

MAPPING GUIDE

Version 0.2

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for



Tools

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Textures

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1. How to start? - Links, Installation, Settings

First you need the tools to make your own buildings or maps. Under this text, you can find the links to everything you need. The programs to create worlds and buildings and also free programs for making your own textures or random generated landscapes.

You will also find the links for my Vacation Islands tileset, as soon as it is online.

Tools

Mapping Tools (Forum Thread): [Link](#)

- original textures included

Mapzoid (Forum Thread): [Link](#)

- for random generated landscapes

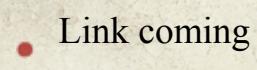
Paint.net (Homepage): [Link](#)

- free program for making your own textures

Notepad++ (Homepage): [Link](#)

- free program for editing text/code files

Tilesets

Vacation Islands:  [Link coming soon...](#)

other may follow...



Installation 32/64 Bit - Mapping Tools (Jan.2014)

- Unpack the content of the ZomboidMapTools1_1.zip archiv wherever you want.
- If you have a 32 bit system, so you have to unpack and overwrite all files with the files in the TileZed-Jan-18-2014-32bit.zip archiv, where you unpacked the first archiv.*
- Same for users of 64 bit systems, except, that you need the TileZed-Jan-18-2014-64bit.zip archiv.*

*** make sure to keep the original rules.txt that's in the WorldEd folder from the ZomboidMapTools1_1.zip**

If you don't, you will not be able to place water with a bitmap, because it's not defined, anymore.

If it's too late, open the rules.txt and replace everything with the text in [lemmys main post](#) or reopen the [ZomboidMapTools1_1.zip](#) archiv and replace only the rules.txt.

Settings

- Open Tilezed and click on tools → tilesets and check, if the path leads to the folder (tiles) with all the textures.
- If you already have a map project and want to see your lots also in TileZed, so check:
Edit → Preferences → Zomboid / WorldEd Project Files.
Here you can add as many projects as you want.
Also switch on “Show adjacent maps”, if you want to see the adjacent cells of the cell you have chosen.
(It requires a restart of TileZed. Closing/Opening a map doesn't work, at least for me.)



2. A .bmp/.png file will become our world. (BMP to TMX) (WorldEd-Tutorial 1)

If you want to make your own map, you can simple draw a bitmap with specific colors. You can use *Paint.net* for this.

In the following table, you can see the colors for making a map out of the original Project Zomboid floor/vegetation textures.

First you need a bitmap for the landscape (grass, sand, water, ect...). If you create a new file in Paint.net, don't forget, that a cell is 300x300 pixel/tiles.

If you want to create 4 cells (2x2) so you have to create a bitmap with 600x600 pixel and so on.

Table of landscape colors:

LABEL		Red, Green, Blue
Dark Grass	-	90, 100, 35
Medium Grass	-	117, 117, 47
Light Grass	-	145, 135, 60
Sand	-	210, 200, 160
Dark Asphalt	-	100, 100, 100
Medium Asphalt	-	120, 120, 120
Light Asphalt	-	165, 160, 140
Dirt	-	120, 70, 20
Water	-	0, 138, 255
Dark Pothole	-	110, 100, 100
Light Pothole	-	130, 120, 120



If you are ready with your landscape bitmap file, so you can start drawing a vegetation bitmap file. Use the same size as for the landscape bitmap, otherwise it wouldn't work.

Table of vegetation colors:

LABEL	Red, Green, Blue
Trees	- 255, 0, 0
Trees + dark grass	- 127, 0, 0
less trees + more dark grass	- 64, 0, 0
Grass (all types)	- 0, 255, 0 <i>on</i> 90, 100, 35*
Light long grass	- 0, 255, 0 <i>on</i> 145, 135, 60*
Medium long grass	- 0, 255, 0 <i>on</i> 117, 117, 47*
lot of grass and trees	- 0, 128, 0
bushes, trees and dark grass	- 255, 0, 255
nothing	- 0, 0, 0

* the color 0, 255, 0 will only converted, if it's put on a position, where the color of the landscapes bitmap is the same as in the table above.

! SAVING: Note, that it's not important, what name your bitmap has. It's just important, that the vegetation bitmap must have the extra “yourmapname_ **veg**.bmp”



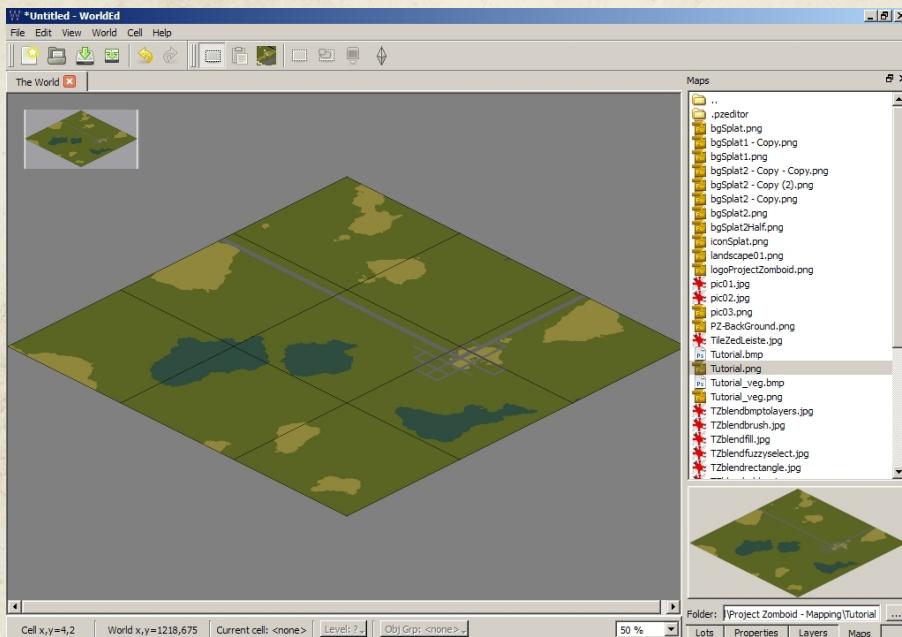
Now create a bitmap file, which is 10 times smaller as your two other bitmaps and call it for example “yourmapname_ZombieSpawnMap”. For now you can leave this bitmap complete black. We will come to this later in the Mapping Guide.

For this guide I will use Mendoncas Mapzoid to speed the map creation a little bit up. I've created a 3x3 cell map and 1x1 cell for Last Stand (for fast tests).

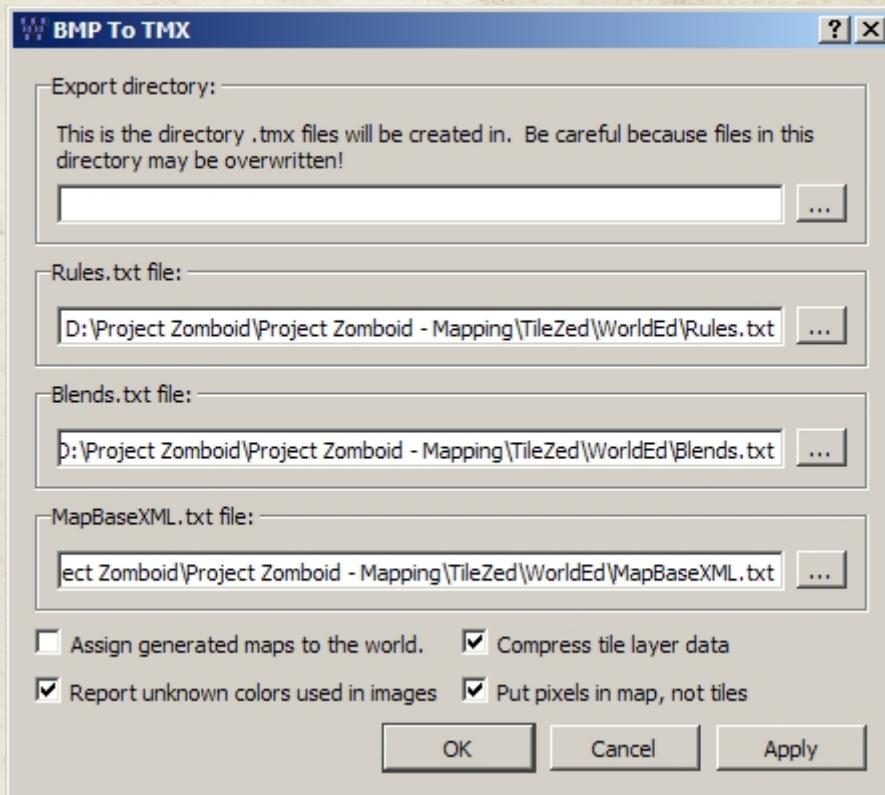
A.bmp/.png file becomes your map:

- Open WorldEd and click on NEW.
- Now you have to choose the amount of cells.
- After that, you should see one or more isometric squares, which are empty.
- If you don't see the menu "Maps", so activate it by clicking on View → Maps.
- Jump to your folder with the bmp/png files in it.
- Click on the landscape bitmap and drag it into the empty squares.

It should look like this:



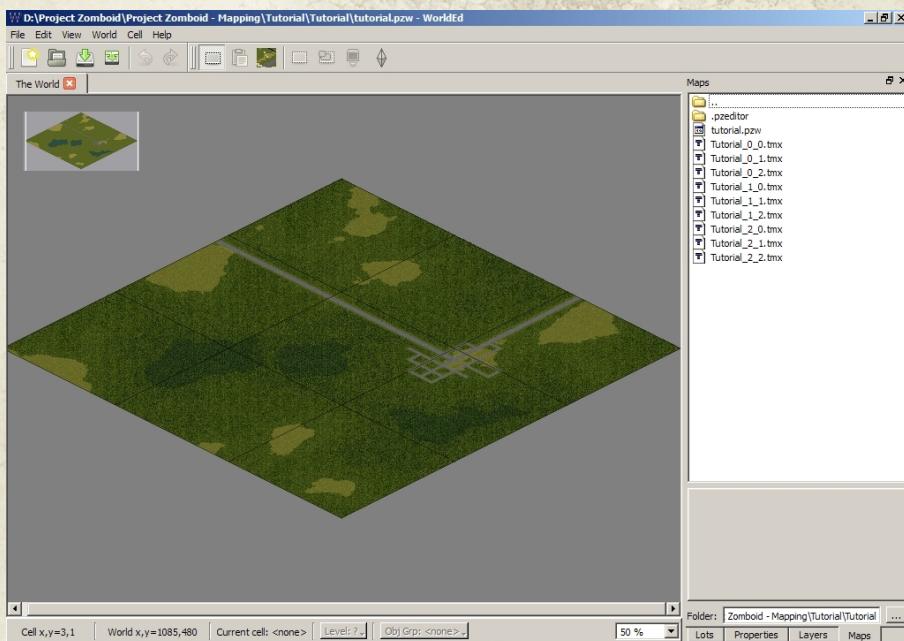
- Click on File → BMP to TMX → All cells
- Now you see a settings window, which I'll explain on the next page.



- Export directory: your directory for your .tmx files.
- The other three files are in your WorldEd folder, if they are not chosen.
- Assign generated maps to the world: After the converting, the bitmap will be replaced by the converted tile-map.
- Compress tile layer data: May helps on older pcs
- Report unknown colors used in images: If you used colors, which are not defined in the Rules.txt, the program will tell you, what color is wrong on which pixel position.
- Put pixels in map, not tiles: This option helps also on older pcs. With this option, you will see the world map not like in TileZed, but in rough pixels. (not the bitmap)

If you think, all is right, click OK.

After clicking OK, it should look like this
(with all options on):



Great! Now you have your map to place some buildings on it.

In the next chapter, we want to create a simple hut for that map with the BuildingEd.



3. Our first building: A simple hut.

(BuildingEd-Tutorial)

- Open TileZed, also we don't use it yet.
- Click on Tools → Building Editor
- Click on New Building or File → New...

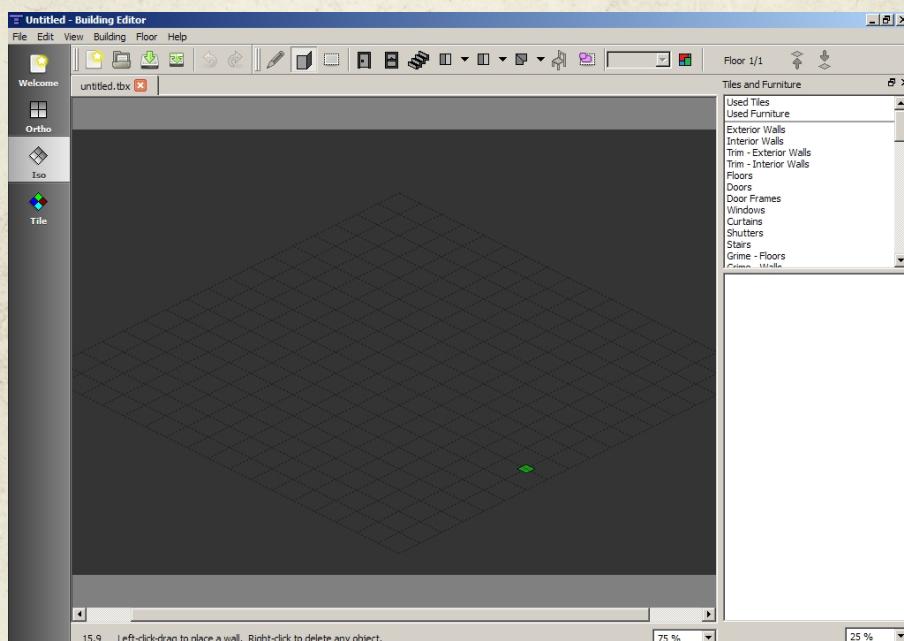
In the setting window you can choose a template and the Building size. Some templates should already exists, but you can also define own templates for your Buildings.

Templates are used to have already some room definitions for your Building.

I will choose “none” for template and 17x17 tiles for the little hut. I always plan a bit bigger, because you can leave tiles blank or add some garden elements for that building.

You will see....

Now I have this view:

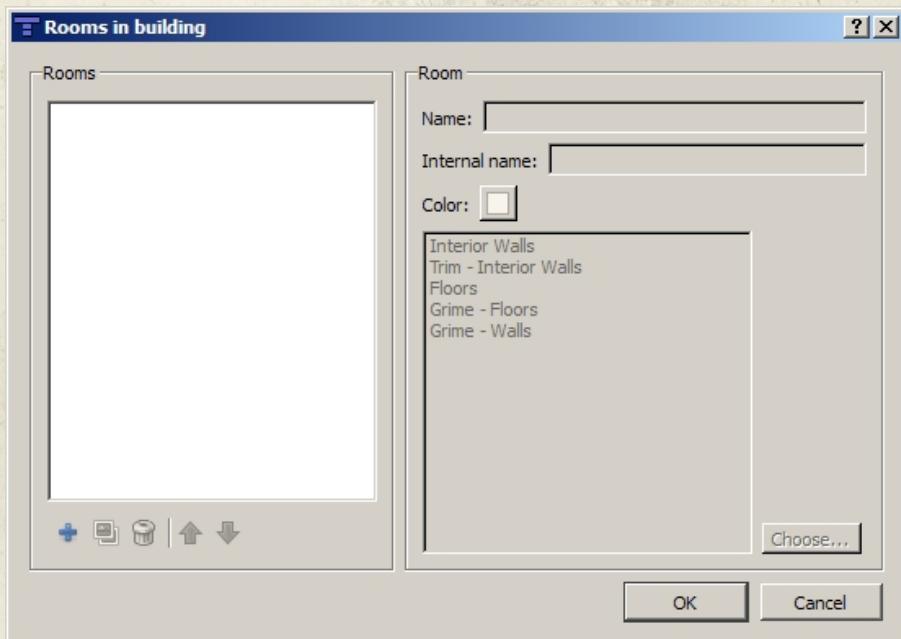


On the next page, we will define some rooms.

Note: Don't close TileZed. It will close also BuildingEd!
But it will ask you to save the building, if it's not saved.

Click on Building → Rooms or the button 

This window appears:



Click on the + for a new room definition.

Room definitions are important for item spawning and also later for NPCs. They should have the same internal name as in the SuburbsDistributions.lua, which you can find in your game folder /media/lua/Items.

You can create your own Distributions.lua file with own internal names, of course, but for now, we can just overwrite map files. So you have to create your own SuburbsDistributions.lua with less or “more” item spawns, depending on the amount of containers you place in the world or just don't change the file or add something.

I will add only four room definitions.

Livingroom/Kitchen, Storage, Bathroom and Bedroom

I choose for the internal names hut_1_kitchen, hut_storage_room, hut_bathroom and hut_bedroom. Later I have to add this internal names in a new or the same SuburbsDistributions.lua.

We come to this a bit later in the Mapping Guide.

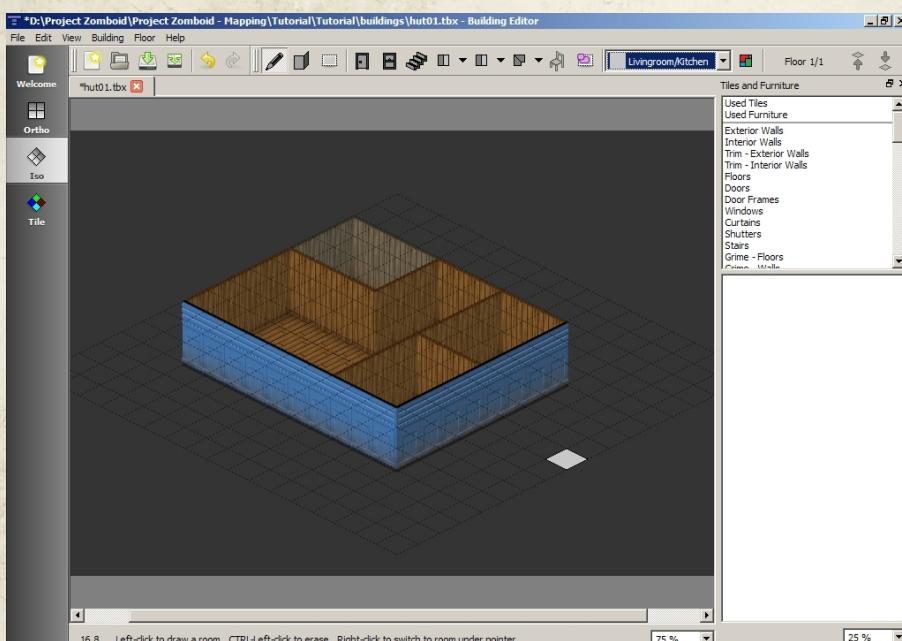
For every room you can add wall-, floor and grime-tiles.
Doubleclick on Interior Walls, Floors, ect. or click on the button
“Choose...”, if one of the options is selected.

I will choose some wooden tiles and also grime tiles.

If you click now on the “pencil” (Draw Room) in the option bar, you can simple create the selected room with clicking and holding the left mouse button somewhere and draw the room.

You can choose a room in the Toolbar or by right clicking on an existing room.

Now I have created this:



The exterior walls are wrong. We don't want blue toilete walls. ;)

- Click on Building → Properties

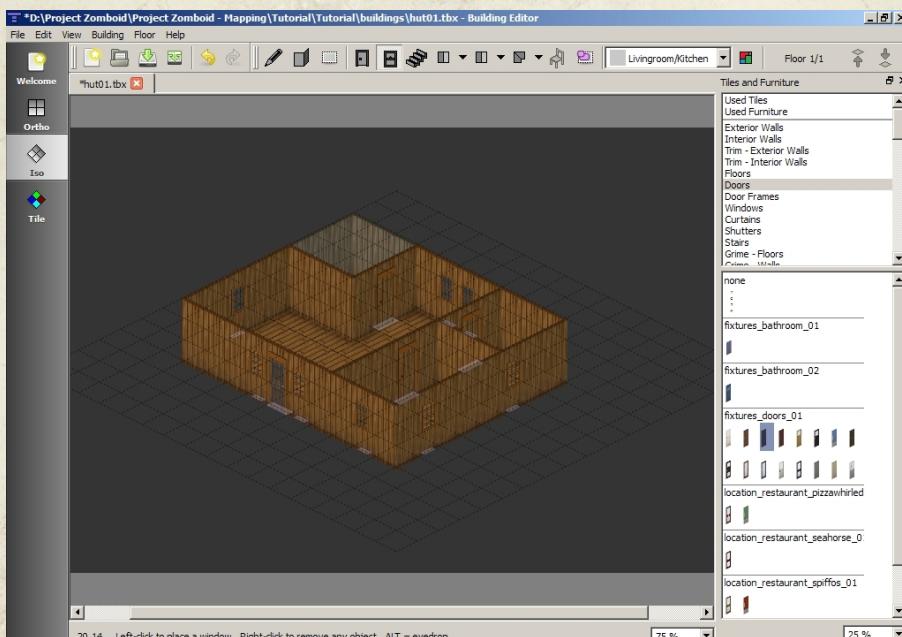
Here you can choose a lot of tiles for different things like for the room definitions. And you can also create new Building templates in this window for buildings with the same style.

If you are ready with the building properties, we can place now some doors and windows for our rooms.

A simple click on the “Door” symbol in the Toolbar and you can place the doors and door frames, which you have chosen in the building properties.

But if you want to place another kind of door, you don't need to change the properties again. Just choose in the “Tiles and Furniture” overview “Doors” and select the door you want to place. The door frame will be the same, except you change it too.

Here is my result:



You see the little white squares under the doors and windows? This are the Object Shapes.

If you click “Select and Move Objects” (beside the room selection) you can select one or more shapes (shift or multi selection by holding left mouse button) of the objects. Now you can move the object(s) around, delete it or select other textures for it.

If you set the option “Show Object Shapes” to off, then you are not able to place or move objects.

Now we will place some furniture.

Just click on one furniture you want to place. For example a counter. And click then on the “Chair” (Place Furniture) button beside the button “Select and Move Objects”.

Now we will fill our hut with stuff!

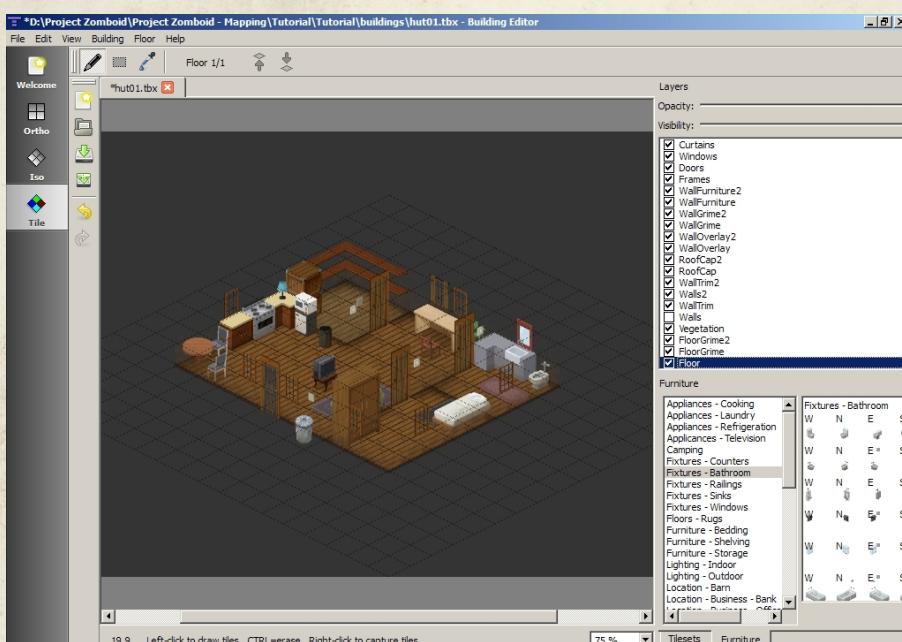
Note: The “Place Furniture” button can only be clicked, if a furniture is selected and the Object Shapes are visible.

Left Click – place objects in or outside of your building
(if you hold it, you can rotate the object, if the object has more than one direction) [room selection is not important for placing objects]

Right Click – delete objects

Hold CTRL to duplicate the selected object(s)

Note: If you place more objects on one tile, the first object will always be placed under the following textures. So, if you place a sofa and then a rug, the rug is above the sofa.



You see, that I'm in the “Tile”-View (F4)? Try to don't place items in Tile-Mode too often. It's possible, but you have to look, that the layer is correct. Mistakes will happen, if you only work in Tile-Mode and changes will be more complicated.

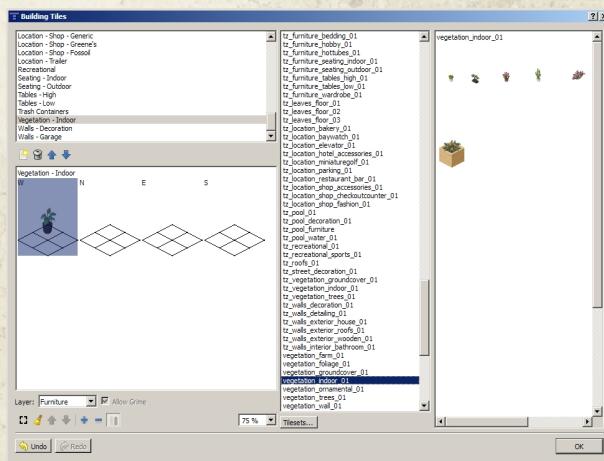
But it's good, if you want to switch off the wall layer for example, if I do in the screenshot.

If you click now on Iso-Mode (F3), the walls are still invisible and you will have a better overview of the rooms.

You can't find some objects in the Tiles and Furniture list?
No problem, we will solve it on the next page.

You can edit the list “Tiles and Furniture” very simple. Click double on one of the entries or on Building → Tiles.

Now you'll see this window:



On the left side are two boxes with the “Tiles and Furniture” list. You can simple add a new category by clicking on the icon “Add a new category”, the white paper with a yellow star on it.
Let's create the category “Vegetation – Indoor”.

If you click now on the new category “Vegetation – Indoor”, you will see a blank box under the categories box.

Click on the blue “plus” to add a new object.

Standard layer is “Furniture”. You can change the layer by selecting an object and clicking on the drop down bar “Layer”. It will change the layer for the whole row.

In the middle of the window you see all tilesets.

Search for “vegetation_indoor_01” and add the stuff you need.

If you misplaced an object on the four squares, you can select the squares and click on the broom icon, not on the blue “minus” icon. The blue “minus” icon is for deleting the whole row.

Note:

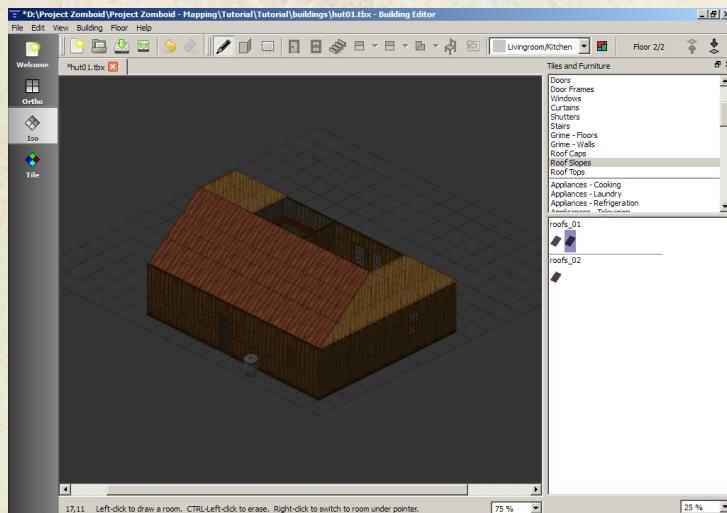
- If an object has only one texture, it is not necessary to add the object four times to the category in every direction. The program makes this automatically.
- You can also edit the existing categories as you want.

Let's make a roof for the hut.

First, we need a second floor. Click on Floor → Add Floor Above.

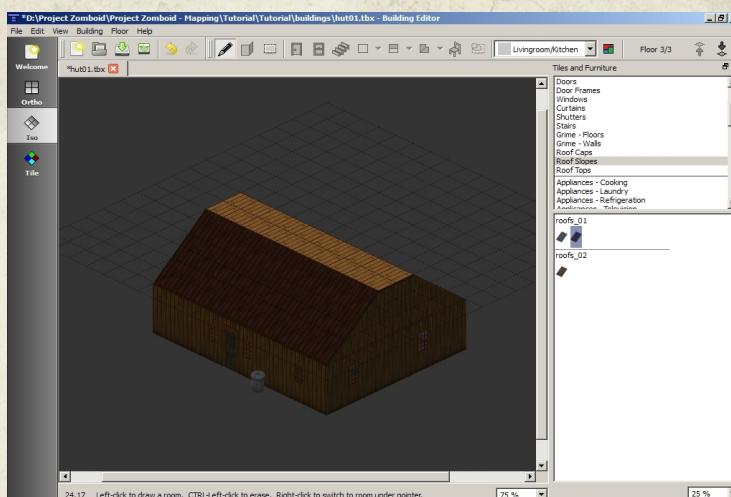
I want, that the roof peak is horizontal to the entrance of the Building. In the actual version of BuildingEd, there exist three roof icons left besides the “Place Furniture” button.

To place one of the roof types is sometimes a bit difficult. You should simply try around a bit. You can delete roofs like objects – right click. I've choosen the “Peak (horizontal)” roof type and drag the whole thing above my Building:



There is a hole in our roof. It shouldn't rain inside. ;)

We'll add another floor above the second one and... tada:



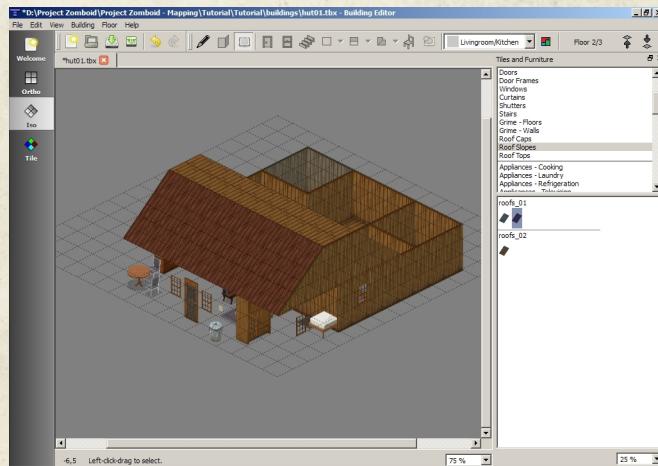
The roof is complete. Mhh... that was easier as I thought. :D

Ready? No, I want more space in the entrance area.

Mhh... now I want, that the Building has more room in the entrance area. Let us move the whole Building.

Click on “Select and Move Rooms”, the second icon on the right side of the “Draw Room” button (Pencil icon).

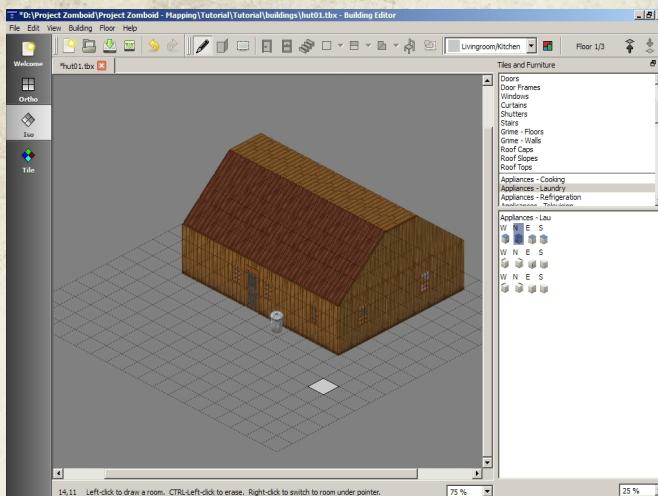
Now drag a box over all rooms and move it with the left mouse button.



What the! No problem!

We have to move the object shapes too!

Click on “Select and Move Objects” and select every shape on the current floor. Now move the shapes to the correct position.



Wasn't a problem, or?

You want a separate floor for the entrance of the Building, but you don't want to create a room “outside”?

Next page.

Now we have another use for the Tile-Mode. Let's go to this view. (F4)

Of course, we can add all tiles here, but that would make the Building useless later for the game.

But it is useful to add floor tiles outside of rooms, for example. The floor tiles of the Buildings will overwrite the floor tiles of your landscape and rooms of your building, if it's on the same layer "floor".

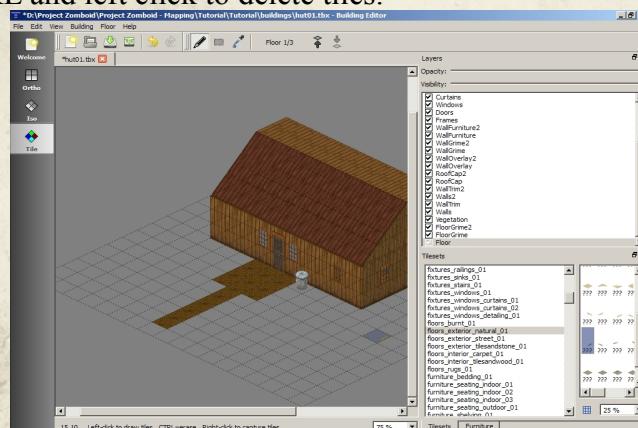
Choose the option "Tilesets" under the left box in the bottom and search for the tiles you need.

I'm looking for some dirt tiles (floors_exterior_natural_01).

You can add tiles by clicking left.

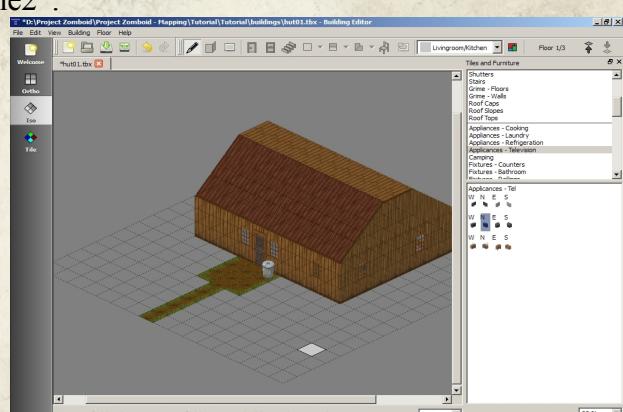
You will capture tiles by right clicking, but only the tiles you placed with the Tile-Mode.

Hold CTRL and left click to delete tiles.



I want, that the grass grows a bit over the dirt path.

I choose the tileset "vegetation_groundcover_01", select some nice grass edges and place these on the layer "FloorGrime" and "FloorGrime2".



I decide, that the hut is done now! Let's save a .tbx file.

But first, let's minimize the area by clicking on Building → Crop to minimum.

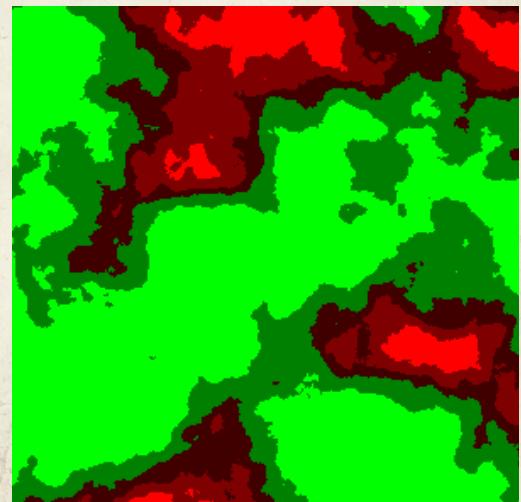
If you want to share your Buildings with the community, always save and share your .tbx files. It seems, .tmx files aren't compatible with the coming new engine. Also make sure to put only .tbx lots on your map.

4. You can't wait to test?

(WorldEd-Tutorial 2 / Last Stand Mode)

So, how works Last Stand? One cell, you are in the middle and the borders of the map should hard to reach, because you can't leave the cell. I've decided for a style as like the original Last Stand map. A glade with two or three buildings.

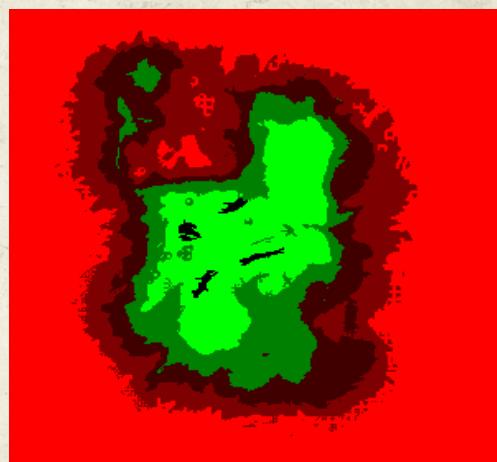
Here is, what Mapzoid gives me.

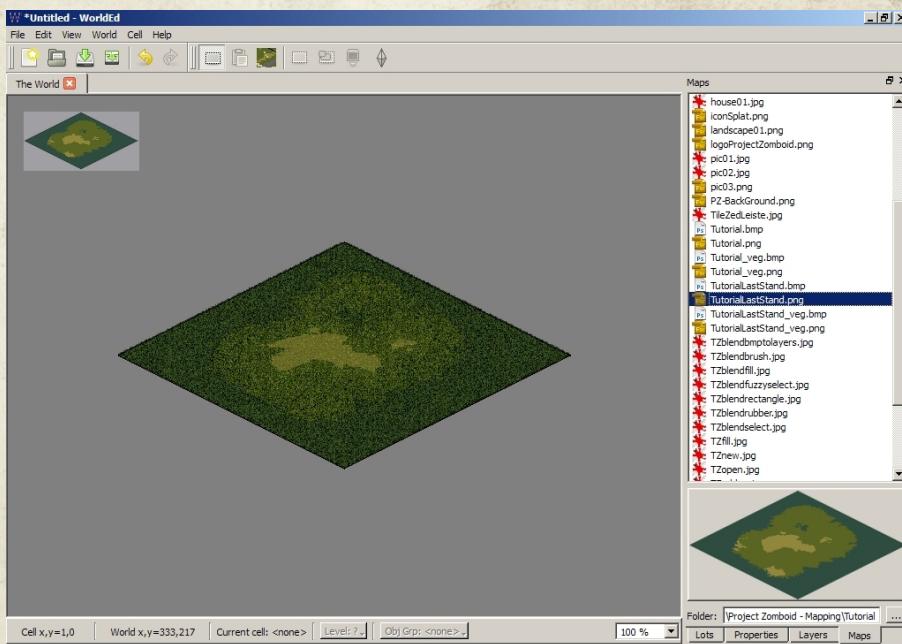


I need to edit the vegetation bitmap, so that I have a glade.

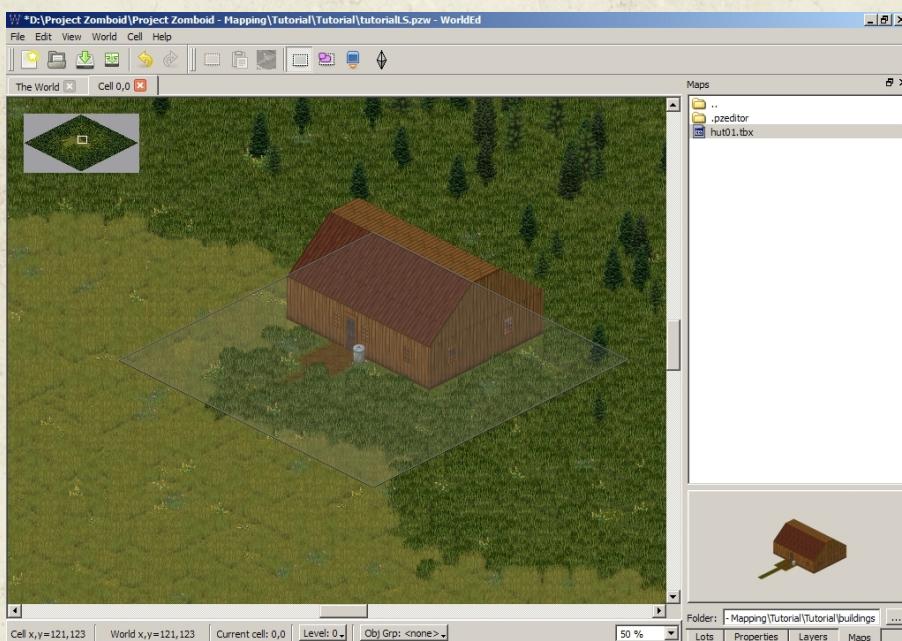
This is my result:

Let's see, how it look in WorldEd.





Doubleclick on the cell opens a new window with this cell.
Now select the folder with Buildings.
Only in this cell-editor you can place Buildings.
Select one Building and drag and drop it on the map.



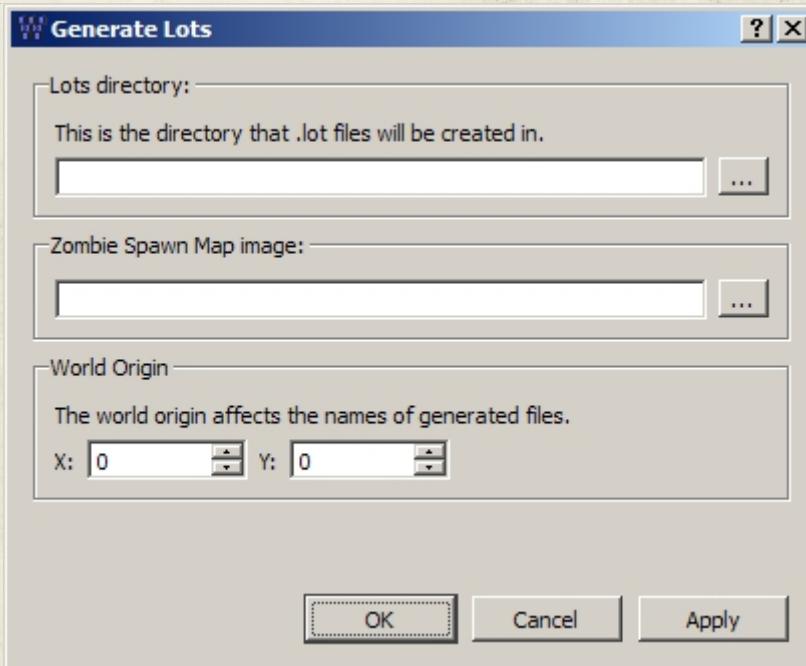
I will quick create some more buildings for this Last Stand map and see you on page 27 with a map, which contains three or more buildings.

Export-Explanation / Quick-Test

If you don't want to create more buildings for now, let's make a test.

First we will convert our map into a lotfile.

- Open your Last Stand map in WorldEd.
- Open File → Generate Lots



- Choose a directory for your lots. A new folder would be good. I call mine: MappingGuideLastStand
- We need a Zombie Spawn Map, although it is not necessary for the Last Stand Mode, because the zombie spawning will be handled by a lua script. Let's take our black bitmap.
- The World Origin is just important, if you want to expand the original map for example. We leave it as it is.
- OK

Now we have two files in our folder.
0_0.lotheader and world_0_0.lotpack

Unfortunately we have to overwrite the original Last Stand challenge with our map. I've tested, if it's possible to add a new third challenge to the game, but for now it's not. Nevertheless I'll keep the pages in the Mapping Guide for making separate Challenge Maps with a lua file. Next page I'll tell you how to overwrite the Challenge1 map.

(We don't need more, except some lua files.)

You don't know enough about lua? No problem, it's easy to edit these files. Next page.)

As mentioned, we need to overwrite the existing challenge with our map for now.

- Go to your game folder and open \media\maps\challengemaps
- Here you can see the folder Challenge1 and Challenge2 with the map inside.
- Copy the folder Challenge1 and rename it in e.g. "SaveChallenge1"
- Now open the folder Challenge1 and copy and paste your map files (0_0.lotheader and world_0_0.lotpack) with the existing ones.
- Now you can test your map, although there will be no containers in Last Stand with items in it.

You can learn how to edit the lua file on the next pages, where I try to create my own Challenge Map.

NOTE: This method don't work right now, but you can use it to edit the existing lua files. Don't forget to save the original lua files!!!

Go to your game folder and search in this folder
ProjectZomboid\media\lua\LastStand
for two files called: Challenge1.lua and Challenge2.lua.

I want to create a Last Stand Map with both modes, so we need also two files and folders for the maps.

- Copy both files and rename both files.

I've taken this names: MappingGuideChallenge1.lua
and MappingGuideChallenge2.lua

- Open the files with your editor program (e.g. Notepad++)
- Now open the option "Find & Replace" by clicking on the binoculars icon.
- Find what: Challenge1 or Challenge2, depends on the file YOURChallenge1.lua or YOURChallenge2.lua
Replace with: YOURChallenge1 or YOURChallenge2
- Now scroll down in both files and you will see some lines with descriptions, file paths and coordinates.
- Yes, we have to change nearly every text and number under the last end. But it sounds more difficult as it is.

.name = “*Your Map Name*”

.description = “*Description of your map*”

.image = “*Path of our own picture for this map*”

.world = “*Path of your Last Stand Map*”

.xcell and .ycell = 0

.x and .y is the spawn point. I'll tell you next page, where you can see the coordinates for spawn points or other things.

.cratePositions = “*Here you can define containers*”

(I'll explain it in detail next page)

.spawnCount = “*You don't need to change these numbers. It's the amount of zombies, which come with every wave. First Wave 2, Second Wave 3, Third Wave 6 and so on...*”

.wave = “*0 means, the game starts with wave 0*”

.hourOfDay = “*Here you can set the daytime. 0 means midnight, 3 means 3am and so on...*”

.alphaTxt, .waveTime and also .lastwaveTime = “*You can leave as it is. It's for the text, which appears, if a new wave starts.*”

.zombieSpawnsRect = “*Two spawn points for your zombies. You can change the coordinates, but adding more then two is a bit more difficult. I'll explain it maybe in a later version of the Mapping Guide*”

Right, now we have to find out some coordinates on the map and in the building. For that:

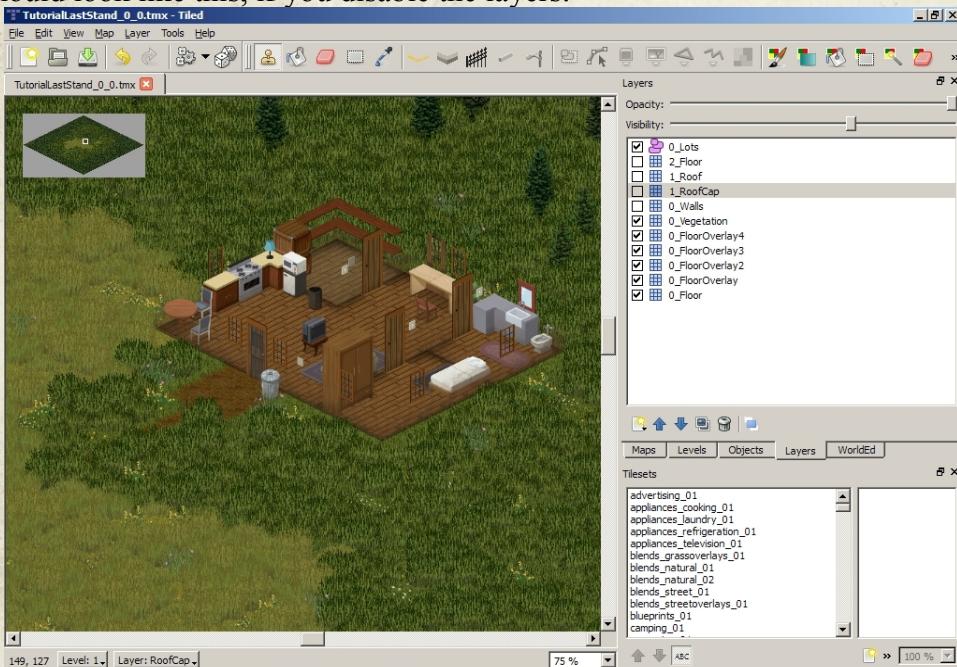
- Open TileZed and load your Last Stand cell.
- You can't see your building? You remember on the part with the adding of projects to TileZed? Look on page: 4 under Settings
- Now you see your building, but you can't see inside?

You need to add the correct layers in the right box. If you want to know a correct layer name, look in the layer list of your Building in BuildingEd.

For now, I'll just add the following four layers between 0_Vegetation and 0_Lots: 0_Walls, 1_RoofCap, 1_Roof and 2_Floor.

TIP: If you add just one layer to a level, you can disable the whole level by clicking on "Levels" and deselecting the single levels.

It should look like this, if you disable the layers:



- Scroll with your mouse cursor above a tile and you can see the x, y coordinates in the lower left-hand corner.
- Let's reopen our Last Stand lua files and replace some coordinates.
- First I'll add a spawn point for the player in the kitchen.
- Then I have to choose containers for weapons, carpentry stuff and so on.

For this test, I deside to place the weapons in the kitchen counters and the stove, carpentry stuff in the lower crate (don't know how to select the crate above the other crate) and the medicine in the wardrobe in the bedroom. Let's see my new row with the coordinates for the items:

```
MappingGuideChallenge1.cratePositions = { {"weapons3", "stove", 133, 126, 0}, {"weapons2", "counter", 133, 125, 0}, {"weapons1", "counter", 133, 127, 0}, {"medicine", "wardrobe", 140, 129, 0}, {"medicine", "wardrobe", 140, 128, 0}, {"carpentry", "crate", 133, 124, 0} }
```

Alrighty then... same coordinates for the other lua file.

Now we are nearly ready to test our building.

- lua files besides the other challenge lua files (or at least in the lua folder) ✓
- map lots of our game are in \media\maps\challengemaps\OURFOLDER ✓
- prepare to die ✓



5. Same building different: the magically BuildingEd

Now I will show you, what we can do with our little hut.

- Open BuildingEd and load our or your building.
- Because we used “crop to minimum” before saving the Building, we need to resize the Building a bit, because I want a bit larger house. Click Building → Resize Building.

I will choose a size of 27 and 25 for Width and Height and an Offset of 8 and 4. So, our building is in the north-middle of the resized area.

- Before something goes wrong, I will save this example quick as hut02.tbx.
- After this, I want to rotate the Building by 90° to the left. (After this step, every tile you set in Tile-Mode is erased. Another point to use Tile-Mode less than Iso-Mode)
- Look now, if some object shapes are empty or if objects looks weird on its actual place. I've found an empty shape by the shelves in the storage room. The corner of the shelf doesn't exist in this direction. Better we delete this shape, because it's useless.
- No, let us delete every little object in this house, except the internal doors and the windows. :P
- Now I will click on Floor → Add Floor below and add/edit some more rooms to the definitions and of course to the actual building.
- You want two rooms, which are connected with a large open passage? Click on “Place Wall” → select Interior Walls in “Tiles and Furniture” → select none → place your non-wall by dragging a line.
- Okay, after adding some stuff and expanding the rooms a little bit, our little hut looks much different:



And here the new first floor:



6. Between the buildings. (TileZed-Tutorial)

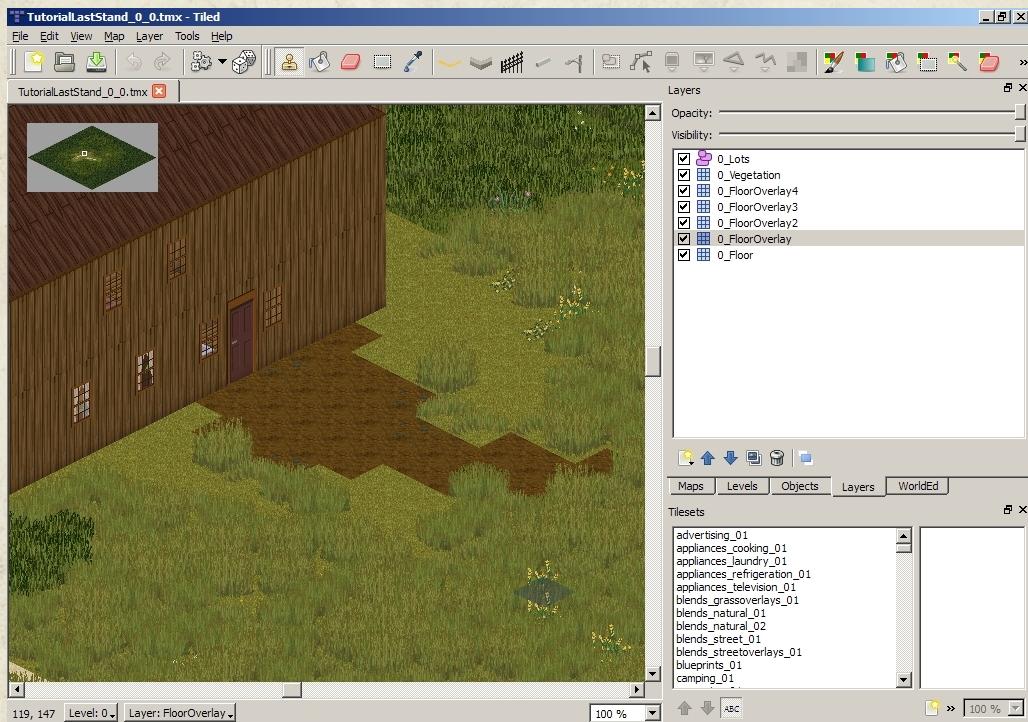
First: Don't create buildings in TileZed. It's only for creating the landscape between the buildings.

- Open TileZed and open your world file.

In my case: TutorialLastStand_0_0.tmx

- Now you should see the landscape with the buildings on it.

If you don't see buildings, then look on page 4 under Settings.



You see, the border of the dirt looks not good. I want to change it.

- First I select the layer 0_FloorOverlay (unfortunately these layers don't exist in BuildingEd and you can't add them), but this shouldn't be a problem.

- Now I'm looking in Tileset list for blends_natural_01 and select the first grass blend. The program will choose the "Stamp Brush" icon automatically.

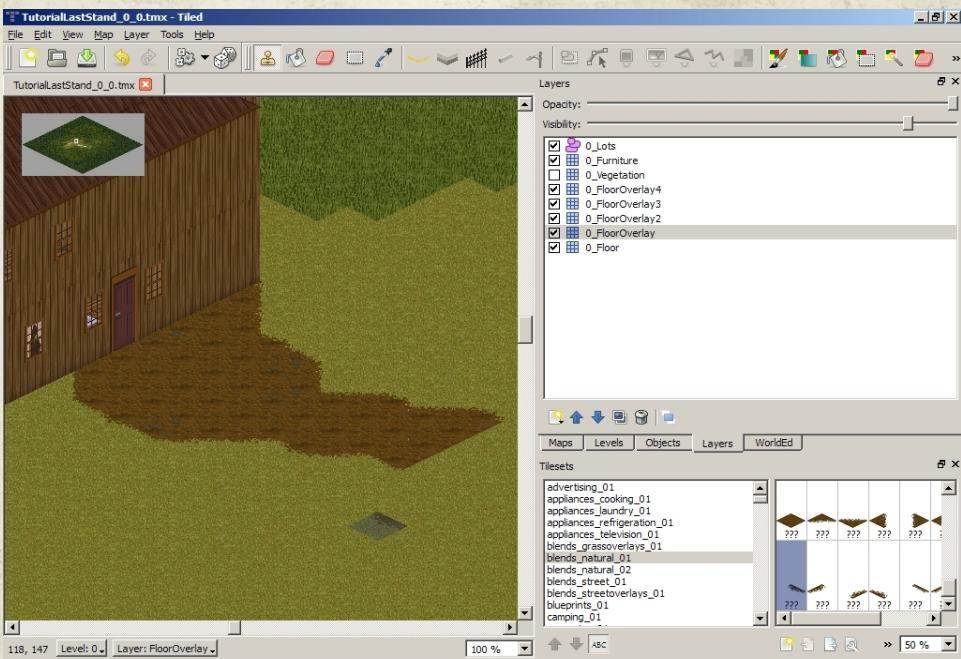
If you click now on the dirt to get a nice blend, you will notice, that you can't see the blend.

The reason for that is, that you can't put anything on a tile, where is something from the building on it.

- So I will select the dirt blends and try again. It works!

But I can't see the floor tiles good enough, so I disable the Layer 0_Vegetation

- If you need to put two blends on one tile, you can simply change the layer. Select 0_FloorOverlay2 and try again.



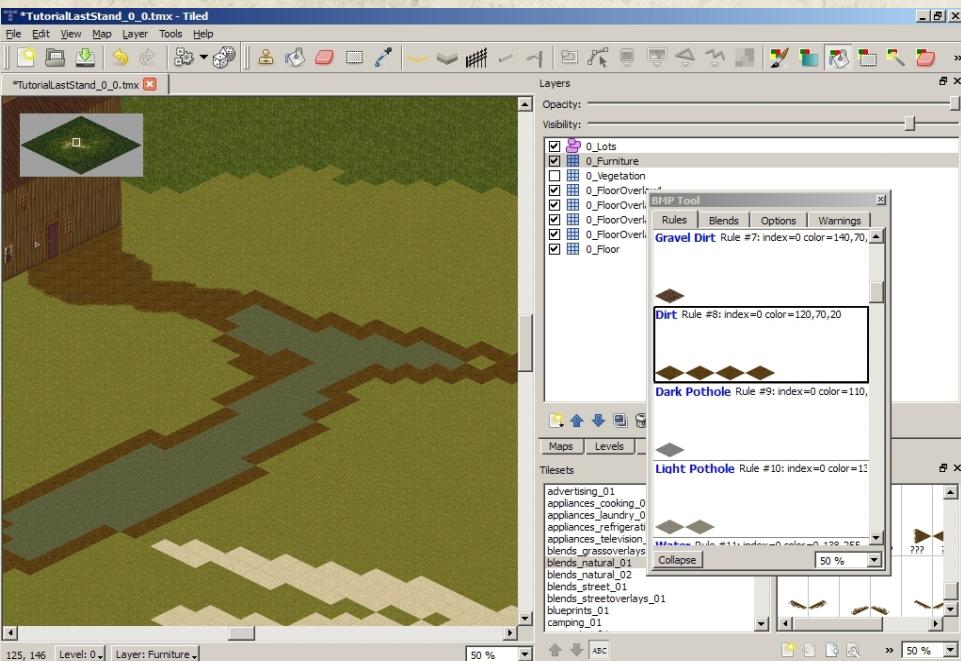
Looks much nicer in my opinion.

Now I want to create a dirt path network between the buildings.

With the “BMP Brush” I will draw only the border of the path network.

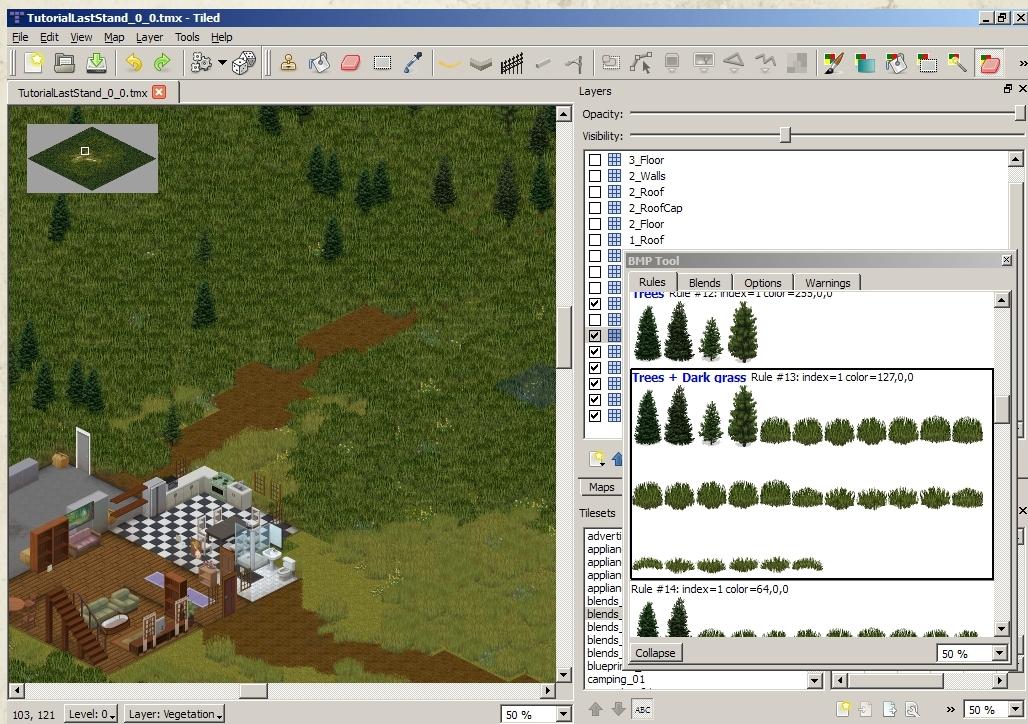
Note: The selection of the kind of a layer is not important, but it's important in which level the layer is.

With “BMP Bucket Fill” I can fill the inside with dirt floor by clicking the left mouse button.



Note: If you want to reconvert the bmp with WorldEd, all changes you made in TileZed with BMP-Tools will be gone.

I've added a dirt path from the garage in the wilderness, but it don't look good to me. Of course, the blends are missing, but we know now, how this works. Although there exist also another method to add blends, but we come to this later in the Mapping Guide.



Before I'll add the missing blends, I want to erase some of the grasses and trees.

- For that I select “BMP Eraser” and one of the Rules with trees and grass in it.
- Now I can erase stuff on the layer “0_Vegetation” of the bitmap file, without changing the bitmap or selecting the 0_Vegetation in the layer list (only the level must be correct / it's even possible to erase vegetation without seeing it (0_Vegetation layer disabled)).

If you want a bigger “pencil” for the BMP Tools, you can change it easily in the options of the BMP Tool window.

7. Zombie Spawn Map Explanation

The Zombie Spawn Map is similar constructed as the landscape/vegetation bitmap. The difference is, that there exist just black/white and a huge grayscale. Also the size of the bitmap is 10 times smaller as the other both bitmaps.

If you have 3x3 cells (900x900 pixels/tiles), so you have to create a Zombie Spawn Map with a size of 90x90 pixels/tiles.

White and gray colors are for the zombie population.

Absolut white (255,255,255) stands for the maximum zombie population.

You ask yourself maybe follow question: How can I create a spawn map without any orientation, which also fits perfekt to my bigger map?

- Open your landscape bitmap file with a editor of your choise.
- Add a new layer and fill it with black color.
- Decrease the visibility, so that you can see well the landscape map, but also the new spawn map.
- Edit the black layer with white/gray colors.
- Save your file like ZombieSpawnMapEdit for later editing.
- If you are done with your Spawn Map, delete the landscape layer.
- Increase the visibility to 100%.
- Decrease the size of the whole bitmap. [actual size / 10]
- Save as ZombieSpawnMap.bmp

8. More Buildings, please! (BuildingEd-Tutorial 2)

Now I will create a bit more complicated building step by step.

The Big Barn

Let's open the BuildingEd and create a new building.

I'll choose no template and a size of 20x35 tiles.

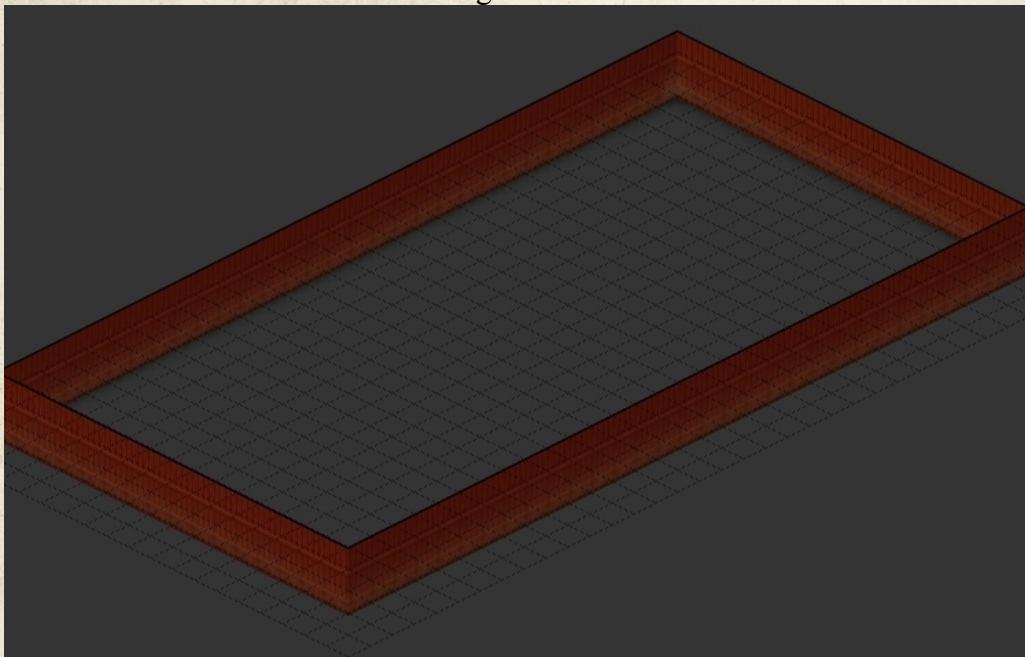
First I will define some rooms. 

A "barn" room, a horse box and a hayloft.

The special about the barn and the horse box room is, that both had no floor tiles and the horse box also no wall tiles.

After creating some room definitions, I'll open the building properties and change some things, such as exterior walls, roof tiles and so on.

Now I will draw the first room. The big barn itself.

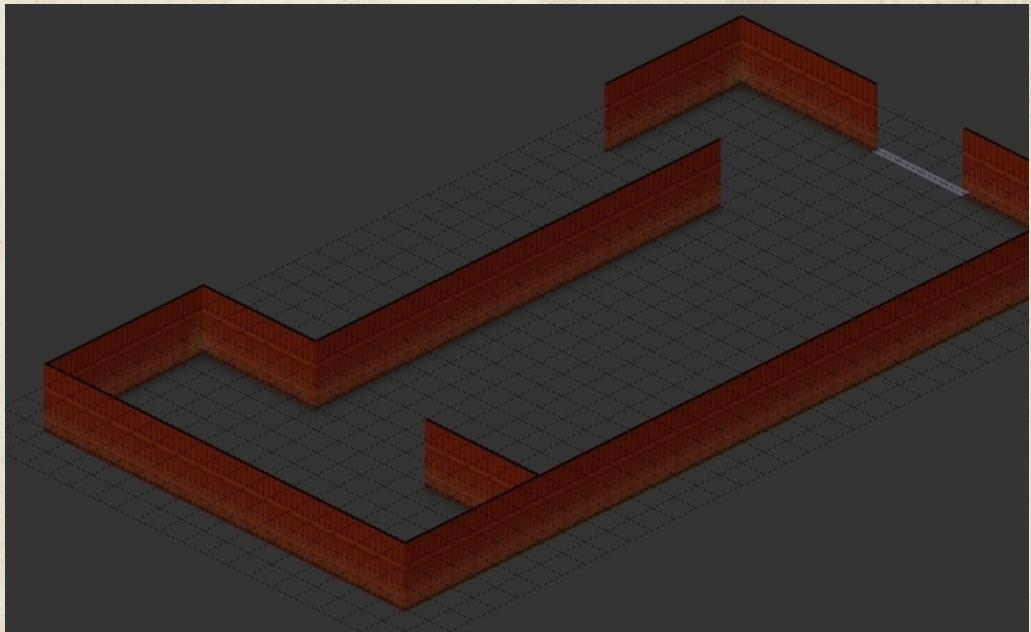


Now I will click on the button "Place Wall" , but actually I don't want to place a wall. I want to create the entrance in the north. For that, I select in "Tiles & Furniture" → Interior Walls → none (it's always on top of any list).

After that, I place some horse box rooms. It is not a problem, if you take only one room definition for the same type of room again and again. With my single room definition of a horse box, I will place six of them inside the barn.

But you should know, that rooms with the same room definition will ever be connected to each other. For my horse boxes is it not a problem, because they have nevertheless no walls in its definition.

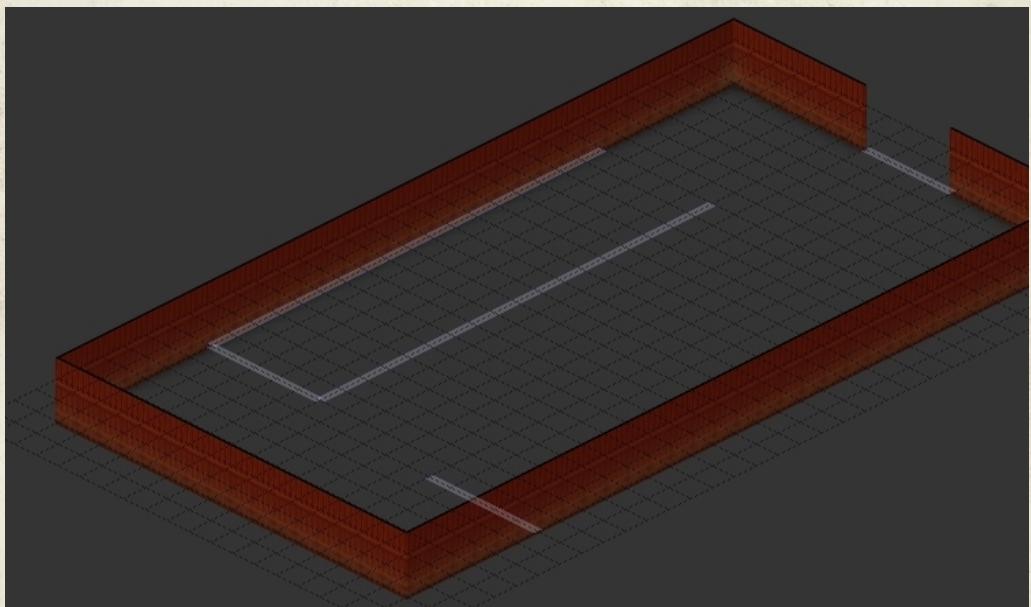
But now I have a problem with walls, although the horse boxes have no walls. Look at the next page of what problem I'm talking about.



We need to use the “Place Wall” function again.

First I will delete the walls inside the barn in the same way I've created the entrance. Then I'll select the location_barn_01 and fix the hole in the wall.

Now it looks right, even if we can't see the horse boxes yet.



Okay, next step is: separating of the horse boxes with fences.

Therefore I will use the Tile-Mode (F4), because first the fences aren't declared in the Tiles & Furniture list, what is not a problem, but second, some of the fences have more than one texture for one direction.

I don't want to rotate the building, so it's not a problem, if I'll place the fences in Tile-Mode. Otherwise I have to add all fences to the Furniture list.

Next time. ;)

My problem in both modes (Iso and Tile) is, that I can't see the horse box rooms. My problem in the Ortho-Mode (F2) is, that I can't place tiles like in Tile-Mode.

To have it a bit easier with the creation of the fences, I will add a floor to the horse box room definition. After I've placed the fences, I can delete the floor.

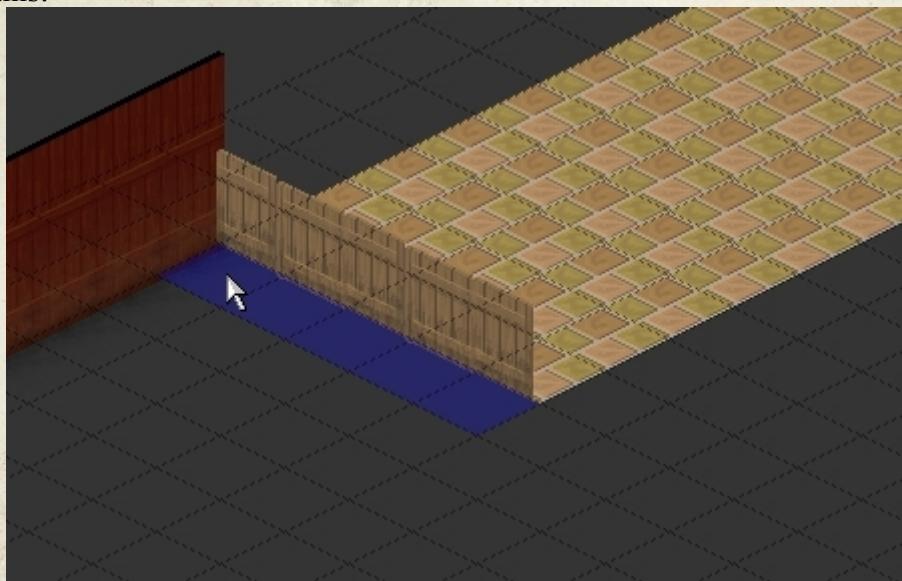
Now I'm in the Tile-Mode (F4) and can see the horse box layout.

I will select the layer "walls2" (because on layer "walls" are the walls of the other rooms already) and search for the tileset "fencing_01".

Now I can place what I want.

If you don't want to place every single tile, you can simply hold the right mouse button and capture the tiles you want.

Like this:



Now you have the tiles on your mouse cursor and you can place the same s*** over and over again. ;)



Now, let us see what I've made.



We ignore the colors of the walls for now. This is something for the section “Edit and Create your own Textures”.

My next step is: 1x1 Pillars under the coming hayloft.

For that, I will quickly create a new room definition with the same walls as the barn itself and the absolute black tile in the tileset “floor_exterior_street_01”.



Almost every pillar looks good, except the four in the horse boxes.

For that, I will delete the fence tiles in the south of the pillars (in Tile-Mode) and add the missing pillar walls with the known tool “Place Wall”.

Next step?

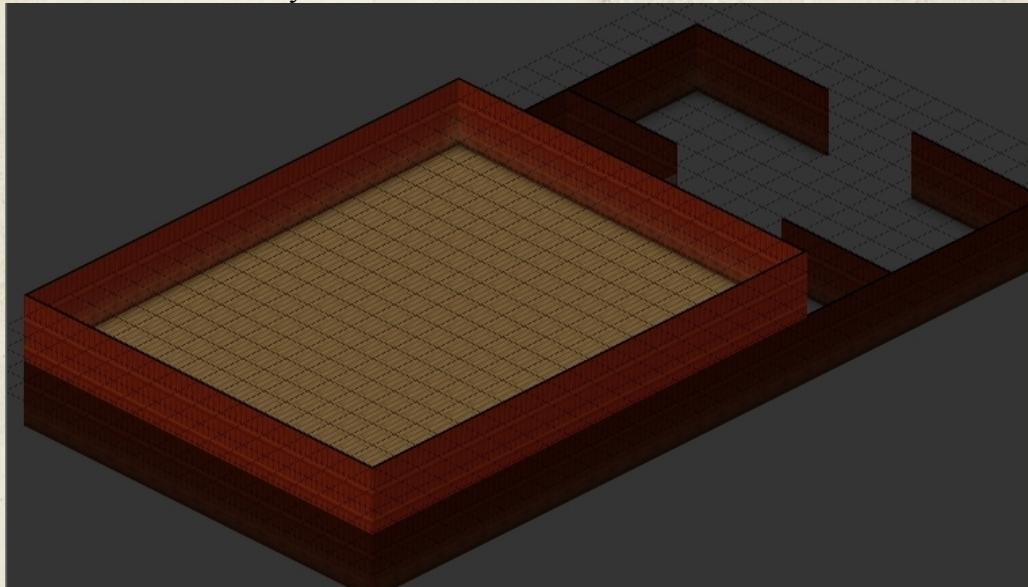
I will add the hayloft on the second floor.

But first I've decided to close the horse boxes more up and fix the east side horse boxes, because they are one tile more in the south as the other boxes.

For the step to close the horse boxes more up, I have to delete and add walls in the Tile- and Iso-Mode, but you should know, how it works.

Just remember, that you shouldn't place two similar wall-pieces on the same tile. It shouldn't occur problems in the game, but it's unnecessary and the file size is bigger as it should.

Now I've created the hayloft and it looks like this:



This is not that, what I wanted.

I have to create another room definition without a floor tile. I call it "open_space" and it needs no internal name, so I type in "none".

After placing the open space, I have to delete the wall and add a fence. We should know, how this works.



Now I'll add a stair on the first floor and some pillars on the second floor. Yes, I want to add a third floor with an opening to the outside of the building. For that, I don't need to add new room definitions. I'll simply select hayloft and open_space again. Unfortunately we don't have proper ladders in the game now. Therefore I will use only stairs, even if I will place the "sewer ladder" as a placeholder for wooden ladders in the future.

This is the second and third floor now:



Unfortunately the ladders aren't the only textures I've missing for a proper big barn. But this is not a reason for don't placing some stuff, which already exist.

One last thing. You remember of using the BMP tool in TileZed?

I need to use it for the ground of the barn.

Note: Only if your building hasn't a floor, you can edit the floor in TileZed.
For my barn is it very useful.

Here you can see the result:



You want to see the complete barn? Download the .tbx file for the BuidlingEd or the complete Last Stand map for playing.



9. Fantasy Kentucky (WorldEd-Tutorial 3)

In this chapter, I want to show you how we can implement our own cells to the original Kentucky. I'll present two different ways.

The first part is to use an existing cell for your buildings.

The second part is about implementing a cell or more without touching some of the existing cells. (But this will be a part for the update 03)

9.1. On an existing cell

This way is a bit easier as adding complete new cells to Kentucky, but not much different.

First we need buildings and an idea what cell(s) we want to use.

For that I'll open WorldEd and the file Muldraugh.pzw (you can find this file and all original files in the folder "rawmap").

I've desided for the cell 12,10 and doubleclick on it.

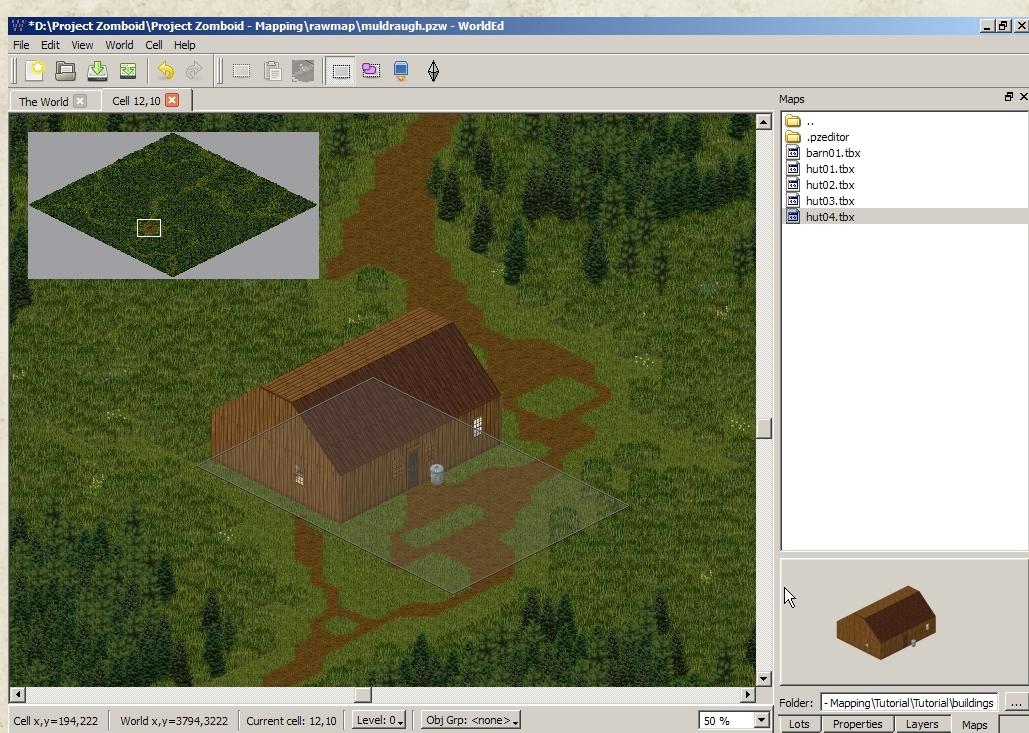
Note: We don't have the files of the original buildings of Muldraugh or Westpoint, so it's maybe not particularly wise to select a cell with original buildings on it.

Now let's place a building near the dirt path in the woods.

Let's hope it's not too far away from the town. ;)

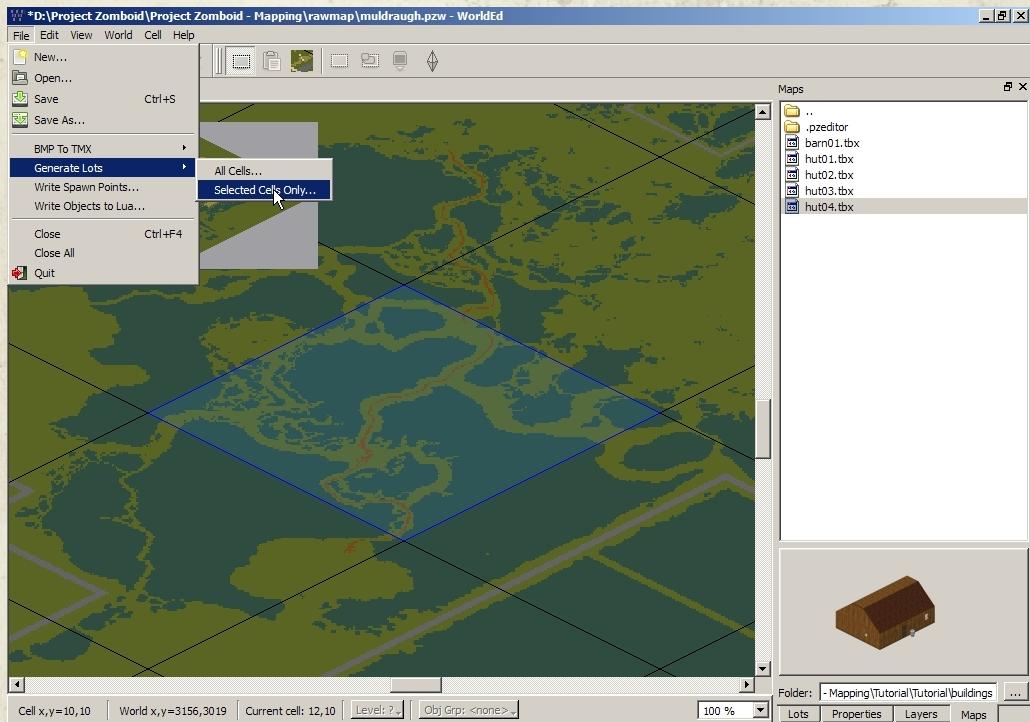
If so, we can edit the lua file, where the spawn points are defined. We come to this after this chapter.

Note: Later you can use the Spawn Point Button in WorldEd to place spawn points for your own map. I will come to this in the Mapping Guide, but later, if we create our own map.

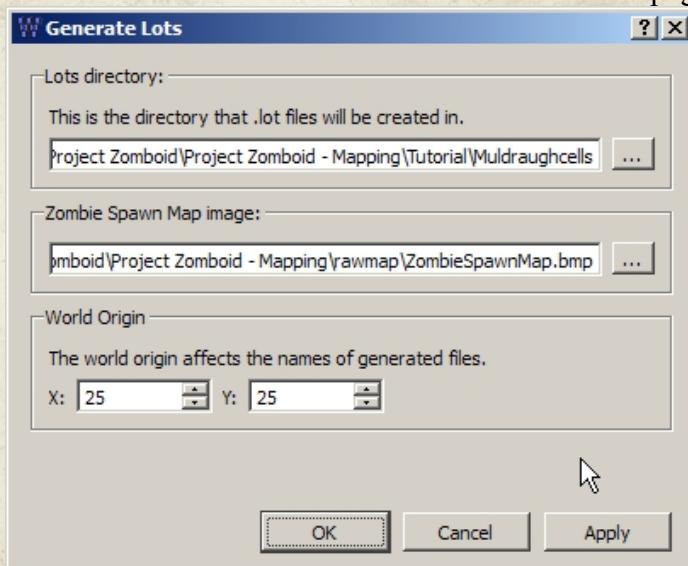


Let's go back to the world overview and select only the cell that you have edited.

- Now go to File → Generate Lots → Selected Cells Only...



- Now you see this window. You should know it, if you have read the Last Stand Map Chapter.
- Select a folder of your choice. There you can find the files for the game after the generation of the .lot files.
- You can find the Zombie Spawn Map of Muldraugh in the “rawmap” folder. The offset (World Origin) of Muldraugh is 25x25 and the offset of Westpoint 25x15. I'll explain the offset in some short sentences on the next page.



World Origin (Offset)

You know, that the world consist out of cells. Let's say we've created 2x2 cells without empty cells around it. But we can imagine, that our world has no limit for cells.

If we now select an offset of x:0 and y:0, then our cells would be on the origin position: 0,0 ; 0,1 ; 1,0 ; 1,1

With an offset of x:3 and y:8 we have the position: 3,8 ; 3,9 ; 4,8 ; 4,9 and so on...

Muldraugh (20 x 20 cells) starts with an offset of 25x25. This means, there are 625 empty cells in a square to the origin offset x:0 and y:0.

Enough space for Westpoint, which has an offset of 25x15 by a size of 20 x 10 cells. So it's directly above Muldraugh.

Note: Never choise an offset below 0,0. For now the game can't read maps, which starts below 0,0.

Cell Installation

Now we want to play on our new cell.

- We go to \media\maps\Muldraugh, KY and search for the identical name of our cell. For me it's the .lot files 37_35.lotheader and world_37_35.lotpack.
- Rename the files, if you want to undo the changes later.
- Now copy your two files in this folder.
- Normally you should find your buildings on the original map now.

Spawn Point in our Building

You should find the spawn points in this folder: \media\lua\NPCs in the file MainCreationMethods.lua.

There is a function called: BaseGameCharacterDetails.DoSpawnPoint

You can simple add spawn points for the different professions.

Or you delete all the spawn points and add just yours.

I would suggest: Test a bit on your own. ;)

I will make a bigger tutorial for it in the near future.

Item Distribution – What can we find in our house?

If you want to find items in your building, you need to add some internal names of the rooms to the SuburbsDistributions.lua in \media\lua\Items. Or you selected internal names of the .lua file for your buildings.
Let's took this little example.

```
hut_kitchen = [internal room name]
{
    counter = [container type]
    {
        rolls = 4,
        items = { [Item list]
            "Base.Crisps", 5,
            "Base.Magazine", 5,
        }
    },
},
```

So with this little code, there is a chance, that crisps or/and magazines spawn in counters of rooms with the internal name “hut_kitchen”.

Smaller numbers are for less spawn chances, but I'm not quite sure.

I will make a bigger tutorial for it in the near future.



Planned for the next version:

- expanding the chapter “Fantasy Kentucky”
- new BuildingEd tutorial
- New TileZed tutorial

Some stuff I've planned for future updates:

- Creating of your own world
- Creating and implementation of your own textures
- Manuals for all three programs

I hope I could help out for now.

Christian Walber (Thuztor)