3DS Max Export Procedures

The Zebra Imaging ZScape™ Preview tool typically works best with the OBJ file format, so you will need to export your model from 3DS Max with this plug-in, then drag-drop it into the HDT-C.

These procedures have been tested with 3DS Max 2011. Older versions should work in a similar manner.

For a general tutorial on exporting your data, see How to Export Data Into ZScape™ Preview.

What results when I export to the OBJ format?

There are 3 artifacts generated by the export:

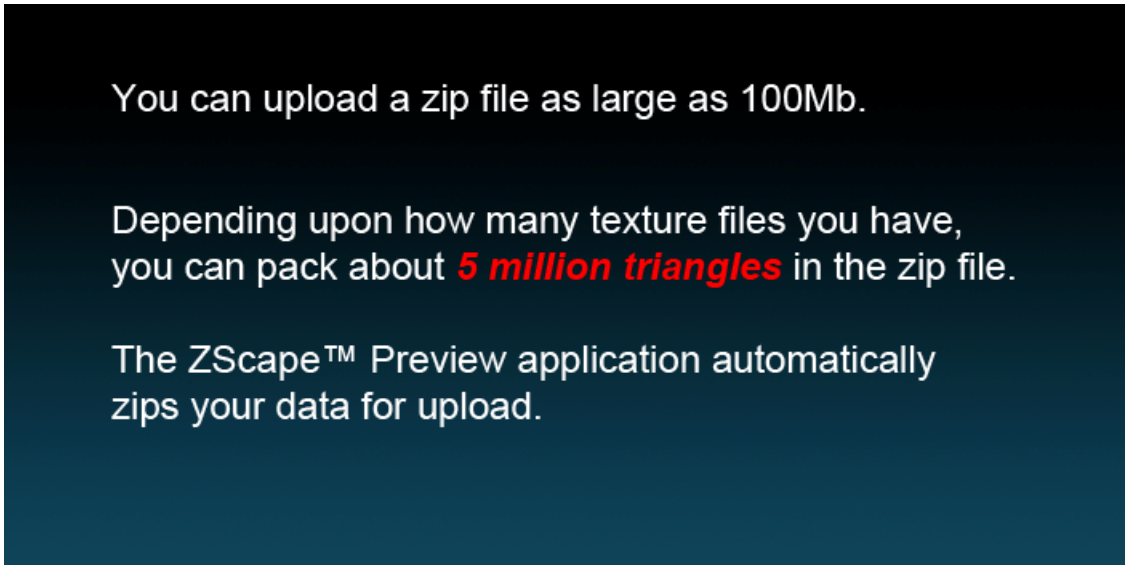
1. Geometry (OBJ file) (http://paulbourke.net/dataformats/obj/)
2. Materials (MTL file) (http://paulbourke.net/dataformats/mtl/)
3. Texture maps referenced by the MTL file.

The OBJ format does not contain any camera information and so it doesn't contain the information required to position your data within the border of the hologram. This "framing" is done with the ZScape™ Preview application.

The OBJ format also doesn't contain any lighting information, so you don't need to light your Max scene. Lighting will occur in the ZScape™ Preview application.

To improve your workflows, it is suggested that you export your model into numerous OBJ files. This way, if there are any problems, you can simply fix the OBJ file that has an issue, re-export it from Max, then drag it into ZScape™ Preview again.

ZIP file upload is limited to 100Mb in size

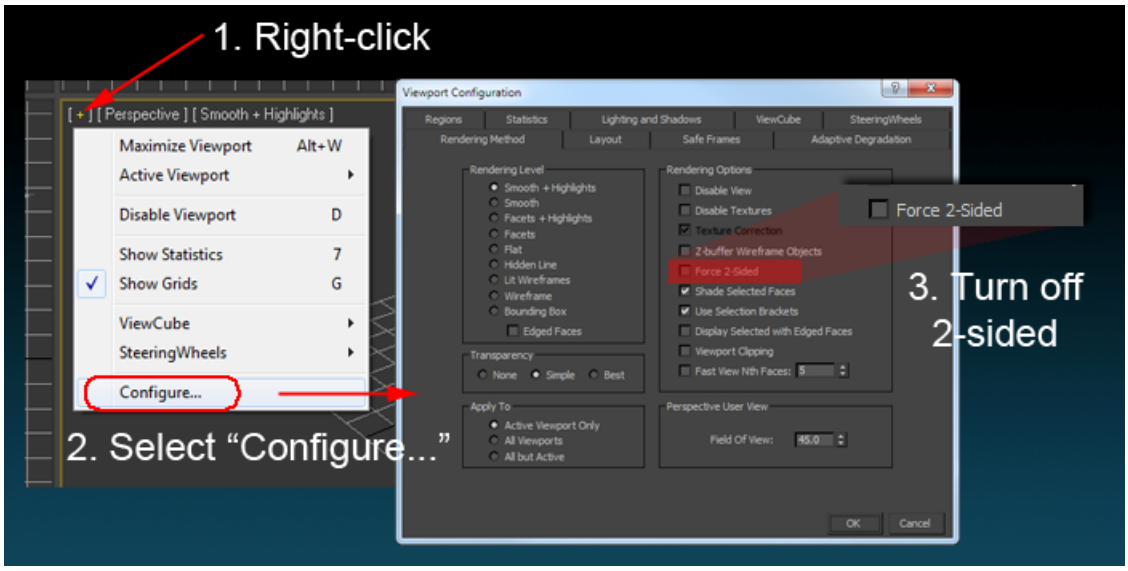


The actual hard limit is the web upload process, which will reject any ZIP file larger than 100Mb.

OBJ Size Guidelines

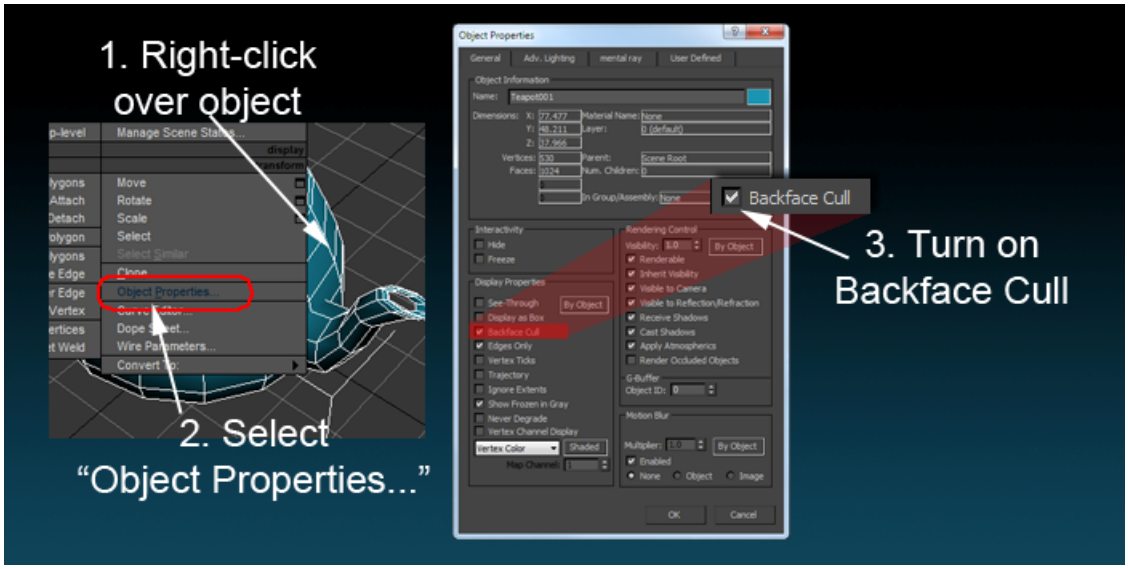
Our experience indicates the best workflow if you **keep each OBJ file below 1 million polygons**, and keep the **total polygon count below 5 Million**.

Turn global Back-face culling "on"



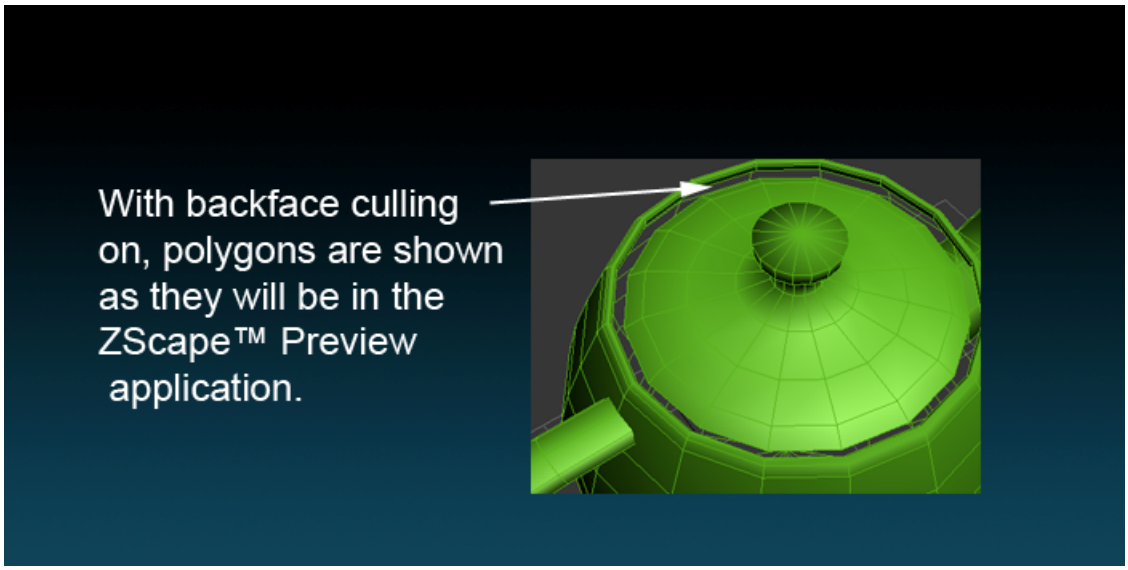
Max has 2 places within the application that can affect the backface culling display. This step takes care of the viewport configuration global setting.

Turn "Backface Cull" on for individual objects that you suspect may have problems.



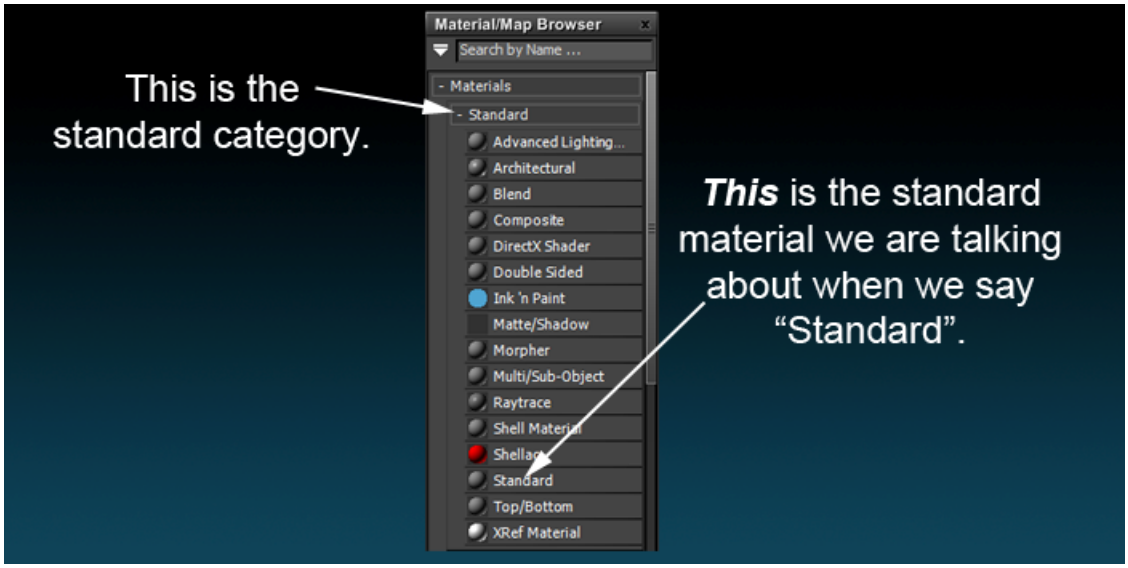
For objects that you think may have bad normals, turn on backface culling using the object properties dialog. Sometimes the only way to find out what objects have problems is to do an OBJ export "experiment" on your data set. If you see problems in the HDT-C, come back into Max to try and determine if it's just a face normal issue.

Here is what objects will look like when the backfacing polygons are hidden.



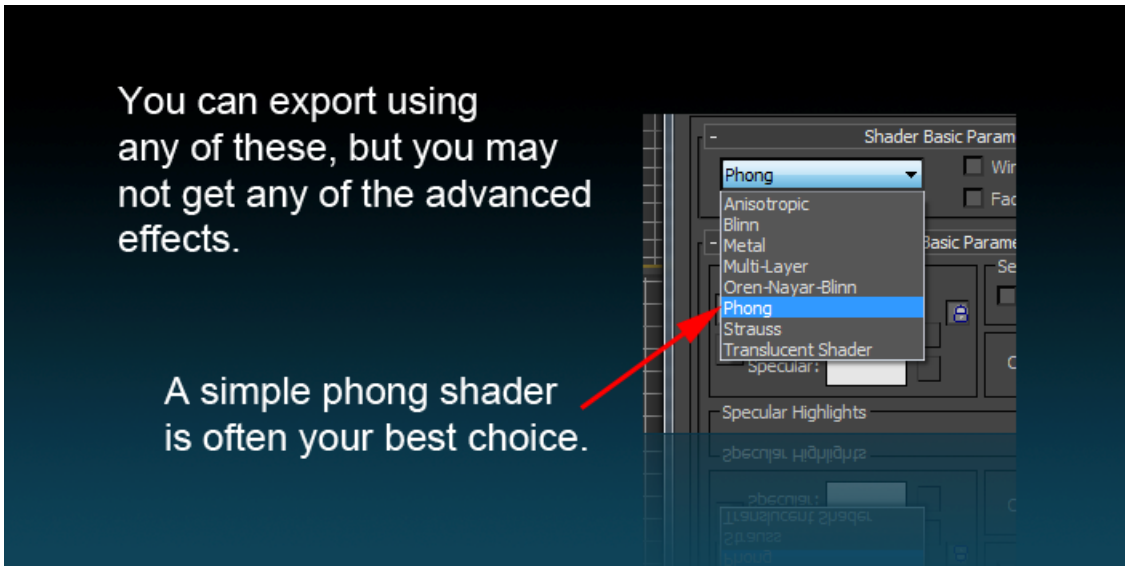
The entire point of this is to show you objects that may have normal issues.

Fix Material Issues



Use "Standard standard", not just "standard". Confused? Boy - we are too! Since this last release of Max, the idea of a "Standard" material appears to have changed. For our rendering purposes, we work best with "Standard standard" as opposed to "Standard Architectural, or "Standard Raytrace". OBJ only exports simple material properties, so the more advanced "standard" materials won't export well.

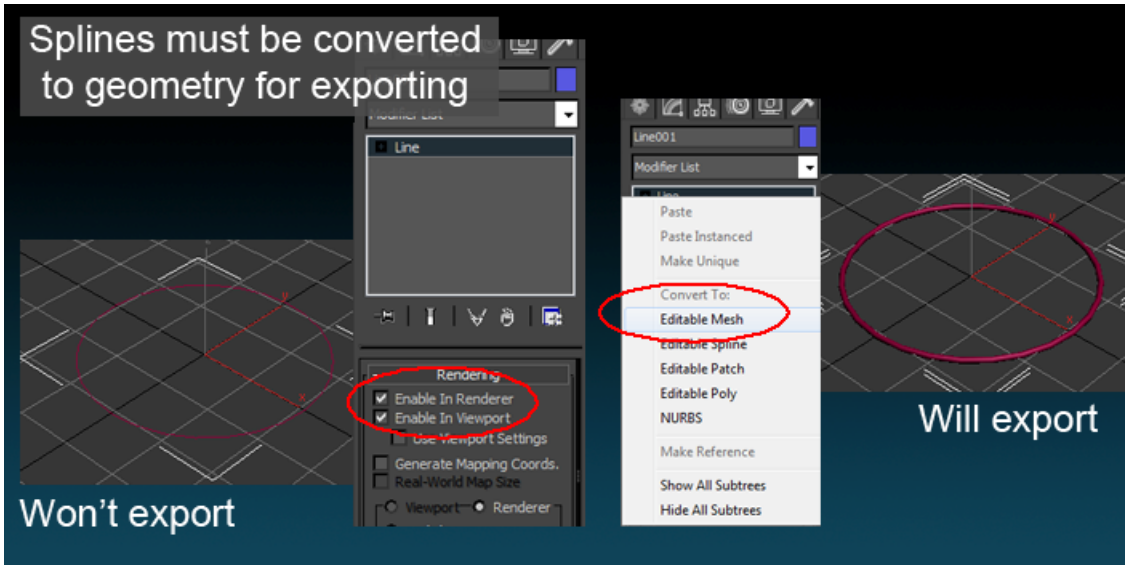
More information on material types



Plan to use fairly basic parameters of a diffuse/ambient color, transparency, basic specularity and texture maps. The OBJ material format is an older specification which maps to the Phong shader fairly well.

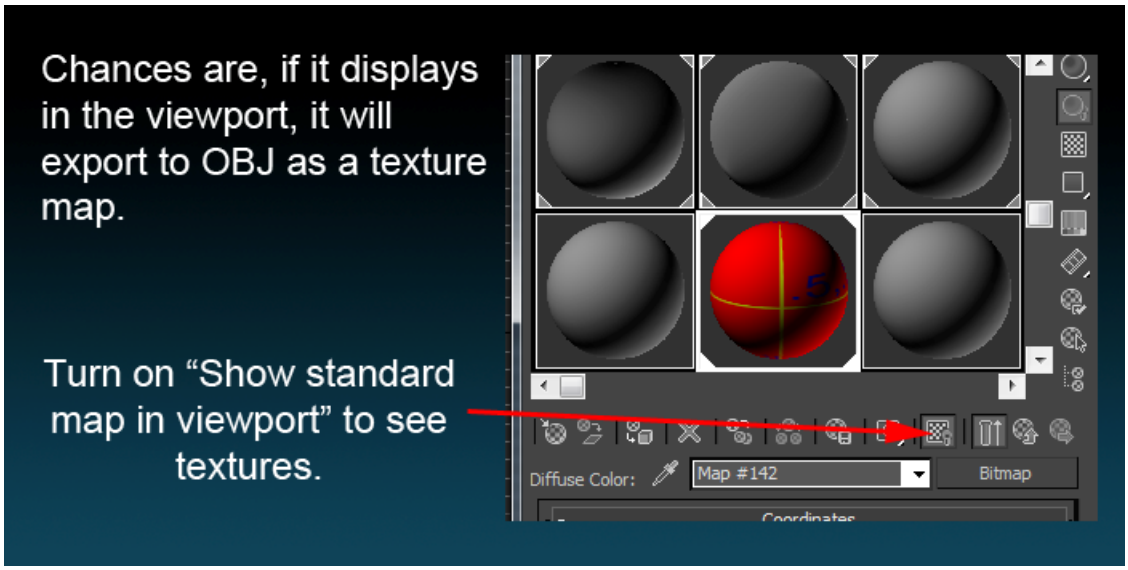
You can also bake in lighting if you wish - just remember that reflections are viewpoint dependant and won't look correct if baked.

Splines will only Export properly as Geometry



Splines will export as just vertices, which our tools currently will not render. To get polygons, select both "Enable In Renderer" and "Enable In Viewport", then convert it to an Editable Mesh. It will then export as geometry that is visible in ZScape™ Preview.

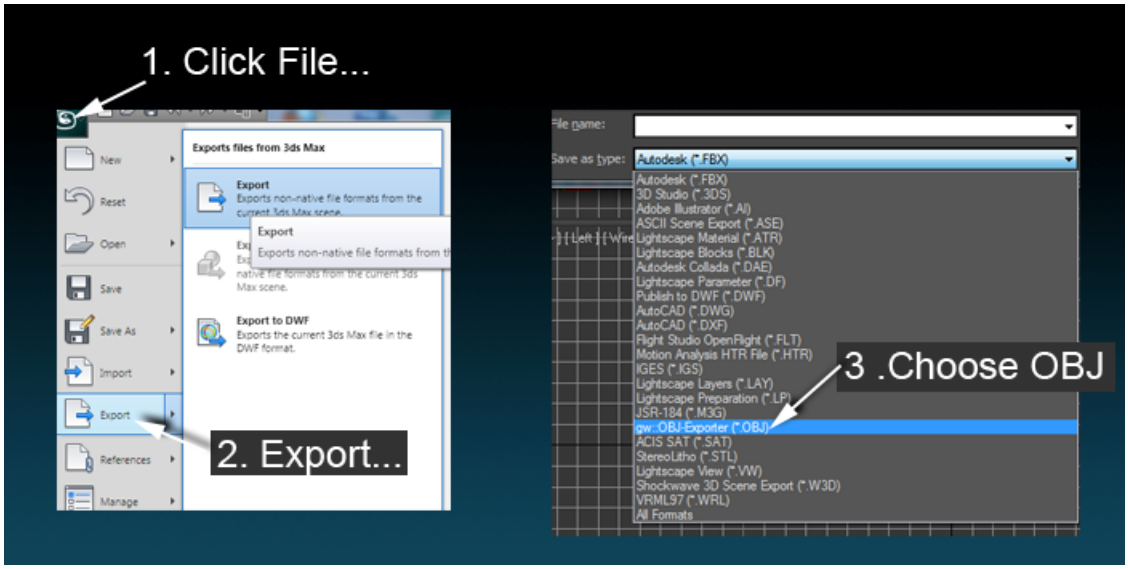
Set Max to display textures in the viewports (optional)



You don't have to set up these settings, but if you notice that your having geometry trouble in ZScape™ Preview, then you can set these up to diagnose the problem.

For Max, you will need to turn on "Show standard maps in viewports" (in the Material Editor) to see textures.

Open the OBJ Export Dialog

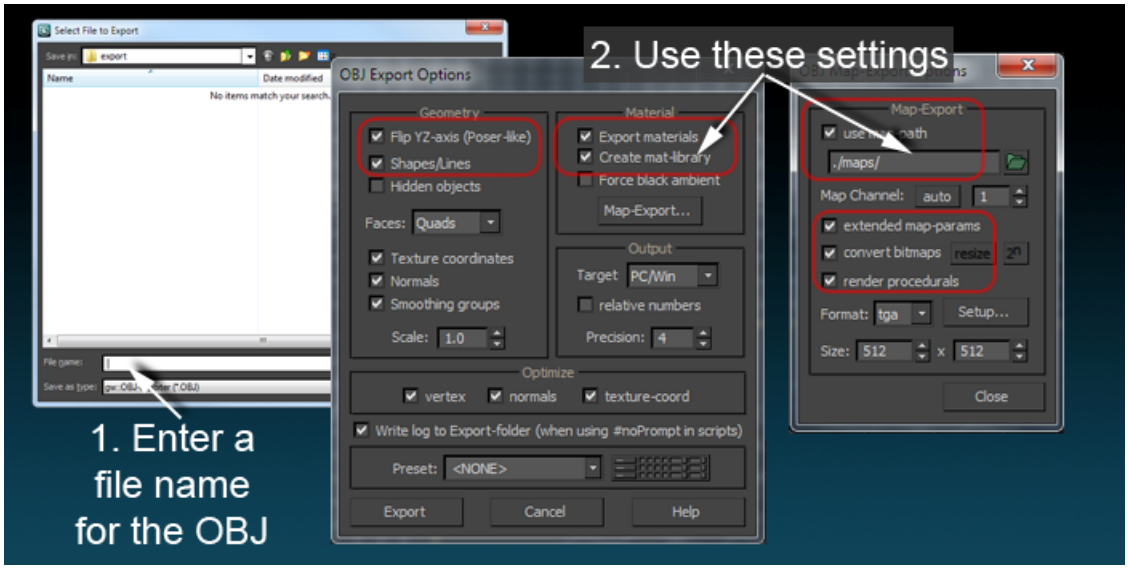


Use a “divide and conquer” approach. If you have a large model, consider exporting in pieces into multiple OBJ files. This is also helpful in case the export fails and you want to tweak a section of the model you won’t have to export the entire model again, just the part you are having trouble with.

Instead of using File->Export as shown, you can use File->Export Selected if you decide to use multiple OBJ files.

Exporting each material in separate OBJ files is often a reliable approach. This way, once you get a material looking correct, all geometry using that material will normally be correct.

Set OBJ export dialog settings



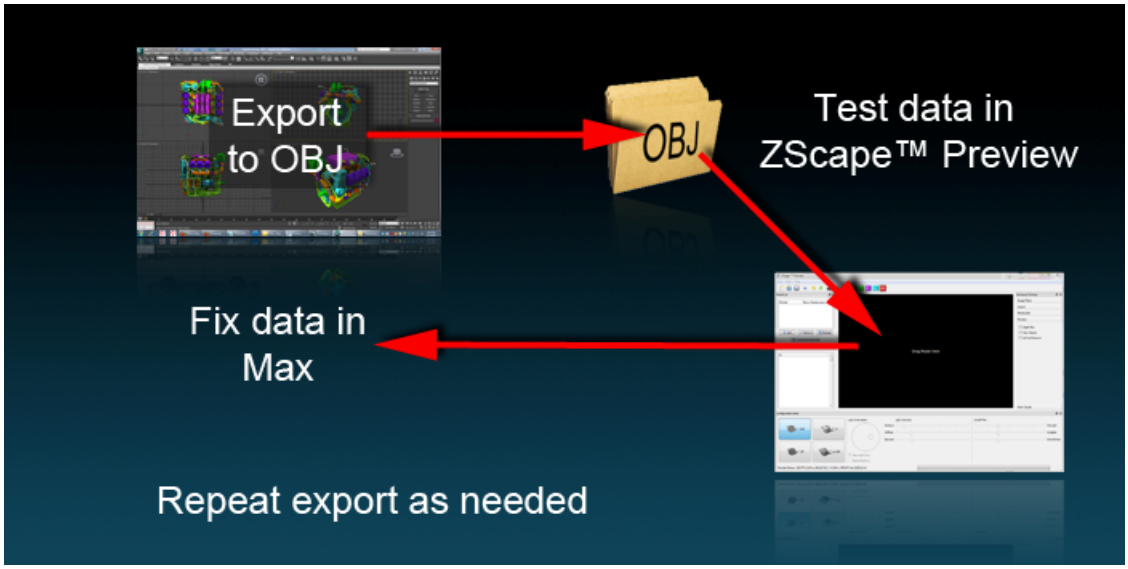
Here are the settings to use for the dialog box. See the Max documentation for what they all mean.

This will create a master folder that will contain an object (.OBJ) file , a material (.MTL) file, and a folder called 'maps' which should contain all the textures used on the object. These textures will be referenced by the material file that was exported.

Check the results of the exported data

Using ZScape™ Preview, simply drag/drop the OBJ files into the tool and observe the result. You will need to turn on lighting to see most effects.

Repeat the export as needed



For objects that still have issues, fix the issue and re-export from Max.

Once you get something reasonable in ZScape™ Preview, you are ready to proceed to the "Using ZScape™ Preview".