

TUTORIALS

Digital Forming connects designers, retailers and manufacturers.

2a. Assembly Modifier- Coffee Cup Tutorial

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Tutorial 2A: Assembly Modifier- Coffee Cup

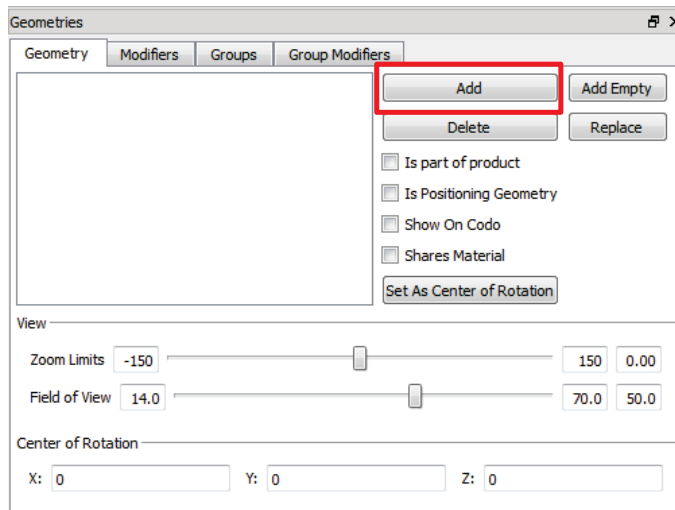
Assembly Modifier allows you to selectively add other static items to a base item, or to switch between alternate base items. Or, for more complex customizations, both combined. The coffee cup tutorial will show you how to add static items to a base geometry, in order to allow different options for the base, handle and the option of a lid. See an example here: <http://www.ucodo.com/Store/Details/2375>

*****Using provided files from the 'Coffee Cup' Tutorial folder*****

1. Open ODO

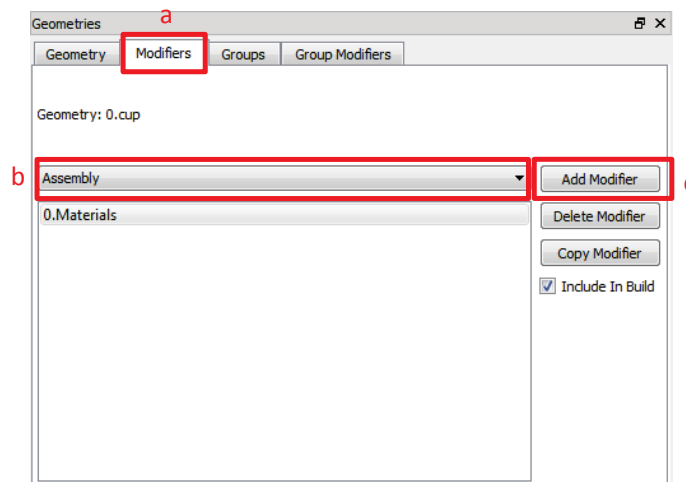
2. Select New 

3. Select 'Add' in the Geometry tab of the Geometries window: This will add your base geometry, which in this case will be the cup, as this is going to be the constant geometry throughout.



4. Select the 'Cup.ostl' from the Coffee Cup Tutorial folder.

5. Select the 'Modifiers'(a) tab, and select 'Assembly'(b) from the drop down box, then select 'Add Modifier'(c).

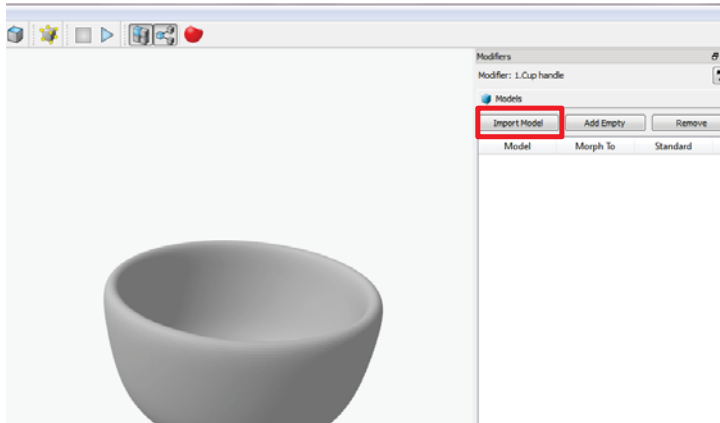


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6. You will be prompted to rename the Modifier, name it 'Cup Handle'.

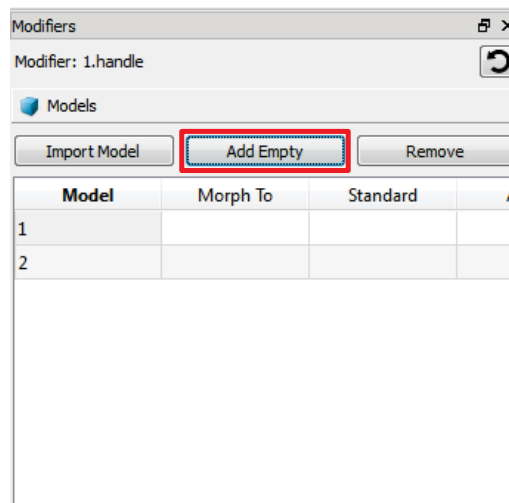
The right hand window will have changed to show the Assembly Modifier Tool (You may have to drag the window out slightly)

7. Select 'Import Model'



8. Add the handle stl files from the Coffee Cup tutorial folder. (side_handle.stl, vertical_handle.stl)
You will now be able to select the 2 files and see the cup handles change in the interface window.

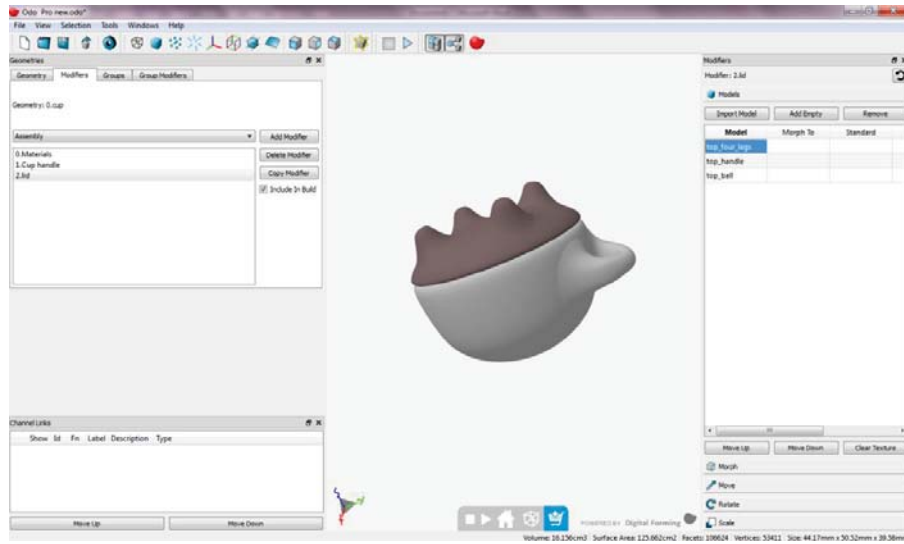
9. Select 'Add Empty', this will add the option of having no handle.



10. Now repeat steps 5 to 9 this time naming the modifier 'Lid' and importing the Lid stl files. (top_four_legs.stl, top_handle.stl).

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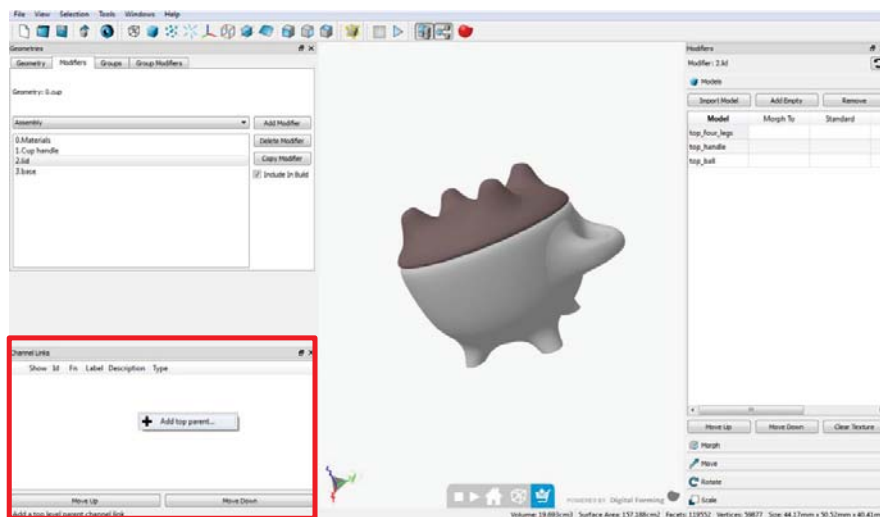
You should now see something similar to this:



11. Now repeat steps 5 to 8, this time naming the assembly modifier 'Base', and adding the Base files from the tutorial folder (dish.stl, fourlegs.stl). You DO NOT need to 'Add Empty' in this case.

You now need to start creating the icons/ buttons for your interface using the Channel Links tool. The Channel Links tool allows you to create a link between the modifiers you have created and the interface. Adding Channel Links quickly creates buttons, sliders and text boxes for your end customer to interact with.

12. Right Click in the Channel Links box in the white area, an option to "Add Top Parent" will appear.

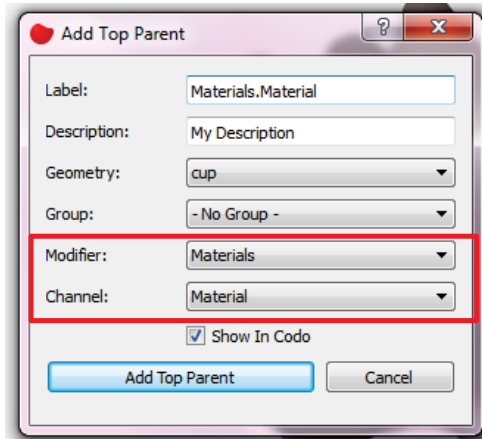


13. Select  Add top parent...

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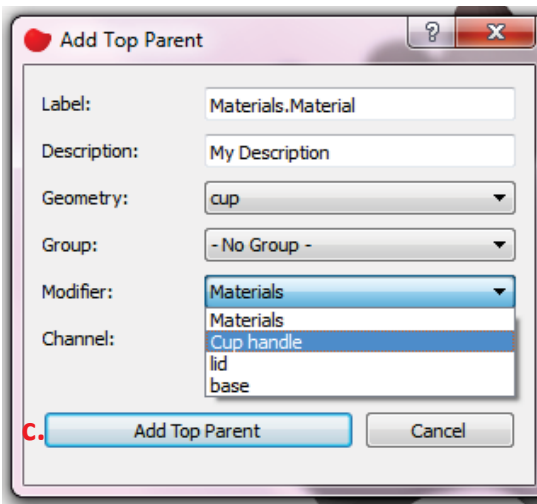
A selection box will appear. In this tutorial we only have to focus on the bottom two drop-down options.



14. On the Modifier drop- down (a, Figure1), select Cup handle and on the Channel drop-down (b, Figure 1) select Geometry ID. Geometry ID will create a button on your interface for each of the files you have imported in to your modifier. The button will show a render of the files you have imported.

15. Select 'Add Top Parent' (c, Figure1)). You will notice 2 images of different handles appear on the top left of the Interface Window as well as a blank icon, this is the 'Empty' Geometry.

a.



b.

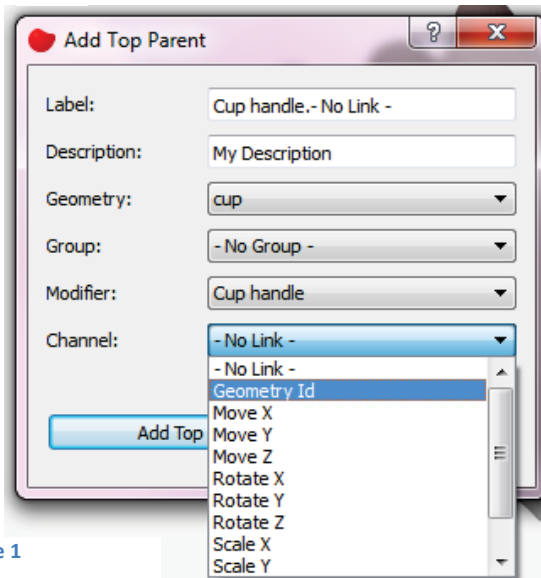
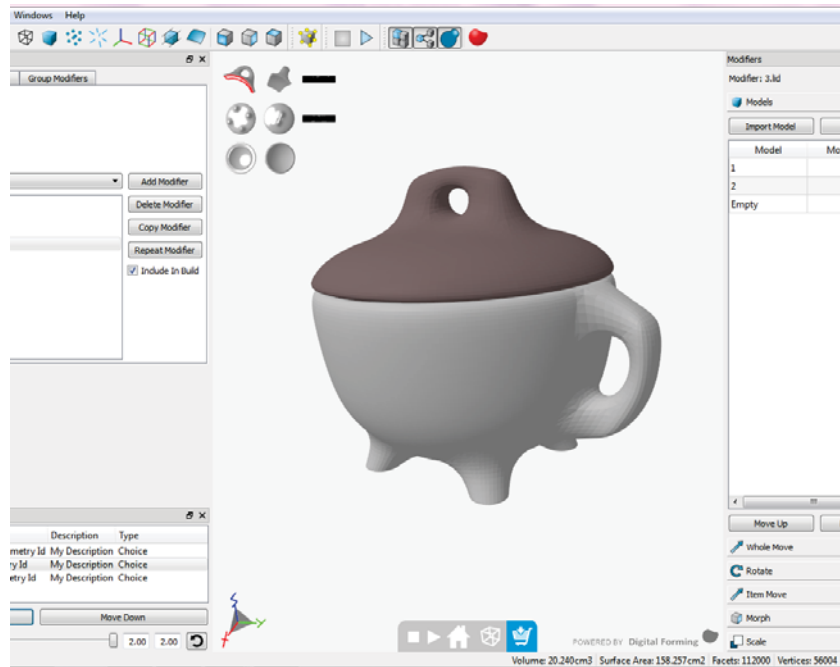


Figure 1

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Now repeat steps 12 to 15 for the Lid and the Base. In each case when you select the Modifier drop down you will instead select 'lid' and 'base' rather than 'cup handle'.

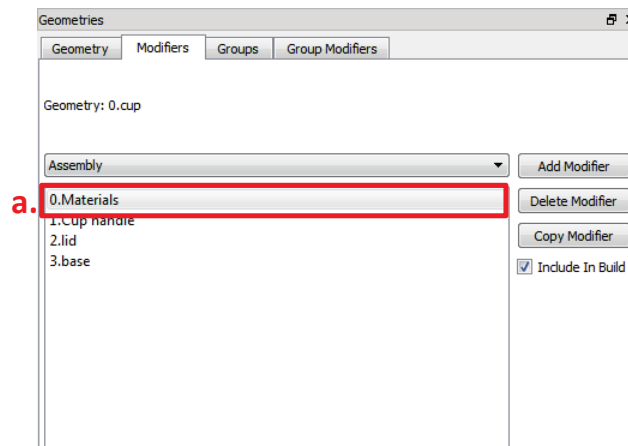
Once complete your interface should look like this : Use the Right Click to select the icons and change the design.



The last step in this tutorial is adding Materials to your customizer.

The Materials library shows all of the Manufacturers/Bureaus that you can link to through the Digital Forming platform. The materials you select will be the materials the product could be printed in, depending on what the end customer chooses. Remember to check the material rules on www.digitalforming.com to ensure your product can be printed.

16. On the Modifiers Tab of the Geometries window select '0.Materials' (a).



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17. The right hand window should now be showing the Materials Library (Figure 2). By clicking on the arrow to the left of the Bureau name you can view all of that Bureau's material options. Select: iMaterialise> Ceramics> the colours as shown below.

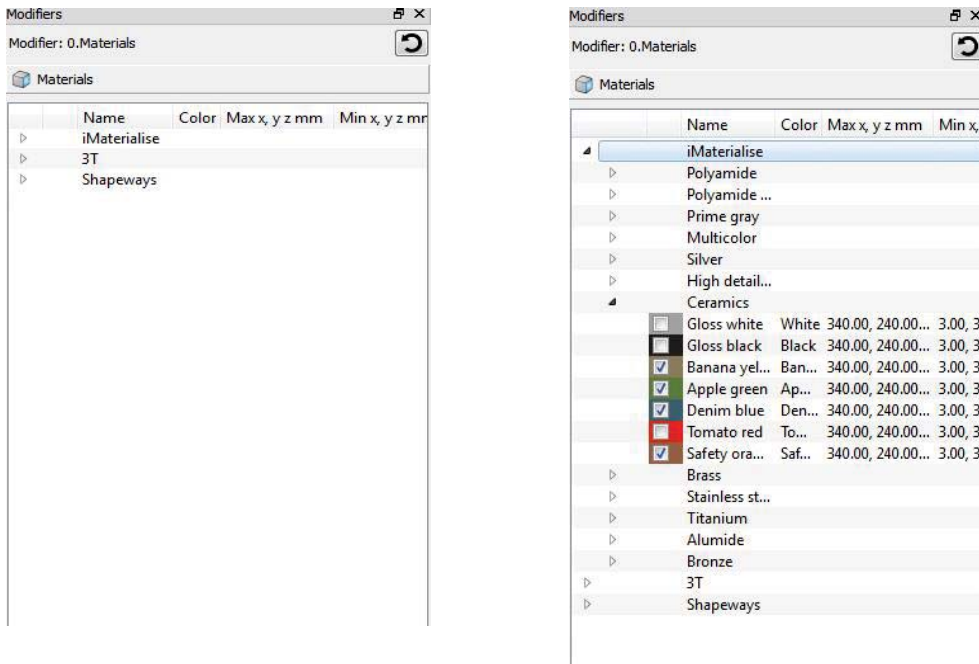
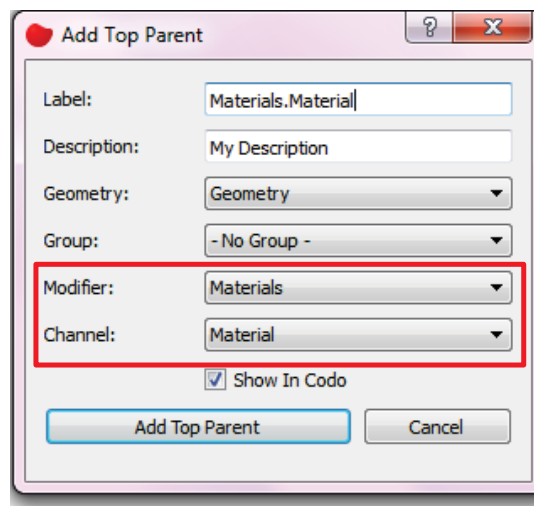


Figure 2

18. Add a Channel Link for the Materials, this will allow your end customer to select which colour they'd prefer.

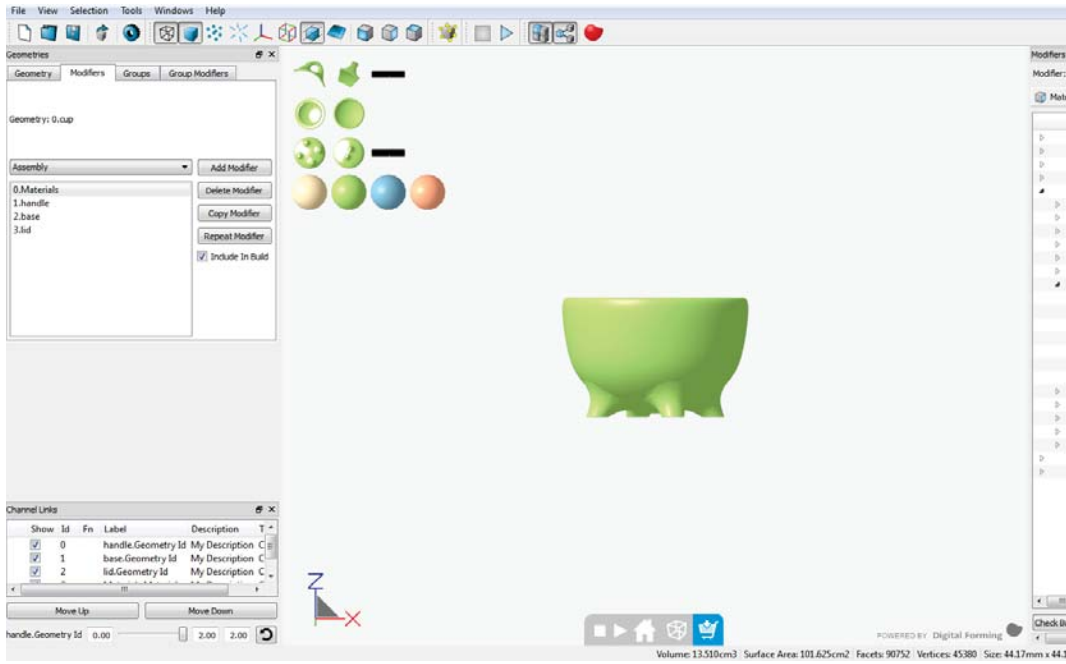
19. Right Click in the Channel Links window and select 'Add Top Parent'.

20. Ensure the 'Modifier' drop down shows Materials and the 'Channel' drop down shows Material.



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21. Select 'Add Top Parent' and your colour options will now appear in the interface window.



22. You can now save the file as a .odo file by selecting File> Save Project As

Your Customizer is now complete!