

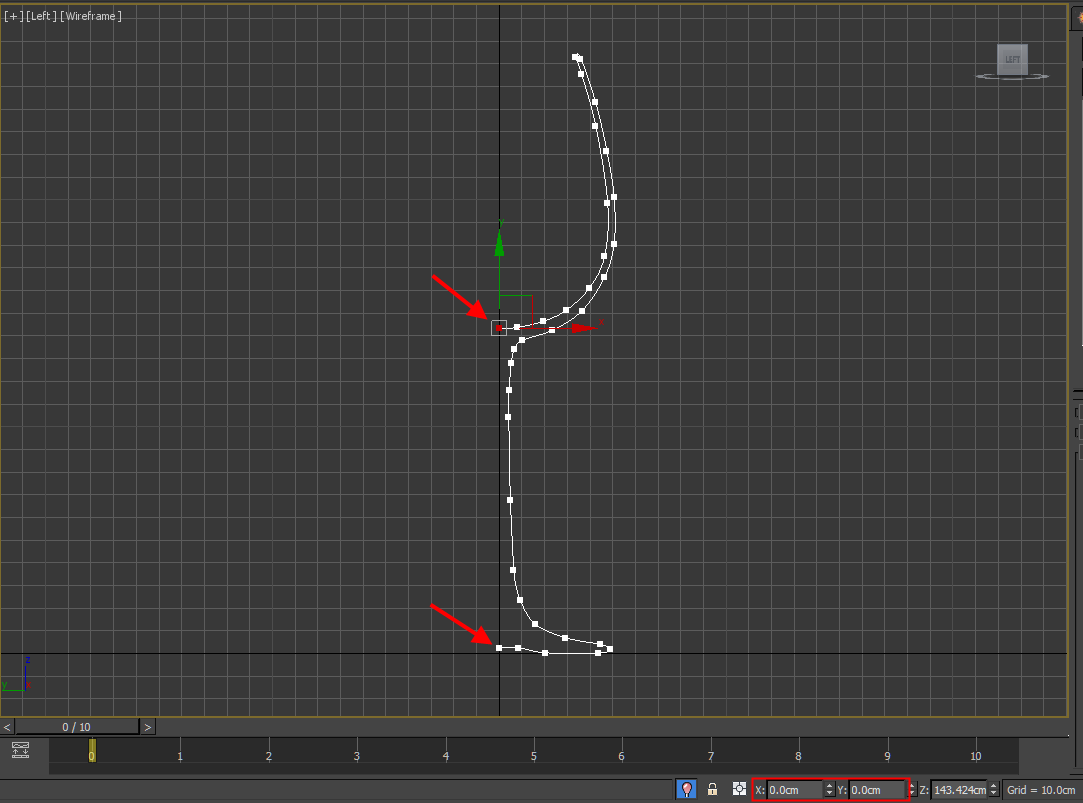
**Tips for initial fill any container with Phoenix FD**

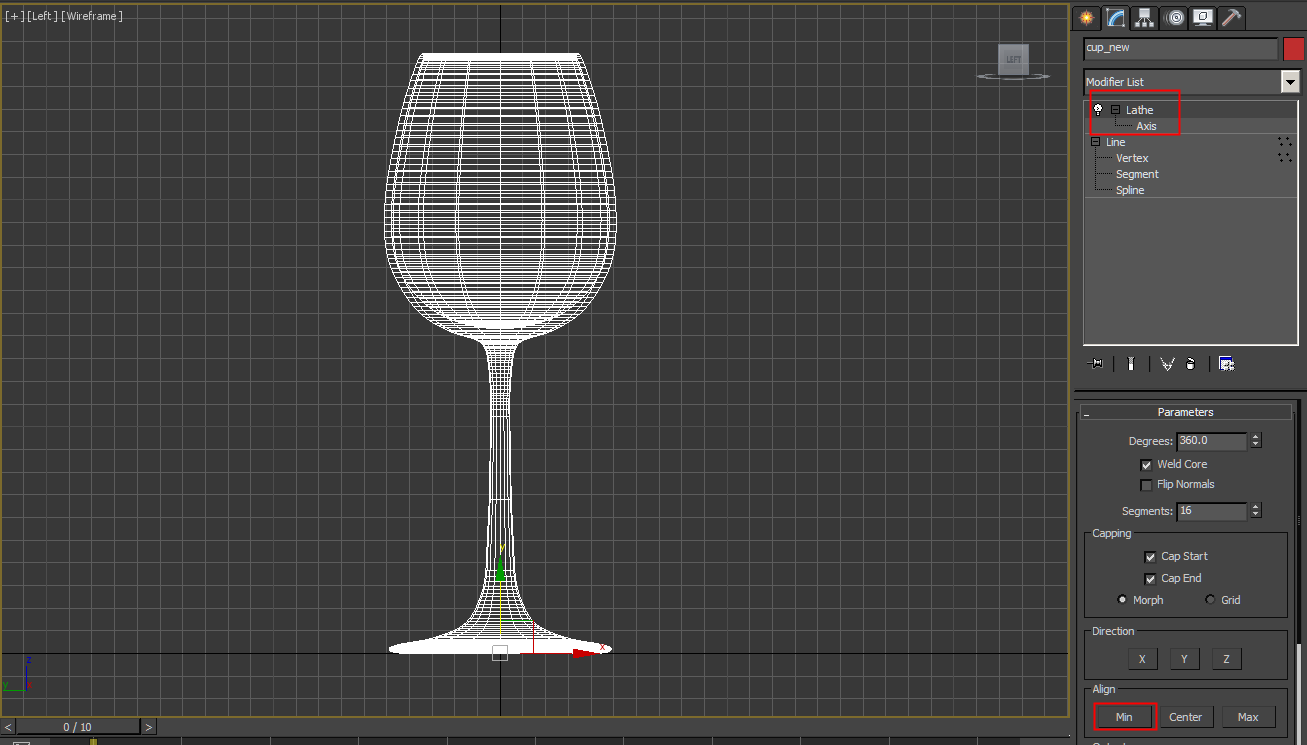
by Hammer Chen

Fill up a cup of glass in CG can be time-consuming, sometimes unstable. Here I show you little tricks that can create initial fill with basically any container.

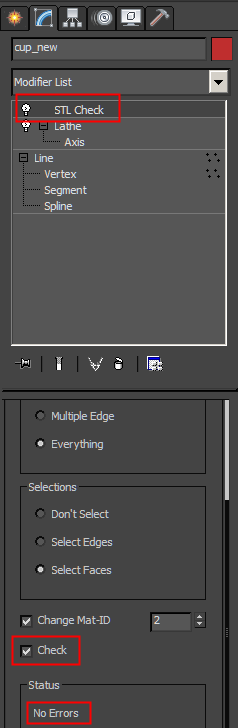
**1. Creating the glass cup geometry**

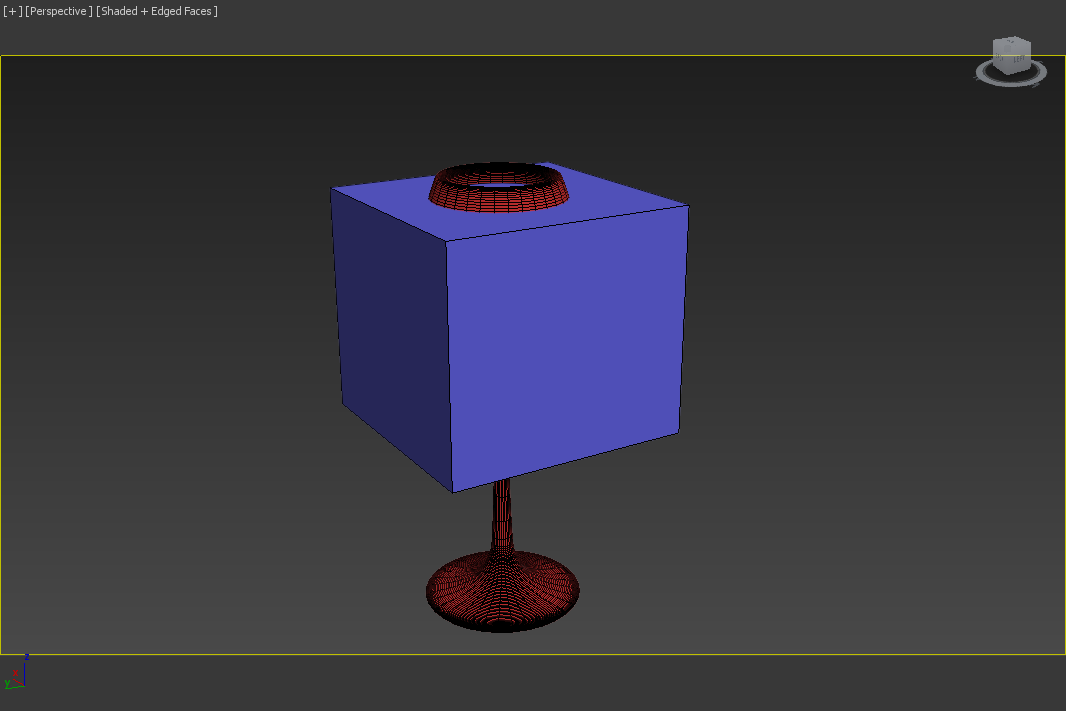
Most of the time we use the lathe modifier to create a model of glass. When drawing a spline, make sure those vertices are right on the resolving axis.



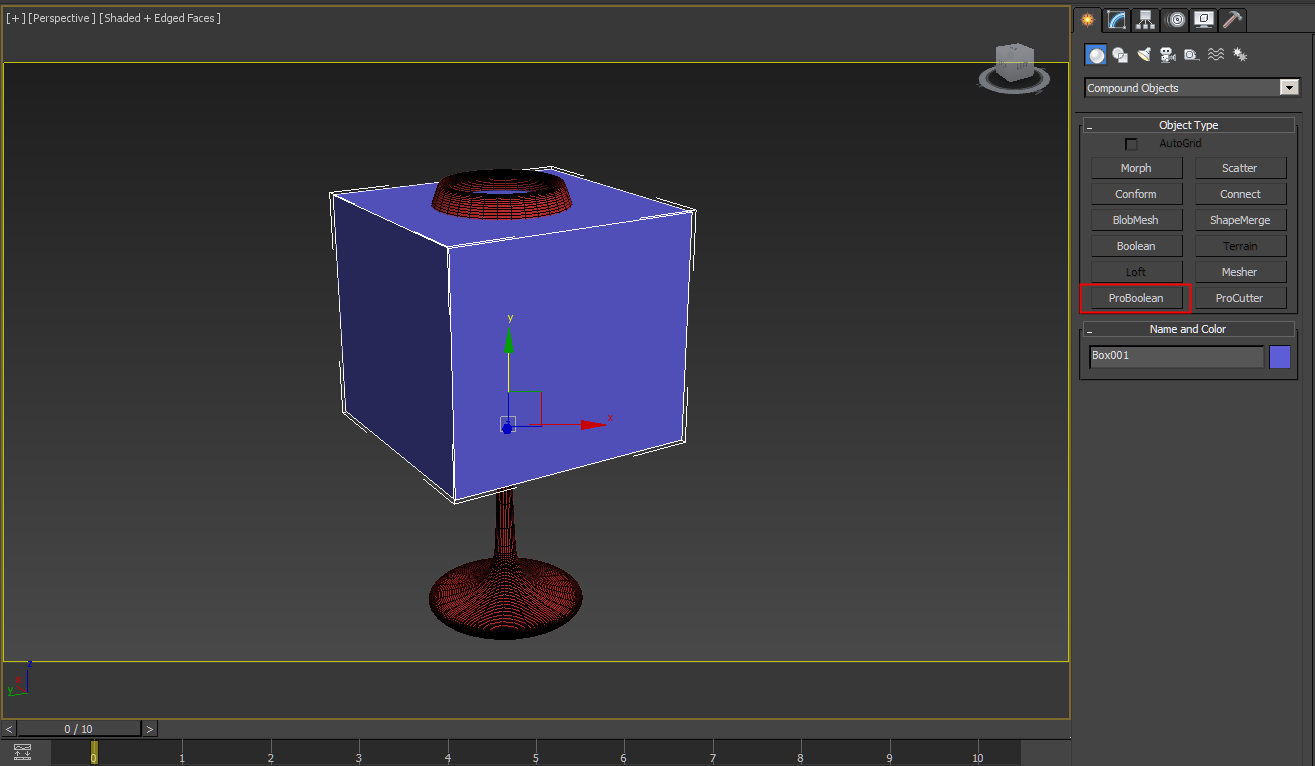


One you have the cup geometry, use STL Check modifier, tick the Check checkbox to make sure your model is watertight and no errors.

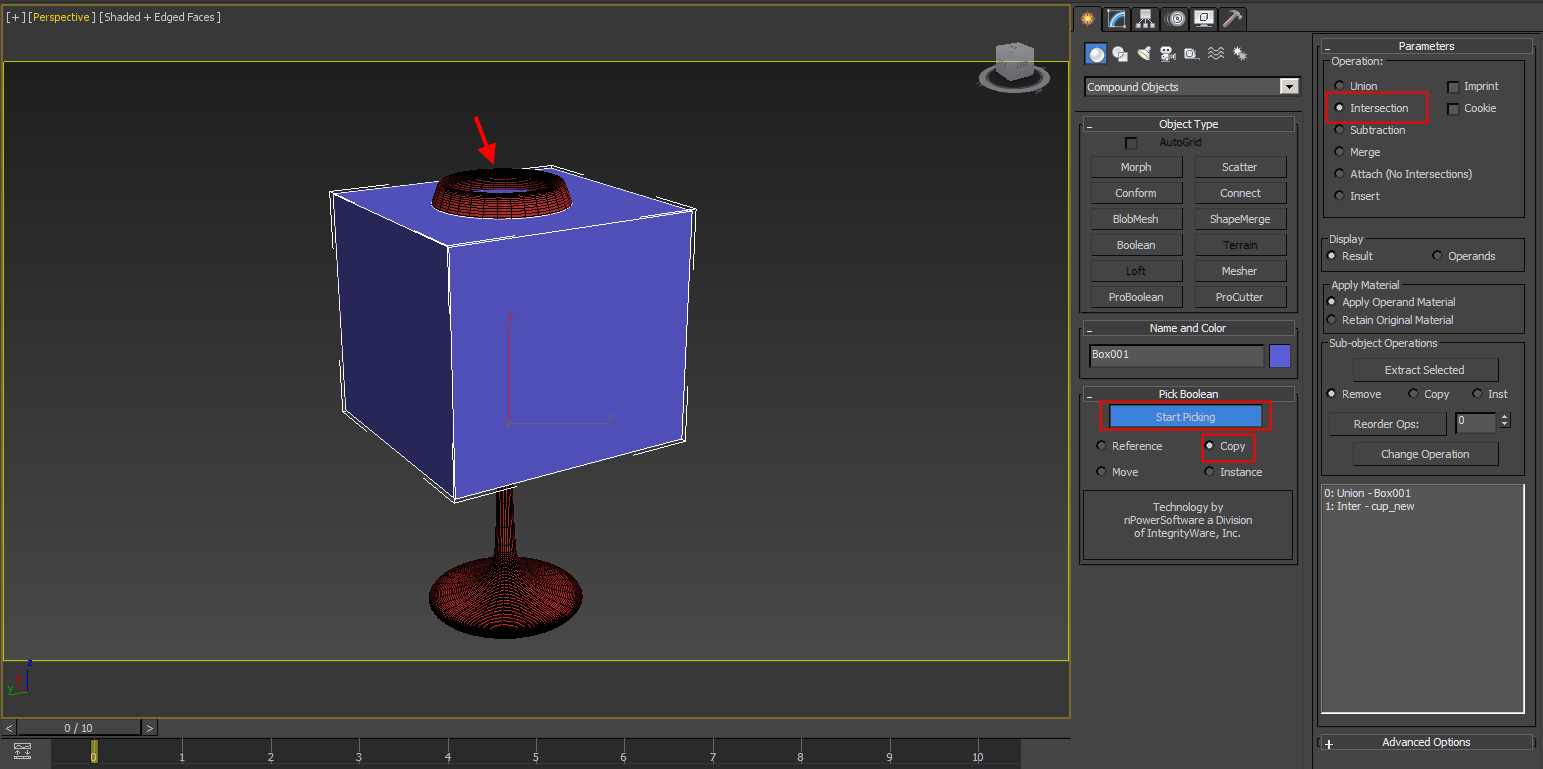


2. Create a simple box with Length, Width and Height segments both set to 1. The box just covers top and bottom of the glass where you want your liquid to be.

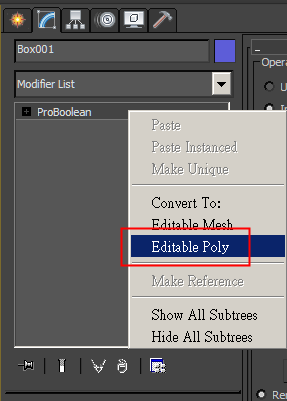
3. With the box selected, go to Compound Objects / ProBoolean.

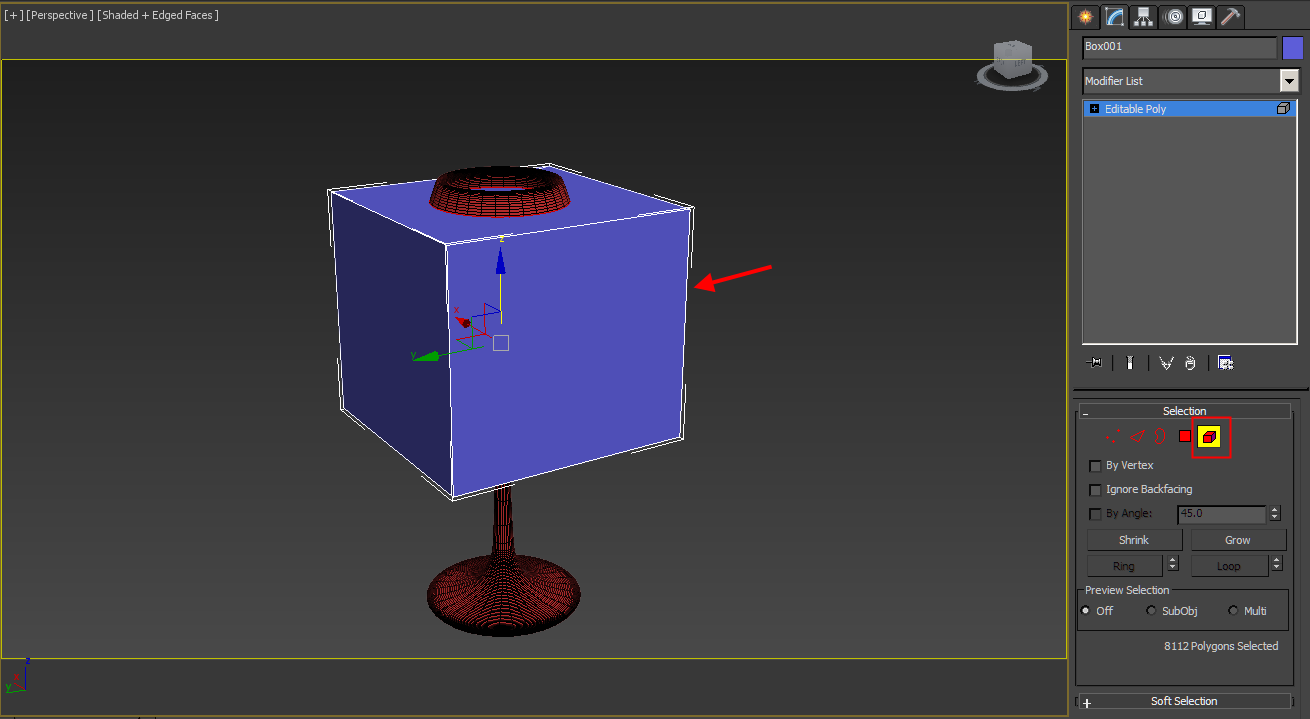


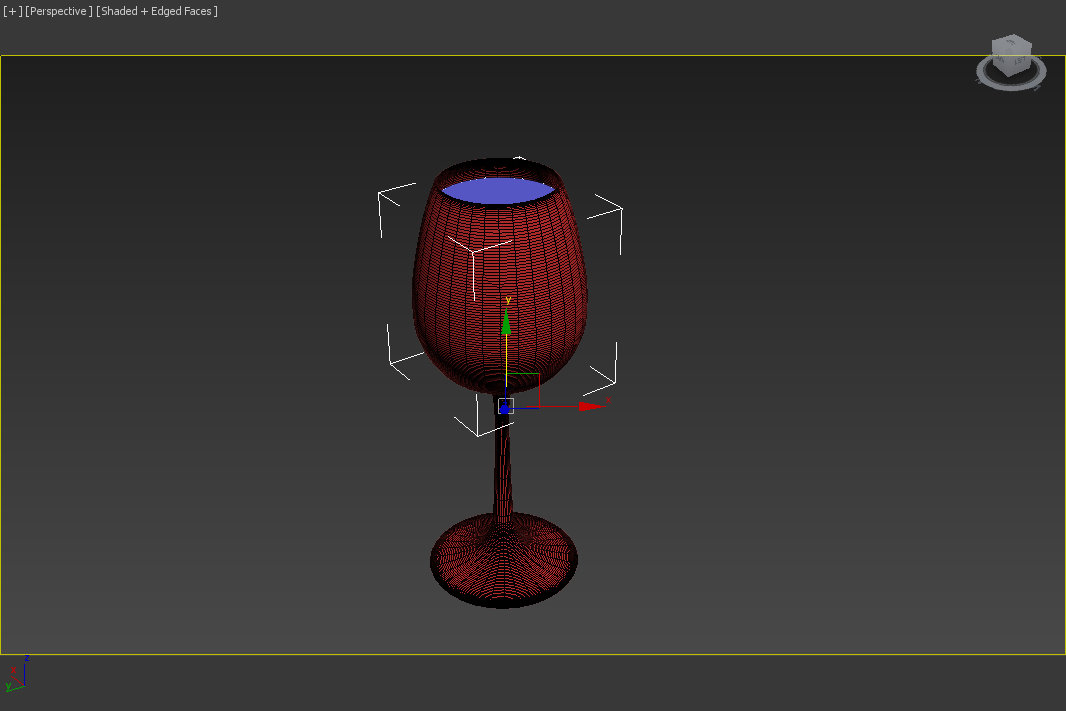
Set type to "Copy" and Operations to "Intersection, and pick the glass cup geometry.

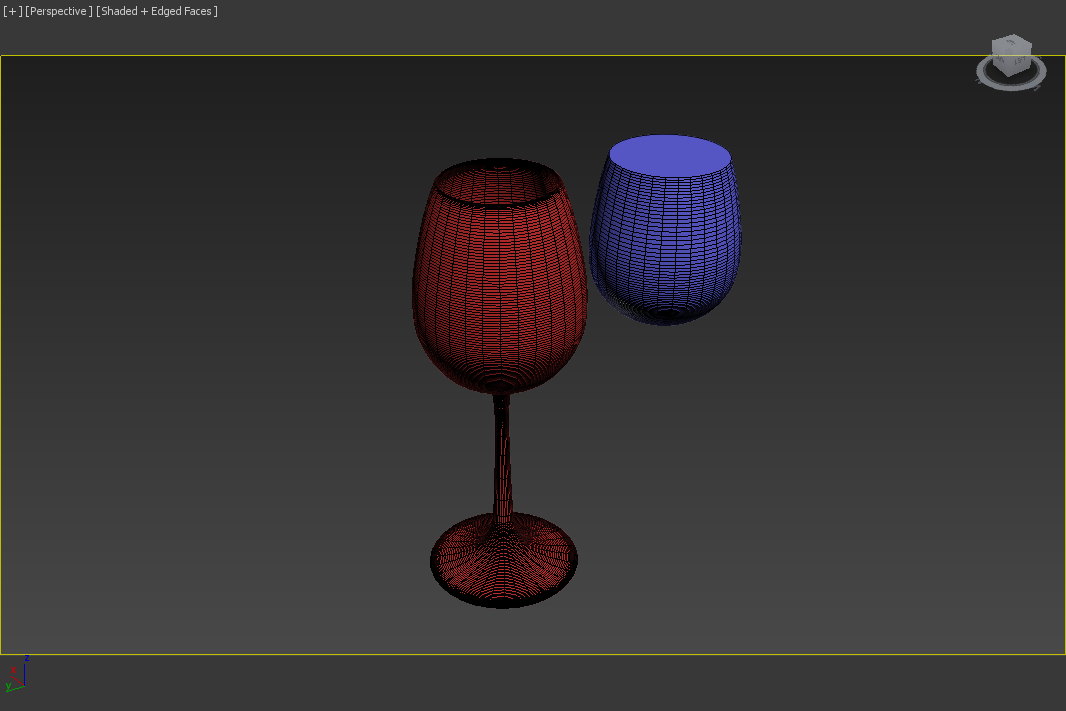


4. After boolean operation, convert it to Editable Poly

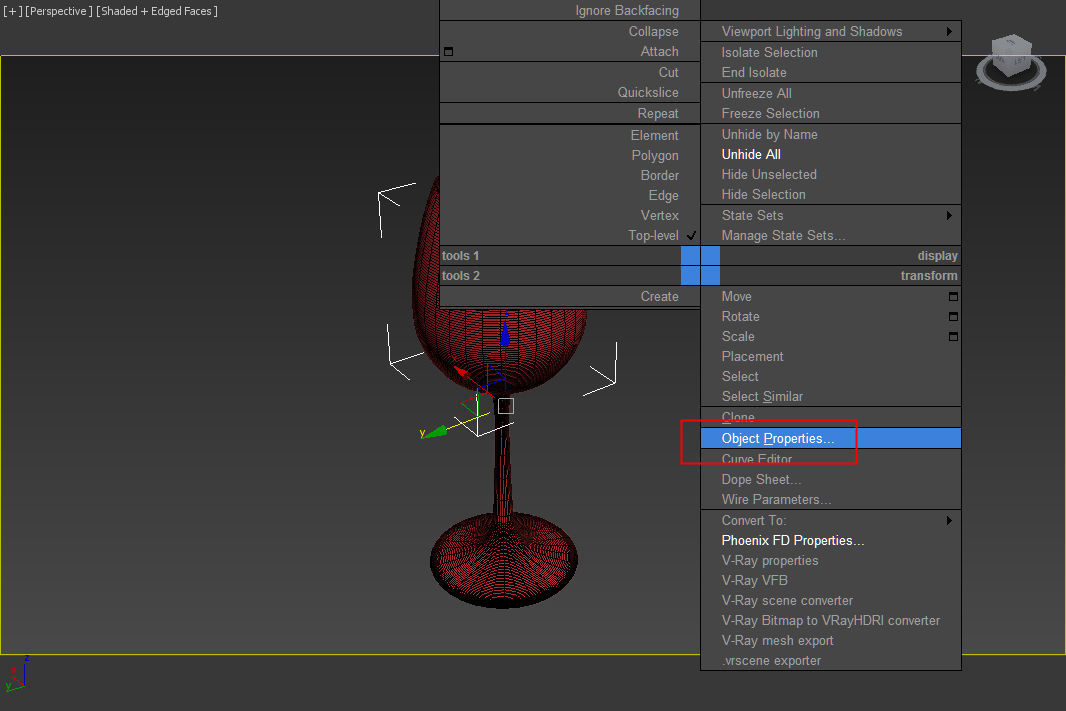


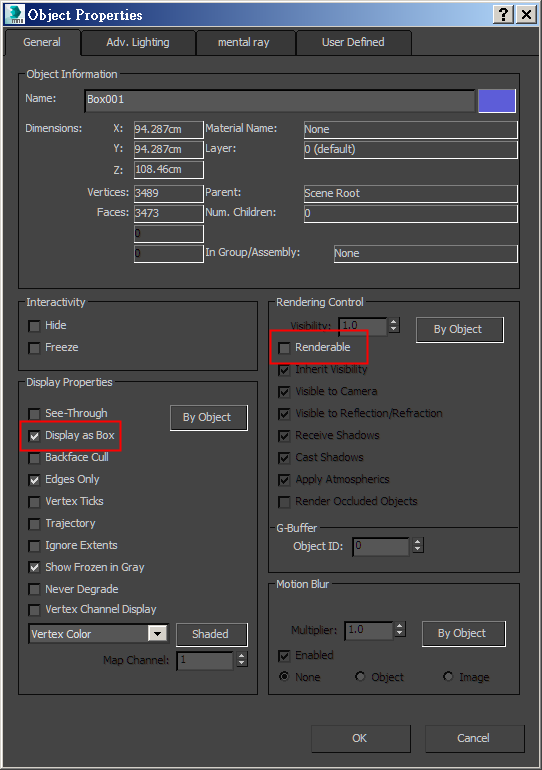
Switch Selection to "element" and select this part of the box as the arrow pointed. And delete.

And you will get this solid geometry, which can be used for liquid filled in the glass.

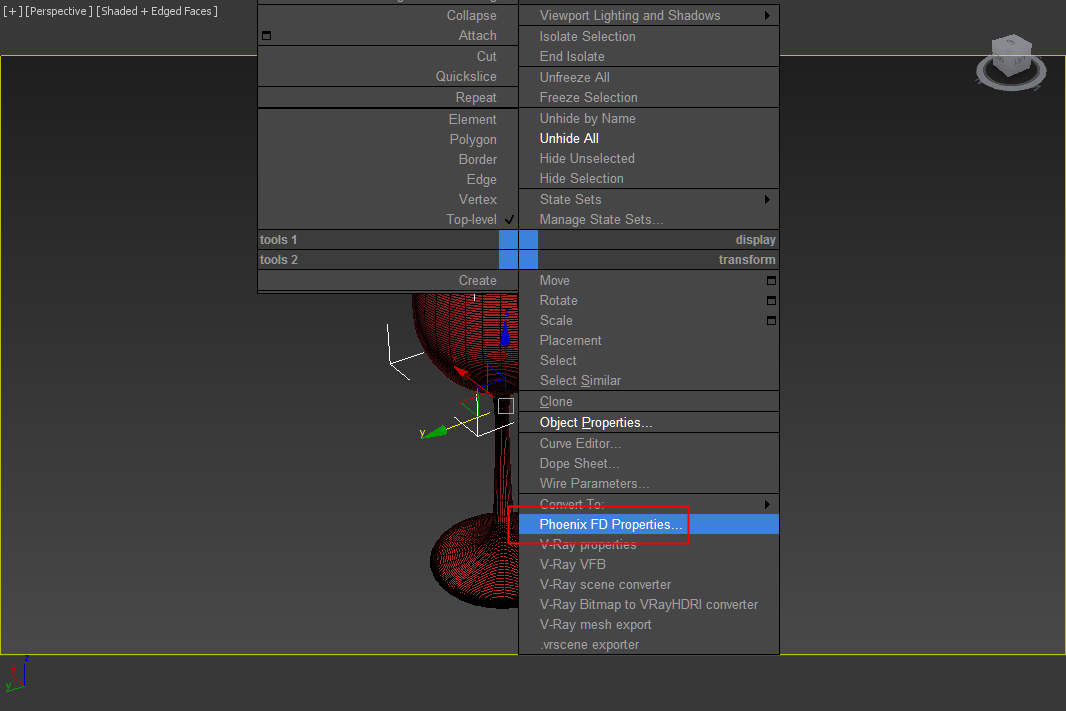
I move the geometry to aside so you can see it better. Let's rename it as "filled geometry."

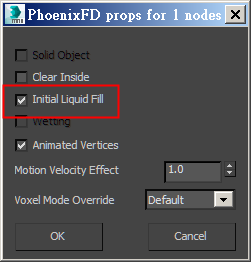
5. With filled geometry selected, right click and set it's Object Properties



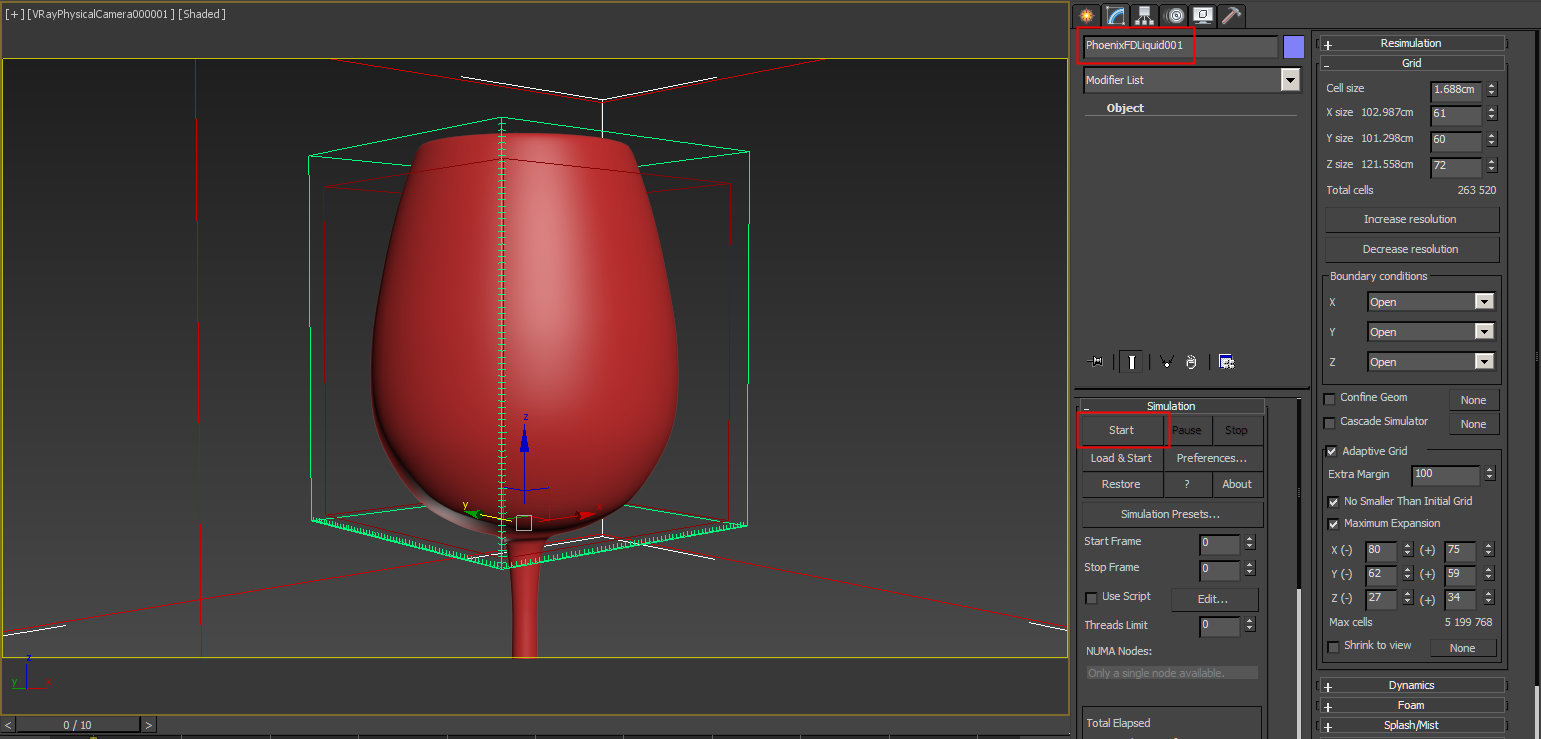
Check "Display as Box" and uncheck "Renderable."

6. With filled geometry selected, right click and Set Phoenix FD Properties



Check "Initial Liquid Fill," this will make the geometry filled with liquid at the very beginning of a simulation.

7. Now, create a PhoenixFDLiquid grid simulator and encompass your glass. Start the simulation, and you will have the glass filled with liquid.



8. This trick is especially handy when you have glass cup tilt, and you want the liquid filled and stabilized in the very beginning. Can save a lot of time, because you don't have to waste on pre-running your simulation.