The Poly Build Tool

# What is the Poly Build Tool?

The poly build tool, takes a bit of practice to get the hang of. You can create new topology by using this tool; but, what it is mostly used for is retopology. You can use a few different controls to accomplish different thing.

**You can create a quad:** If you create a new triangle that shares an edge with an existing edge, Blender will automatically dissolve the inner edge leaving you left with a quad.

**To Create New Topology:** You must hold down the ctrl key with the left mouse button, when you click on the viewport in order to create a new vertex.

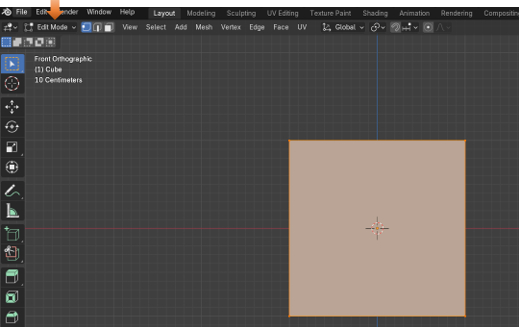
**To Delete Geometry:** You can hold down the shift key, in place of the ctrl key with the left mouse button if you are trying to delete topology. This will either dissolves the vertex or/and delete the face under the mouse cursor. When you hold the shift key, the intended target will be highlighted in red.

**To Move a Vertex:** You can use the left mouse button, click on a vertex, and just drag it, to move it.

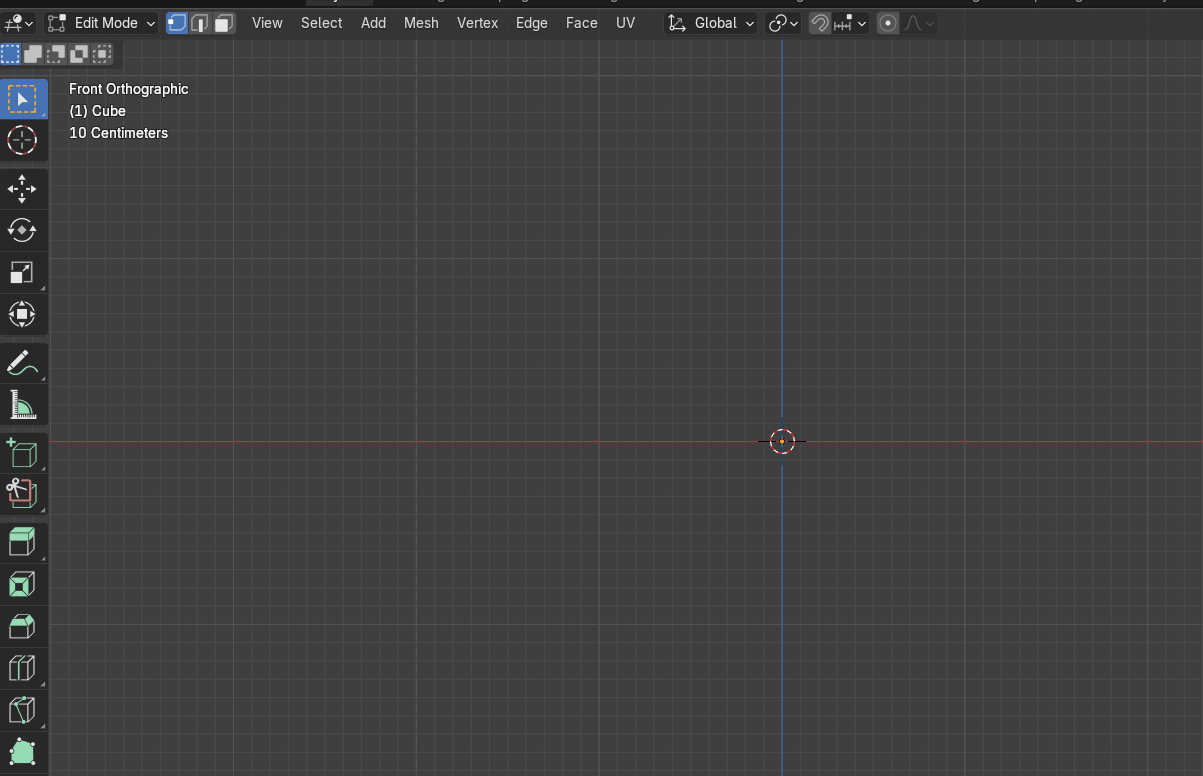
**Extruding an Edge:** You can extrude an edge into a quad, just by dragging it.

# How to Create Topology with the Poly Build Tool

With your Cube selected, in Object mode, move into Edit mode.



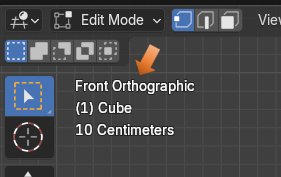
Now Delete the Cube. We want the viewport to start up empty.



Grab the Poly Build tool from the Tool box

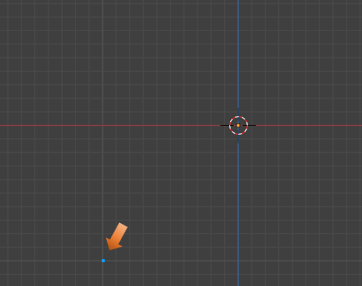


Hit 1 on the Numpad to go into front view. This will ensure that what we draw will be flat.

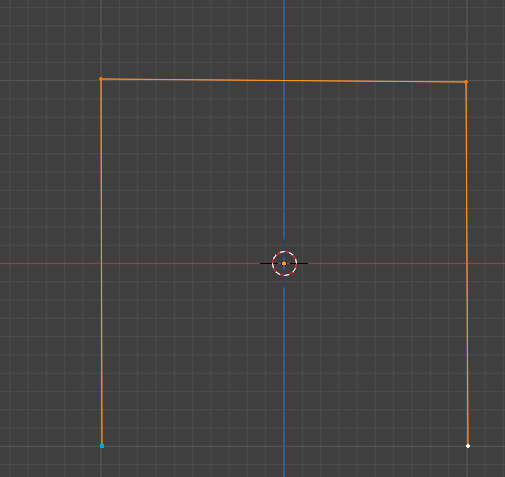


# To Create a Vertex

Hold down the Left mouse button with the ctrl key. Then click on the view port to create a vertex.

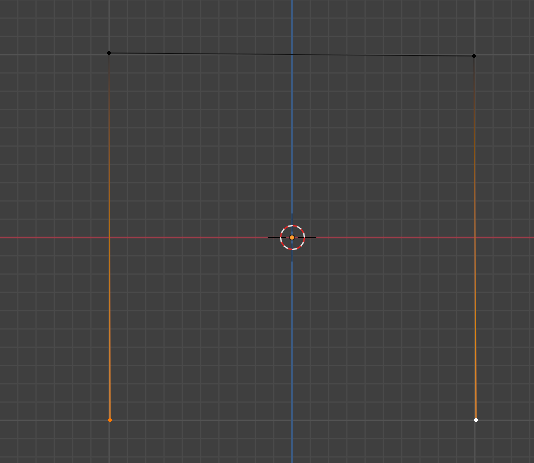


Now Create 3 more vertices.

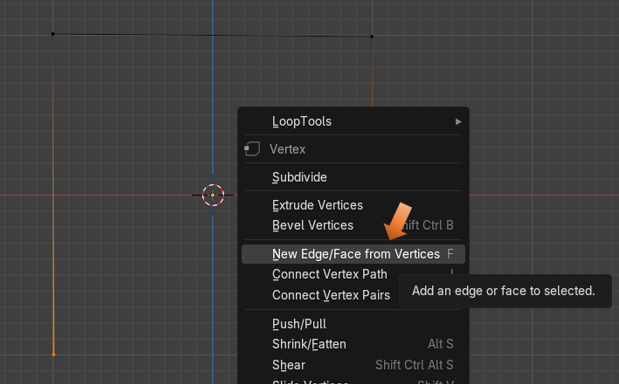


Change to the Select tool, and select the two bottom vertices, we need to connect them.

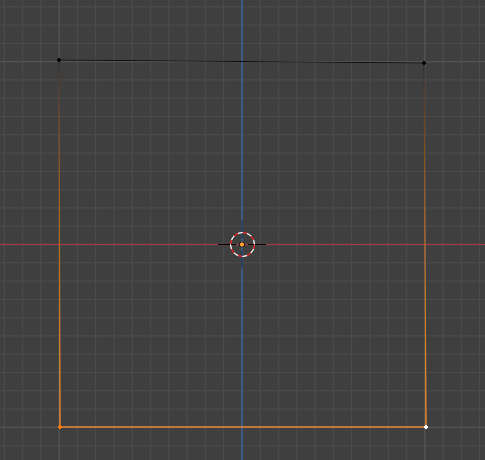




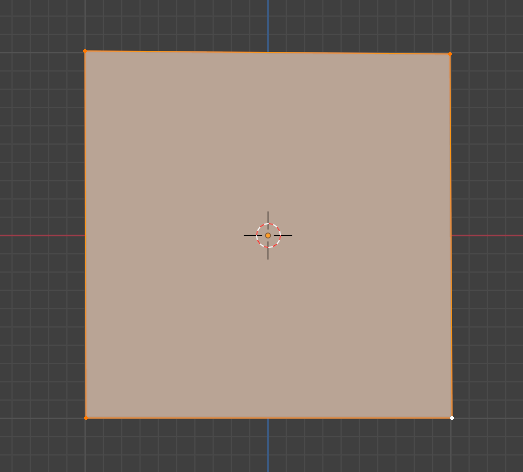
With the two points connected right click to open the context menu. Select New Edge/Face from Vertices to connect these two points.



Now your points should be connected.



Hit the A key to select all, and then the F key to fill the outline. Congratulations you have just created new topology with the Poly Build tool.



# Retopology

But the main thing that this tool is used for is Retopology. Retopology in Blender is the method of simplifying a 3D model’s mesh structure, to make it easier to work with. You will find, a lot of times, especially when coming out of sculpt mode that the structure of your object’s mesh is a nightmare. It may be fantastic to look at from the surface view, but the underlying edges, vertices and faces are in total disarray. Blender needs clean topology in order to do things like animation, rendering, or 3D printing, and you will find your self diving deep into this subject to prepare your object before trying to accomplish these very important final steps in Blender.