

Terrain Slicer Guide

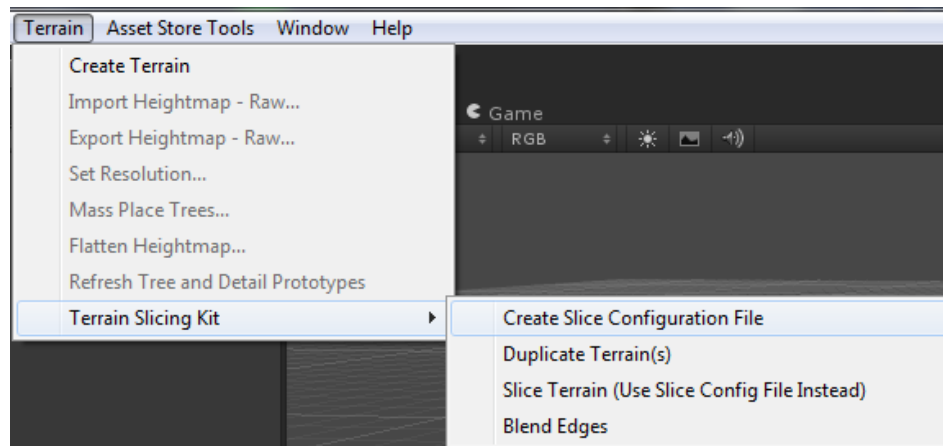
By Kyle Gillen

New and Improved

- Ability to slice selected regions of a terrain rather than the whole thing.
- No need to open Slicing Window. All slicing done through Slice Configuration File.

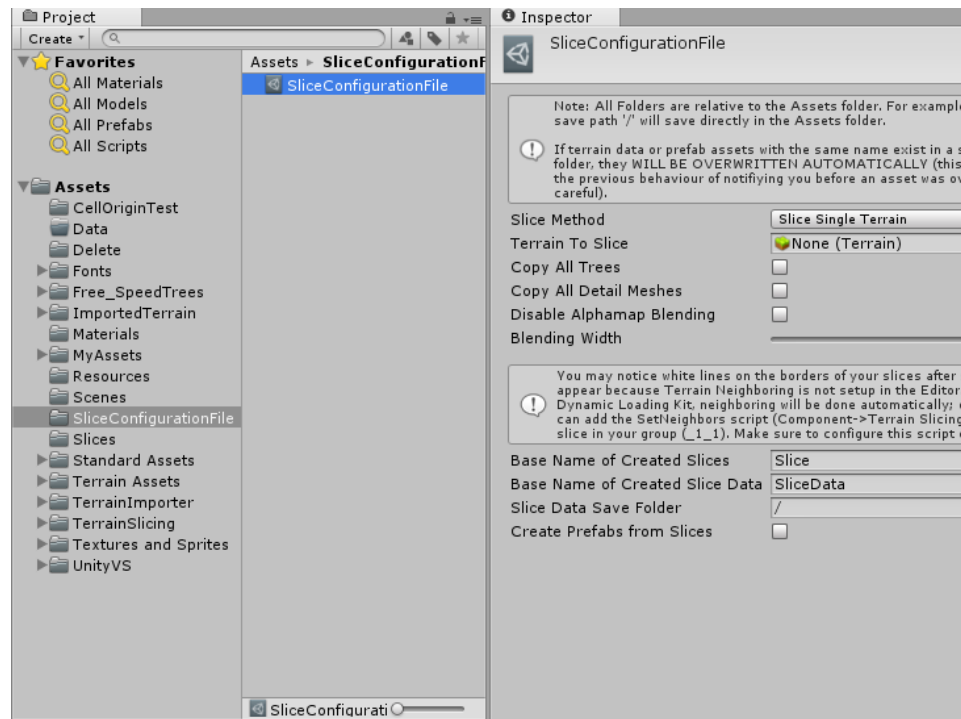
Getting Started

- To slice a terrain or terrain group, first create a Slice Configuration File (Terrain -> Terrain Slicing Kit -> Create Slice Configuration File).



Getting Started

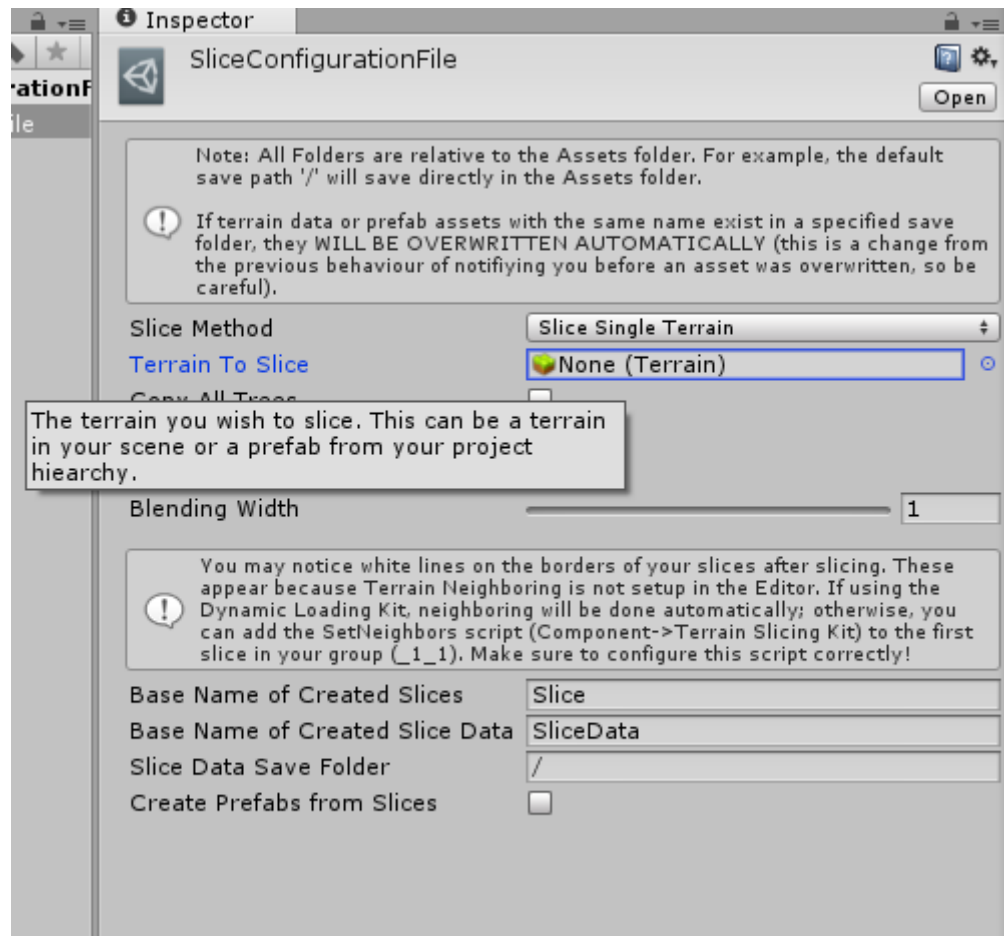
- This creates a new scriptable object asset in whatever folder you have selected (or in the Assets folder if no folder is selected).



Slicing a Single Terrain

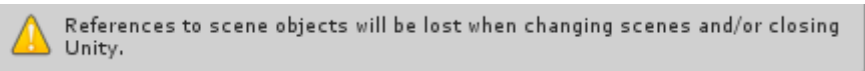
- Slicing a single terrain offers advantages over slicing a group of terrains.
- With a single terrain, you have the ability to slice a region smaller than the actual terrain.
- Start by dragging a Terrain game object into the “Terrain To Slice” field. This can either be a prefab or Terrain from the scene.

Slicing a Single Terrain



Slicing a Single Terrain

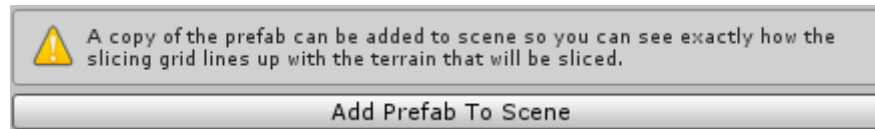
- If you drag a Terrain from the scene, you will see the following warning:



- This is just a reminder that closing Unity and/or the currently opened scene will cause the reference to the Terrain to be lost.
- This is because the Slice Configuration File is a persistent asset, whereas the Terrain in the scene lives only in the scene (though the TerrainData is also a persistent asset).

Slicing a Single Terrain

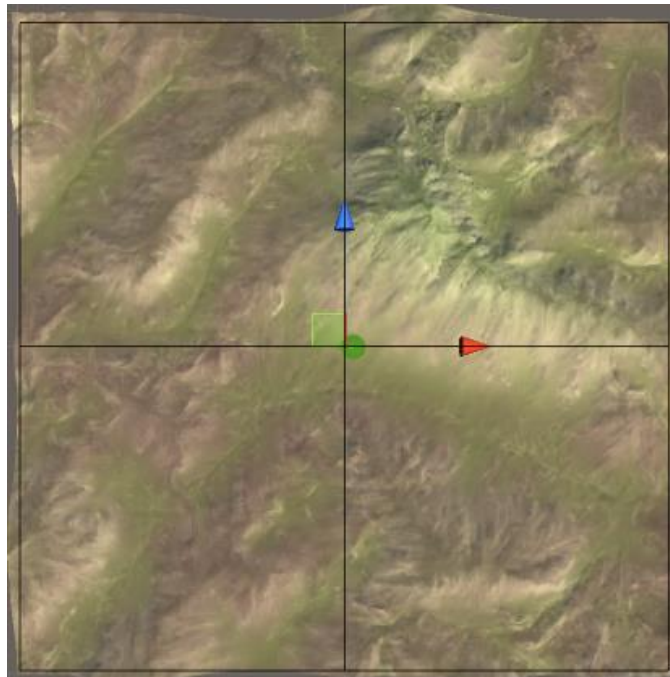
- If you drag a Terrain prefabs from the Project Hierarchy, you will see the following warning and button:



- This button can be used to add a copy of the terrain prefab to the scene, which is crucial for effectively lining up the slicing grid.

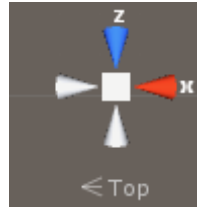
Slicing a Single Terrain

- If your terrain is not a prefab (aka it is a scene object), or if you've added a copy to the scene via the button in the previous slice, you should see a black grid overlapping your terrain.



Slicing a Single Terrain

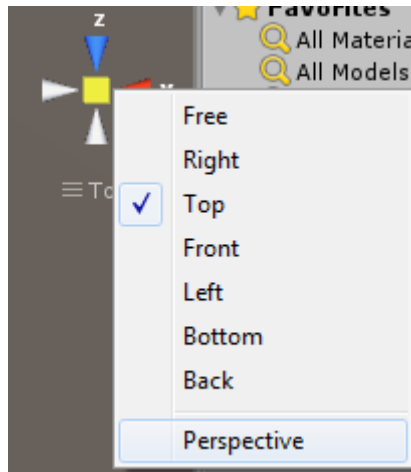
- If you don't see this grid, you may need to change the scene camera.
- Right click the white square on the Gizmo in the top right corner of the scene view and change the view to "Top". It should look like this after.



- This puts the scene camera into a top down view with the terrain's origin at the bottom left.

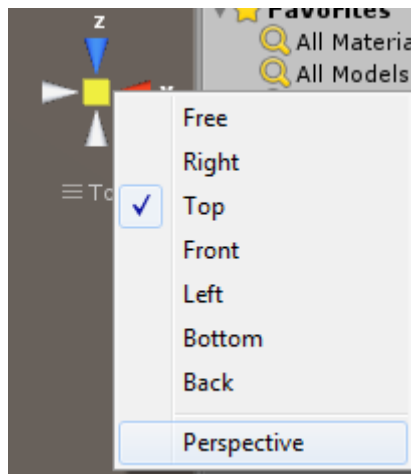
Slicing a Single Terrain

- You should also change the camera to Orthographic mode.
- Again, right click on the white square, but this time uncheck the “Perspective” option (it may already be unchecked).



Slicing a Single Terrain

- You should also change the camera to Orthographic mode.
- Again, right click on the white square, but this time uncheck the “Perspective” option (it may already be unchecked).

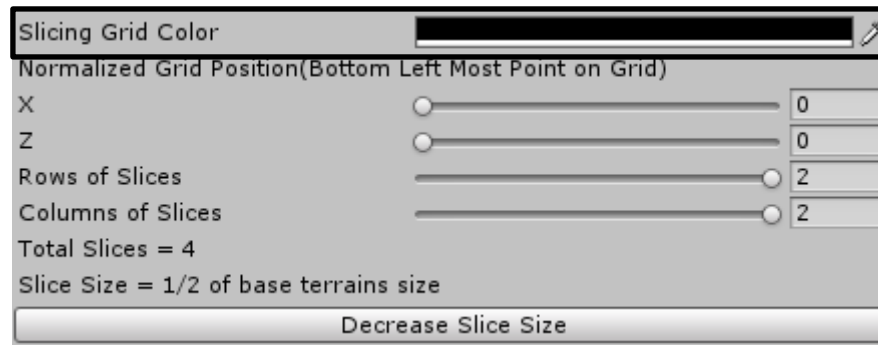


Slicing a Single Terrain

- You've probably noticed that several new options were added when you dragged the Terrain reference into the "Terrain To Slice" field.
- These options directly control the slicing grid.

Slicing a Single Terrain

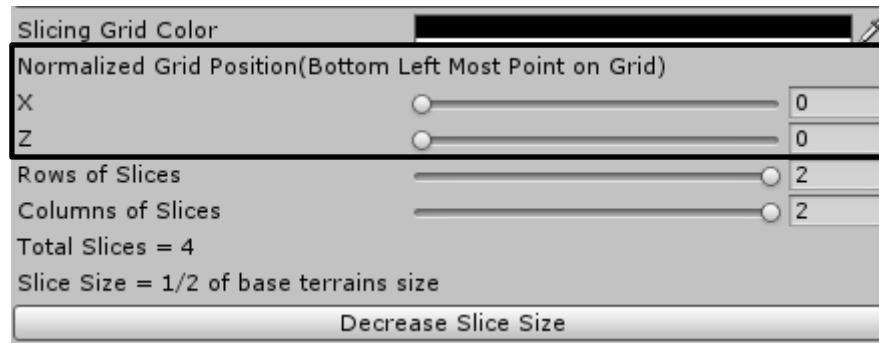
Slicing Grid Color



Controls the color of the slicing grid within the Scene View.

Slicing a Single Terrain

Normalized Grid Position



The screenshot shows a software window titled "Slicing Grid Color" with a color picker. Below it, a section titled "Normalized Grid Position(Bottom Left Most Point on Grid)" contains two sliders for "X" and "Z", both set to 0. Below this, there are sliders for "Rows of Slices" and "Columns of Slices", both set to 2. The text "Total Slices = 4" and "Slice Size = 1/2 of base terrains size" is displayed. At the bottom is a button labeled "Decrease Slice Size".

Parameter	Value
Normalized Grid Position (X)	0
Normalized Grid Position (Z)	0
Rows of Slices	2
Columns of Slices	2

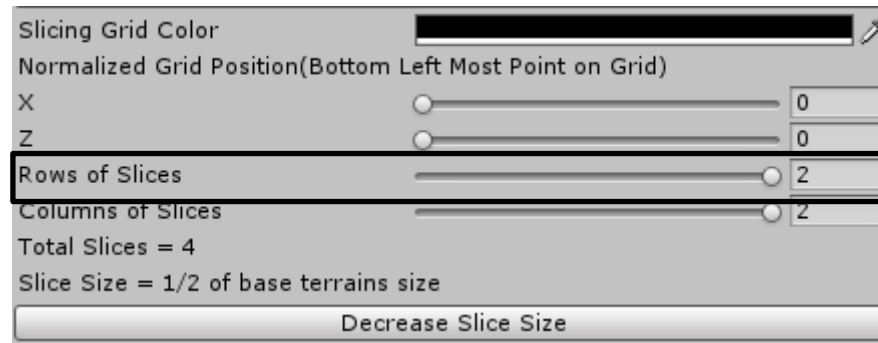
Total Slices = 4
Slice Size = 1/2 of base terrains size

Decrease Slice Size

The position of the slicing grid on the terrain. Initially this cannot be changed because the slicing grid encompasses the entire terrain. If you decrease the rows/columns of slices, you will be able to change the X and Z values.

Slicing a Single Terrain

Rows of Slices



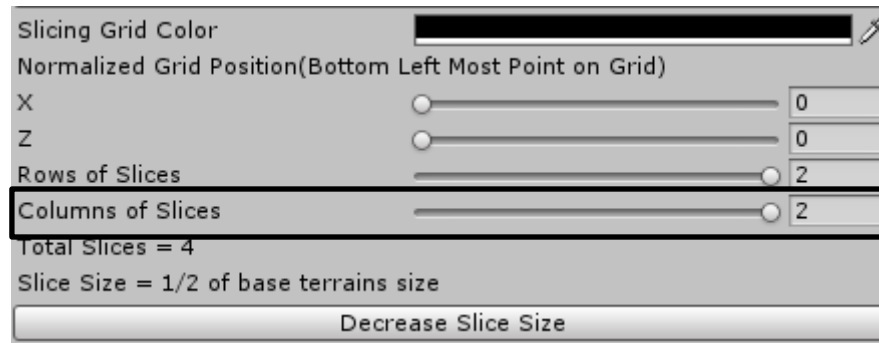
A screenshot of a software control panel for slicing a terrain. The panel has a light gray background and contains several controls:

- Slicing Grid Color:** A black color bar with a small pencil icon to its right.
- Normalized Grid Position(Bottom Left Most Point on Grid):** A label above two sliders.
 - X:** A slider with a value of 0.
 - Z:** A slider with a value of 0.
- Rows of Slices:** A slider with a value of 2. This control is highlighted with a black rectangular border.
- Columns of Slices:** A slider with a value of 2.
- Total Slices = 4:** A text label.
- Slice Size = 1/2 of base terrains size:** A text label.
- Decrease Slice Size:** A button at the bottom of the panel.

The number of slices along the Z Axis of the terrain. The minimum value is always 1 while the maximum value depends upon the Slice Size.

Slicing a Single Terrain

Columns of Slices




A screenshot of a software control panel for slicing a terrain. The panel has a light gray background and contains several controls:

- Slicing Grid Color:** A black color bar with a small pencil icon to its right.
- Normalized Grid Position(Bottom Left Most Point on Grid):** A label for the X and Z axis controls.
- X:** A slider control with a value of 0 displayed in a small box to its right.
- Z:** A slider control with a value of 0 displayed in a small box to its right.
- Rows of Slices:** A slider control with a value of 2 displayed in a small box to its right.
- Columns of Slices:** A slider control with a value of 2 displayed in a small box to its right. This control is highlighted with a black rectangular border.
- Total Slices = 4:** A text label indicating the total number of slices based on the current settings.
- Slice Size = 1/2 of base terrains size:** A text label indicating the size of each slice.
- Decrease Slice Size:** A button at the bottom of the panel.


The number of slices along the X Axis of the terrain. The minimum value is always 1 while the maximum value depends upon the Slice Size.


Slicing a Single Terrain


Total Slices


Slicing Grid Color 

Normalized Grid Position(Bottom Left Most Point on Grid)

X  0


Z  0

Rows of Slices  2

Columns of Slices  2

Total Slices = 4

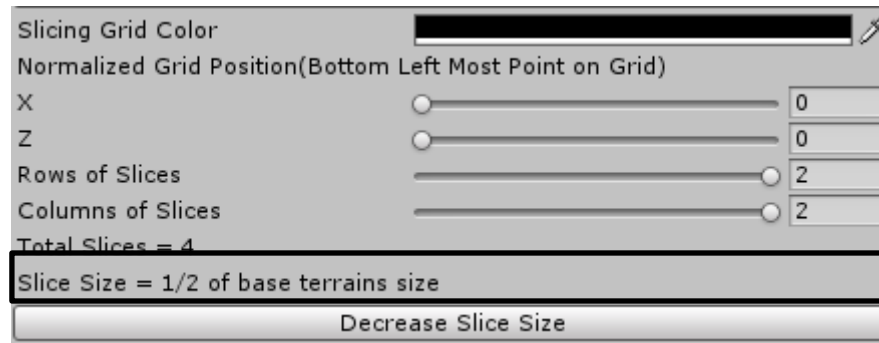
Slice Size = 1/2 of base terrains size



The total number of slices that will be produced with the current settings.

Slicing a Single Terrain

Slice Size



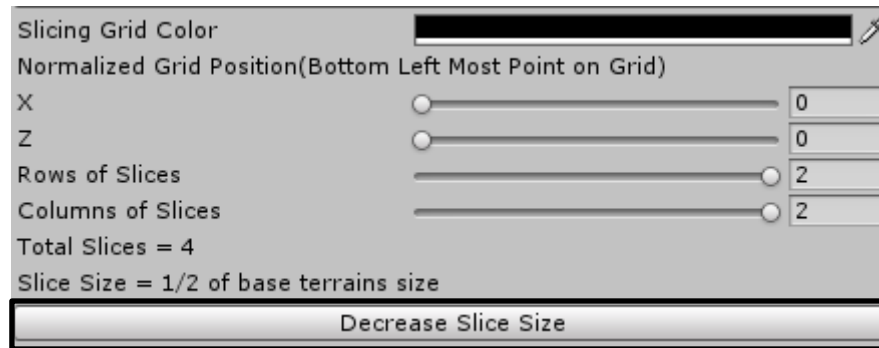
The screenshot shows a software interface for configuring terrain slicing. It includes a color picker for the 'Slicing Grid Color', a label for 'Normalized Grid Position(Bottom Left Most Point on Grid)', and sliders for 'X' and 'Z' coordinates, all set to 0. There are also sliders for 'Rows of Slices' and 'Columns of Slices', both set to 2. Below these, it states 'Total Slices = 4'. A text box displays 'Slice Size = 1/2 of base terrains size', and a button at the bottom is labeled 'Decrease Slice Size'.


Slicing Grid Color	
Normalized Grid Position(Bottom Left Most Point on Grid)	
X	<input type="text" value="0"/>
Z	<input type="text" value="0"/>
Rows of Slices	<input type="text" value="2"/>
Columns of Slices	<input type="text" value="2"/>
Total Slices = 4	
Slice Size = 1/2 of base terrains size	
<button>Decrease Slice Size</button>	

The size of each slice in relation to the base terrain. The maximum slice size is always $\frac{1}{2}$ the base terrain's size. The minimum size depends upon the smallest resolution of the base terrain.


Slicing a Single Terrain


Decrease Slice Size





Slicing Grid Color 

Normalized Grid Position(Bottom Left Most Point on Grid)

X  0

Z  0

Rows of Slices  2

Columns of Slices  2

Total Slices = 4

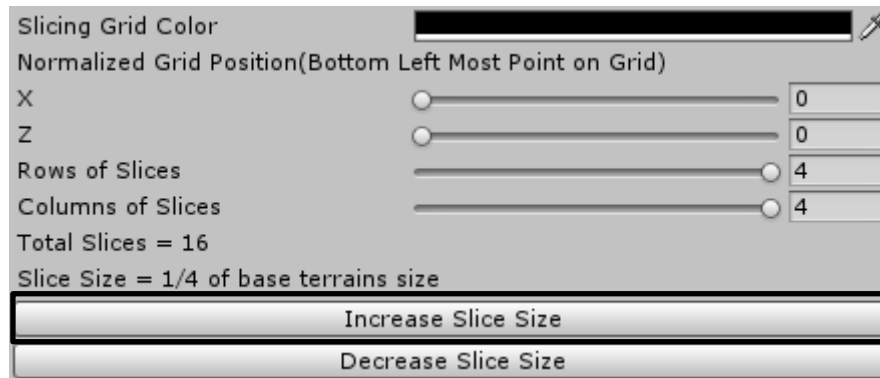
Slice Size = 1/2 of base terrains size

Decrease Slice Size


Press this button to decrease the size of each slice. The number of rows/columns to slice will be increased so that the total size of the slicing region remains the same. This button will disappear when the slice size is set to it's smallest possible value.

Slicing a Single Terrain


Increase Slice Size





The image shows a software interface for terrain slicing. It includes a color picker for the 'Slicing Grid Color', a label for 'Normalized Grid Position(Bottom Left Most Point on Grid)', and sliders for 'X' and 'Z' coordinates, both set to 0. There are also sliders for 'Rows of Slices' and 'Columns of Slices', both set to 4. Below these, it states 'Total Slices = 16' and 'Slice Size = 1/4 of base terrains size'. At the bottom, there are two buttons: 'Increase Slice Size' and 'Decrease Slice Size'.


Slicing Grid Color 

Normalized Grid Position(Bottom Left Most Point on Grid)

X  0

Z  0

Rows of Slices  4

Columns of Slices  4

Total Slices = 16

Slice Size = 1/4 of base terrains size

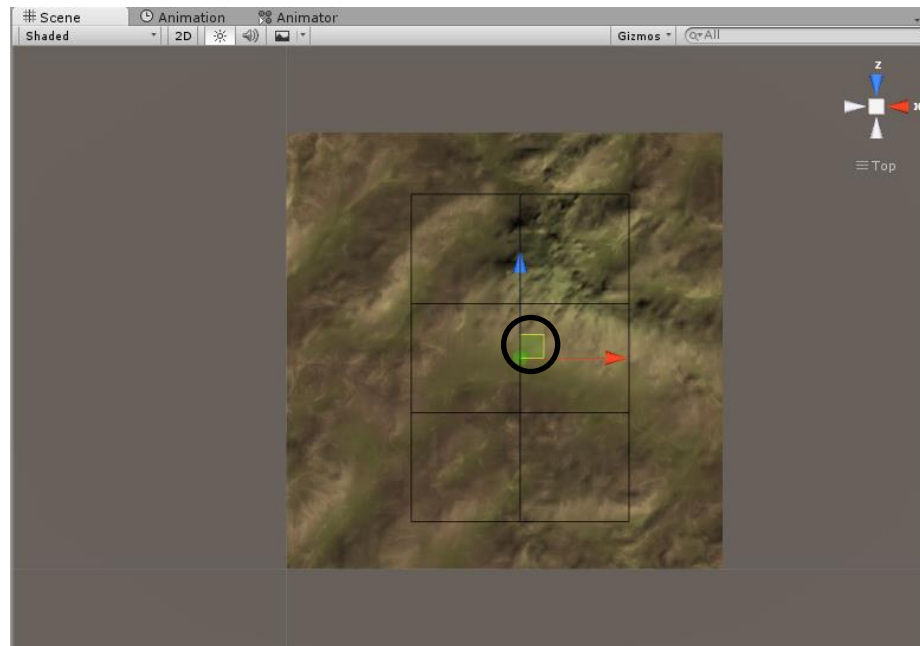
Increase Slice Size

Decrease Slice Size

Appears after “Decrease Slice Size” has been pressed. Press this button to increase the size of each slice. The number of rows/columns to slice will be decreased so that the total size of the slicing region remains the same. This button will disappear when the slice size is set to it’s largest possible value.

Slicing a Single Terrain

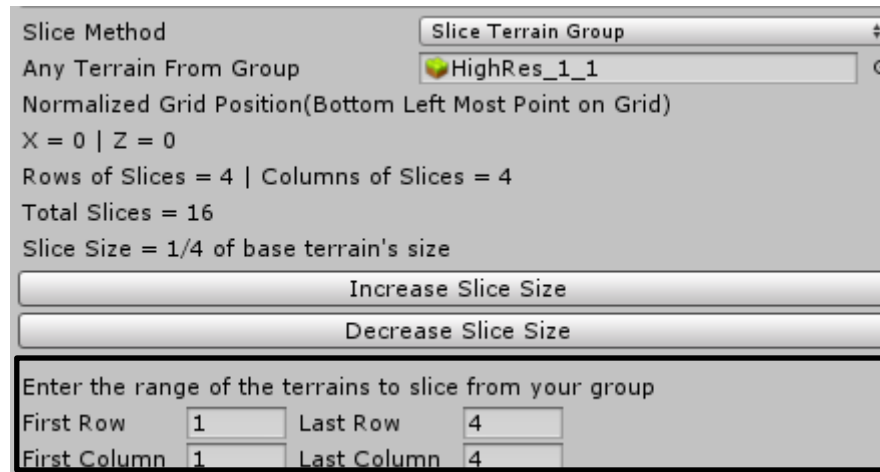
- You can also set the normalized grid position of the slicing grid directly in the scene view, by left clicking and dragging the position handlers in the center of the slicing grid.



Slicing a Terrain Group

- You have the ability to slice a group of terrains.
- Each terrain in the group must follow the naming convention of whatever Naming Convention you provide in the “Input Naming Convention” field.
- If no naming convention asset is provided, the terrains in the group must follow the default naming convention (GroupName_Row_Column).
- Each terrain in the group is sliced according to the slicing settings.
- You can increase/decrease the size of the slices, but the number of rows/columns to slice will always be set to their maximum value (dependent upon the slice size).
- For this reason, there is no slicing grid.
- Missing terrains from the group are allowed.

Slicing a Terrain Group



The screenshot shows a software interface for slicing a terrain group. It includes a dropdown menu for 'Slice Method' set to 'Slice Terrain Group', a selection box for 'Any Terrain From Group' showing 'HighRes_1_1', and text indicating 'Normalized Grid Position(Bottom Left Most Point on Grid)' with 'X = 0 | Z = 0'. It also displays 'Rows of Slices = 4 | Columns of Slices = 4', 'Total Slices = 16', and 'Slice Size = 1/4 of base terrain's size'. Below this are two buttons: 'Increase Slice Size' and 'Decrease Slice Size'. At the bottom, a section titled 'Enter the range of the terrains to slice from your group' contains input fields for 'First Row' (1), 'Last Row' (4), 'First Column' (1), and 'Last Column' (4).

Slice Method: Slice Terrain Group

Any Terrain From Group: HighRes_1_1

Normalized Grid Position(Bottom Left Most Point on Grid)
X = 0 | Z = 0

Rows of Slices = 4 | Columns of Slices = 4
Total Slices = 16
Slice Size = 1/4 of base terrain's size

Increase Slice Size

Decrease Slice Size

Enter the range of the terrains to slice from your group

First Row: 1 Last Row: 4
First Column: 1 Last Column: 4

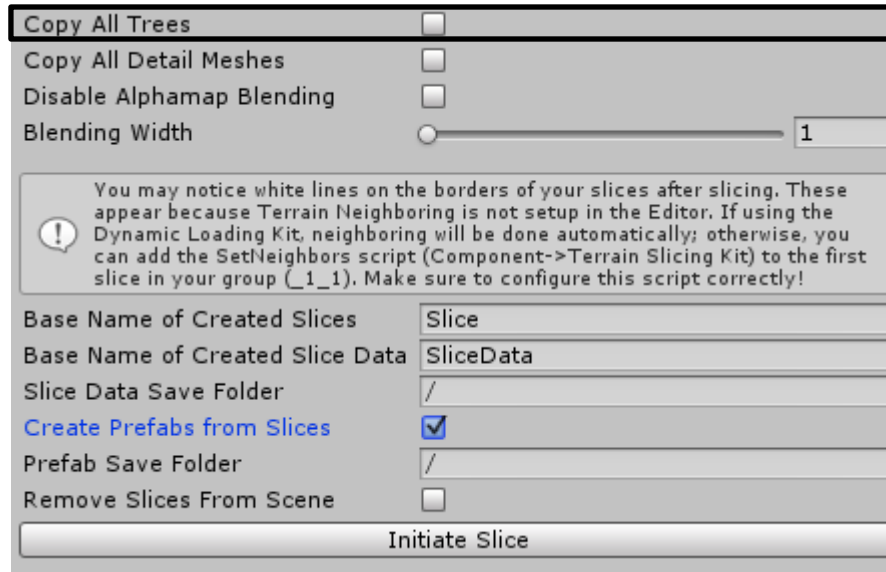
Additional options appear when slicing a group of terrain, which allow you specify a range of terrain from the group to slice.

Additional Common Settings

- There are additional settings which you must set irrespective of whether you are slicing a single terrain or a terrain group.

Additional Common Settings

Copy All Trees



The screenshot shows a settings panel titled 'Copy All Trees'. It contains several options: 'Copy All Detail Meshes' (unchecked), 'Disable Alphamap Blending' (unchecked), and 'Blending Width' (a slider set to 1). Below these is a warning message in a box: 'You may notice white lines on the borders of your slices after slicing. These appear because Terrain Neighboring is not setup in the Editor. If using the Dynamic Loading Kit, neighboring will be done automatically; otherwise, you can add the SetNeighbors script (Component->Terrain Slicing Kit) to the first slice in your group (_1_1). Make sure to configure this script correctly!'. Further down are text fields for 'Base Name of Created Slices' (set to 'Slice'), 'Base Name of Created Slice Data' (set to 'SliceData'), 'Slice Data Save Folder' (set to '/'), 'Create Prefabs from Slices' (checked), 'Prefab Save Folder' (set to '/'), and 'Remove Slices From Scene' (unchecked). At the bottom is a button labeled 'Initiate Slice'.

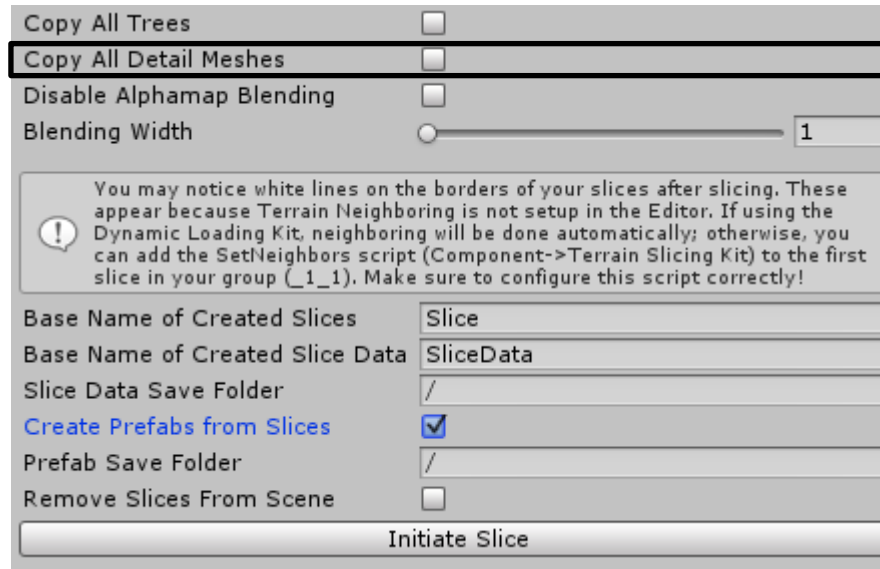
Copy All Trees	<input type="checkbox"/>
Copy All Detail Meshes	<input type="checkbox"/>
Disable Alphamap Blending	<input type="checkbox"/>
Blending Width	<input type="text" value="1"/>
<p>You may notice white lines on the borders of your slices after slicing. These appear because Terrain Neighboring is not setup in the Editor. If using the Dynamic Loading Kit, neighboring will be done automatically; otherwise, you can add the SetNeighbors script (Component->Terrain Slicing Kit) to the first slice in your group (_1_1). Make sure to configure this script correctly!</p>	
Base Name of Created Slices	<input type="text" value="Slice"/>
Base Name of Created Slice Data	<input type="text" value="SliceData"/>
Slice Data Save Folder	<input type="text" value="/"/>
Create Prefabs from Slices	<input checked="" type="checkbox"/>
Prefab Save Folder	<input type="text" value="/"/>
Remove Slices From Scene	<input type="checkbox"/>
<input type="button" value="Initiate Slice"/>	

When sliced, all trees from the base terrain are transferred to the appropriate slice, irrespective of whether this option is checked or not.

If this option is checked, a tree prototype will be added to every slice that is created, regardless of whether that slice actually has that tree on it. This merely makes it so all trees from the base terrain will show up in the inspector of the slices, allowing you to easily add these trees to the slices in the future.

Additional Common Settings

Copy All Detail Meshes



The screenshot shows a settings panel with the following elements:

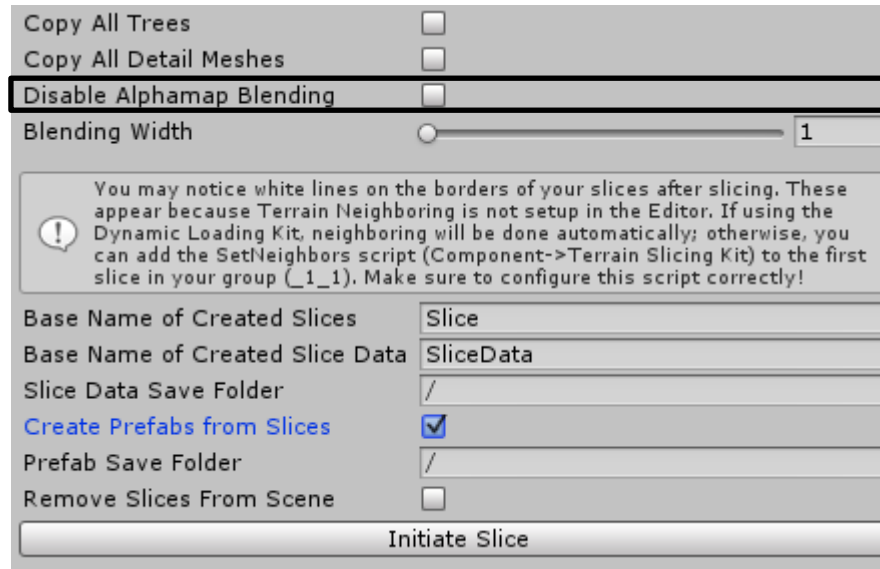
- Copy All Trees**: A checkbox that is currently unchecked.
- Copy All Detail Meshes**: A checkbox that is currently unchecked and is highlighted with a black border.
- Disable Alphamap Blending**: A checkbox that is currently unchecked.
- Blending Width**: A slider control set to the value 1.
- Warning Message**: A text box with an exclamation mark icon containing the following text: "You may notice white lines on the borders of your slices after slicing. These appear because Terrain Neighboring is not setup in the Editor. If using the Dynamic Loading Kit, neighboring will be done automatically; otherwise, you can add the SetNeighbors script (Component->Terrain Slicing Kit) to the first slice in your group (_1_1). Make sure to configure this script correctly!"
- Base Name of Created Slices**: A text field containing the value "Slice".
- Base Name of Created Slice Data**: A text field containing the value "SliceData".
- Slice Data Save Folder**: A text field containing the value "/".
- Create Prefabs from Slices**: A checkbox that is checked.
- Prefab Save Folder**: A text field containing the value "/".
- Remove Slices From Scene**: A checkbox that is currently unchecked.
- Initiate Slice**: A large button at the bottom of the panel.

When sliced, all plants/grasses from the base terrain are transferred to the appropriate slice, irrespective of whether this option is checked or not.

If this option is checked, all detail meshes will be added to every slice that is created, regardless of whether that slice actually has that detail mesh on it. This merely makes it so all detail meshes from the base terrain will show up in the inspector of the slices, allowing you to easily add these detail meshes to the slices in the future.

Additional Common Settings

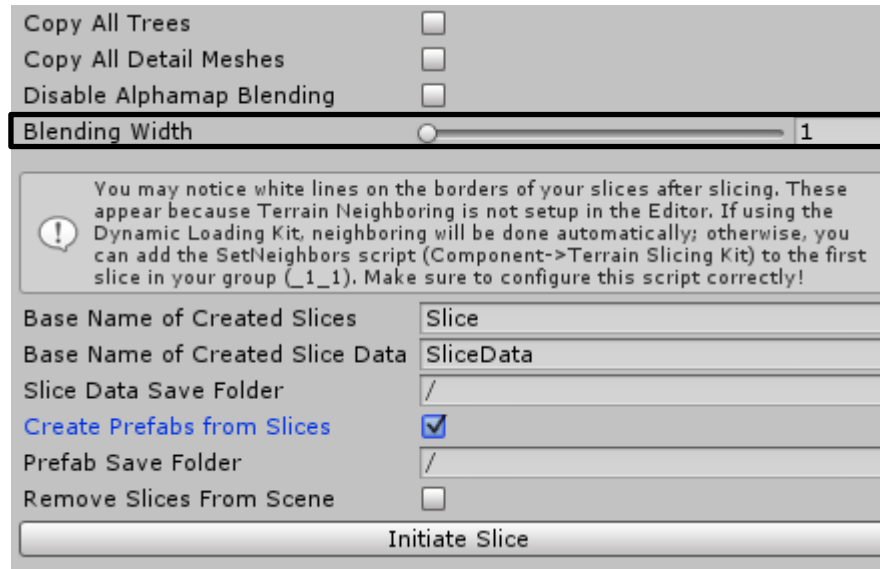
Disable Alphamap Blending



By default the slicing tool will blend the alphamap along the edges of each slice. This is necessary because Unity does not properly blend the alphamap across neighboring terrains, even when using SetNeighbors. I recommend leaving this option disabled, and only enabling it if you can't stand the results with it disabled.

Additional Common Settings

Blending Width



The screenshot shows a settings panel with the following elements:

- Three checkboxes at the top: "Copy All Trees" (unchecked), "Copy All Detail Meshes" (unchecked), and "Disable Alphamap Blending" (unchecked).
- A "Blending Width" slider set to the value 1, which is highlighted with a black border.
- An information box with a warning icon and text: "You may notice white lines on the borders of your slices after slicing. These appear because Terrain Neighboring is not setup in the Editor. If using the Dynamic Loading Kit, neighboring will be done automatically; otherwise, you can add the SetNeighbors script (Component->Terrain Slicing Kit) to the first slice in your group (_1_1). Make sure to configure this script correctly!"
- Input fields for "Base Name of Created Slices" (containing "Slice") and "Base Name of Created Slice Data" (containing "SliceData").
- A "Slice Data Save Folder" field containing a forward slash (/).
- A checked checkbox labeled "Create Prefabs from Slices".
- A "Prefab Save Folder" field containing a forward slash (/).
- An unchecked checkbox labeled "Remove Slices From Scene".
- An "Initiate Slice" button at the bottom.

The width of the region which will be blended. Usually a value of 1 is sufficient to eliminate seams between terrain slices, and is recommended in order to effect as little of the original terrain as possible.

Additional Common Settings


Base Name of Created Slices

Copy All Trees ☐

Copy All Detail Meshes ☐

Disable Alphamap Blending ☐

Blending Width

 You may notice white lines on the borders of your slices after slicing. These appear because Terrain Neighboring is not setup in the Editor. If using the Dynamic Loading Kit, neighboring will be done automatically; otherwise, you can add the SetNeighbors script (Component->Terrain Slicing Kit) to the first slice in your group (_1_1). Make sure to configure this script correctly!

Base Name of Created Slices	Slice
Base Name of Created Slice Data	SliceData
Slice Data Save Folder	/
Create Prefabs from Slices	<input checked="" type="checkbox"/>
Prefab Save Folder	/
Remove Slices From Scene	<input type="checkbox"/>

Initiate Slice

The base name of the created slices (aka the “Group Name”).

Additional Common Settings


Base Name of Created Slice Data

Copy All Trees ☐

Copy All Detail Meshes ☐

Disable Alphamap Blending ☐

Blending Width

 You may notice white lines on the borders of your slices after slicing. These appear because Terrain Neighboring is not setup in the Editor. If using the Dynamic Loading Kit, neighboring will be done automatically; otherwise, you can add the SetNeighbors script (Component->Terrain Slicing Kit) to the first slice in your group (_1_1). Make sure to configure this script correctly!

Base Name of Created Slices

Base Name of Created Slice Data

Slice Data Save Folder

Create Prefabs from Slices ☒

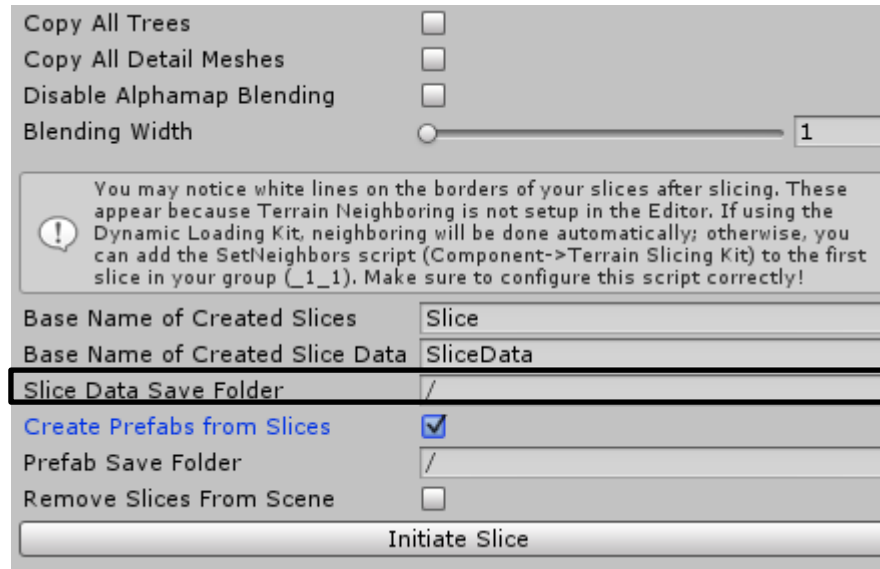
Prefab Save Folder

Remove Slices From Scene ☐

The base name of the created slices TerrainData.

Additional Common Settings

Slice Data Save Folder




Copy All Trees ☐

Copy All Detail Meshes ☐

Disable Alphamap Blending ☐

Blending Width

 You may notice white lines on the borders of your slices after slicing. These appear because Terrain Neighboring is not setup in the Editor. If using the Dynamic Loading Kit, neighboring will be done automatically; otherwise, you can add the SetNeighbors script (Component->Terrain Slicing Kit) to the first slice in your group (_1_1). Make sure to configure this script correctly!

Base Name of Created Slices

Base Name of Created Slice Data

Slice Data Save Folder

Create Prefabs from Slices ☒

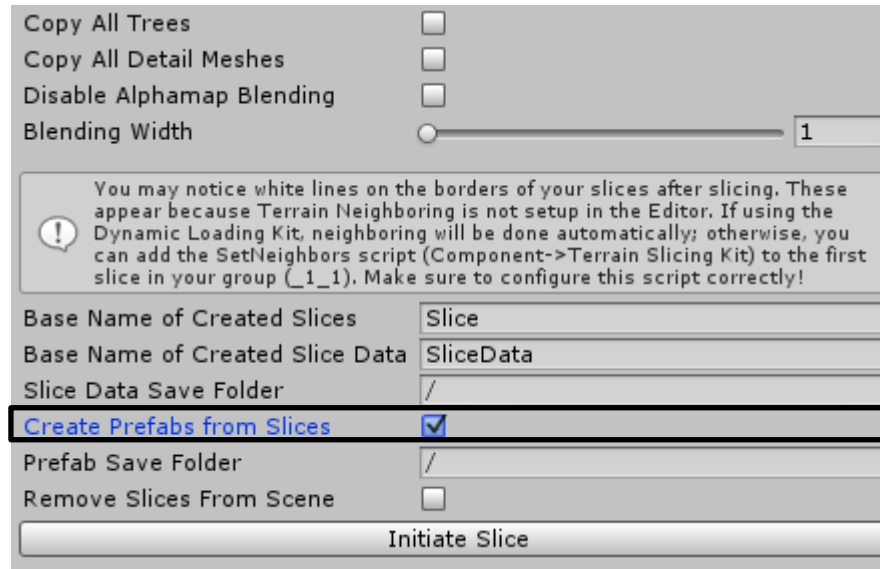
Prefab Save Folder

Remove Slices From Scene ☐

The folder, relative to the Unity Assets folder, where the TerrainData assets will be saved. For example, "/" will save directly in the Assets folder.

Additional Common Settings

Create Prefabs from Slices




Copy All Trees ☐

Copy All Detail Meshes ☐

Disable Alphamap Blending ☐

Blending Width

 You may notice white lines on the borders of your slices after slicing. These appear because Terrain Neighboring is not setup in the Editor. If using the Dynamic Loading Kit, neighboring will be done automatically; otherwise, you can add the SetNeighbors script (Component->Terrain Slicing Kit) to the first slice in your group (_1_1). Make sure to configure this script correctly!

Base Name of Created Slices

Base Name of Created Slice Data

Slice Data Save Folder

Create Prefabs from Slices ☒

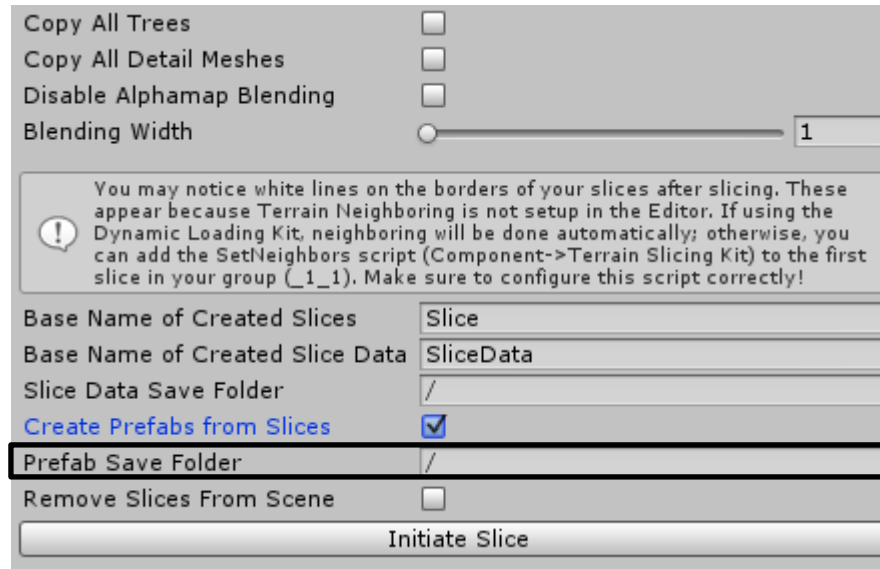
Prefab Save Folder

Remove Slices From Scene ☐

If checked, prefabs will be automatically created for your slices.

Additional Common Settings

Prefab Save Folder




Copy All Trees ☐

Copy All Detail Meshes ☐

Disable Alphamap Blending ☐

Blending Width

 You may notice white lines on the borders of your slices after slicing. These appear because Terrain Neighboring is not setup in the Editor. If using the Dynamic Loading Kit, neighboring will be done automatically; otherwise, you can add the SetNeighbors script (Component->Terrain Slicing Kit) to the first slice in your group (_1_1). Make sure to configure this script correctly!

Base Name of Created Slices

Base Name of Created Slice Data

Slice Data Save Folder

Create Prefabs from Slices ☒

Prefab Save Folder

Remove Slices From Scene ☐

The folder, relative to the Unity Assets folder, where the prefab assets will be saved. For example, "/" will save directly in the Assets folder.

Additional Common Settings


Remove Slices from Scenes

Copy All Trees ☐

Copy All Detail Meshes ☐

Disable Alphamap Blending ☐

Blending Width

 You may notice white lines on the borders of your slices after slicing. These appear because Terrain Neighboring is not setup in the Editor. If using the Dynamic Loading Kit, neighboring will be done automatically; otherwise, you can add the SetNeighbors script (Component->Terrain Slicing Kit) to the first slice in your group (_1_1). Make sure to configure this script correctly!

Base Name of Created Slices

Base Name of Created Slice Data

Slice Data Save Folder

Create Prefabs from Slices ☒

Prefab Save Folder

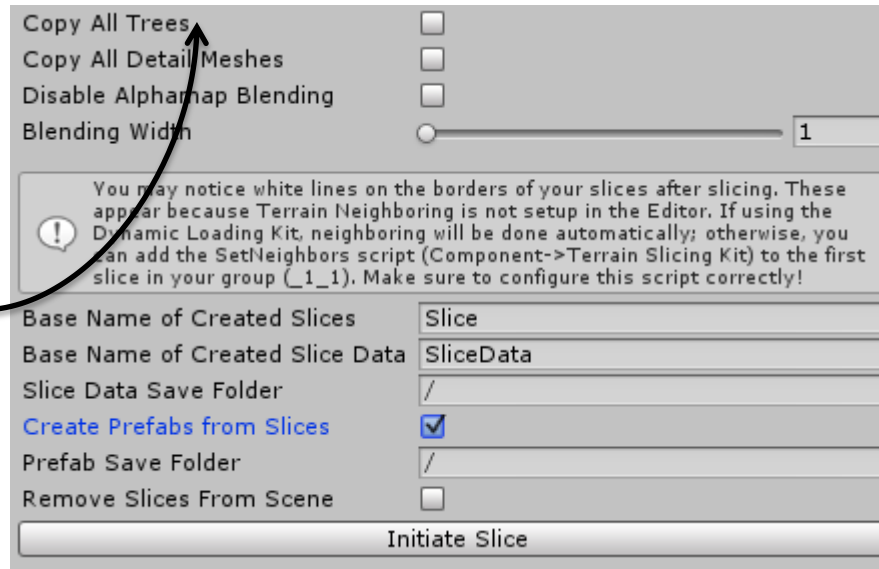
Remove Slices From Scene ☐

Initiate Slice

If checked, the slices will be removed from the scene after they are created. This is strictly required in some instances when you are generating a ton of slices and are getting out of memory errors. This option is only possible when “Create Prefabs from Slices” is checked.

Additional Common Settings

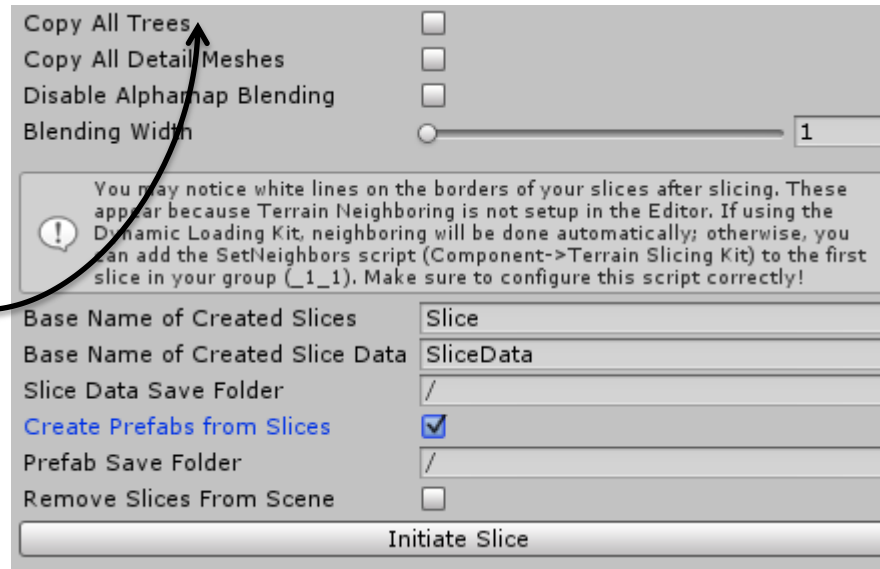
Copy Base Tag



Not shown in this picture, you will also see a “Copy Base Tag” option above the Copy All Trees option. When checked, this option forces all slices to be set to the same tag as your base terrain.

Additional Common Settings

Copy Base Layer



Not shown in this picture, you will also see a “Copy Base Layer” option above the Copy Base Tag option. When checked, this option forces all slices to be set to the same layer as your base terrain.

Additional Common Settings

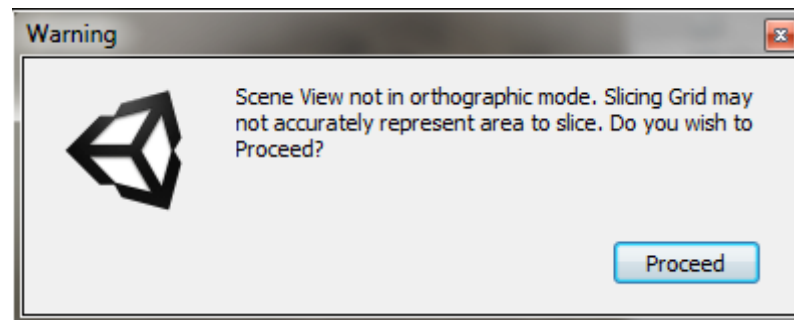
Output Naming Convention

There is also an Output Naming Convention field that was added with update 4.2. If left blank, the slices generated by the slicing tool will follow the default naming convention (GroupName_Row_Column).

If you wish to use an alternate naming convention, create a Naming Convention asset and drag it onto this field.

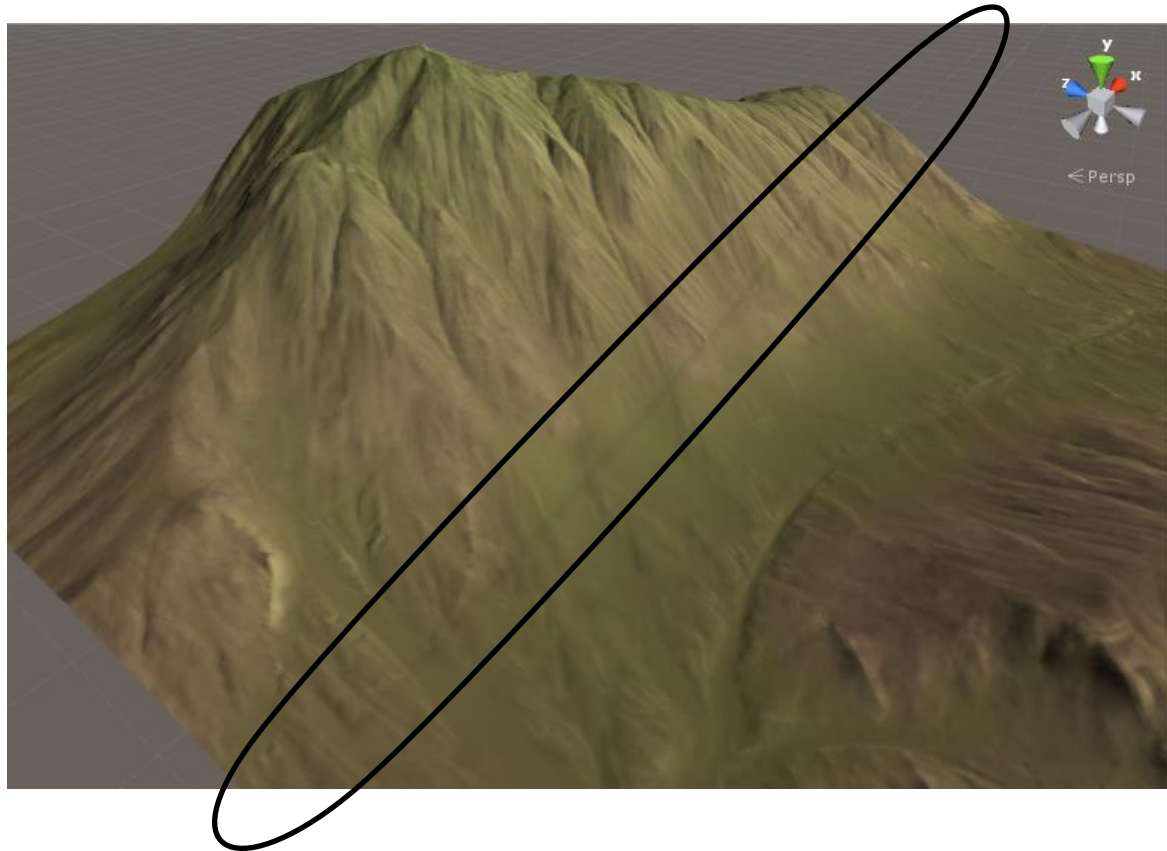
Slicing

- You may see a warning box when you press the “Initiate Slice” button. This is just a warning that you’re camera is not in orthographic mode, since the slicing grid may not be 100% accurate in perspective mode.



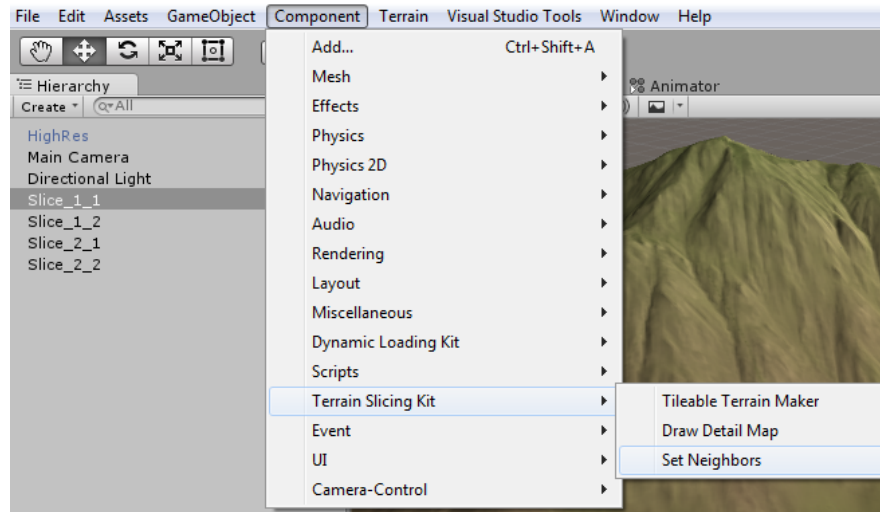
Post Slice

- After slicing, you may notice a white or black line on the edges between your slices.



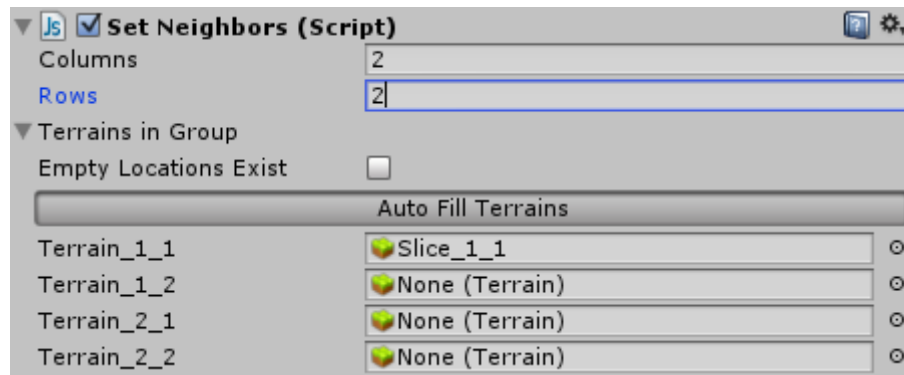
Post Slice

- These lines exist because neighboring is not properly setup in the editor.
- To preview what the terrain slices look like with neighboring set up, add a SetNeighbors component to the first slice in the group (1_1).



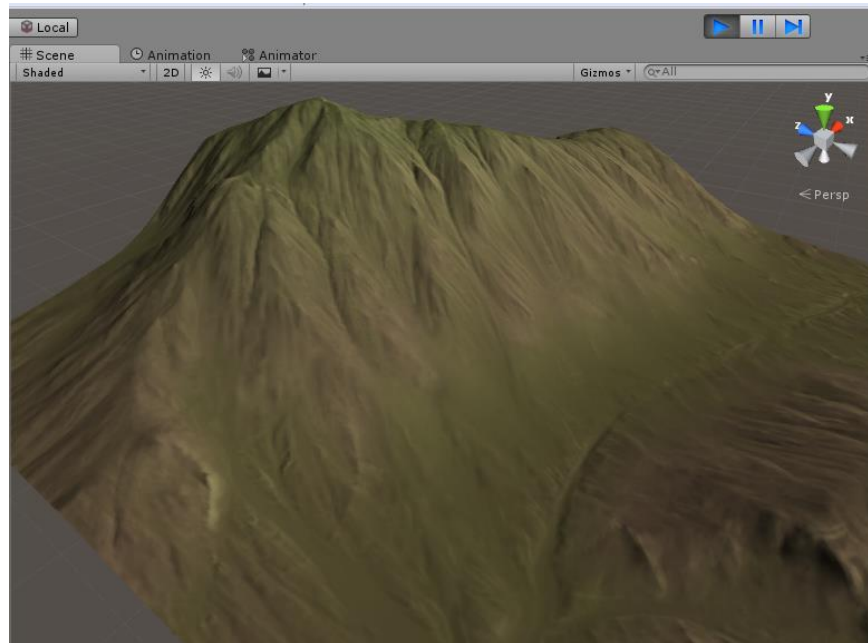
Post Slice

- Set the rows and columns to however many you have, then press the “Auto Fill Terrains” button.



Post Slice

- When you enter Play Mode, the black/white lines will disappear, and you shouldn't see any seams between your terrain slices (if you do, please contact me!).



Use with Dynamic Loading Kit

- If you are using these slices with the Dynamic Loading Kit, keep in mind that neighboring is performed automatically by the kit. There's no need for the SetNeighbors script!
- Enjoy your slices, and please consider rating the Terrain Slicing & Dynamic Loading Kit on the Asset Store. Thanks!