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Creating Models for Unity

Creating a model for use with Unity can be as simple or as complex as your project requires. The following sections detail everything you can do with SpeedTree that can benefit you inside of Unity.

Create Your Model

Get started by creating your model at the highest level of detail using standard SpeedTree modeling. If you're new to SpeedTree you might want to start [here](#) or have a look at some of our [introductory videos](#). Don't forget, it's often easier to edit an existing model than it is to start from scratch.

When you save a model several files are created. For example, if you were editing a model called "MyTree" these files are:

- **"MyTree.spm"**. This is the SpeedTree model you are editing. It is the file you will open in the Modeler to make changes.
- **"MyTree.srt"**. This is an optimized version of the model and the file you will import into Unity.
- **"MyTree_Atlas.tga, MyTree_Atlas_Normal.tga"**. This is the texture atlas created from all of the untiled texture maps on your model and its associated normal map.

- **“MyTree_Atlas_Billboards.tga, MyTree_Atlas_Billboards_Normal.tga”**. This is a billboard atlas that consists of 360 degree normal mapped images of your model. These can serve as the lowest LOD should you desire it.

Add Wind to the Model

Wind animation in the SpeedTree modeler will carry over to Unity. The best way to get good settings for your model is to start with the [Wind Wizard](#). This utility will apply wind settings based on your answers to a few simple questions. From there, select the “Fan” object and [fine tune the wind behavior](#) by editing the properties.

Of particular importance is the “Style” property in the “Presets” group. This property sets the wind complexity and has a direct impact on the vertex shader performance in Unity. Options are detailed below and are ordered from low quality/short shaders to high quality/longer shaders:

- **None**. No wind shader code will be executed in Unity. This is the absolute fastest way to render a SpeedTree model and still get camera facing geometry (should you need it) and smooth LOD transitions.
- **Fastest**. The model will sway back and forth but will not have individual branch or leaf motion.
- **Fast**. The model will sway back and forth and leaves will ripple.
- **Better**. The model will sway, leaves will ripple, and branches will move independently.
- **Best**. The model will sway, leaves will ripple and tumble, and branches will move independently.
- **Palm**. Fronds will whip and move in the direction of the wind (leaves behave like “Best”).

You can back the effect down in the Unity material editor, but you cannot go higher than what you set in the Modeler. It's often a good idea to tune the model using “Best” or “Palm” and lower the complexity in Unity if you need to optimize performance.

Add Levels of Detail to the Model

LODs are added by selecting the “Tree” generator and checking the “Enabled” property in the “Level of Detail” group. Set the number of LODs in this section as well. Each generator has an LOD group that controls how that part of the model degrades. Click [here](#) for more information on how to edit LODs on your model.

Compute Ambient Occlusion for the Model




SpeedTree will compute a per-vertex ambient occlusion value for your model. These values can be hooked to Unity's material ambient occlusion system or to anything else in the material shader. Click [here](#) for more information on computing ambient occlusion.

Add Collision Object to the Model

A series of spheres and capsules can be added to the model to use as collision volumes in Unity. The

quickest way to get started with collision objects is by selecting “Tools→Generate collision primitives...” and letting SpeedTree add some automatically. Click [here](#) for more information.

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