Water :: [Dr ABAP](mailto:owenjg@hotmail.com)  
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*These tutorials assume you are already familiar with SDK (MOHRadient) or similar and know how to create a basic room with a light (Basic room tutorial & Basic lights tutorial). But if not don’t worry, this should help build your knowledge. It’s also assumed that you have read the documentation that was released with the Editor. This is also a basic tutorial, so if you are familiar with GTK etc.. SORRY! This is the first time for most new Mappers..*

For this tutorial I have created a room (hollow box) with the dimensions of (approx: 512 x 512 x 512), it’s up to you!

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The Room and Pool  
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OK, we are going to be using a common texture CALK. What is CALK? In basic terms CALK tells the compiler that it can ignore this when drawing the world. This is often a face (on a brush) never seen by the Player. This should be sufficient for this tutorial. I will try to explain in more detail in a later tutorial.

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| http://www.mohaaaa.co.uk/mohaa/tutorials/water/image1.jpg |

There are a couple of calk textures in MOHRadiant, the one we are going to us is this one (see above). The others serve what ever purpose and you can play with these too your hearts content.

Ok, you should have now got your basic room. Create a wall about 64 high and about 256 in length. (See below)

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| http://www.mohaaaa.co.uk/mohaa/tutorials/water/image2.jpg |

How it looks in 3D window.

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| http://www.mohaaaa.co.uk/mohaa/tutorials/water/image3.jpg |

Don’t worry about the caulk texture for the moment I tend to make my entire brush with caulk until I’m ready to apply textures. I find this good practise as you then only apply textures to the visible world, not having to worry about whether you applied caulk later. In GTK you can clip and automatically apply caulk for the generated face (very useful), but alas this isn’t a GTK tutorial.

Clipping the brush. This isn’t a tutorial on clipping or vertex manipulation tutorial, I’m going to use a bit of it and serves as good practice. This is explained in a tutorial in its own right.

With the brush selected press ‘V’ for Vertex editing (ensure your 2D view is XY Top view), now in the 2D view LEFT CLICK on the points and snap them (drag) into play making the angle 45 degrees (see below).

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| http://www.mohaaaa.co.uk/mohaa/tutorials/water/image4.jpg |

OK, press ‘V’ to turn off Vertex editing. We are now going to add some textures (but wait!), I’m using the Algiers textures. It doesn’t really matter for this tutorial, use what you want. Don’t get to fancy as where not really bothered with cosmetics just yet. But, we are only going to apply textures to 3 Faces. These are: Inside the pool, the outside and the top. Remember we will not see the 45 degree angles and the bottom so the caulk comes into player here.

OK, lets copy the brush. You can use CTRL + C but as we are going to be going to be good mappers we are going to use SPACE (Duplicate Brush). So press SPACE to make a copy of the brush (ensuring you have the brush hightlighted – if you don’t know how to select a brush, whilst in the 3D window hold SHIFT + Left click the desired brush).

Now we are going to rotate the brush on its Z Axis by using the following buttons :

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| http://www.mohaaaa.co.uk/mohaa/tutorials/water/image5.jpg |

We are going to use the one on the right. Click the button to rotate the brush once. Now position the brush linking the 45 degree angles. Use SPACE and Rotate until you have created the entire pool. (see below). Use CTRL + TAB to view the pool in 2D view to ensure all brushes are at equal height. Then make sure you finish back at XY Top view. (See final Pool below)

2D View (XY Top)

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| http://www.mohaaaa.co.uk/mohaa/tutorials/water/image6.jpg |

3D View

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| http://www.mohaaaa.co.uk/mohaa/tutorials/water/image7.jpg |

OK, we have the pool. Let’s put a floor in it!! So create a brush (applying CAULK to it as we are only going to be seeing the TOP Face) the brush should fit FLUSH inside the pool and be no more than 32 high (See below).

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| http://www.mohaaaa.co.uk/mohaa/tutorials/water/image8.jpg |

Press ESC to deselect the brush. Now Select the only visible Face using (CTRL + SHIFT + Left Click). Apply a texture, I’ve chosen Misc\_outdoors/riverbed. Don’t worry about alignment and size. Your final pool (Pre-water!) should now look something like the following.

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| http://www.mohaaaa.co.uk/mohaa/tutorials/water/image9.jpg |

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The Water  
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OK, I find this a little bit strange in MOHRadiant (being used to GTK – So spoilt!) Some of the water Shaders, don’t show as Transparent in the Game, but they do in the Editor. If you have the answer I’ll be well happy!!

Anyway, I found a transparent shader. I used Misc\_outdoors/River for this. Right create the brush for the water so it fills the Pool, but that it doesn’t come to the rim of the pool or at least so it doesn’t over flow (see below).

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| http://www.mohaaaa.co.uk/mohaa/tutorials/water/image10.jpg |

Apply the River texture as mentioned above. Now press ‘S’ to bring up the Surface Properties. (See below)

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| http://www.mohaaaa.co.uk/mohaa/tutorials/water/image11.jpg |

Notice how some surface flags have been set for you? Well the shader file has three flags set see below - highlighted in BLUE in the script for this shader.

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| textures/misc\_outside/river  {  qer\_editorimage textures/misc\_outside/ocean2.tga  qer\_keyword natural  qer\_keyword liquid  qer\_keyword ocean  qer\_trans .4  surfaceparm trans  surfaceparm water  surfaceparm nolightmap  cull none  //deformvertexes wave 30 sin 0 60 0 .1  deformvertexes wave 30 sin 0 5 0 .2  {  map textures/misc\_outside/ocean1a.tga  blendFunc GL\_ONE\_MINUS\_SRC\_ALPHA GL\_SRC\_ALPHA  alphaGen lightingSpecular  tcMod scroll .0 0.15  // tcMod scale 2.50 2.50  }  {  map textures/misc\_outside/ocean2a.tga  blendFunc add  // tcMod scale .333 .33  tcMod scroll .0 .10  // tcMod turb 0 .2 0 .1  tcMod scale 4 1  // tcMod turb .1 .3 .2 .1  tcMod scale .25 1  nextbundle  map textures/misc\_outside/ocean2a.tga  tcMod scale .55 .55  tcMod scroll .0 .08  // tcMod scroll -.03 -.05  }  {  map $lightmap  rgbGen Identity  blendFunc GL\_DST\_COLOR GL\_ZERO  depthFunc equal  }  } |

Don’t get too worried about this. It doesn’t matter too much at the moment, it just serves to show why these have been set for you.

Right all that you need to do now is add a light and a Player\_start. Go compile and run it.

Note: Some water will not allow you to Crouch!! Coool eh? Oh, yes when you run the map from your tutorial, the water will not show as transparent straight away..

Need any help : Ask in the [Forum](http://www.mohaaaa.co.uk/mohaa/forum/index.php)