

Step 7 : Character Model Compiling

Last part we have learned about rigging player model. It's prerequisite for this step of tutorial. In this part, you should be no problem with following the steps as it's almost same with the Compiling Static Model

(<http://xenoaisam.files.wordpress.com/2007/11/step-5static-model-compiling.pdf>) the only differences is on QC parts.

The full Character compiling process from most of my models are including:

- Eyes Setup
- Faceposer
- Ragdoll model creation
- QC Basic Setup + Jigglebones

But it may too complicate for you. In this tutorial I only teach about:

- Ragdoll model creation
- QC Basic Setup

Only!

So to get start, please have:

- Your "compile folder" for saving all pre-editable format file. Make sure create it under your new project.
- Learned on making texture using valve format. Such example .vtf
- Learned on how to change from txt to qc or vmt. We will learn more in depth about qc for character model.

Please prepare it if none do it yet.

Starting by open back your character model and make sure it's on T-Pose. T-Pose means its standard T shape of people standing.



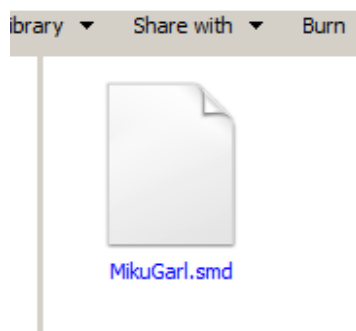
As usual, make sure your model have:

- Rigging to bones. No more error
- Used Multi/Sub-Object material

Now “Export” the model using smd file type. Let’s say I name my file here is:

MikuGarl.smd

Make sure export is as “Reference”. The new file is appeared!

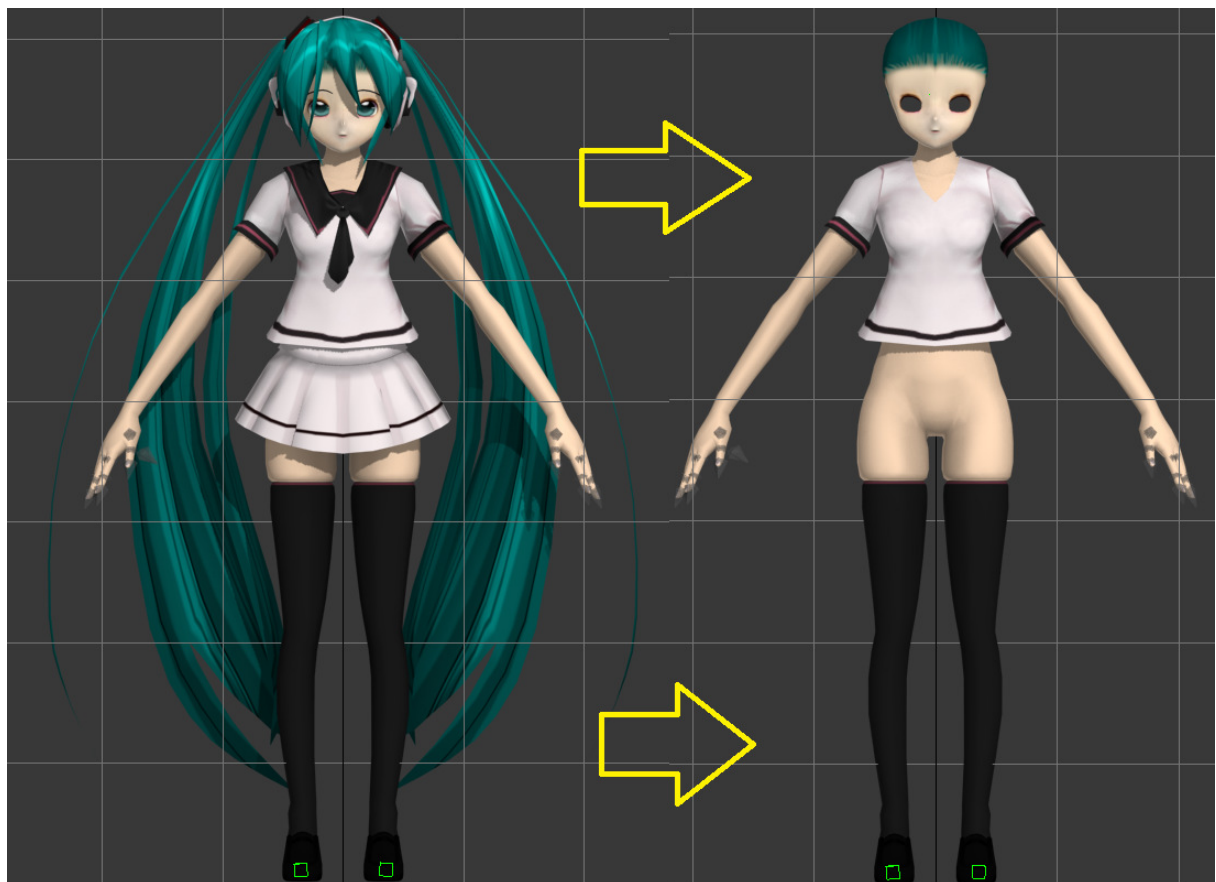


Now we're going to make ragdoll model! Please "SAVE AS" your character as new file and name it something else. For example, I'm naming my file as:

MikuGarl_Ragdoll.max

Now open that ragdoll file and we're going to delete some poly's. Since the character model have some joints between bone, so we delete the polys which rigged under those joints.

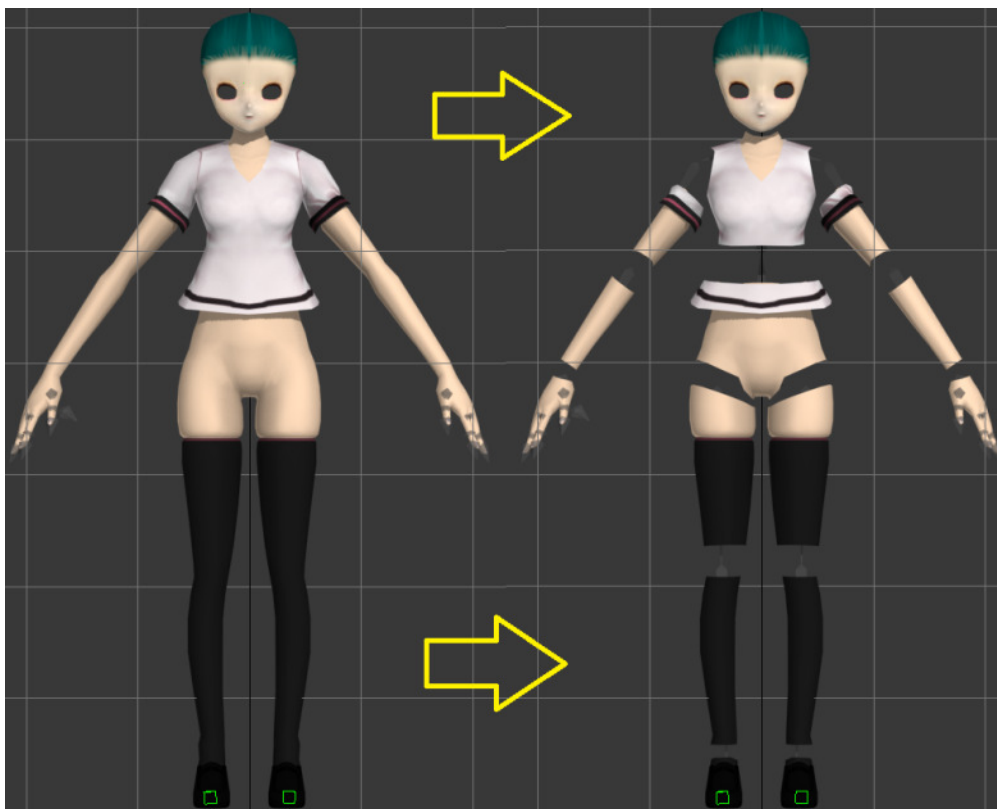
To start, please delete un-necessary poly such if the model have ponytails, cloth covering the skin inside, eye ball, teeth and etc; please delete it. Example:



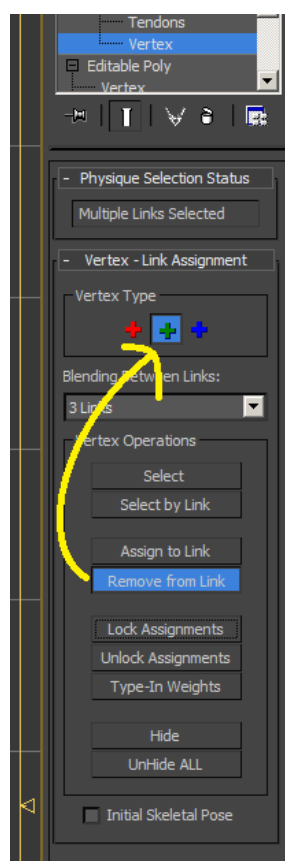
Source only detect simple geometry for collision detection/ ragdolling. We only need basic collision for our model. Bare naked is better since in logical matters, our model cloth is fabric and it's soft. Unless your character has hard armor, then its better use that for collision.

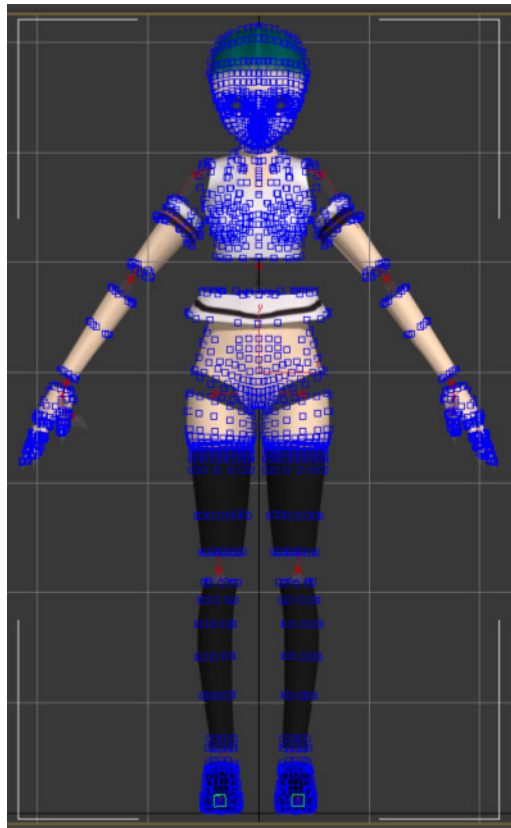
If fabric, use skin inside the fabric as collision. If no skin inside fabric cloth, use those cloth instead such example picture above.

Now please delete poly at jointing. Example:

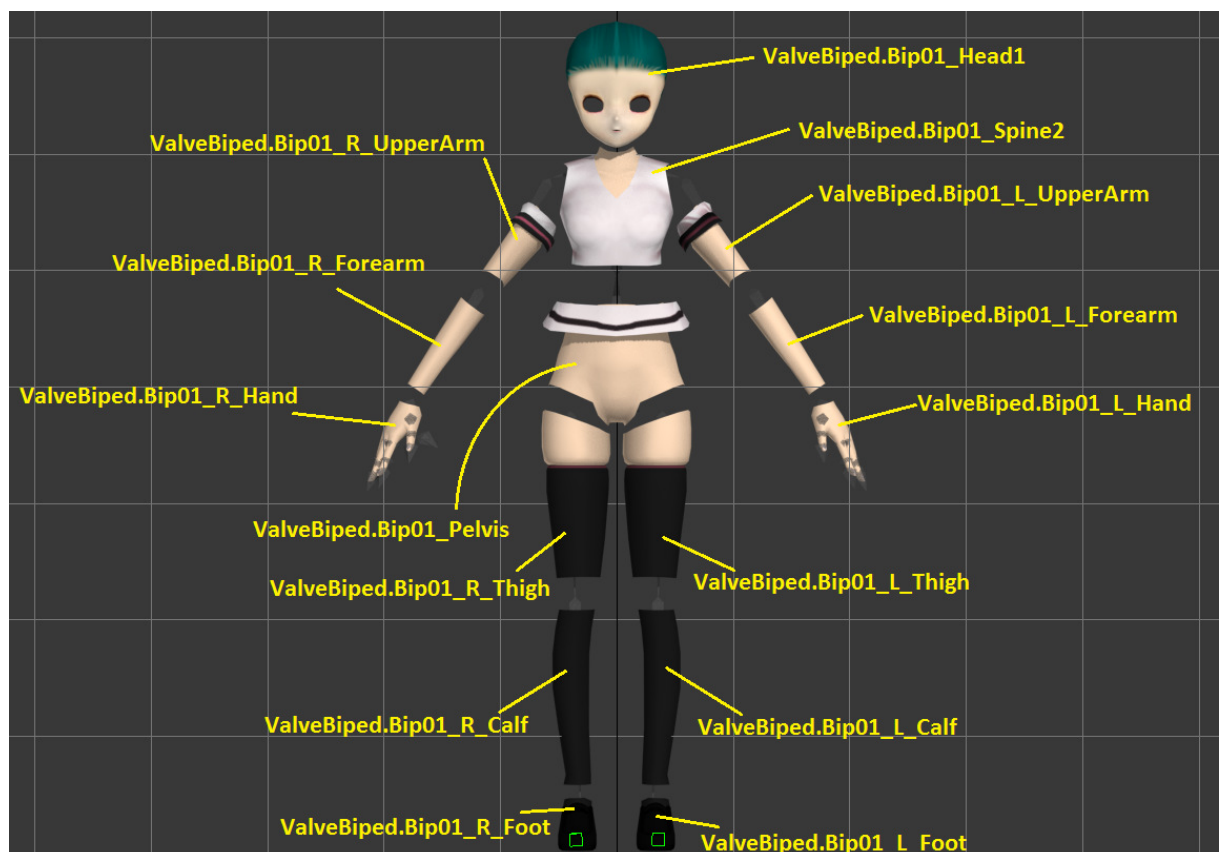


Next step is you need to unassigned all bones. Make all vertexes into blue.

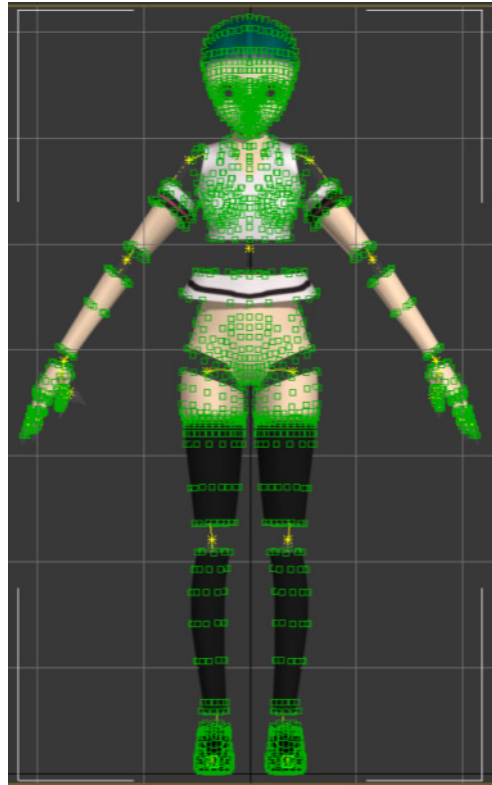




Then you need to assign back poly's parts to the bone nearby. Remember lock vertexes after each assigned. Please follow the picture on where to assign parts:



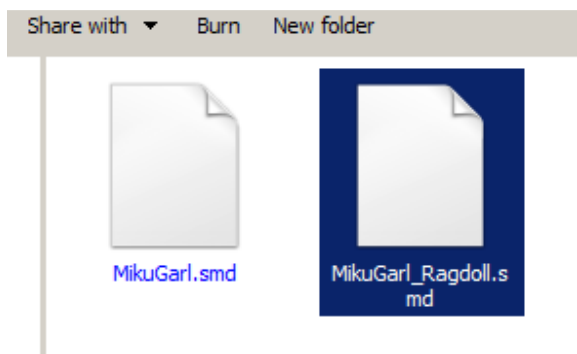
Result; when you have assigned all bones make sure there's no dark green vertexes appear at your viewports.



You're done with it! Now please **"Export"** it to smd. Now export as "reference" once again and name it as you like. Example for me, I export with name of:

MikuGarl_Ragdoll.smd

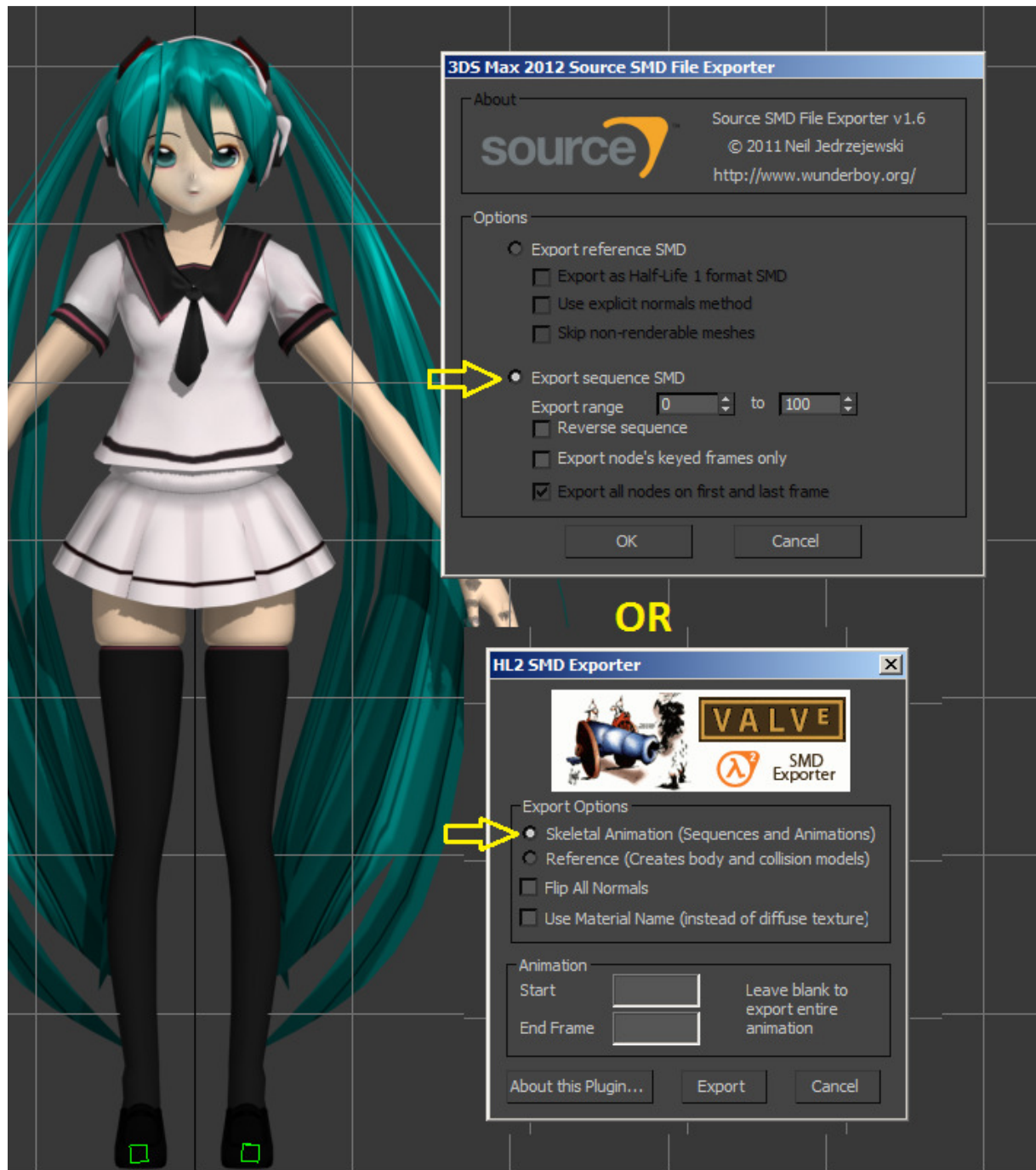
Now you have 2 files in the folder:



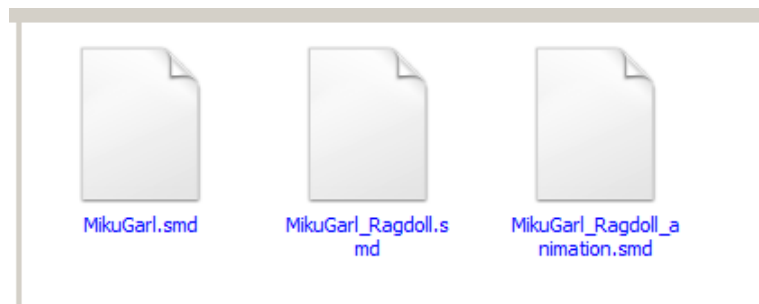
Please open back your original character file (not ragdoll). Please export to smd again! I export using the name of:

MikuGarl_Ragdoll_animation.smd

This time export using “Sequence” for wunderboy OR “Skeletal animation” for CannonFodder’s.



Now you have 3 files in your compile folder!

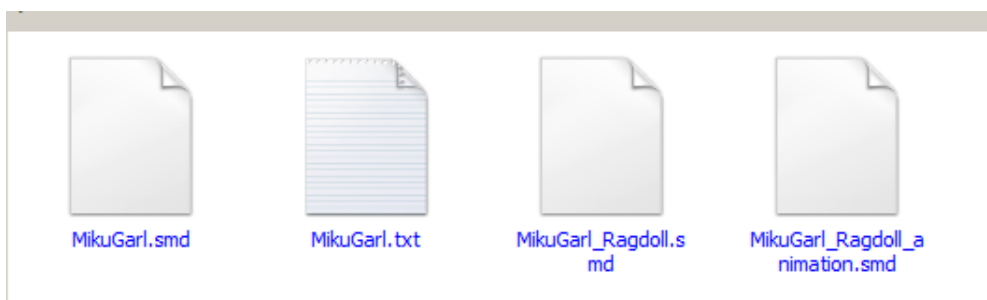


All the file needed is ready! Now it's time to work on .qc file!

As usual, create new txt file and rename it with what you like. I name it as;

MikuGarl.txt

See:



Open the text and now paste this first section in your text which is model data. This is how and where Source engine to obtain your files:

```
//=====
//Model Data
//=====
$cd "D:\KerjaSampingan\MikuHatsune MyVersion\V3\headphone"
$surfaceprop "flesh"

$modelname "MikuGarl.mdl"
$cdmaterials "HatsuneMikuGarl"
```

The line explanation:

```
//=====
//Model Data
//=====
$cd "D:\kerjaSampingan\MikuHatsune MyVersion\V3\headphone"
$surfaceprop "flesh"
$modelname "MikuGar1.mdl"
$cdmaterials "HatsuneMikuGar1\"
```

this line will be ignore by code. Its just a heading of title

Location of where you save your smd and any other data for compile

Your character is human. So its a meat/flesh.

the name of your model after compiled

location of your character texture within the game folder

If you understand each line for, you can change the name to your favorable.

Now please paste the second section which is Hitbox for the model:

```
//=====
//HITBOX
//=====

$hitboxset "default"
$hitbox 1 "ValveBiped.Bip01_Head1" -2.250 -5.000 -3.150 7.250 5.000 3.350
$hitbox 4 "ValveBiped.Bip01_L_UpperArm" -0.810 -2.250 -3.050 11.190 2.750 1.200
$hitbox 4 "ValveBiped.Bip01_L_Forearm" -1.250 -1.880 -2.000 11.750 1.620 1.000
$hitbox 4 "ValveBiped.Bip01_L_Hand" 0.000 -1.070 -1.500 6.000 0.680 3.000
$hitbox 5 "ValveBiped.Bip01_R_UpperArm" -1.500 -2.250 -1.250 11.500 2.750 2.750
$hitbox 5 "ValveBiped.Bip01_R_Forearm" -0.820 -1.900 -1.150 11.180 1.600 1.850
$hitbox 5 "ValveBiped.Bip01_R_Hand" -0.500 -1.130 -3.250 5.500 0.630 1.750
$hitbox 6 "ValveBiped.Bip01_L_Thigh" 0.500 -3.500 -3.250 17.500 4.500 3.250
$hitbox 6 "ValveBiped.Bip01_L_Calf" 0.740 -2.350 -2.150 17.740 3.650 2.350
$hitbox 6 "ValveBiped.Bip01_L_Foot" -2.000 -1.800 -1.450 6.000 3.200 2.050
$hitbox 6 "ValveBiped.Bip01_L_Toe0" -0.170 -1.500 -1.300 2.570 0.300 1.700
$hitbox 7 "ValveBiped.Bip01_R_Thigh" 0.500 -3.500 -3.000 17.500 4.500 3.000
$hitbox 7 "ValveBiped.Bip01_R_Calf" 0.740 -2.350 -2.350 17.740 3.650 2.150
$hitbox 7 "ValveBiped.Bip01_R_Foot" -2.000 -1.750 -2.150 6.000 3.250 1.350
$hitbox 7 "ValveBiped.Bip01_R_Toe0" 0.000 -1.380 -1.630 2.740 0.380 1.630
$hitbox 3 "ValveBiped.Bip01_Pelvis" -5.250 -3.880 -6.250 5.750 4.120 3.750
$hitbox 3 "ValveBiped.Bip01_Spine1" -4.500 -2.000 -4.980 3.500 6.000 4.970
$hitbox 2 "ValveBiped.Bip01_Spine2" -0.500 -2.500 -6.000 10.500 7.500 6.000
```

From Valve Developer: A **hitbox** is an invisible box (or more often a series of boxes) which define the rough shape of a model for purposes of damage-based collision detection

The hitbox is the detection of hit area. When your character being shot at the certain area of body, this hitbox is responsible to detect the hit location.

Paste the third section which is Attachments:

```
//=====
//ATTACHMENT
//=====

$eyeposition 0 0 70
$attachment "nose" "ValveBiped.Bip01_Head1" 1.70 -5.30 -0.00 rotate 0.00 -80.00 -90.00
$attachment "amulet" "ValveBiped.Bip01_Spine4" 0.30 5.00 0.00 rotate -0.00 90.00 90.00
$attachment "chest" "ValveBiped.Bip01_Spine4" -4.00 4.00 0.00 rotate -0.00 83.00 90.00
$attachment "hips" "ValveBiped.Bip01_Pelvis" 0.00 -0.00 -0.00 rotate -90.00 -90.00 0.00
$attachment "lefthand" "ValveBiped.Bip01_L_Hand" 3.50 -0.50 0.00 rotate -0.00 0.00 -0.00
$attachment "righthand" "ValveBiped.Bip01_R_Hand" 3.50 -0.50 0.00 rotate -0.00 -0.00 0.00
$attachment "pouch1" "ValveBiped.Bip01_Pelvis" 5.50 1.00 2.00 rotate -90.00 -90.00 0.00
$attachment "pouch2" "ValveBiped.Bip01_Pelvis" 6.50 0.50 -2.00 rotate -90.00 -90.00 0.00
$attachment "physgun_attachment" "ValveBiped.physgun_attachment" -0.00 0.00 0.00 rotate -90.00 -90.00 0.00
$attachment "emp" "ValveBiped.Anim_Attachment_RH" 0.00 -0.00 5.00 rotate -90.00 -90.00 0.00
$attachment "Emp_Holster" "ValveBiped.Bip01_Pelvis" -6.44 2.22 -1.95 rotate -1.37 -103.07 90.28
$attachment "forward" "ValveBiped.forward" 0.00 -0.00 0.00 rotate 0.00 0.00 -0.00
$attachment "anim_attachment_RH" "ValveBiped.Anim_Attachment_RH" -0.00 -0.00 -0.00 rotate -90.00 -90.00 0.00
$attachment "anim_attachment_LH" "ValveBiped.Anim_Attachment_LH" 0.00 -0.00 -0.00 rotate -90.00 -90.00 0.00
$attachment "forward" "ValveBiped.Bip01_Head1" 0.0 0.0 0.0 rotate 0 -80 -90
$attachment "eyes" "ValveBiped.Bip01_Head1" 0.00 -3.17 64.20 absolute
$attachment "mouth" "ValveBiped.Bip01_Head1" 0.80 -5.80 -0.15 rotate 0 -80 -90
```

Attachments for model is like a point of position where the secondary object can be attach to it. Such gun attach to hand, alyx emp tool attach to her hips and etc. If there are no attachments, possible the object will be attached to the floor.

You can see the function of attachments here:

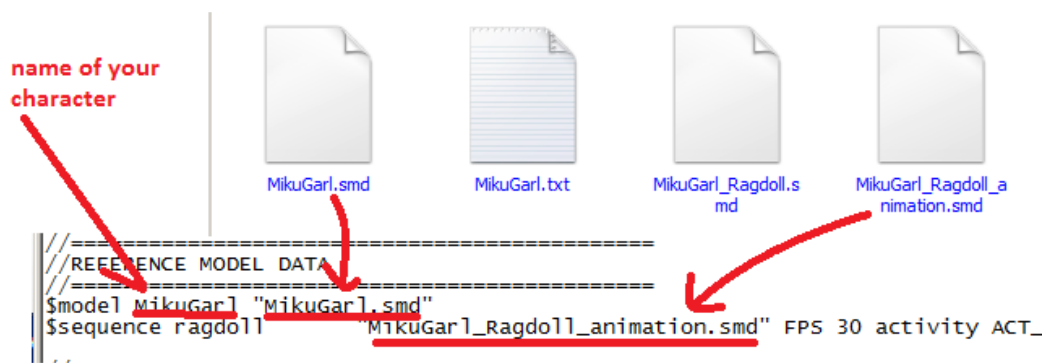
<https://developer.valvesoftware.com/wiki/Attachments>

Paste the 4th section which is Reference model data:

```
//=====
//REFERENCE MODEL DATA
//=====
$model MikuGarl "MikuGarl.smd"
$sequence ragdoll "MikuGarl_Ragdoll_animation.smd" FPS 30 activity ACT_DIERAGDOLL 1
```

This line will import your reference and animation smd data for compile.

Explanation:



Paste the 5th section which is Model Sharing Animation

```
//=====
//MODEL SHARING ANIMATION
//=====

$includemodel "humans/female_shared.mdl"
$includemodel "humans/female_ss.mdl"
$includemodel "humans/female_gestures.mdl"
$includemodel "humans/female_postures.mdl"
$includemodel "alyx_animations.mdl"
$includemodel "alyx_postures.mdl"
$includemodel "alyx_gestures.mdl"
```

We don't want to create a new animation such walk, idle, run and etc. So we take a default animation from existing hl2 model. So we include some models which have those animations such as Alyx and normal female citizen animation.

Paste the 6th section which is Ragdoll and Bone Related

```
//=====
//RAGDOLL AND BONE RELATED
//=====

$Illumposition 0.855 -0.052 34.763
$ikchain rhand ValveBiped.Bip01_R_Hand knee 0.707 0.707 0.000
$ikchain lhand ValveBiped.Bip01_L_Hand knee 0.707 0.707 0.000
$ikchain rfoot ValveBiped.Bip01_R_Foot knee 0.707 -0.707 0.000
$ikchain lfoot ValveBiped.Bip01_L_Foot knee 0.707 -0.707 0.000

$collisionjoints "MikuGarl_Ragdoll.smd" {

    $mass 60.0
    $inertia 5.00
    $damping 0.01
    $rotdamping 1.50
    $rootbone "valvebiped.bip01_pelvis"
    $jointmerge "ValveBiped.Bip01_Pelvis" "ValveBiped.Bip01_Spine1"

    $jointconstrain "valvebiped.bip01_r_thigh" x limit -50.00 48.00 0.20
    $jointconstrain "valvebiped.bip01_r_thigh" y limit -19.00 70.00 0.20
    $jointconstrain "valvebiped.bip01_r_thigh" z limit -79.00 73.00 0.20

    $jointconstrain "valvebiped.bip01_r_calf" x limit 0.00 0.00 0.00
    $jointconstrain "valvebiped.bip01_r_calf" y limit 0.00 0.00 0.00
    $jointconstrain "valvebiped.bip01_r_calf" z limit 0.00 133.00 0.20

    $jointconstrain "valvebiped.bip01_l_thigh" x limit -39.00 39.00 0.20
    $jointconstrain "valvebiped.bip01_l_thigh" y limit -59.00 23.00 0.20
```

```

$jointconstrain "valvebiped.bip01_l_thigh" z limit -84.00 66.00 0.20

$jointconstrain "valvebiped.bip01_l_calf" x limit 0.00 0.00 0.00
$jointconstrain "valvebiped.bip01_l_calf" y limit 0.00 0.00 0.00
$jointconstrain "valvebiped.bip01_l_calf" z limit 0.00 131.00 0.20

$jointconstrain "valvebiped.bip01_l_foot" x limit -23.00 23.00 0.20
$jointconstrain "valvebiped.bip01_l_foot" y limit -28.00 28.00 0.20
$jointconstrain "valvebiped.bip01_l_foot" z limit -46.00 46.00 0.20

$jointconstrain "valvebiped.bip01_spine2" x limit -48.00 48.00 0.20
$jointconstrain "valvebiped.bip01_spine2" y limit -26.00 26.00 0.20
$jointconstrain "valvebiped.bip01_spine2" z limit -39.00 68.00 0.20

$jointconstrain "valvebiped.bip01_spine4" x limit 0.00 0.00 0.00
$jointconstrain "valvebiped.bip01_spine4" y limit 0.00 0.00 0.00
$jointconstrain "valvebiped.bip01_spine4" z limit 0.00 0.00 0.00

$jointconstrain "valvebiped.bip01_r_upperarm" x limit -64.00 64.00 0.20
$jointconstrain "valvebiped.bip01_r_upperarm" y limit -26.00 122.00 0.20
$jointconstrain "valvebiped.bip01_r_upperarm" z limit -122.00 50.00 0.20

$jointconstrain "valvebiped.bip01_l_upperarm" x limit -64.00 64.00 0.20
$jointconstrain "valvebiped.bip01_l_upperarm" y limit -122.00 28.00 0.20
$jointconstrain "valvebiped.bip01_l_upperarm" z limit -100.00 59.00 0.20

$jointconstrain "valvebiped.bip01_l_forearm" x limit 0.00 0.00 0.20
$jointconstrain "valvebiped.bip01_l_forearm" y limit 0.00 0.00 0.00
$jointconstrain "valvebiped.bip01_l_forearm" z limit -140.00 0.00 0.20

$jointconstrain "valvebiped.bip01_l_hand" x limit -68.00 68.00 0.20
$jointconstrain "valvebiped.bip01_l_hand" y limit -37.00 41.00 0.20
$jointconstrain "valvebiped.bip01_l_hand" z limit -44.00 70.00 0.20

$jointconstrain "valvebiped.bip01_head1" x limit -61.00 61.00 0.20
$jointconstrain "valvebiped.bip01_head1" y limit -44.00 44.00 0.20
$jointconstrain "valvebiped.bip01_head1" z limit -32.00 50.00 0.20

$jointconstrain "valvebiped.bip01_r_forearm" x limit 0.00 0.00 0.00
$jointconstrain "valvebiped.bip01_r_forearm" y limit 0.00 0.00 0.00
$jointconstrain "valvebiped.bip01_r_forearm" z limit -149.00 1.00 0.20

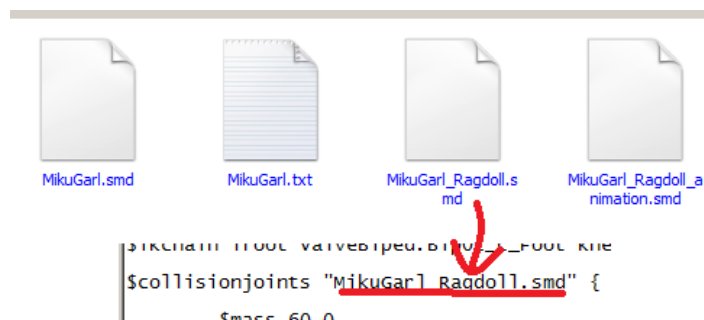
$jointconstrain "valvebiped.bip01_r_hand" x limit -75.00 93.00 0.20
$jointconstrain "valvebiped.bip01_r_hand" y limit -37.00 32.00 0.20
$jointconstrain "valvebiped.bip01_r_hand" z limit -48.00 66.00 0.20

$jointconstrain "valvebiped.bip01_spine" x limit 0.00 0.00 0.00
$jointconstrain "valvebiped.bip01_spine" y limit 0.00 0.00 0.00
$jointconstrain "valvebiped.bip01_spine" z limit 0.00 0.00 0.00

$jointconstrain "valvebiped.bip01_r_foot" x limit -23.00 23.00 0.20
$jointconstrain "valvebiped.bip01_r_foot" y limit -23.00 23.00 0.20
$jointconstrain "valvebiped.bip01_r_foot" z limit -35.00 57.00 0.20
}

```

This is last section which related with ragdoll. Remember we export the deleted joints of poly's and want to make collision not from fabric? This is the data for it. Take extra care to change the name to your file:



So we finished on QC data modification. This is the full result of it:

```
//=====
//Model Data
//=====
$cd "D:\KerjaSampingan\MikuHatsune MyVersion\V3\headphone"
$surfaceprop "flesh"

$modelname "MikuGarl.mdl"
$cdmaterials "HatsuneMikuGarl"

//=====
//HITBOX
//=====

$hbboxset "default"
$hbbox 1 "ValveBiped.Bip01_Head1" -2.250 -5.000 -3.150 7.250 5.000 3.350
$hbbox 4 "ValveBiped.Bip01_L_UpperArm" -0.810 -2.250 -3.050 11.190 2.750 1.200
$hbbox 4 "ValveBiped.Bip01_L_Forearm" -1.250 -1.880 -2.000 11.750 1.620 1.000
$hbbox 4 "ValveBiped.Bip01_L_Hand" 0.000 -1.070 -1.500 6.000 0.680 3.000
$hbbox 5 "ValveBiped.Bip01_R_UpperArm" -1.500 -2.250 -1.250 11.500 2.750 2.750
$hbbox 5 "ValveBiped.Bip01_R_Forearm" -0.820 -1.900 -1.150 11.180 1.600 1.850
$hbbox 5 "ValveBiped.Bip01_R_Hand" -0.500 -1.130 -3.250 5.500 0.630 1.750
$hbbox 6 "ValveBiped.Bip01_L_Thigh" 0.500 -3.500 -3.250 17.500 4.500 3.250
$hbbox 6 "ValveBiped.Bip01_L_Calf" 0.740 -2.350 -2.150 17.740 3.650 2.350
$hbbox 6 "ValveBiped.Bip01_L_Foot" -2.000 -1.800 -1.450 6.000 3.200 2.050
$hbbox 6 "ValveBiped.Bip01_L_Toe0" -0.170 -1.500 -1.300 2.570 0.300 1.700
$hbbox 7 "ValveBiped.Bip01_R_Thigh" 0.500 -3.500 -3.000 17.500 4.500 3.000
$hbbox 7 "ValveBiped.Bip01_R_Calf" 0.740 -2.350 -2.350 17.740 3.650 2.150
$hbbox 7 "ValveBiped.Bip01_R_Foot" -2.000 -1.750 -2.150 6.000 3.250 1.350
$hbbox 7 "ValveBiped.Bip01_R_Toe0" 0.000 -1.380 -1.630 2.740 0.380 1.630
$hbbox 3 "ValveBiped.Bip01_Pelvis" -5.250 -3.880 -6.250 5.750 4.120 3.750
$hbbox 3 "ValveBiped.Bip01_Spine1" -4.500 -2.000 -4.980 3.500 6.000 4.970
$hbbox 2 "ValveBiped.Bip01_Spine2" -0.500 -2.500 -6.000 10.500 7.500 6.000

//=====
//ATTACHMENT
//=====

$seyeposition 0 0 70
$attachment "nose" "ValveBiped.Bip01_Head1" 1.70 -5.30 -0.00 rotate 0.00 -80.00 -90.00
$attachment "amulet" "ValveBiped.Bip01_Spine4" 0.30 5.00 0.00 rotate -0.00 90.00 90.00
$attachment "chest" "ValveBiped.Bip01_Spine4" -4.00 4.00 0.00 rotate -0.00 83.00 90.00
$attachment "hips" "ValveBiped.Bip01_Pelvis" 0.00 -0.00 -0.00 rotate -90.00 -90.00 0.00
$attachment "lefthand" "ValveBiped.Bip01_L_Hand" 3.50 -0.50 0.00 rotate -0.00 0.00 -0.00
$attachment "righthand" "ValveBiped.Bip01_R_Hand" 3.50 -0.50 0.00 rotate -0.00 -0.00 0.00
$attachment "pouch1" "ValveBiped.Bip01_Pelvis" 5.50 1.00 2.00 rotate -90.00 -90.00 0.00
$attachment "pouch2" "ValveBiped.Bip01_Pelvis" 6.50 0.50 -2.00 rotate -90.00 -90.00 0.00
$attachment "physgun_attachment" "ValveBiped.physgun_attachment" -0.00 0.00 0.00 rotate -90.00 -90.00 0.00
$attachment "emp" "ValveBiped.Anim_Attachment_RH" 0.00 -0.00 5.00 rotate -90.00 -90.00 0.00
$attachment "Emp_Holster" "ValveBiped.Bip01_Pelvis" -6.44 2.22 -1.95 rotate -1.37 -103.07 90.28
$attachment "forward" "ValveBiped.forward" 0.00 -0.00 0.00 rotate 0.00 0.00 -0.00
$attachment "anim_attachment_RH" "ValveBiped.Anim_Attachment_RH" -0.00 -0.00 -0.00 rotate -90.00 -90.00 0.00
$attachment "anim_attachment_LH" "ValveBiped.Anim_Attachment_LH" 0.00 -0.00 -0.00 rotate -90.00 -90.00 0.00
$attachment "forward" "ValveBiped.Bip01_Head1" 0.0 0.0 0.0 rotate 0 -80 -90
$attachment "eyes" "ValveBiped.Bip01_Head1" 0.00 -3.17 64.20 absolute
$attachment "mouth" "ValveBiped.Bip01_Head1" 0.80 -5.80 -0.15 rotate 0 -80 -90

//=====
//REFERENCE MODEL DATA
//=====
$model MikuGarl "MikuGarl.smd"
$sequence ragdoll "MikuGarl_Ragdoll_animation.smd" FPS 30 activity ACT_DIERAGDOLL 1

//=====
//MODEL SHARING ANIMATION
//=====

$includemodel "humans/female_shared.mdl"
$includemodel "humans/female_ss.mdl"
$includemodel "humans/female_gestures.mdl"
$includemodel "humans/female_postures.mdl"
$includemodel "alyx_animations.mdl"
$includemodel "alyx_postures.mdl"
$includemodel "alyx_gestures.mdl"

//=====
//RAGDOLL AND BONE RELATED
//=====

$illumposition 0.855 -0.052 34.763
$ikchain rhand ValveBiped.Bip01_R_Hand knee 0.707 0.707 0.000
$ikchain lhand ValveBiped.Bip01_L_Hand knee 0.707 0.707 0.000
$ikchain rfoot ValveBiped.Bip01_R_Foot knee 0.707 -0.707 0.000
$ikchain lfoot ValveBiped.Bip01_L_Foot knee 0.707 -0.707 0.000
```

```

$collisionjoints "MikuGarl_Ragdoll.smd" {

    $mass 60.0
    $inertia 5.00
    $damping 0.01
    $rotdamping 1.50
    $rootbone "valvebiped.bip01_pelvis"
    $jointmerge "ValveBiped.Bip01_Pelvis" "ValveBiped.Bip01_Spine1"

    $jointconstrain "valvebiped.bip01_r_thigh" x limit -50.00 48.00 0.20
    $jointconstrain "valvebiped.bip01_r_thigh" y limit -19.00 70.00 0.20
    $jointconstrain "valvebiped.bip01_r_thigh" z limit -79.00 73.00 0.20

    $jointconstrain "valvebiped.bip01_r_calf" x limit 0.00 0.00 0.00
    $jointconstrain "valvebiped.bip01_r_calf" y limit 0.00 0.00 0.00
    $jointconstrain "valvebiped.bip01_r_calf" z limit 0.00 133.00 0.20

    $jointconstrain "valvebiped.bip01_l_thigh" x limit -39.00 39.00 0.20
    $jointconstrain "valvebiped.bip01_l_thigh" y limit -59.00 23.00 0.20
    $jointconstrain "valvebiped.bip01_l_thigh" z limit -84.00 66.00 0.20

    $jointconstrain "valvebiped.bip01_l_calf" x limit 0.00 0.00 0.00
    $jointconstrain "valvebiped.bip01_l_calf" y limit 0.00 0.00 0.00
    $jointconstrain "valvebiped.bip01_l_calf" z limit 0.00 131.00 0.20

    $jointconstrain "valvebiped.bip01_l_foot" x limit -23.00 23.00 0.20
    $jointconstrain "valvebiped.bip01_l_foot" y limit -28.00 28.00 0.20
    $jointconstrain "valvebiped.bip01_l_foot" z limit -46.00 46.00 0.20

    $jointconstrain "valvebiped.bip01_spine2" x limit -48.00 48.00 0.20
    $jointconstrain "valvebiped.bip01_spine2" y limit -26.00 26.00 0.20
    $jointconstrain "valvebiped.bip01_spine2" z limit -39.00 68.00 0.20

    $jointconstrain "valvebiped.bip01_spine4" x limit 0.00 0.00 0.00
    $jointconstrain "valvebiped.bip01_spine4" y limit 0.00 0.00 0.00
    $jointconstrain "valvebiped.bip01_spine4" z limit 0.00 0.00 0.00

    $jointconstrain "valvebiped.bip01_r_upperarm" x limit -64.00 64.00 0.20
    $jointconstrain "valvebiped.bip01_r_upperarm" y limit -26.00 122.00 0.20
    $jointconstrain "valvebiped.bip01_r_upperarm" z limit -122.00 50.00 0.20

    $jointconstrain "valvebiped.bip01_l_upperarm" x limit -64.00 64.00 0.20
    $jointconstrain "valvebiped.bip01_l_upperarm" y limit -122.00 28.00 0.20
    $jointconstrain "valvebiped.bip01_l_upperarm" z limit -100.00 59.00 0.20

    $jointconstrain "valvebiped.bip01_l_forearm" x limit 0.00 0.00 0.20
    $jointconstrain "valvebiped.bip01_l_forearm" y limit 0.00 0.00 0.00
    $jointconstrain "valvebiped.bip01_l_forearm" z limit -140.00 0.00 0.20

    $jointconstrain "valvebiped.bip01_l_hand" x limit -68.00 68.00 0.20
    $jointconstrain "valvebiped.bip01_l_hand" y limit -37.00 41.00 0.20
    $jointconstrain "valvebiped.bip01_l_hand" z limit -44.00 70.00 0.20

    $jointconstrain "valvebiped.bip01_head1" x limit -61.00 61.00 0.20
    $jointconstrain "valvebiped.bip01_head1" y limit -44.00 44.00 0.20
    $jointconstrain "valvebiped.bip01_head1" z limit -32.00 50.00 0.20

    $jointconstrain "valvebiped.bip01_r_forearm" x limit 0.00 0.00 0.00
    $jointconstrain "valvebiped.bip01_r_forearm" y limit 0.00 0.00 0.00
    $jointconstrain "valvebiped.bip01_r_forearm" z limit -149.00 1.00 0.20

    $jointconstrain "valvebiped.bip01_r_hand" x limit -75.00 93.00 0.20
    $jointconstrain "valvebiped.bip01_r_hand" y limit -37.00 32.00 0.20
    $jointconstrain "valvebiped.bip01_r_hand" z limit -48.00 66.00 0.20

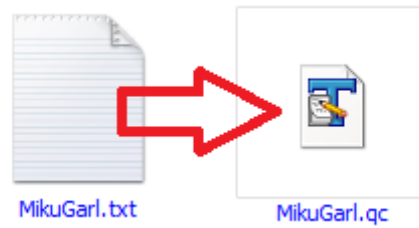
    $jointconstrain "valvebiped.bip01_spine" x limit 0.00 0.00 0.00
    $jointconstrain "valvebiped.bip01_spine" y limit 0.00 0.00 0.00
    $jointconstrain "valvebiped.bip01_spine" z limit 0.00 0.00 0.00

    $jointconstrain "valvebiped.bip01_r_foot" x limit -23.00 23.00 0.20
    $jointconstrain "valvebiped.bip01_r_foot" y limit -23.00 23.00 0.20
    $jointconstrain "valvebiped.bip01_r_foot" z limit -35.00 57.00 0.20

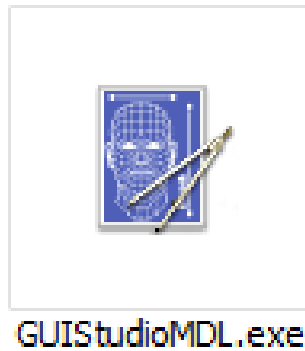
}

```

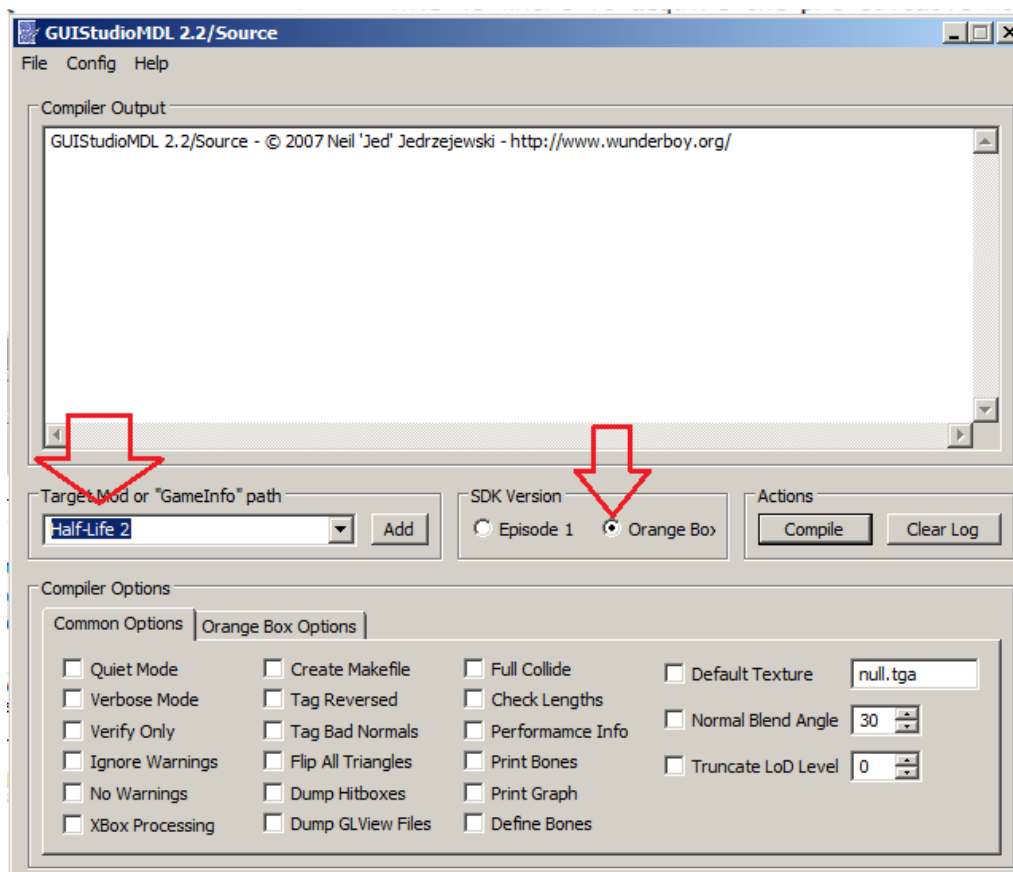
Now please save it and rename the text file into .qc



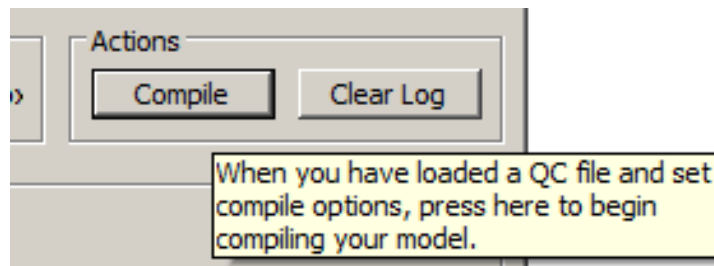
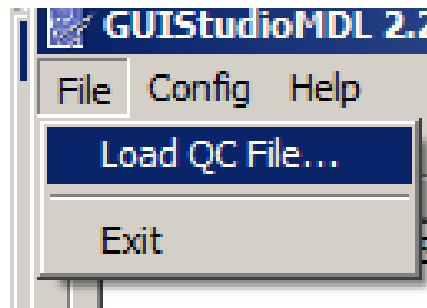
Open your GUIStudioModel,



Set “target mod” to “Half-Life 2” and “SDK Version” to “OrangeBox”

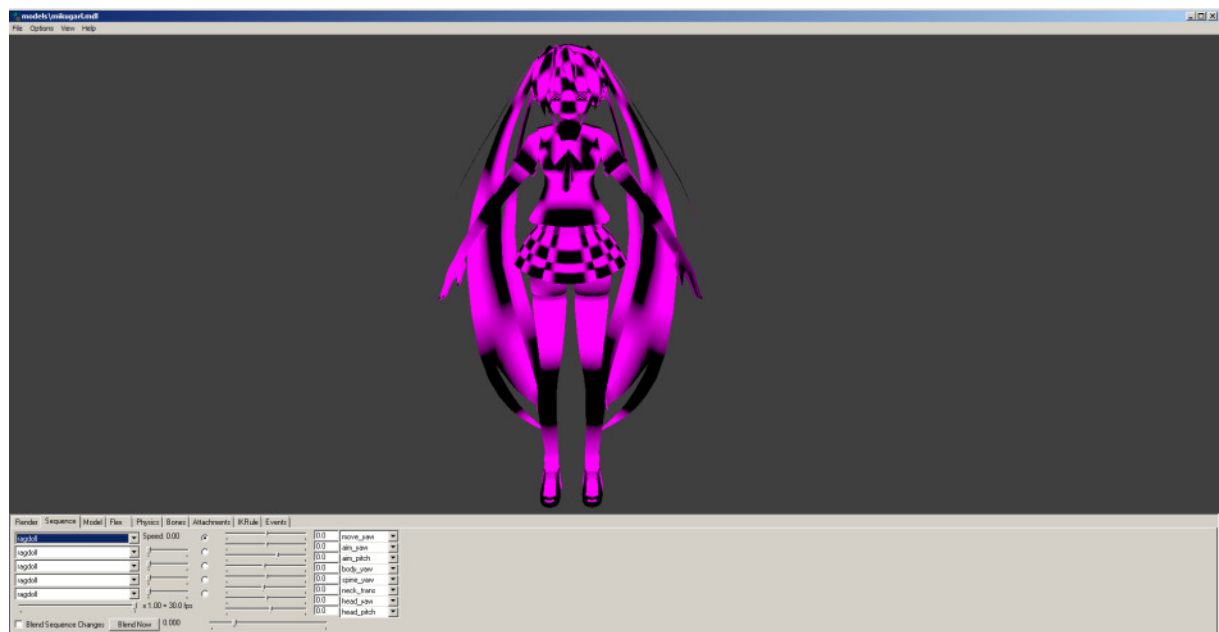


Load your .QC, select the file from your project folder and compile.



It will take a bit then it will finish compile!

Load your model into "MODEL VIEWER" and see the result:



Yes! It's checker pink + black again!

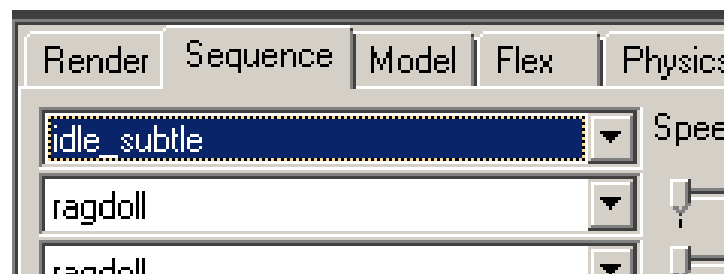
You may need to change all texture use on your character to source format which is vtf and vmt. Refer back this tutorial:

<http://xenoaisam.files.wordpress.com/2007/11/step-5static-model-compiling.pdf>

After you have process all the texture and put to the right folder and the result is finished



You can try some animation for it by go into sequence tab and choose any animation from first dropdown bar.



Finished!

