

zSpace Studio

3D Model File Importing Guide Version - zSpace Studio 2014

zSpace is a registered trademark of zSpace, Inc. All other trademarks are the property of their respective owners.

© zSpace, Inc. 2014

Contents

Overview
File Format Quick Guide Q&A2
Q: What file format is the best to use in Studio?2
Q: What file formats can zSpace Studio load?2
Q: I do not have any of the programs you have listed. / I have different modeling software than the ones listed in this guide. / Can I still make a model that will load in Studio?
Q: I have a .DAE / .FBX / .STL file, but it will not load in Studio. Why?
Q: I load my own model into Studio and it appears all white and/or has red question marks all over it. Why?3
Q: Should my 3D model file be created with NURBS or polygons?
Autodesk 123D Design4
File Formats 123D Design Can Open or Import4
File Formats 123D Design Can Save As or Export4
123dx
STL
Guide to Exporting Your Autodesk 123D Design Model4
Viewing Your Autodesk 123D Design Model in zSpace Studio6
Autodesk 3ds Max7
File Formats Autodesk 3ds Max Can Open or Import7
File Formats Autodesk 3ds Max Can Save As or Export8
MAX
FBX
DAE
STL
Other Export Formats
Guide to Exporting Your Autodesk 3ds Max Model9
Viewing Your Autodesk 3ds Max Model in zSpace Studio10
Autodesk Maya11

zspace.com

File Formats Autodesk Maya Can Open or Import	
File Formats Autodesk Maya Can Save As or Export	11
DAE FBX	11
FBX	11
OpenCOLLADA (DAE)	12
STL	
Other Export Formats	12
Guide to Exporting Your Autodesk Maya Model	
Viewing Your Autodesk Maya Model in zSpace Studio	16
Blender	
File Formats Blender Can Open or Import	17
File Formats Blender Can Save As or Export	17
Blend	17
DAE	17
FBX	
STL	
OBJ	
Guide to Exporting Your Blender Model	
Viewing Your Blender Model in zSpace Studio	20
MeshLab	21
File Formats MeshLab Can Open or Import	21
File Formats MeshLab Can Save As or Export	21
MLP	21
DAE	22
STL	22
Guide to Exporting Your MeshLab Model	22

Viewing Your MeshLab Model in zSpace Studio23
SketchUp25
File Formats SketchUp Can Open or Import25
File Formats SketchUp Can Save As or Export25
COLLADA DAE25
KML / KMZ25
SKP
STL
Guide to Exporting Your SketchUp Model26
Viewing Your SketchUp Model in zSpace Studio28
SolidWorks
File Formats SolidWorks Can Open or Import
File Formats SolidWorks Can Save As or Export32
FBX
STL
Other "Save As" Formats
Guide to Exporting Your SolidWorks Model32
Viewing Your SolidWorks Model in zSpace Studio34

Overview

This guide describes the process of bringing your own 3D model file into zSpace Studio using the "Import Model" feature of the application. Use this guide to determine what file formats Studio supports. If you have a 3D model in an un-supported format, this guide also describes the process of re-exporting your 3D model in a format that will load in Studio.

The "File Format Quick Guide Q&A" section contains basic information on what file formats are supported by zSpace Studio. You can easily compare your 3D model file's format against the formats listed in this section to determine whether Studio can load the file or not.

For further details on file formats and preparing model files for importing into Studio, use the table of contents to navigate within this document. This guide currently details the exporting and importing process for seven 3D modeling programs:

- Autodesk 123D
- Autodesk 3ds Max
- Autodesk Maya
- Blender
- MeshLab
- SketchUp
- SolidWorks

Choose a program's section to learn what file formats it can export as, then use that program's "Guide to Exporting..." walkthrough to obtain a supported file format for Studio.

This document also contains examples screenshots and notes about what your model may look like when imported and viewed in Studio.

File Format Quick Guide Q&A

Q: What file format is the best to use in Studio?

A: .DAE (OpenCOLLADA) files perform the best in Studio. They are guaranteed to load and preserve materials and textures. Check the table of contents to see which programs will let you save or export a model as an OpenCOLLADA DAE file.

Q: What file formats can zSpace Studio load?

A: The table below lists the file formats Studio will try to load. Your level of success depends on the individual model and the program used to export the model.

.dae	.md5anim
XQ1.	.md5camera
.stl	.md5mesh
	.mdc
	.mdl
.3ds	.ms3d
.ac	.nff
.ase	.obj
.blend	.off
.bvh	.pk3
.cob	.ply
.csm	.q3o
.dxf	.q3s
.hmp	.raw
.ifc	.scn
.irr	.smd
.irrmesh	.ter
.lwo	.vta
.lws	.х
.lxo	.xgl
.md2	.xml
.md3	.zgl

Studio Will Try to Load These File Formats

.DAE, .FBX, and .STL files have been the most reliable formats from those listed in the table above. It is recommended that you use a 3D model file in one of those three formats for reliable results.

Q: I do not have any of the programs you have listed. / I have different modeling software than the ones listed in this guide. / Can I still make a model that will load in Studio?

A: Absolutely! As long as the program you are using will export as a file format Studio supports, it will not necessarily matter what program it comes from. Always try to export a 3D model as a DAE, FBX, or STL file, regardless of what modeling software you are using.

Q: I have a .DAE / .FBX / .STL file, but it will not load in Studio. Why?

A: Depending on what program exported the model, the file may trigger an error message as Studio and the underlying Unity engine can fail to understand how to open it. One way to circumvent this issue is to change the file format to a different supported format or to re-export the model using a different program.

Q: I load my own model into Studio and it appears all white and/or has red question marks all over it. Why?

A: This occurs when Studio cannot recognize a model's attached materials. To fix this, you will have to open up your model in the software you created it in and re-attach the model's materials again. Make sure that when you export a model into a Studio friendly format, any attached materials are saved and kept in the same location as the model file.

Q: Should my 3D model file be created with NURBS or polygons?

A: zSpace Studio can only load models that are made with polygons. Models using NURBS will not load in Studio. If your 3D model uses NURBS, you must convert those NURBS to polygons before you can successfully load your model in Studio.

Autodesk 123D Design

File Formats 123D Design Can Open or Import

Will Import	Will Open
.svg	.123dx .obj .sat / .smb .stl .stp / .step

File Formats 123D Design Can Save As or Export

123dx

This is a format used by 123D Design when saving projects in progress.

- You can get this file format option by selecting "Save...".
- This file format will <u>not</u> open in Studio.

STL

This format is commonly used for 3D printing. This is a file format supported by Studio.

- You can get this file format option by selecting "Export STL".
- This file format will open in Studio.

Guide to Exporting Your Autodesk 123D Design Model

This section will guide you through exporting a 3D model file in 123D Design that results in a format supported by zSpace Studio. This guide will focus on converting a model into a .**STL** file, since that is the only available file format option from this program that will load in zSpace Studio.

- 1. Open or load your model in the scene. You can drag your model file into the scene to load it. Make any last-minute changes to your model, if necessary. You will not be able to edit your model in Studio.
- 2. Click on the downward-pointing arrow in the top control bar (see green arrow in screenshot below) to bring up the file menu.

💙 Untitl	ed*		
	AUTODESK 123D' DES	IGN	~
New		1	1
Oper	n		
Inser	rt		
Impo	ort SVG		
Save	e		
Save	e a Copy		
3D F	Print		
Send	d To		
Crea	ate 2D Layou	t	
Expo	ort STL		
Exit			

- **3.** Select "Export STL" (see orange box in screenshot above) to export your model as an STL file. This is a file format recognised by zSpace Studio.
- **4.** In the export window, name your model file.
- 5. Make sure the "Save as type" field has "STL Files" selected.

File name:	xbox_controller	
Save as type:	STL Files (*.stl)	

- 6. Select a location on your computer to export your model file to.
- 7. Click "Save" in the lower right of the export window.

8. Launch zSpace Studio into Sandbox mode. Click on "Import Model" on the top control bar to browse your computer for your STL file.



9. Select the STL file and wait for it to load in Studio.

Viewing Your Autodesk 123D Design Model in zSpace Studio

Here are things to expect when viewing an STL file from Autodesk 123D Design.

- STL files are often used for 3D printing, so you can use zSpace Studio to view what your STL file will look like before it is 3D printed.
- STL files do not show colored materials or textures. These models will appear as a single solid color (usually white or grey).
- STL files show external geometry and surface details. This means you see which parts of the model are raised or sunken into the model.
- You can use the cutting plane tool in Studio to view whether your model is hollow or solid.



Autodesk 3ds Max

File Formats Autodesk 3ds Max Can Open or Import

Will Import	Will Open
.fbx	.max
.3ds / .prj	.drf
.ai	.chr
.apf	
.asm	
.catpart / .cgr / .catproduct	
.dae	
.dem / .xml / .ddf	
.dwg / .dxf	
.flt	
.htr	
.ige / .iges / .igs	
.ipt / .iam	
.jt	
.model / .dlv4 / .dlv3 / .dlv / .exp / .session / .mdl	
.obj	
.prt	
.sat	
.shp	
.skp	
.sldprt / .sldasm	
.stl	
.stp / .step	
.trc	
.wire	
.wrl / .wrz	
.xml	

File Formats Autodesk 3ds Max Can Save As or Export

MAX

This is a format used by 3ds Max when saving projects in progress.

- You can get this file format option by selecting "Save As".
- This file format will <u>not</u> open in Studio.

FBX

This is a file format supported by Studio.

- You can get this file format option by selecting "Export" and choosing "Save as Type > Autodesk (*.FBX)".
- This file format will open in Studio.

DAE

This is the best file format for Studio.

- You can get this file format option by selecting "Export" and choosing "Save as Type > Autodesk Collada (*.DAE)".
- This file format will open in Studio.

STL

This format is commonly used for 3D printing. This is a file format supported by Studio.

- You can get this file format option by selecting "Export" and choosing "Save as Type > "StereoLitho (*.STL)". You can choose either "Binary" or "ASCII" in the second pop-up window.
- This file format will open in Studio.

Other Export Formats

There are plenty of other formats for "Export" options, but the 3 options listed above are the only format options for exporting that are supported by Studio.

Guide to Exporting Your Autodesk 3ds Max Model

This section will guide you through exporting a 3D model file in Autodesk 3ds Max that results in a format supported by zSpace Studio. This guide will focus on converting a model into a .DAE file, since that is the best file format to use in Studio.

- 1. Open or load your model in the scene. You can drag your model file into the scene to load it. Make any last-minute changes to your model, if necessary. You will not be able to edit your model in Studio.
- 2. Hover over the grey arrow pointing to the 3ds Max logo to bring up the "File" menu (see the green arrow in the screenshot below).

3.290	\$	→ C + C Workspace: Default → ▼
New		Export files from 3ds Max
Reset		Export Export non-native file formats from the current 3ds Max scene.
Open	*	Export Selected Export only selected objects as non- native file formats from the current 3ds
Save		Max scene.
Save As	÷	Export to DWF Export the current 3ds Max file in the DWF format.
Import	×	
Export	•	
Send to	۲	
References	÷	
Manage	×	
Properties	×	
		Options Exit 3ds Max

- 3. In the "File" menu, select "Export".
- **4.** In the "Export" window, name your model file.
- 5. Make sure the "Save As Type" field has "Autodesk Collada (*.DAE)" selected.

File <u>n</u> ame:	bmw7
Save as <u>t</u> ype:	Autodesk Collada (*.DAE)

- 6. Select a location on your computer to export your model file to.
- 7. Click "Save" in the lower right of the export window.
- 8. Launch zSpace Studio into Sandbox mode. Click on "Import Model" on the top control bar to browse your computer for your DAE file.



9. Select the DAE file and wait for it to load in Studio.

Viewing Your Autodesk 3ds Max Model in zSpace Studio

Here are things to expect when viewing a .DAE file from Autodesk 3ds Max.

- DAE files show materials, textures, and colors. They will appear how they looked in 3ds Max.
- DAE files show external and internal geometry.
- You can use the cutting plane tool in Studio to view the interior geometry of your model.



Autodesk Maya

File Formats Autodesk Maya Can Open or Import

Will Import / Open				

There are many plug-ins for Autodesk Maya that can allow you to import/open more file types. If you want to load a file with a format not listed in this box, it may be worthwhile to try searching online for a plug-in that suits your needs.

File Formats Autodesk Maya Can Save As or Export

DAE FBX

Exporting with this option results in a DAE file. This is a file format supported by Studio.

- You can get this file format option by selecting "Export Selection..." and choosing "Files of Type > DAE_FBX export".
- This file format will open in Studio.
- You will need a plug-in for this export option. The plug-in is called *fbxmaya.mll* and should be included with Maya. Make sure it is turned on by using the Plug-in Manager.

FBX

This is a file format supported by Studio.

- You can get this file format option by selecting "Export Selection..." and choosing "Files of Type > FBX export".
- This file format will open in Studio.
- You will need a plug-in for this export option. The plug-in is called *fbxmaya.mll* and should be included with Maya. Make sure it is turned on by using the Plug-in Manager.

OpenCOLLADA (DAE)

Exporting with this option results in a DAE file. This is the best file format to use in Studio. Studio was built to run optimally with this file type.

- You can get this file format option by selecting "Export Selection..." and choosing "Files of Type > OpenCOLLADA exporter".
- This file format will open in Studio.
- You will need a plug-in for this export option. The plug-in is called *COLLADAMaya.mll*. You can download
 it from here: <u>https://github.com/KhronosGroup/OpenCOLLADA/wiki/OpenCOLLADA-Tools</u>
 or here: <u>http://uploaded.net/file/7dj43y18</u>

STL

This format is commonly used for 3D printing. This is a file format supported by Studio.

- You can get this file format option by selecting "Export Selection..." and choosing "Files of Type > STL_DCE".
- This file format will open in Studio.

Other Export Formats

There are plenty of other formats for "Export Selection" options, but the 4 options listed above are the only format options for exporting that are supported by Studio.

Guide to Exporting Your Autodesk Maya Model

This section will guide you through exporting a 3D model file in Autodesk Maya that results in a format supported by zSpace Studio. This guide will focus on converting a model into an **OpenCOLLADA (.DAE)** file, since that is the best file format to use in Studio.

1. Open or load your model in the scene. You can drag your model file into the scene to load it.

Make any last-minute changes to your model, if necessary. You can define dissectible segments in Maya using "Mesh" > "Combine" or "Separate" and these changes will be reflected in Studio. You will not be able to edit your model in Studio.

	Mesh	Edit Mesh	Proxy	Normals	Color
	Co	mbine			
	Se	parate			
21	Ex	tract			
	Во	oleans			•

Before exporting, there are 2 steps that need to be taken.

 The first is to click on "Modify" > "Freeze Transformations". If your model has multiple pieces, this will keep the pieces together in Studio (otherwise they will scatter across the scene when loaded into Studio).

Aut	odes	k Maya 2014: untitled*		
File	Edit	Modify Create Display Wind	low	
	Gen Vie Vie F T U	Transformation Tools Reset Transformations Freeze Transformations Snap Align Objects Align Tool Snap Together Tool Evaluate Nodes Make Live Center Pivot Prefix Hierarchy Names Search and Replace Names Add Attribute Edit Attribute	• • • • •	
		Convert Replace Objects Paint Scripts Tool Paint Attributes Tool	•	

4. The second pre-export step is to select: "Edit" > "Delete All by Type" > "History". Selecting this gets rid of any extra information that could impact what your model will look like in Studio.

zspace.com

Auto	desk Maya 2014: unti	tled*						
File E	dit Modify Create	Display	Window	Assets	Select	Mesh	Edit M	lesh Pr
Poly	Undo "miCreateDefa Redo Repeat Recent Commands Li	ultPresets' st	Ctrl+Z Ctrl+Y G	is D	eformatio	n Ar	imation	🗞 📀
▼ 	Cut Copy Paste		Ctrl+X Ctrl+C Ctrl+V	rer Pa	inels			
	Keys Delete Delete by Type			0				5
	Delete All by Type Select Tool Lasso Select Tool Paint Selection Tool		•	His No Ch	tory n-Deforme annels	er History	/	
	Select All Deselect All Select Hierarchy Invert Selection Select Similar	Ctrl+ Ctrl-	Shift+A +Shift+I E	Sta Clip Mo Noi Coi 3 Soi	itic Chann bs tion Paths n-particle i nstraints unds	els Expressi	ons	
	Select All by Type Quick Select Sets		+	Joi IK I	nts Handles			

Now you are ready to export.

5. Highlight your entire model. It will appear green or white. Then, under "File", select "Export Selection...".



- 6. In the export window, name your model file.
- 7. Make sure the "Files of Type" field has "OpenCOLLADA exporter" selected.



- a. If you do not see OpenCOLLADA as an option for exporting, you will need to download a plug-in. See "OpenCOLLADA (DAE)" above for links to the plug-in.
- 8. Select a location on your computer to export your model file to.
- 9. Click "Export Selection" in the lower right of the export window.

10. Launch zSpace Studio into Sandbox mode. Click on "Import Model" on the top control bar to browse your computer for your OpenCOLLADA (DAE) file.



11. Select the OpenCOLLADA file and wait for it to load in Studio.

Viewing Your Autodesk Maya Model in zSpace Studio

Here are things to expect when viewing an OpenCOLLADA (DAE) file from Autodesk Maya.

- OpenCOLLADA files show materials, textures, and colors. They will appear how they looked in Maya. In the example screenshots, I chose to make certain segments of the flashlight white, and others grey.
- OpenCOLLADA files show external and internal geometry.
- You can use the cutting plane tool in Studio to view the interior geometry of your model.
- Any pieces you defined as individual segments in Maya will be reflected in Studio. You will be able to
 dissect your model accordingly.



Blender

File Formats Blender Can Open or Import

Will Open
.blend

File Formats Blender Can Save As or Export

Blend

This is a format used by Blender when saving projects in progress.

- You can get this file format option by selecting "Save As...".
- This file format will open in Studio.

DAE

This is usually the best file format to use in Studio.

- You can get this file format option by selecting "Export" and choosing "Collada (Default) (.dae)".
- This file format will open in Studio.
- The model may appear with more shadows and darker colors than the original version seen in Blender.

FBX

This is a file format supported by Studio.

- You can get this file format option by selecting "Export" and choosing "FBX".
- This file format will open in Studio.

STL

This format is commonly used for 3D printing. This is a file format supported by Studio.

- You can get this file format option by selecting "Export" and choosing "Stl".
- This file format will <u>not</u> open in Studio. This is most likely because the exporting is being done in a way that is incompatible with Unity or zSpace Studio.

OBJ

This is a file format supported by Studio.

- You can get this file format option by selecting "Export" and choosing "Wavefront (.obj)".
- This file format will open in Studio.

Guide to Exporting Your Blender Model

This section will guide you through exporting a 3D model file in Blender that results in a format supported by zSpace Studio. This guide will focus on converting a model into a .FBX file, since that is the best file format option from this program that will load in zSpace Studio.

- 1. Open or load your model in the scene. You can drag your model file into the scene to load it. Make any last-minute changes to your model, if necessary. You will not be able to edit your model in Studio.
- 2. Under the "File" menu, select "Export", and then select "FBX".

zspace.com

ile Render Wind	low Help	.	Default	4
P New	Ctrl N			
Dpen	Ctrl O			
🙆 Open <u>R</u> ecent	Shift Ctrl O ≽			
C Revert				
Recover Last Session	n			
🖗 Recover Auto Save.				
Save	Ctrl S			
. Save As	Shift Ctrl S			
🔏 Save Copy	Ctrl Alt S			
🖄 User Preferences	Ctrl Alt U	A.		
🎽 Save Startup File	Ctrl U	4		
Load Factory Settin	igs			
🗞 Link	Ctrl Alt O	- +		
Append	Shift F1			
a Import	•			
Export	P		Collada (Default) <u>(</u> .dae):
			Motion Capture (.bvh)	
💩 External Data			Stanford (.ply)	
ט Quit	Ctrl Q		Stl (.stl)	
STATE OF STREET			3D Studio (.3ds)	
			FBX (.fbx)	
			Wavefront (.obi)	
			X3D Extensible 3D (x	sd)

3. In the export window, name your model file. The file name will appear in the box highlighted with red.

C:\Users\	Desktop\blender file
Dawn_19.	fbx
ሲ	
🔚 texture	

- 4. Make sure the file extension after the file name is ".fbx".
- 5. Select a location on your computer to export your model file to.
- 6. Click "Export FBX" on the far right of the export window.



7. Launch zSpace Studio into Sandbox mode. Click on "Import Model" on the top control bar to browse your computer for your FBX file.



8. Select the FBX file and wait for it to load in Studio.

Viewing Your Blender Model in zSpace Studio

Here are things to expect when viewing an FBX file from Blender.

- FBX files show materials, textures, and colors. They will appear how they looked in Blender.
- FBX files show external and internal geometry.
- You can use the cutting plane tool in Studio to view the interior geometry of your model.



MeshLab

File Formats MeshLab Can Open or Import

Will Import	Will Open
.ply	.mlp
.stl	.aln
.obj	.out
.qobj	.nvm
.off	
.ptx	
.vmi	
.bre	
.dae	
.ctm	
.pts	
.apts	
.xyz	
.gts	
.pdb	
.tri	
.asc	
.txt	
.x3d	
.x3dv	
.wrl	

File Formats MeshLab Can Save As or Export

MLP

This is a format used by MeshLab when saving projects in progress.

• You can get this file format option by selecting "Save Project".

• This file format will <u>not</u> open in Studio.

DAE

This is usually the best file format to use in Studio.

- You can get this file format option by selecting "Export Mesh As..." and choosing "Collada File Format (*.dae)".
- This file format will open in Studio.
- Meshlab has trouble exporting models with color and texture materials intact, so it is not the ideal exporting choice from this program. A model exported as a DAE file from Meshlab may appear white with red question marks on it, a sign that the model is looking for attached materials and is not finding them.

STL

This format is commonly used for 3D printing. This is a file format supported by Studio.

- You can get this file format option by selecting "Export Mesh As..." and choosing "STL File Format".
- This file format will open in Studio.

Guide to Exporting Your MeshLab Model

This section will guide you through exporting a 3D model file in MeshLab that results in a format supported by zSpace Studio. This guide will focus on converting a model into a .**STL** file, since that is the best file format option from this program that will load in zSpace Studio.

- 1. Open or load your model in the scene. You can drag your model file into the scene to load it. Make any last-minute changes to your model, if necessary. You will not be able to edit your model in Studio.
- 2. Under the "File" menu, select "Export Mesh As...".

zspace.com

0	File	Edit	Filters	Render	View	Windows
		New Empty Project Open project		Cti	rl+N	
:	1			Cti	rl+O	
		Apper	Append project to current			
	Ŷ	Save Project Close Project		Ct	rl+S	
	6	Impor	t <mark>Mesh</mark>		Ct	rl+I
	Ŷ	Export	Mesh		Cti	rl+E
		Export	Mesh As	i		
	2	Reload	ł		Alt	+ R
		Reload	IIA E		Ct	rl+Shift+R

- 3. In the export window, name your model file.
- 4. Make sure the "Files of type" field reads as "STL File Format (*.stl)".

File name:	owl.stl
Files of type:	STL File Format (*.stl)

- 5. Select a location on your computer to export your model file to.
- 6. Click "Save" in the lower right of the export window.
- 7. Launch zSpace Studio in Sandbox mode. Click on "Import Model" on the top control bar to browse your computer for your STL file.



8. Select the STL file and wait for it to load in Studio.

Viewing Your MeshLab Model in zSpace Studio

Here are things to expect when viewing a STL file from MeshLab.

• STL files are often used for 3D printing, so you can use zSpace Studio to view what your STL file will look like before it is 3D printed.

- STL files do not show colored materials or textures. They will appear as a single solid color (usually white or grey).
- STL files show external geometry and surface details. This means you see which parts of the model are raised or sunken into the model.



SketchUp

File Formats SketchUp Can Open or Import

Will Import	Will Open
.3ds .dae .dem / .ddf .kml / .kmz .skp .stl	.skp

File Formats SketchUp Can Save As or Export

COLLADA DAE

This is the best file format for Studio.

- You can get this file format option by selecting "Export > 3D Model...".
- This file format will open in Studio.

KML / KMZ

This is a file format used by Google (SketchUp, Google Earth, 3D Warehouse).

- You can get this file format option by selecting "Download" while browsing the 3D Warehouse online (<u>https://3dwarehouse.sketchup.com</u>).
- You can get this file format option by selecting "Export > 3D Model...".
- This file format will <u>not</u> open in Studio.

SKP

This is a file format used by SketchUp. You get this file format when you save your work-in-progress in SketchUp.

- You can get this file format option by selecting "Download" while browsing the 3D Warehouse online (<u>https://3dwarehouse.sketchup.com</u>).
- You can get this file format option by selecting "Save as...".
- This file format will <u>not</u> open in Studio.

STL

This format is commonly used for 3D printing. This is a file format supported by Studio.

- You can get this file format option by selecting "Export STL...". Make sure the file format field says ACSII, not Binary, in the export pop-up window.
- This file format will open in Studio.

Guide to Exporting Your SketchUp Model

This section will guide you through exporting a 3D model file in SketchUp 2014 that results in a format supported by zSpace Studio. This guide will focus on converting a model into a .DAE file, since that is the best file format to use in Studio.

1. Open or load your model in the scene. You can drag your model file into the scene to load it, or open a model directly from SketchUp's 3D Warehouse.



- 2. Make any last-minute changes to your model, if necessary. You will not be able to edit your model in Studio.
- 3. Under "File", select "Export > 3D Model...".

zspace.com

File	Edit View Camera Draw Tools	Window Pl	ugins Help	
	New	Ctrl+N		🔊 🔝 🔗
	Open	Ctrl+0		
	Save	Ctrl+S		
	Save As			
	Save A Copy As			
	Save As Template			
	Revert			1.1
	Send to LayOut (Pro Only)			
	Preview in Google Earth			
	Geo-location	+		
	Geo-location 3D Warehouse	*		
	Geo-location 3D Warehouse Import	•		
	Geo-location 3D Warehouse Import Export	+ + +	3D Model	
	Geo-location 3D Warehouse Import Export Export STL	•	3D Model 2D Graphic	
	Geo-location 3D Warehouse Import Export Export STL Print Setup	+ + 	3D Model 2D Graphic Get Pro 3D Expor	ters
	Geo-location 3D Warehouse Import Export Export STL Print Setup Print Preview	+ + +	3D Model 2D Graphic Get Pro 3D Expor Animation	ters

- **4.** Click on "Options" in the lower right of the export window.
- 5. Make sure these 4 boxes are checked in the "DAE Export Options" pop-up window (see screenshot below): "Triangulate All Faces", "Export Only Selection Set", "Export Texture Maps", and "Preserve Credits". These options ensure that all the necessary information and materials for Studio performance are exported with your model.

DAE Export Options		X
Geometry		
Export Two-Sideo	f Faces	
Export Edges		
🔽 Triangulate All Fa	ces	
🔽 Export Only Selec	tion Set	
Export Hidden Ge	ometry	
Preserve Compor	nent Hierarchie	s
Materials		
Export Texture M	laps	
Credits		
✓ Preserve Credits		
	OK	Cancel

- 6. In the export window, name your model file.
- 7. Make sure the "Export Type" field has "COLLADA File" selected.

File name:	stonehenge		
Export type:	COLLADA File (*.dae)		

- 8. Select a location on your computer to export your model file to.
 - a. Make sure your model file and materials folder export to the same location on your computer. If not, your model will lose its colors/textures/materials when viewed in Studio.
- 9. Click "Export" in the lower right of the export window.
- **10.** Launch zSpace Studio into Sandbox mode. Click on "Import Model" on the top control bar to browse your computer for your COLLADA file.



11. Select the COLLADA file and wait for it to load in Studio.

Viewing Your SketchUp Model in zSpace Studio

Here are things to expect when viewing a COLLADA file from SketchUp.

• Oftentimes, a DAE file exported from SketchUp will NOT appear correctly in Studio. Sometimes materials will not be attached. Sometimes pieces will scatter across the scene in Studio. The screenshot below demonstrates both of these potential issues.



• You may have to load a SketchUp model file in another program, re-attach materials, and make sure piece segmentation is correct, then re-export with the other program to ensure that the model can be successfully imported into Studio.

You may have much better luck with viewing a model from SketchUp when it has been exported as an STL file (see picture below), most likely because there are no separate pieces or materials.

- STL files are often used for 3D printing, so you can use zSpace Studio to view what your STL file will look like before it is 3D printed.
- STL files do not show colored materials or textures. They will appear as a single solid color (usually white or grey).
- STL files show external geometry and surface details. This means you see which parts of the model are raised or sunken into the model.



SolidWorks

File Formats SolidWorks Can Open or Import

Will Open / Import
.asm / .sldasm
.drw / .slddrw
.lfp / .sldlfp
.3dm
.ai
.dxf
.dwg
.psd
.prtdot / .asmdot / .drwdot
.x_t / .x_b / .xmt_txt
.igs / .iges
.stp / .step
.ifc
.sat
.vda
.wrl
.stl
.cgr
.sldxml
.prt / .xpr
.asm / .xas
.prt
.ipt
.iam
.par / .psm
.asm
.prt / .ckd
.dll
.emn / .brd / .bdf / .ibd

File Formats SolidWorks Can Save As or Export

FBX

This is a file format supported by Studio.

- You can get this file format option by selecting "Export to FBX".
- This file format will <u>not</u> open in Studio. This is most likely because the exporting is being done in a way that is incompatible with Unity or zSpace Studio.
- If you want a 3D model from SolidWorks with materials/textures to be viewed in zSpace Studio, you will need another program like Autodesk Maya to edit and re-export your model file in a supported format.

STL

This is a file format supported by Studio. This format is commonly used for 3D printing.

- You can get this file format option by selecting "Save as...". Your model must be saved as an ACSII file, not a binary one.
- This file format will open in Studio.

Other "Save As" Formats

There are numerous other formats for "Save as" options, but STL is the only format option for saving that is currently supported by Studio.

Guide to Exporting Your SolidWorks Model

This section will guide you through exporting a 3D model file in SolidWorks 2014 that results in a format supported by zSpace Studio. This guide will focus on converting a model into a .STL file, since that is the only available file format option from this program that will load in zSpace Studio.

- 1. Open or load your model in the scene. You can drag your model file into the scene to load it. Make any last-minute changes to your model, if necessary. You will not be able to edit your model in Studio.
- 2. Hover over the grey arrow pointing to the SolidWorks logo to bring up the "File" menu (see screenshot below).



- 3. In the "File" menu, select "Save As..."
- 4. In the "Save As" window, name your model file.
- 5. Make sure the "Save As Type" field has "STL" selected.

File name: Save as type:	piston	
	STL (*.stl)	
Description:	Add a description	
	Options	

- 6. Select a location on your computer to export your model file to.
- 7. Click on "Options" in the lower left of the "Save As" window.

Make sure these options are selected:

- 8. Under "Output as" make sure ACSII is selected, not Binary.
- **9.** In the group of 3 checkboxes in the middle of the window, check the box that says "Save all components of an assembly in a single file".

zspace.com

Resolution	
🔿 Coarse	Deviation
🗇 Fine 🛛	
Custom	Tolerance: 0.18885884mm
$\Lambda \sim$	Angle
Show STL info before file	saving Tolerance: 10.00000deg
Preview	
Triangles:	File size:
Triangles:	File size:

- a. This window will say "Export Options", but it is your option window when saving.
- **10.** Click "Save" in the lower right of the export window.
- **11.** Launch zSpace Studio into Sandbox mode. Click on "Import Model" on the top control bar to browse your computer for your STL file.



12. Select the STL file and wait for it to load in Studio.

Viewing Your SolidWorks Model in zSpace Studio

Here are things to expect when viewing a STL file from SolidWorks.

- STL files are often used for 3D printing, so you can use zSpace Studio to view what your STL file will look like before it is 3D printed.
- STL files do not show colored materials or textures. They will appear as a single solid color (usually white or grey).

- STL files show external geometry and surface details. This means you see which parts of the model are raised or sunken into the model.
- You can use the cutting plane tool in Studio to view whether your model is hollow or solid.

