

ARCH VIZ ARTIST SCENE OPTIMIZATION

———— by Black Balance ————

IMPROVE YOUR
3DS MAX WORKFLOW



INTRODUCTION

Hello, and welcome to the e-book: “Arch Viz Artist - Scene Optimization”.

Presumably, you are a 3d artist and sometimes you have problems in rendering your scene, 3ds max crashes when you hit the render button, the software viewport is laggy, you feel that the parameters of your computer are not good enough, and your RAM usage is going too high...

We have GOOD NEWS for you!

There are still some things you can do to make it work better for you. These are the methods that every 3d artist should know and use. Optimizing your scene should become your habit as it can save you a lot of time regardless how good a computer you have.

Stop wasting your time because you will never get it back...

We present you 15 great methods which we'll improve your workflow and help you with optimizing your scene. After implementing these methods you will become a more productive artist and you will gain a lot of time.

And it will be YOUR choice how you will spend this!

Don't let the coincidence decide for you.

So let's dive in!

AGA & ADAM



ABOUT AUTHORS

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Black Balance Studio

NUMEROUS JOURNEYS AND EXTENSIVE EXPERIENCE GAINED IN AUSTRALIA, THE UNITED STATES AND EUROPE HAVE SHAPED OUR VIEW OF THE WORLD, GAVE A HUGE DOSE OF INSPIRATION AND DRIVEN US TO ACTION. WE FOUNDED BLACK BALANCE STUDIO WITH PASSION FOR CREATING, EVOKING EMOTIONS AND CREATING VALUE. THE PERSONALITIES, THAT COMPLEMENTED EACH OTHER, FORM OUR TEAM IN ORDER TO MEET YOUR EXPECTATIONS IN THE BEST WAY.

WE TRULY BELIEVE THAT THE GREAT SKILL SET CAN TAKE EACH ARTIST TO THE NEXT LEVEL. THAT IS WHY WE DECIDED TO SHARE THE KNOWLEDGE WE HAVE LEARNT OVER THE YEARS TO HELP ARTISTS LIKE WE IMPROVING THEIR SKILLS.

DURING THIS TIME, WE HAVE GAINED A LOT OF EXPERIENCE, WE HAD BEEN ABLE TO WORK OUT SOME GREAT METHODS WHICH GIVES US POSSIBILITY TO CREATE IMAGES IN THE MOST EFFECTIVE WAY.



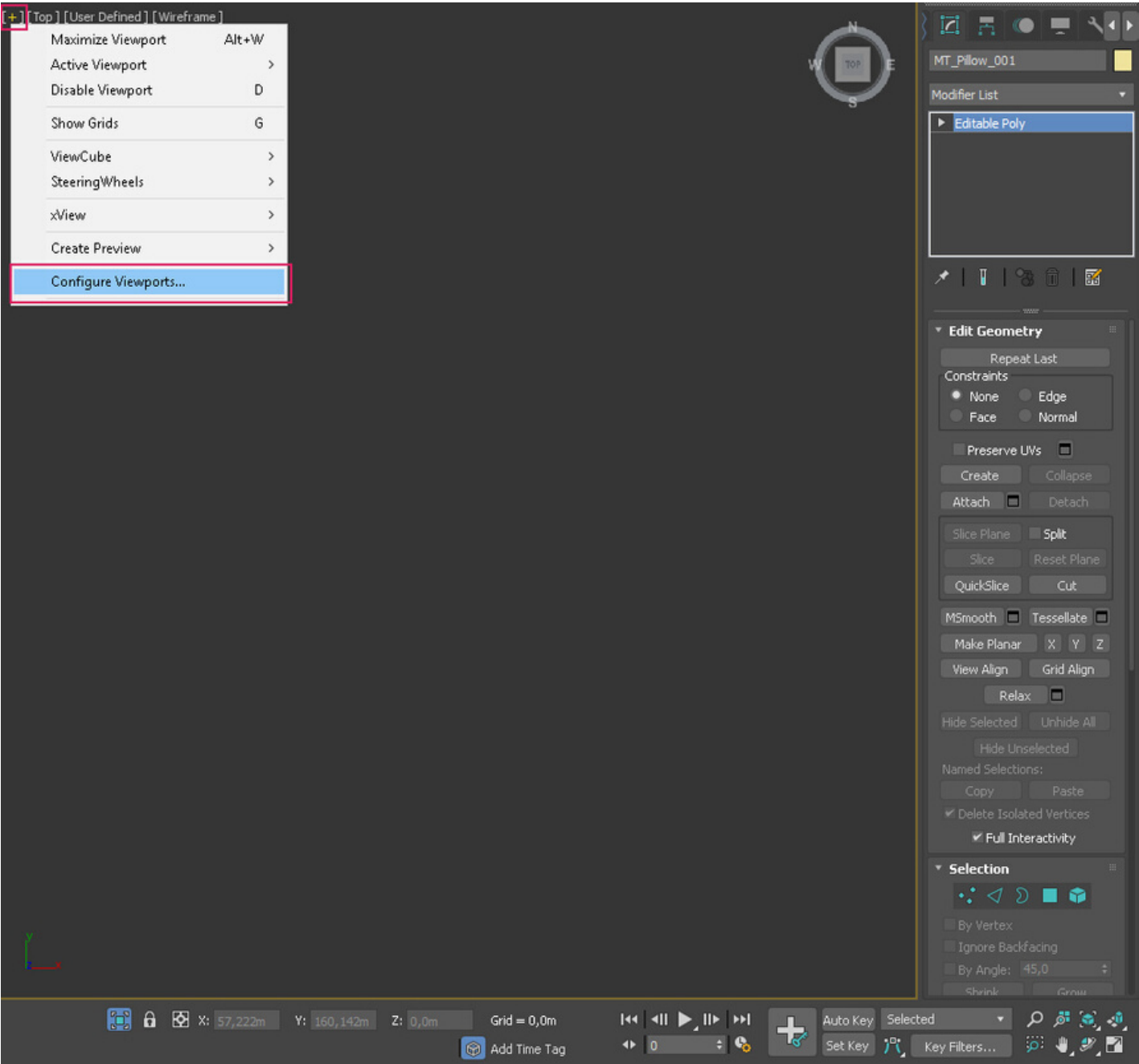
**OPTIMIZE
YOUR SCENE...**

**... AND GAIN
MORE TIME!**

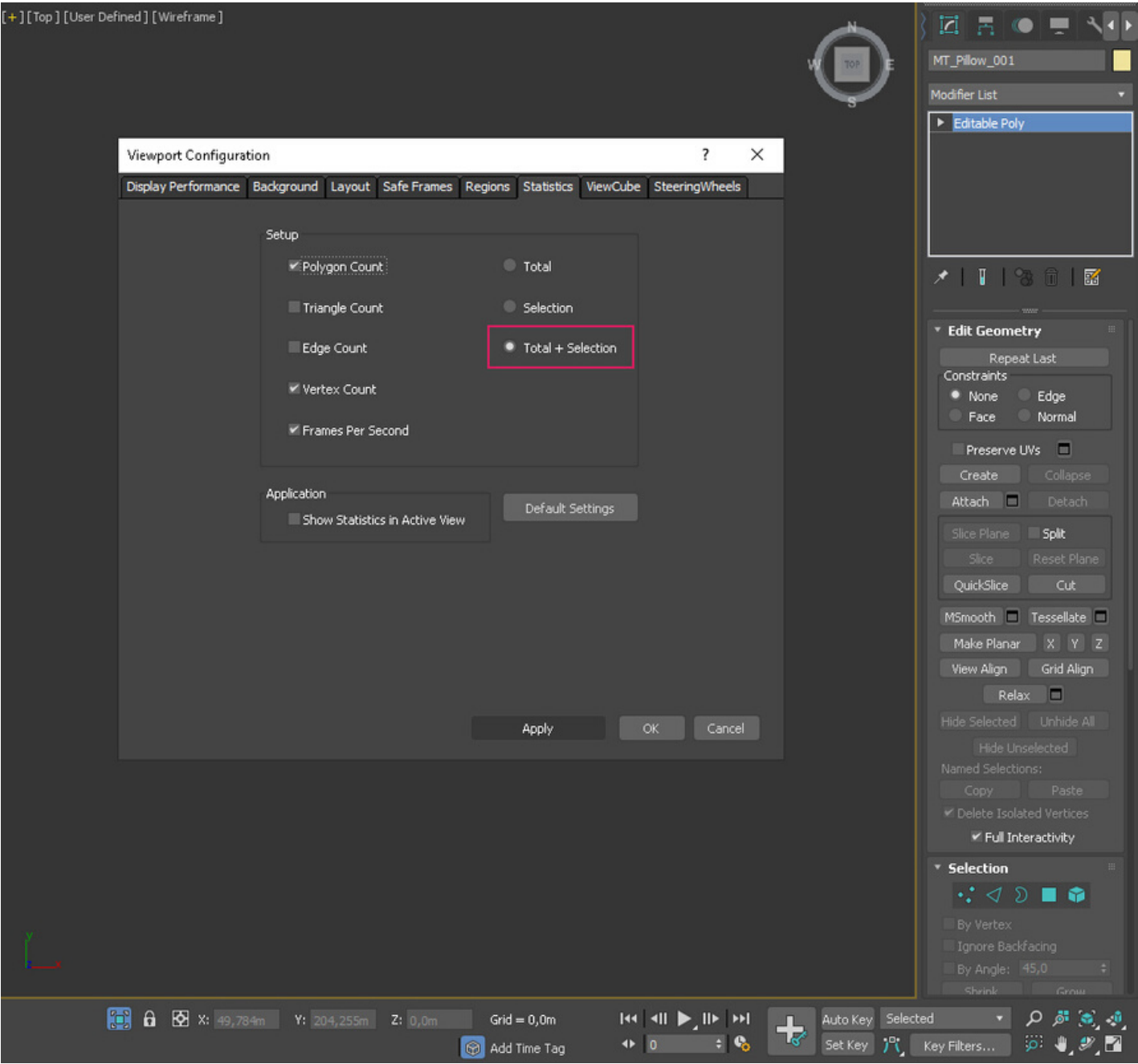
HOW TO OPTIMIZE SCENES?

These are the good habits not only for 3d artists dealing with the problem of not having a good enough computer.

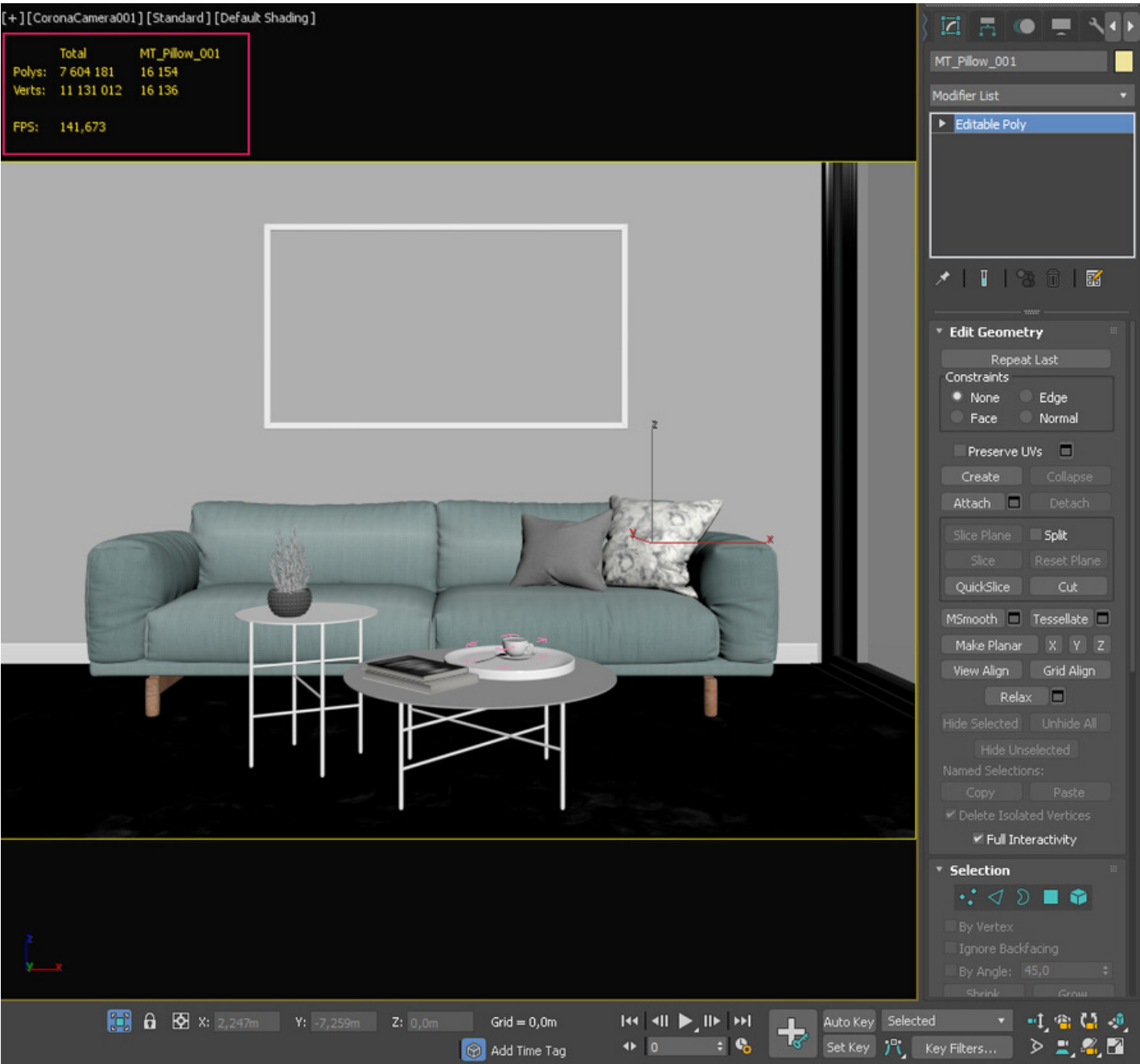
- **TURN ON AND CONTROL POLYGON COUNT STATISTICS.**



STEP 1 - Go to 'Configure Viewports...!.



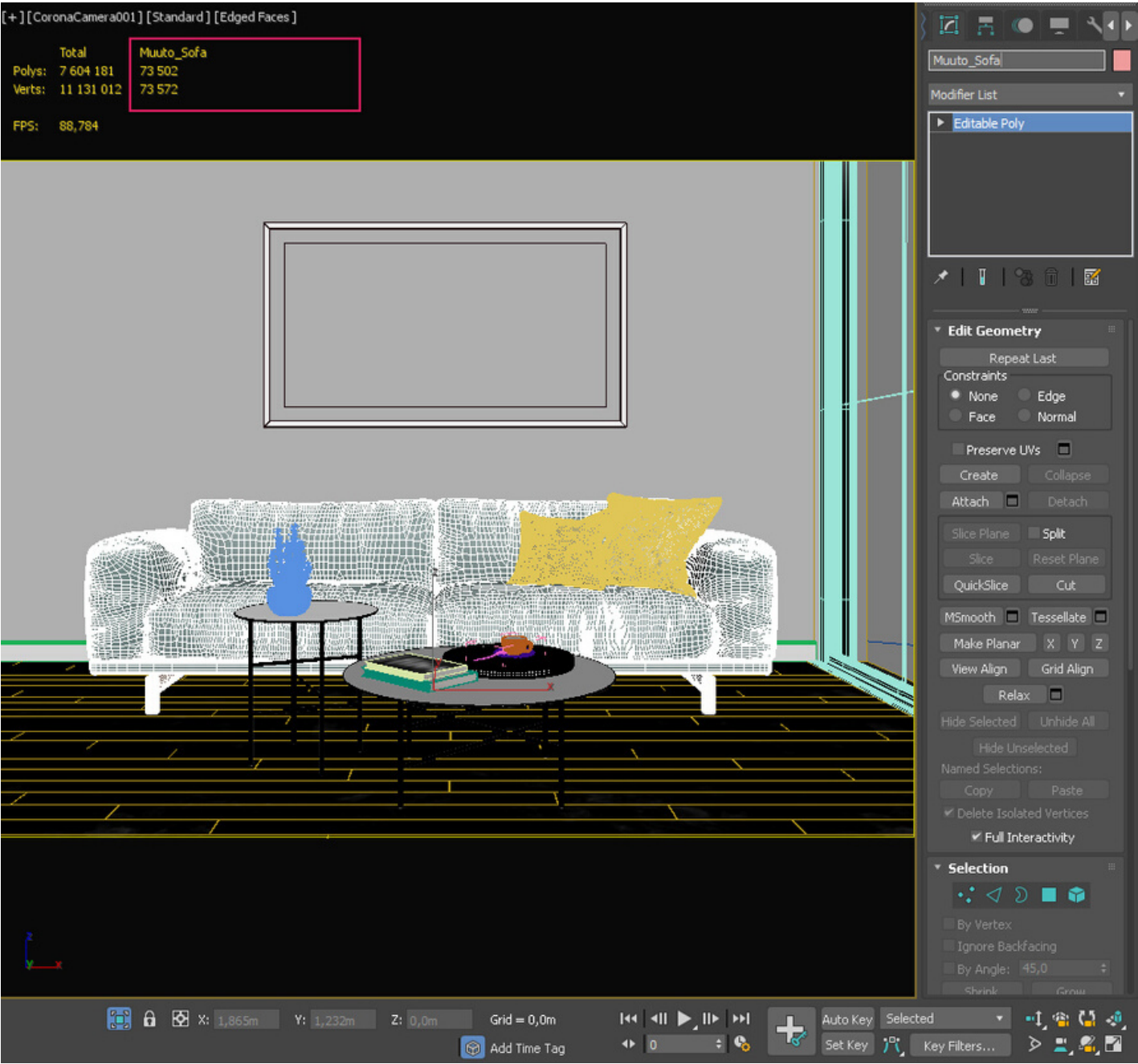
STEP 2 - Choose proper options.



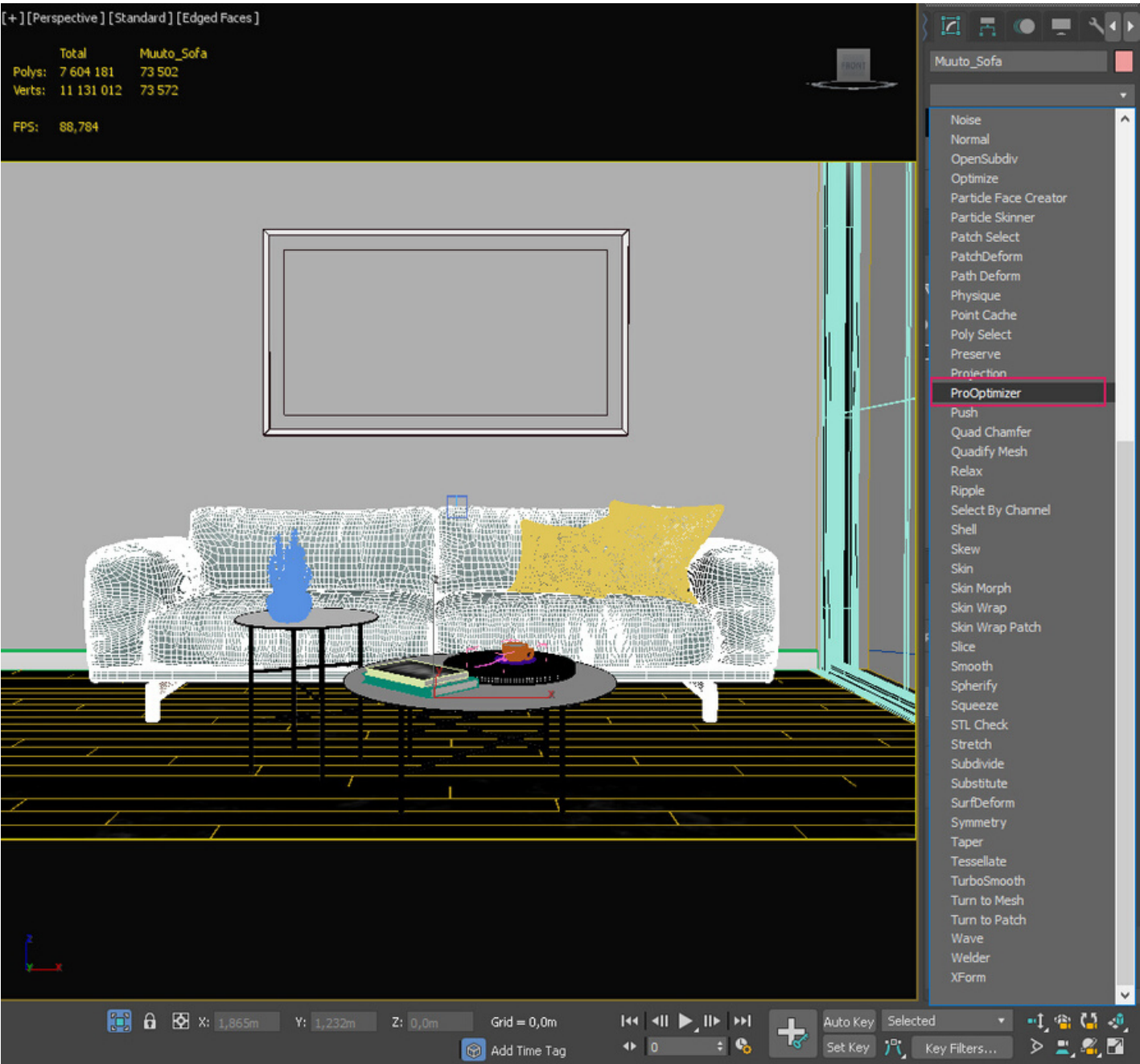
STEP 3 - Control your statistics.

• USE 3D MAX OPTIMIZING MODIFIERS

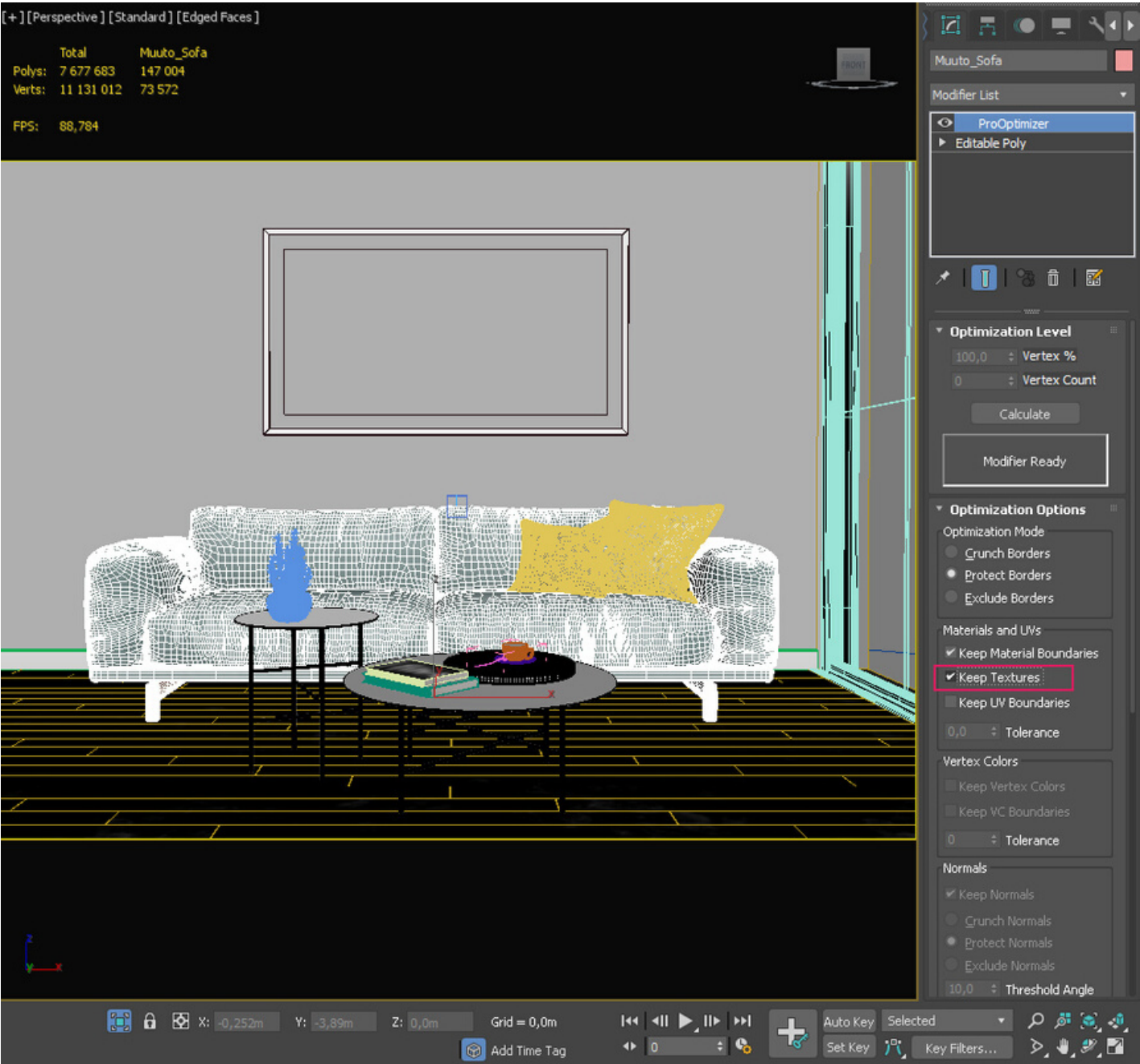
They can quickly reduce the number of polys in your model, but they might deform its shape. So you need to be careful with this. We use f.ex. ProOptimizer Modifier.



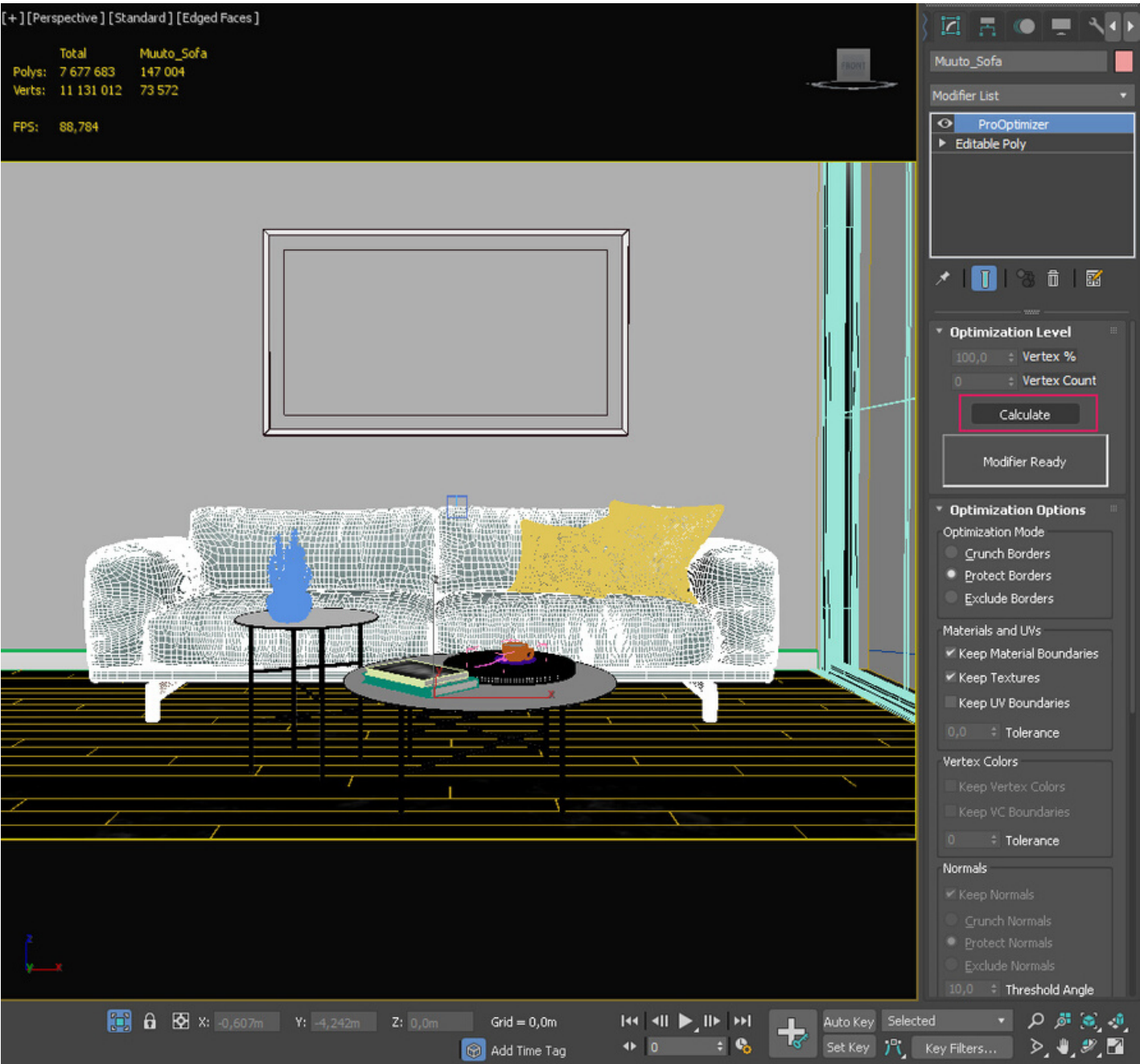
STEP 1 - Check the statistics of model.



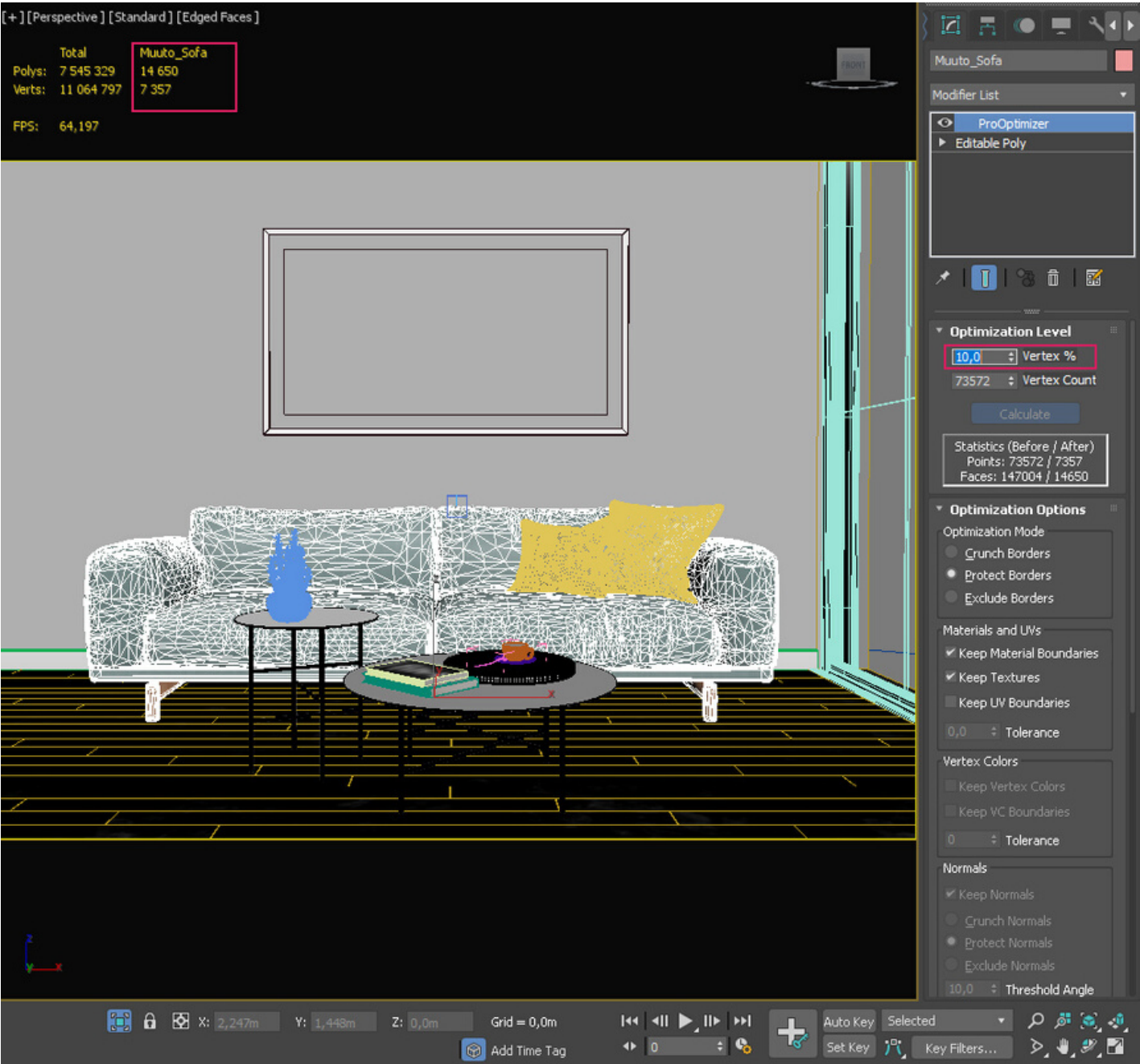
STEP 2 - Choose ProOptimizer Modifier.



STEP 3 - Check 'Keep Textures'.



STEP 4 - Click 'Calculate'.



STEP 5 - Change the value of 'Vertex %' and watch the statistics of the model.

- **DON'T USE HEAVY MODELS WHICH ARE FAR AWAY.**

A lot of times, there is no need to use high-poly models if they are not close to the camera. Mostly, low quality models will be good enough in this case.

- **DELETE ALL ASSETS WHICH ARE NOT VISIBLE IN THE CAMERA VIEW.**

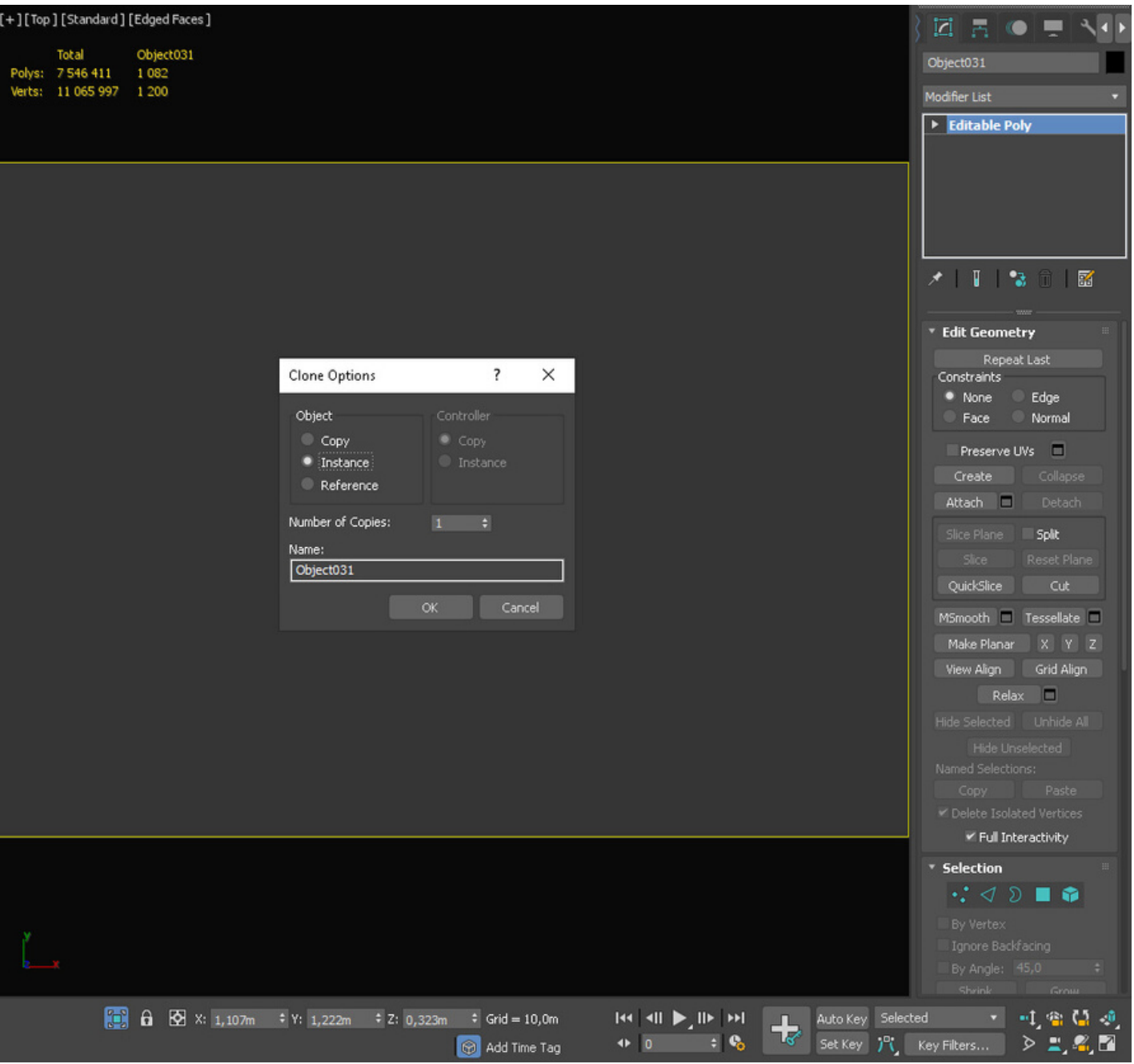
It also includes models on hidden layers, blueprints used for modelling, and imported CAD drawings etc.

- **CONVERT MODELS TO PROXIES, IF YOU CAN.**

Proxies are useful for keeping smooth viewport performance while handling large amounts of high-poly objects in the scene. They also make your scene files smaller, by storing the proxy objects in other locations.

- **USE INSTANCES INSTEAD OF COPIES, IF YOU CAN.**

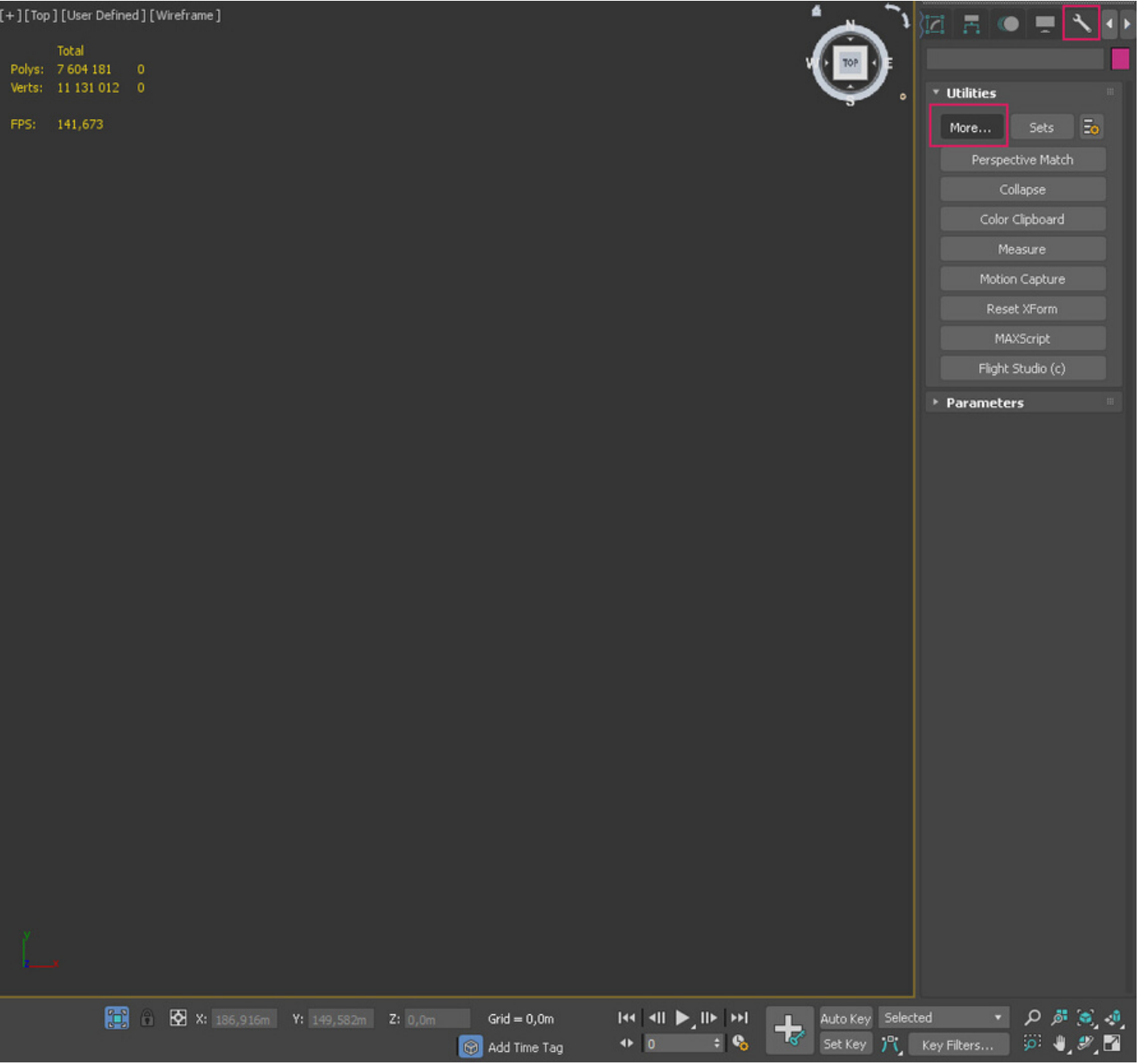
If you have many identical objects in the scene, use instances. This way 3ds Max saves memory when constantly drawing these objects in the viewports.



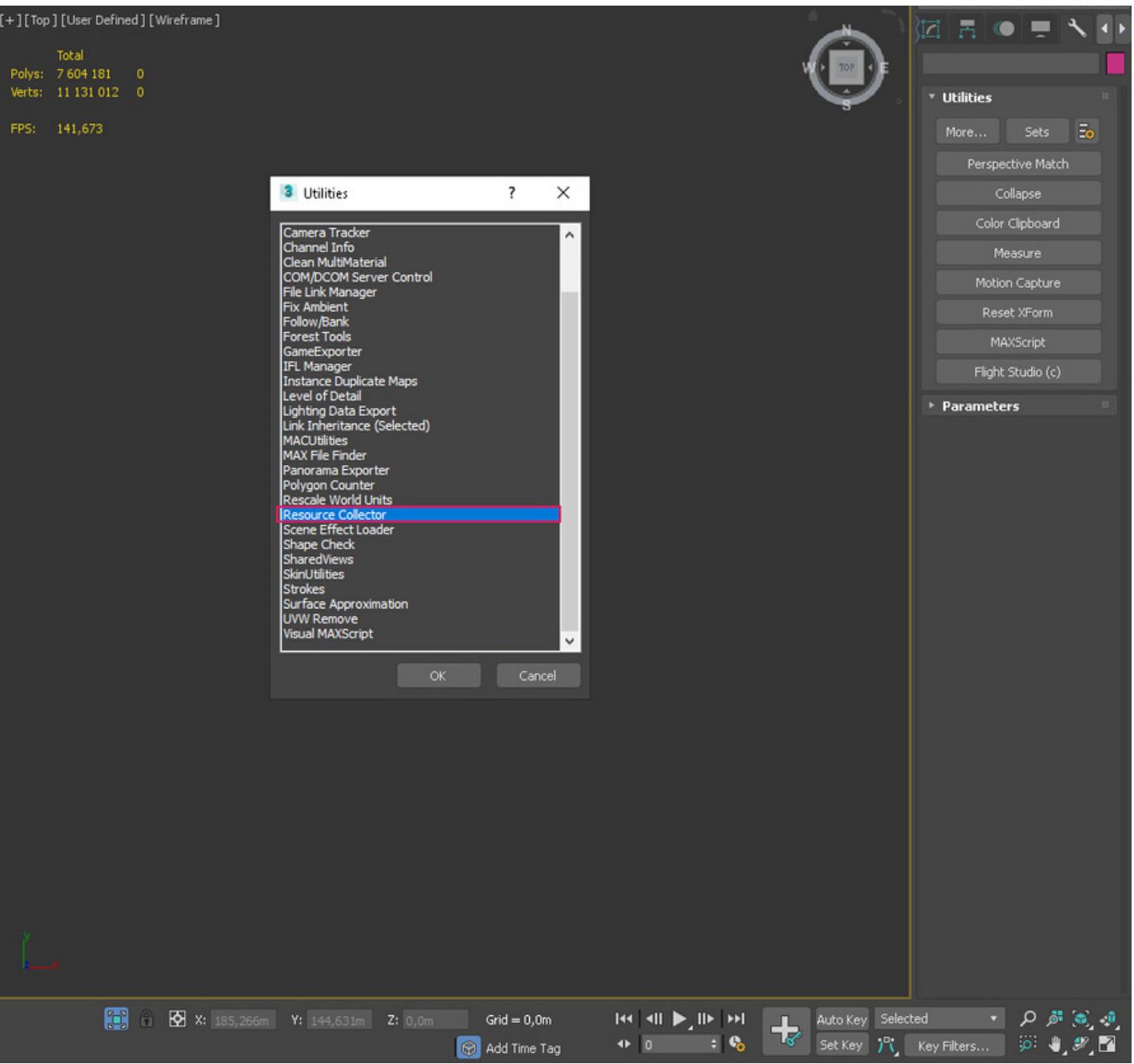
STEP - Choose instance.

- **OPTIMIZE THE SIZE OF MAPS.**

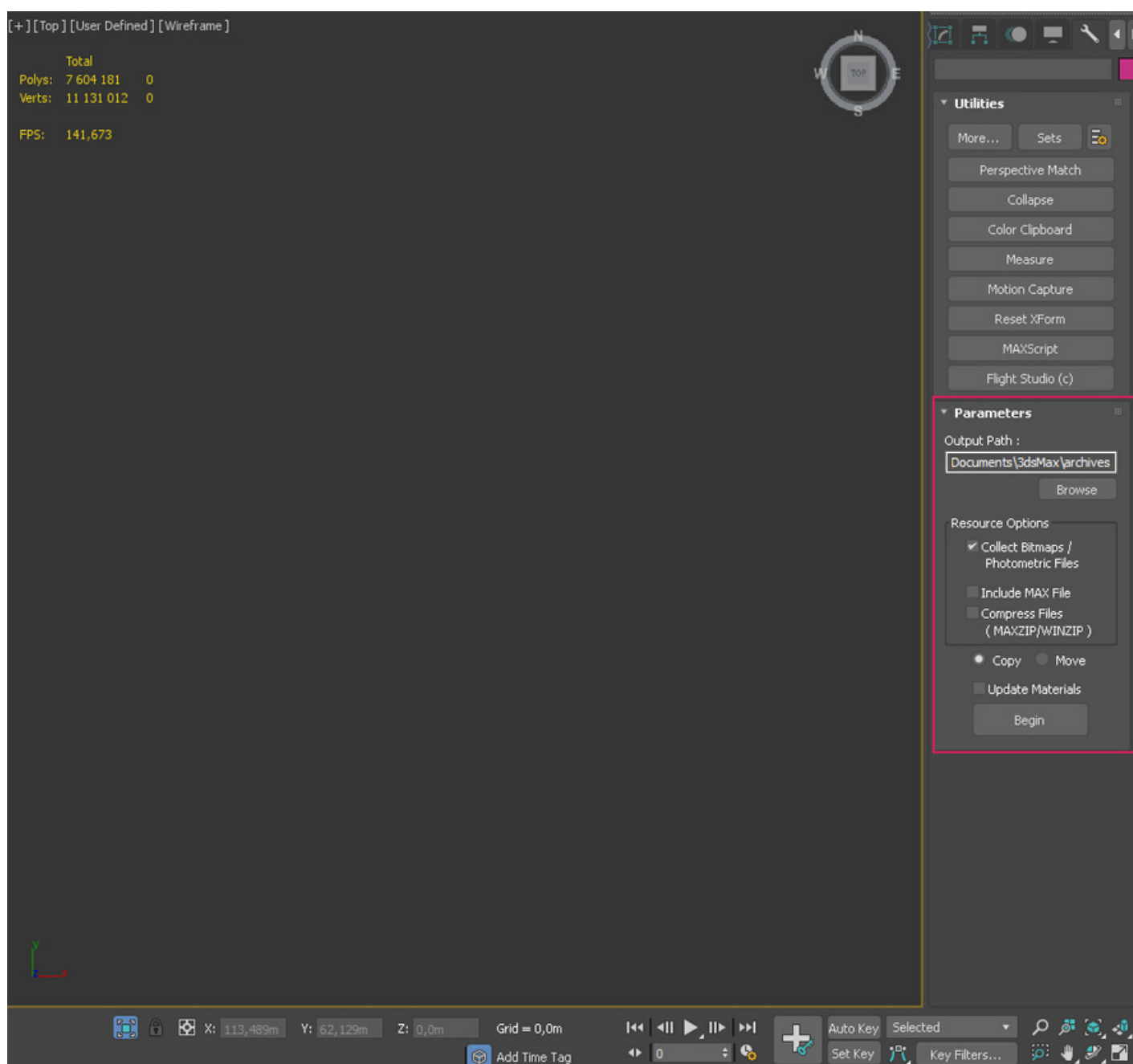
If you don't have any third-party manager which can manage your file assets, you can use the Resource Collector feature to collect all scene assets, such as bitmaps, to a single project folder. Then, you can easily resize all of maps from this folder.



STEP 1 - Go to 'Utilities' in Command Panel



STEP 2 - Choose 'Resource Collector'.



STEP 3 - Choose the output path.

- **USE LOW-RES MAPS FOR THE MODELS WHICH ARE FAR AWAY FROM A CAMERA**

Reduce size of the maps for the models which are not close to the camera. Most of the times, you won't see the difference.

- **USE .JPG OR .TIFF FORMAT INSTEAD OF .PNG OR .PSD FILES, IF YOU CAN.**

- **REMOVE DISPLACEMENT MAPS WHEN POSSIBLE.**

Remove Displacement maps and use higher-res geometry, Bump or Normal Bump maps instead. Displacement maps will increase render times greatly.

- **DON'T GROUP ELEMENTS, IF YOU CAN.**

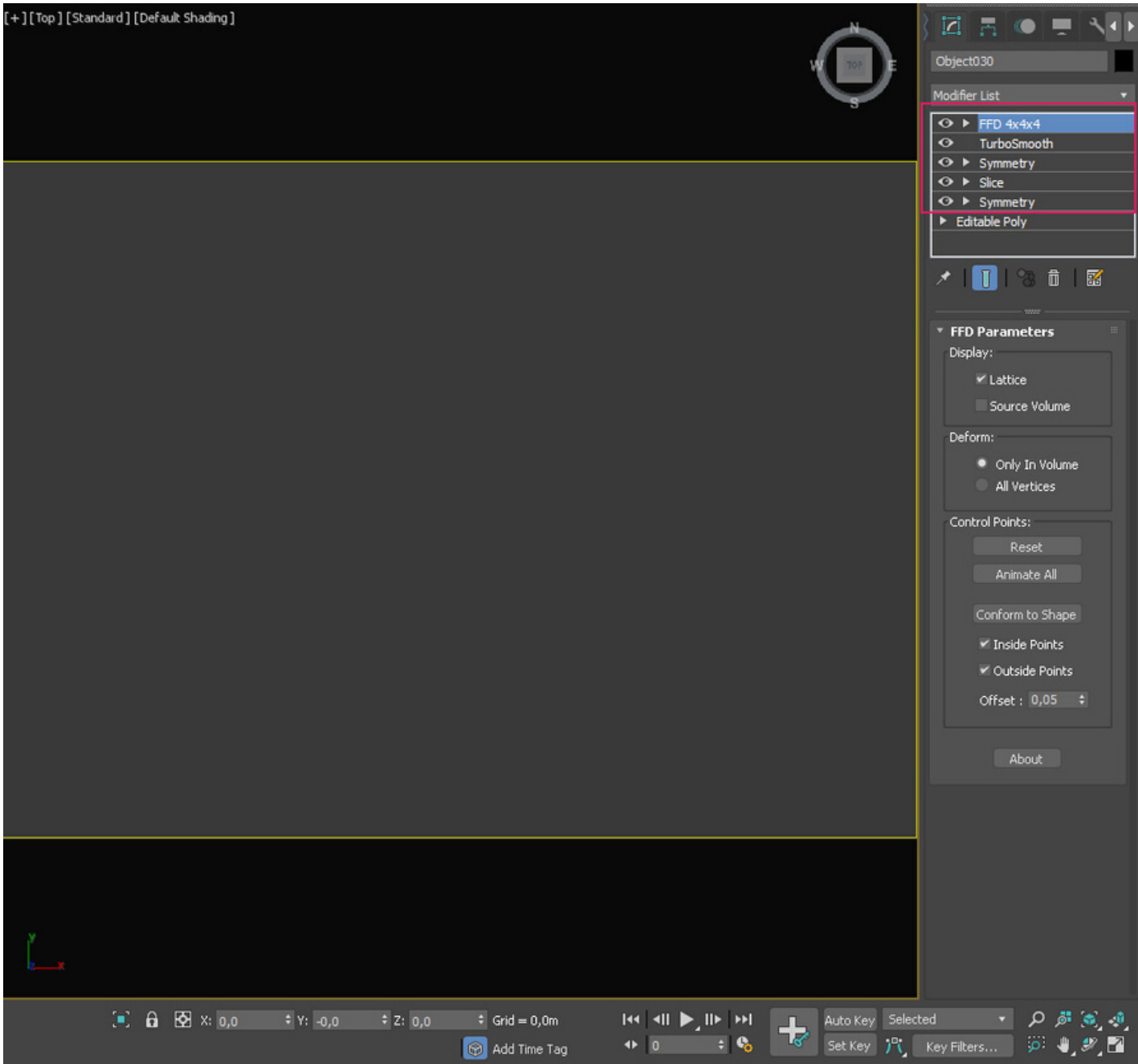
Limit the number of groups within a scene file, instead attach elements to one object.

- **BE CAREFUL WITH OBJECTS IMPORTED FROM DIFFERENT SOFTWARE**

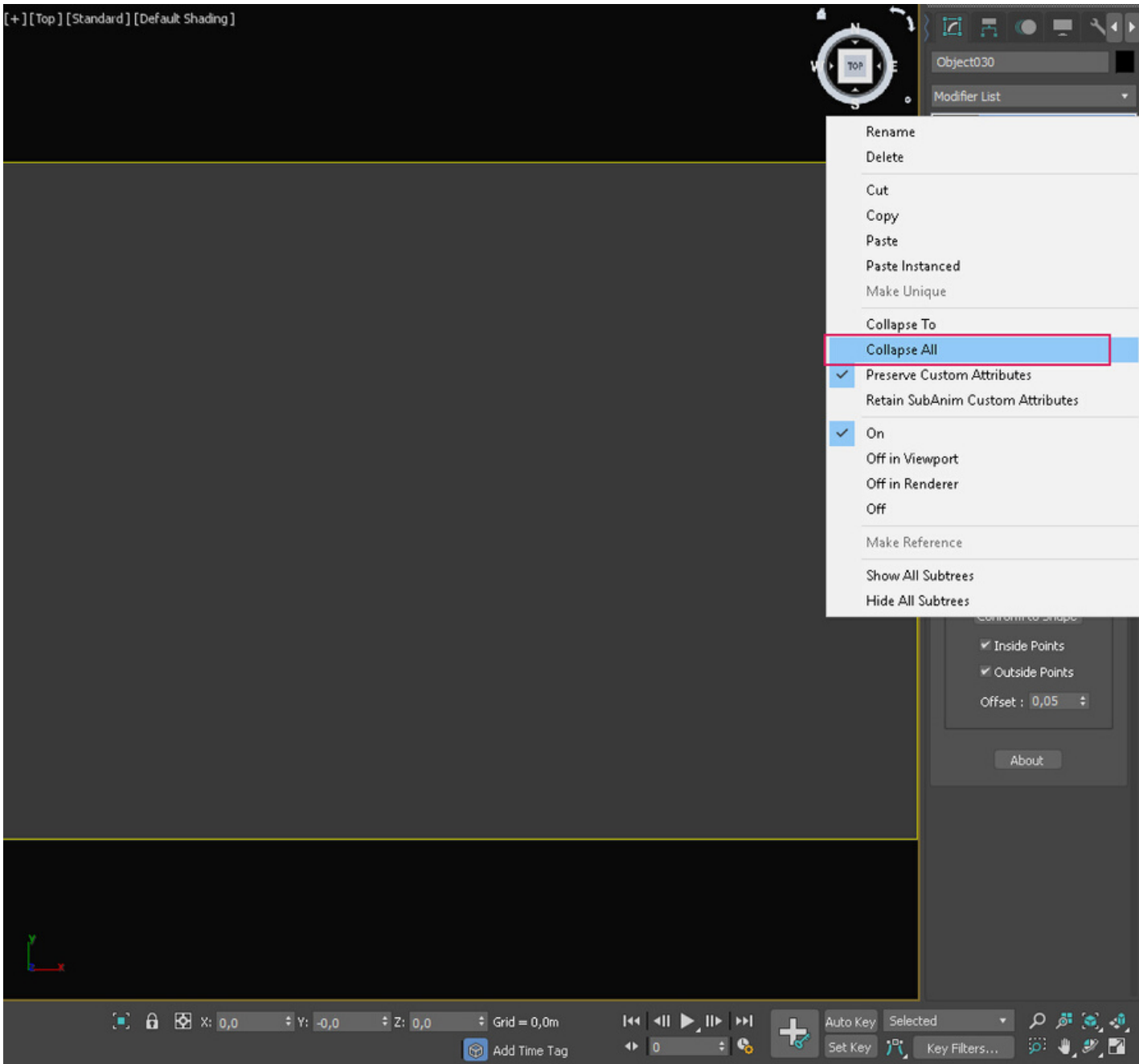
Object imported from different software can cause a lot of unexpected issues, always try to check it and optimize first!

- **COLLAPSE MODIFIERS, IF YOU CAN.**

F.ex. three modifiers make the object 3 x "heavier" in terms of memory and scene calculations.
So if you don't need to edit the object, collapse all modifiers.



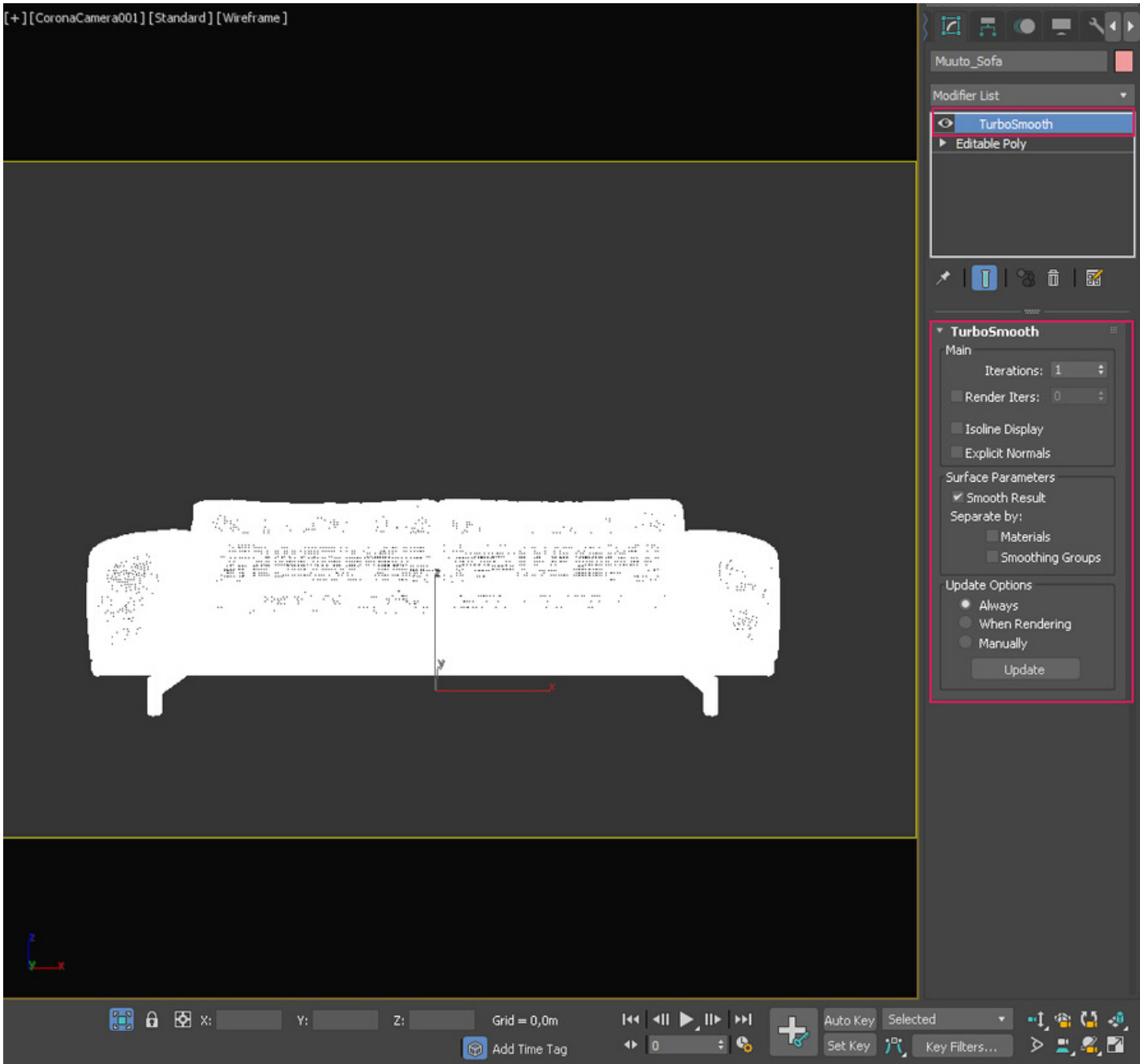
STEP 1 - Control the number of modifiers.



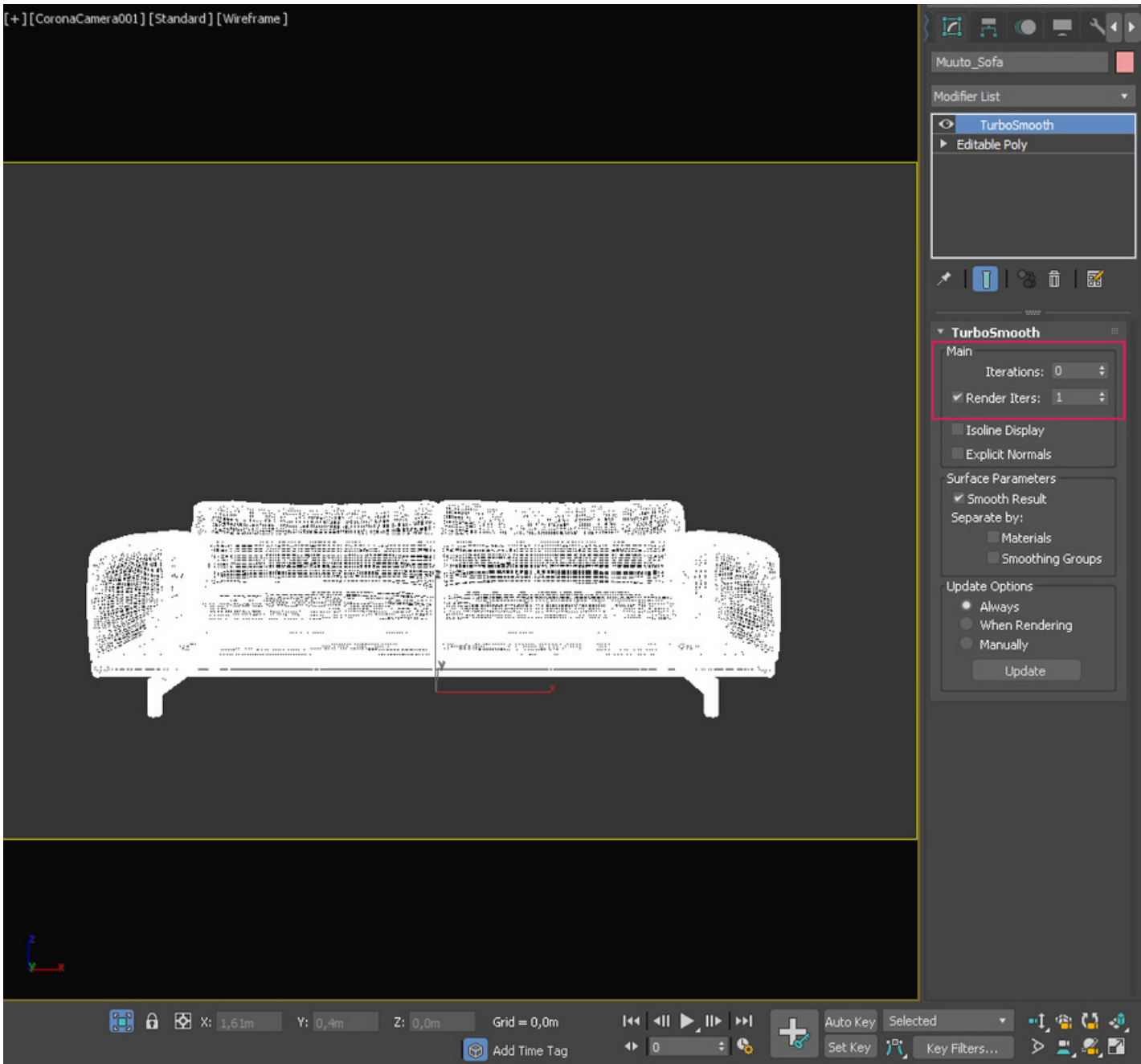
STEP 2 - Right click and 'Collapse All'.

- **OPTIMIZE TURBO SMOOTH MODIFIER IN THE VIEWPORT**

You can make your 3ds max preview to work faster if you reduce the 'visible in the viewport' interactions to '0'. Enable 'Render Inters' and choose the correct value. This way, you won't see the TurboSmooth effect in the viewport but it will still be rendered.



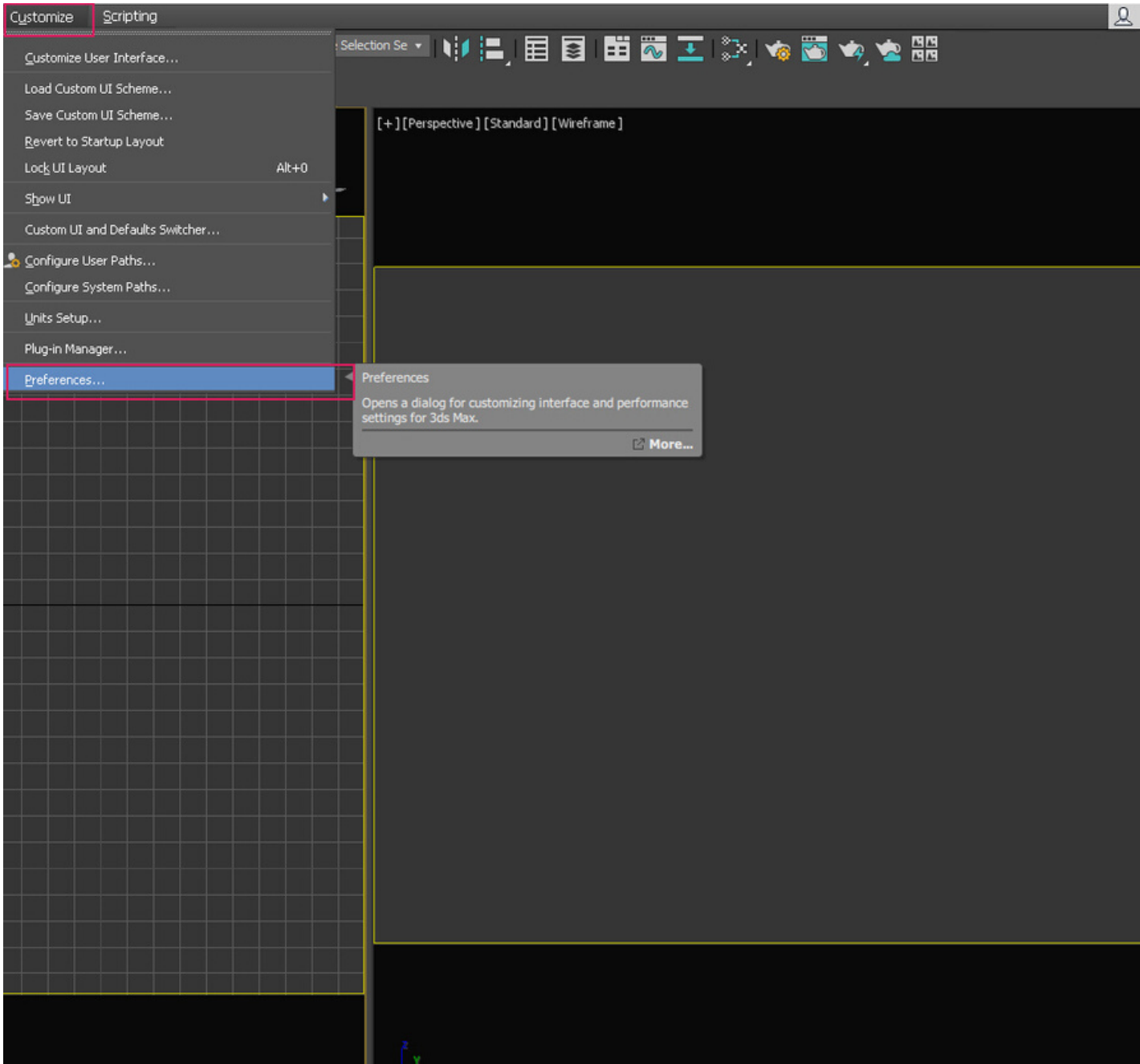
STEP 1 - Check the TurboSmooth modifier.



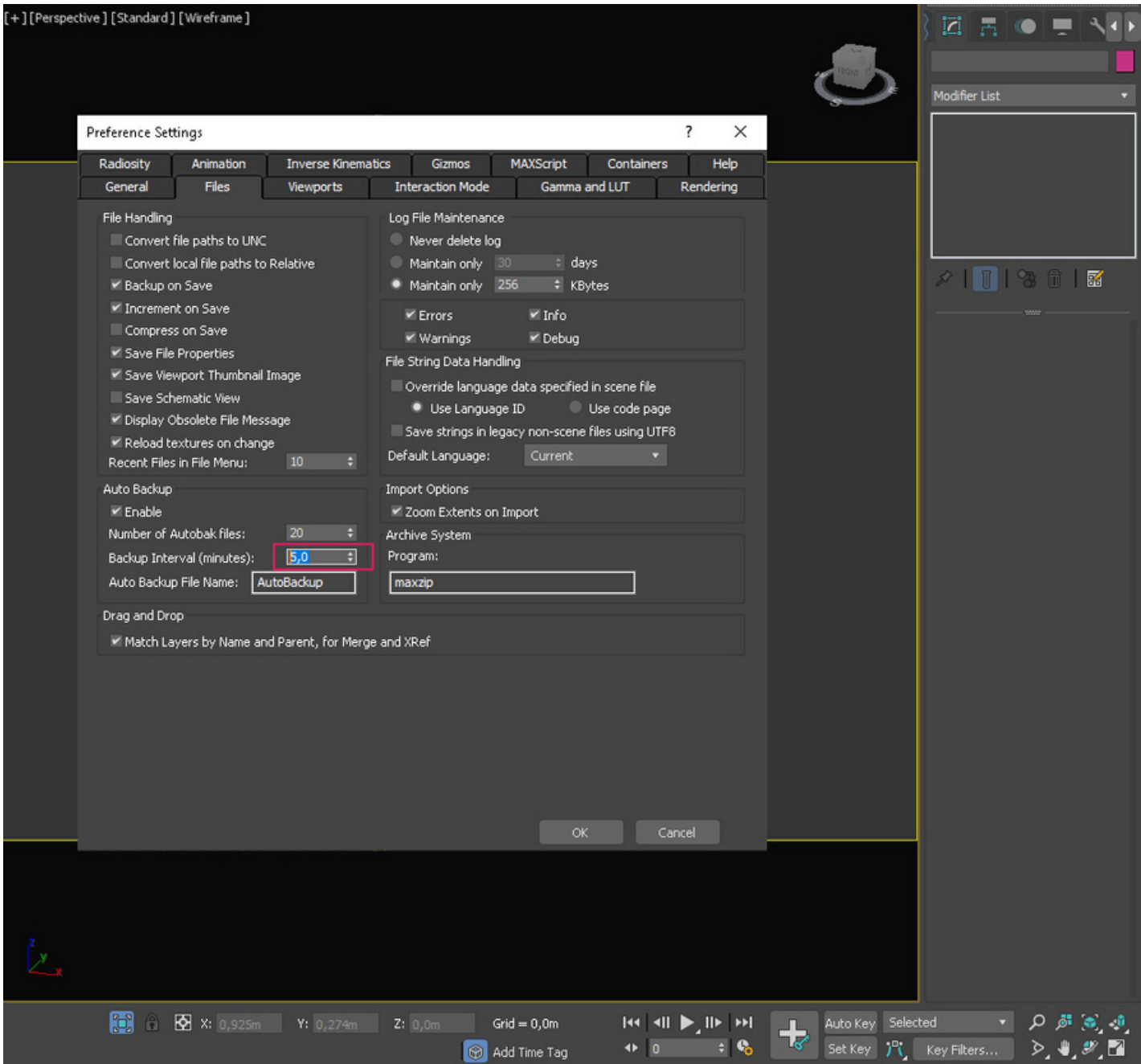
STEP 2 - Change the 'Interactions' value to '0', turn on 'Render Inters' and copy the value you have had before in 'Interaction'.

- **WATCH THE NUMBER OF AUTO BACKUPS**

If Auto Backup is set to save the scene file every 5 minutes (as default), we suggest you to increase it to 30 minutes. The larger the scene file, the longer it will take to save.



STEP 1 - Go to 'Customize' and choose 'Preferences...'



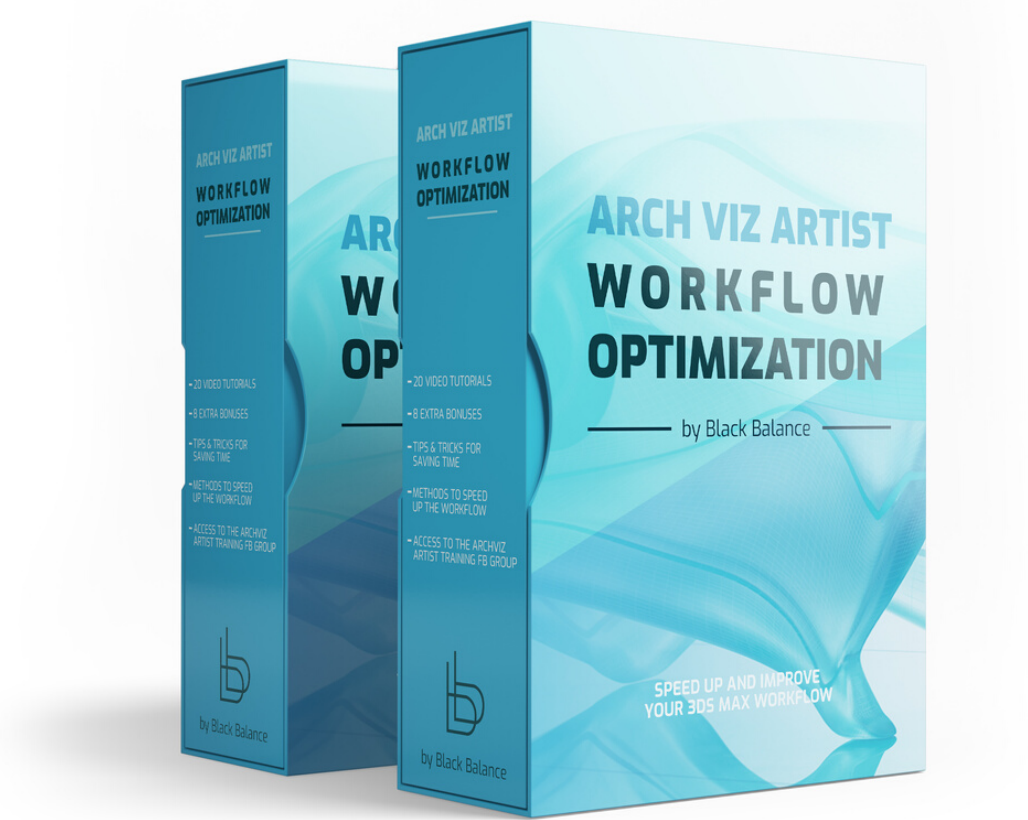
STEP 2 - Go to 'Files' and increase the value of 'Backup Interval (minutes)'.

SUMMARY

The following methods of optimizing scenes can significantly speed up your files and make your production process smooth and pleasant. It all depends on the scene and not all of these methods apply to every case. That’s why, you should use it as suggestions and test this before sending the final render.

SPEED UP YOUR WORKFLOW

ARCH VIZ ARTIST WORKFLOW OPTIMIZATION ONLINE TRAINING



If you want to get the full knowledge on how we optimize everything inside 3ds max plus get all of ours quads, shortcuts, toolbars with scripts and icones, hotkeys, library structure, layers structure, templates and more, make sure you check out our brand new course focusing on this topic.

LEARN MORE

WANT TO LEARN MORE?

We have an YouTube channel where we share tutorials, tips and tricks and other content about 3d visualizations.



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