

Building Unity Tile Maps - Documentation & Reference Manual

by William Chilcote

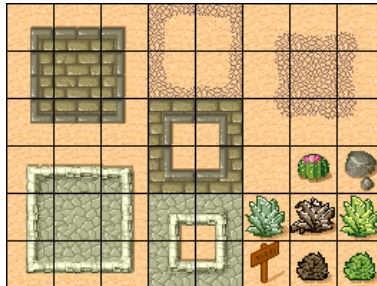
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Tile Maps and Tiled

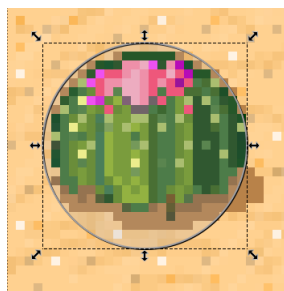
The most common file format for tile maps is the TMX. TMX files are used largely universally between a variety of tile map editors. The editor that we will be using is called Tiled, and can be downloaded for macOS and Windows [here](#). The program supports side view, isometric, and hexagonal tile maps. Tiled comes with several example maps which can be used to familiarize oneself with the program.

Tile maps are made up of individual tiles, from separate files that are called tilesets. A tileset is created from a single image that is spliced into a set of individual tiles by the program. Tiled is able to both reference external tileset files (TSX), and import them as part of the TMX. Multiple tilesets can be used in combination to build a tile map.



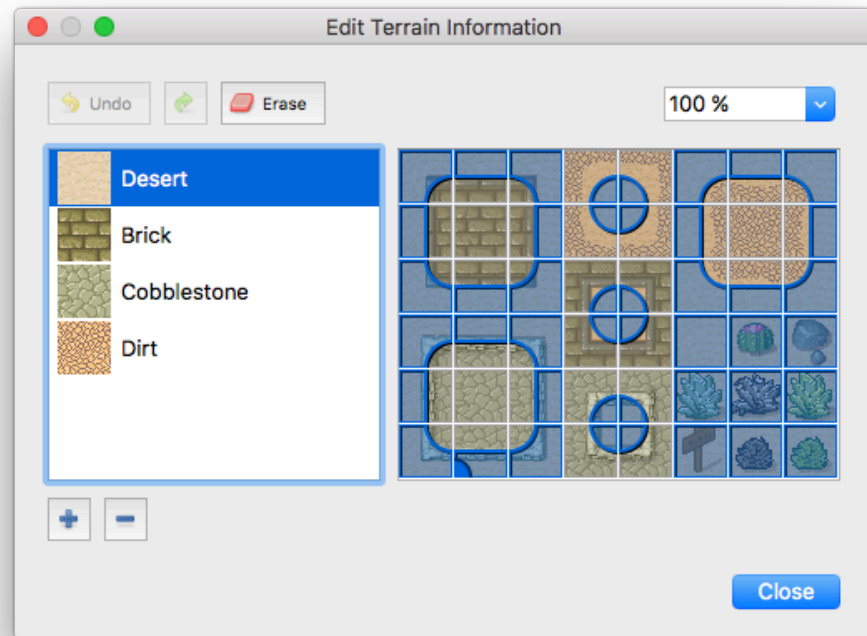
With a tile type selected, the map is built by clicking or dragging on cells to populate them. Tiled supports tile layers, which are useful for separating different regions of the overall map when imported into Unity.

Collision information is set once per tile by overlaying a polygonal region, and is replicated throughout the tile map. To set collision data, go to View > Tile Collision Editor. While the collision data has no significance in Tiled, it can be saved and read by other applications that process TMX files, such as when it is imported into Unity.



Furthermore, tiles in tilesets contain properties specifying which terrain types they represent. Using the Terrain Brush, Tiled will automatically use the correct tiles to

transition between two terrain types. Terrain information can be set by clicking on the Edit Terrain Information button under the Tilesets tab.



Importing with Tiled2Unity

As TMX is a generic and open file format, other programs are able to import and interpret them. The program we will be using to import the TMX file into a Unity prefab is called Tiled2Unity, which can be downloaded for macOS and Windows [here](#).

Upon opening the program, the first thing to be done is to make sure the Unity project has the required package installed. This only needs to be done once per project, and is necessary for the prefab and its dependencies to be generated. To import the package, click Help > Import Unity Package to Project. This will install the required files into the most recently opened Unity project.

Next, import the desired tile map file. This is done by clicking File > Open Tiled File, and selected the appropriate TMX. The Pixels Per Unit parameter should match the standard established in your Unity project. This is the same as the Pixels Per Unit property on Unity SpriteRenderer components, and will automatically be populated as such in the resulting prefab. If the path specified beside the Export To button in the main window is not already pointed to Tiled2Unity.exported.txt, choose a new path and assure that it is.

Finally, click the Export button in the bottom right, and a prefab will be generated in Tiled2Unity > Prefabs in the Unity project's Assets folder. All tile map layers will be immediate children of the root GameObject, each with a collider. As each layer is an independent sibling GameObject, they can be individually enabled and disabled in the hierarchy.

