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Contents

Install or update Nature Renderer

## Supported Render Pipelines

Nature Renderer supports the standard built-in render pipeline and all Scriptable Render Pipelines. The following versions are supported:

Standard (Built-in)	2018.4 or higher	2018.4 or higher
High-Definition	7.0 or higher	2019.3 or higher
Universal	7.0 or higher	2019.3 or higher

Install

Each render pipeline in Unity requires different shaders and materials. In order to get you the correct shaders and materials for your render pipeline we have included multiple packages and a package manager to install the correct assets.

After downloading Nature Renderer from the Asset Store, import all contents of the package. The package from the store contains a Package Manager, and 3 separate Unity Packages for each render pipeline:
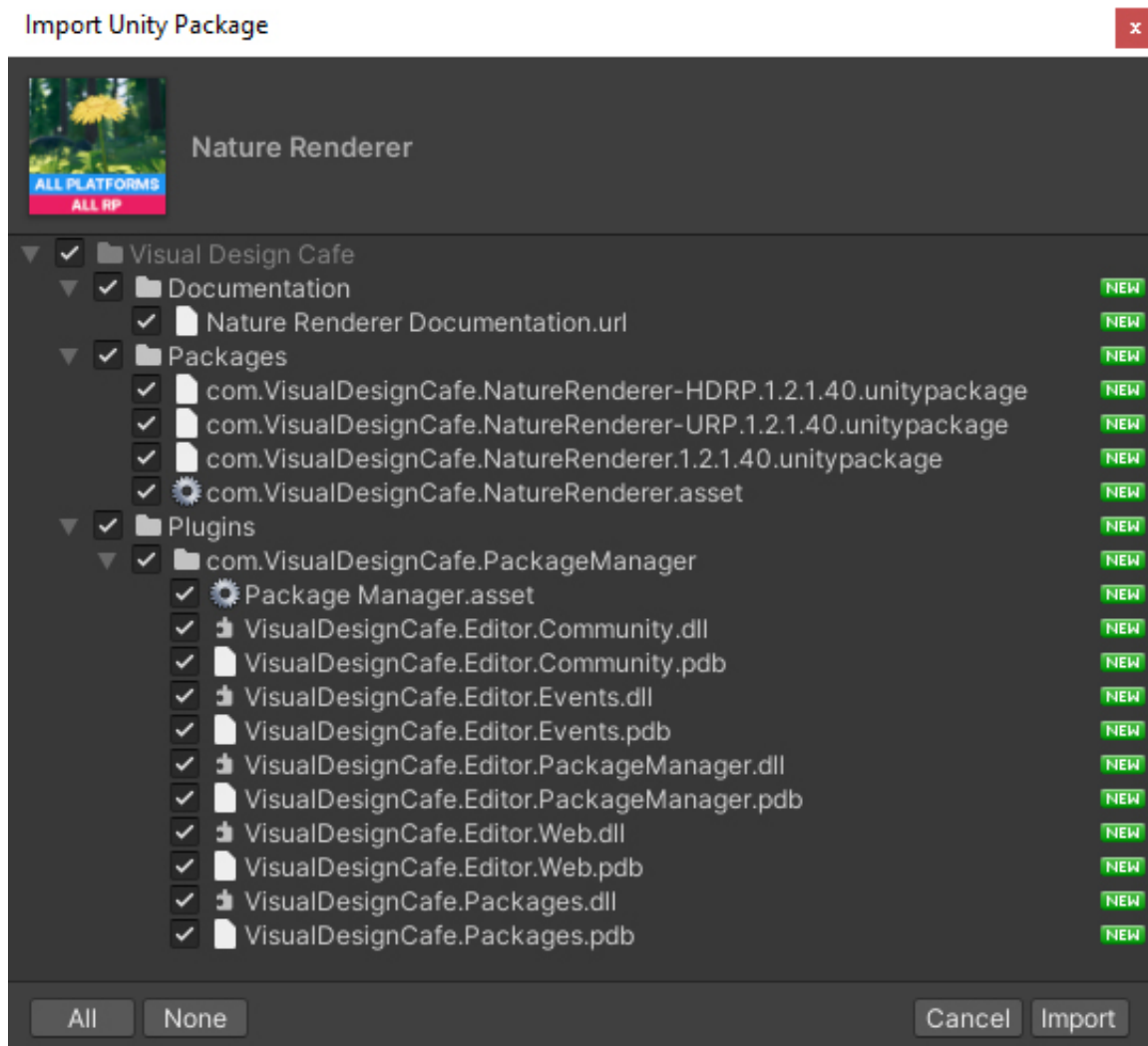
After importing the package from the store, the Package Manager will automatically start and begin importing the correct package for the render pipeline of the project. A second import window will show with the contents of the package. Click **Import** to import all assets into your project.

Import Unity Package

com.VisualDesignCafe.NatureRenderer-URP.1.2.1.40

- ▼ ✓ 📁 Visual Design Cafe ⚠ ⟳
  - ▼ ✓ 📁 Nature Renderer Demo NEW
    - ▼ ✓ 📁 Common NEW
      - ✓ 📄 Main Camera Timeline.playable NEW
      - ✓ ⚙ SampleTerrain.asset NEW
    - ▼ ✓ 📁 Universal NEW
      - ✓ 🔷 SampleScene.unity NEW
  - ▶ ✓ 📁 Nature Shaders NEW
  - ▼ ✓ 📁 Plugins ⚠ ⟳
    - ▼ ✓ 📁 com.VisualDesignCafe.NatureRenderer NEW
      - ✓ 🖼 Nature Renderer Icon.png NEW
      - ✓ ⚙ Nature Renderer.asset NEW
      - ✓ # NatureRenderer.SRP.cs NEW
      - ✓ 📑 VisualDesignCafe.Pooling.dll NEW
      - ✓ 📄 VisualDesignCafe.Pooling.pdb NEW
      - ✓ 📑 VisualDesignCafe.Rendering.dll NEW
      - ✓ 📑 VisualDesignCafe.Rendering.Nature.dll NEW
      - ✓ 📑 VisualDesignCafe.Rendering.Nature.Editor.dll NEW
      - ✓ 📄 VisualDesignCafe.Rendering.Nature.Editor.pdb NEW
      - ✓ 📄 VisualDesignCafe.Rendering.Nature.pdb NEW
      - ✓ 📄 VisualDesignCafe.Rendering.pdb NEW
    - ▼ ✓ 📁 com.VisualDesignCafe.NatureShaders NEW
      - ✓ ⚙ Nature Shaders.asset NEW
      - ✓ 📑 VisualDesignCafe.Nature.dll NEW
      - ✓ 📑 VisualDesignCafe.Nature.Editor.dll NEW
      - ✓ 📄 VisualDesignCafe.Nature.Editor.pdb NEW
      - ✓ 📑 VisualDesignCafe.Nature.Editor.ShaderGraph.Access.dll NEW

All   None   Cancel   Import

Nature Shaders is installed along with Nature Renderer. The Nature Shaders package contains a collection of optimized shaders with features such as wind animations, translucency, and more. These shaders are directly integrated with Nature Renderer and are recommended for all your vegetation.

Nature Shaders is a replacement of the legacy Open World Nature shaders that came with previous versions of Nature Renderer. Your materials upgrade automatically if they use the old shaders.

Manual Installation

If the import window did not show automatically, then you can select the installer file called **com.VisualDesignCafe.NatureRenderer** in **Assets/Visual Design Cafe/Packages** and click the settings icon on the top-right corner of the inspector. Then choose "**Install**" from the menu.
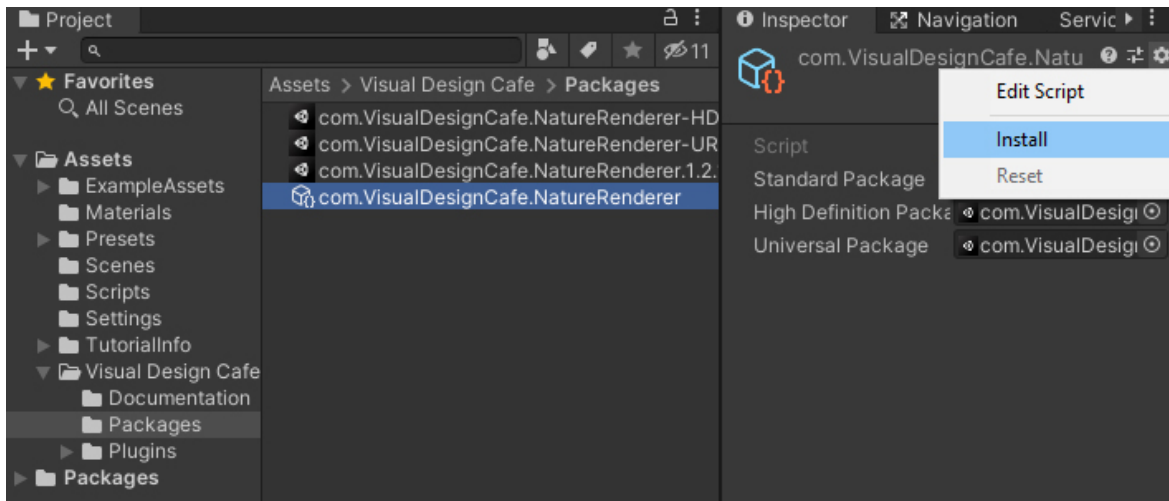

Update

To update Nature Renderer to a new version either follow the same steps above, or go to **Help > Nature Renderer > Check for Updates** to directly download the correct assets for the current render pipeline.

You can update the Nature Shaders package separately. Major updates of Nature Renderer come with an updated version of Nature Shaders embedded.

Change Render Pipelines

It is possible to change the render pipeline after Nature Renderer is installed. Change your project to the new render pipeline and then manually import the correct package.

All packages are located in **Assets/Visual Design Cafe/Packages**. Each package name starts with **com.VisualDesignCafe.NatureRenderer**, followed by the render pipeline (**-URP** for Universal, **-HDRP** for High-Definition, and nothing for Standard), and then the version number.
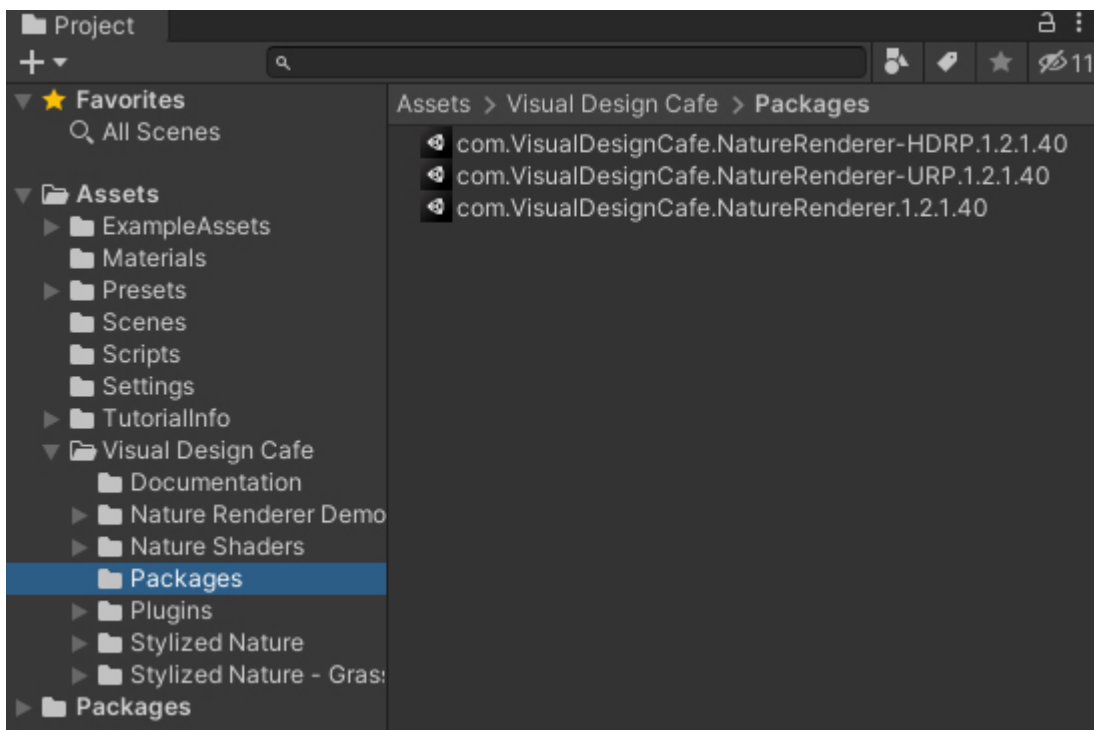
Enable Nature Renderer for your terrain

To enable Nature Renderer for your terrain add the 'Nature Renderer' component to your Terrain object. Nature Renderer should then automatically set up and render your terrain detail objects.

Disable or remove the Nature Renderer component to re-enable Unity's default rendering system.
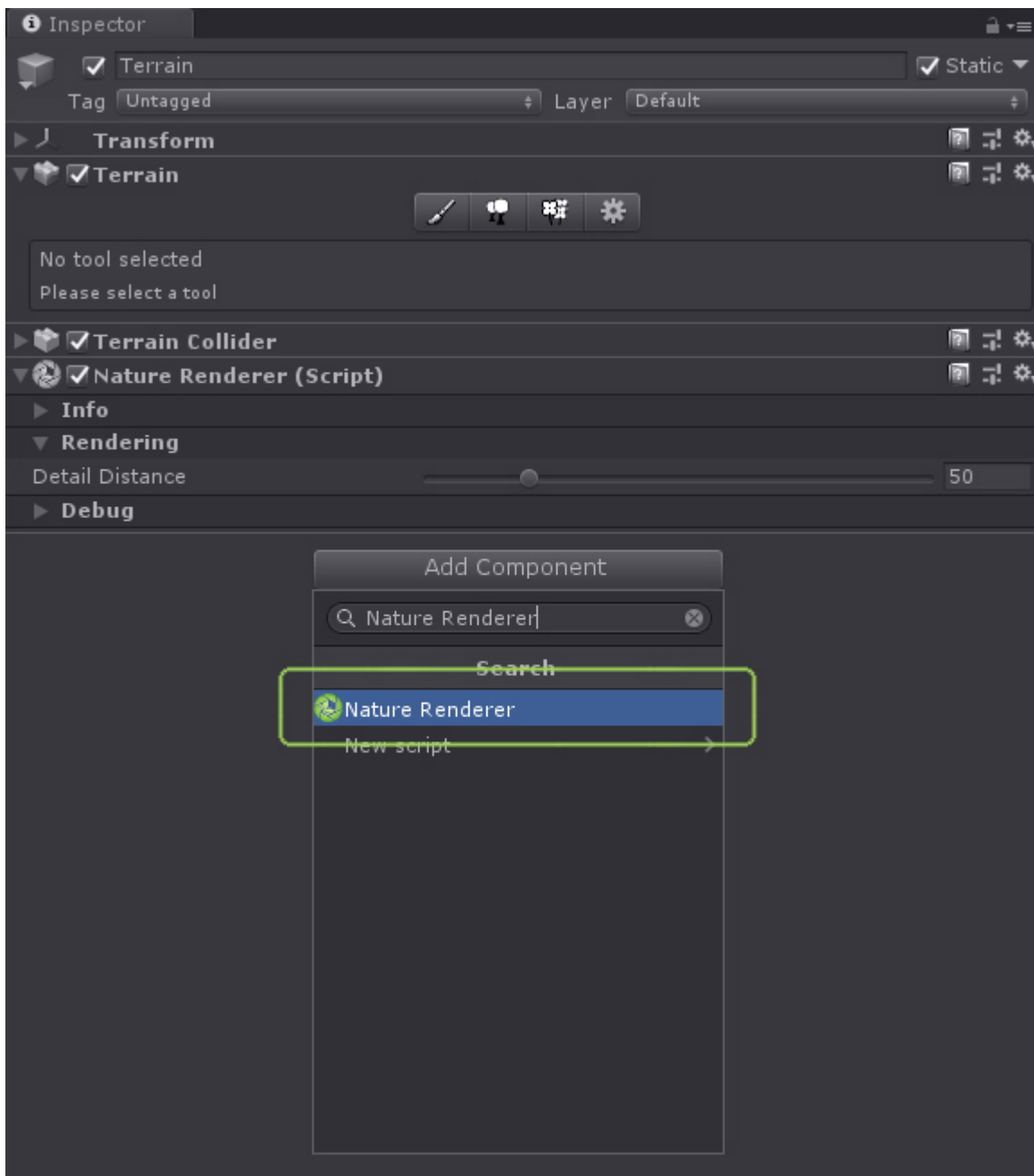
Add detail objects to a terrain

Add detail objects the same way that you would normally through the Terrain component. Nature Renderer will automatically load and render the detail objects from your terrain data.

1. Go to the '**Paint Details**' tab in your Terrain component.
2. Click '**Edit Details...**' and choose '**Add Detail Mesh**' (recommended) or '**Add Grass Texture**'.
3. Pick a prefab for the detail and edit the detail's properties.

Detail prefabs require a Mesh Renderer and Mesh Filter component on the root Game Object and cannot have non-assigned materials.
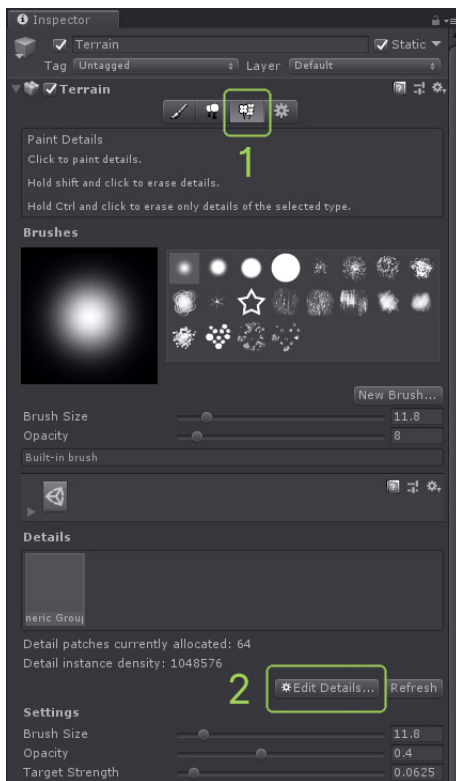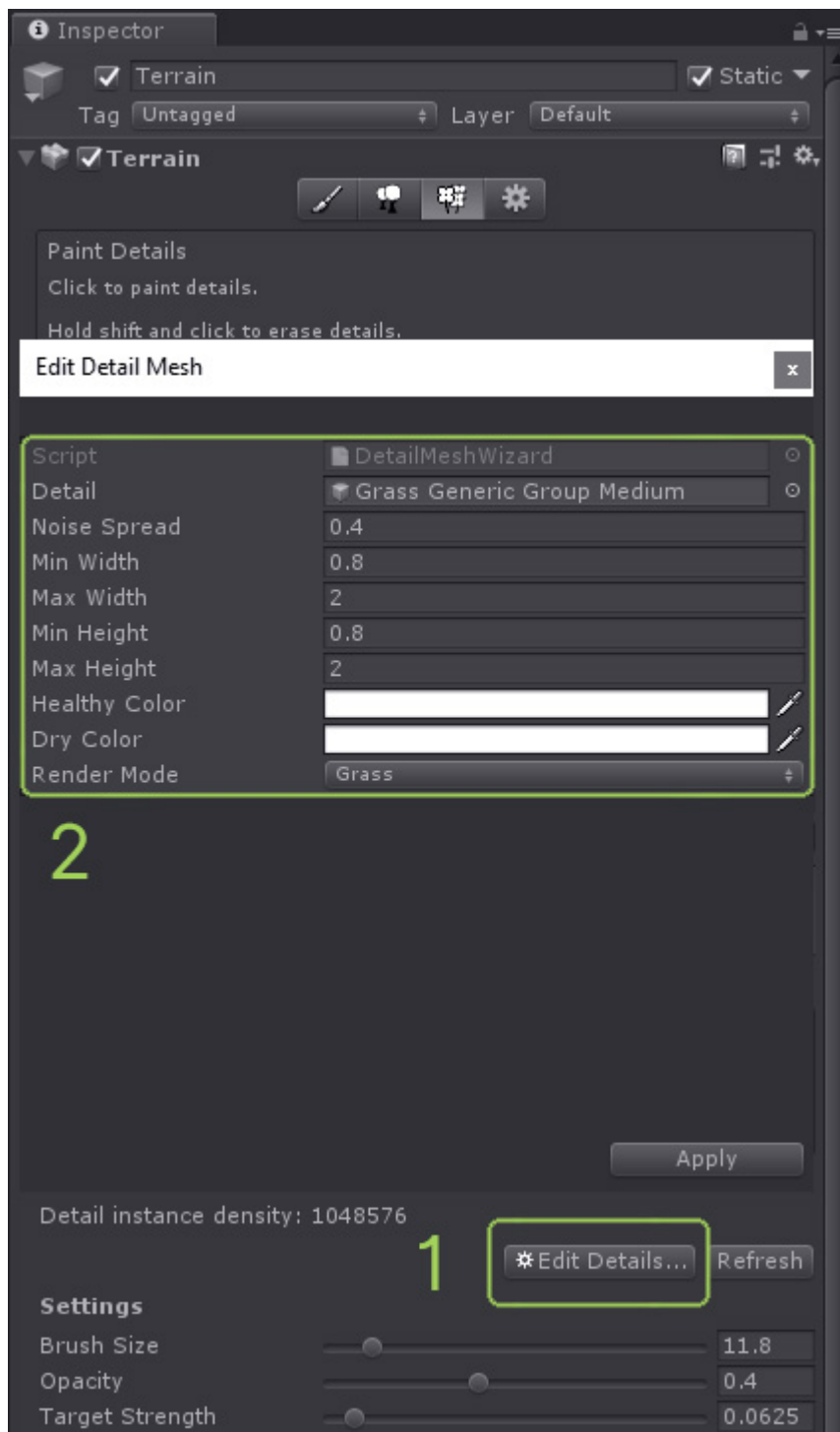
Edit and tweak detail objects

Edit detail objects through the Terrain component:

1. Go to the '**Paint Details**' tab in your Terrain component.
2. Select the detail that you want to edit in the list.
3. Click '**Edit Details...**' and choose '**Edit**'.
4. Change the properties in the '**Edit Detail Mesh**' popup.

|	
Detail	The prefab to use for the detail.
Noise Spread	The size of the noise that is applied to the color and scale. Larger values reduce the size.
Min Width	Minimum scale for the detail
Max Width	Maximum scale for the detail
Min Height	Minimum scale for the detail
Max Height	Maximum scale for the detail
Healthy Color	Color variation 1 (Set both Healthy and Dry to full white to disable coloring)
Dry Color	Color variation 2
Render Mode	Ignored by Nature Renderer

Inspector

☑ Terrain   ☑ Static ▼

Tag Untagged   ‡ Layer Default   ‡

▼ ☑ Terrain

Paint Details
Click to paint details.

Hold shift and click to erase details.

Edit Detail Mesh   x

Script	DetailMeshWizard
Detail	Grass Generic Group Medium
Noise Spread	0.4
Min Width	0.8
Max Width	2
Min Height	0.8
Max Height	2
Healthy Color	
Dry Color	
Render Mode	Grass

2

Apply

Detail instance density: 1048576

1   ⚙ Edit Details...   Refresh

Settings

Brush Size		11.8
Opacity		0.4
Target Strength		0.0625

Change the color of detail objects

The color for detail objects are set in the detail settings using the 'Healthy' and 'Dry' colors. These colors are blended based on a noise texture that is spread out over the terrain. Therefore, some parts will use the Healthy color, while other parts use the Dry color. The Noise Spread value determines the size of this noise.

There are two different coloring methods to pick from. The coloring method is loaded based on the material that is used by the detail object. (Read the Material Editor article on how to set the color method)

If the HSL color method is used then the colors and noise spread are loaded from the material, and the detail settings are ignored.

- **Tint**. This is the default coloring method used by Unity and Nature Renderer. The Healthy and Dry colors set in the detail settings are multiplied with the texture of the object. The result is that the object will be slightly tinted with this color. For example, here is the Dry Color set to red:
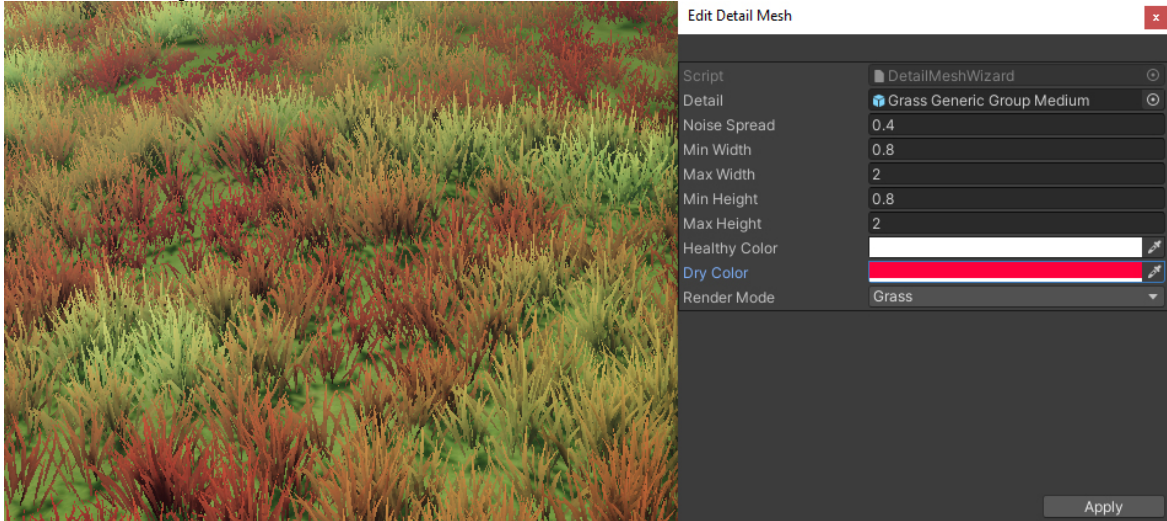

- **Hue, Saturation, Lightness (HSL)**. A more advanced coloring method used by Nature Renderer. This allows for more accurate and more extreme color corrections. When this method is used, the Healthy and Dry color set in the detail settings are ignored. Tweak the color in the material instead.

  This method is useful for projects that rely on Physically Based Rendering, because it allows you to change the material (albedo) color without affecting the lightness or saturation. This makes it easier to keep the albedo in the correct range, even for extreme

color changes. For example: here is the same grass as above that uses a hue variation on the grass to change the grass color to purple.
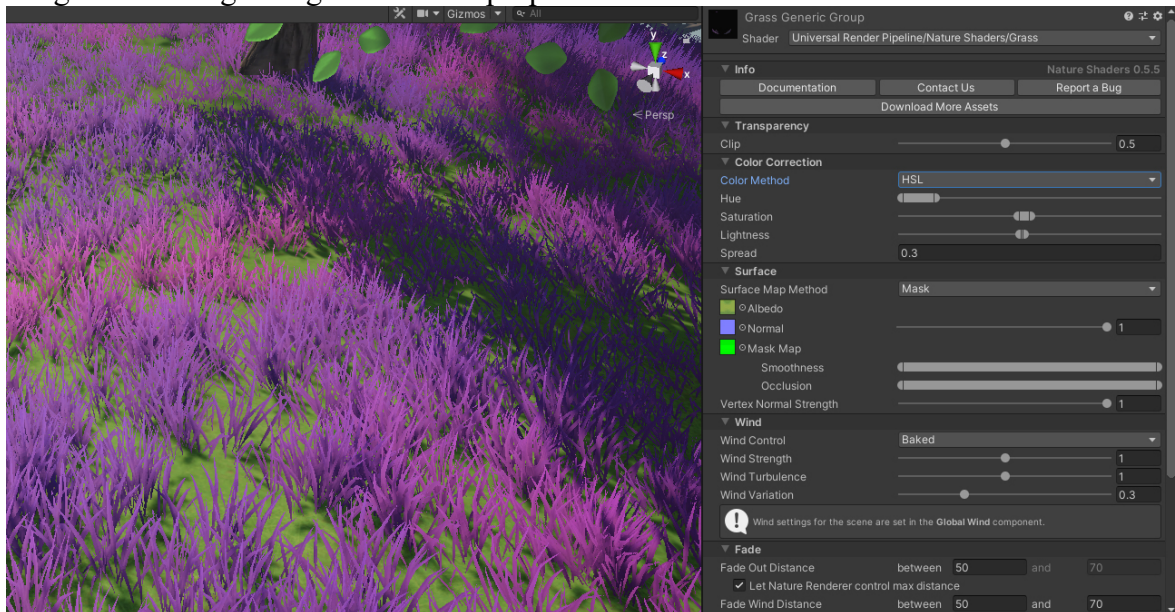
As a comparison, here is the same color correction using the Tint method. Notice how it is not possible to get the correct color and how the color darkens a lot because it is being multiplied with the texture color:
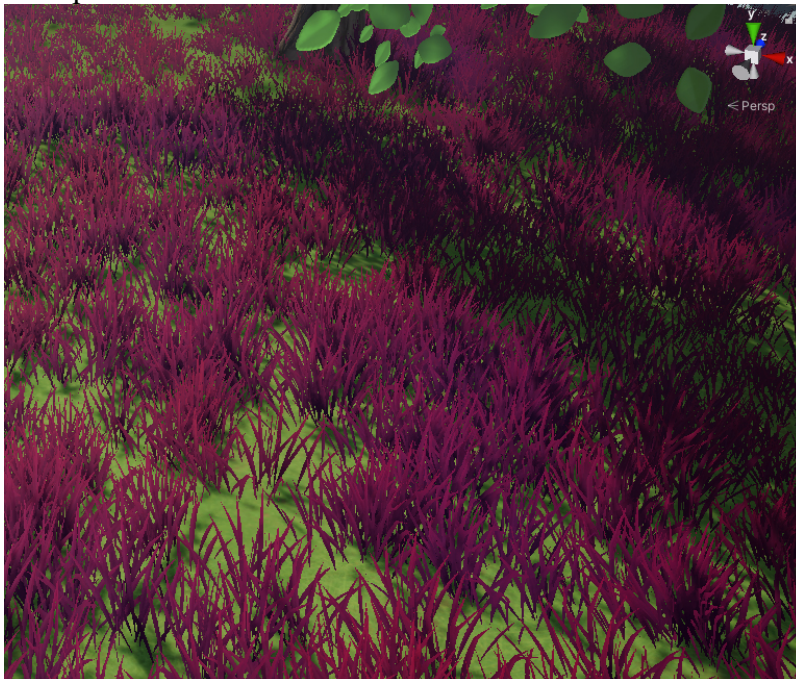
Render Settings and Material

Tweak the render settings for detail objects in the Mesh Renderer component of the detail prefab. You can change the following settings:

- **Cast Shadows**
- **Receive Shadows**
- **Light Probes**
  Set the Light Probes field to 'Custom Provided' to enable light probe sampling for the detail object.
- **Material**
  Nature Renderer will use the material that is set in the Mesh Renderer component. If you do not have a custom grass shader then you can use the included grass shader from the Open World Nature sample pack by picking the shader 'Open World Nature/Grass' for your material.
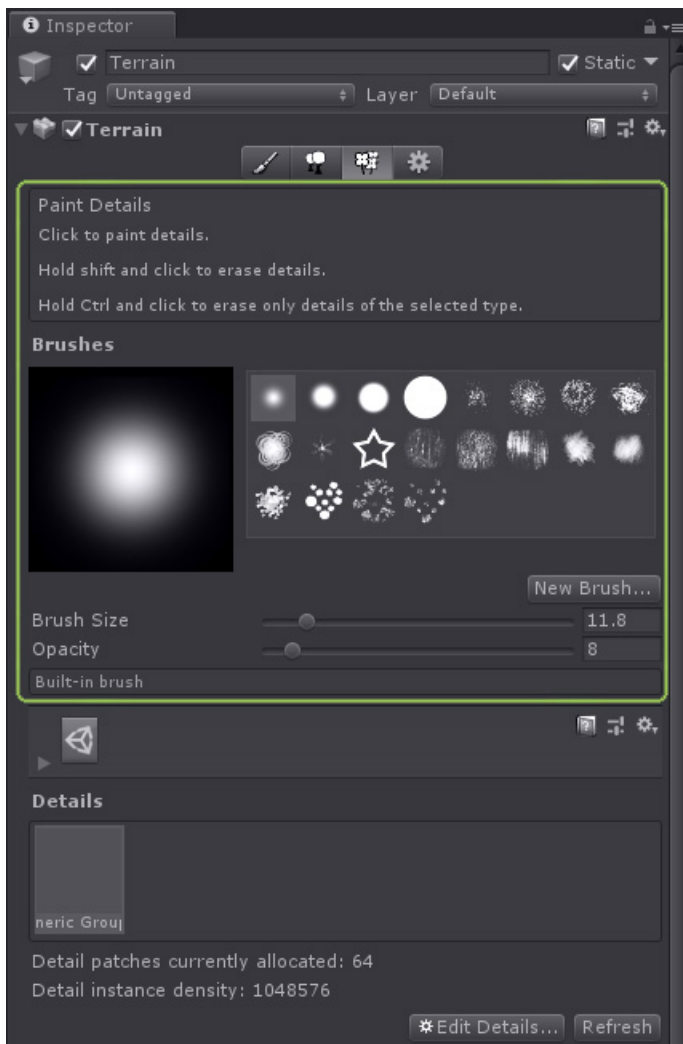
Make sure that '*Enable GPU Instancing*' is enabled for your material.
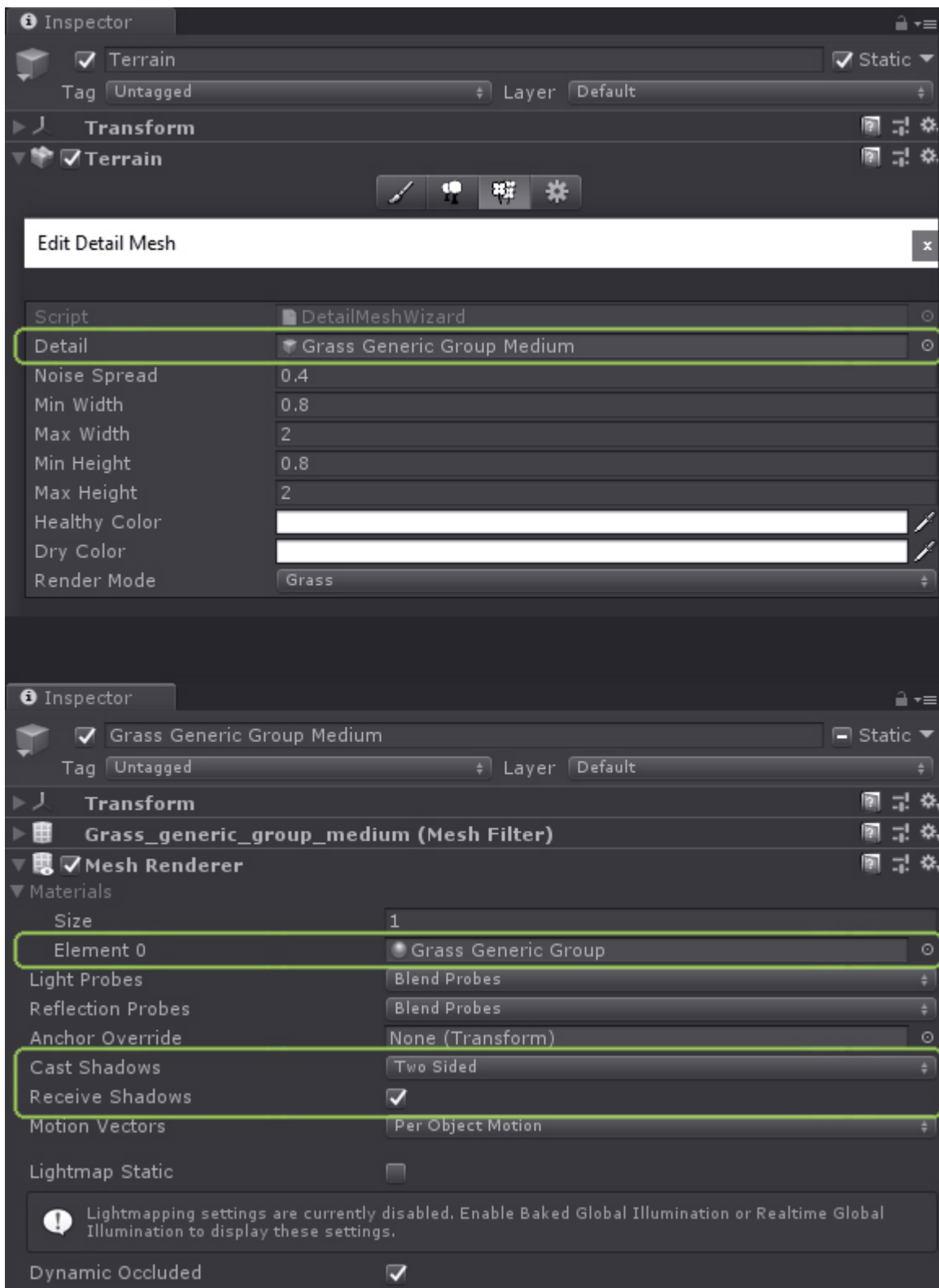
Placing detail objects

Place details with Unity's default terrain editing tools.

1. Go to the '**Paint Details**' tab in the Terrain component.
2. Select the detail that you want to place and set the **Brush Size**, **Opacity**, and **Target Strength**.
3. Paint the details on your terrain.

Draw Distance

Nature Renderer overrides Unity's detail draw distance. Edit the detail draw distance in the Nature Renderer component instead of the default Terrain component.

If your detail object contains a LOD Group then the culling distance of that LOD Group is used instead of the Detail Distance from the Nature Renderer component. The culling distance of the LOD Group can never be larger than the Detail Distance set in the Nature Renderer component.
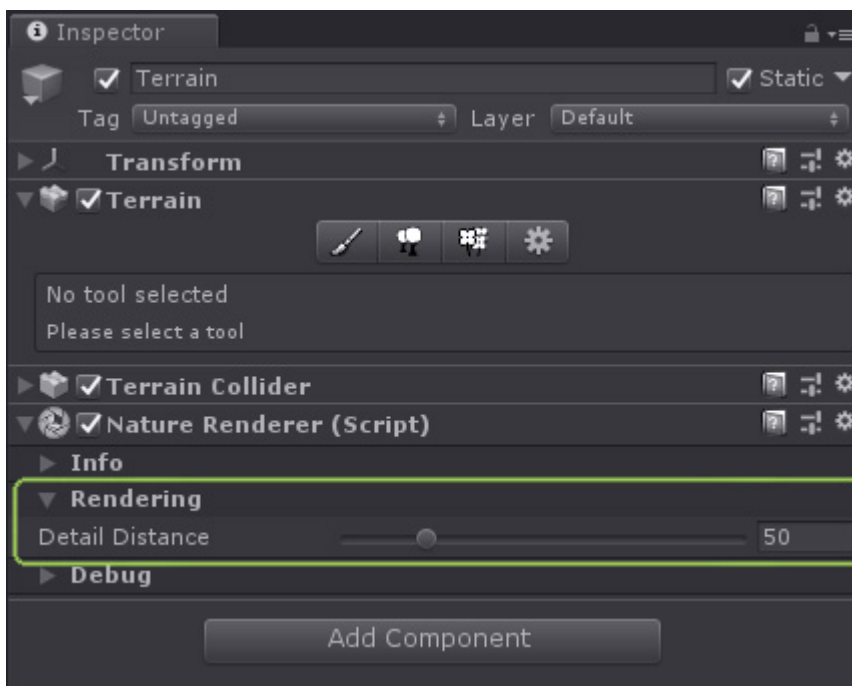
Edit Wind Settings

By default, a 'Calm' wind preset will be applied to all models in the scene (in the editor). To change the wind settings you can add a 'Global Wind' component to a Game Object in your scene. You can then tweak the wind settings in this component, or load a preset to apply it to the objects in the scene.

When making a build, a Global Wind component is required for the correct wind settings.

(In older versions of Nature Renderer terrain details do not render if there is no Global Wind component in the scene)

Select a Wind Zone from Unity in the 'Source Wind Zone' property to copy its settings.

Material for 2D grass textures

When you add terrain details using only a 2D grass texture then Nature Renderer does not have any specific material to use for that texture. By default, Nature Renderer will create a new material (internally) and assigns the 'Nature Shaders/Grass' shader to that material.

If you want to use a different material then you can assign a custom material to the Billboard Grass Material property in the Nature Renderer component. This material is then assigned to all the terrain details that use 2D grass textures. The main texture of the material is replaced with the grass texture, and all other properties of the material are kept the same.

2D grass textures are a convenience feature for quickly and easily adding terrain details. It is recommended to use a 3D model for more control over the detail's settings or materials.