

Step 2: Add Material and Texture

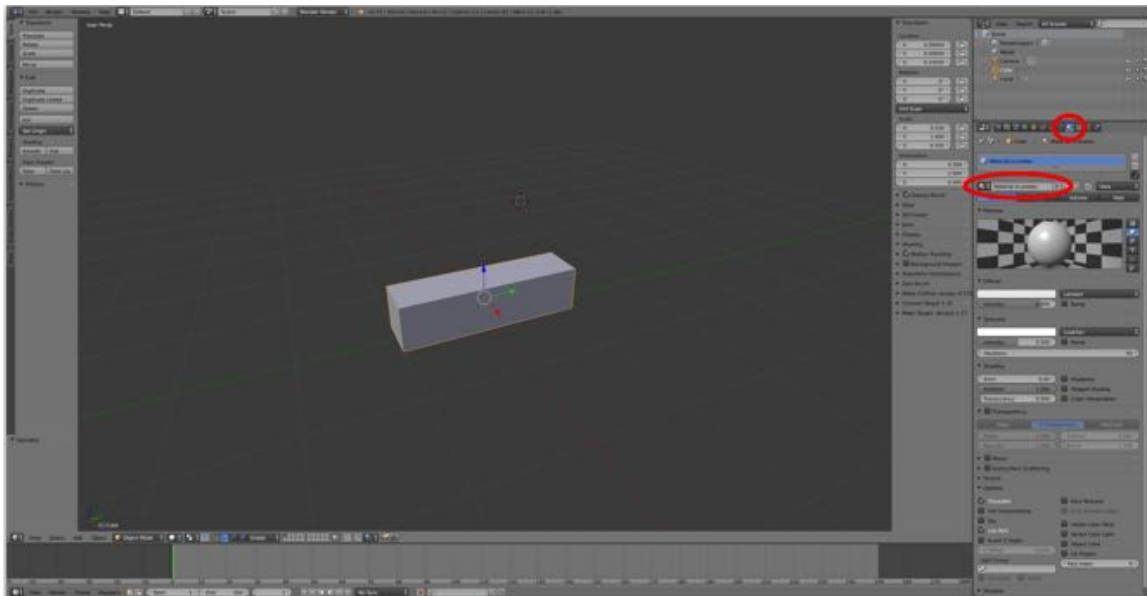
Material

This part is easy as the Default Cube already has a material assigned. All we need to do is rename it as materials in Trainz assets need to have specific file endings.

- In the **Properties Editor**, select the **Material Tab** (the one that looks like a circle).

Diffuse materials for Trainz need to have the ending “**m.onetex**”.

- Select the **Material Name** and add the ending (e.g., **Material.m.onetex**).



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That's it!

Texture

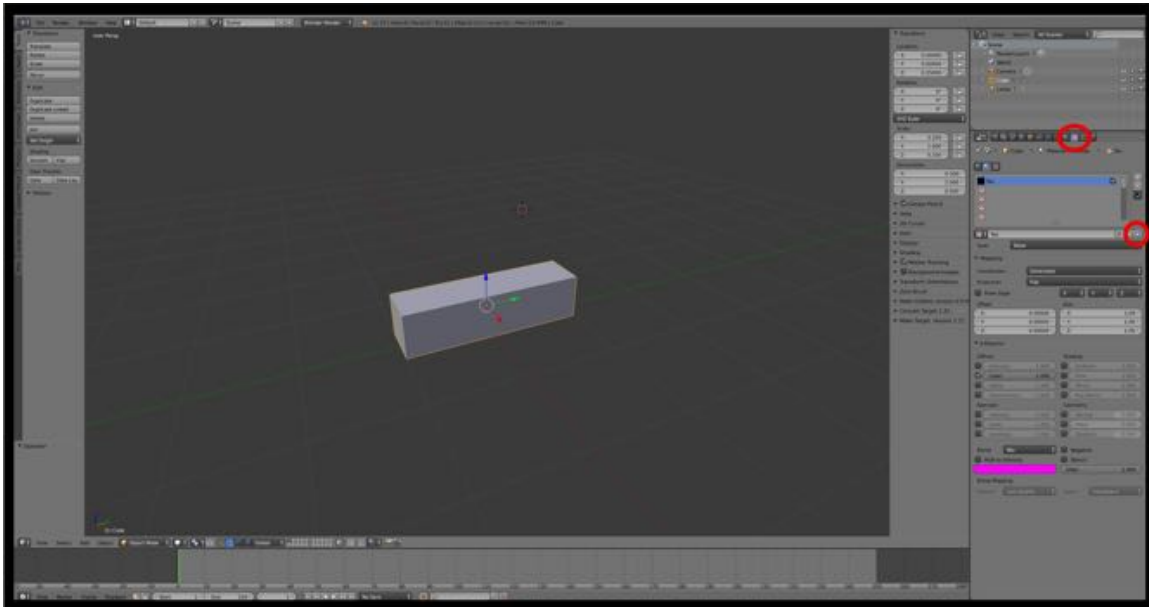
Adding the texture requires several steps. First, we need to add the texture in the Properties Editor under the Texture Tab. Second, we need to split the window to add a second viewport, a UV/Image Viewport and add the texture there. Third, we need to “UV unwrap” the model to apply the texture to it. Fourth, and finally, we need to change some settings in the 3D Editor to make the texture visible on our model.

Step 1: Add texture in the Properties Viewport

- In the **Properties Editor**, select the **Texture Tab**

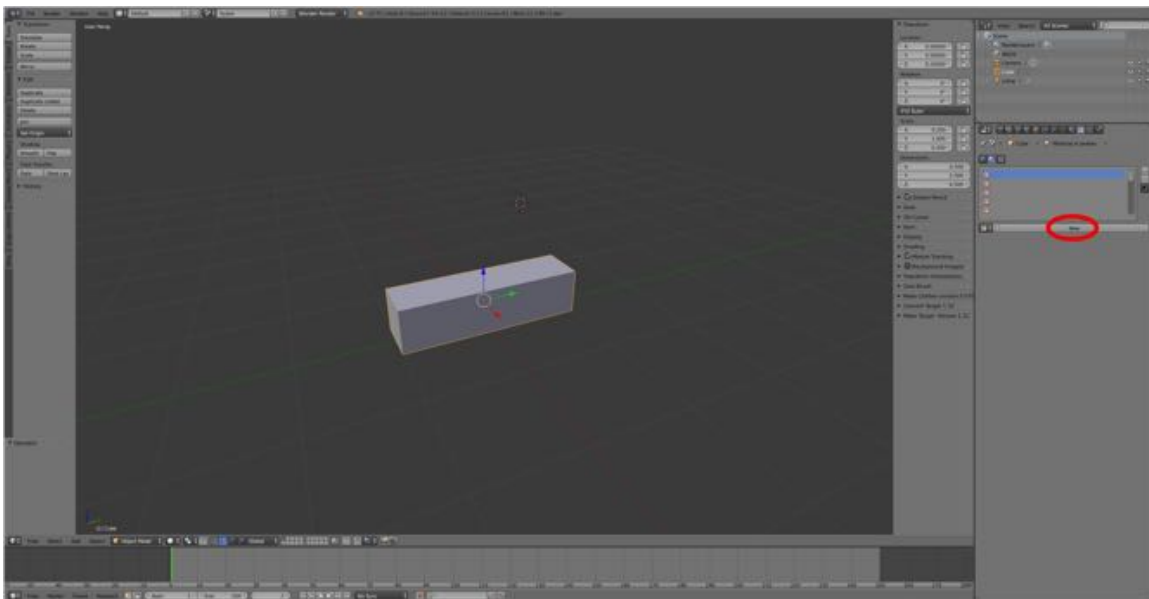
(the one that looks like a **checkerboard**).

- **Remove** the existing **Tex** texture by **LMB** clicking on the **X** to the right of the name.



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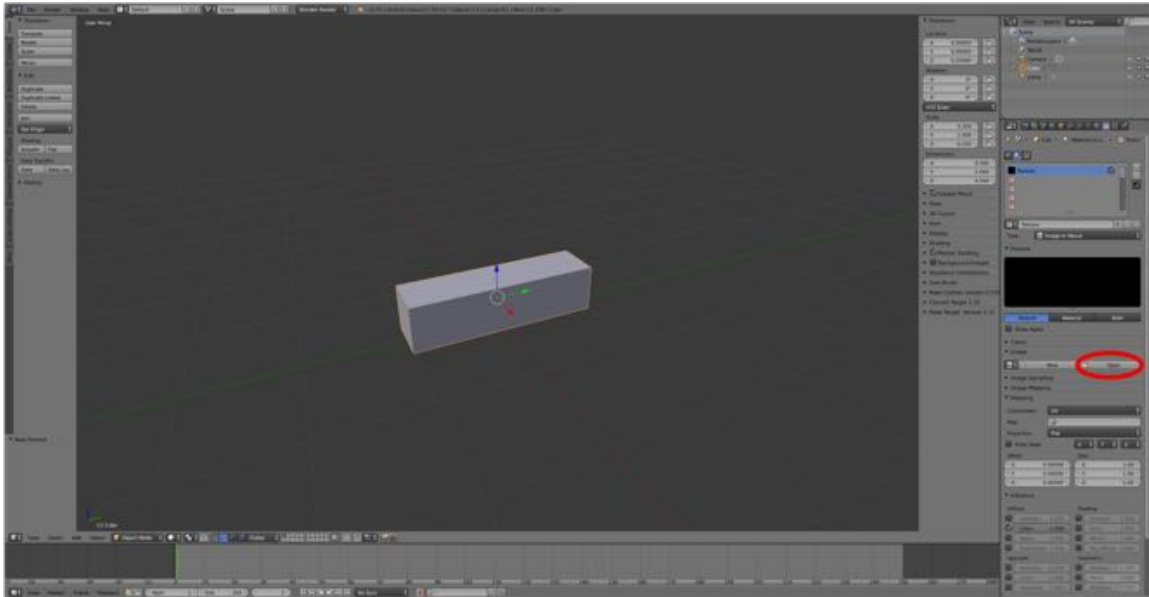
- **Add** a new **texture** by **LMB** clicking on **New**.



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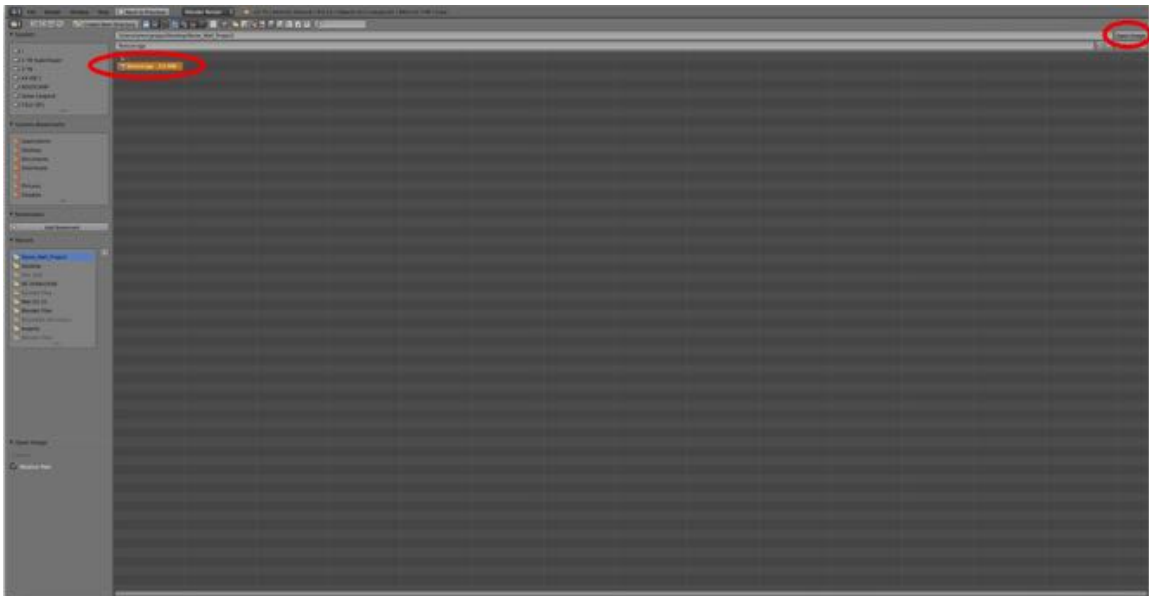
- Leave the name as **Texture**
- Under **Type** select **“Image or Movie”**.

- Go down to the **Image Pane** and click the Viewing Triangle if the pane is not open. LMB click on **Open**.



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- Select your **Texture.tga** file from your project folder.
^aYou did save your texture file to your project folder, right?)



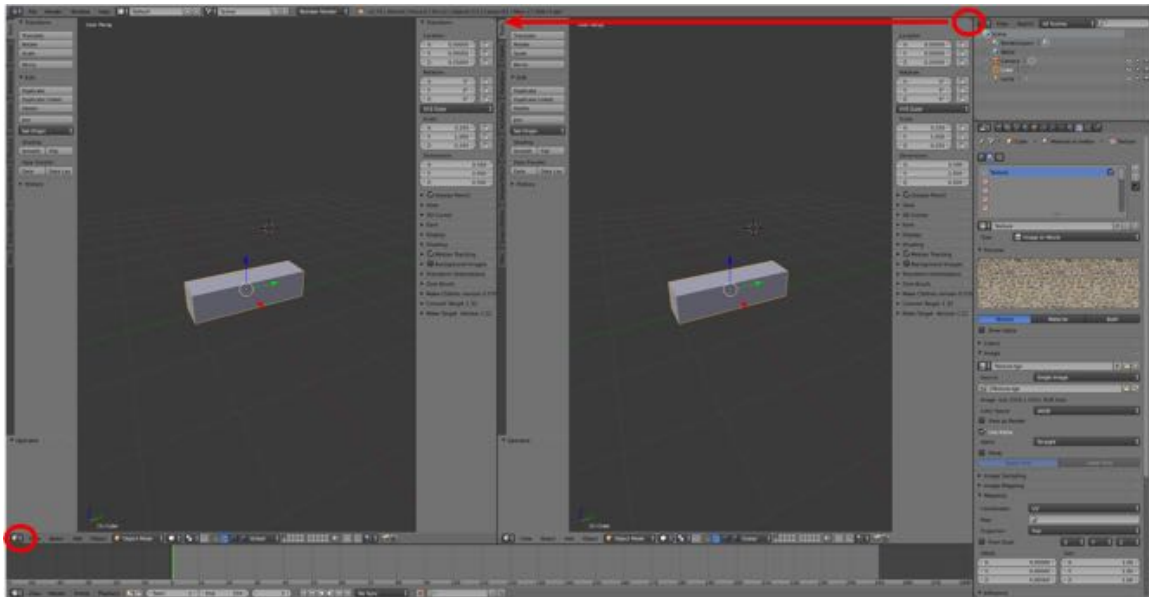
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- Save your Blender file (**Stonewall03.blend**).

Step 2: Add a UV/Image Viewport

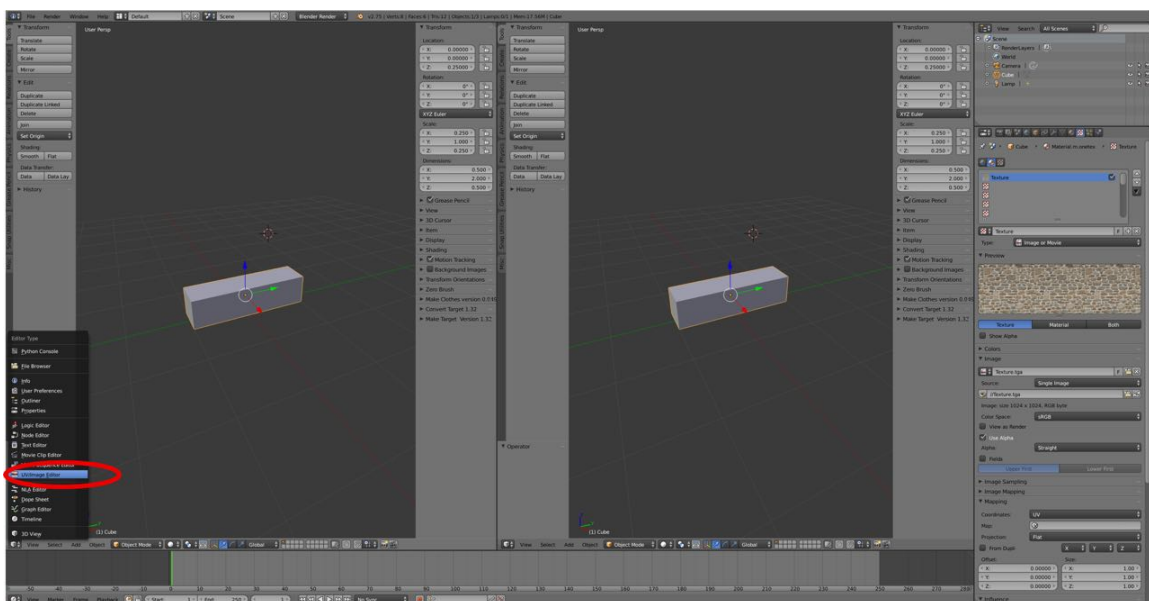
Now, we need to split the 3D Editor's frame to add a second editor, a UV/Image Editor and add the texture file to this editor.

- **LMB** grab the **hatched upper right corner** of the **3D Editor** and **drag** to the left to split the frame and add a second editor . You will now have two 3D Editors.



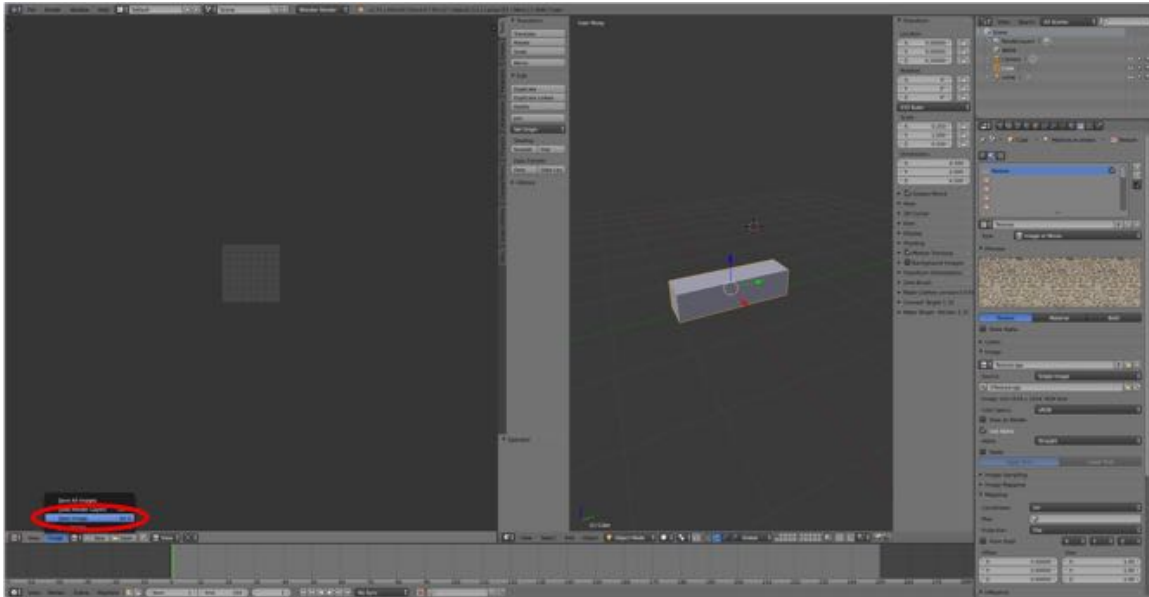
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- **LMB** click on the **Viewport Selection Icon** in the lower left corner of the left most editor and select **UV/Image Editor**.



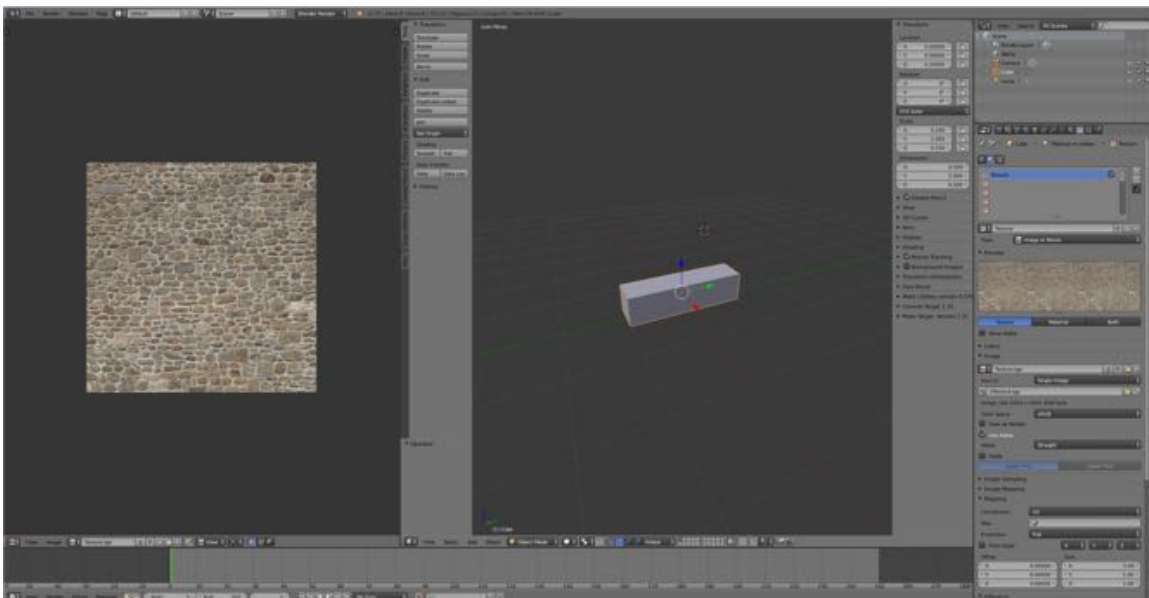
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- Now **LMB** click on the **Image Menu** at the bottom of the UV/Image Editor and select “**Open Image**”. Choose your **Texture.tga** file from your project folder to **load**.



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Your texture file should now be visible in both the Properties Editor and the UV/Image Editor.



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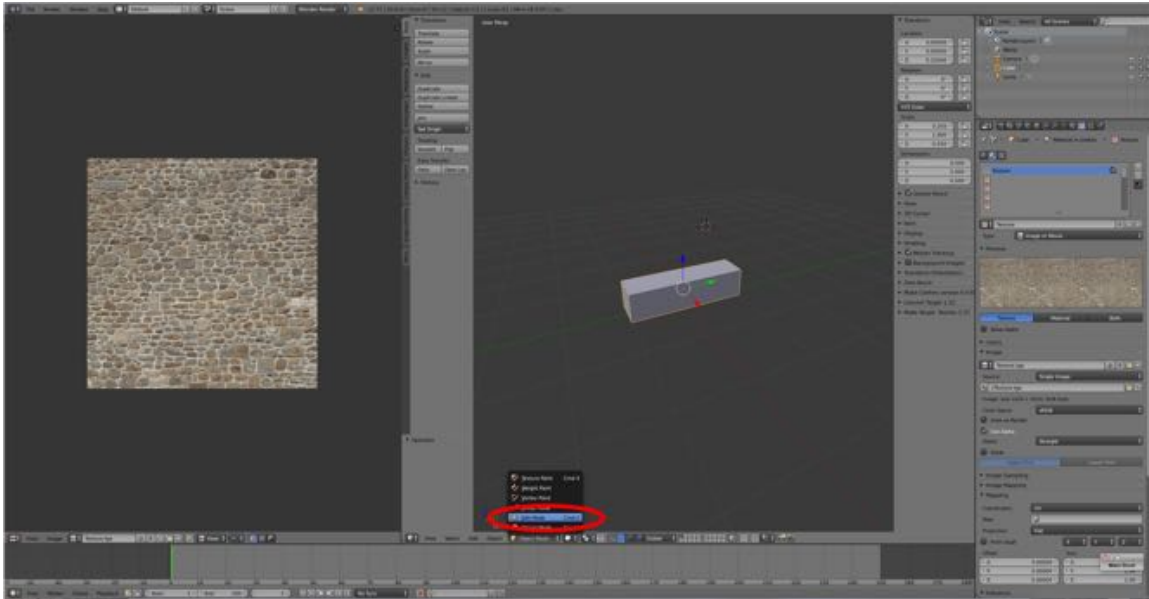
Save your file (**Stonewall04.blend**).

Step 3: UV Unwrap the Model

Now that we have linked the texture file to the Blender file, we need to place the texture on the model.

The process is called “**UV unwrapping**”. UV does not refer to the light rays, but rather to two additional coordinates, (i.e., X, Y, Z and U and V). U and V represent the left and right (“X” or U) and up and down (“Y” or V) coordinates as viewed in the UV/Image Editor viewport.

- **Switch to Edit Mode** in the 3D Editor (**TAB-KEY**).

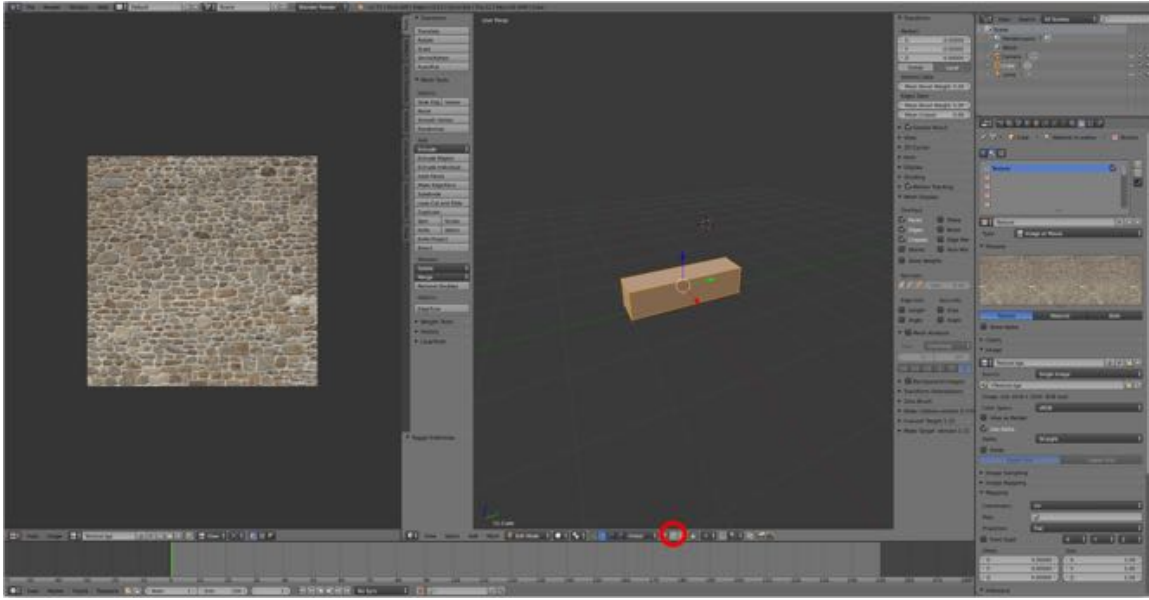


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Unwrapping involves laying out the surfaces of the model on a 2-dimensional plane (with coordinates U and V) in the UV/Image Editor Viewport much like laying out a pattern for a piece of clothing.

The first step is to mark the seams (edges) where the 3-dimensional model will be taken apart.

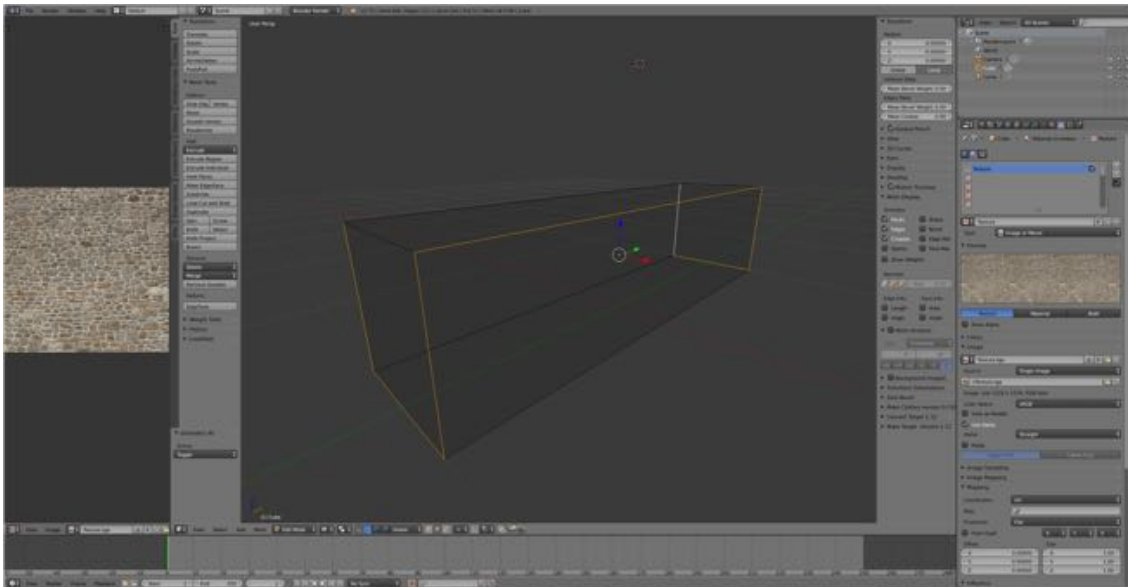
- **Select the Edge Selection Mode** by **LMB** clicking on the **Edge Selection Mode Icon** in the 3D Editor's header.



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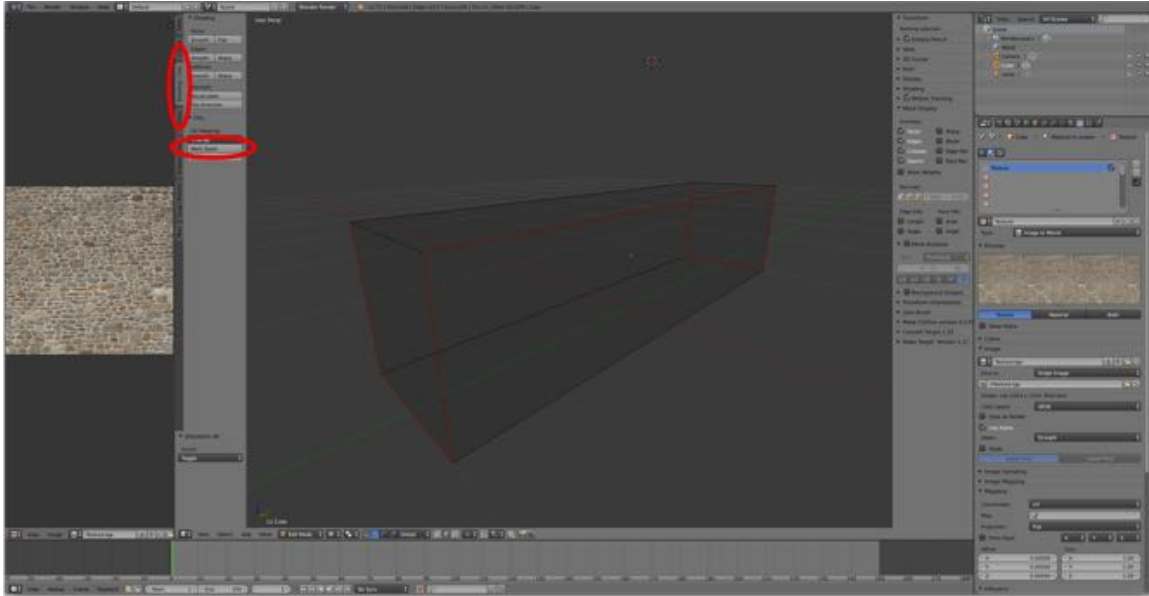
- **Switch to Wireframe Mode (Z-KEY)** and **RMB** click to **select** the edges of the model **as shown**. Hold down the **SHIFT-KEY** to select more than one edge at a time.

Note: In Solid Mode, moving the model around by holding down the ALT/OPT-KEY and LMB dragging with the mouse, can facilitate edge selection. If you make a mistake, select the edge(s) and in the 3D Editor's Tool Shelf on the left and LMB click on Unmark Seams.



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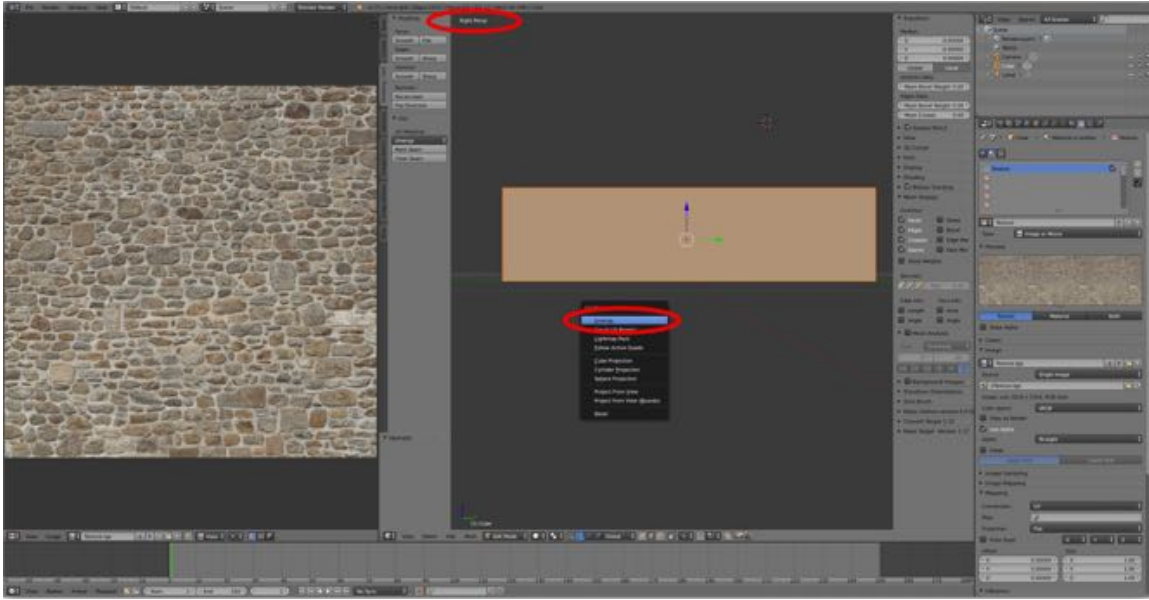
- **Select Shading/UV's**, the third tab in the 3D Editor's Tool Shelf on the left side of the 3D Editor Viewport and **LMB** click on **Mark Seams**.
The selected edges will turn red.
(You may need to switch to Wireframe Mode (Z-KEY) to see this.)



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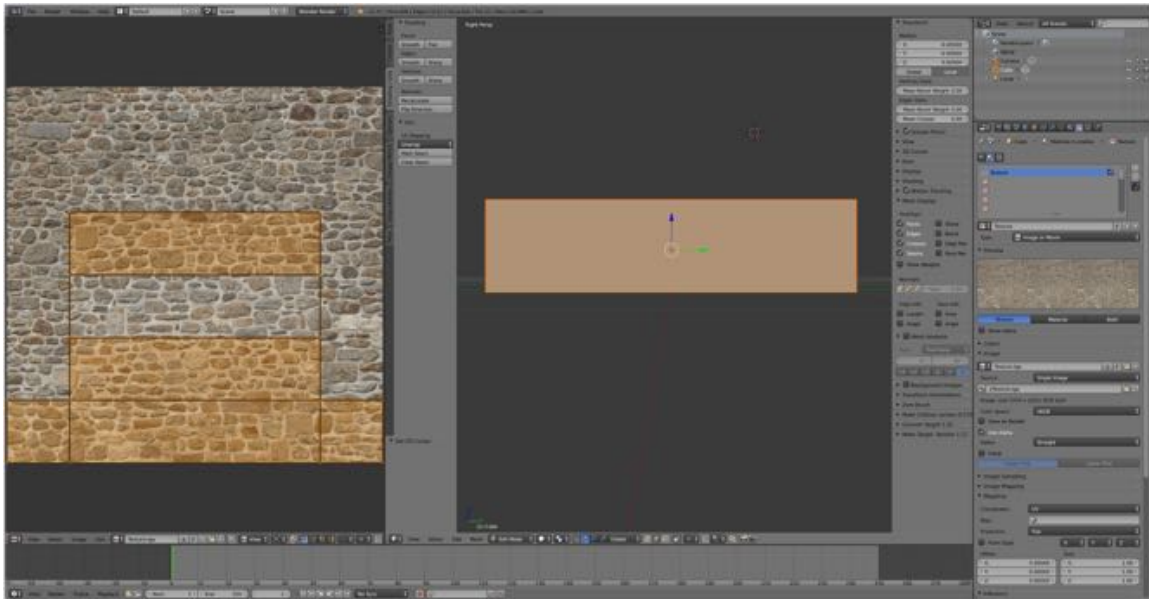
Note: I have reduced the size of the UV/Image Editor's viewport by LMB clicking on the interface between the two viewports and dragging the interface to the left then while hovering the mouse cursor over the UV/Image Editor Viewport resizing the image by pressing the F-KEY. I have also enlarged the 3D Editor Viewport by hovering the mouse cursor over it and pressing NUMPAD-“+” several times.

- To **select the whole model**, hovering the mouse cursor over the 3D Editor and **press the A-KEY**. The whole model should turn orange (if not press the A-KEY again).
- Hovering the mouse cursor over the 3D Editor, **press the U-KEY** and in the **UV Mapping Menu** that appears **select Unwrap** at the top.



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The unwrapped surface will appear in the UV/Image Editor.

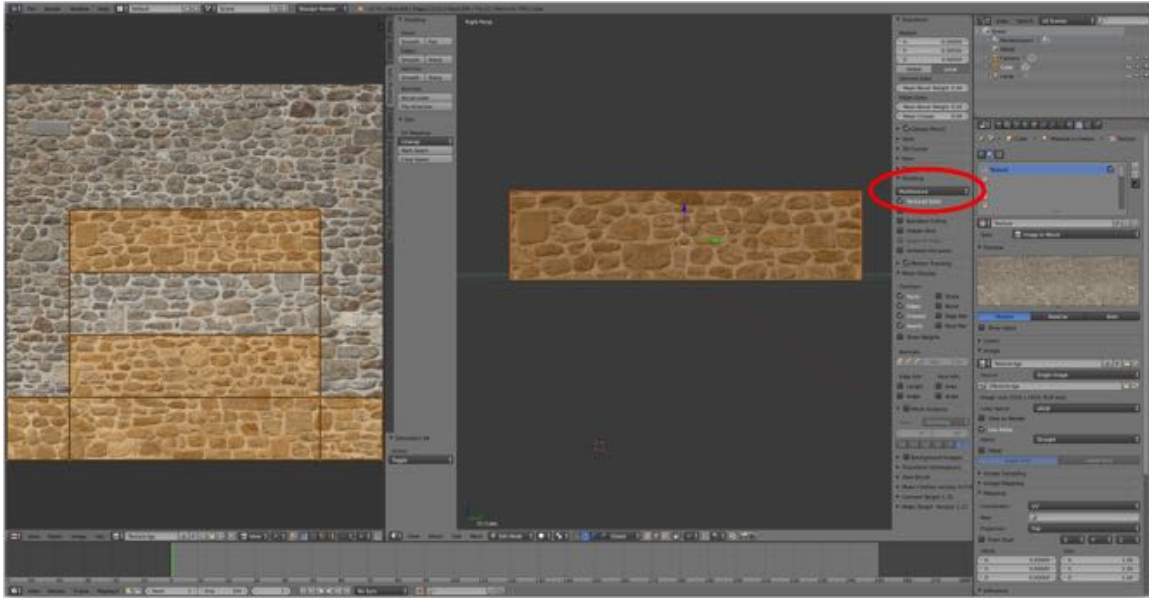


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Step 4: Visualizing the Texture on the Model

Now all that remains is to be able to see our stone texture on the surfaces of our model.

- In the 3D Editor's **Properties Panel** open the **Shading Pane**.
(If the Properties Panel is not still visible, hover the mouse cursor over the 3D Editor and press the N-KEY.)
- In the Shading Pane select **“Texture Solid”**.



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To better see the textured surfaces switch back to **Object Mode (TAB-KEY)** and **press the A-KEY** to deselect the model.