

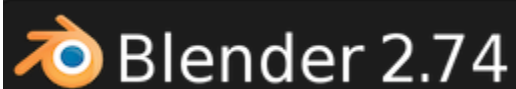


BLENDER 2.74

BASIC TUTORIAL

1:1 NOVICE TO ADVANCE

AUTHOR: D. R. DOC EVANS



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OVERVIEW

This tutorial will cover setting up, customizing workspace, and basic modeling tools in Blender 2.74. There are hotkey tables and links at the end of this lesson. The lesson can be for novice or advanced 3D modelers who have not used Blender before. This is a guide, not a sequential “how to” module. Blender can be used in different formats to complete many editing task. Feel free to add what you have discovered to document and share. Good Luck – Doc.

PRESET:

Upon opening blender; *presets* are available for Maya or 3Dsmax settings other than blender default (figure -1).



Figure 1-presets

USER PREFERENCES

Blender has default setting that may not be suitable for your personal workflow. For example the select command is set to the right mouse button; when most applications are set to left mouse button. The following image (figure-2) demonstrates how to change this option.

Under file\user preferences (**ctrl alt U**) select the input tab. Here you will find the *select with: left \ right* Option to customize user interface.

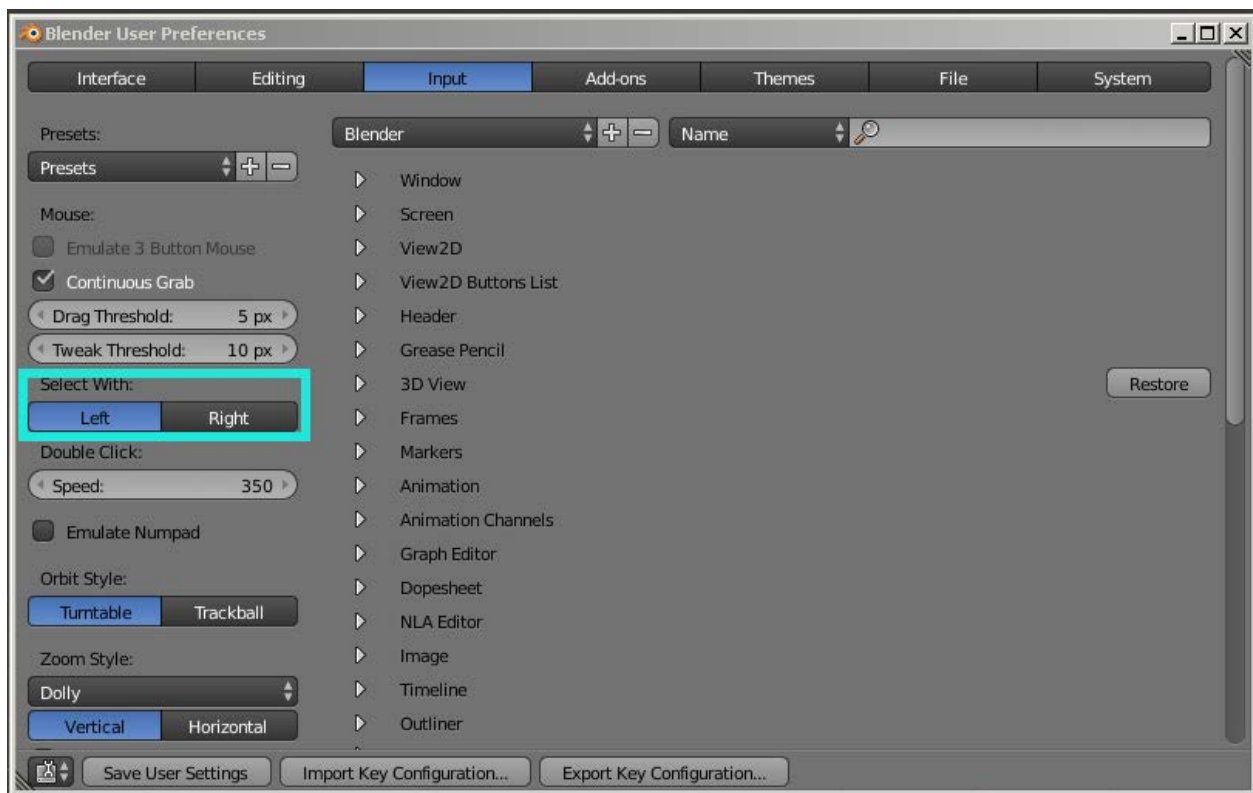


Figure 2-User preferences (mouse)

In this same window (figure 3) you may overwrite hot key commands to customize your workflow.

NOTE: ALL HOTKEY COMMANDS CAN BE FOUND IN THIS WINDOW.

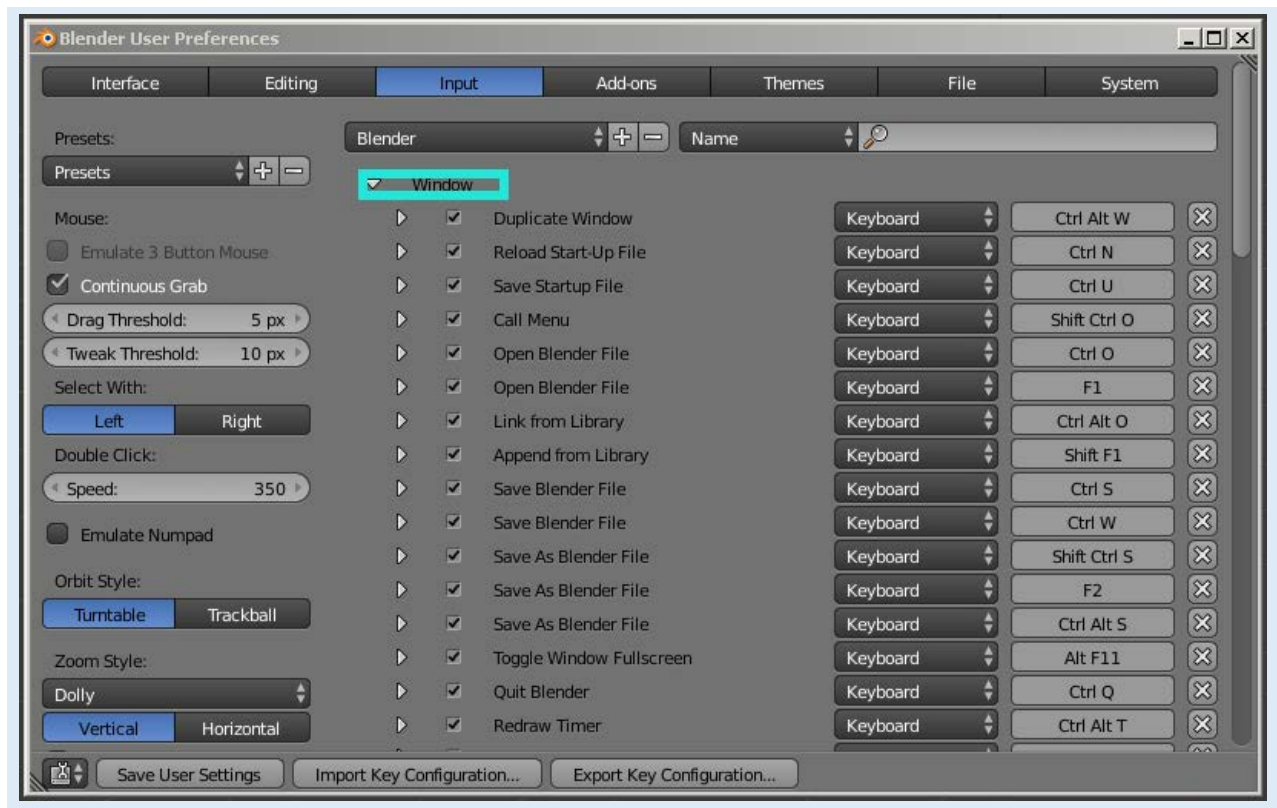


Figure 3-Hot key edit

Tool and Properties panels can be activated by selecting **T** (tools) and **N** (properties) as seen in figure 4.

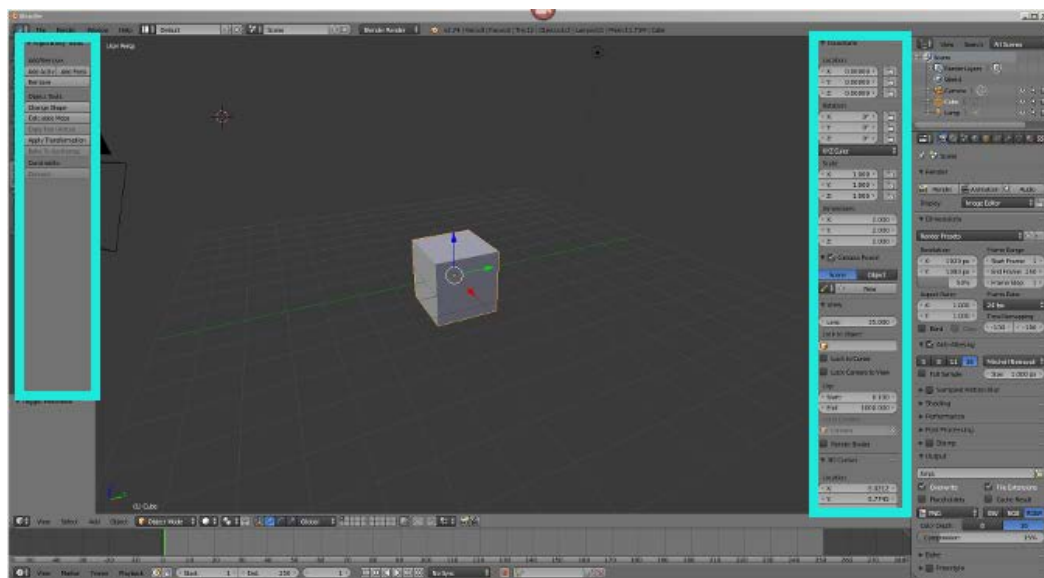


Figure 4 - Tool and property panels

You may choose from multiple *editor type* (large blue box) to be displayed in window [(smaller blue box) figure – 5].

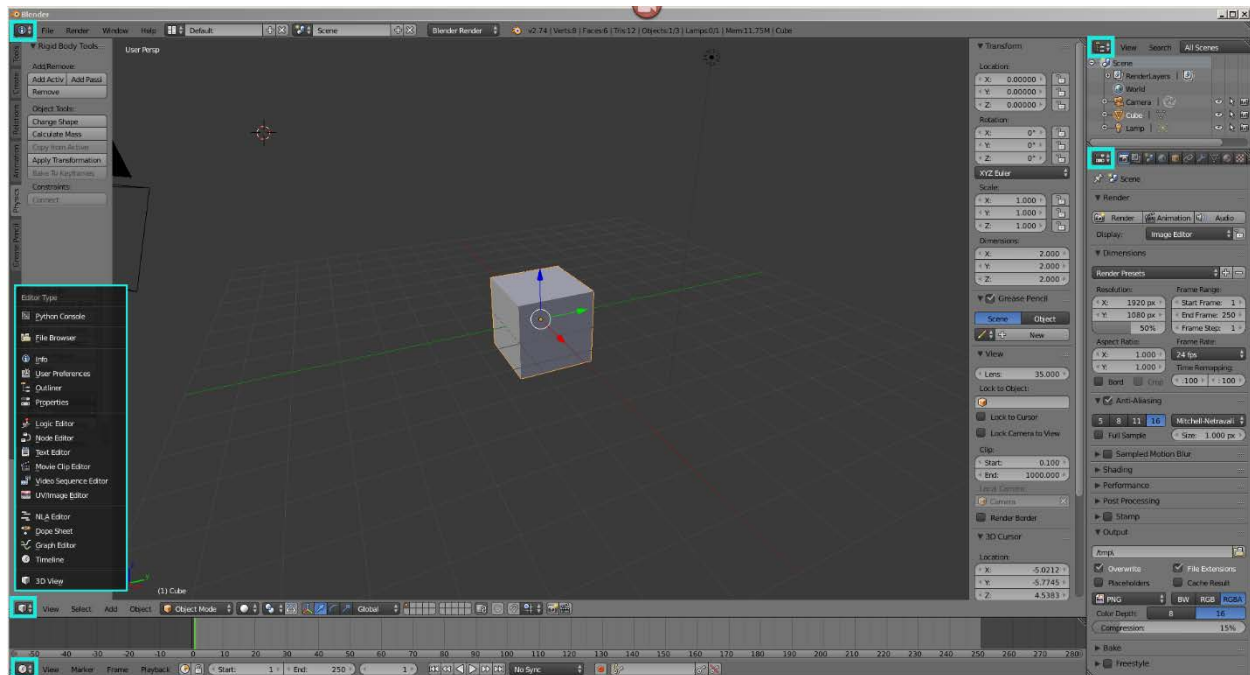


Figure 5 - Editor Type (window)

You may customize your display windows for different workflow layouts. For example the video editor layout in figure – 6. You may save these layouts for different task in your workflow process.

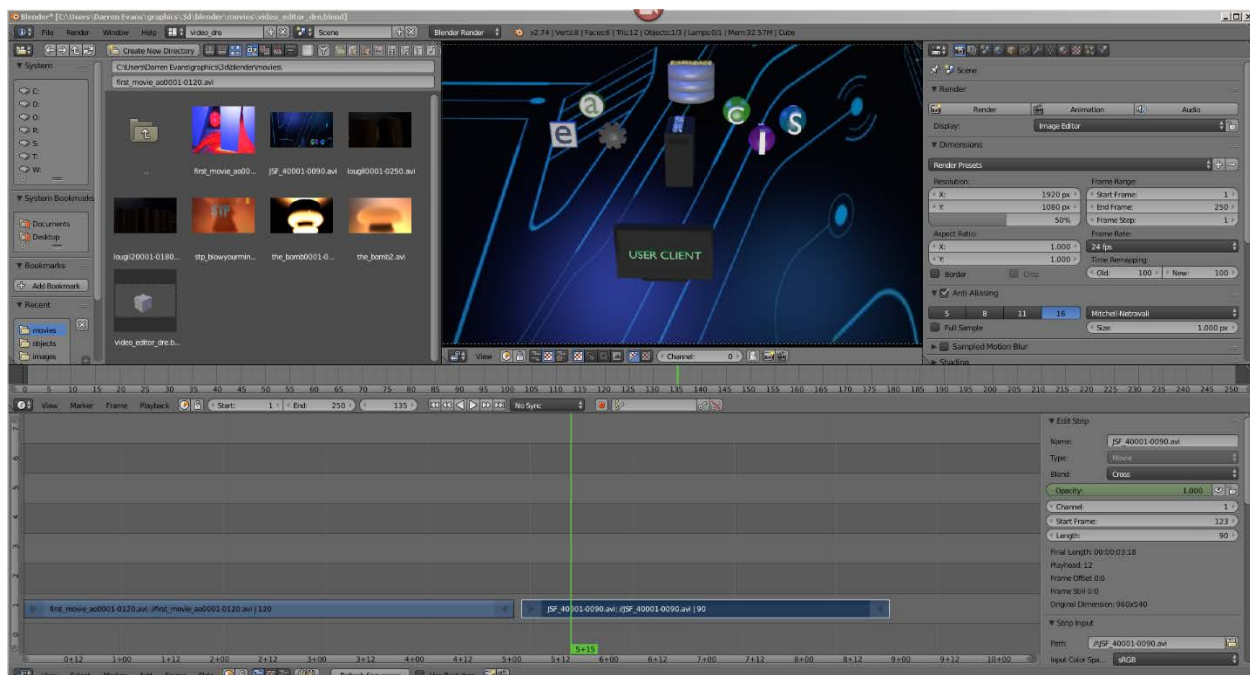


Figure 6 - video editor

METHODS:

MODELING BASICS

ADD OBJECT

Shift A will prompt to the add menu. The object selected will appear in conjunction with 3D cursor [(blue circle) figure – 7].

A window will appear (Add UV Sphere) so that you may adjust settings before continuing to edit mode.

Press **Tab** key to switch between object and edit mode.

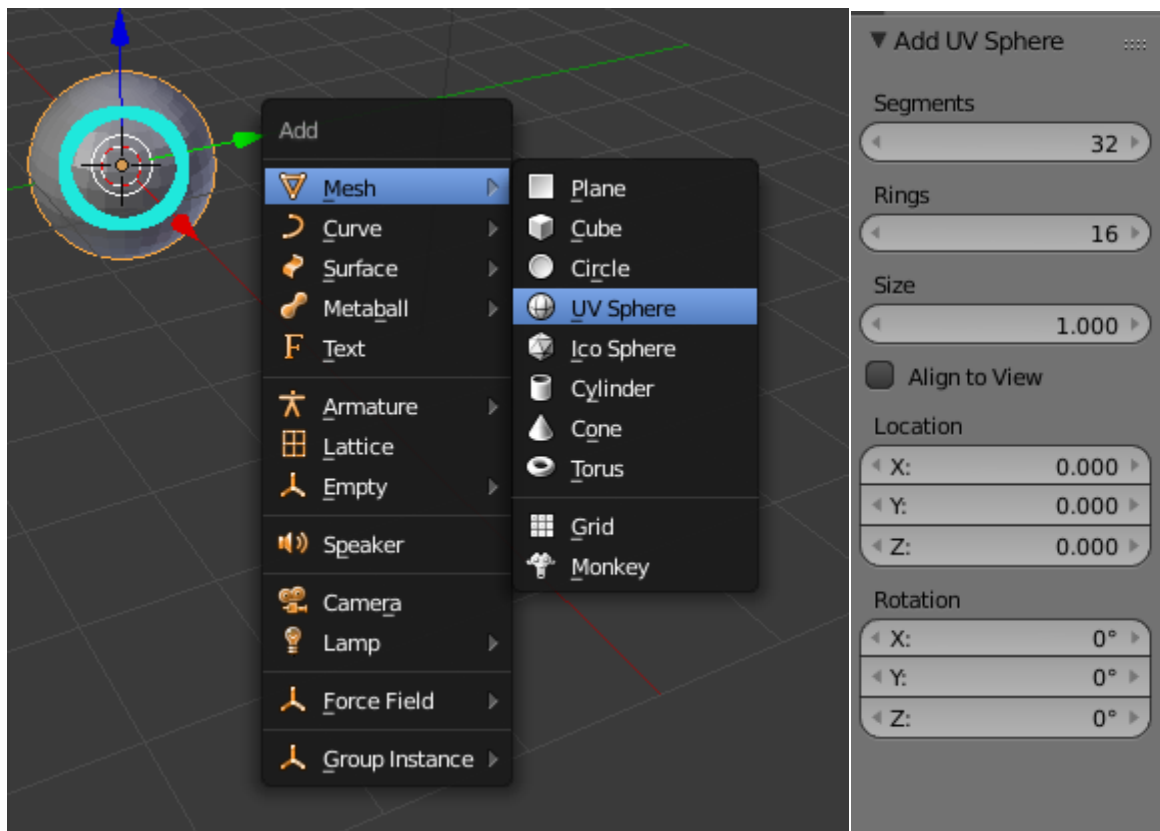


Figure 7 - Add menu

NOTE: The 3D cursor (blue circle figure 7) is a place setter for any object, camera, light, etc. It corresponds with the X,Y, and Z coordinate system with in the application.

X = RED LINE ———

Y = GREEN LINE ———

Z = BLUE LINE ———

MOVE OBJECT

To move an object, faces, edges, ect. Select applicable (highlighted **A** for all) then select **G** to move object. Selecting x y or z preceding **G** will restrict movement to preferred axis figure 8.

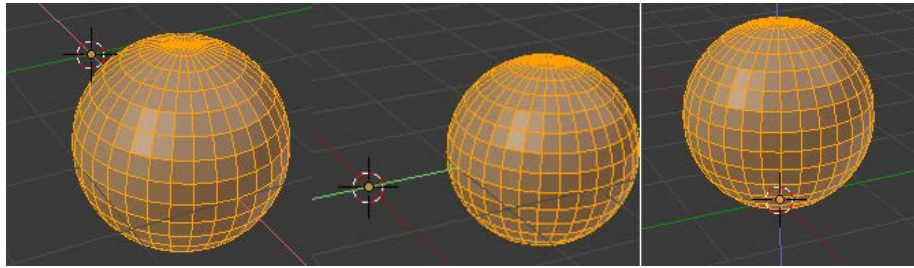


Figure 8 - XYZ movement

ROTATE OBJECT

Select object and **R** to rotate selection; select **X**, **Y**, or **Z** for preferred axis.

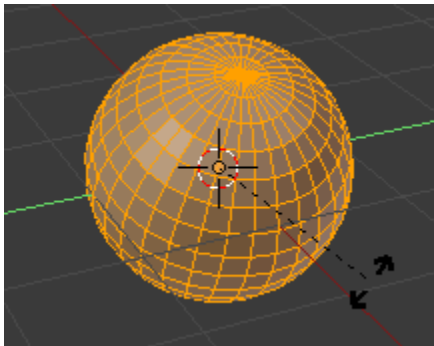


Figure - 9 - Rotation Y

*IN THIS EXAMPLE (FIGURE 9) THE OBJECT
SELECTED IS BEING ROTATED STRICTLY
ON THE Y AXIS.*

SCALE AN OBJECT

To scale an object or selection press the **S** key as well **X**, **Y**, and **Z** to scale on axis.

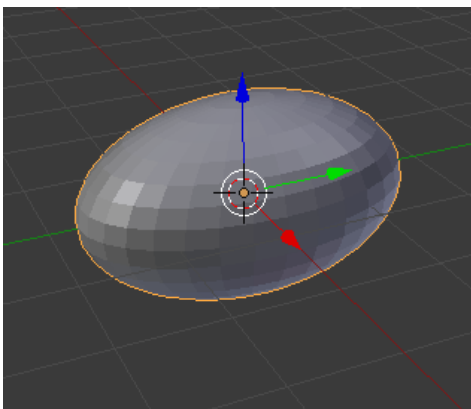


Figure 10 - Scaling

*IN THIS EXAMPLE (FIGUR 10) THE SPHERE
IS BEING SCALED ON THE Y AXIS.*

EXTRUDING

To extrude selections press **Alt E**. For extruding normal press **E**. To extrude a region individually select *Extrude Individual* from *Tool* panel on the left of Workspace.

1. **Alt E** = Extrude selected as seen in example 1 figure 11.
2. **E** = Extrude Region as seen in example 2 figure 11.
3. Select *Extrude Individual* = individual faces as in example 3 of figure 11.

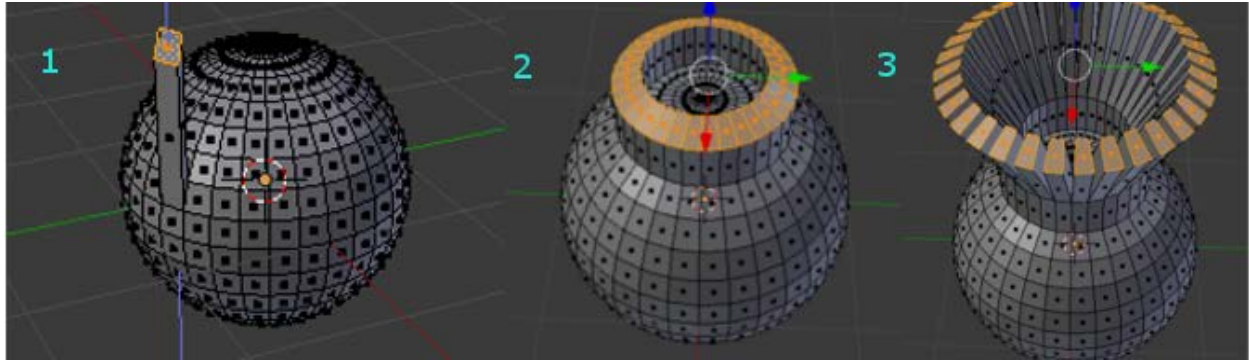


Figure -11 – Extrude

INSET FACES AND SUDIVIDE

Press **I** for *Inset faces* which provides the capability to add more polygons within a polygon to create complex models.

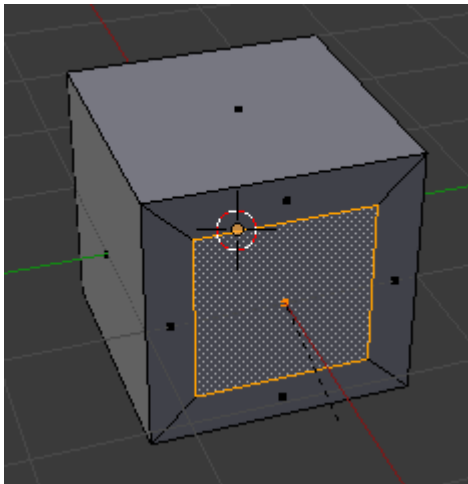


Figure 12 - Inset Faces

IN THIS EXAMPLE (FIGURE 12) ONE FACE OF THE CUBE ON THE X AXIS IS SELECTED BEFORE PRESSING **I** FOR INSET FACES. YOU MAY ADJUST THE PARAMETER OF INSET USING THE MOUSE.

IN THIS EXAMPLE (FIGURE 13) ONE FACE OF THE CUBE IS SELECTED. THEN CHOOSE SUBDIVIDE FROM TOOL PANEL.

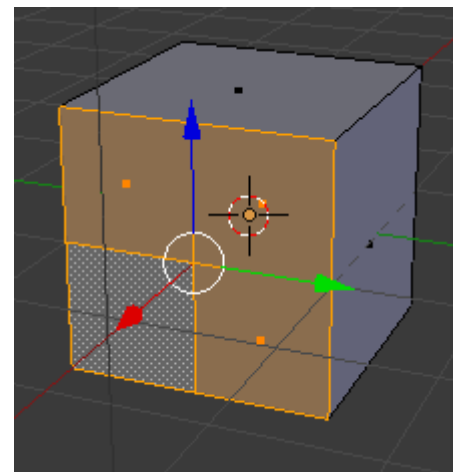


Figure 13 - Subdivide

LOOP CUT AND SLIDE

Loop Cut and Slide is a tool that will enable you to cut and adjust the cut along any axis creating divisions between edges.

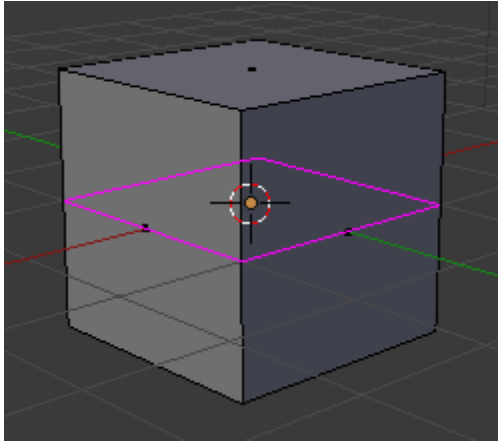


Figure 14 - LOOP CUT AND SLIDE

IN THIS EXAMPLE (FIGURE 14) THE PINK LINE ON THE XY AXIS REPRESENTS THE CUT THAT CAN BE ADJUST ON THE Z AXIS BY DRAGGING THE MOUSE ON THE Z PLANE. RIGHT SELECT INITIATES THE CUT.

BISECT

Select *Bisect* from the tool panel. This will cut along a plane (click and drag to define plane).

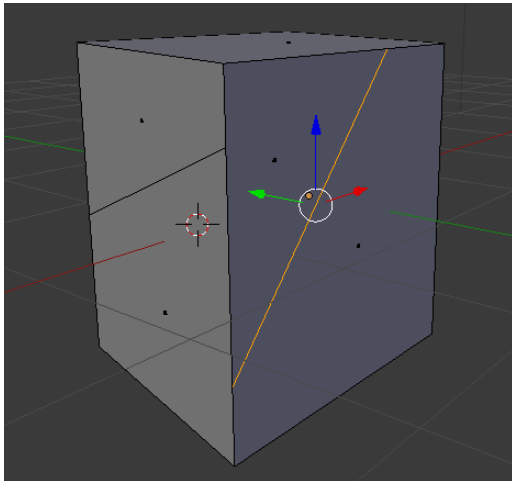


Figure 15 - Bisect

IN THIS EXAMPLE (FIGURE 15) YOU CAN SEE THE YELLOW LINE HAS MADE AN A SYMMETRIC CUT THROUGHOUT THE CUBE.

MODIFIERS

Modifiers are sub patches that can be added to objects or polygons that can simulate (particle and dynamics), deform (manipulate shape and form), generate (Boolean mirror), and modify (UV and data). Select object to be modified. From tool bar 1.select *modifier* (wrench), 2. Add *modifier* bar and select desired *patch*.

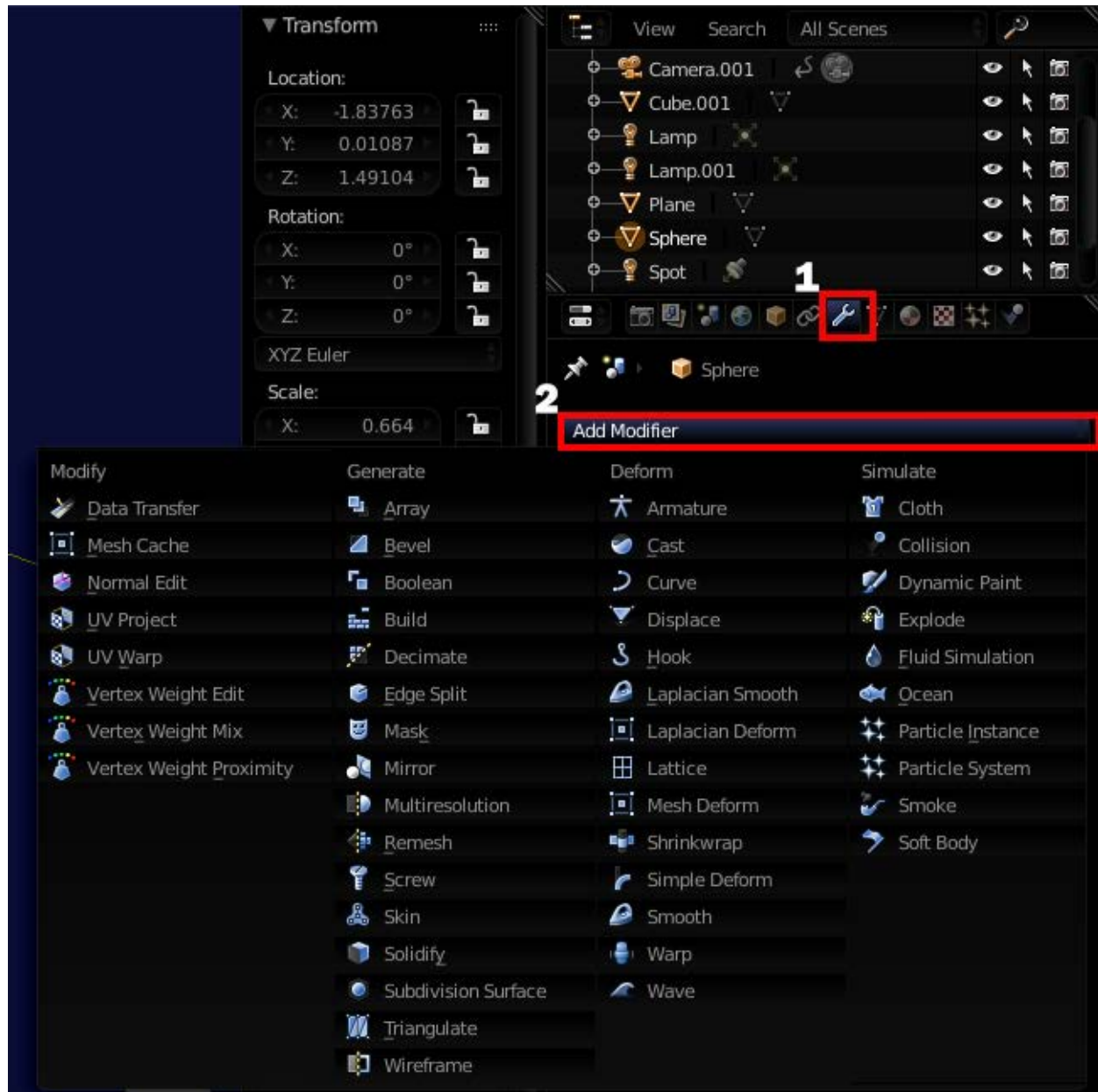


Figure 16 - Modifiers

HOT KEYS

NAME	Hot-Key	Description
User Preferences	Ctrl Alt U	Opens user preferences window
Tool Shelf	T	Reveals Tools
Properties	N	Reveals Properties
Select	Lt select	Lt select faces, edges, or vertex
Select all	A	Selects all faces, edges, or vertex
Primitive	Shift A	Select mesh cube, sphere, cone, etc.
Rotate	R	Rotate on axis
Move	G	Move selected (hold center button for axis)
Toggle	Mid Mouse	Toggle view
Object \ Edit	Tab	Switch View
Insert Faces	I	Adding polygons distributed evenly within a polygon
Extrude	E	Extruding polygons
Duplicate	Shift D	Duplicate object
Mirror	Ctrl M	Duplicate object
Shrink\fatten	Alt s	Squash and stretch selected polygons
Make parent	Ctrl P	Object becomes hierarchy of other objects
Clear parent	Alt P	Deselects object as parent
Loop cut slide	Ctrl R	Creates a circumference cut around objects axis
Loop select	Alt sel-mouse	Selects polygons on a selected axis.
Edge ring select	Ctrl Alt sel-mouse	Selects edge on an objects axis
Select all	A	Selects all objects or polygons
Merge	Alt M	Merge objects or polygons
Separate	P	Separates objects or polygons
Bevel	Ctrl+B	Bevel edges
Split	Y	Splits edges

Knife tool	K	Used for cutting through objects
Add bone	Shift A	Adding bone for rigging
Align bones	Ctrl Alt A	Arranging bones
Select more	Ctrl numpad+	Add more selected
Select less	Ctrl numpad-	Decrease selected
Convert mesh	Alt C	Chose curve or text
Hide	Alt H	Hide object

LINKS:

[blender download](#)

[blender beginner tutorials](#)

[blender as movie clip editor](#)

[blender advanced](#)

OTHER FREE SOFTWARE:

[Free photo raster editing software \(GIMP\)](#)

[Vector Drawing application \(inkscape\)](#)

[Audio editing \(Audacity\)](#)