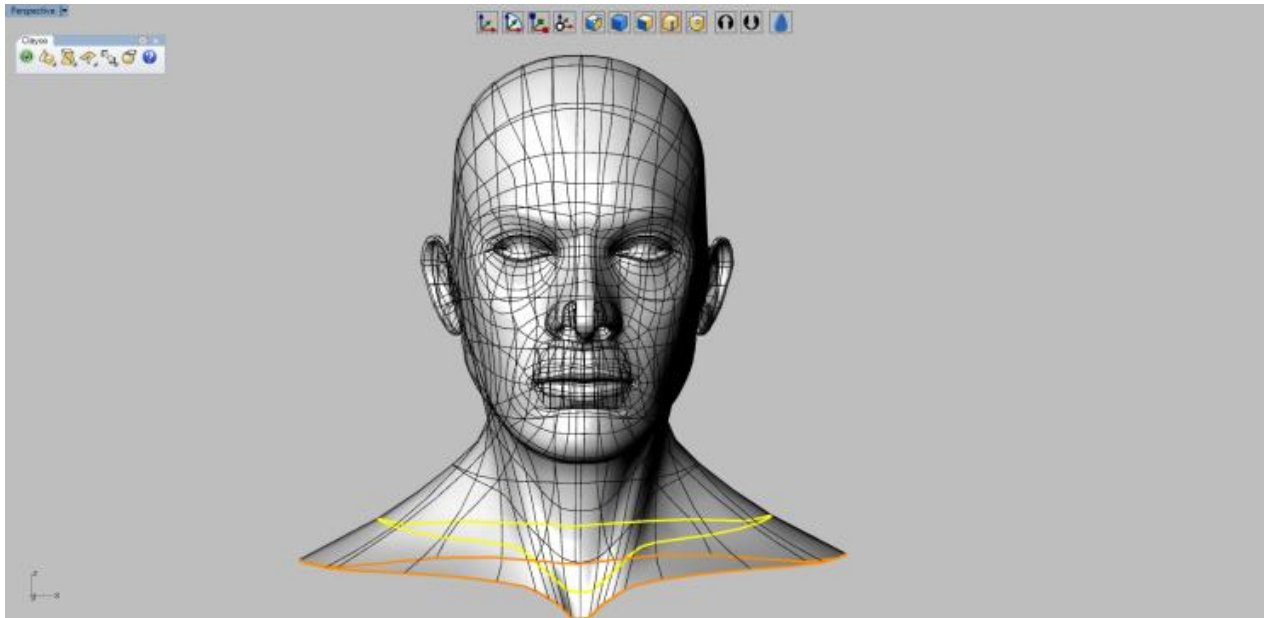




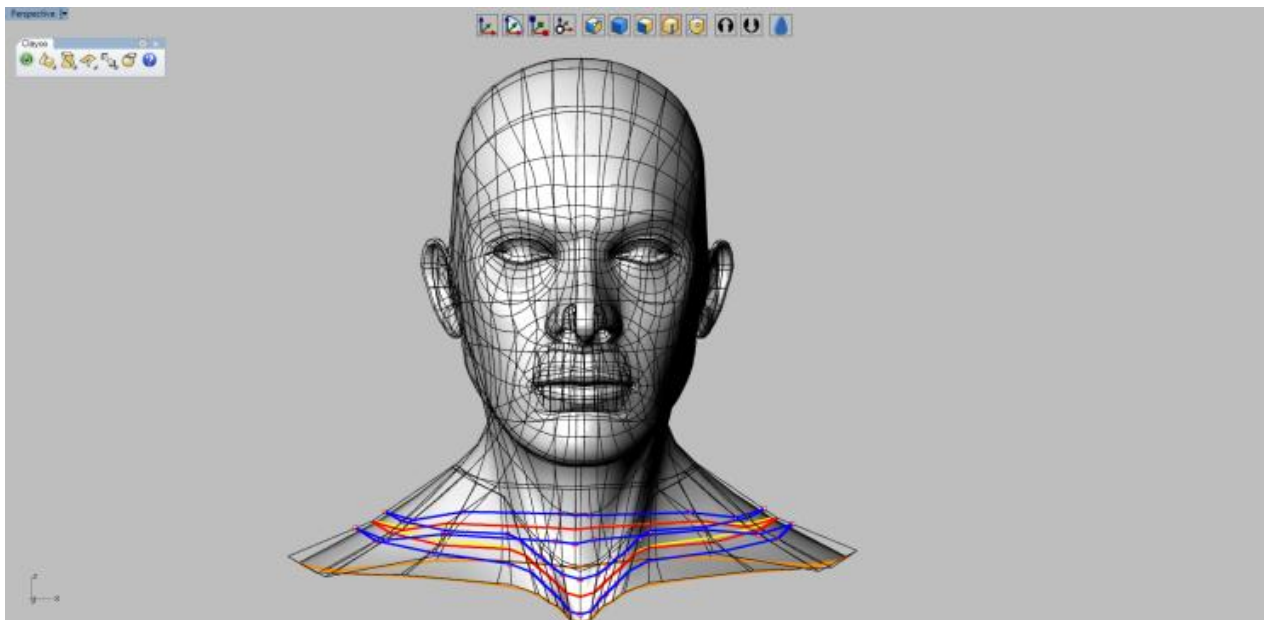
## Split sides

	Toolbar	<b>Clayoo &gt; Edition &gt; Split sides</b>
	Menu	<b>Clayoo &gt; Edition &gt; Split sides</b>
	Command	<b>ClaySplitSides</b>

This tool allows us to create parallel edges on both sides of a selected set of edges.



Select the distance of the parallel edges on the model dynamically.



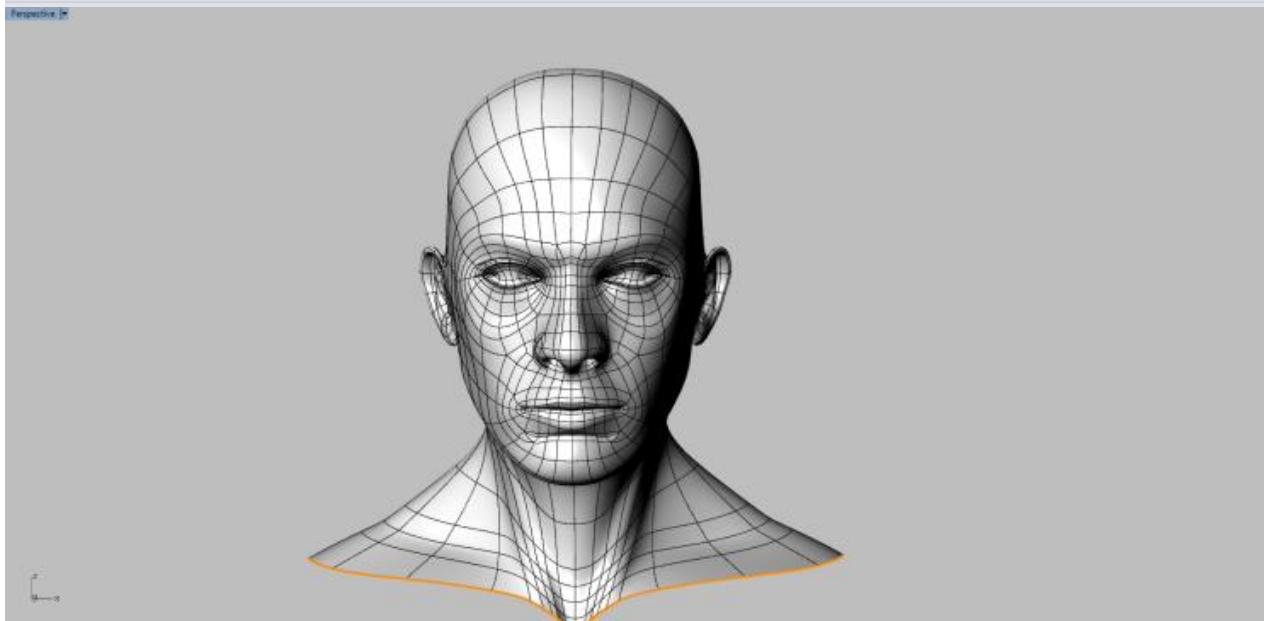
We can define if we keep the initial edges or delete them from the command line.

By default initial edges will not be removed.



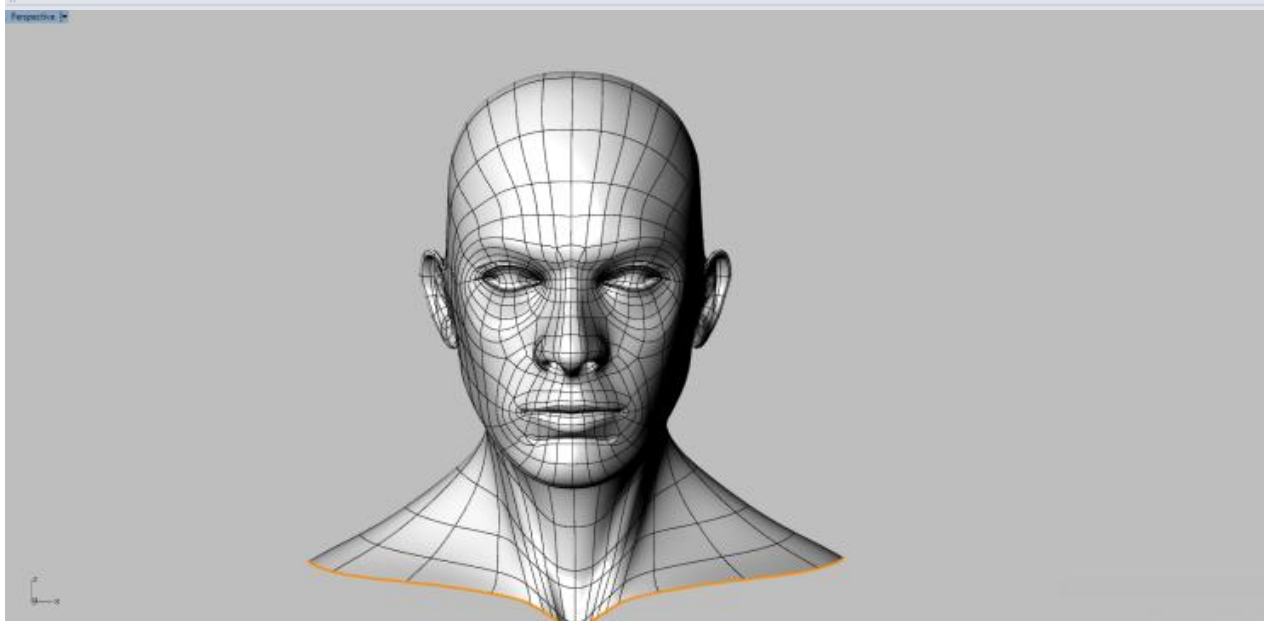
Command: \_ClaySplitSides

Pick point ( [DeleteCentralEdge=false](#) ): |



Pick point ( [DeleteCentralEdge=false](#) ): DeleteCentralEdge=true

Pick point ( [DeleteCentralEdge=true](#) ): |





## Merge

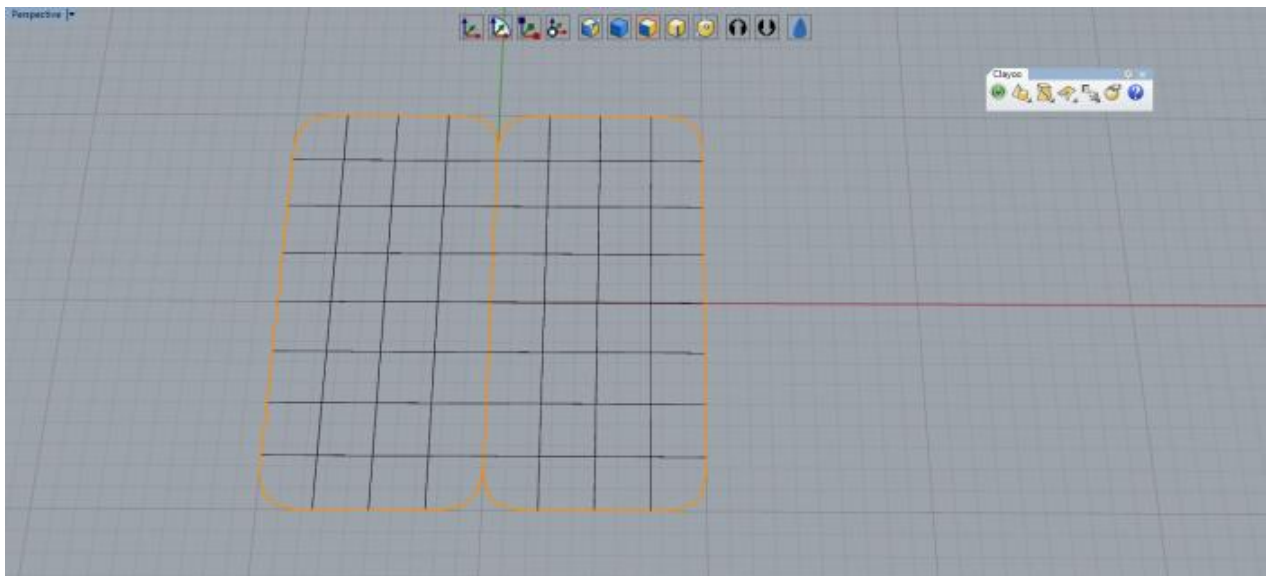
Toolbar	<b>Clayoo &gt; Edition &gt; Merge</b>
Menu	<b>Clayoo &gt; Edition &gt; Merge</b>
Command	<b>ClayMerge</b>

This tool allows us to combine several objects into a single object. If there are coincident vertices it will be welded leaving a unique vertex.

This command works only with whole objects so the selection must be objects, if the selection method is not appropriate this will be switched automatically.

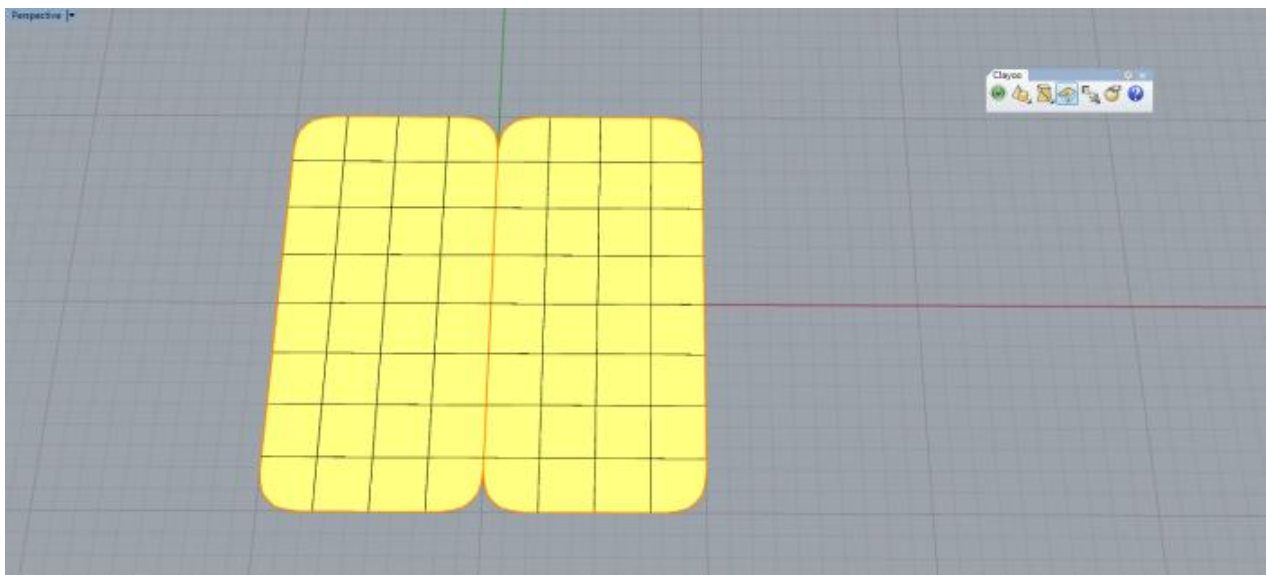
In case there are edges or vertices selected, objects only unify the selected vertices.

On the next images you can see some examples of how works the merge command.

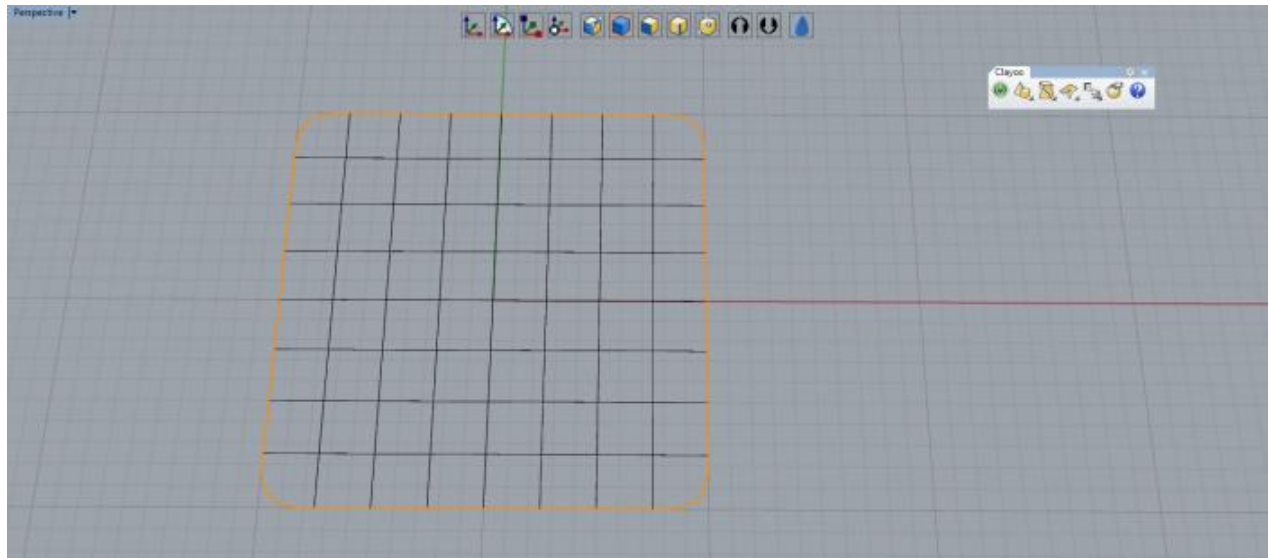


### Entire object selection

If entire objects are selected and there are coincident vertices they are joined in a unique vertex.

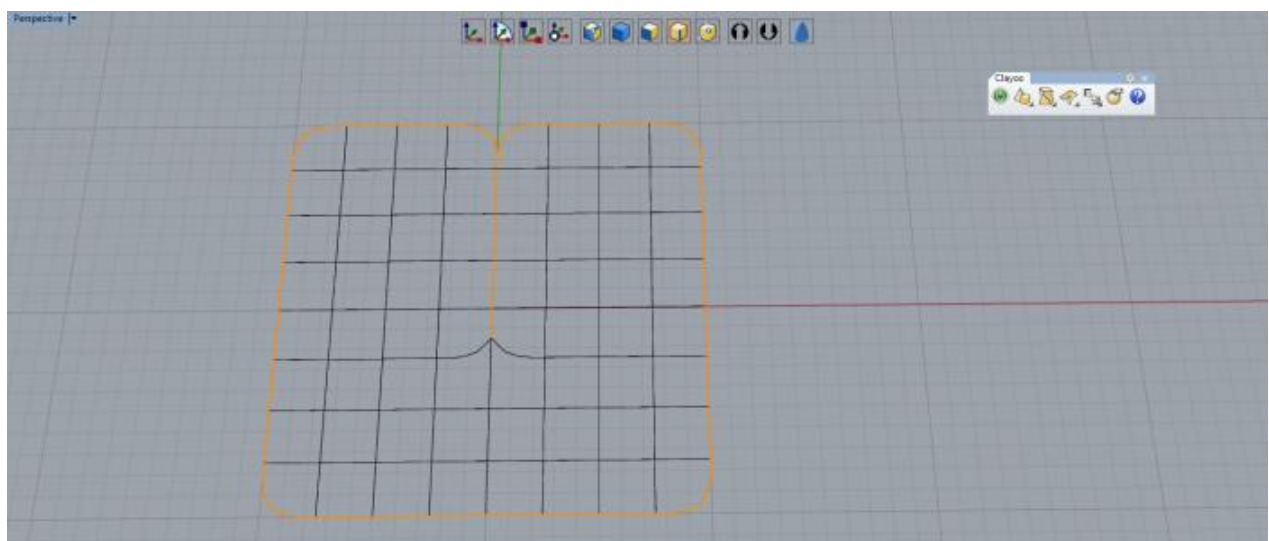
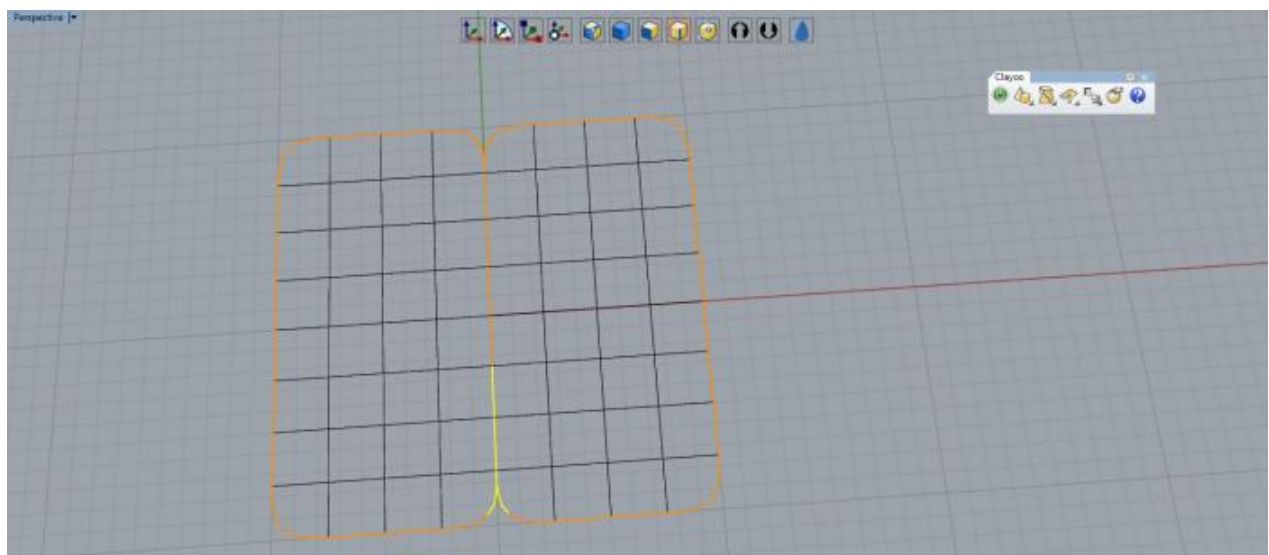






## Edges selection

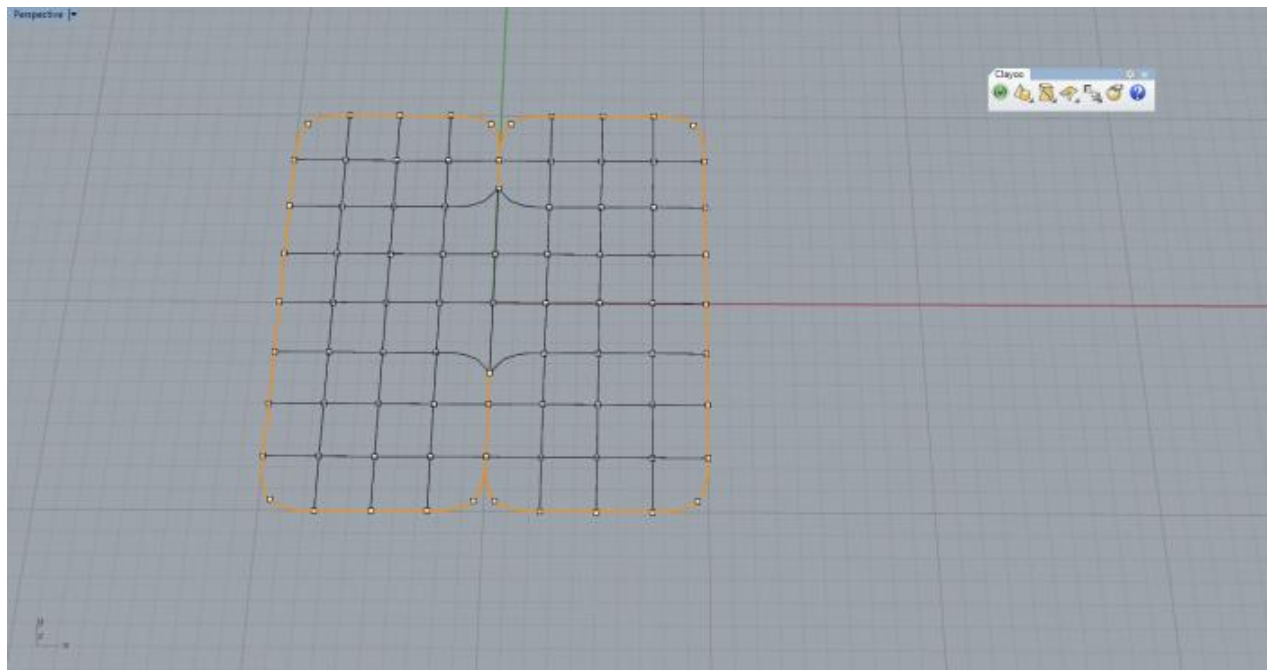
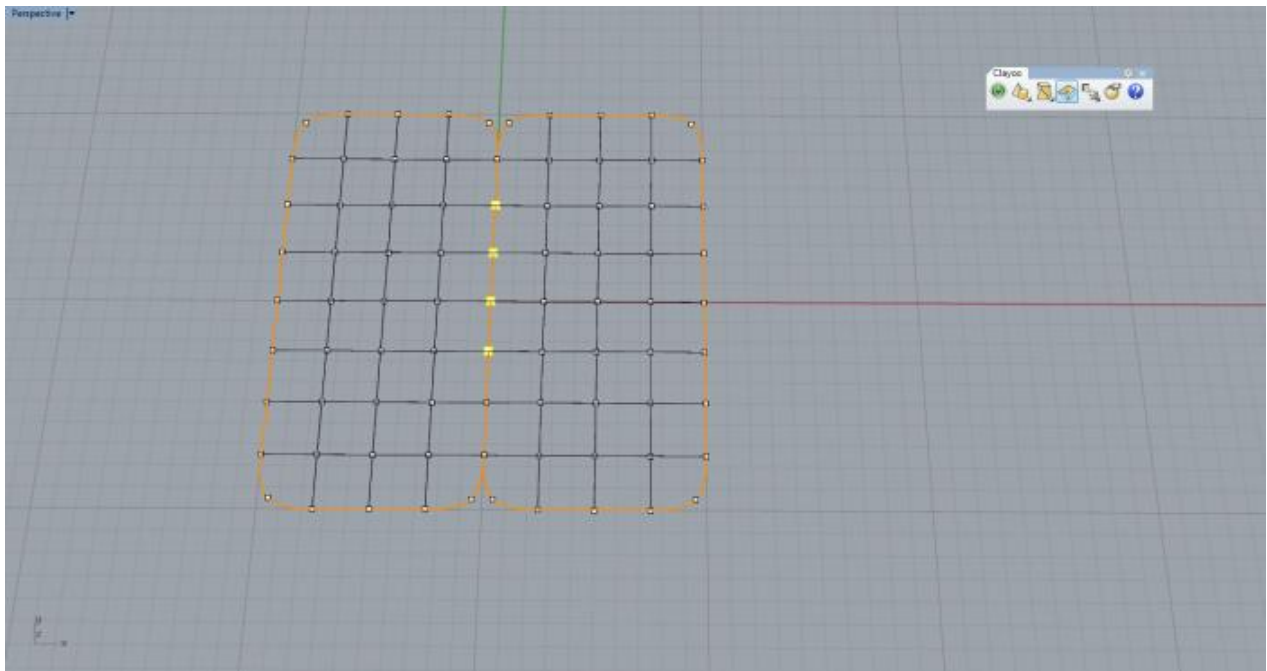
If you select some edges the command only join the coincident vertex in the selected edges.





## Vertex Selection

The command merge the two objects and if inside the vertex selection exists coincident vertices they will be joined in a unique vertices.





## Extract



Toolbar

Menu

Command

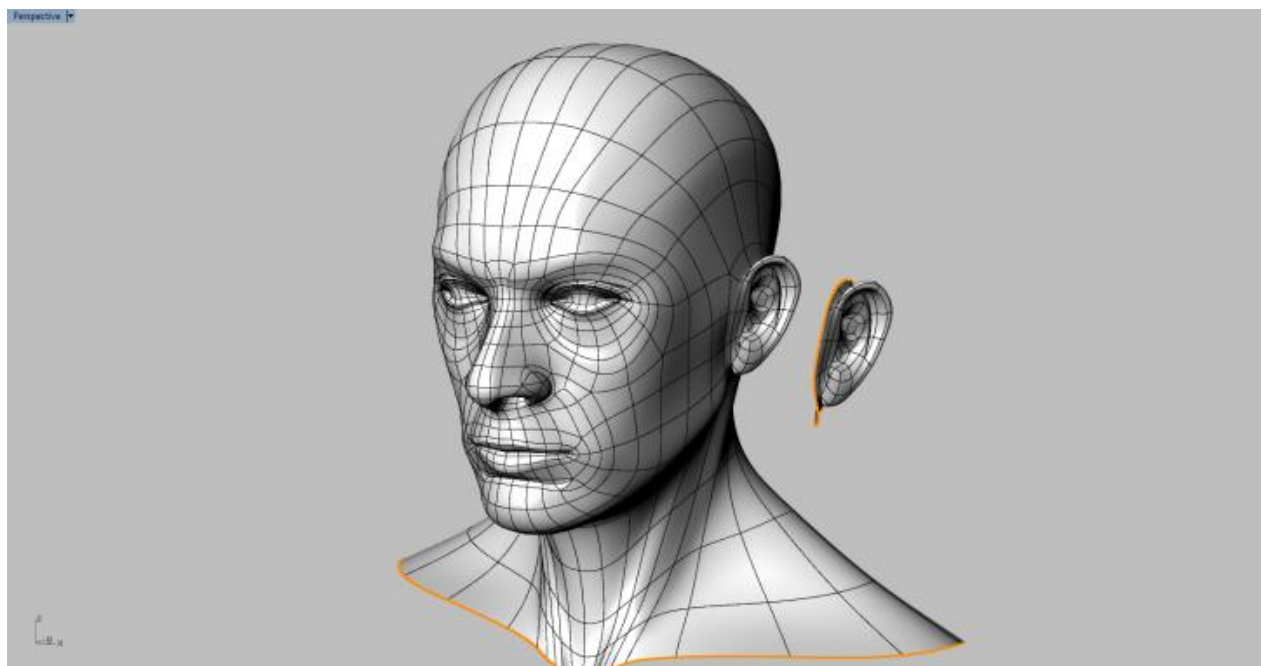
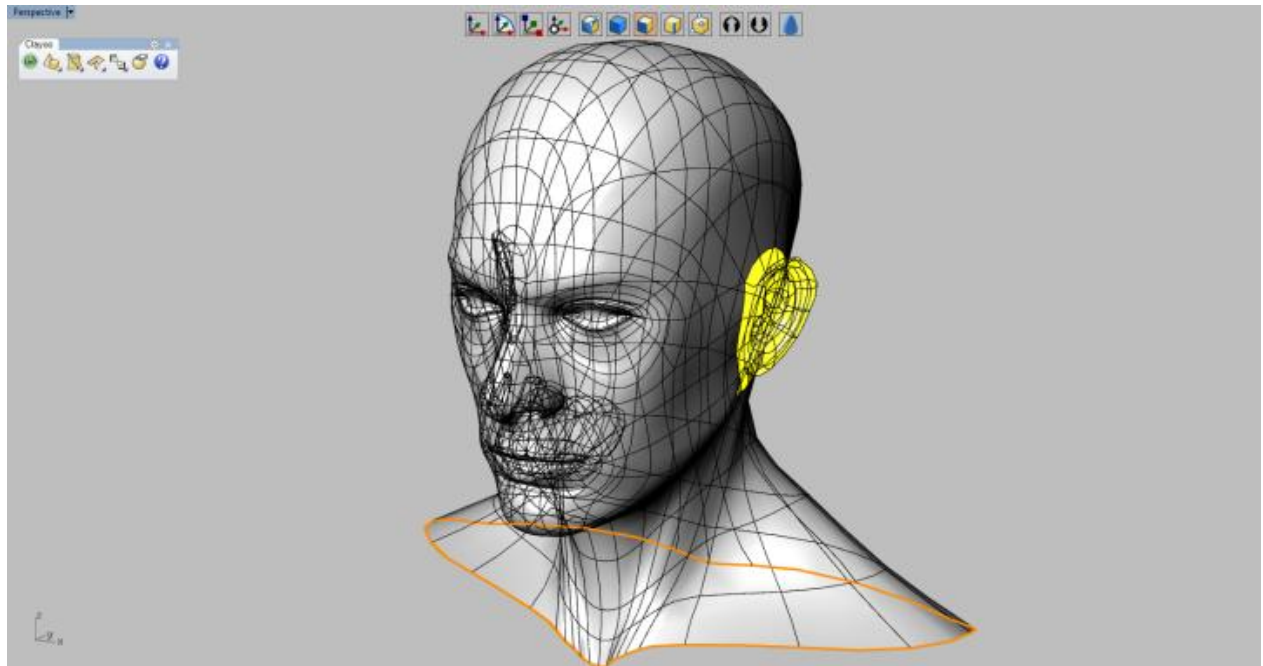
**Clayoo > Edition > Extract**

**Clayoo > Edition > Extract**

**ClayExtract**

This tool allows us to extract parts of an object, creating an object formed only by the selected faces.

If the selection mode is not faces, it will be automatically changed to faces selection mode. In case nothing is selected the command asks you to select the faces to extract.





## Inset



Toolbar

Menu

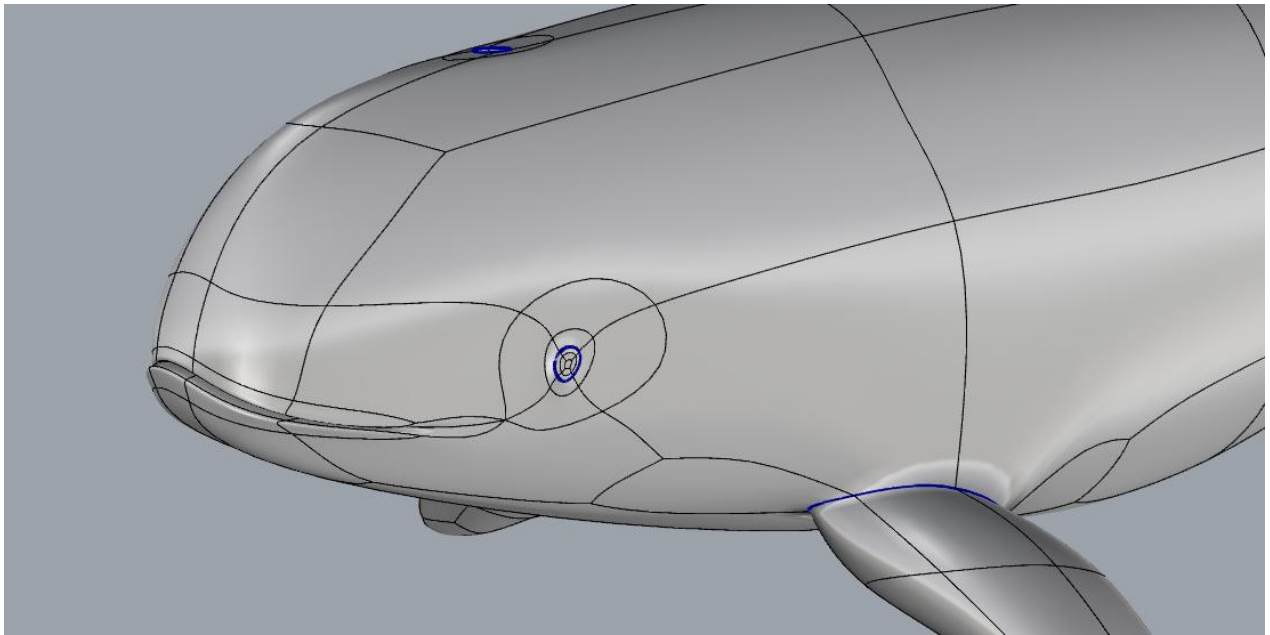
Command

**Clayoo > Edition > Inset**

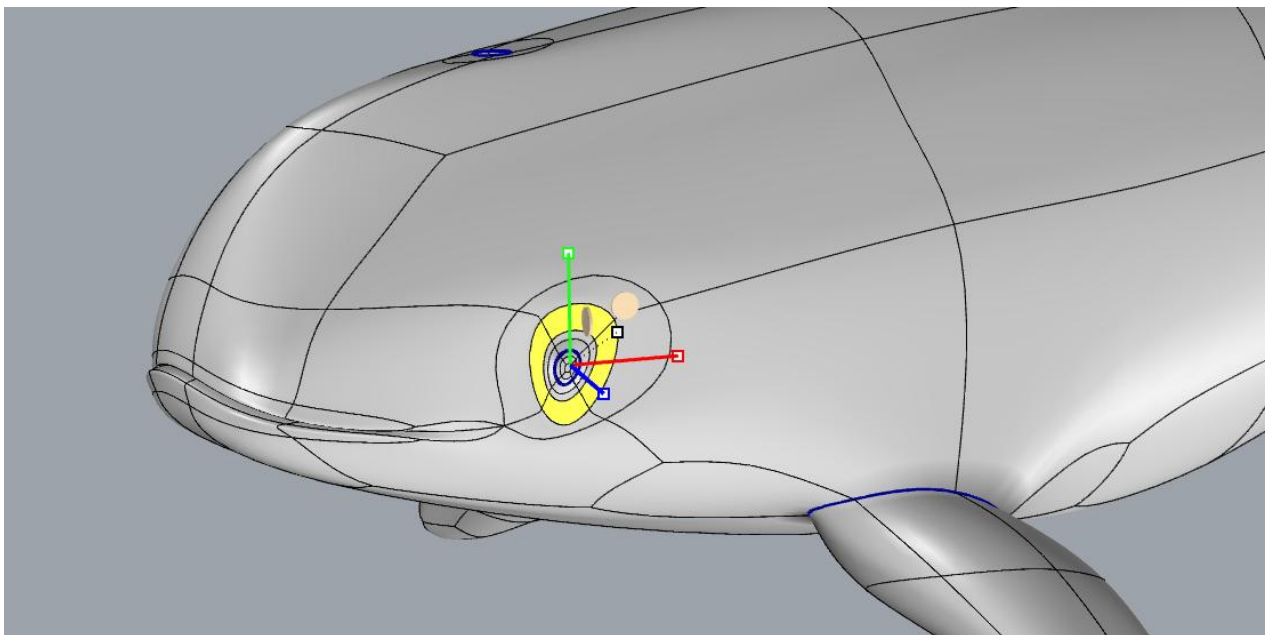
**Clayoo > Edition > Inset**

**ClayInsert**

This tool lets us create a set of faces equal to the selected content within the selected faces and scale as desired. This command works only in the faces selection mode.



After running the command the scale gumball pops up allowing the user scale the new faces.





## Collapse

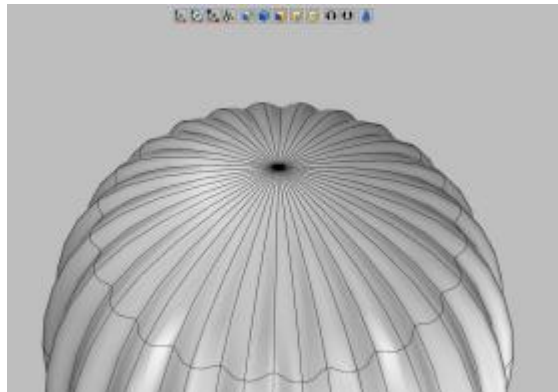
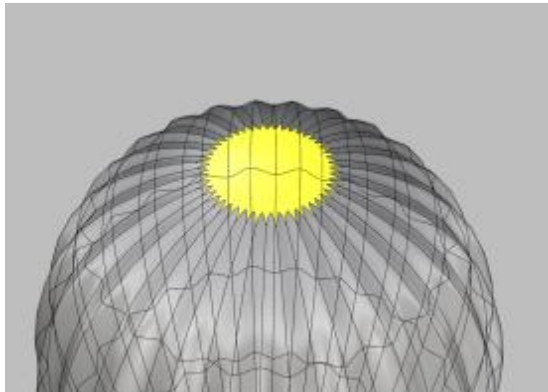


Toolbar  
Menu  
Command

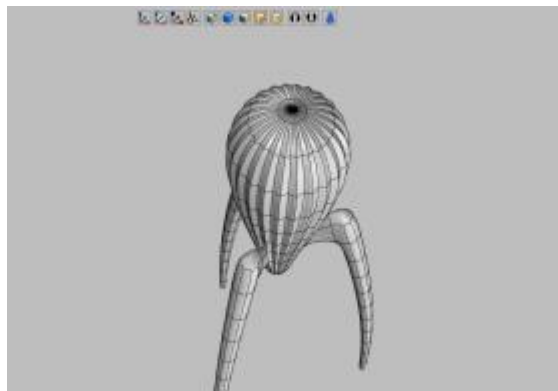
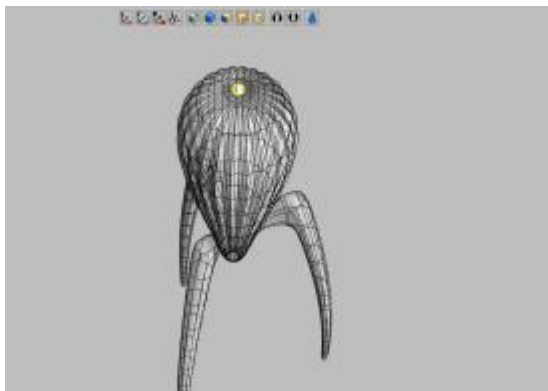
**Clayoo > Edition > Collapse**  
**Clayoo > Edition > Collapse**  
**ClayCollapse**

This tool joins all vertices of the selected geometry in the center of the selection, it works with faces, vertices and edges.

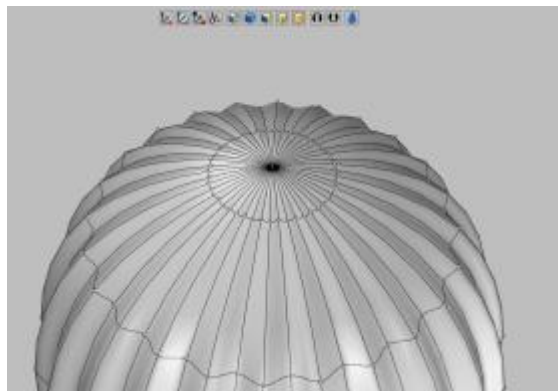
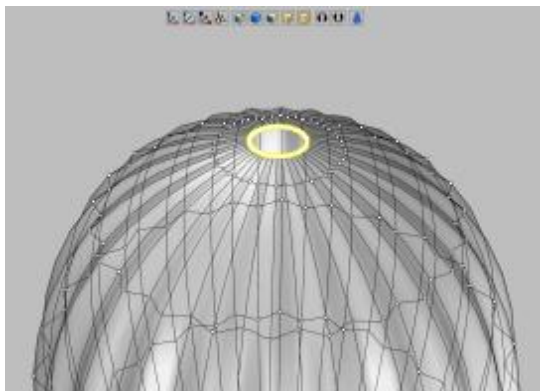
### Faces



### Edges



### Vertices





## Extrude



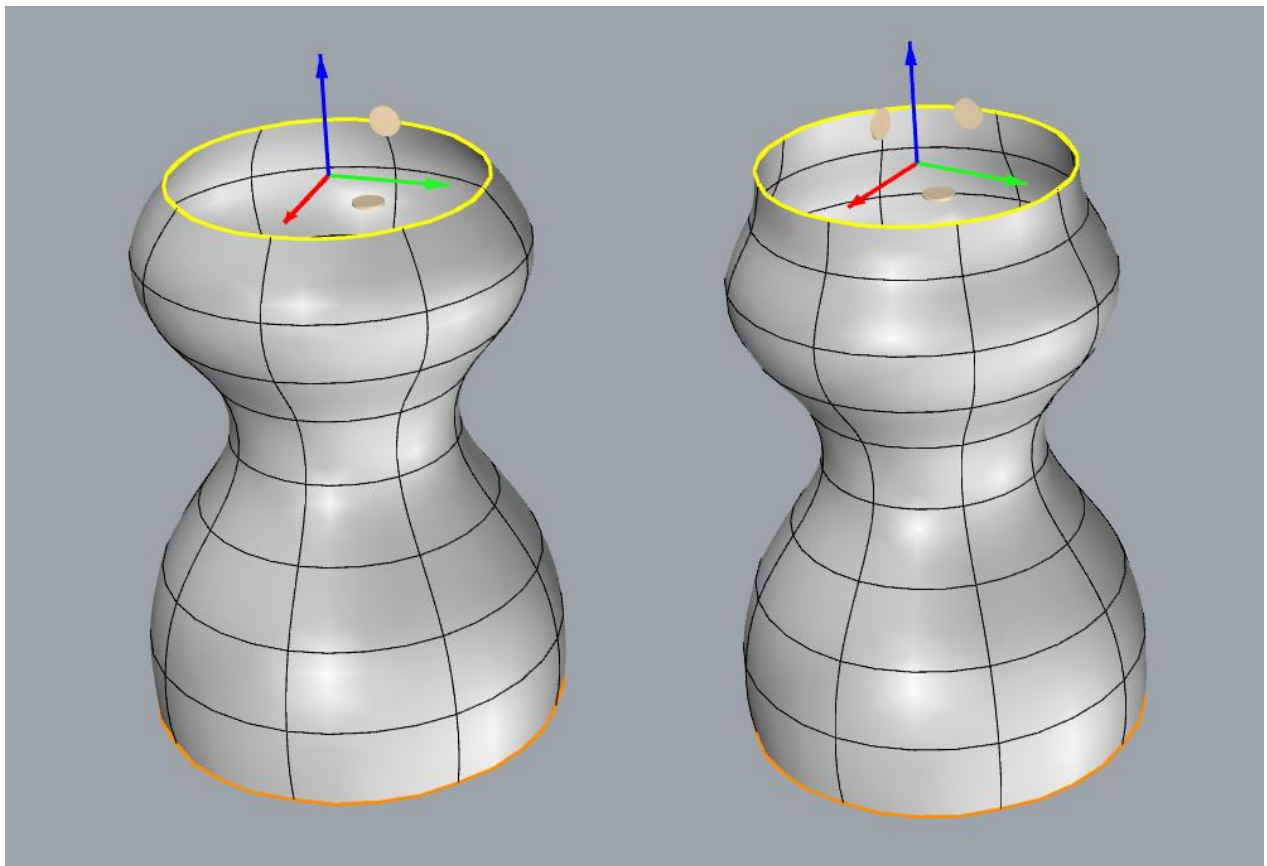
Toolbar  
Menu  
Command

**Clayoo > Edition > Extrude**  
**Clayoo > Edition > Extrude**  
**ClayExtrude**

This tool allows us to extrude the selected geometry. The extrusion can be done with edges and faces.

### Edges extrusion

The extrusion of edges creates a new face for each selected edge. After creating the new faces select the edges extrusions so you can place the gumball with the new edge where you consider more convenient. Below some examples of the operation of the command.

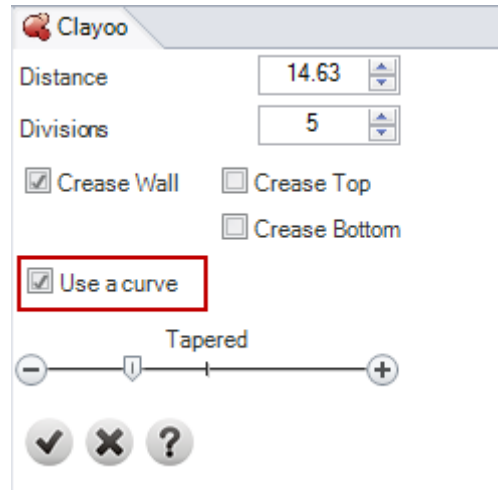


### Faces extrusion

According to the faces to extrude there will be two different performances, it differs between one related group of faces and multiple sets of faces. The only difference in the way we work will be the form of the extrusions, if it is one group of extrusion could be done in any direction using the gumball, in the case of multiple groups each group always will move on the normal direction.

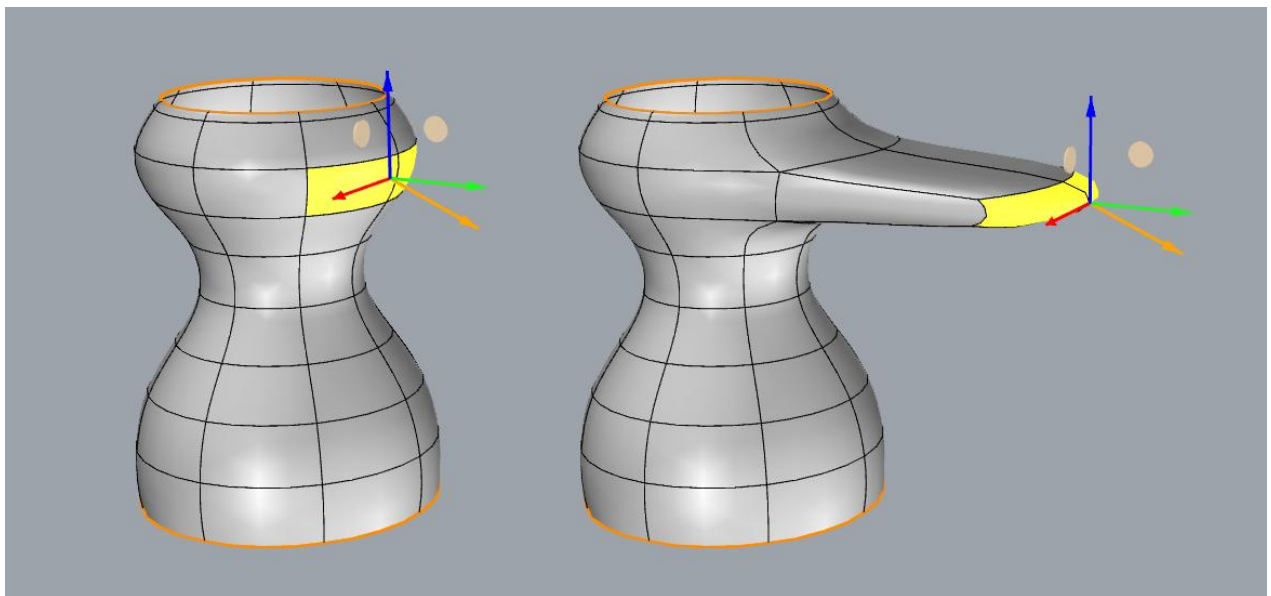
Both use the following interface.





The red marked field is only visible when you have selected a single set of faces.

We will now explain what each field, as an example the case of a single set of selected faces.



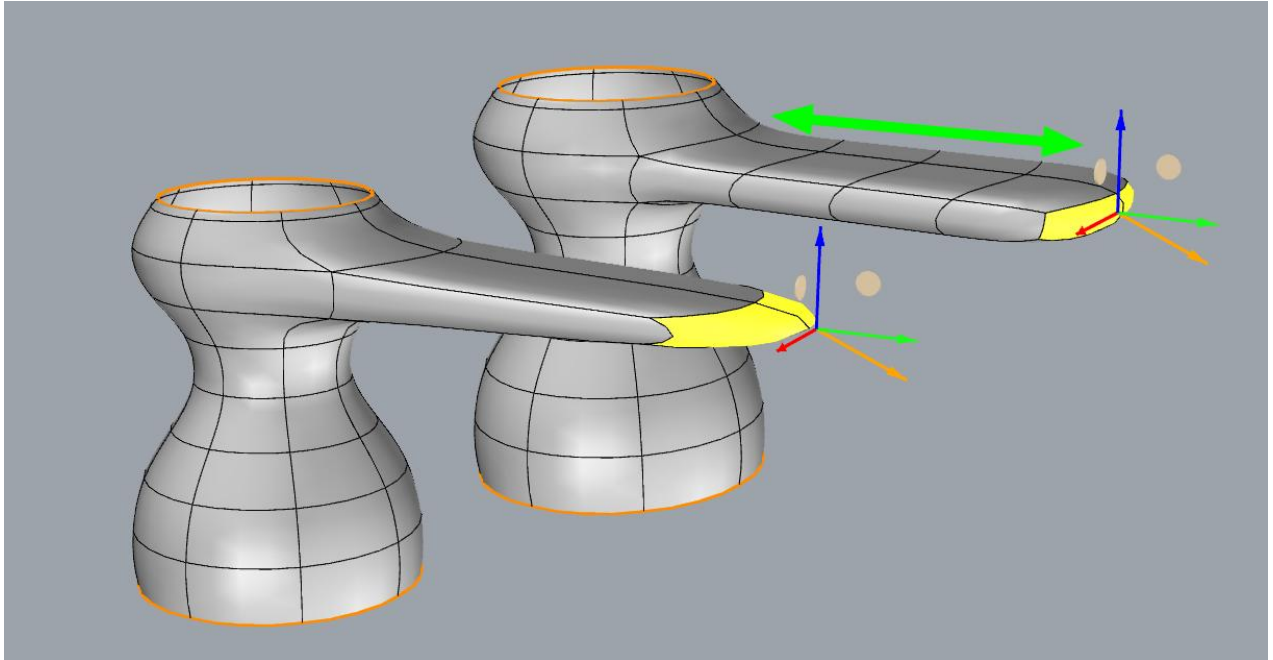
#### Distance

This parameter can be modified by a numeric input or dragging the gumball. Specifies the length of the extrusion.

#### Divisions

This field shows the number of divisions that will have the side faces of the extrusion. At least will be one.

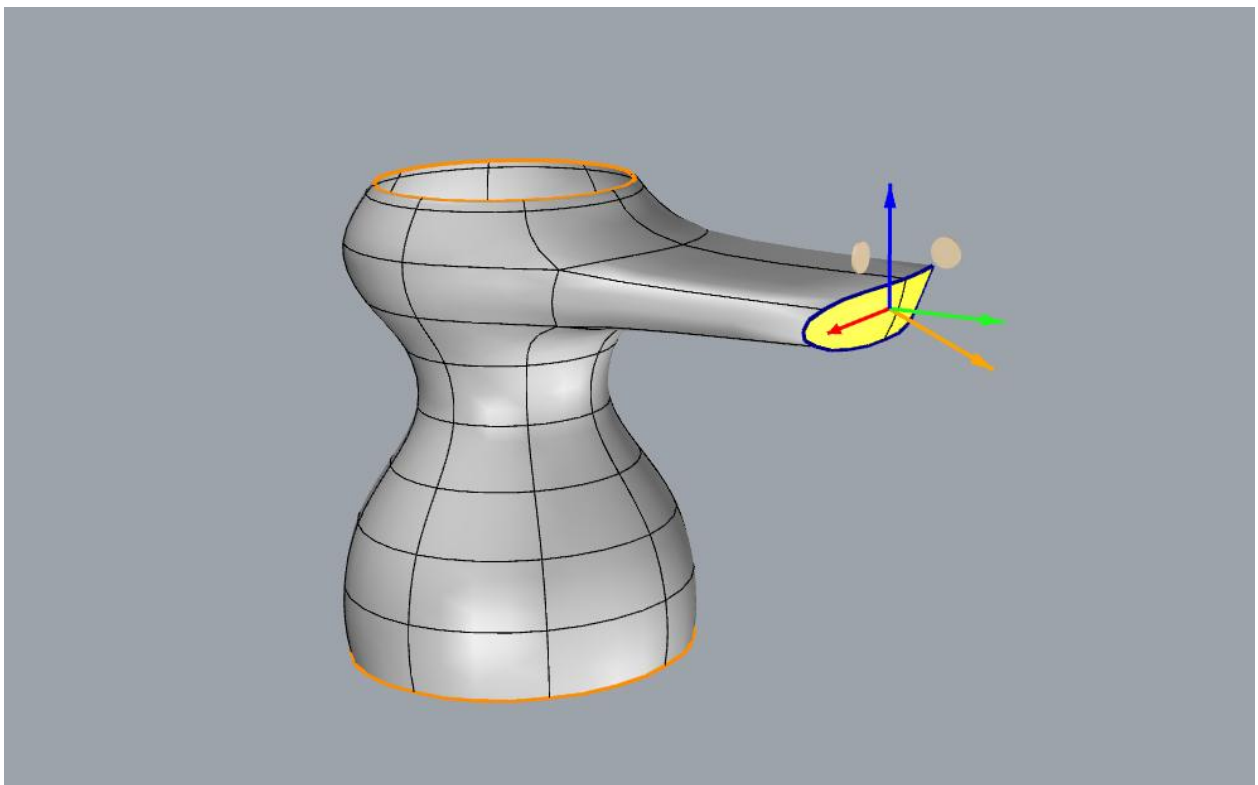




### Sharp edges

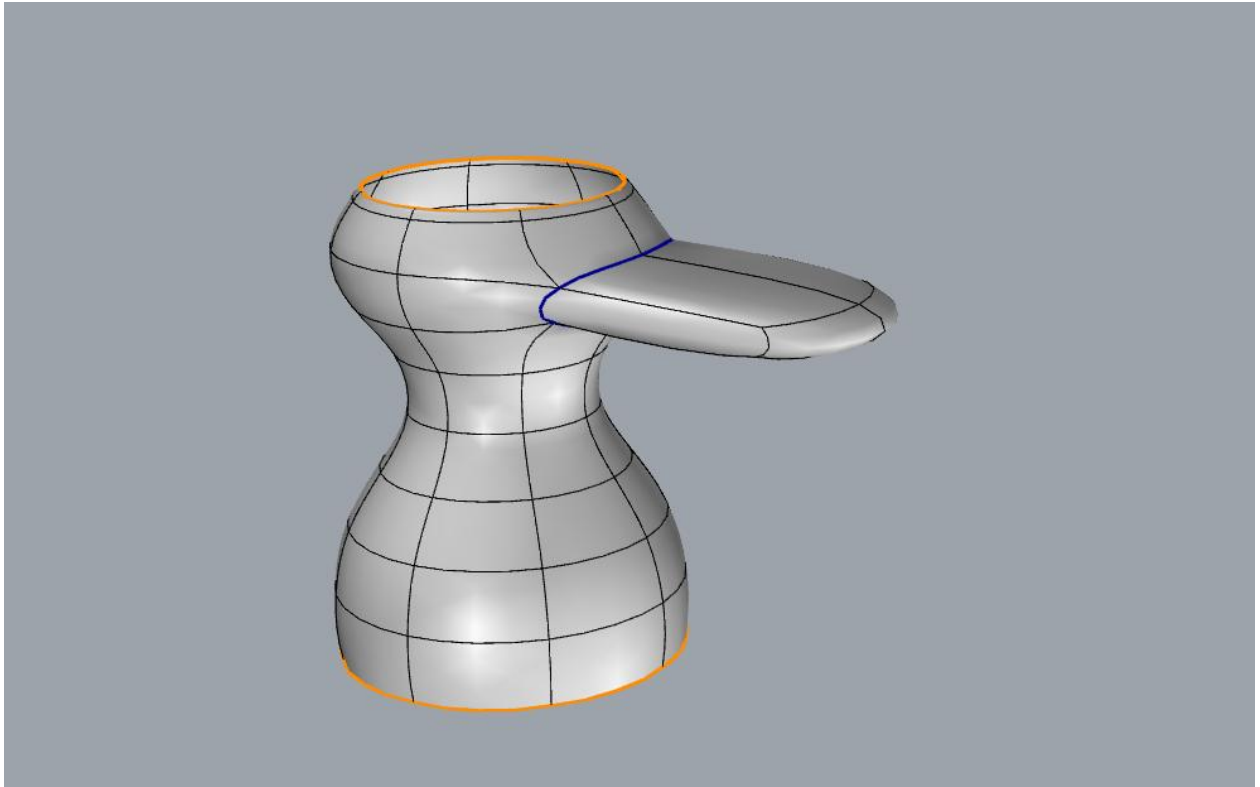
We are able to specify how will be the edges of the extrusion, they can be defined as sharp or normal (by default). We can change the type of edge in the sides as well as in the top or bottom of the extrusion.

### Top



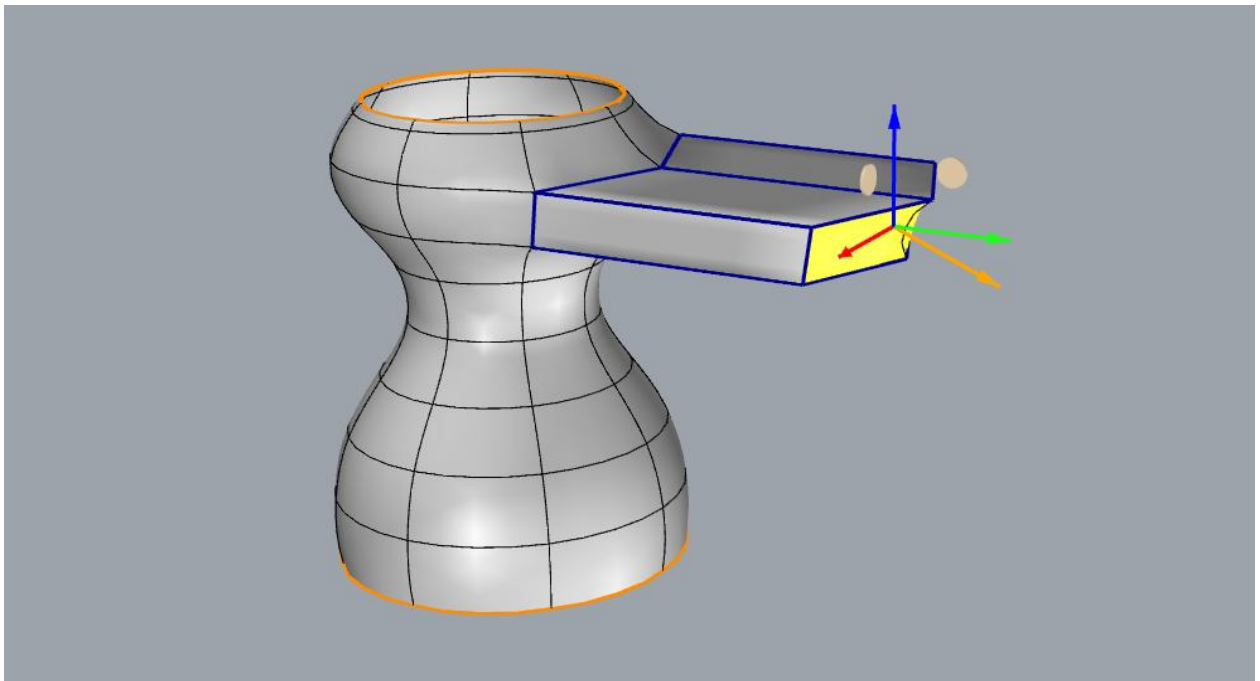


## Base



## Sidewalls

We can combine different edges settings as it suits us. Below an example in which all the extrusion edges are sharp.

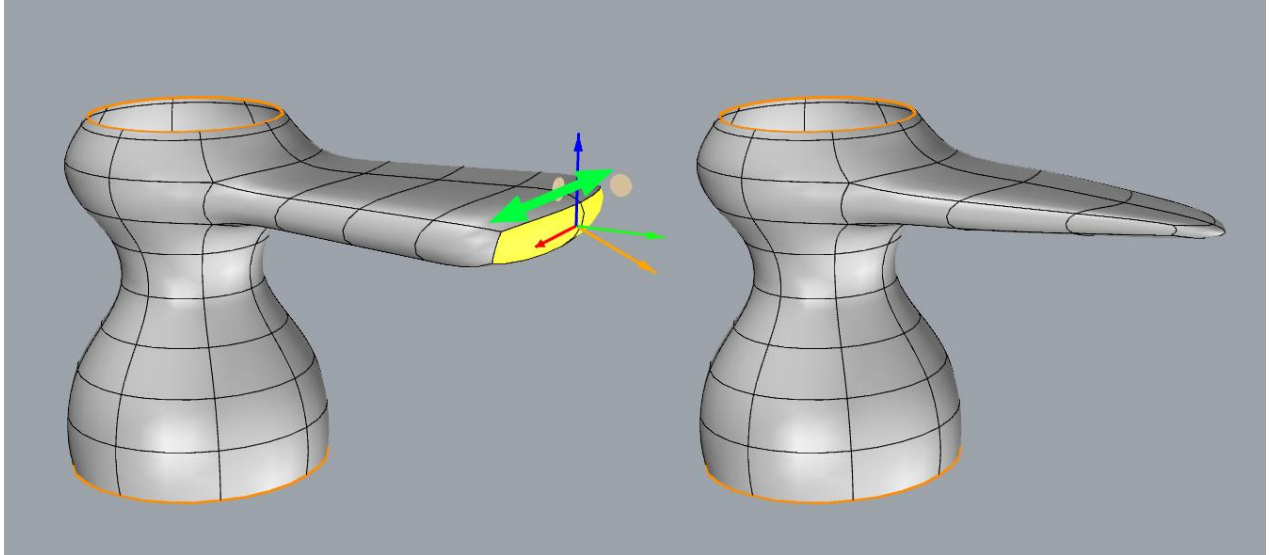




### Tapered

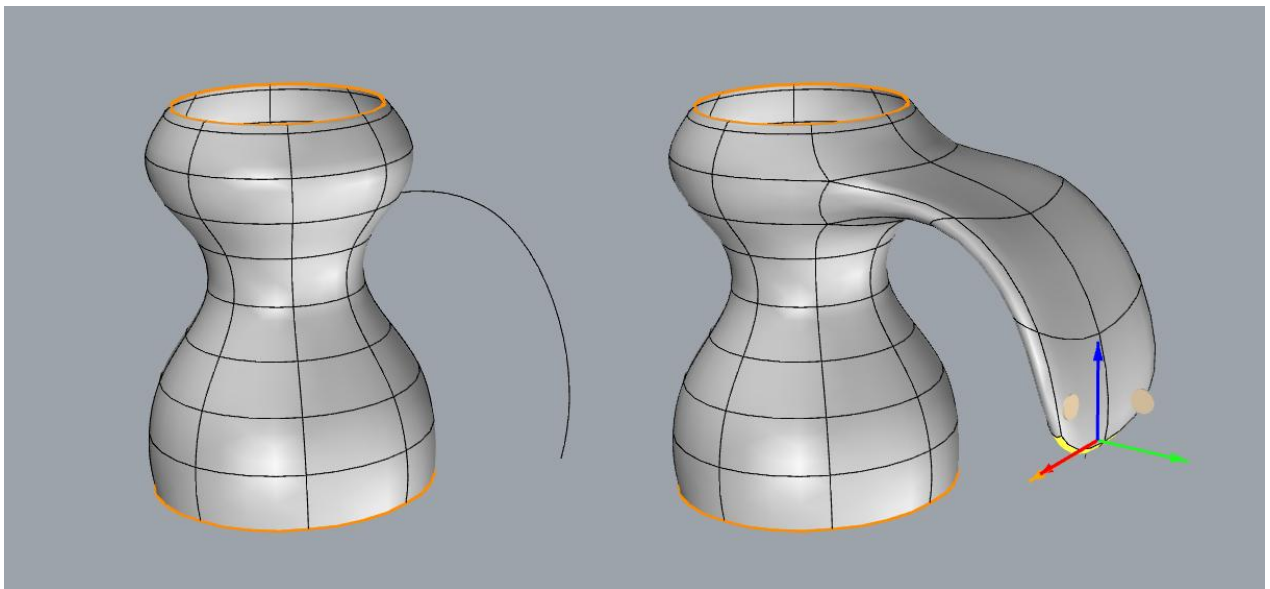
With the bottom slider interface we can define the taper of the extrusion.

We can make a cap smaller than the base or make it bigger than the base.



### Curve

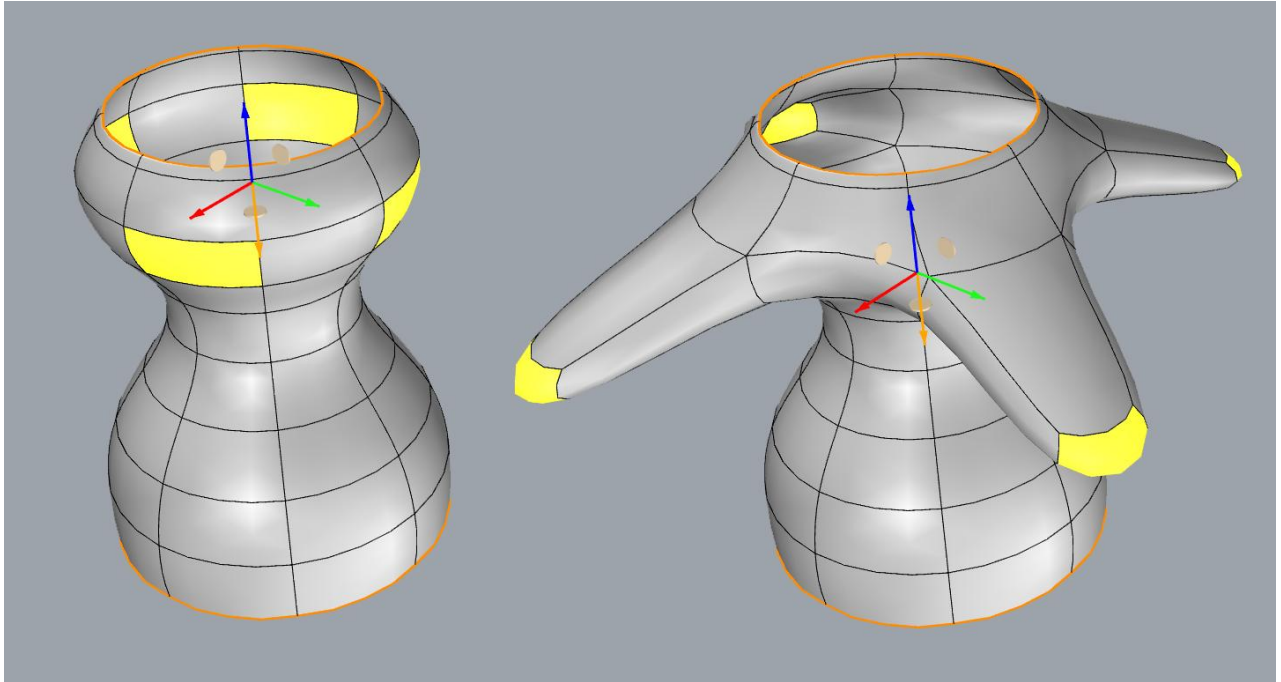
When is selected a single group of faces, the extrusion can follow a curve. For this we can select the desired curve and enable the field to use curve or activate the field first and then select the curve.



All parameters can be used simultaneously.

Regarding the extrusion with different groups of selected faces the workflow is exactly the same, here you can see some pictures from different groups of extruded faces.





As can be seen the operation is the same as the extrusion of a single selected group of faces.



## Shell



Toolbar

Menu

Command

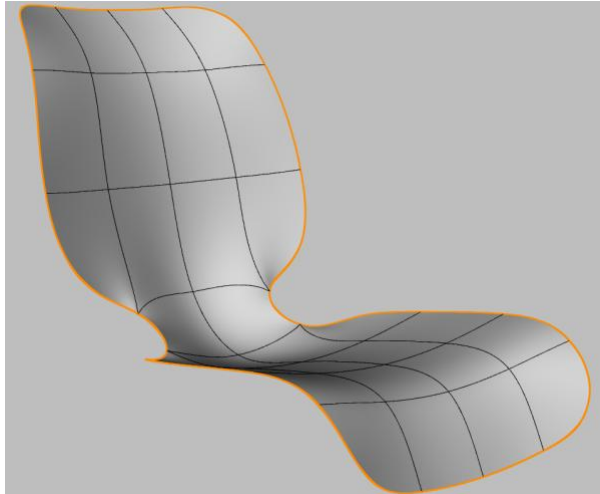
**Clayoo > Edition > Shell**

**Clayoo > Edition > Shell**

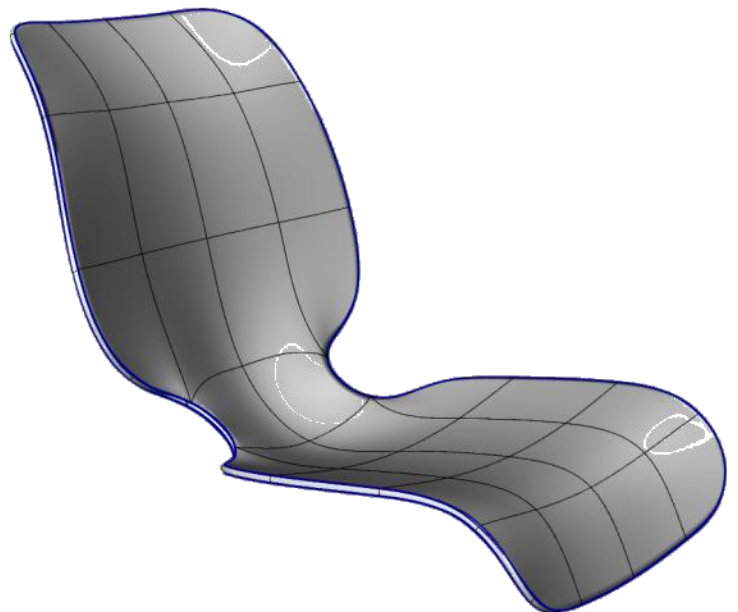
**ClayShell**

This tool allows us to remove the interior of an object or if the object is not a solid allows us to make it solid.

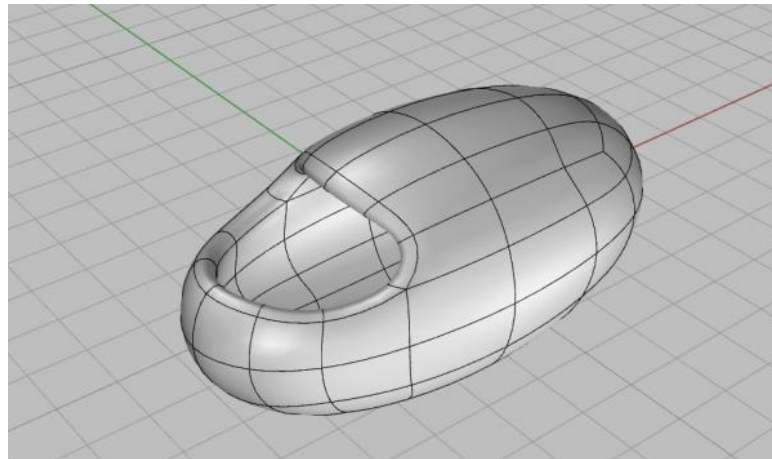
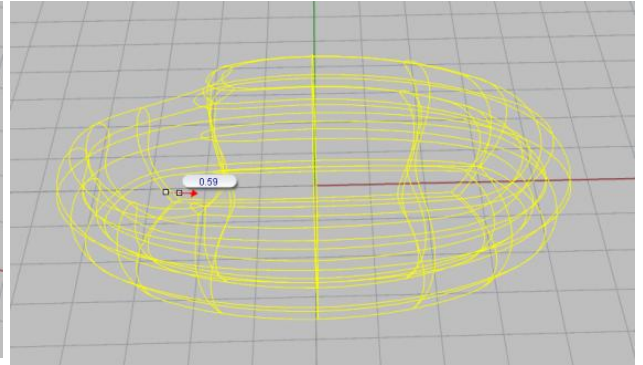
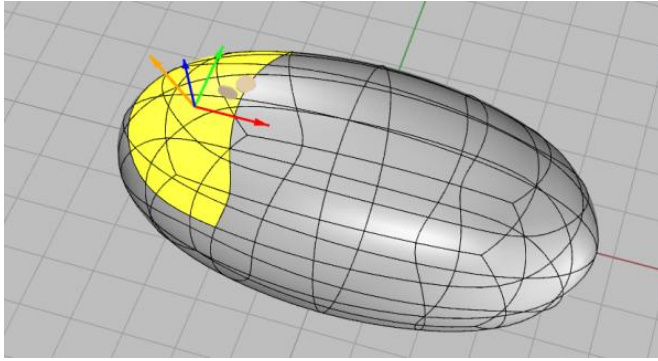
To define the thickness of the object can be done numerically from the command line or dynamically with a gumball direction which appear on the screen.



The final result of the tool varies according to the selection of the object. If it is all the object selected it will create a solid vacuum with the selected thickness, if it is not the entire object selected the selected parts will be removed and the rest of the object will be a solid with the selected thickness.









## Offset



Toolbar

Menu

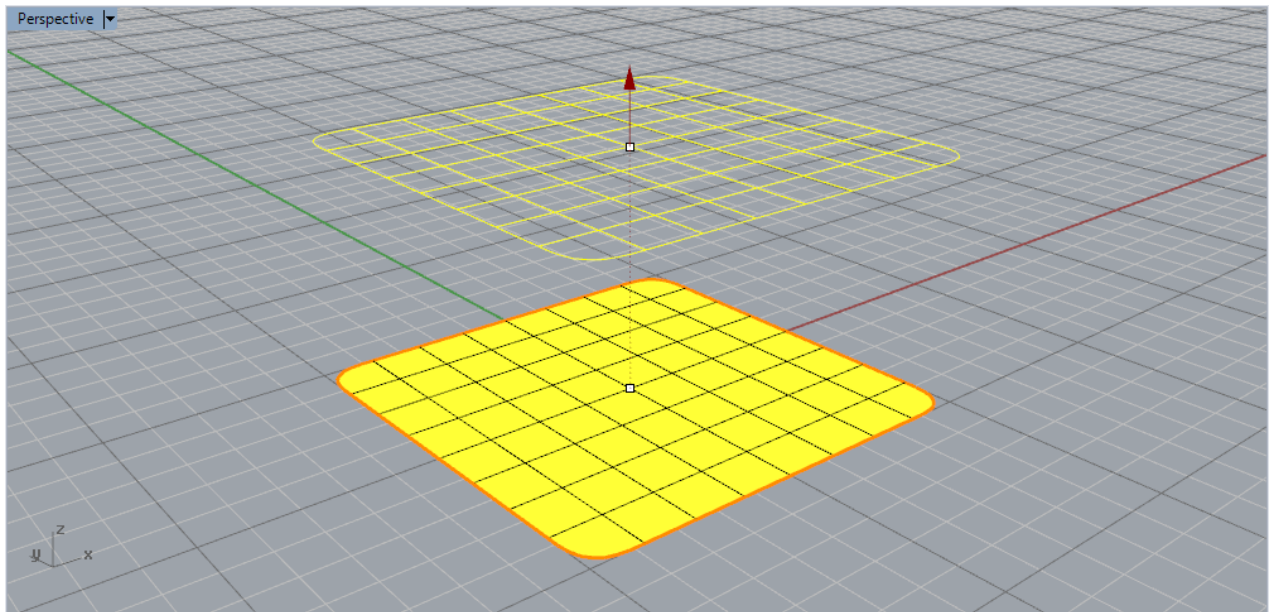
Command

**Clayoo > Edition > Offset**

**Clayoo > Edition > Offset**

**ClayOffset**

This tool allow us to copy a face or a group of faces to a specified distance from the original.



Start by selecting the face or the group of faces then type the offset distance in the command line and press enter.



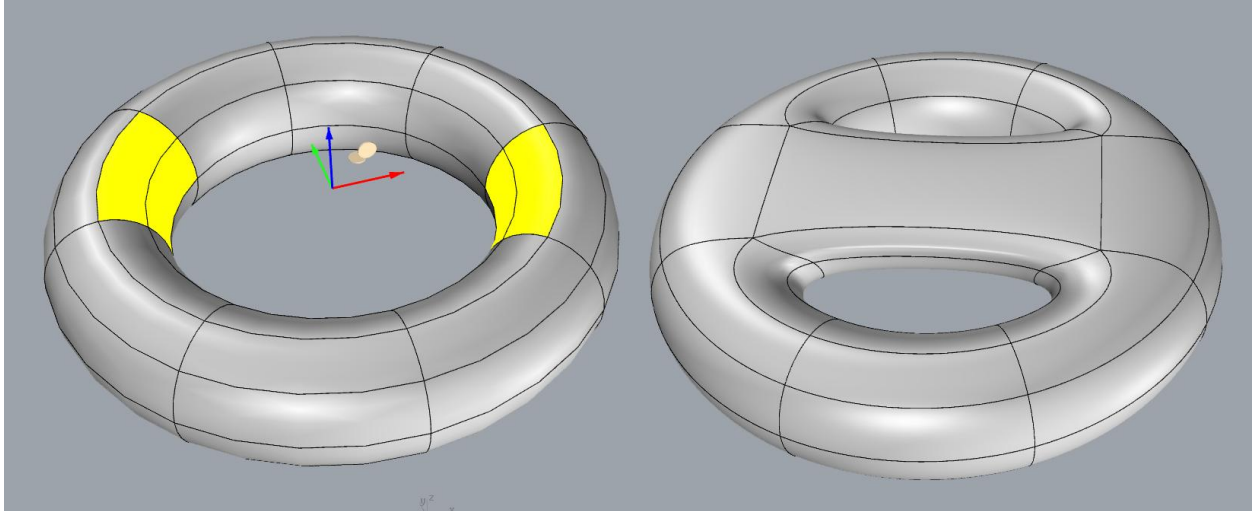
## Bridge



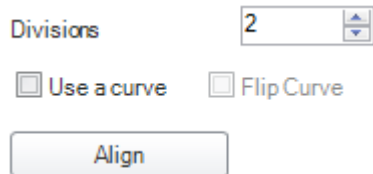
Toolbar  
Menu  
Command

**Clayoo > Edition > Bridge**  
**Clayoo > Edition > Bridge**  
**ClayBridge**

This tool allow us to create a group of faces between separated faces.

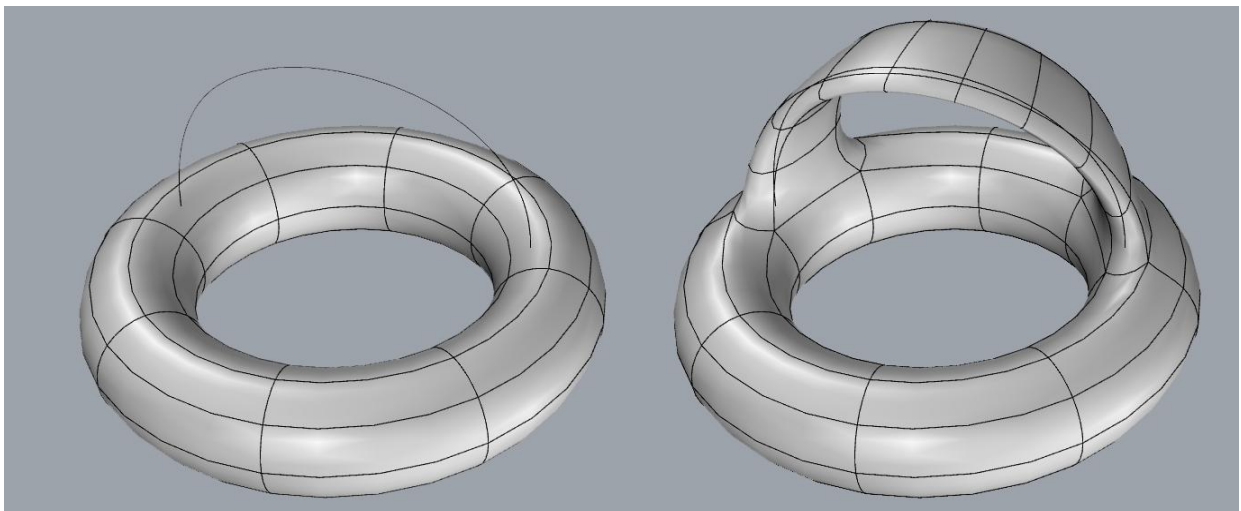


After run the command we have to select the faces to make a bridge between and then the following dialog will display:



The divisions option allow us to change the number of faces in the bridge, the following image is with 5 divisions:

We have the option to use a curve to orient the bridge and when we use this option the Flip Curve option will be available as well to invert the curve direction.



The Align option is to select the points in the faces to orient the bridge in some complex cases. Once defined the surface as needed, click the OK button, or X to cancel the command.



## Fill



Toolbar

Menu

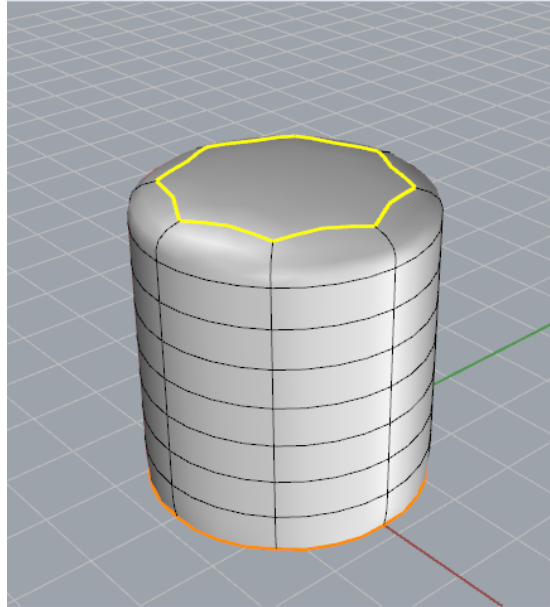
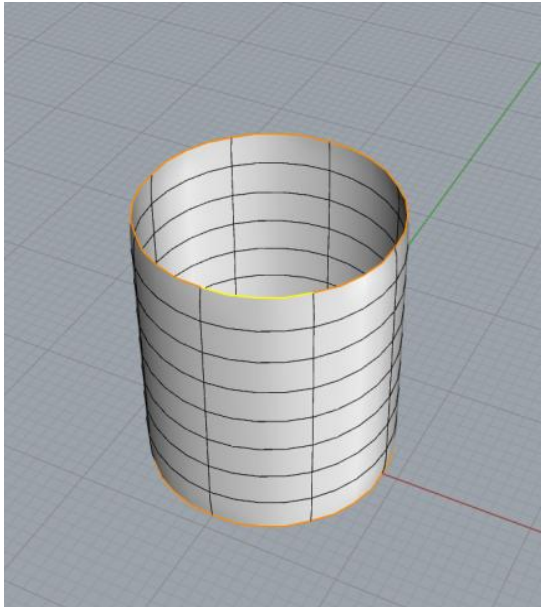
Command

**Clayoo > Edition > Fill**

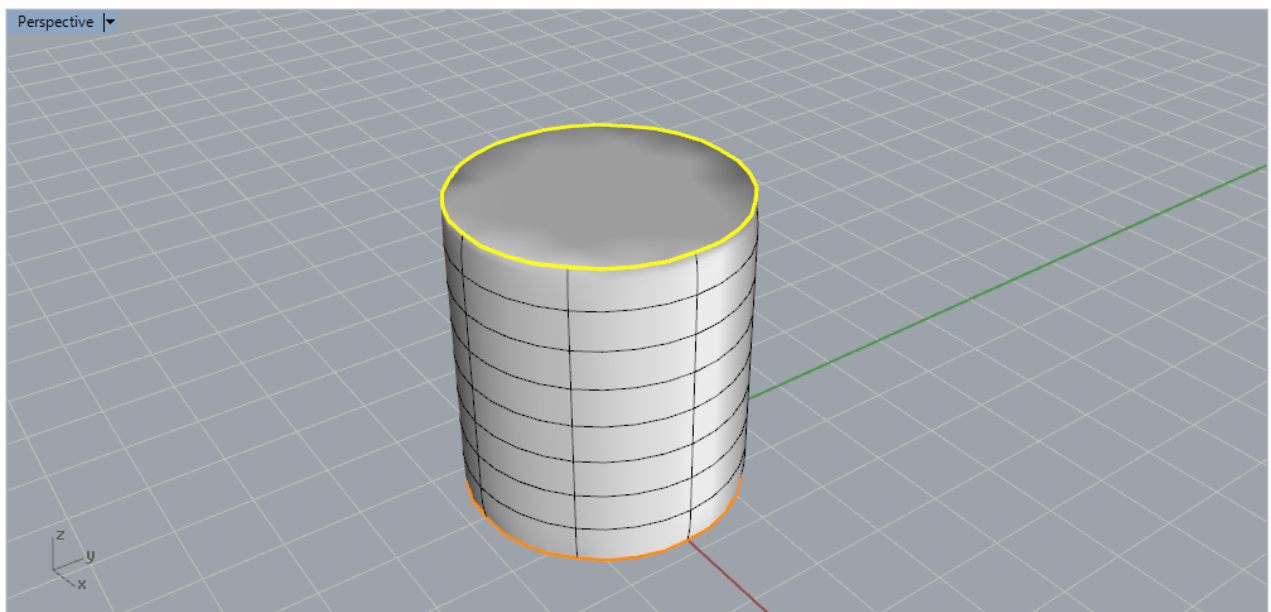
**Clayoo > Edition > Fill**

**ClayFill**

This tool allow us to fill the holes existing on the surface by one click. You can select which hole you can fill one or more edges of the hole. If you want to fill all the existing holes you only have to select the entire object in object selection mode.



When we run the command we have the option to make the edges crease or uncrease in the command line.





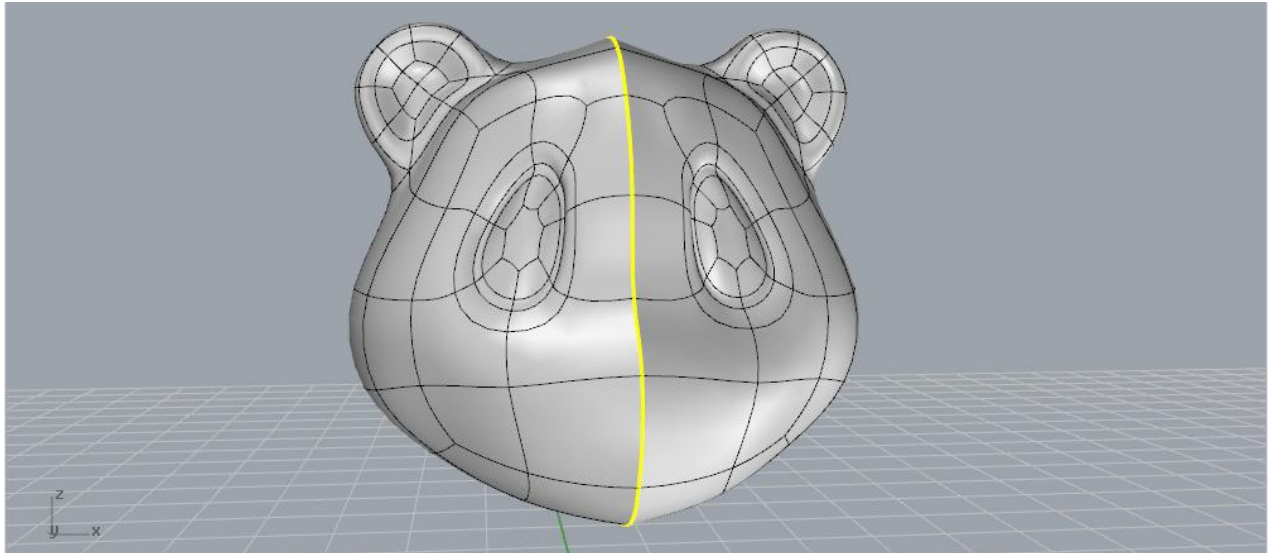
## Match



Toolbar  
Menu  
Command

**Clayoo > Edition > Match**  
**Clayoo > Edition > Match**  
**ClayMatch**

This tool allow us to match surface edges.

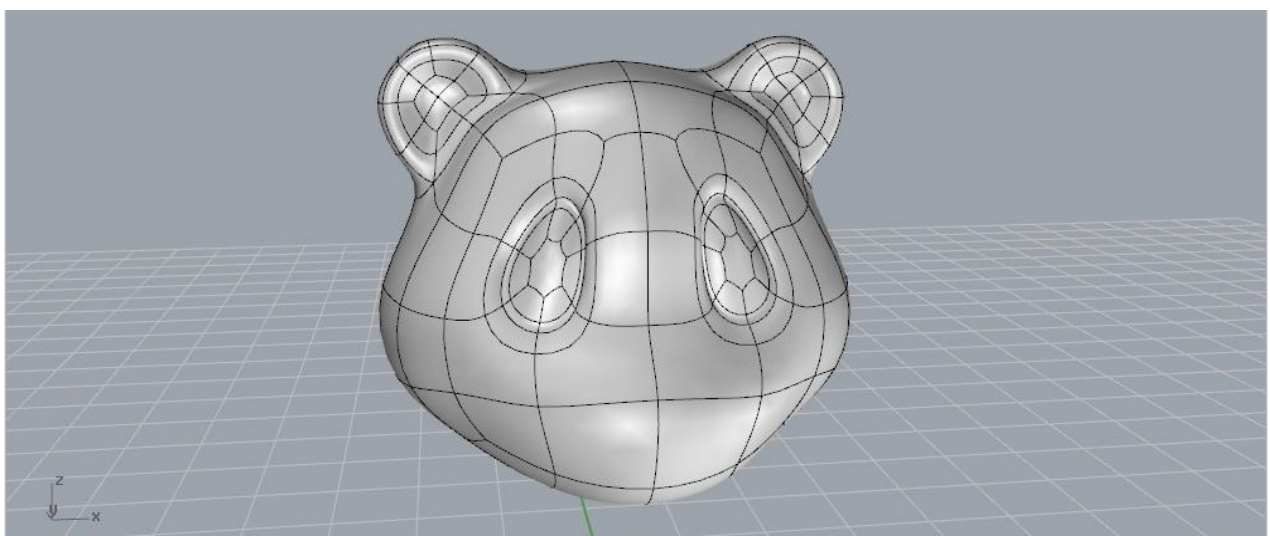


After run the command it will match the edges by default but under the command line there are more options.

Select edges to match ( Weld=NO Average=NO ): Weld=YES

Select edges to match ( Weld=YES Average=NO ): |

In the option Weld, if we choose YES the edges will be together as the following image.



In the option Average, if we choose YES the match will be done in the intermediate point.



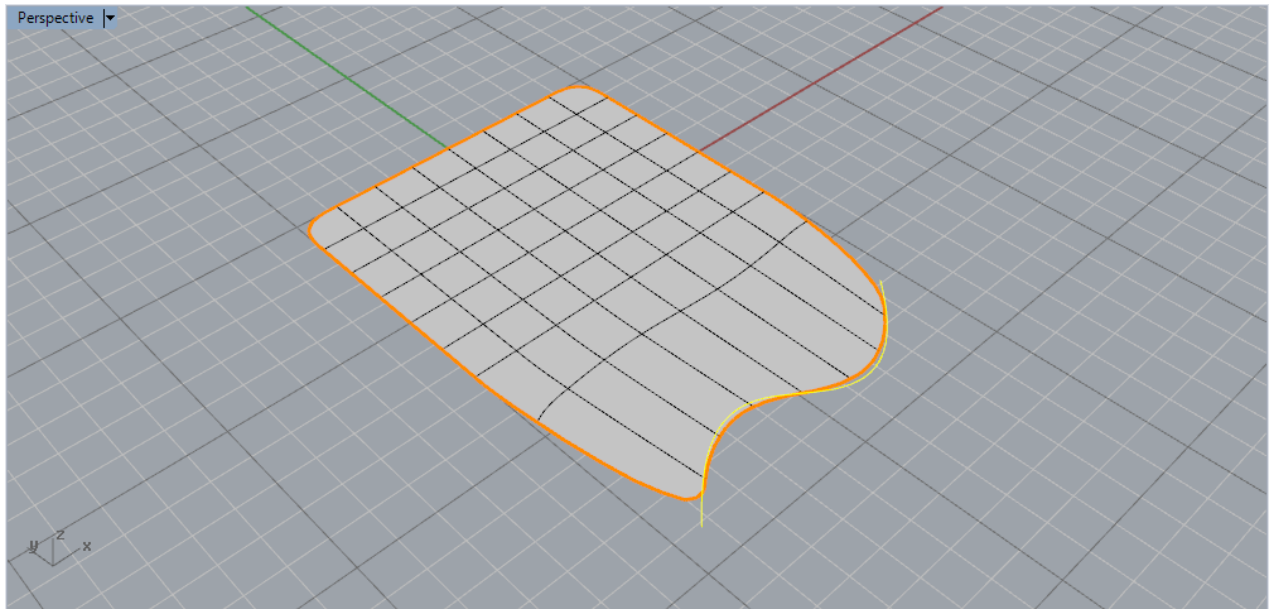
## Match to curve



Toolbar  
Menu  
Command

**Clayoo > Edition > Match to curve**  
**Clayoo > Edition > Match to curve**  
**ClayMatchToCurve**

This tool allow us to match surface edges to a curve.

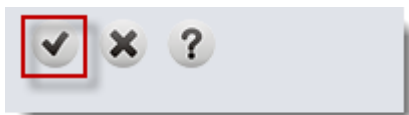


After run the command, select the edges to match and then the curve, then the following dialog will display:



The flip option allow us to invert the match.

Once defined the surface as needed, click the OK button, or X to cancel the command.





## Project to Plane



Toolbar

Menu

Command

**Clayoo > Edition > Project to Plane**

**Clayoo > Edition > Project to Plane**

**ClayProjectToPlane**

This tool allows us to project to a plane any selected geometry, either by faces, vertices, edges, or the whole object.

There are four possible workflows: Projecting the geometry to one of the planes of the axes of the world coordinates (XY, XZ, YZ), to the active CPlane viewport, create a plane from a line or dynamically selecting the tangential plane geometry at some point.

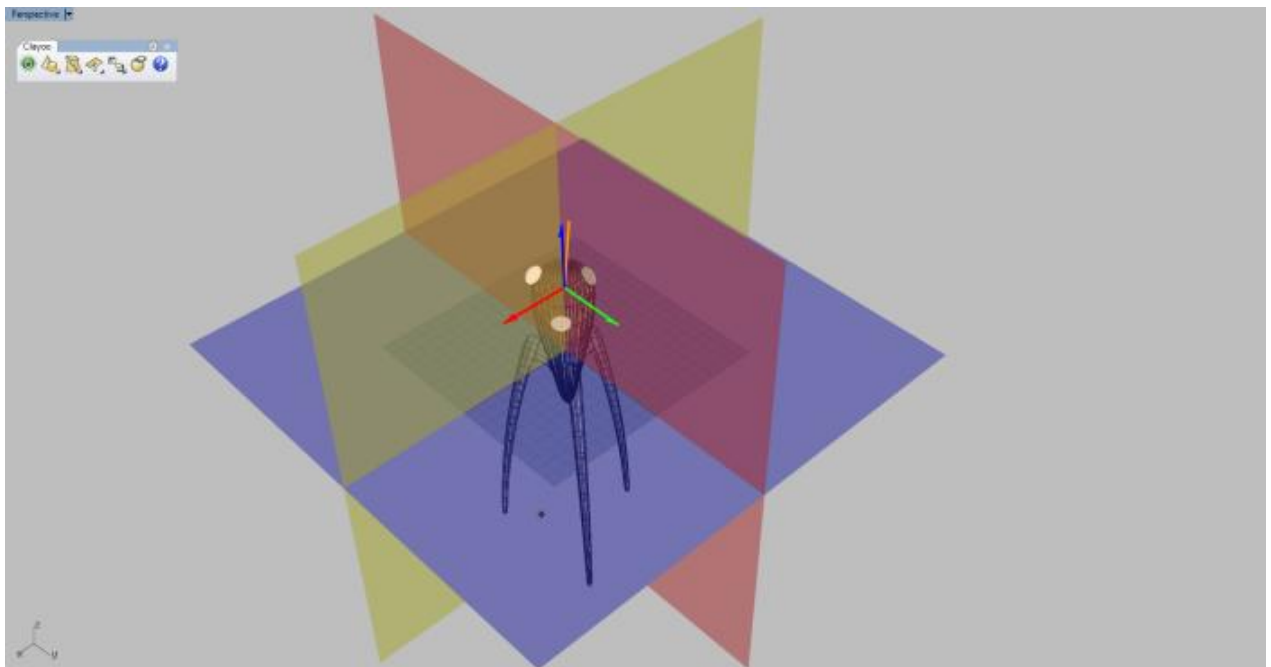
By default it starts the command in the first of the workflows, but from the command line the workflow can be changed during the running of the command.

Command: `_ClayProjectToPlane`

Select projection plane: ( CPlane SetPlaneByLine Dynamic ): |

## World planes coordinates

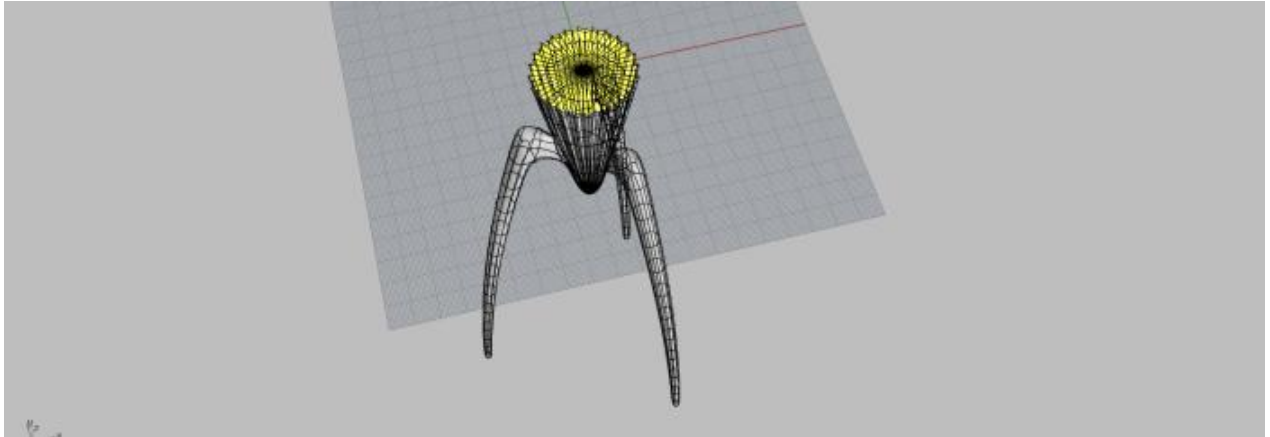
Select one of the planes formed by the global coordinate axes, select by clicking on any of the planes on the screen.



## CPlane

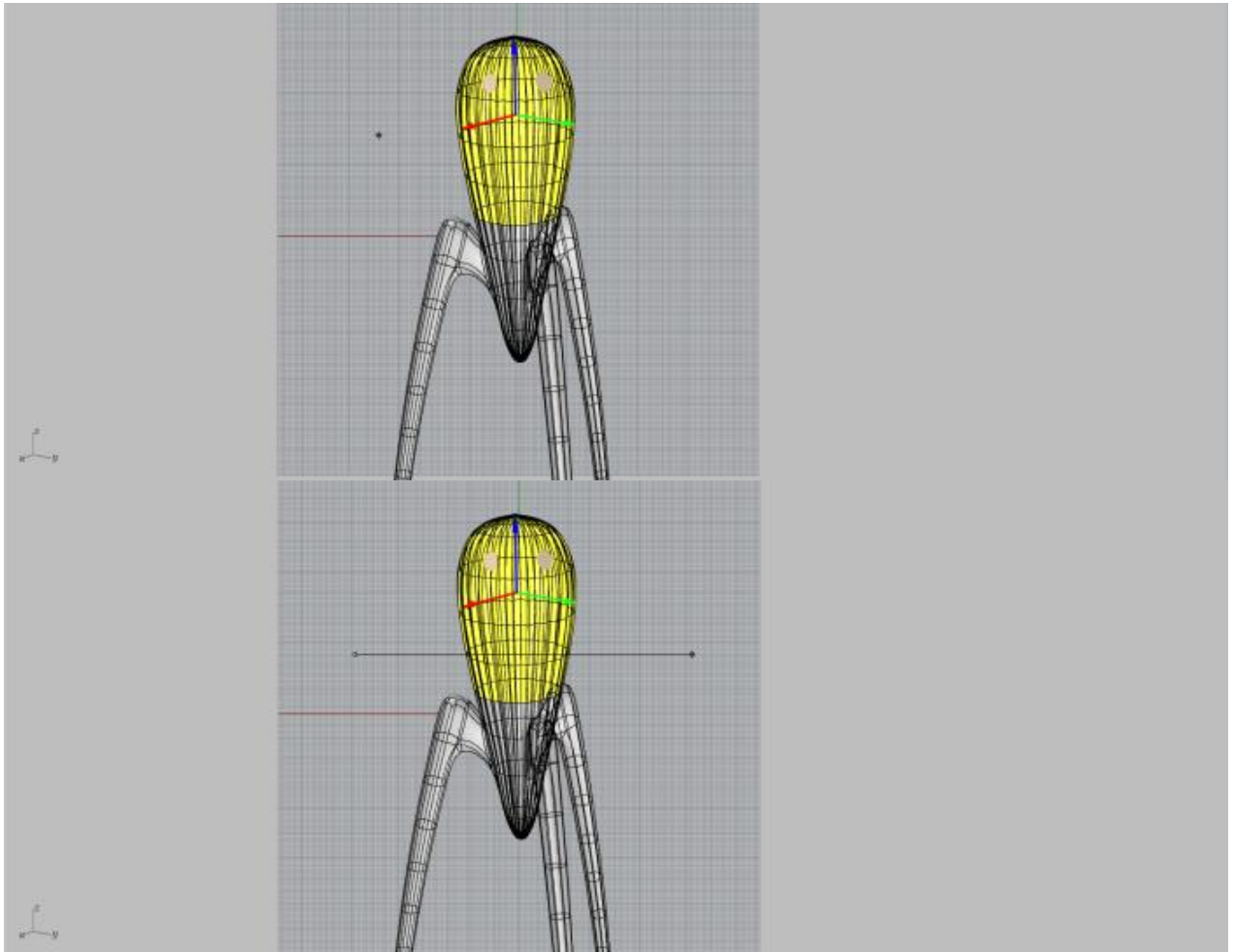
This option will be selected on the command line and automatically the selected geometry is projected to the construction plane in the active viewport.





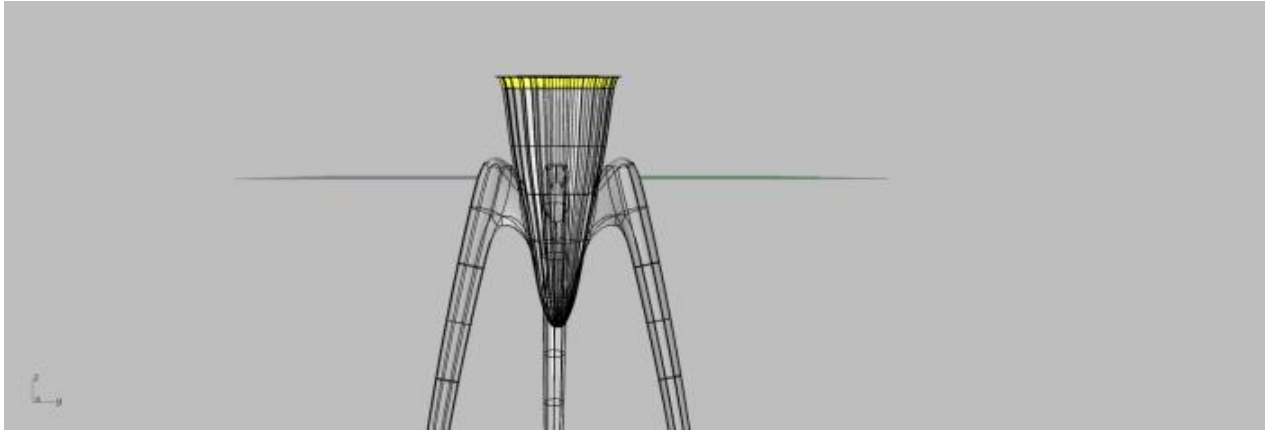
### Plane created from a line

Automatically changes the construction plane to a plane with the same orientation as the active view. Then the user will have to draw a line from which will be created the plane to project the geometry.



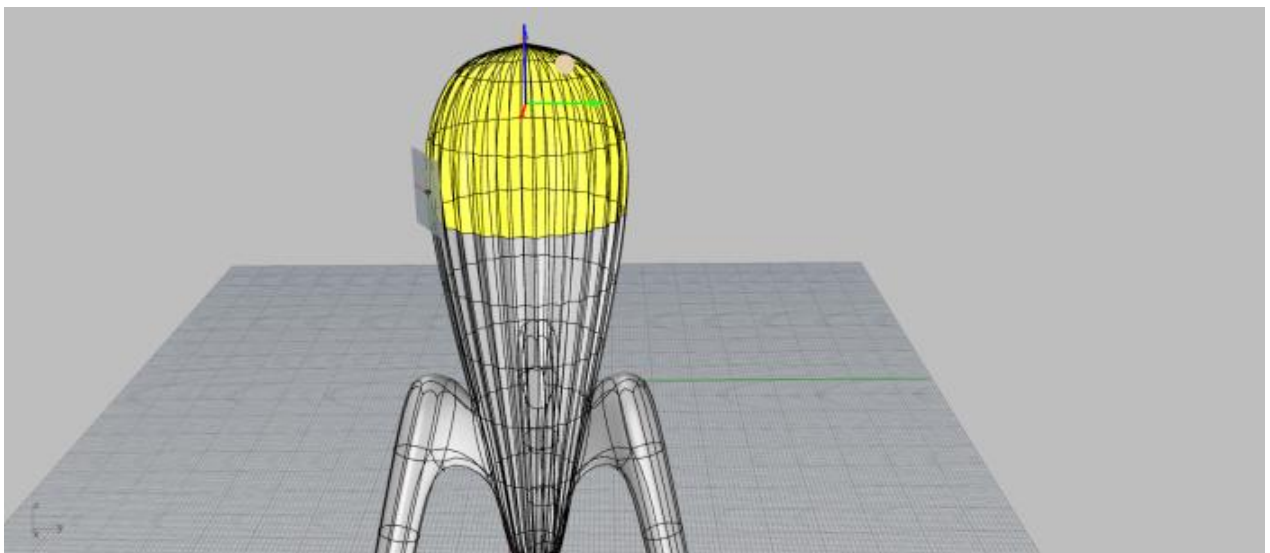
After creating the line it creates a plane perpendicular to the construction plane and containing the line drawn and the selected geometry is projected to the plane.





### Plane selection dynamically

The cursor will show a plane tangent to the geometry on which we are. When we have the desired plane just press the left mouse button and the selected geometry is projected to the chosen plane.





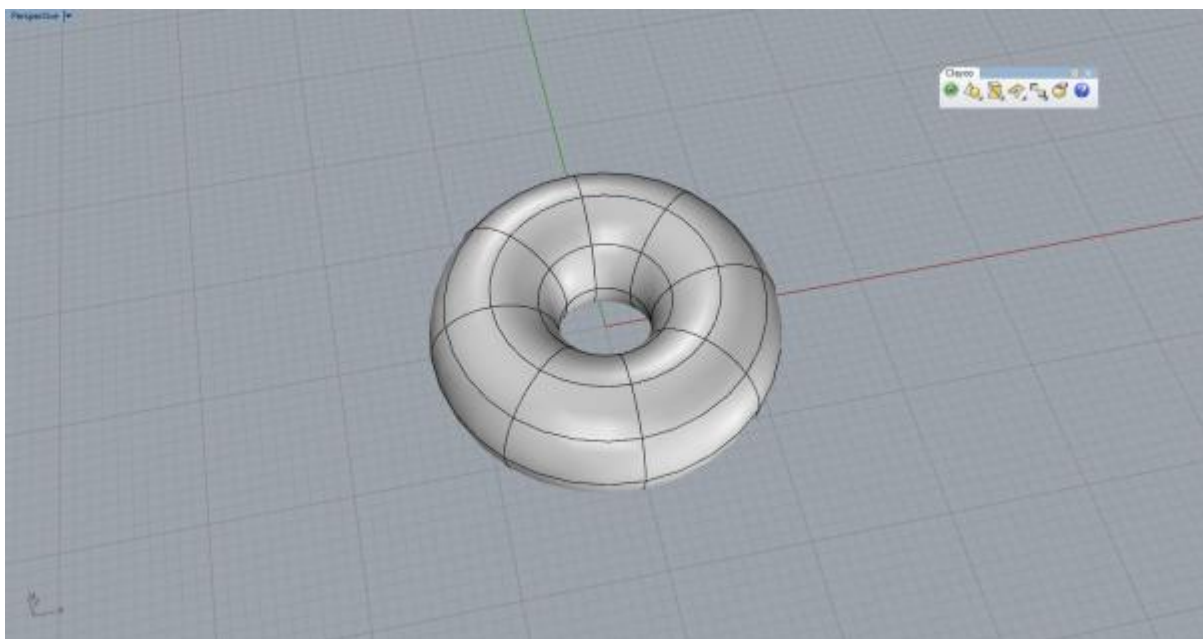
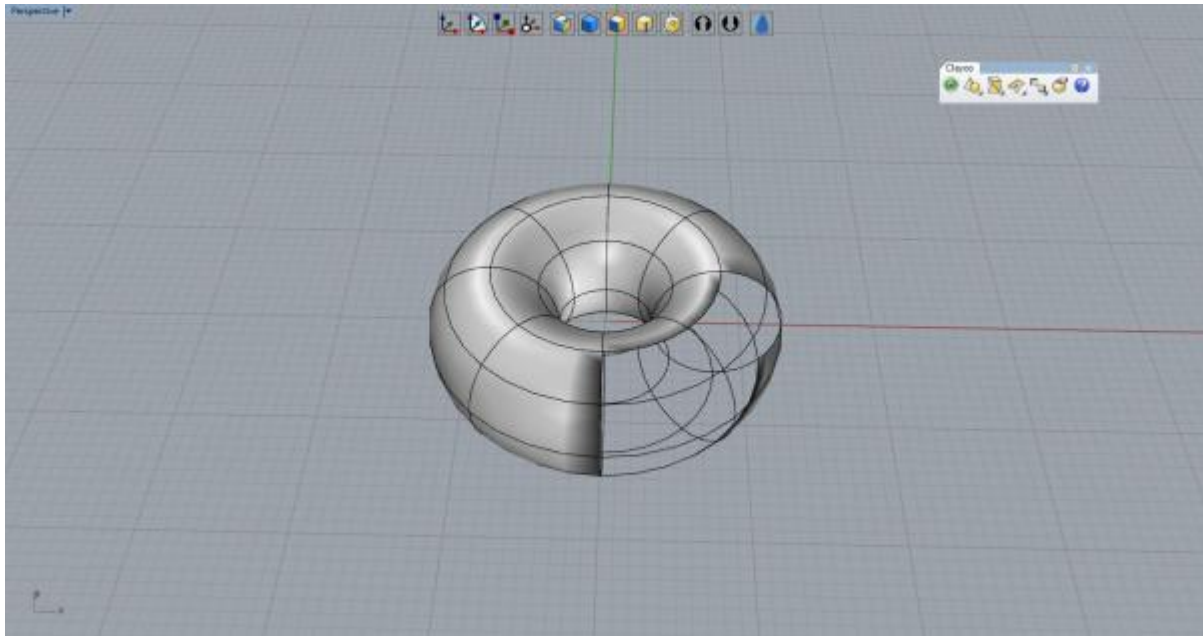
## Flip



Toolbar  
Menu  
Command

**Clayoo > Edition > Flip**  
**Clayoo > Edition > Flip**  
**ClayFlip**

This tool allows us to change the orientation of the selected faces.





## Unify normals



Toolbar

Menu

Shortcut

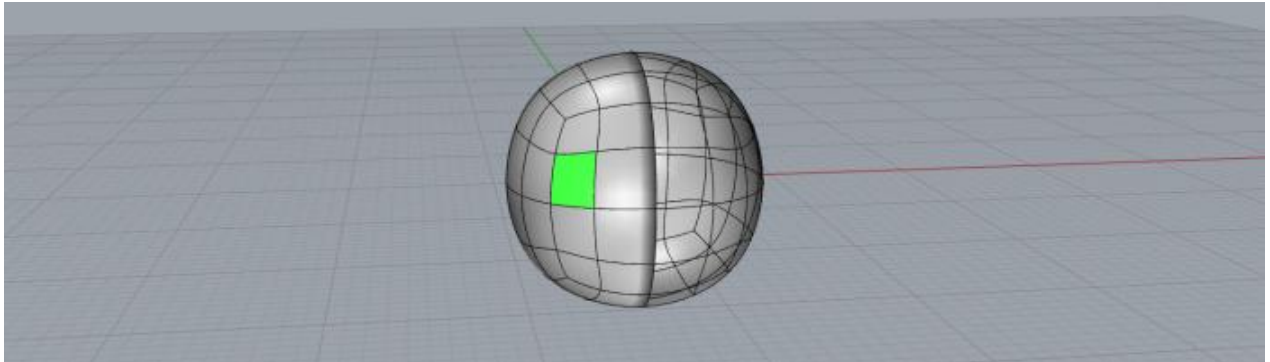
**Clayoo > Edition > Unify normals**

**Clayoo > Edition > Unify normals**

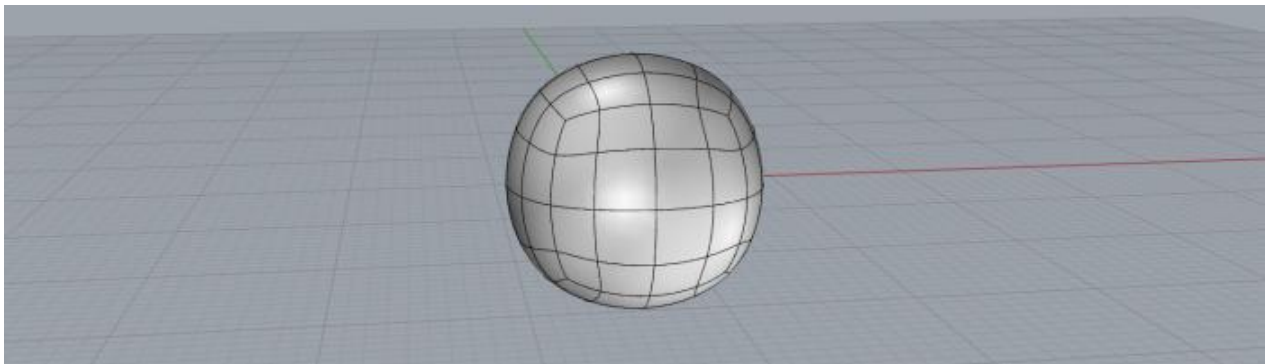
**ClayUnifyNormals**

This tool allow us to unify all the face normals of the selected geometry.

Here we can see a Clayoo object with non-unified normals.



After running the command all the normals are unified.





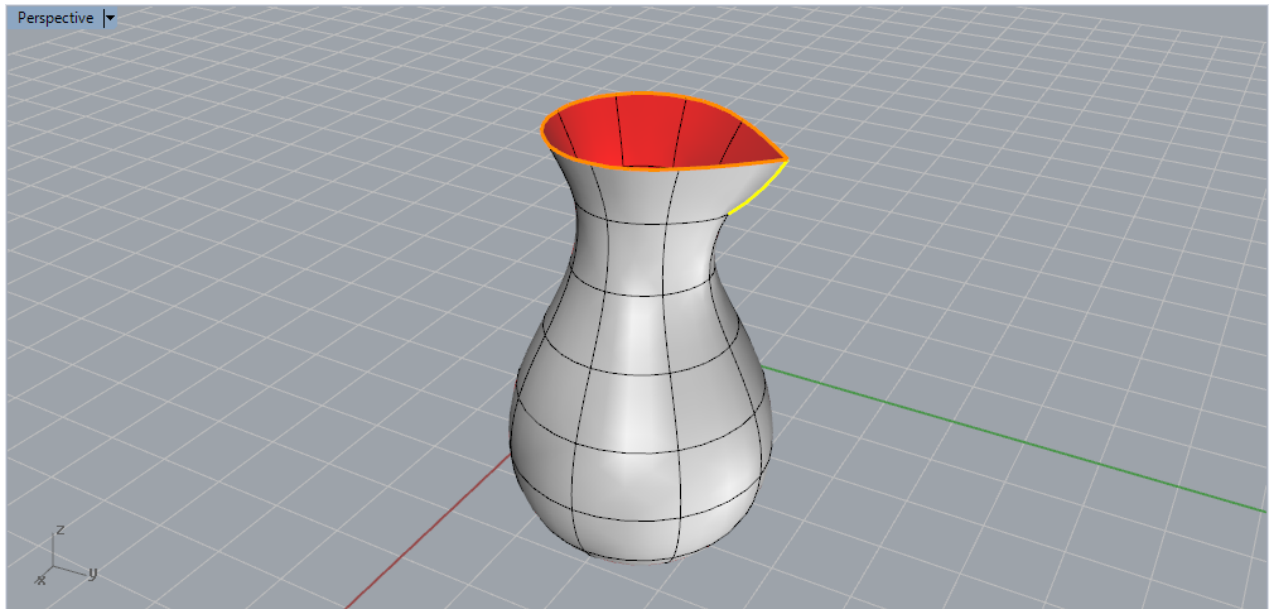
## Crease edges



Toolbar  
Menu  
Command

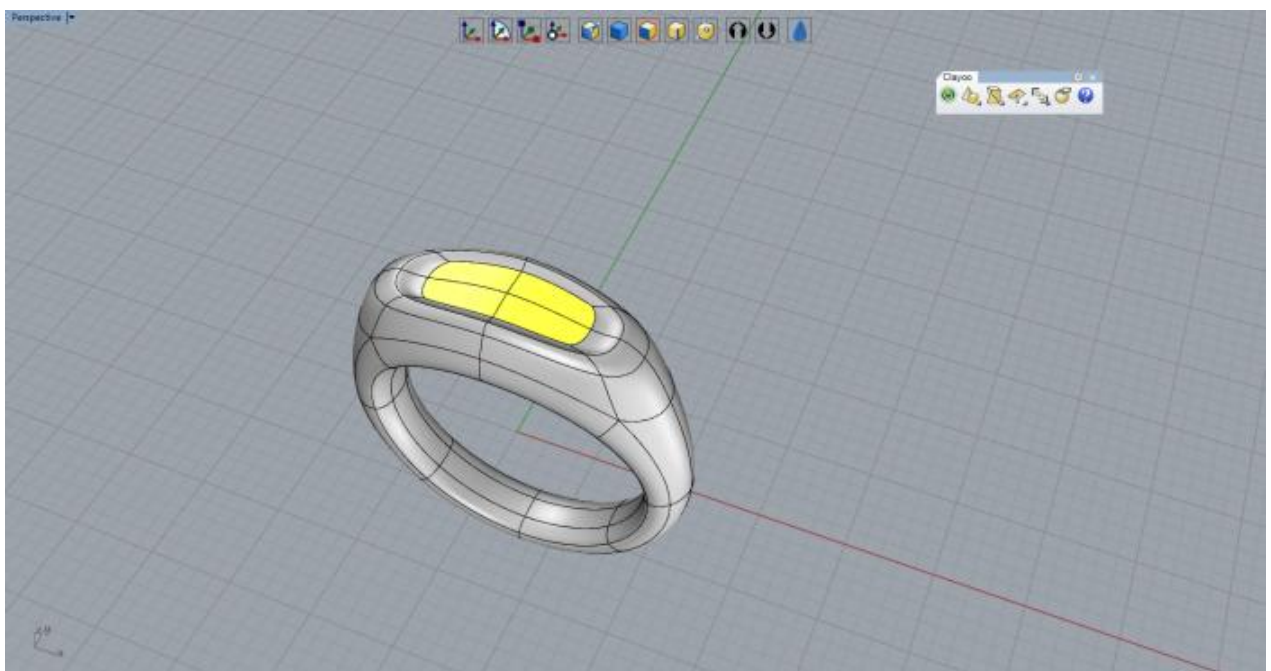
**Clayoo > Edition > Crease edges**  
**Clayoo > Edition > Crease edges**  
**ClayCrease**

This tool allow us to create sharp corners.



After run the command, select the edges to crease and press enter.

These command work with faces too. If the selection mode is face selection mode the command affect to all the edges in the selected faces. The command gives the option to make crease all the selected edges or just the boundary edges of the selection.

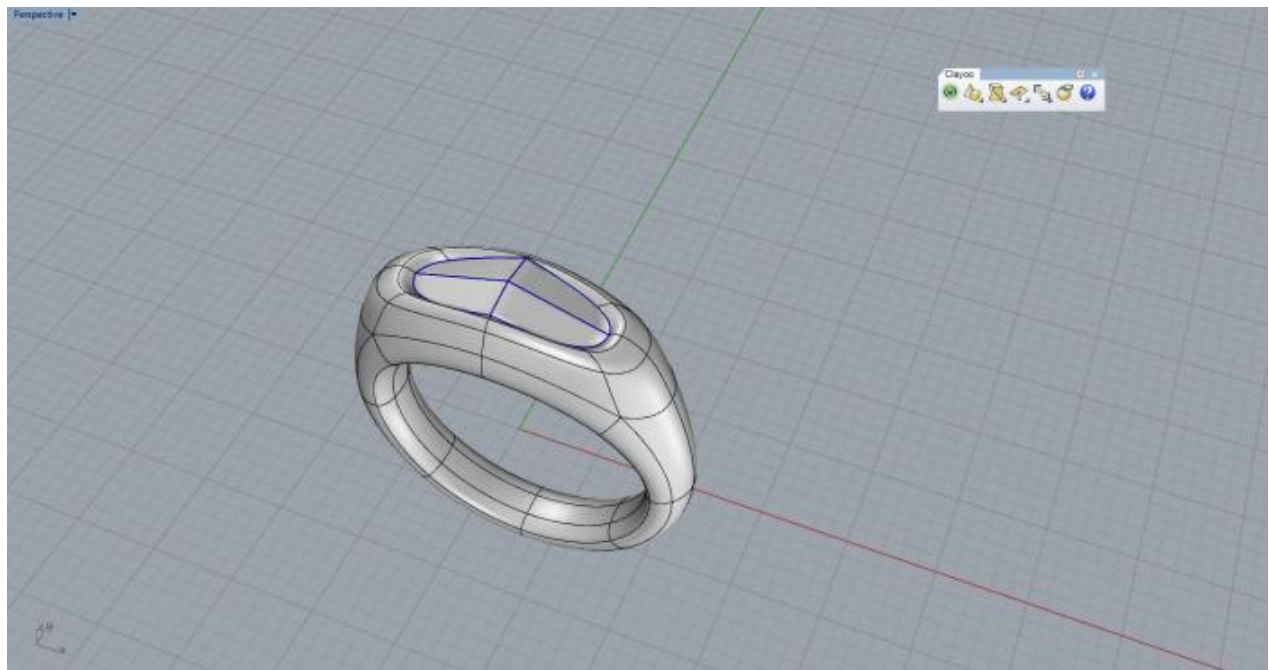




## All edges option

Command: `_ClayCrease`

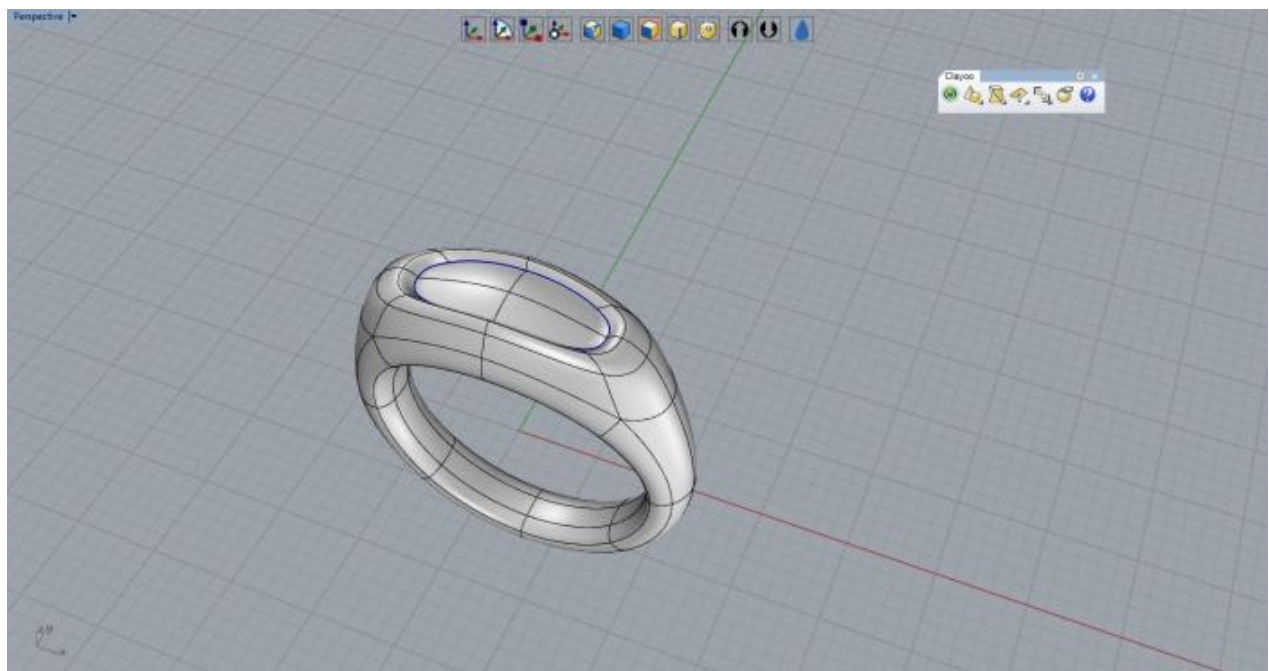
`Crease edges ( CreaseEdges=All );`



## Borders option

`Crease edges ( CreaseEdges=All ): CreaseEdges=OnlyBorders`

`Crease edges ( CreaseEdges=OnlyBorders );`





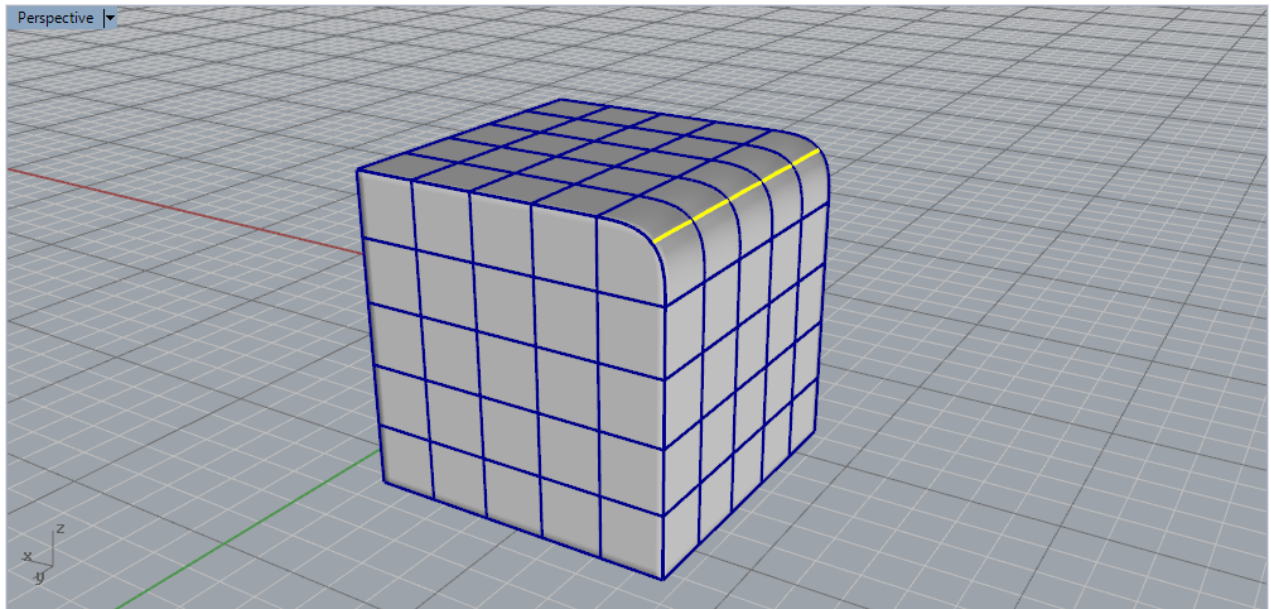
## Uncrease edges



Toolbar  
Menu  
Command

**Clayoo > Edition > Uncrease edges**  
**Clayoo > Edition > Uncrease edges**  
**ClayUncrease**

This tool allow us to create round corners.



After run the command, select the edges to uncrease and press enter.  
The command works with faces and edges if you are in face selection mode the command will affect to all the edges in the selected faces.



## Analyze distances



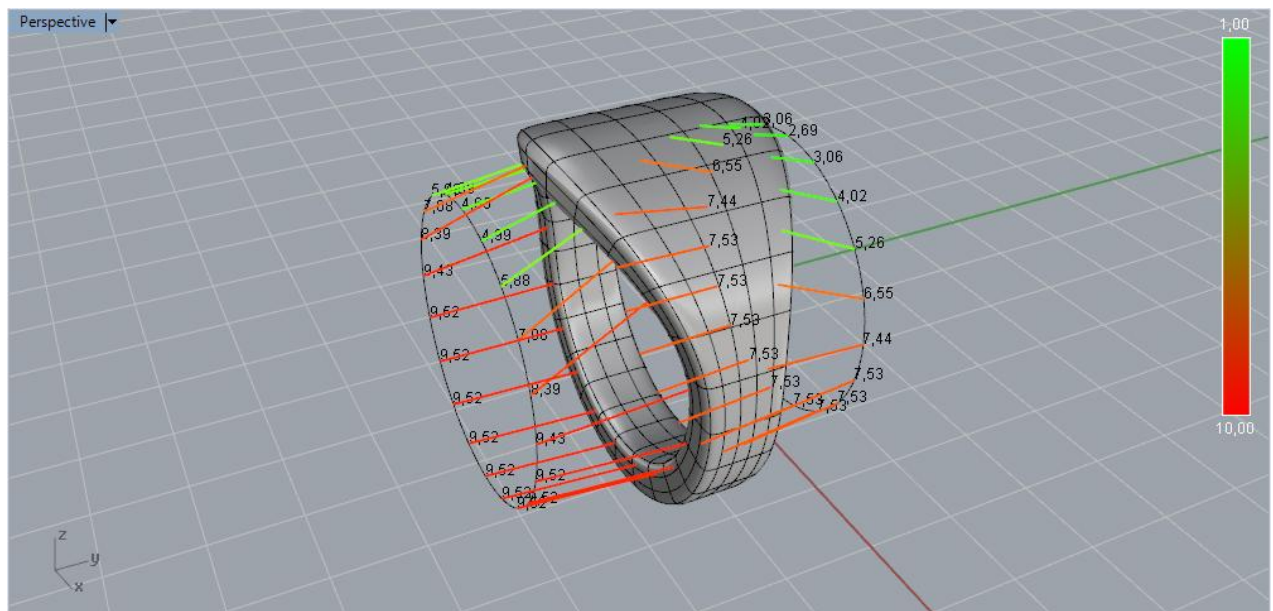
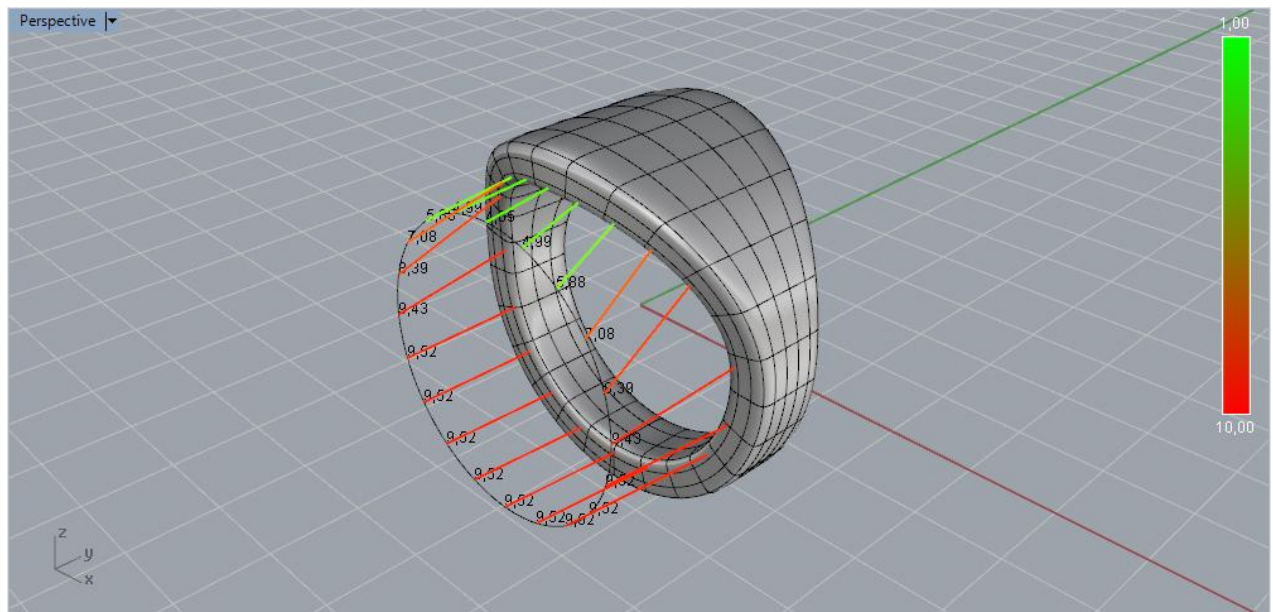
Toolbar  
Menu  
Command

**Clayoo > Edition > Analyze distances**

**Clayoo > Edition > Analyze distances**

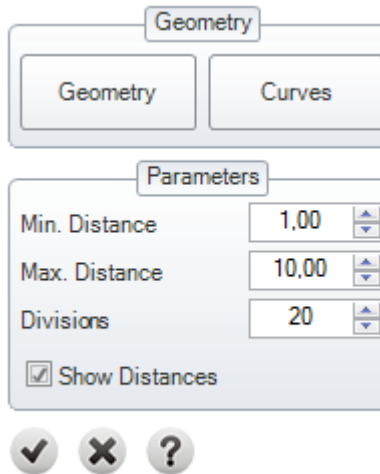
**ClayAnalyze**

This tool allow us to know the exact distance between an edge or a group of edges and a curve or a group of curves.



When we run the command the following dialog will display:





The Geometry is the edge or the group of edges to analyze.

The Curves are the group of curves or the curve to analyze.

Then we can define the maximum and the minimum distance in the analyzes and it will present the green or the red color according to the proposed values.

The divisions option is the number of points in both sides to analyze.

















The Show Distances option allow us to show or hide the values of the analyzes.



## Selection

This toolbar contains tools for selecting Clayoo surfaces: Select All, None, Invert, Select edges, Selection U, Selection V,...



Create	Icon	Command
<a href="#">Select all</a>		ClaySelectAll
<a href="#">Select none</a>		ClaySelectNone
<a href="#">Invert</a>		ClaySelectInvert
<a href="#">Select Clayoo Surfaces</a>		ClaySelectClayooObjects
<a href="#">Select crease edges</a>		ClaySelectCrease
<a href="#">Select uncrease edges</a>		ClaySelectUncrease
<a href="#">Select naked edges</a>		ClaySelectNakedEdges
<a href="#">Selection grow</a>		ClaySelectionGrow
<a href="#">Selection shrink</a>		ClaySelectionShrink
<a href="#">Select U</a>		ClaySelectU
<a href="#">Select V</a>		ClaySelectV
<a href="#">Sets</a>		ClaySets
<a href="#">Select ring edges</a>		ClaySelectRingEdges
<a href="#">Select loop edges</a>		ClaySelectEdgeLoop
<a href="#">Set plane</a>		ClaySetPlane
<a href="#">Paint selection</a>		ClayPaintSelection



## Select all



Toolbar  
Menu  
Command

**Clayoo > Selection > Select All**  
**Clayoo > Selection > Select All**  
**ClaySelectAll**

This tool allows us to select all. The result depends on the selection mode.

### Object selection mode:

Select all objects in the document.

### Faces selection mode:

Select all the faces of all objects in the document.

### Edges selection mode:

Select all edges of all objects in the document.


### Vertex selection mode:

Select all the vertices of all objects in the document.

This command ignores the hidden objects.



## Select none

	Toolbar	<b>Clayoo &gt; Selection &gt; Select none</b>
	Menu	<b>Clayoo &gt; Selection &gt; Select none</b>
	Command	<b>ClaySelectNone</b>

This tool allows us to deselect everything. The result depends on the selection mode.

### Object selection mode:

Deselect all objects in the document.

### Faces selection mode:

Deselect all the faces of all objects in the document.

### Edges selection mode:

Deselect all edges of all objects in the document.

### Vertex selection mode:

Deselect all vertices of all objects in the document.

This command ignores the hidden objects.



## Invert



Toolbar

Menu

Command

**Clayoo > Selection > Invert**

**Clayoo > Selection > Invert**

**ClaySelectInvert**

This tool allows us to invert the current selection. The result depends on the selection mode.

### Object selection mode:

Invert the selection of all objects in the document. Those selected are deselected, and unselected are selected.

### Faces selection mode:

Invert the selection of the faces of all objects in the document.

### Edges selection mode:

Invert the selection of the edges of all objects in the document.

### Vertex selection mode:

Invert the selection of the vertices of all objects in the document.

This command ignores the hidden objects.



## Select Clayoo surfaces



Toolbar

Menu

Command

**Clayoo > Selection > Select Clayoo surfaces**

**Clayoo > Selection > Select Clayoo surfaces**

**ClaySelectClayooObjects**

Rhino provides tools to select by mode, such as, points, curves, surfaces, ... This tool selects all Clayoo objects of our document.



## Select crease edges



Toolbar

Menu

Command

**Clayoo > Selection > Select crease edges**

**Clayoo > Selection > Select crease edges**

**ClaySelectCrease**

In Clayoo we have three types of edges: Edges with sharp corners, naked edges and smooth edges.

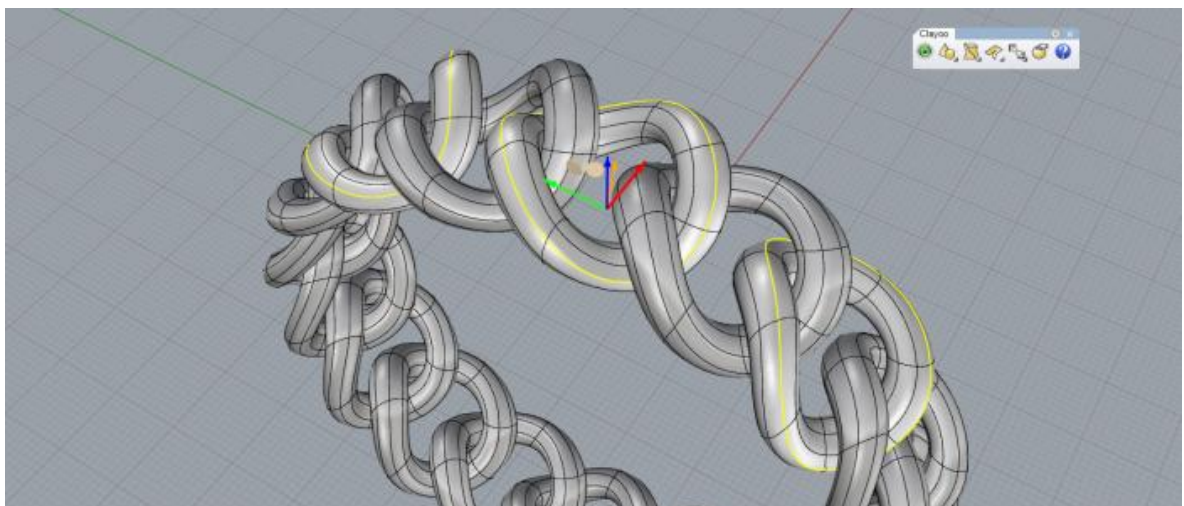
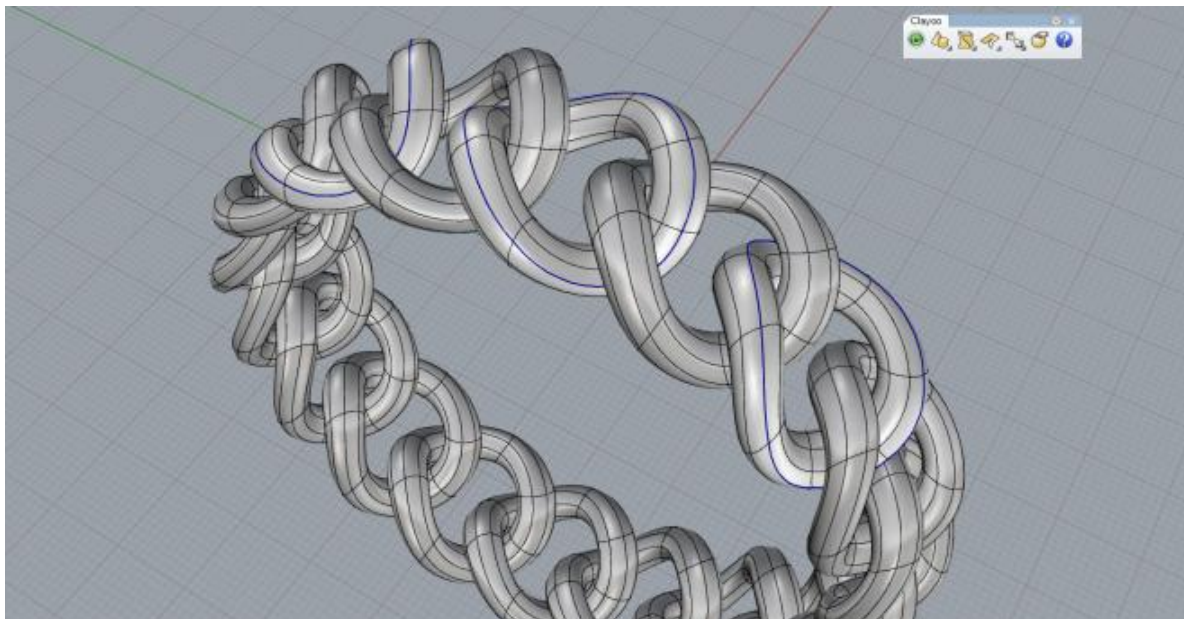
By default the edges are created smoothly. One advantage of Clayoo is that we can change from one type to another when needed and without limits.

This tool allows us to select all the sharp edges of the objects of our document.

If there is no selection all the crease edges will be selected.

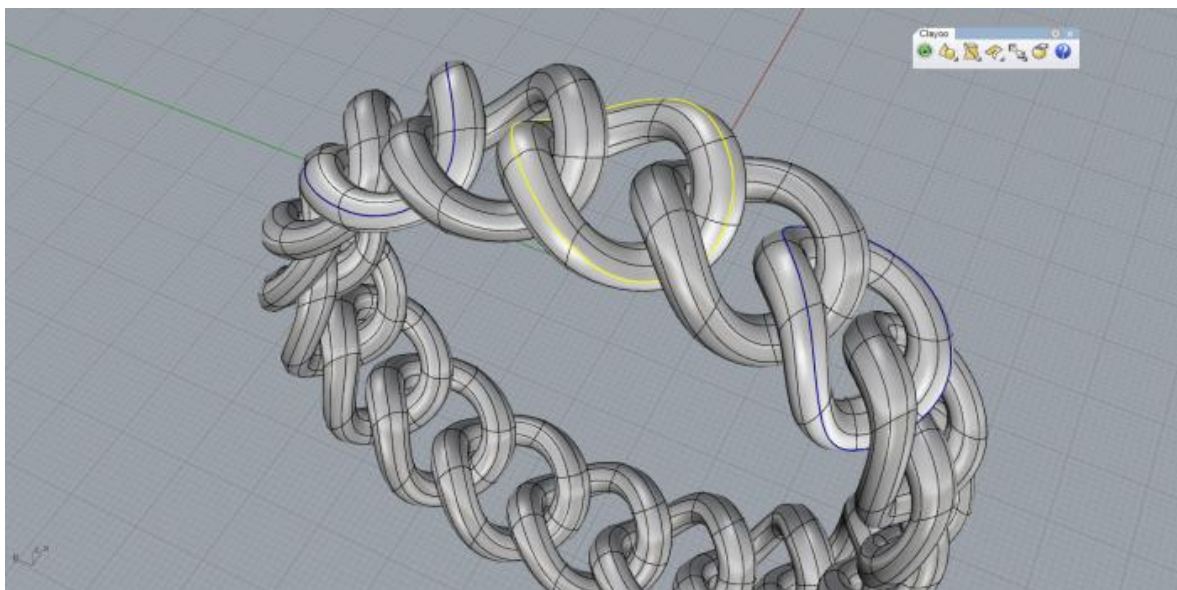
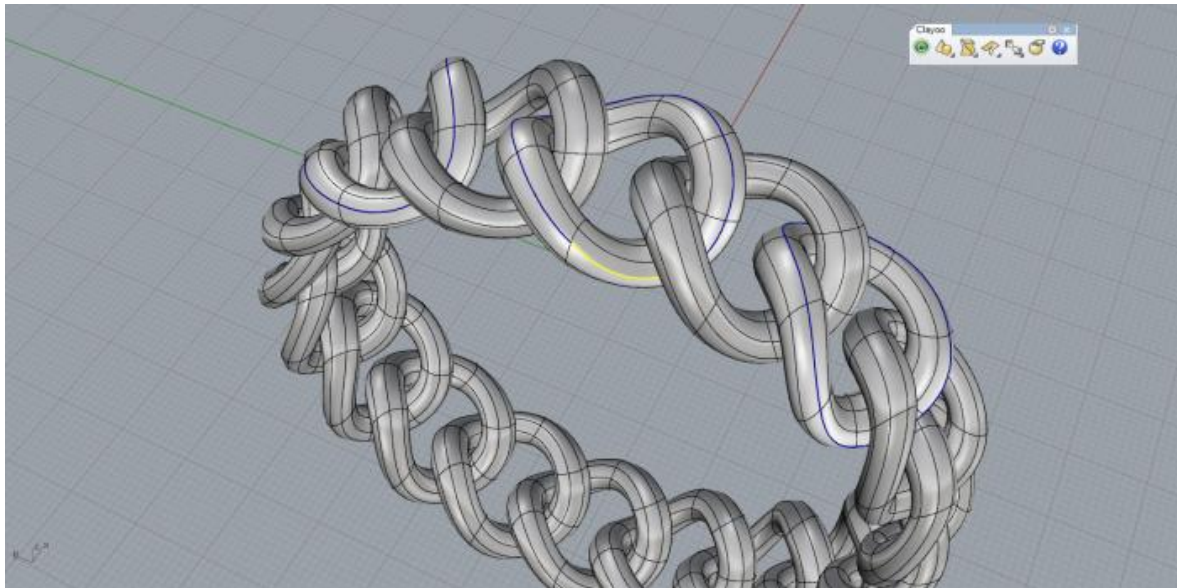
If some crease edges are selected there only will be selected the crease edges connected to the selected ones.

No selection





With crease edges selected





### Select uncrease edges



Toolbar

**Clayoo > Selection > Select uncrease edges**

Menu

**Clayoo > Selection > Select uncrease edges**

Command

**ClaySelectUncrease**

In Clayoo we have three types of edges: Edges with sharp corners, naked edges and smooth edges.

By default the edges are created smoothly. One advantage of Clayoo is that we can change from one type to another when needed and without limits.

This tool allows us to select all the smooth edges of the objects of our document.



## Select naked edges



Toolbar

Menu

Command

**Clayoo > Selection > Select naked edges**

**Clayoo > Selection > Select naked edges**

**ClaySelectNakedEdges**

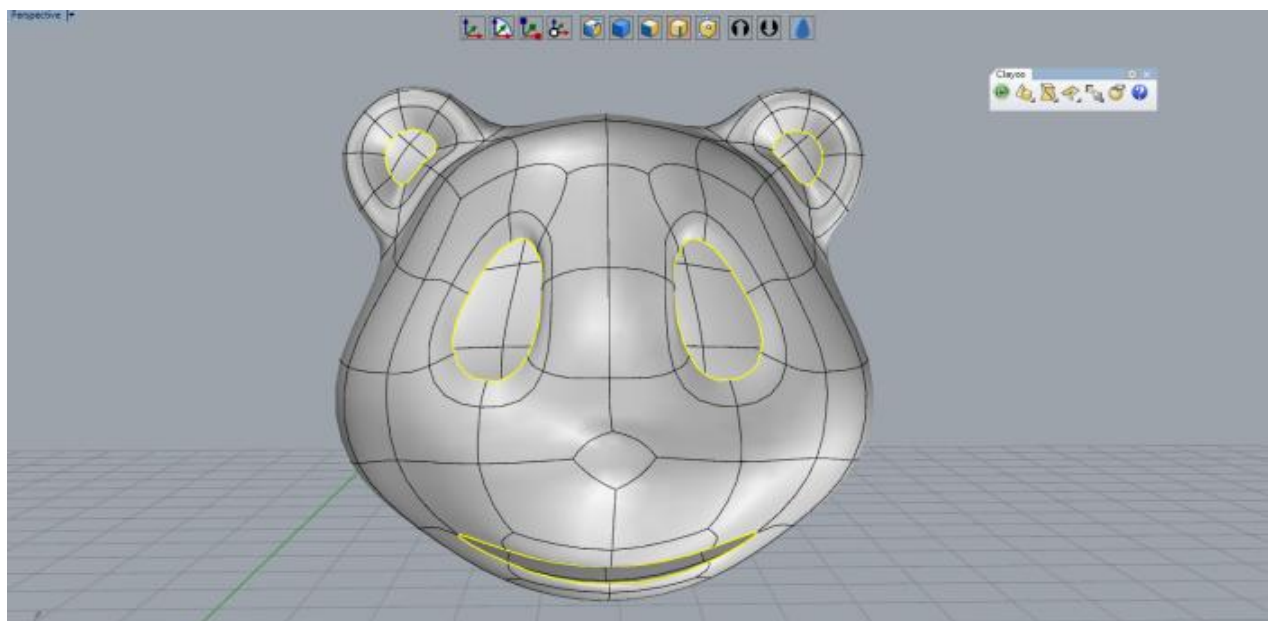
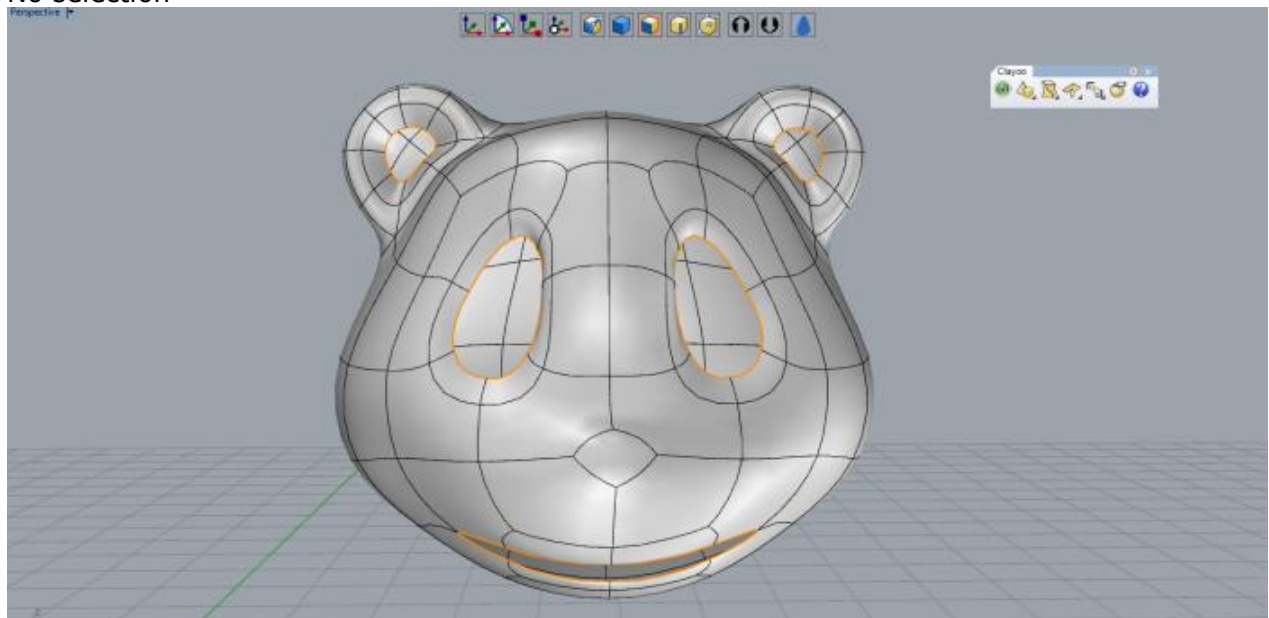
In Clayoo we have three types of edges: Edges with sharp corners, naked edges and smooth edges.

Naked edges are those who are abroad.

This tool allows us to select the naked edges of all the objects in your document.

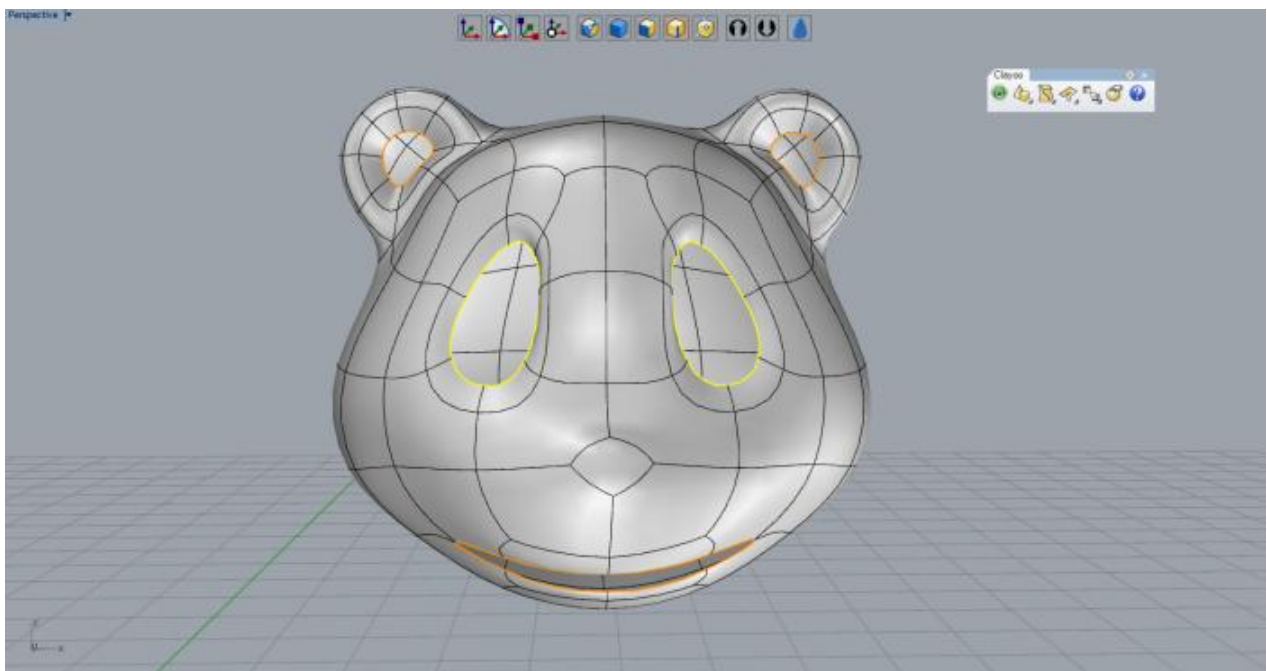
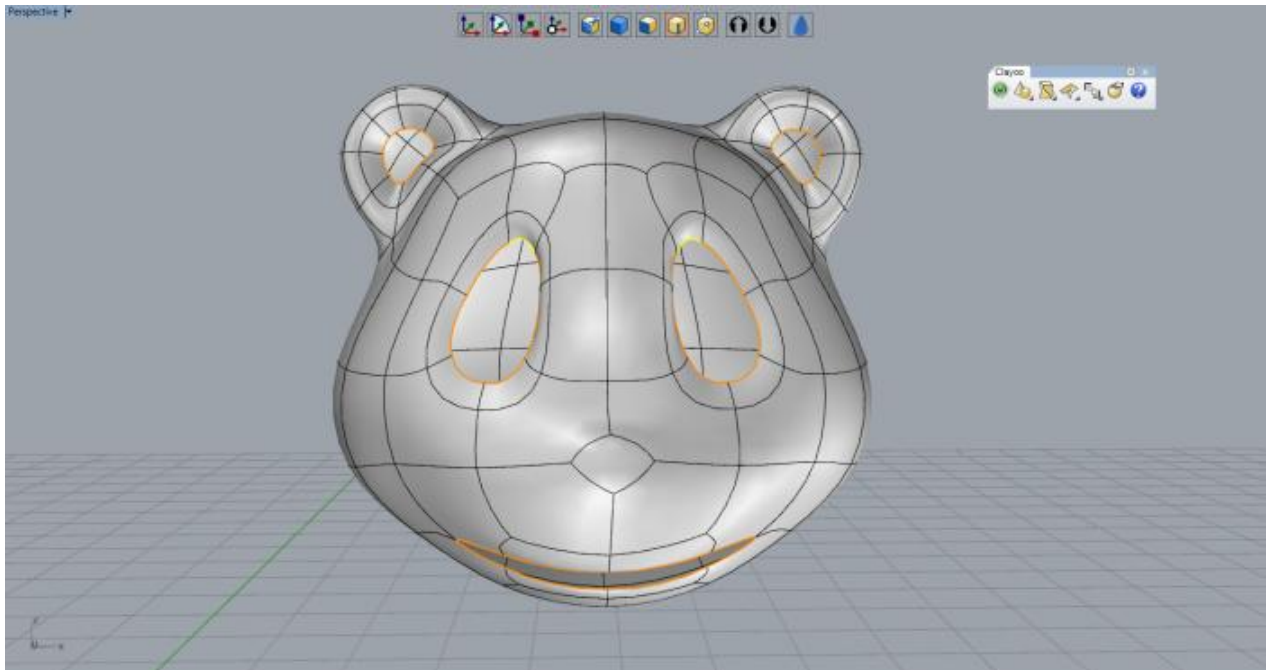
If some naked edges are selected there only will be selected the naked edges connected to the selected ones.

No selection





Some naked edges selected






## Paint selection

	Toolbar	<b>Clayoo &gt; Selection &gt; Paint selection</b>
	Menu	<b>Clayoo &gt; Selection &gt; Paint selection</b>
	Command	<b>ClayPaintSelection</b>

This tool allow us to select or unselect any Clayoo geometry in a fast an easy way.

Once you have run the command, while you are pressing the mouse left button you select all the geometry under the mouse. If you want to unselect the geometry just press the control key while you are passing over the desired geometry.

## Selection grow

	Toolbar	<b>Clayoo &gt; Selection &gt; Selection grow</b>
	Menu	<b>Clayoo &gt; Selection &gt; Selection grow</b>
	Command	<b>ClaySelectGrow</b>

This tool allows us to increase the current selection. It is necessary to have something selected.

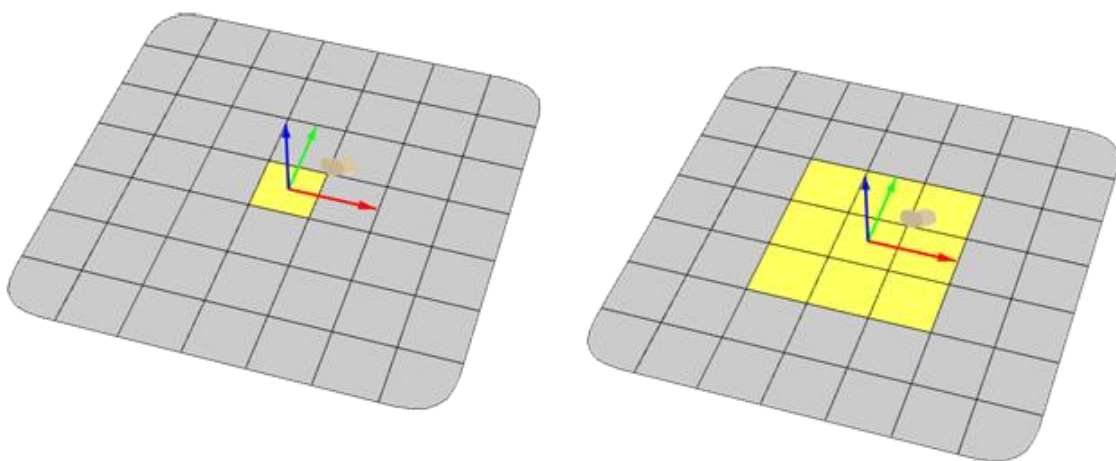
The result depends on the selection mode.

### Object selection mode:

This command does not run when the object mode is selected.

### Faces selection mode:

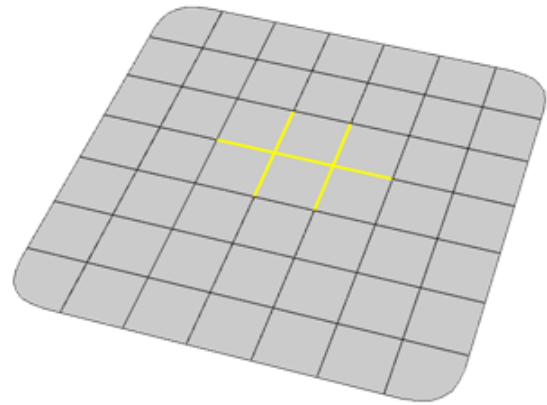
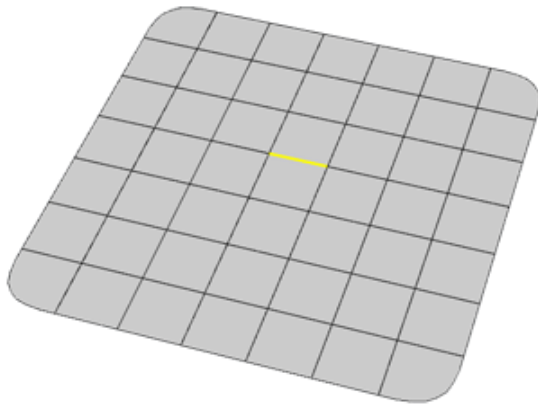
Increases the face selection or selected faces.



### Edges selection mode:

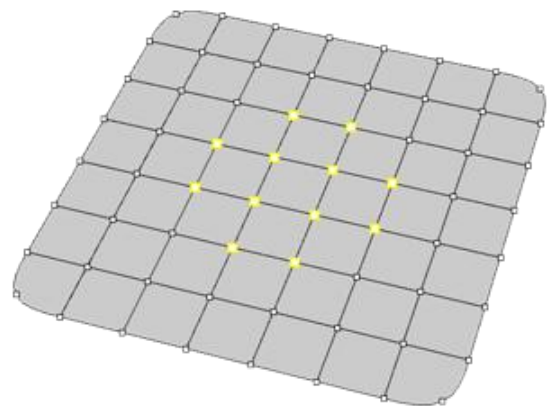
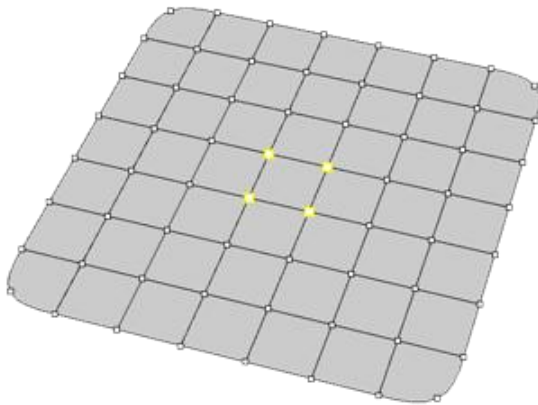
Increases the edge selection or selected edges.





### Vertex selection mode:

Increases the vertex selection or selected vertices.





## Selection shrink



Toolbar  
Menu  
Command

**Clayoo > Selection > Selection shrink**

**Clayoo > Selection > Selection shrink**

**ClaySelectShrink**

This tool allows us to decrease the current selection. It is necessary to have something selected.

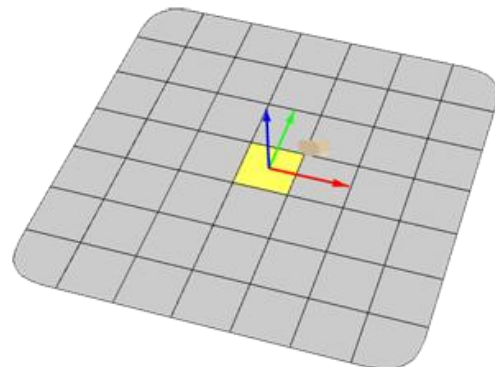
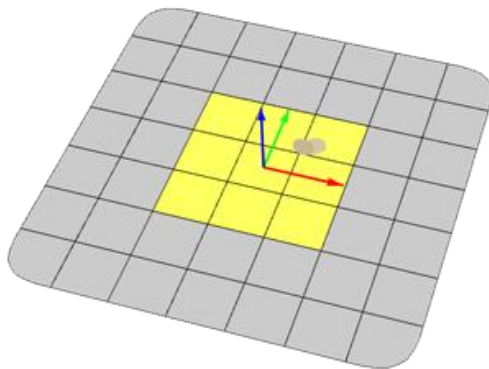
The result depends on the selection mode.

### Object selection mode:

This command does not run when the object mode is selected.

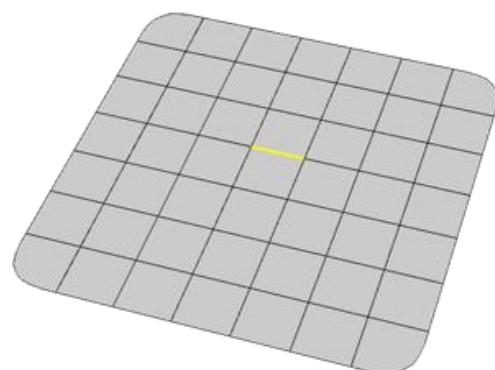
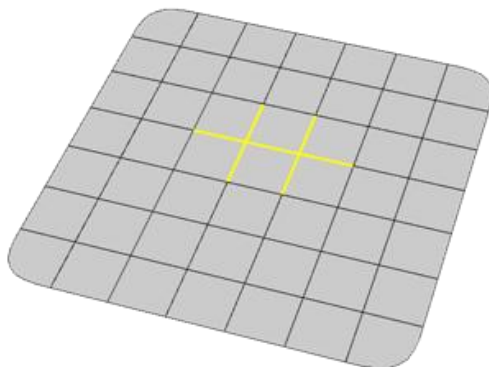
### Faces selection mode:

Decreases the selected faces.



### Edges selection mode:

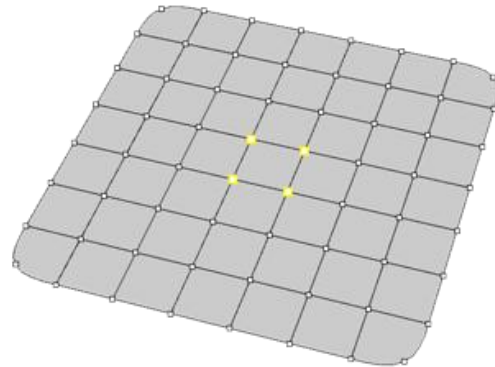
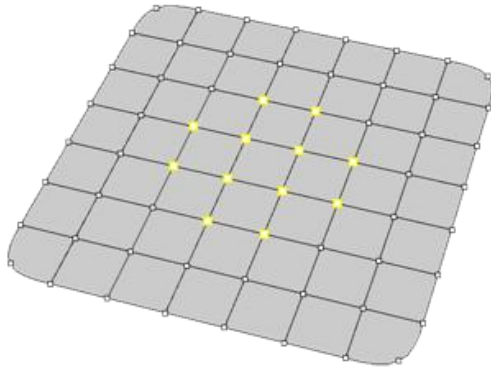
Decreases the selected edges.





### Vertex selection mode:

Decreases the selected vertices.





## Select U



Toolbar

Menu

Command

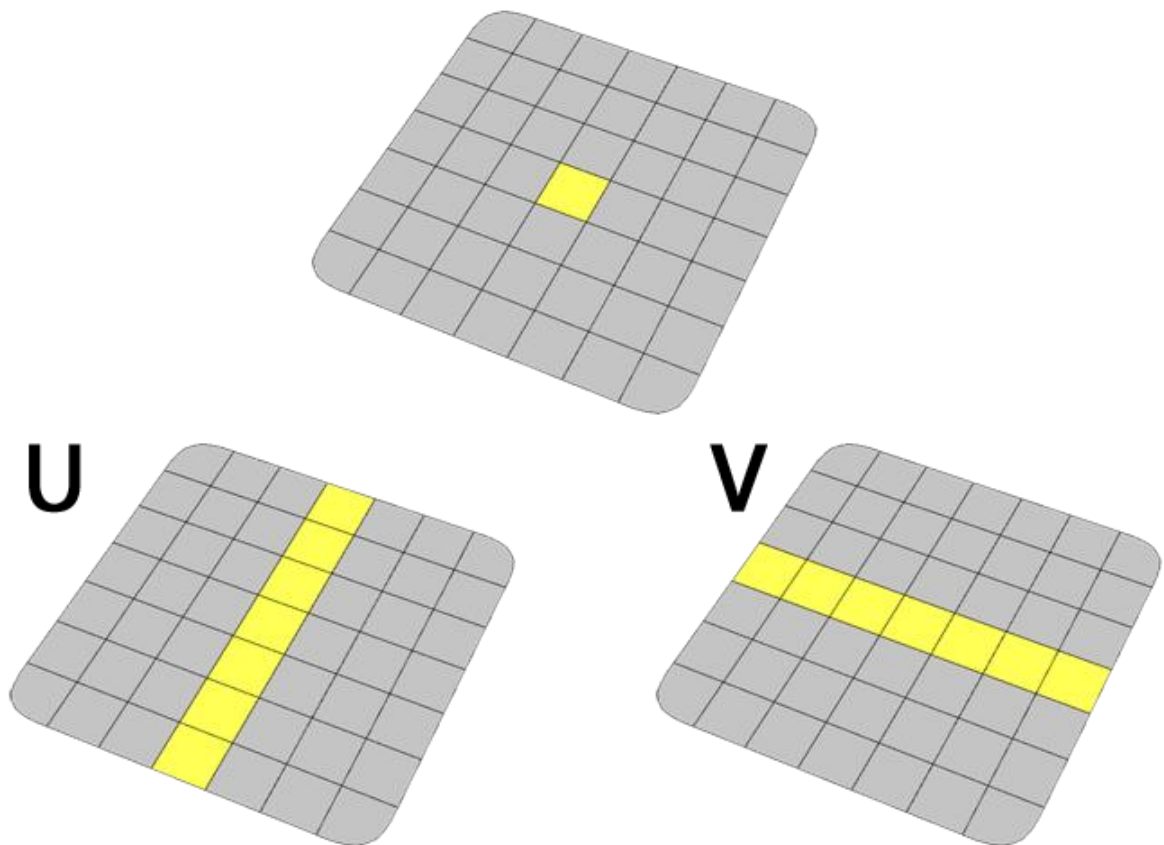
**Clayoo > Selection > Select U**

**Clayoo > Selection > Select U**

**ClaySelectU**

This tool allows us to select faces in the direction U. You can select one or more faces.

In the following example we can see how a selected face becomes after selected in the direction U and V.



## Note

We must have at least a selected face and this command works only with the faces selection mode.



## Select V



Toolbar

Menu

Command

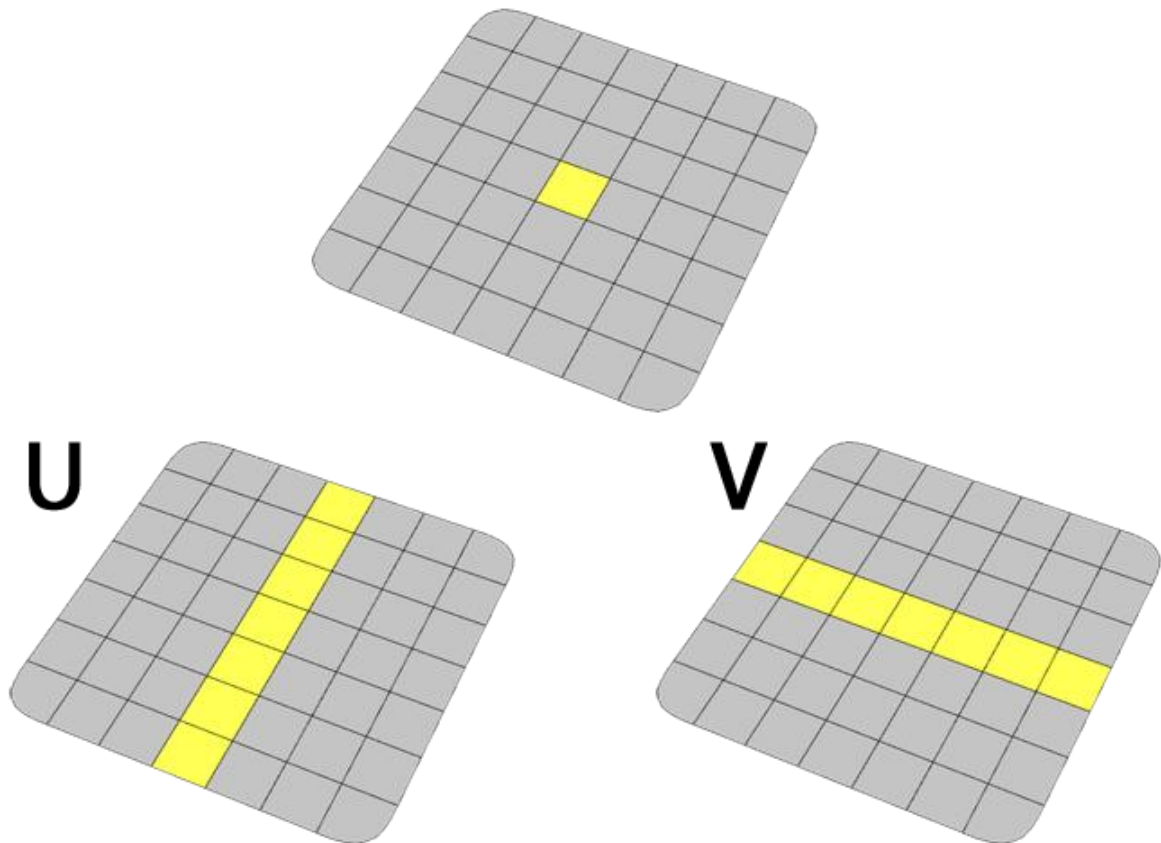
**Clayoo > Selection > Select V**

**Clayoo > Selection > Select V**

**ClaySelectV**

This tool allows us to select faces in the direction V. You can select one or more faces.

In the following example we can see how a selected face becomes after selected in the direction U and V.



## Note

We must have at least a selected face and this command works only with the faces selection mode.



## Sets



Toolbar

Menu

Command

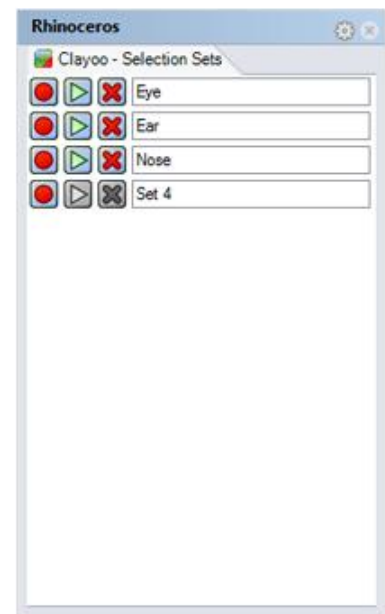
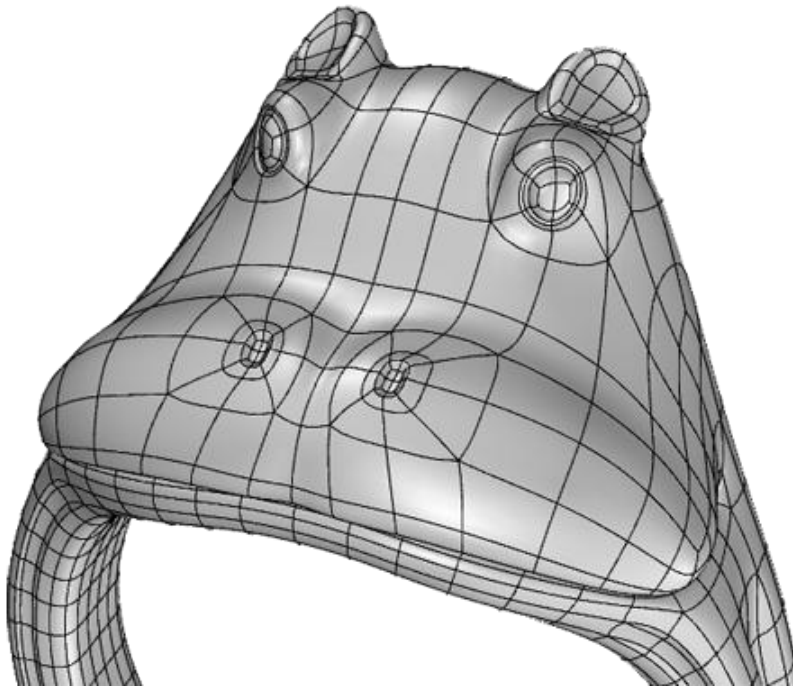
**Clayoo > Selection > Sets**

**Clayoo > Selection > Sets**

**ClaySets**

This tool allows us to save selections for use in our modeling. The interesting thing is that we can combine different selection modes.

Consider the following example:



When you run the command, it shows the following window. The concept of use is very easy.

### How to create a selection:

1. Select an area, for example the ear.
2. Click on the Record button.



### How to recover a selection:

1. Click on the Play button.



### Clearing a selection:

1. Click on the red cross.



### Renaming a selection:

We can change the name simply by typing in the text area and clicking Record.





## Select ring edges



Toolbar

Menu

Command

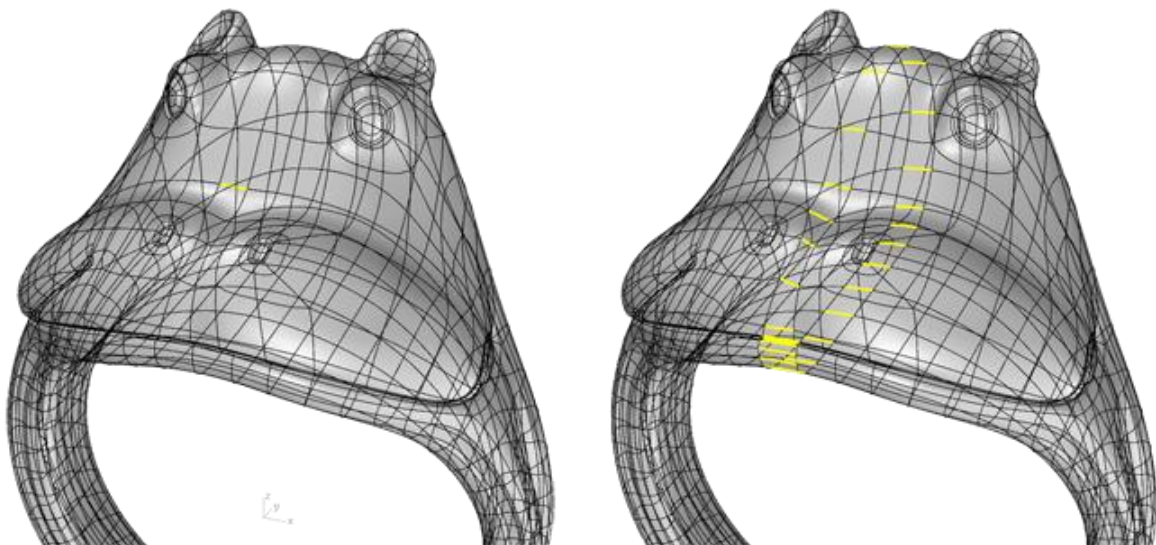
**Clayoo > Selection > Select ring edges**

**Clayoo > Selection > Select ring edges**

**ClaySelectRingEdges**

This tool allows us to select the selected edges in a ring.

Consider the following example:



## Note

You must be in edge selection mode and have selected at least one edge.



### Select loop edges



Toolbar

Menu

Command

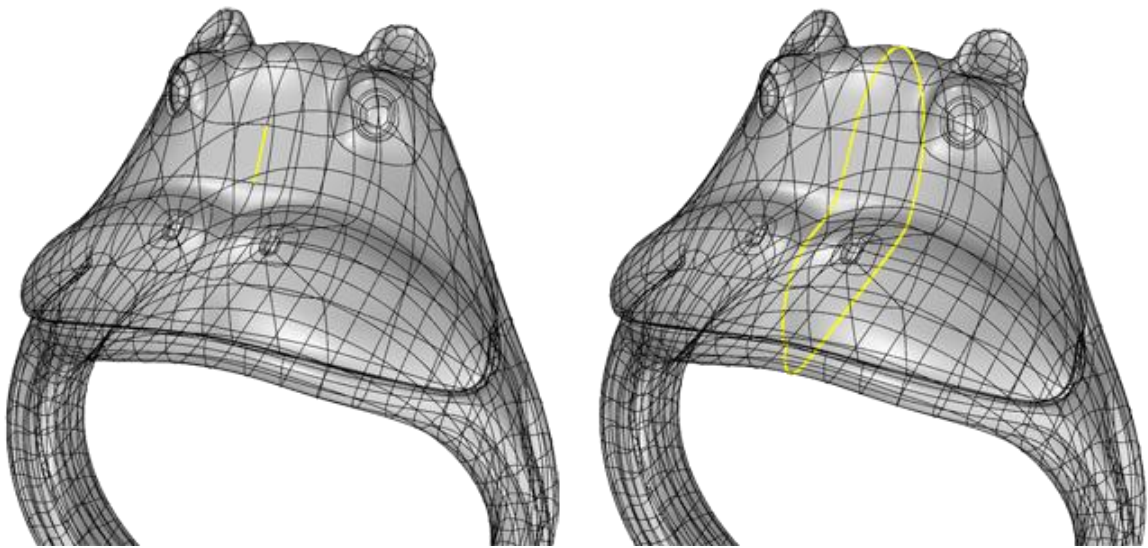
**Clayoo > Selection > Select loop edges**

**Clayoo > Selection > Select loop edges**

**ClaySelectRingEdges**

This tool allows us to select the continuous edges.

Consider the following example:



### Note

You must be in edge selection mode and have selected at least one edge.



## Set plane



Toolbar

Menu

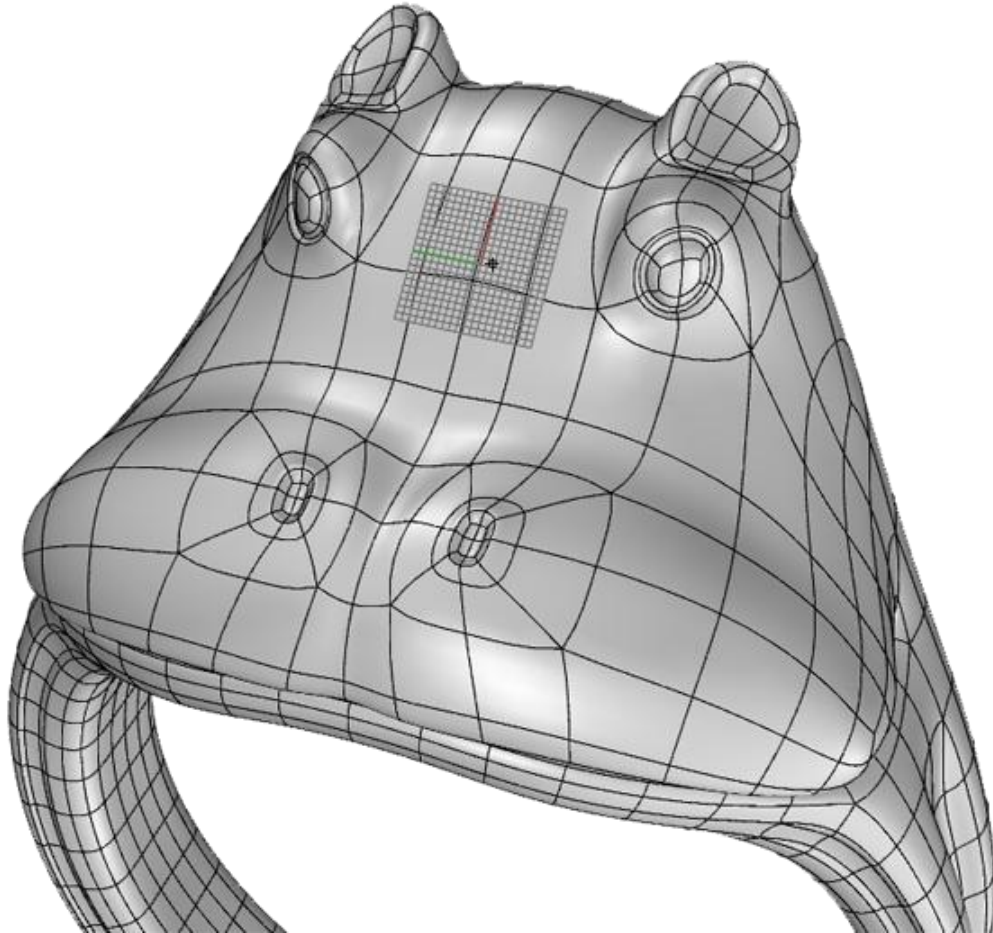
Command

**Clayoo > Selection > Set plane**

**Clayoo > Selection > Set plane**

**ClaySetPlane**

This tool allows us to create CPlane on Clayoo objects.










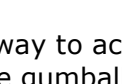
The process is really simple, just click where you want to create the CPlane.



## Viewport tools



In this section you can learn more about the on viewport tools.



Tool	Icon	Command
<a href="#">Gumball move</a>		ClayGumballMove
<a href="#">Gumball rotate</a>		ClayGumballRotate
<a href="#">Gumball Scale</a>		ClayGumballScale
<a href="#">Gumball tools</a>		ClaySetOrigin (left button) ClayGumballDisable (right button)
<a href="#">Smooth up</a>		ClaySmoothUP
<a href="#">Smooth down</a>		ClaySmoothDown
<a href="#">Selection Mode</a>		ClaySetSelectionMode
<a href="#">Visualization mode</a>		ClayBasicView ClaySmoothView

The on viewport toolbar is the fastest way to access to the most used commands. And also gives you information of the active gumball, selection mode, or visualization mode.

## Visualization mode

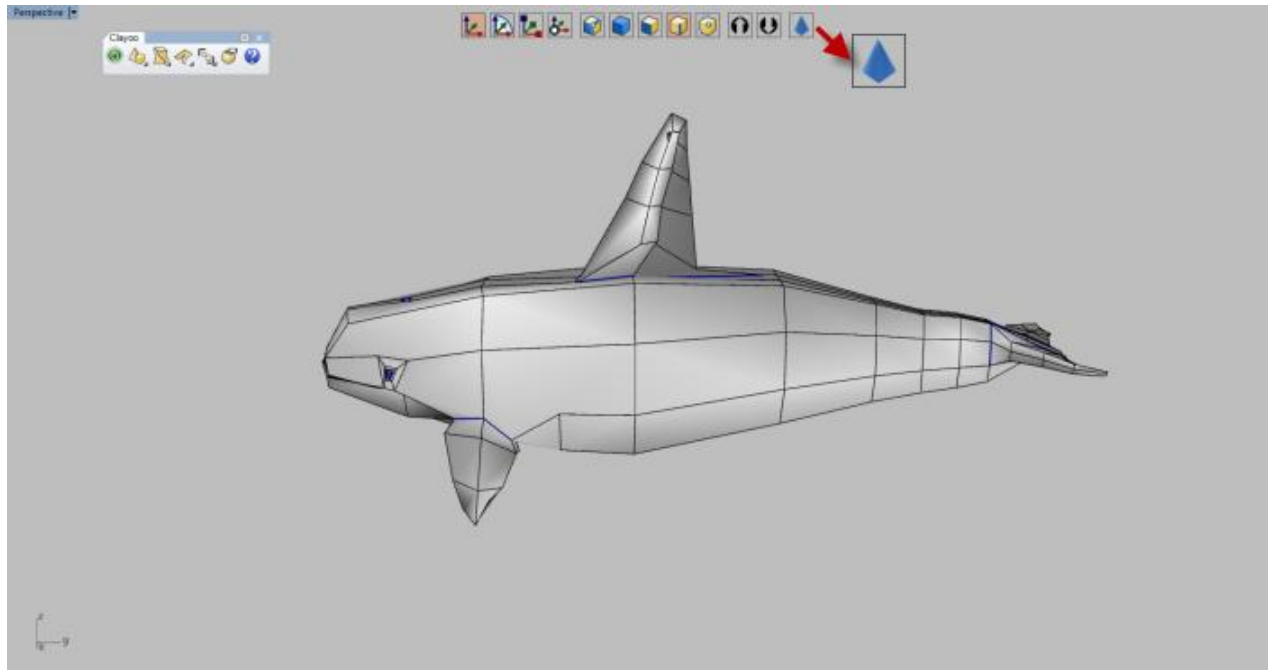
Icon	Mode	Command
	Smooth view	ClaySmoothView
	Basic view	ClayBasicView

Clayoo has two different visualization modes: smooth view and basic view. the basic view shows the object after applying the smoothing steps. We can change of visualization mode just clicking on visualization mode icon on the viewport toolbar.

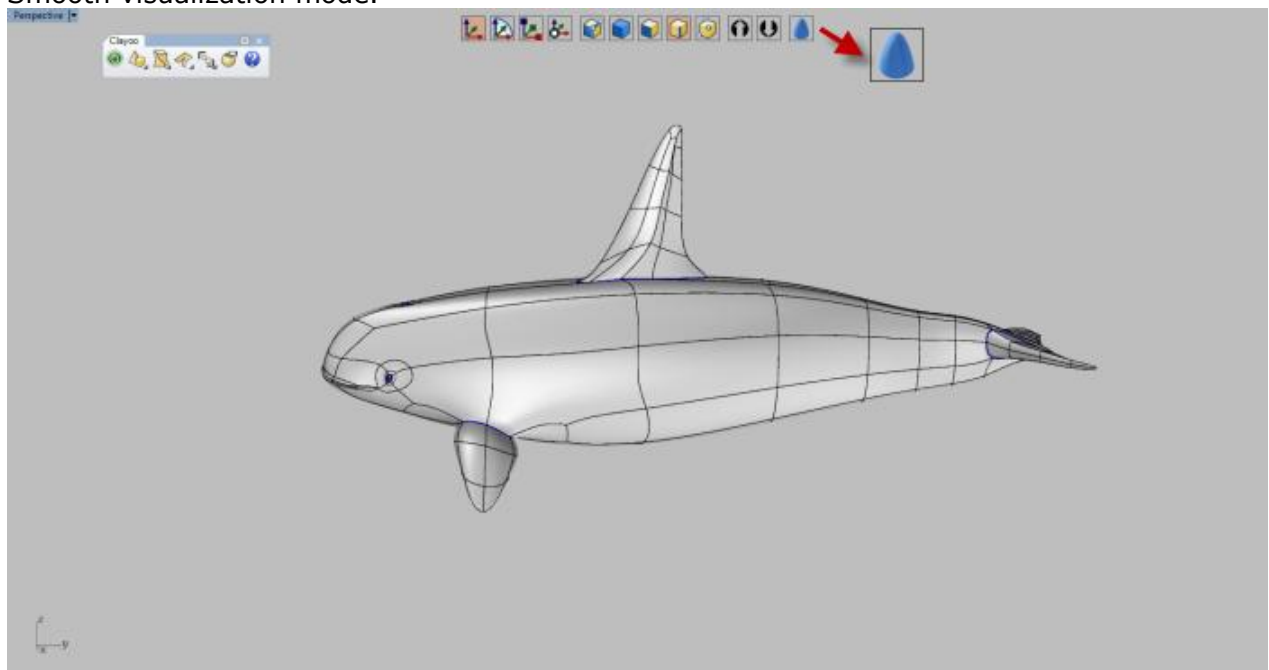
The toolbar show us the actual visualization mode.

Basic visualization mode.





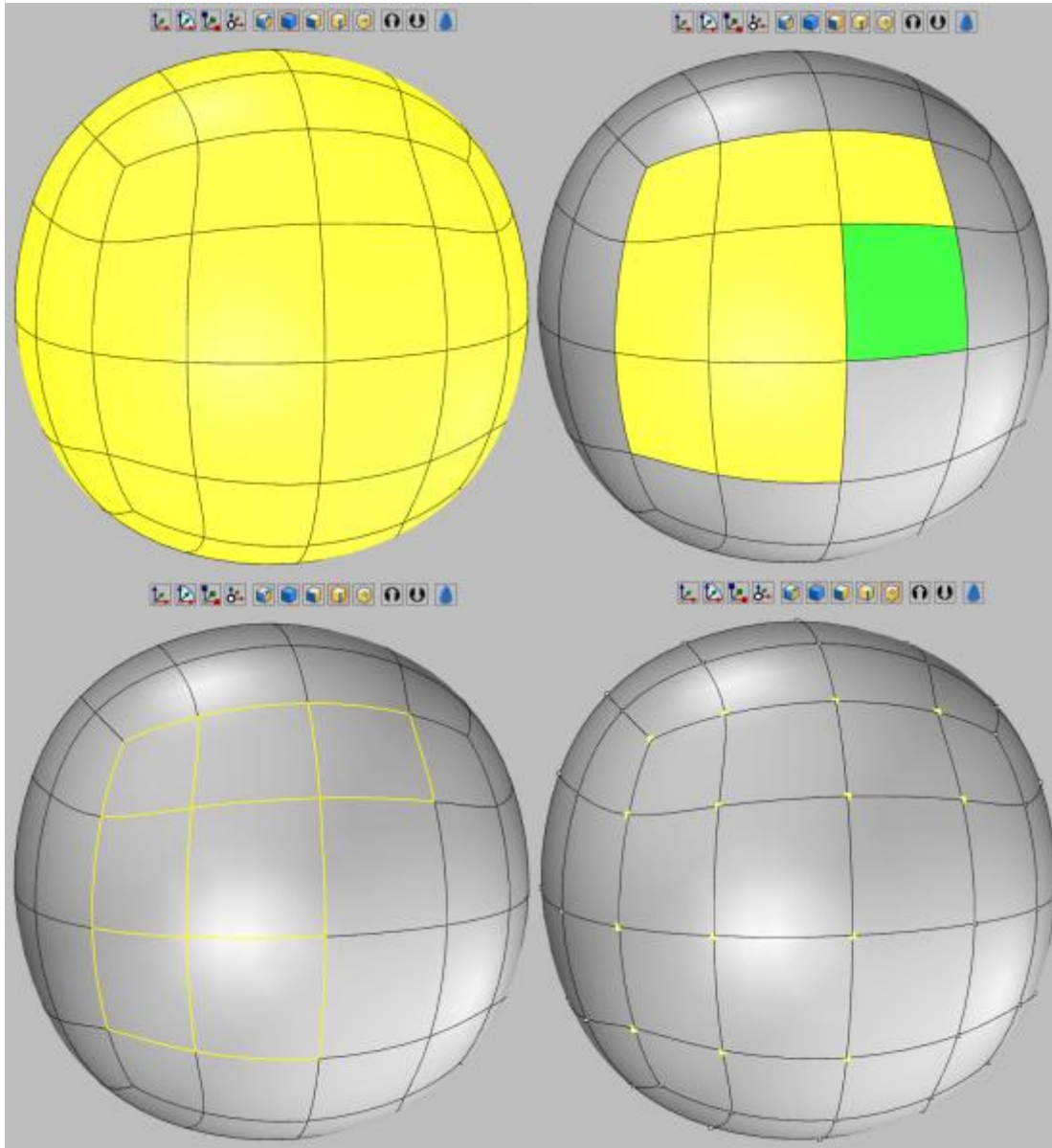
Smooth visualization mode.





## Selection mode

We can select the ClayooSurface geometry in four different ways: objects, faces, edges or vertices. That allow us to modify the surfaces with more precision.



We can see the actual selection mode in the viewport toolbar, the active selection mode will be displayed with an orange background.

Objects selection mode.



Face selection mode.





Edge selection mode.



Vertices selection mode.



## Smooth up/down

### Smooth level control



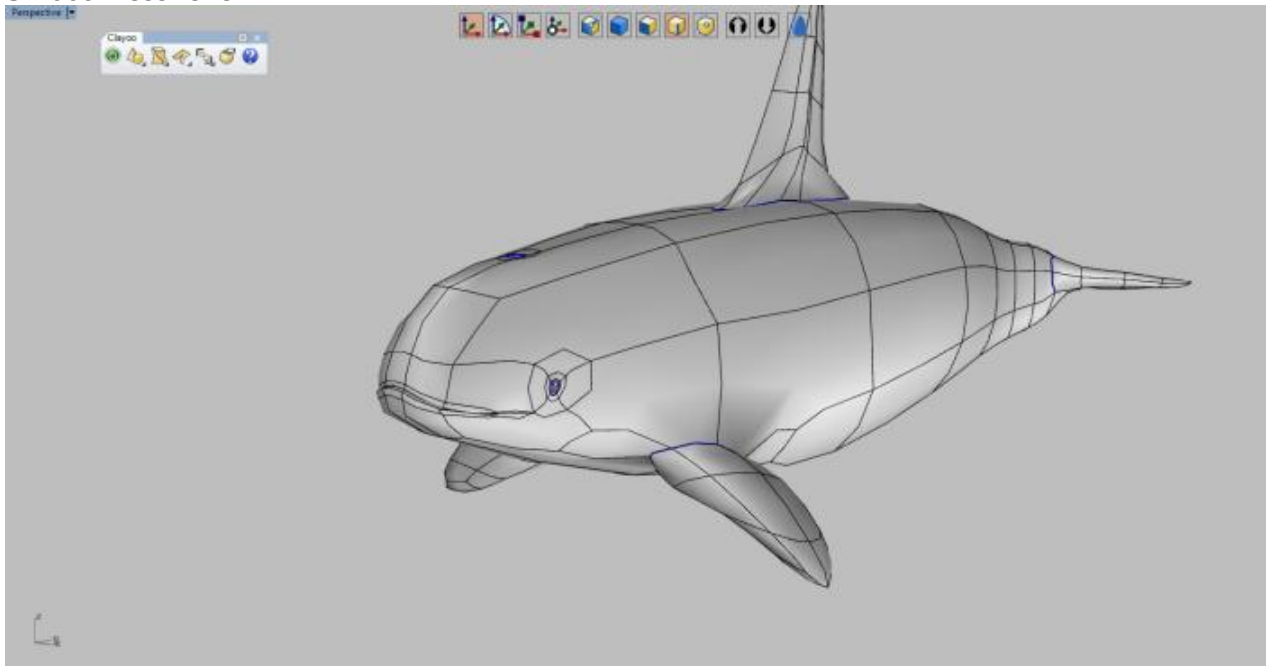
ClaySmoothUP

ClaySmoothDown

We can modify the smoothness level with the above commands. The smoothness level is only visible when we are in Smooth visualization mode.

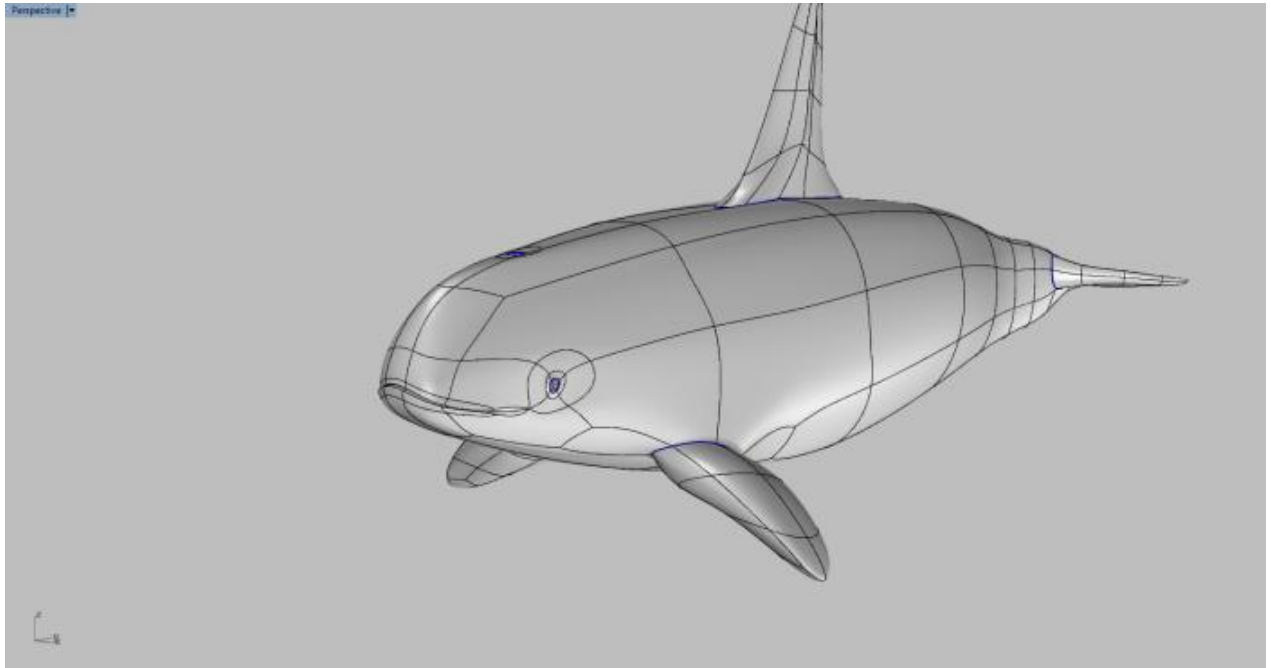
Note: It is recommended to work in a level 2. If we work over, the computer may run slower.

Smoothness level: 1



Smoothness level: 3





## Gumball modes and tools

### Gumball modes

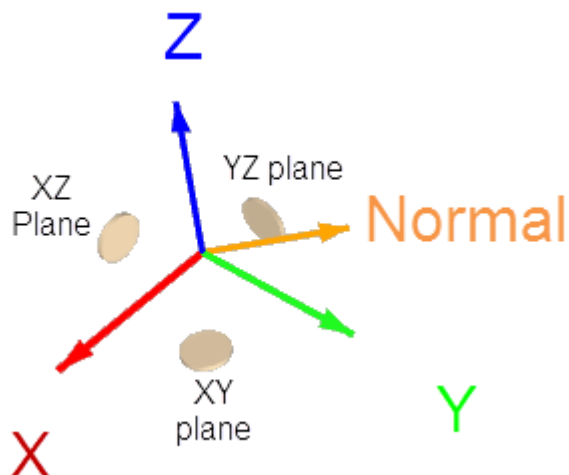
The gumball allows us to modify the geometry just dragging the mouse, there are three different gumball modes and each one allows a different kind of geometry modification. The gumball modifications will only affect the selected geometry.

We can change the gumball mode just clicking on the desired icon on the viewport toolbar. The actual gumball mode will be displayed with an orange background in the viewport toolbar.



#### Move gumball

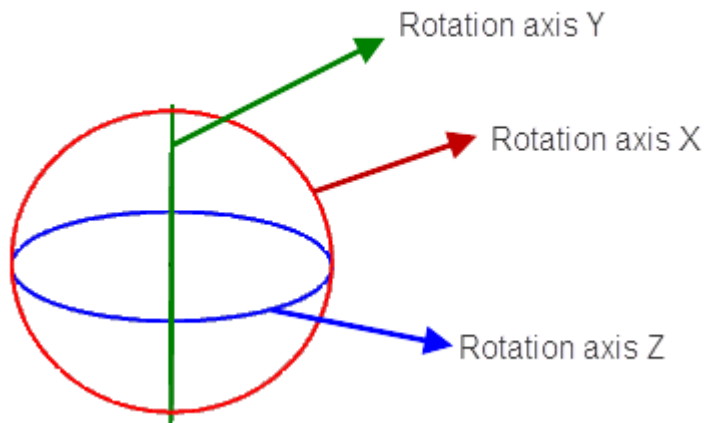
This gumball allows us to translate the selected geometry, you can move the geometry in X, Y, Z direction, in the normal direction (orange arrow) or in planes XY, XZ, YZ with the circular pills of the gumball.





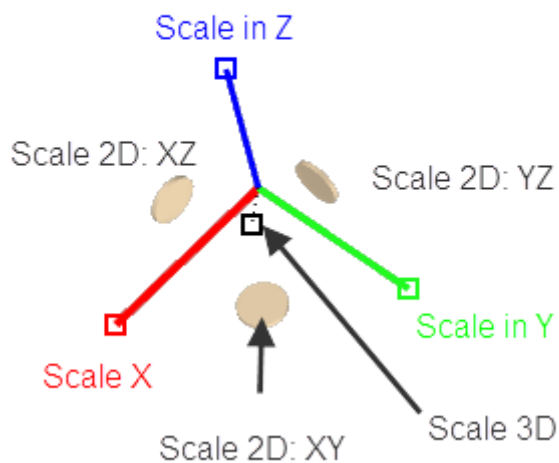
### Rotate gumball

the rotate gumball allow to rotate the selected geometry using as rotation axis the X,Y and Z directions.



### Scale gumball

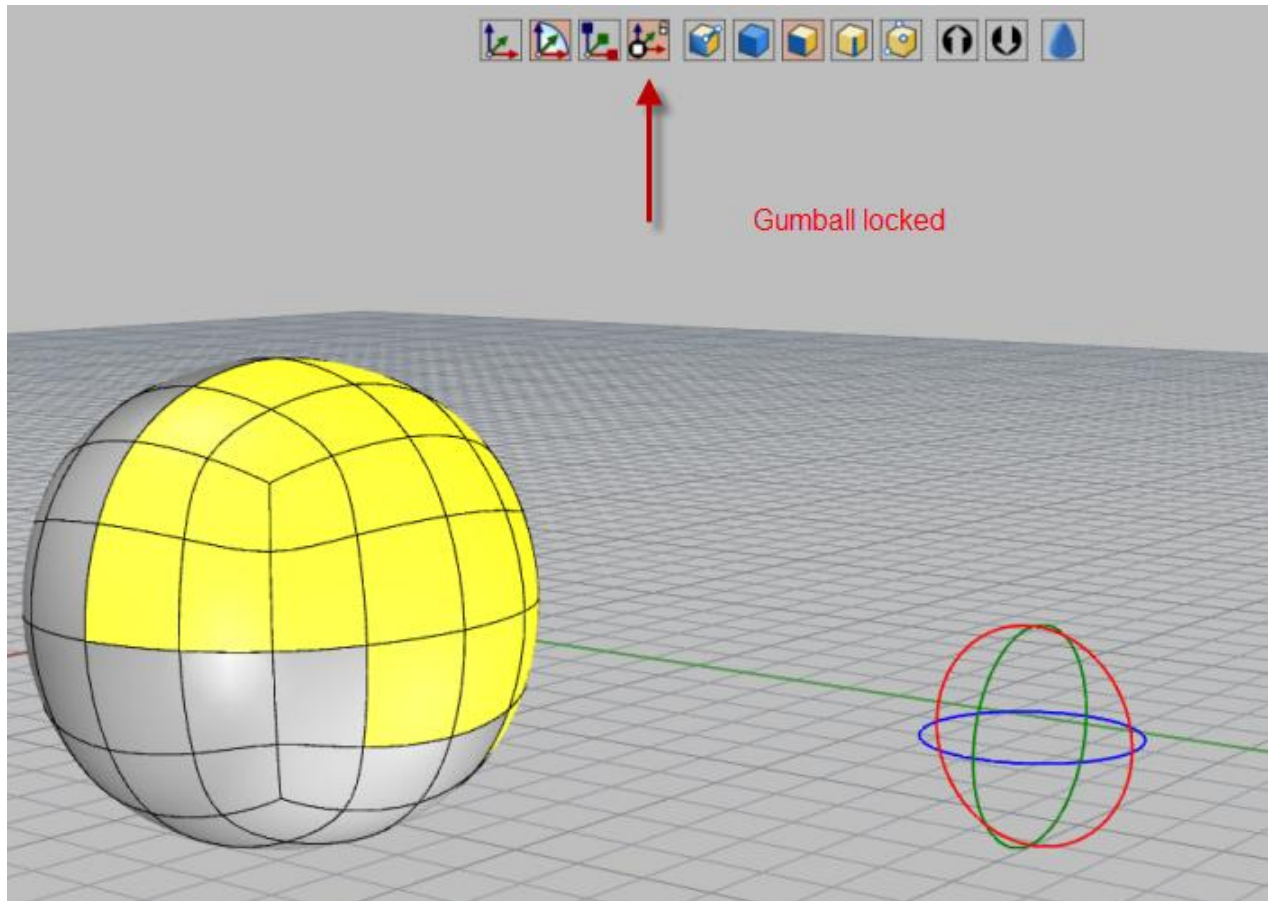
We can scale the selected geometry in a single dimension in two or even in the three dimensions at the same time.



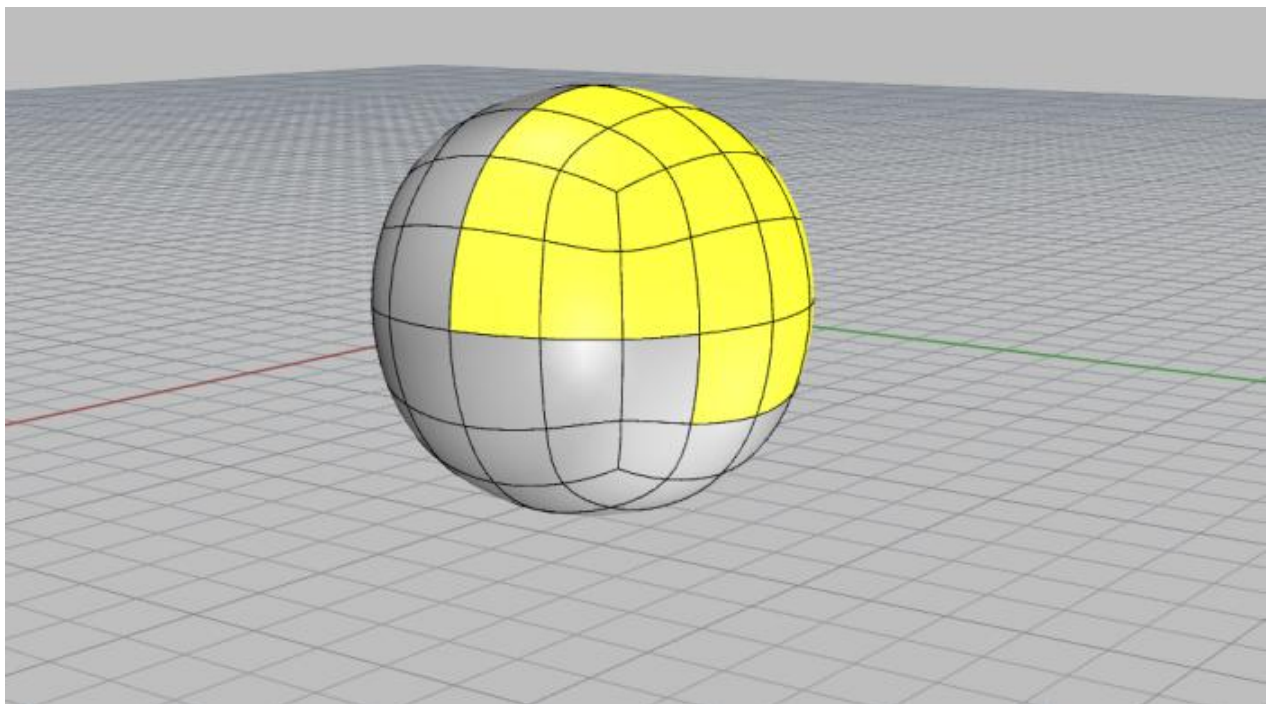
### Gumball tools

With the last gumball icon of the toolbar we can perform two different operations, with the mouse main button we can set a new gumball position locking the gumball to that position, or if the gumball is locked we can unlock it.





With the secondary button we can disable the gumball if we don't need it, sometime for selecting some geometry is very usefull.





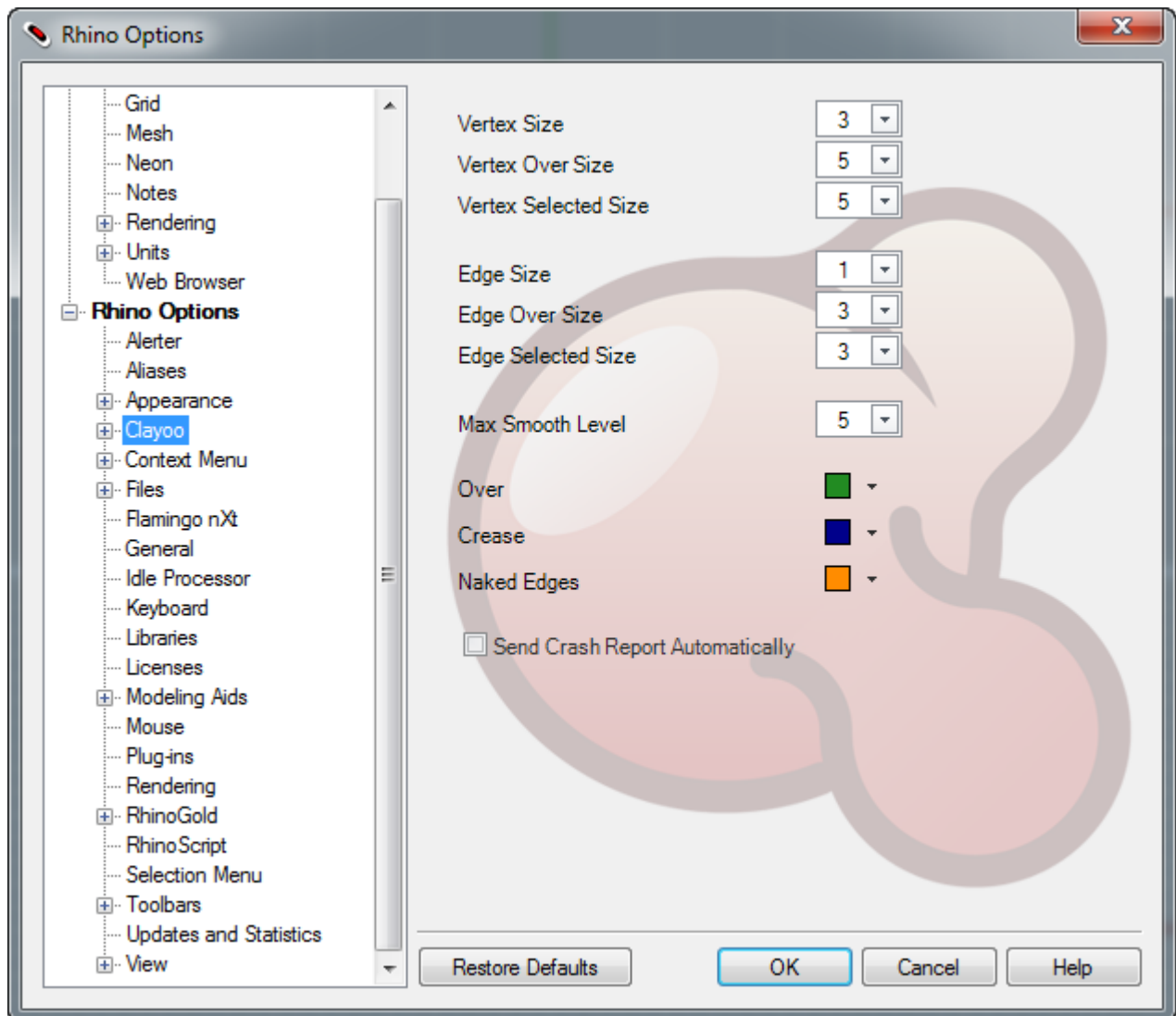
## Options



Toolbar  
Menu  
Command

**Clayoo > Options**  
**Clayoo > Options**  
**Options**

In Rhino Options page you can access to Clayoo options, here you can set up some Clayoo features as you like.



You can set up the color of the crease and naked edges, also you can change their size with the edge selected size.

Other features that you can modify are the size of the edges and vertices when they are selected or the mouse is over them.

If you don't want to see the Clayoo Crash report window you can send it automatically all the Crash reports.

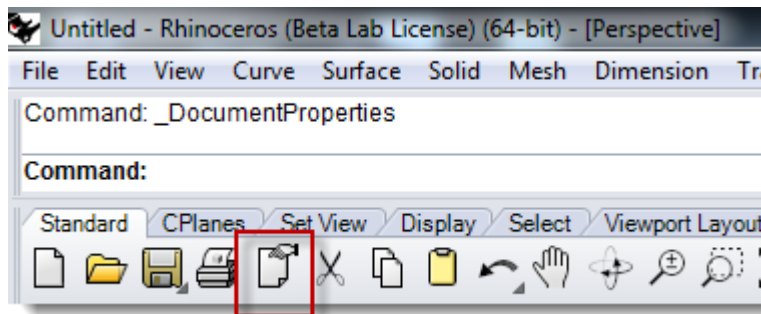


## Keyboard

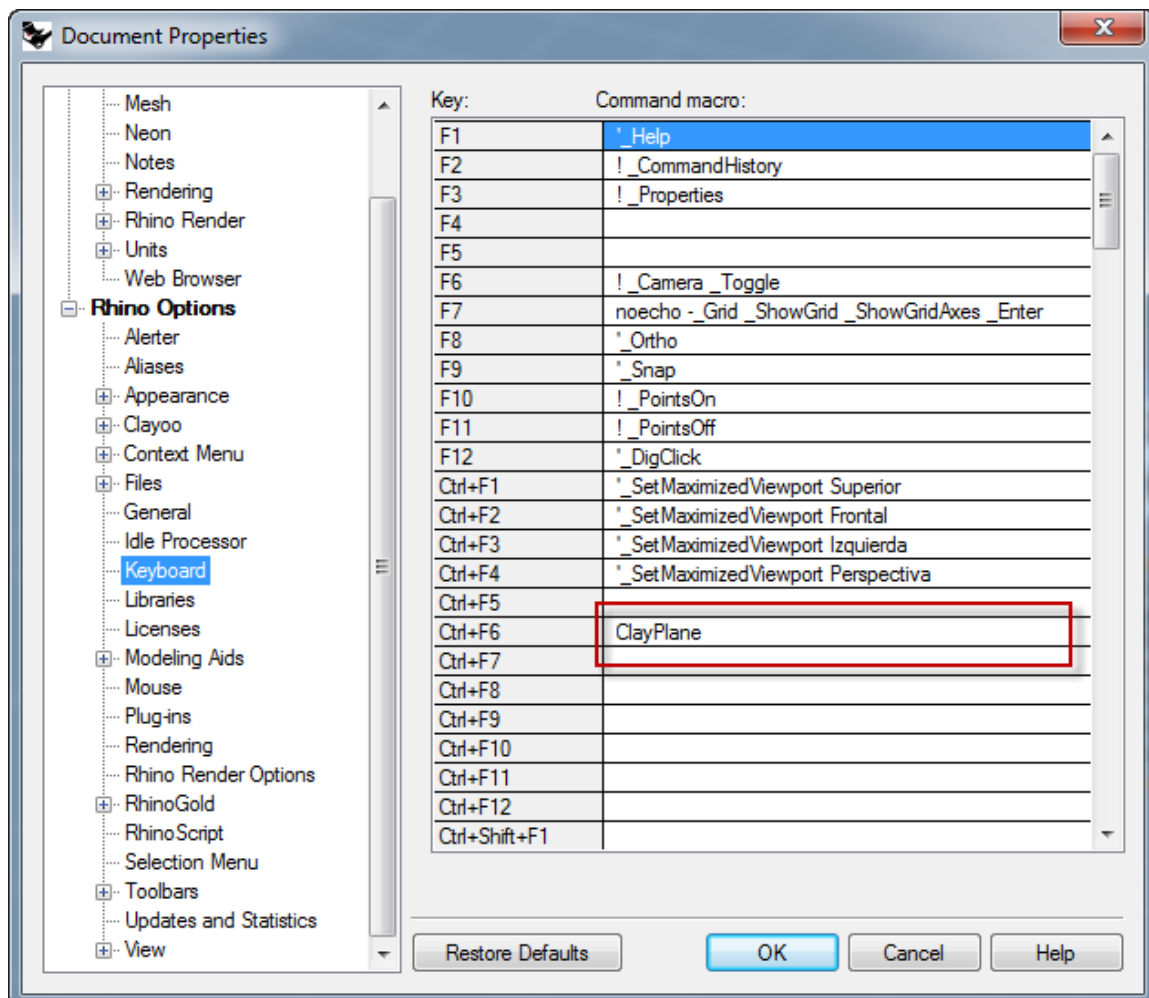
### Keyboard

Clayoo is full compatible with Rhino Keyboard Options because all the functionalities are available by command.

To setup the keyboard shortcut, click on **Options**:



Click on **Keyboard**



Just find the key combination and type the command name.



## Check Updates

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### Check Updates

Clayoo has an automatic update system. Each time starts Clayoo, it connects to TDM Solutions SL server to look for the last updates.

You can force to try to update using from the menu Clayoo -> Check updates.



## Licensing

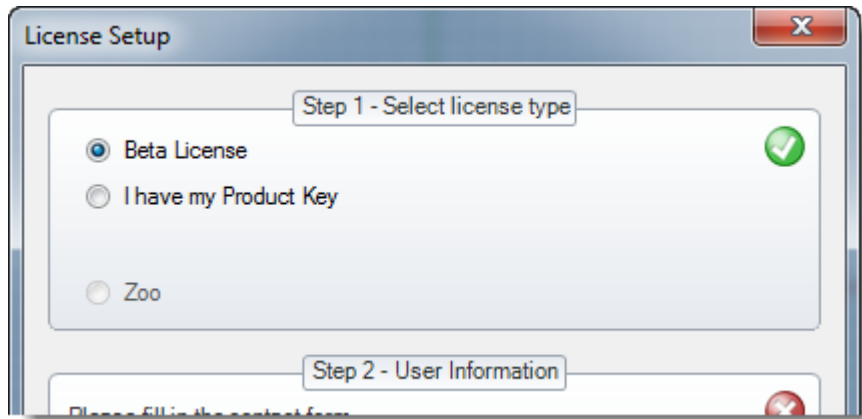
---

### Licensing

Is necessary to activate the software, even the evaluation version.

#### How to activate the license?

When you execute any Clayoo command, it will show the license:



### Step 1

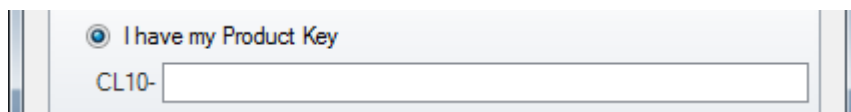
There are three licenses types:

#### Evaluation License

This is an evaluation version. It is limited in time and just is possible the install Clayoo evaluation one time.

#### I have my Product Key

When you purchase your Clayoo license, you received a Product Key. Click on I have my **Product Key** and type your product key.



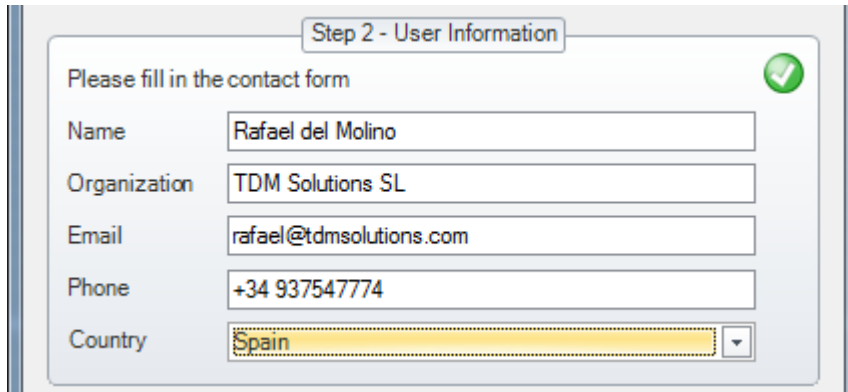
#### Zoo

Zoo is the Rhino license manager. It is great if you want to use your license/licenses as a floating licenses. More details about Zoo: <http://www.rhino3d.com/zoo.htm>


### Step 2

Type the user information:





Step 2 - User Information

Please fill in the contact form 

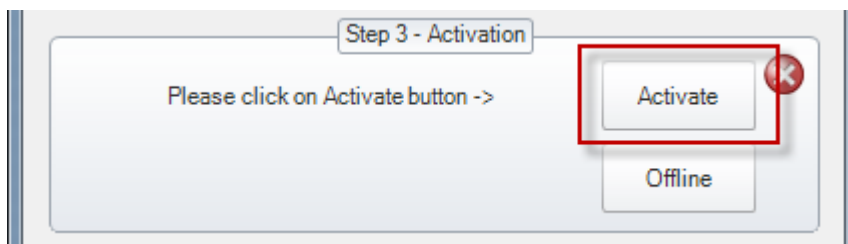
Name	<input type="text" value="Rafael del Molino"/>
Organization	<input type="text" value="TDM Solutions SL"/>
Email	<input type="text" value="rafael@tdmsolutions.com"/>
Phone	<input type="text" value="+34 937547774"/>
Country	<input type="text" value="Spain"/>

## Step 3

This software has two options to active your license: Automatic Activation or Offline. Automatic Activation is the recommended one. You need Internet connection to Activate the License automatically.


### Automatic Activation

To activate automatically, just click on Activate.



Step 3 - Activation

Please click on Activate button ->



### Offline Activation

This is the alternative way to activate the license if your computer is not connected to Internet or a firewall is locking your connection.

To activate offline, just click on Offline.



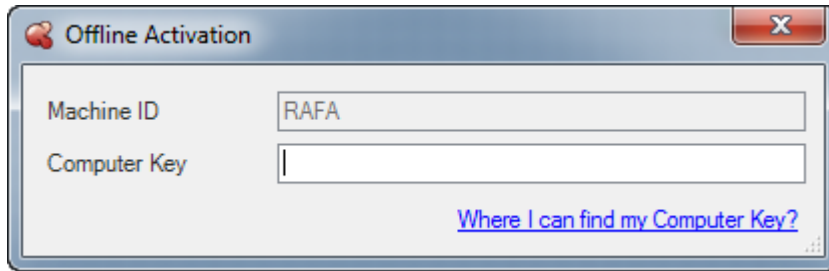
Step 3 - Activation

Please click on Activate button ->



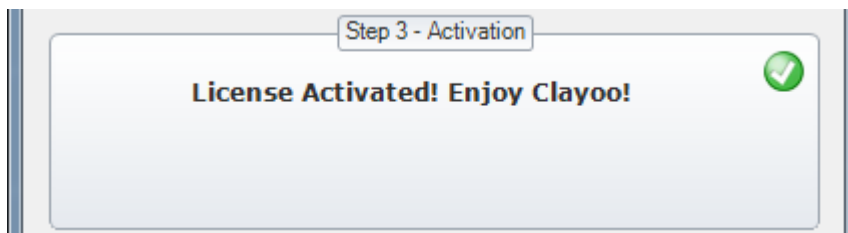
A new dialog will appears:



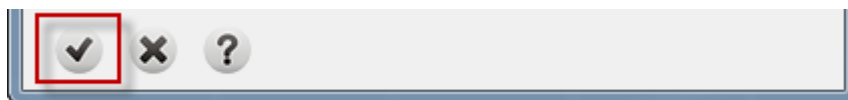


You must type Computer Key. To obtain the Computer Key, please visit the User Area in TDM Solutions SL website. (<http://www.tdmsolutions.com/userarea.htm>). Please write on a paper the Machine ID, you must type it in the form.

In both methods, you will see this message when the license is activated:

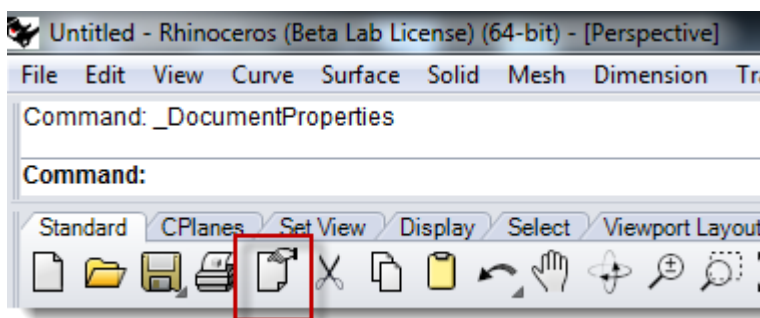


Click to Close the dialog.



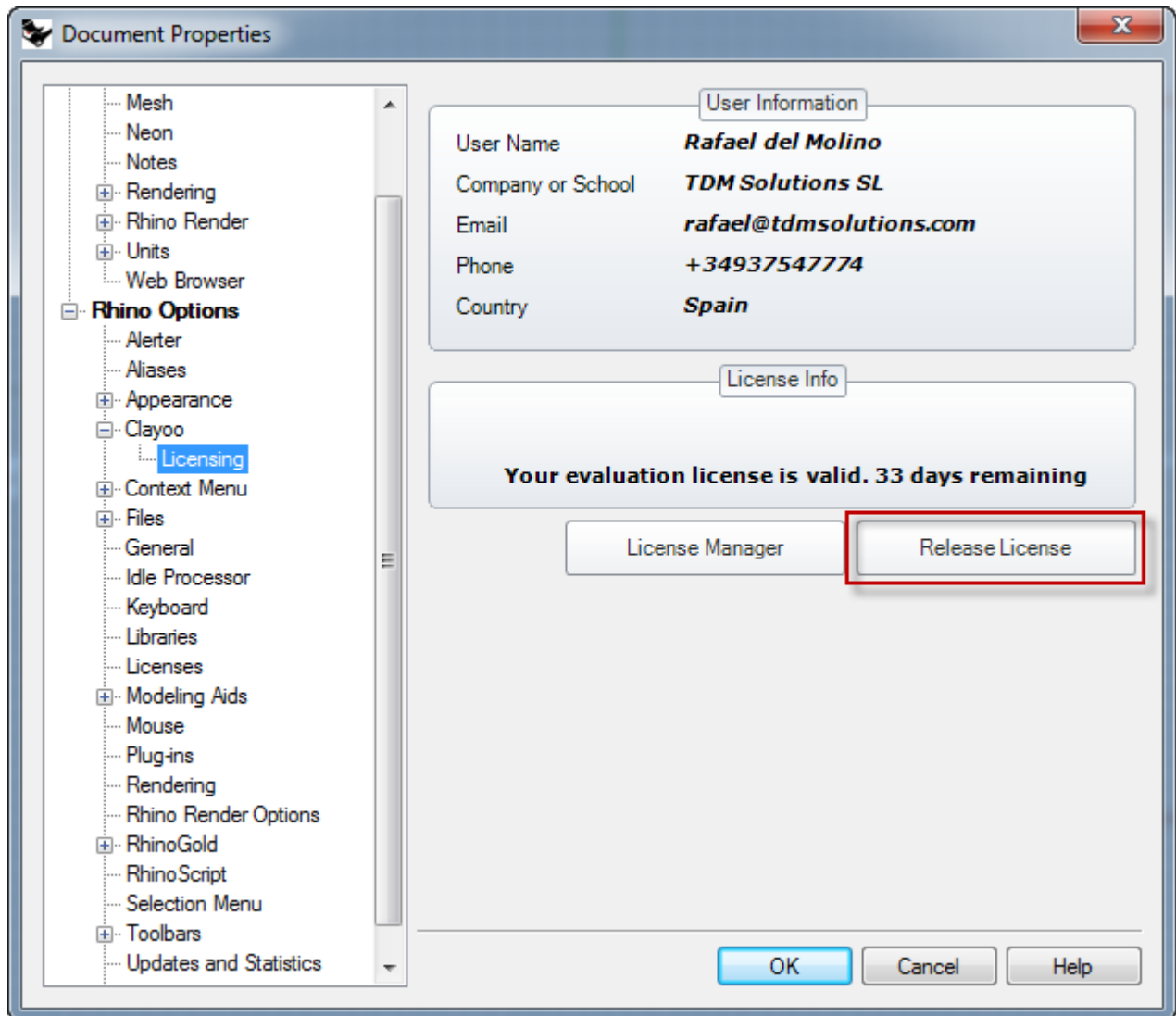
## What about if I want to change my license in a new computer?

It is very simple! Just go to **Options:**



Clayoo -> License, and click on Release License button. Now you can use in other computer.





**Doubts?** Please [contact us](#).



## TDM Solutions SL

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# ***TDM Solutions;***

TDM Solutions SL is a software development company based in Barcelona, Spain, with 10 years of experience in CAD/CAM solutions. With products such as RhinoGold, RhinoNest, RhinoShoe, Clayoo and RhinoMold, TDM Solutions offers intuitive and easy-to-use technologies to designers.

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Email: [info@tdmsolutions.com](mailto:info@tdmsolutions.com) | Support: [support@tdmsolutions.com](mailto:support@tdmsolutions.com)  
Clayoo Social Media: <http://www.clayoo.com>  
Twitter: @clayoo3d

### Technology

Clayoo is developed using our own technology. It allows us to improve and adapt our technology to the highest requirements.