

Making a Gas Giant

This tutorial will teach you how to make a basic gas giant (like Jupiter).

Step 1 - Add a Jovian

Right click in your Hierarchy window, and select **Space Graphics Toolkit** → **Jovian**, and you should see a new Jovian GameObject in your scene with the **SgtJovian** component attached.

Step 2 - Set Up The Jovian

At the bottom of the **SgtJovian** component, you can see the **Add DepthTex** button, if you click this then the **SgtJovianDepthTex** component will be added. This component generates the **DepthTex** setting for you.

If you click the **Set Mesh & MeshRadius** button, then the **Mesh** setting will be set to the **Geosphere40 mesh**, and the **MeshRadius** setting will be calculated based on this mesh.

You then have to specify the **MainTex** setting, which should be a cubemap of your gas giant surface texture. You can generate cube maps from normal cylindrical (equirectangular) textures from the texture input settings in the inspector.

Step 3 - Done!

You now have a basic gas giant. The gas giant atmosphere is fully volumetric, so your camera can seamlessly travel from space through the atmosphere.

I recommend you now experiment with all the jovian settings to understand what they alter. If you're unsure what a particular setting does, then hover your mouse over the field to see a tooltip, or read the associated documentation file.

NOTE: If you're using the floating origin system then you also need to add the **SgtFloatingPoint** and **SgtFloatingObject** components.

Optional Step - Adding Lighting

To add lighting to your gas giant, first enable the **Lit** setting, and then click the **Add LightingTex** button.

Next, you need to let the jovian know which lights you want to use. To do this, add the **SgtLight** component to your main scene light (By default this will be the **Directional Light** GameObject).

NOTE: Adding lighting means the nearest shadow will also be received by the gas giant.

Optional Step - Casting Shadows

If you want this planet to cast shadows using the SGT shadow system (e.g. so it can cast on rings), then add the **SgtShadowSphere** component alongside the **SgtJovian** component.

To make the shadows look correct the **Radius Min/Max** values should be similar to the **SgtJovian** component's **Radius** setting.