

Terrain Engine 2D

A 2D Block Engine for Unity

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Terrain Engine 2D - V1.10

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Block Setup

This page explains how to setup your layer and block types in the World custom inspector.

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Basics

In Terrain Engine 2D the terrain is made up completely of blocks. As the developer you have complete control over all of the blocks in your game. In order to make everything simple and easy Terrain Engine 2D contains a convinient tab in the custom inspector of the World called 'Block Setup'. Inside the Block Setup tab you can setup all of the blocks which will be used in your game. Here you can add, remove, modify, and rearrange all of the layers and blocks in your game.

Block Properties

Pixels Per Block

The Pixels Per Block property is the amount of pixels that make up a single side length of one tile in your block textures. This property should be set to your desired Pixels Per Block ratio which you would have needed to determine to create your textures.

Z Block Distance

The Z Block Distance is the z distance between each Block Type when they are rendered to the scene, it is used to set render order for your blocks.

Z Layer Factor

The Z Layer Factor is the factor which determines the z distance between each different block layer. This distance is set by multiplying the Z Layer Factor with the Z Block Distance.

Layers

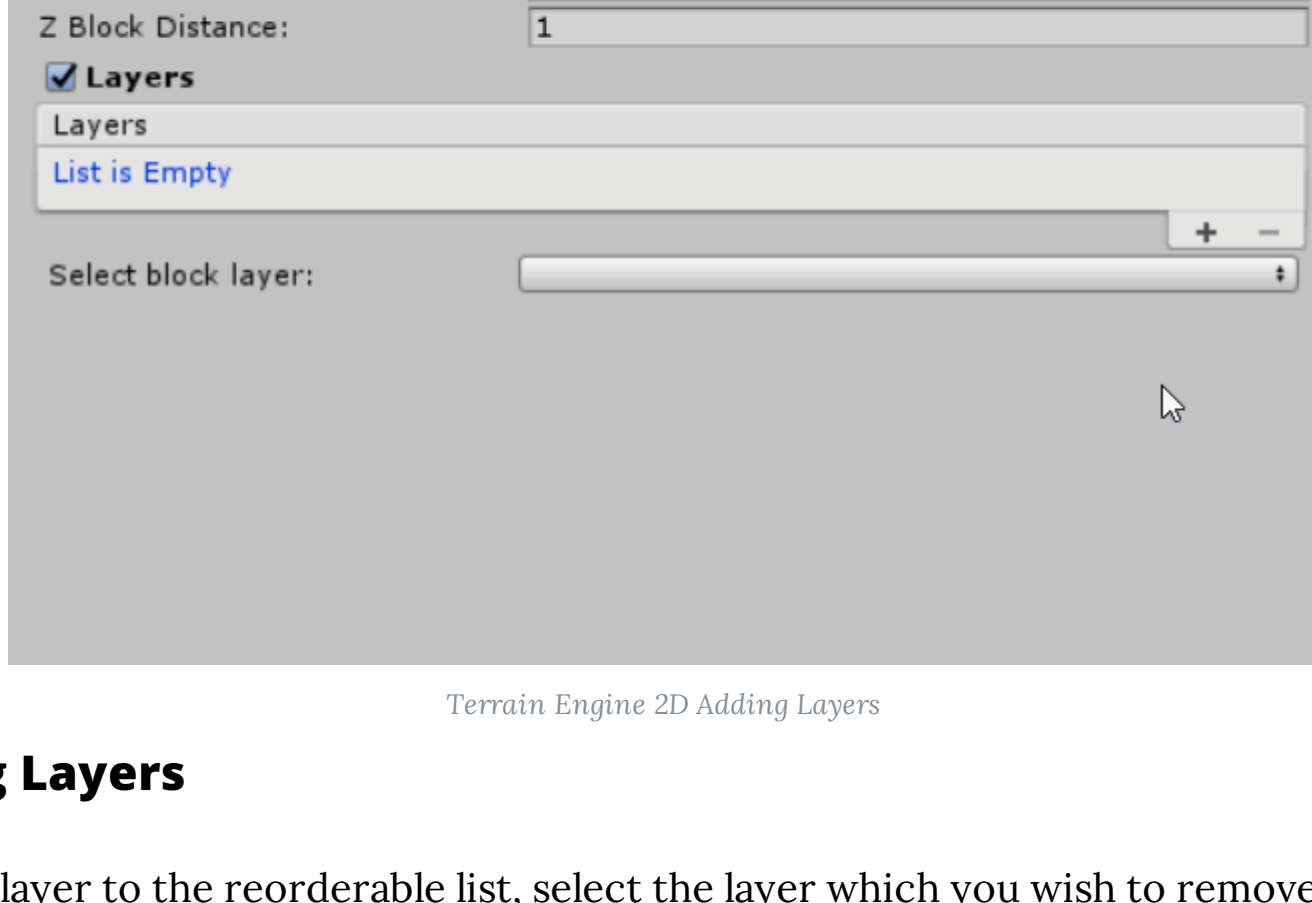
In Terrain Engine 2D all of your blocks are arranged in layers, where each layer has its own set of Block Types. Layers are used to group your blocks and control render order. Typically you will have a background, main, and foreground layer. In the custom inspector there is a Reorderable List which allows you to add, remove, rearrange, and modify the layers.

Layer Properties

- Name** Give a name to the layer
- Enable Colliders** Set whether the layer will use colliders
- Tileset Material** Set the Material for the layer (this Material should contain the tileset texture)

Adding Layers

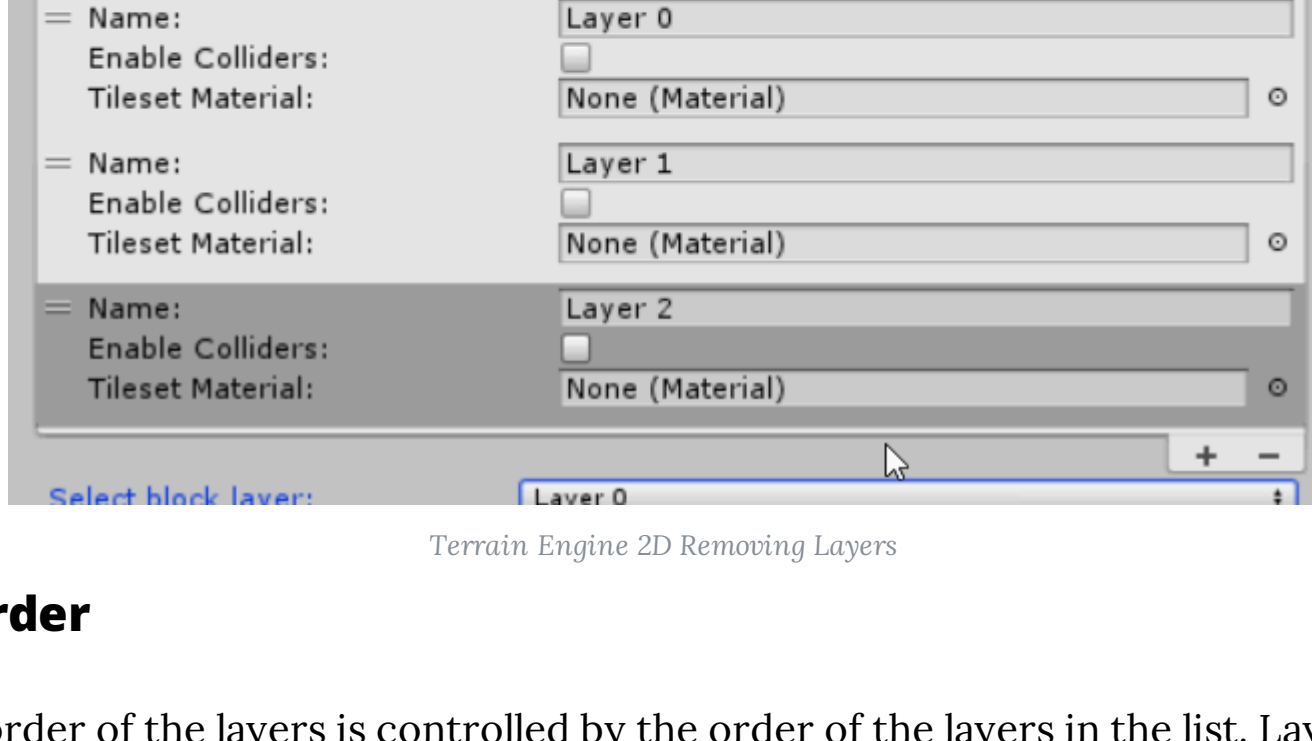
To add a new layer to the reorderable list, click the '+' sign at the bottom right of the list gui.



Terrain Engine 2D Adding Layers

Removing Layers

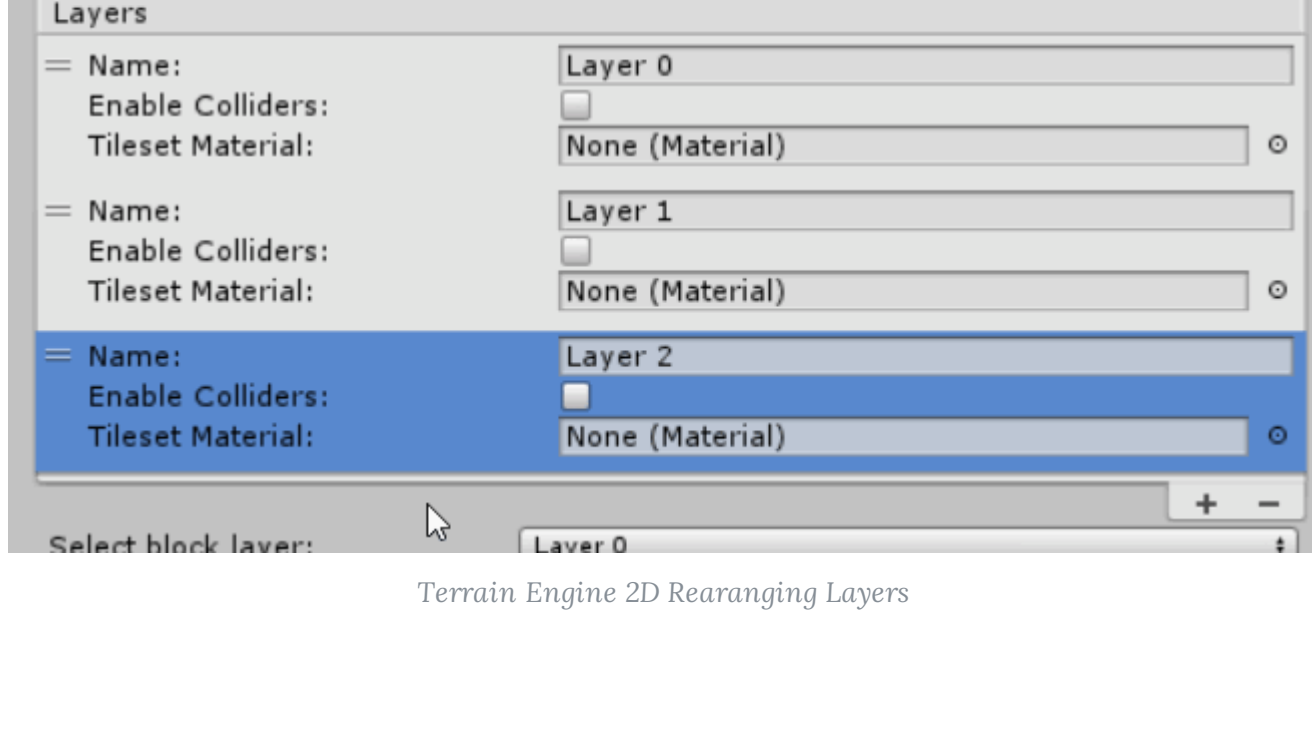
To remove a layer to the reorderable list, select the layer which you wish to remove, then click the '-' sign at the bottom right of the list gui.



Terrain Engine 2D Removing Layers

Render Order

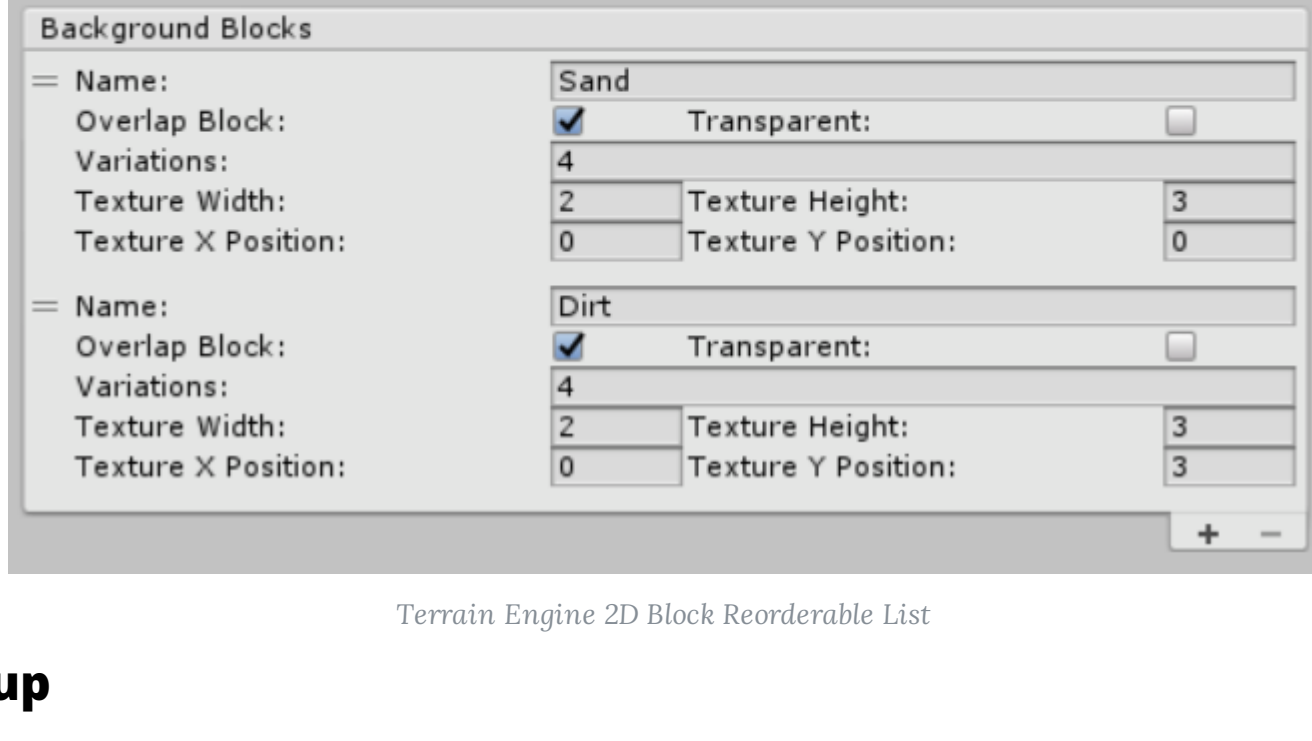
The render order of the layers is controlled by the order of the layers in the list. Layers closer to the top/start of the list will be rendered first, and the other layers rendered on top. You can rearrange layers by dragging them around.



Terrain Engine 2D Rearranging Layers

Blocks

Each layer has its own Reorderable List of blocks where you can define all of the Block Types for that layer. Similarly to the Layer list you can add, remove, rearrange, and modify all the blocks in the custom inspector. Only one Reorderable List is shown at time, which you can select using the Dropdown button in the inspector.



Terrain Engine 2D Block Reorderable List

Block Setup

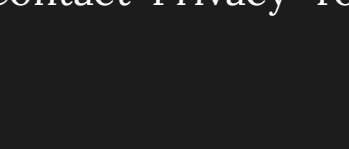
Whenever you add a new block to the Reorderable Block List you need to set the Block Properties of that newly define block. The properties are sort explanatory, but it is important to remember that Texture properties represent only the portion of the texture which represents that block. These properties are also all in **Block Units**, meaning you set the Texture Width, Texture Height, and Texture Position by the number of tiles (for example: a Default Block would have a Texture Width of 1 and a Texture Height of 1). Refer to the Example Scene included in the Asset Package if you have any confusion on setting up the blocks in your scene.

Block Properties

- Name** Give a name to the block
- Overlap Block** Set whether this is an Overlap block
- Transparent** Set whether this block's texture contains any transparent pixels
- Variations** Set the number of texture variations for this block
- Texture Width** Set the width of this block (in block units)
- Texture Height** Set the height of this block (in block units)
- Texture X Position** Set the x position of this block in the texture (in block units)
- Texture Y Position** Set the y position of this block in the texture (in block units)
- Falling Block** This property only shows up if the Falling Block Simulation is enabled and you are working with the Falling Block Layer. It allows you to set whether the block will fall with gravity

Render Order

Each Block Type has its own unique render order (or z position), this is only important for Overlap Blocks which may overlap other blocks. The render order of the blocks is controlled by the order of the blocks in the list. Blocks close to the top/start of the list will be rendered first, and the other blocks on top.



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