

Guide: Importing models, textures and animation to source

Step by step guide to importing static meshes, textures and animation to source

Hey all, welcome to my guide. You can download my model / texturing / animation files that I made using this guide here: http://www.olegr.com/teeside/gdv/guide_files.rar

This guide has been created with help from many of the links found in the "hammer / source" reference section at the end. If you have any questions, or if you find any problems with this method, just make a post in this thread. -I realise that you may know some or all of this already, so please don't be offended if I go into petty details. I just wanted it to be thorough and understandable



Note: it is a good idea to create a folder for all your work files on the desktop. Save all the files you create to this folder until you reach the section "Compiling the mdl files". It is also a good idea to keep steam running at all times – in fact it is required for some of the programs to work.

Setting up Source SDK

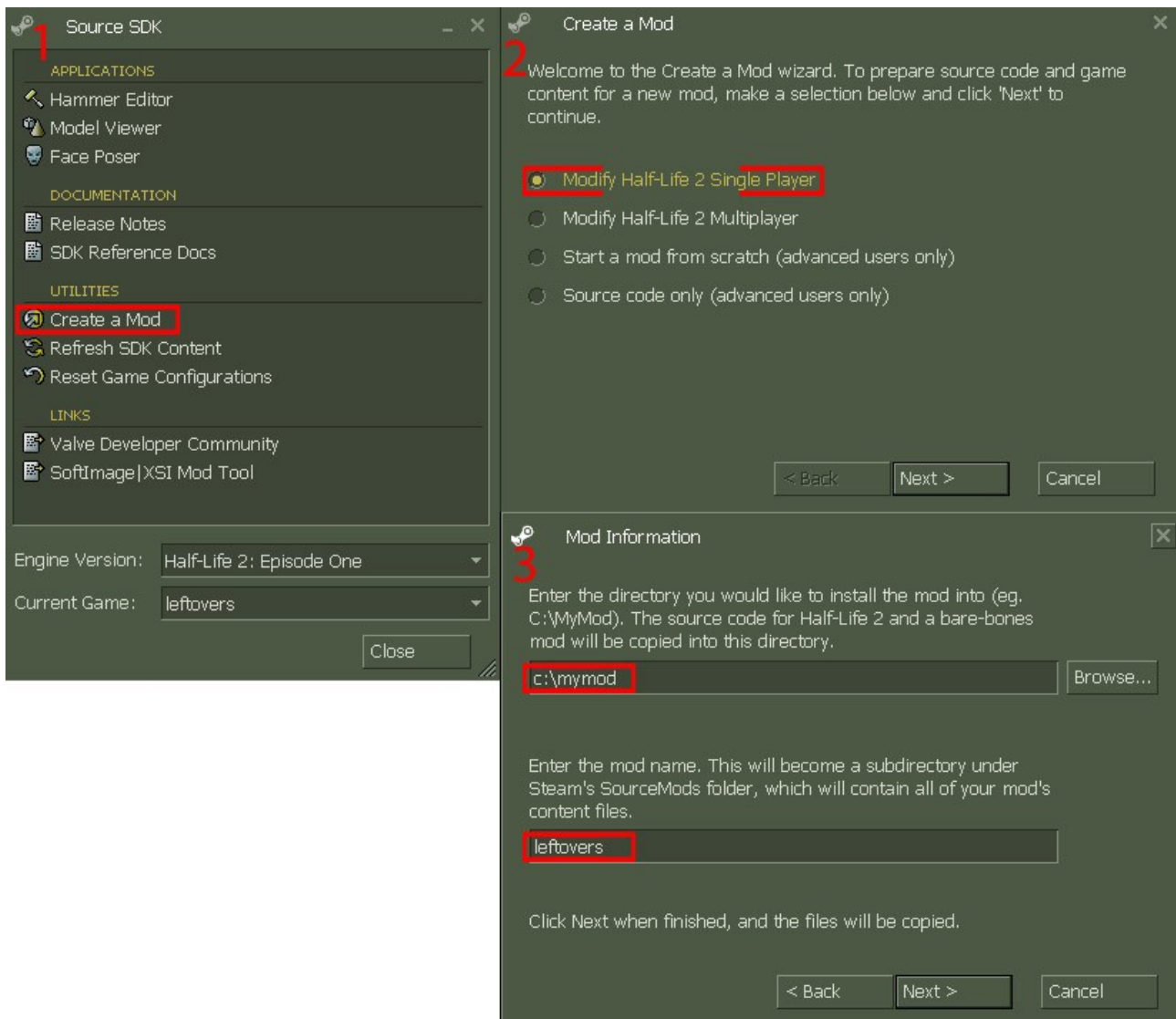
1.

Start up Steam and run Source SDK

2.

Under Utilities, click "Create a Mod" - Set it up as a single player mod. Select any directory for the mod files (just go with the suggested c:\mymod) and, for this guide, set the mod name to leftovers.

This will create a folder with the source mod files under c:\mymod, and another folder under "C:\[install directory]\Steam\SteamApps\SourceMods\leftovers" which is where you will be placing all the model and material files.



3.

Go to My computer → properties. Under the advanced tab click Environment Variables, and create a new variable under system variables with the name VProject and the value C:[install directory]\Steam\SteamApps\SourceMods\leftovers

This step will make sure that the model viewer can find models in the sourcmod/leftovers folder later on.

Downloading programs and plugins:

Note: the use of all programs will be explained throughout the guide. Just download them for now. There are equivalent programs to these that come with SourceSDK, but they aren't as user friendly as they tend to be run through command prompts and won't show any error messages or warnings to you. So if you aren't 100 % sure of what you are doing they are a pain to work with.

-Download the .smd export plugin from <http://www.wunderboy.org/blog/205>
This is a plugin that will allow you to export files to the .smd format

-Download the .vtf import plugin from <http://www.wunderboy.org/blog/212>
This is a plugin that will show .vtf texture files in max

-Download GUI StudioMDL from <http://www.wunderboy.org/apps/guistudiomdl2.php>
This is a .qc file computer, which is basically used to compile .smd files exported from max

-Download VTFEdit from <http://nemesis.thewavelength.net/index.php?p=41>
This program is used to create vtf (valve texture file) files from your .tga texture files, and vmf (valve material file) from the vtf files. It has a lot of other features, though it will only be used for creation of .vtf and .vmf files in this guide.

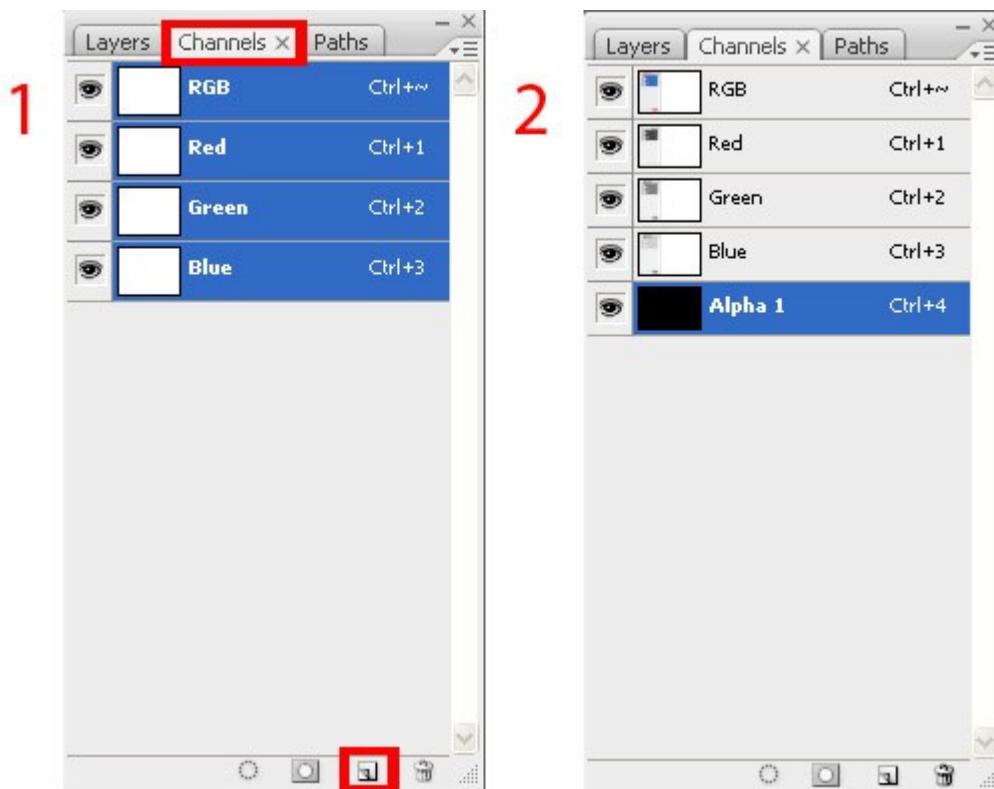
Setting up textures in Photoshop

1.

create your textures in photoshop, and save them out as .tga's. Alpha (opacity) information has to be stored in the diffuse texture.

2.

To create an alpha within your texture, load up your diffuse texture, go to the channels tab and create a new channel. Paint or paste your alpha information in this channel, turn all channels back on and save the file as .tga (in the alpha channel white=100% opaque, black= 100% transparent – *I hate it that some programs do this differently*)



Setting up materials

1.

Install and run VTFEdit.

2.

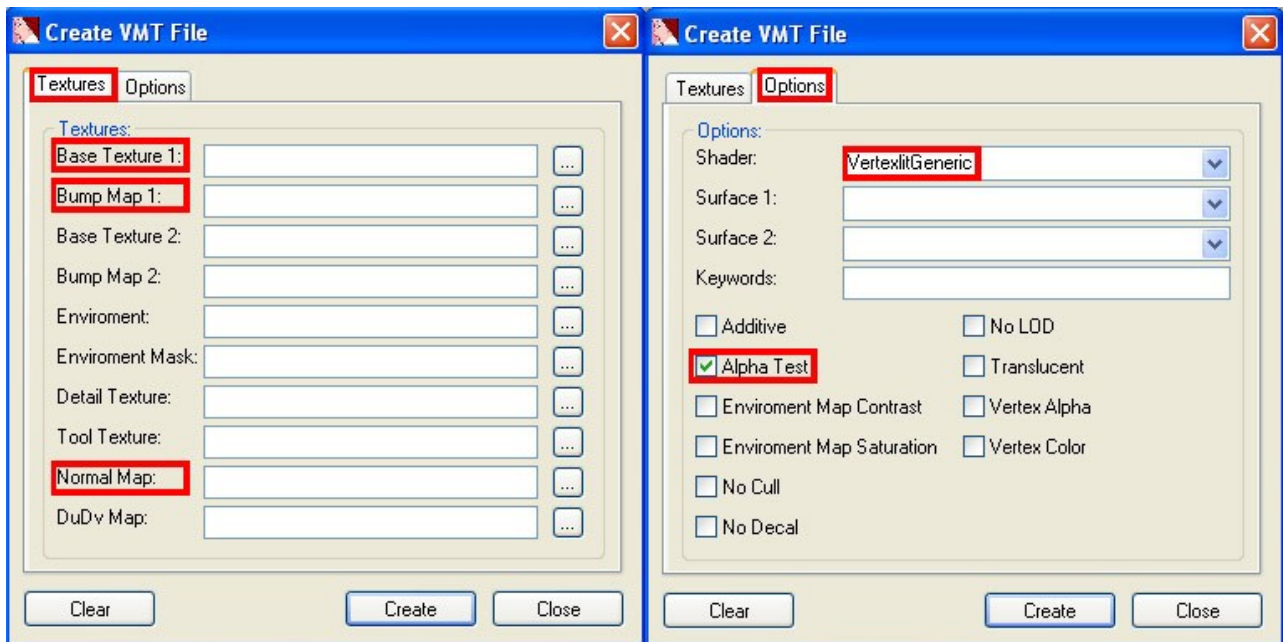
go to file → import and import your diffuse .tga texture file leaving all the settings at default

3.

go to file → save as. Save it as a .vtf file, with the same name you intend to use for your model

4.

go to tools → create vmt file. The Base Texture field should already contain your newly created .vtf file, if not, just browse for it. Go to the options tab and set the shader to VertexlitGeneric. If you included an alpha within your diffuse texture turn on Alpha Test.



5.

If you want to add bump and normal maps, import the relevant .tga files into VTFEdit and save them out as .vtf files. Then go to tools → create vmt file again. From here it is just a matter of putting your .vtf files into the correct channels. The diffuse map goes in the Base Texture 1 slot, the bump map goes in the Bump Map 1 slot, and the normal map goes in the Normal Map slot 😊

6.

Click create and save the file as a .vmt file with the same name you intend to use for your model

Setting up a model for export from Max

1.

install the .smd and .vtf plugins using the instructions that follow with the archives.

2.

create and unwrap your model (I know this is kind of backwards, but it made more sense to explain the texture stuff first) . The average height of a character in source equals 72 generic max units

3.

Convert your model to an editable mesh

4.
Use and collapse the Reset Xform tool to the model
5.
Select all model's polygons and set the material id to 1
6.
Set up one of the material slots as a multi/sub-object. Set the number of materials to one.
7.
Load your diffuse .vtf file into this material and apply it to the model.
8.
deselect everything and go to file → export. Choose the .smd format and click save. Give it a rational name without spaces (this actually goes for all your files), leave the settings on Export Reference SMD and click ok. If you get any errors here, let me know.



Compiling the .mdl files

1.
Create a new wordpad document and save it as a .qc file format with the same name as your model.

2.
Enter this into wordpad:

```
$modelname paw/paw.mdl
$cdmaterials models/paw/
$scale 1
$body "Body" "paw.smd"
$sequence idle "paw" loop fps 30
```

And replace all instances of paw with your model name. Save the file.

3.
Create the following folder structure:

...Steam\SteamApps\SourceMods\leftovers\models\[yourmodelName]\
(leave this folder empty for now though)

and

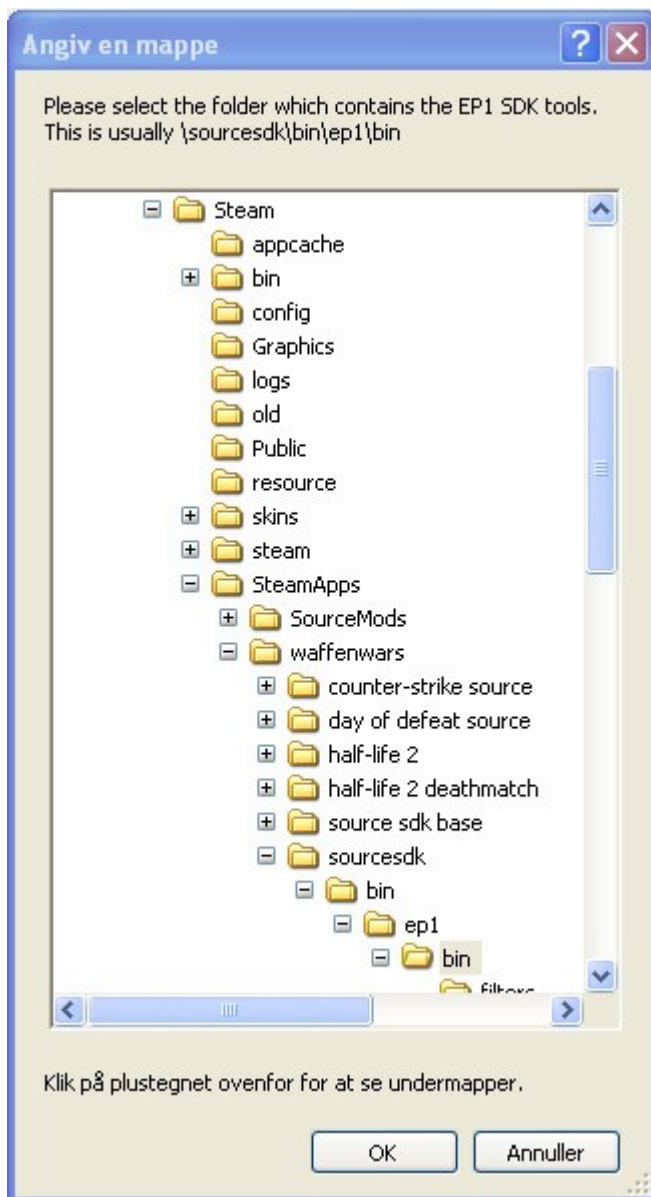
...Steam\SteamApps\SourceMods\leftovers\materials\models\[yourmodelName]\
(Copy all your model's .vtf texture files, and the .vmf file to this folder)

4.

Open GUIStudioMDL, and click past the error message

5.

Go to Config → Set EP1 Tools Path (this is only necessary the first time). Navigate to your
”...steam\steamapps\yourusername@yourmail.com\sourcesdk\bin\ep1\bin” folder and click ok.



6.

Make sure that your .smd file (and all your .smd files for animation) and the .qc file is in the same folder. In GUIStudioMDL go to file → Load Qc File. Navigate to your qc file and open it.

7.

Press compile (if you get any errors, let me know)

8.

Go to your ...Steam\SteamApps\SourceMods\Leftovers\models\[yourmodelname] folder. It should contain all the model files (should be around 6 files). If it does not, check through everything again. Mess with your QC file, check for errors/warnings in the GUIStudioMDL program, look at other tutorials for help, post here.

The Model Viewer

1.

Load up the model viewer from the Steam SourceSDK menu.

2.

Go to File → load model. Find the folder with your models name and open the .mdl file inside it. It should load up your model with the texture and everything.

Exporting animations from a custom rig

All the steps for a static mesh model applies to an animated model. As far as I've read, Source supports Biped Character studio rigs (with the special animation keys such as planted keys etc.), Max bones with FK, IK, and even spline control objects (I don't know about constraints though). The model that I used for testing the import had Max bones parented to a Biped rig, so that works as well.

For skinning Source supports the skin and physique modifier, though I don't know if it will support all of their functions, such as morph deformations, muscle bulges and what not.

If we want the characters to be able to hold items it is necessary to name the hand bones ValveBiped.Bip01_R_Hand and ValveBiped.Bip01_L_Hand for the right and left hand.

I reckon we will be good with just the biped for our characters, maybe with some Max bones paranted to the biped for better deformations and add ons like the puppet masters puppet 😊. For machines / other animation I guess it's also just a matter of parenting some objects to MAX bones.

1.

Create your model, rig it and skin it.

2.

Set the duration of the animation to 1 frame

3.

deselect everything and go to file → export. Choose the .smd format and click save. Give it a rational name without spaces. Leave the settings on Export Reference SMD and click ok. If you get any errors here, let me know.

4.

Animate the model, and set the Time Configuration to the correct amount of frames (the duration of the animation). Also remember that you should always have the time configuration set to 30 fps which it should be by default. Go to file → export and choose the .smd format. Name the file [filenameofstep3]_anim1 and click save. E.g. If you have named your model bobthebuilder.smd,

and you are making a running animation, name the file bobthebuilder_run.smd

In the exporter dialog choose Export Sequence SMD, and set the export range to the animation's duration (though it should automatically have these settings if you aren't exporting several clips from the same file). Click ok.

5.

Repeat step four for all the different animation clips you want

6.

create the qc file just as for the static mesh, but add the last lines, one sequence line for each animation you want to include:

```
$modelname paw/paw.mdl  
$cdmaterials models/paw/  
$scale 1  
$body "Body" "paw.smd"  
$sequence idle "paw_run" loop fps 30  
$sequence drib "paw_drib" loop fps 30
```

as before, swap out all instances of paw with, your model's name. In the two last lines, "idle" and "drib" are the animations' names that will be shown in the hammer editor, and "paw_run" and "paw_drib" refer to the names of the .smd files containing the animations. (note that you should not include the .smd extension)

7.

Compile the qc file and load up the model viewer. You should see the idle animation, and be able to switch between animations under the sequence tab.

-Hope this was useful to anybody.

"hammer / source" reference section:

Beginners tutorial:

<http://www.moddb.com/tutorials/beginners-guide-to-valve-hammer-editor>

Import / Export of static meshes:

http://uk.youtube.com/watch?v=bEz0Gvx_FUY

<http://www.moddb.com/games/half-life-2/tutorials/importing-static-props-into-half-life-2-3ds-max-9>

Replacing Npcs:

<http://www.moddb.com/games/half-life-2/tutorials/hl2-npc-replacement>

Setting up a new half life mod (and setting up specific programs to recognize your paths):

http://developer.valvesoftware.com/wiki/Game_Directory

Max to half life 2, animation export:

http://www.hl2world.com/wiki/index.php/Max_To_HL2_Animated

http://www.hl2world.com/wiki/index.php/Creating_Characters_with_3dstudiomax_part_1

General tutorials:

<http://www.moddb.com/games/half-life-2/tutorials/importing-static-props-into-half-life-2-3ds-max-9>