

# Instructions for Loading glTF

---

## Overview

In real projects, for certain cases, we may need to load 3D models with animations using SuperMap iClient3D for WebGL. The variety of 3D modeling software becomes a challenge because they produce models with different formats. Also the varied models with complex info including background, lighting, cameras, etc compromise the efficiency of loading and performance of displaying.

glTF™ 1.0 (GL Transmission Format) is a royalty-free specification for the efficient transmission and loading of 3D scenes and models by WebGL, OpenGL ES, and OpenGL applications.

To import 3D models from a certain 3D modeling software to your SuperMap iClient3D for WebGL application, you will follow the three main steps:

1. [Export as DAE Model](#)
2. [Convert DAE to GLTF](#)

### 3. [Load Model Data](#)

## Instructions

Here we demonstrate the steps by loading a .max model with animation.

### Export as DAE Model

#### Introduction

In this step, you will use 3ds MAX software to export your \*.max model to DAE format, which is a 3D exchange format.

When you export the model in 3ds MAX, remember to use "**OpenCOLLADA (\*.DAE)**" instead of "Autodesk Collada (\*.DAE) " because Autodesk Collada (\*.DAE) might cause a failure in exporting model textures. You might need to download a DAE export plugin for 3ds MAX.

The plugin we use here in this sample is: "**COLLADAMax.dle**".

#### Basic Steps

(1). Install the plugin: after you download the plugin, save it in the "plugins" folder of the 3ds MAX directory. In this sample, the path is: "C:\Program Files\Autodesk\3ds Max 2014\plugins" , as shown below.

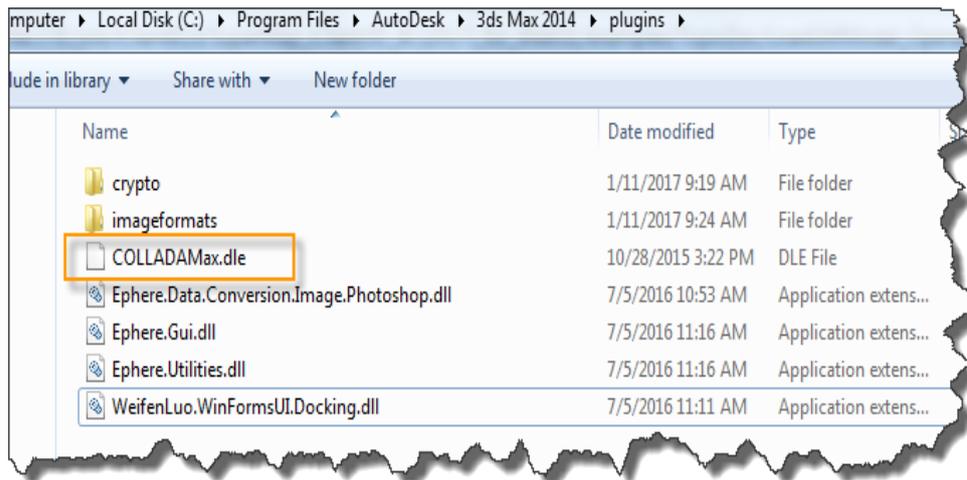


Figure: Path for Saving Plugin

(2). Restart 3ds MAX, open your 3D model and select "**Export**". Specify the path and name and the save type as "**OpenCOLLADA(\*.DAE)** ", as shown below:

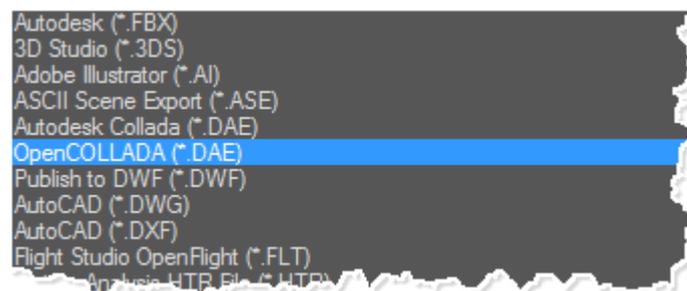


Figure: Type to Save

(3). Click "Save", and in the dialog box of **"OpenCOLLADA Export"** , select **" copy Images"** and click OK.

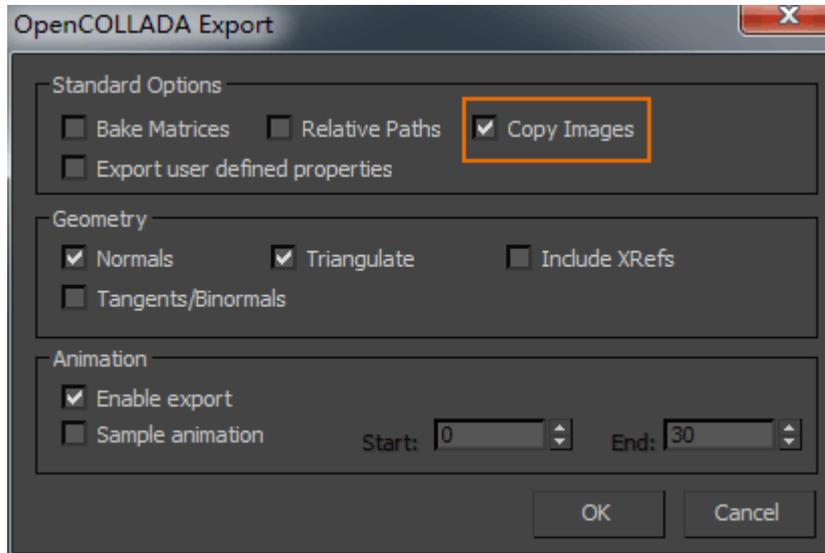


Figure: "OpenCOLLADA Export" Dialog Box

## Result

The DAE model exported will be saved in the specified path together with a folder titled "images" where the texture images are saved.

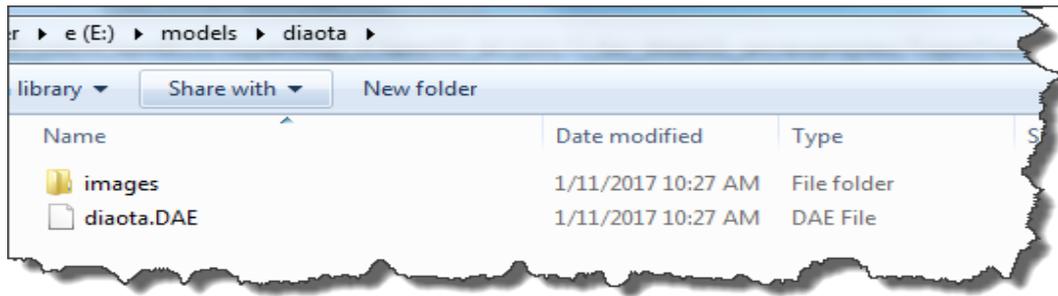


Figure: DAE Model Exported

## 2. Convert DAE to GLTF

### Introduction

In this step, we will use the conversion tool `colladaTogltf.exe` to convert the DAE model to glTF format. You can get the conversion tool `colladaTogltf.exe`

here: <https://github.com/KhronosGroup/glTF/wiki/Converter-builds>

You don't need to install the conversion tool you download.

Just following the steps below to operate:

### Basic Steps

(1) Press Windows+R to open the Run dialog, and input "cmd" to open the command line dialog box.

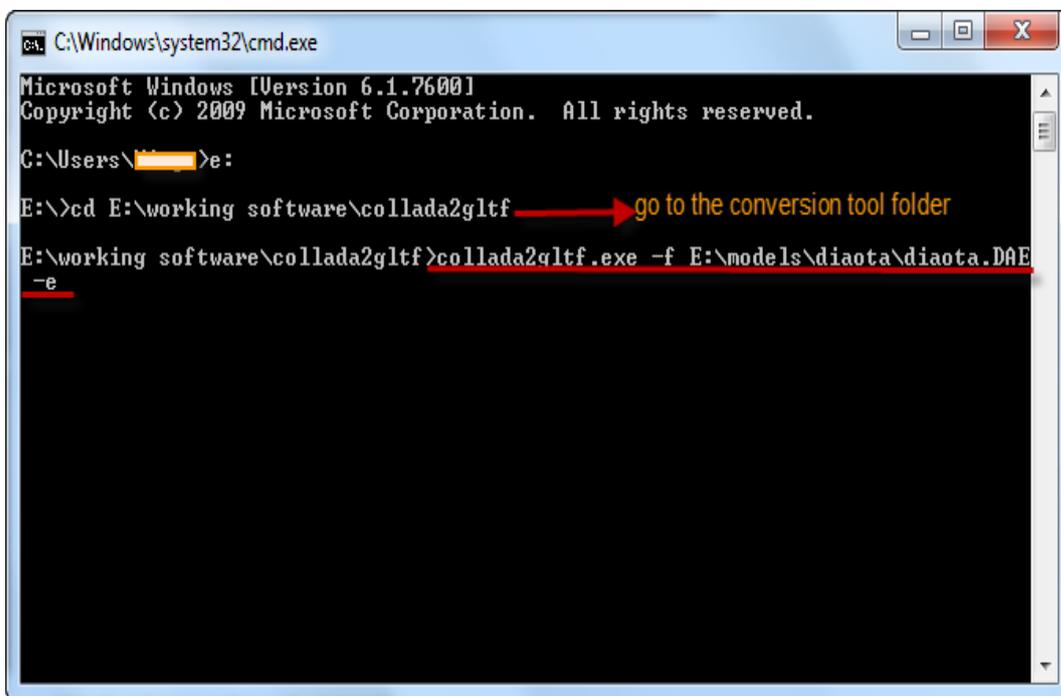
(2) Input the command line to enter the folder where colladaTogltf.exe is: "**cd %exePath%**" .

(3) Enter the command line: **collada2gltf.exe -f %daePath% -e**

- **%daePath%** is the full path for the DAE model. Here in this sample, the path is:

" E:\models\models\diaota\diaota.DAE " ;

- **"-e"** means a **gltf file will be converted to, with the model geometries and texture info.**



```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\>e:
E:\>cd E:\working software\collada2gltf → go to the conversion tool folder
E:\working software\collada2gltf>collada2gltf.exe -f E:\models\diaota\diaota.DAE
-e
```

Figure: Command Line to Convert DAE to glTF

(4) Press Enter to execute.

## Result

The glTF model generated will be saved in the same path with the DAE model.

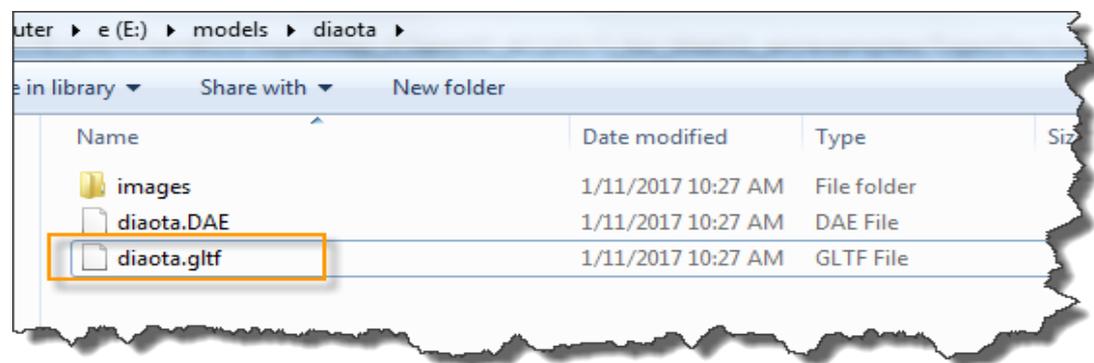


Figure: glTF Model Converted to

Note that the models of glTF format have smaller sizes and enhance the speed of data transmission over Web.

## 3. Load Model Data

### Introduction

SuperMap iClient3D for WebGL uses a KML file to load \*.gltf models. Here, the “**KML\_crane.html**” sample loads the

models from the path saved in the "crane.kml" file. This step shows how to modify the model path in the KML file.

## Basic Steps

(1) Copy the glTF model data to the resource folder on the server. The path is: **%SuperMap**

**iServer\_HOME%/webapps/%WebGL Package%**

**/examples/SampleData/models**

(2) In the path **%SuperMap iServer\_HOME%/webapps**, in the folder "examples/SampleData", open the "crane.kml" file in Notepad. Modify the model path in the KML file.

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <kml xmlns="http://www.opengis.net/kml/2.2">
3 <Placemark>
4 <name>SketchUp Model of Macky Auditorium</name> <description>University of Colorado, Boul
5 <LookAt>
6 <longitude>118.54740781850754</longitude>
7 <latitude>24.803571474903592</latitude> <altitude>60.50922280195892</altitude> <range>12'
8 <tilt>65.74454495876547</tilt> <heading>-27.70337734057933</heading> </LookAt> <Model id=
9 <Location>
10 <longitude>118.54710781850754</longitude>
11 <latitude>24.803351474903592</latitude>
12 <altitude>60.50922280195892</altitude>
13 </Location>
14 <Orientation>
15 <heading>0</heading>
16 <tilt>0</tilt>
17 <roll>0</roll>
18 </Orientation>
19 <Scale>
20 <x>1</x>
21 <y>1</y>
22 <z>1</z>
23 </Scale> <Link <href>./models/diaota.gltf</href> </Link>
24 </Model>
25 </Placemark>
```

Figure: Modify Model Path

(3) Open the "**KML\_crane.html**" page in the browser by typing: [http://localhost:8090/%WebGL Package%/examples/KML\\_crane.htm](http://localhost:8090/%WebGL Package%/examples/KML_crane.htm)

## Result

Open the web page, and the camera will fly to the terrain data as shown below:

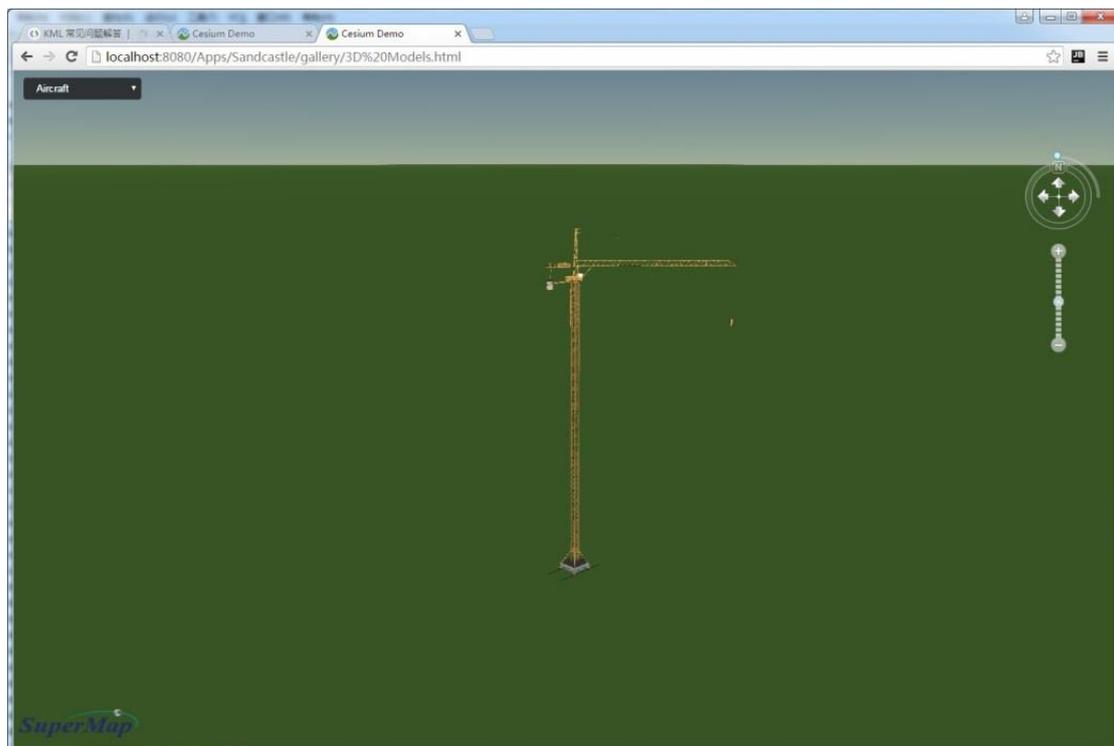


Figure: The Result 3D Model Loaded

Copyright&copy; 2000-2017 SuperMap Software Co., Ltd.