

# Blender + Zbrush

## Character Creation Series

Part Six: Animation In Blender



# Table of Contents

<b>Forward</b>	<b>3</b>
Basic introduction to Part Six	
<b>An Intro to Animation</b>	<b>4</b>
Beginning animation in Blender	
<b>The Action Editor</b>	<b>5</b>
How the Action Editor works in Blender	
<b>Inserting Keyframes</b>	<b>6</b>
How to use Keyframes	
<b>Tweened Animation</b>	<b>7</b>
An explanation of tweened animation	
<b>Rendering Animation</b>	<b>8</b>
Two different methods of rendering animation	
<b>Video Companion</b>	<b>10</b>
A hyperlink to a video companion for Part Six	
<b>Index</b>	<b>12</b>

# Part Six Animation in Blender

## Forward

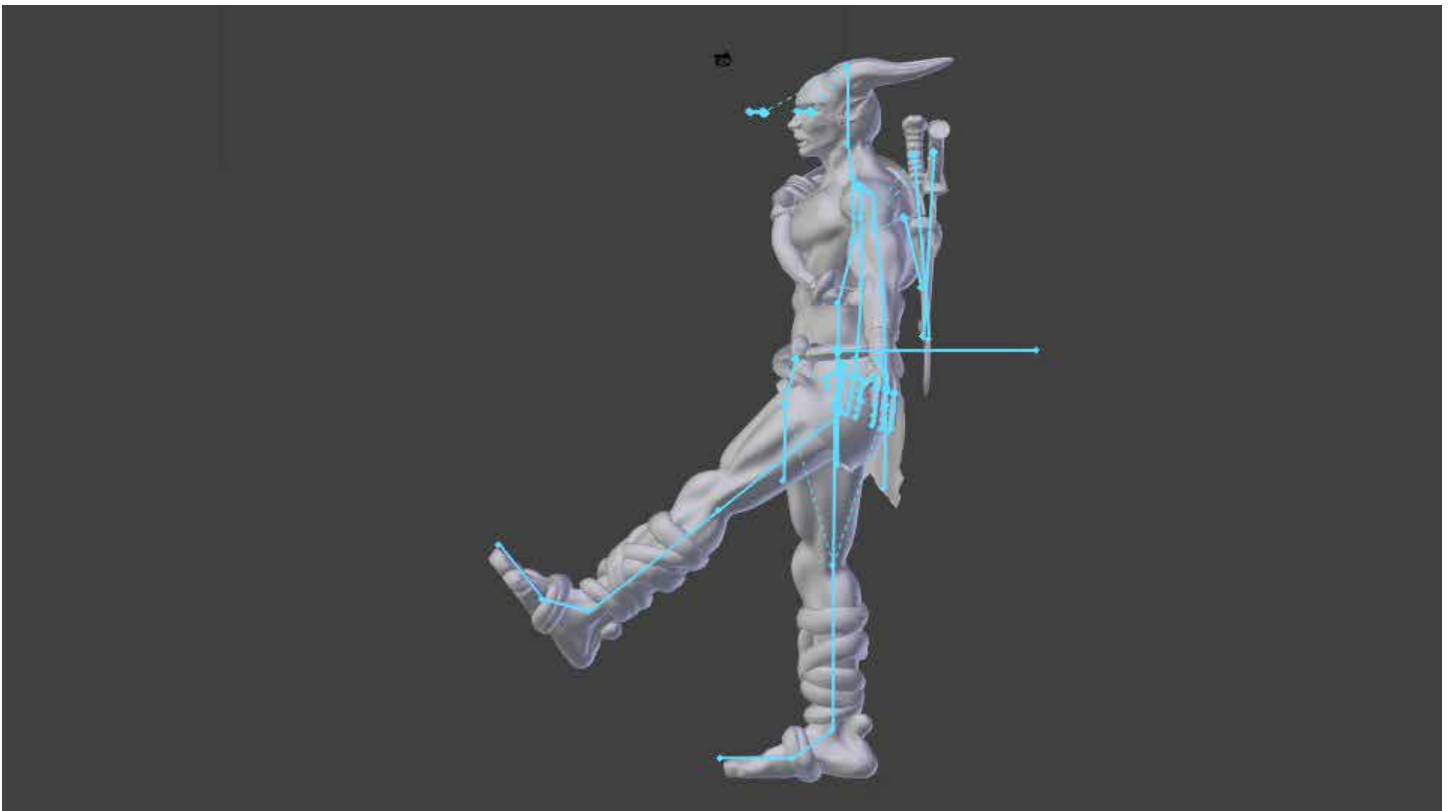
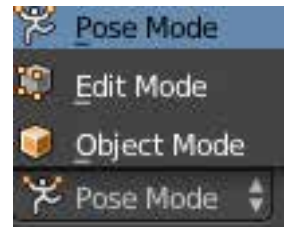
In the sixth part of this tutorial series you will learn the basics of animation in Blender. We'll start with a basic pose and add a little movement to the character. We'll also discuss good rendering practices when rendering animation in Blender.



# An Intro to Animation

By now you have a rigged character. If you select the bones you created and change from object mode to pose mode, you will be able to move that character around.

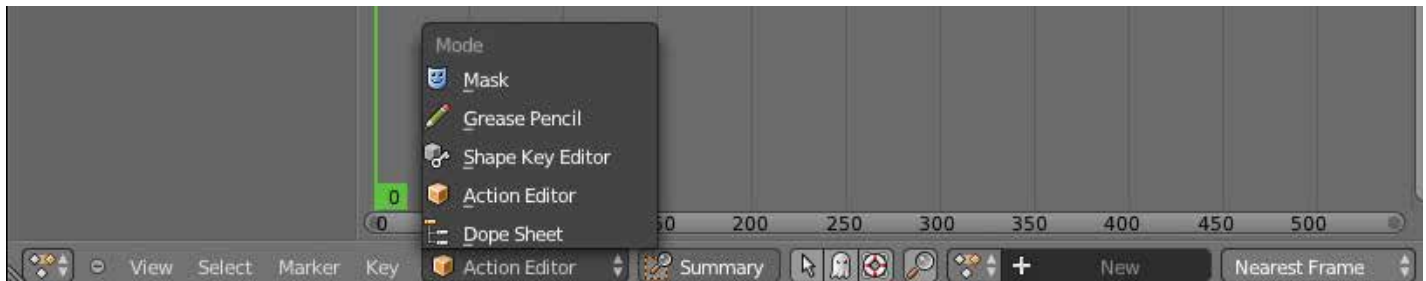
1. Right click the model's Armature
2. Change to pose mode, using the menu on the bottom tool bar
3. Select any bone
4. Move the bone with R (rotate) G (grab) or S (scale)



# The Action Editor

As of right now if you have posed your model for a still image you can go ahead and render. But what if you want actual movement? That's where keyframes come into the picture. A keyframe is a spot on the time line that designates a point in animation.

**1. Split the screen. On one side have the model, on the other change it to the Dope Sheet, from there, switch to the Action Editor.**

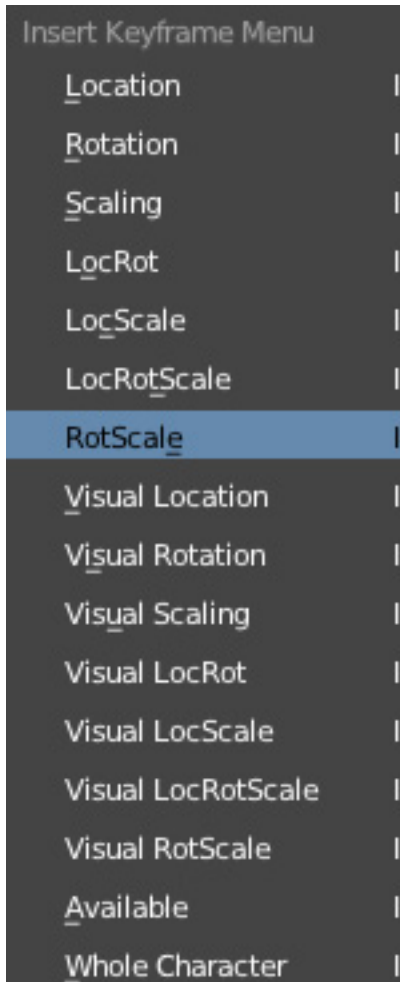


In the action editor you can create new actions (animations) and switch between them. Notice the button with the plus sign that says “New,” you can create new actions here and switch between old actions.

**2. Click New. Change the name of the action to something that identifies it.**

**3. Make sure you are on frame one, you can switch frames by dragging the bar in the action editor, the time line, or adjust the number on the time line. You can also press the left and right arrow keys to move frame by frame.**

# Inserting Keyframes



**1. Select the bone you moved**

**2. Press “I” and the Insert Keyframe Menu will appear**

As you can see, you can insert a keyframe for the location of the bone, rotation, scale, or multiple other things. Generally, to be safe and cover my bases I choose “LocRotScale” (Location, Rotation, Scale)

**3. Choose LocRotScale**

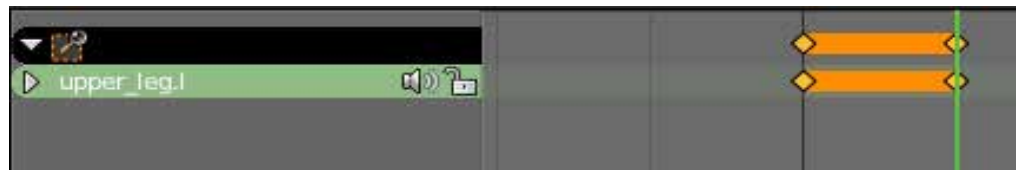
**4. Advance the frame number a little bit, to frame 10**

**5. Move your bone again, and insert a key frame**

**6. Change the frame number back to 1**

**7. Press CTRL + A to play your animation**

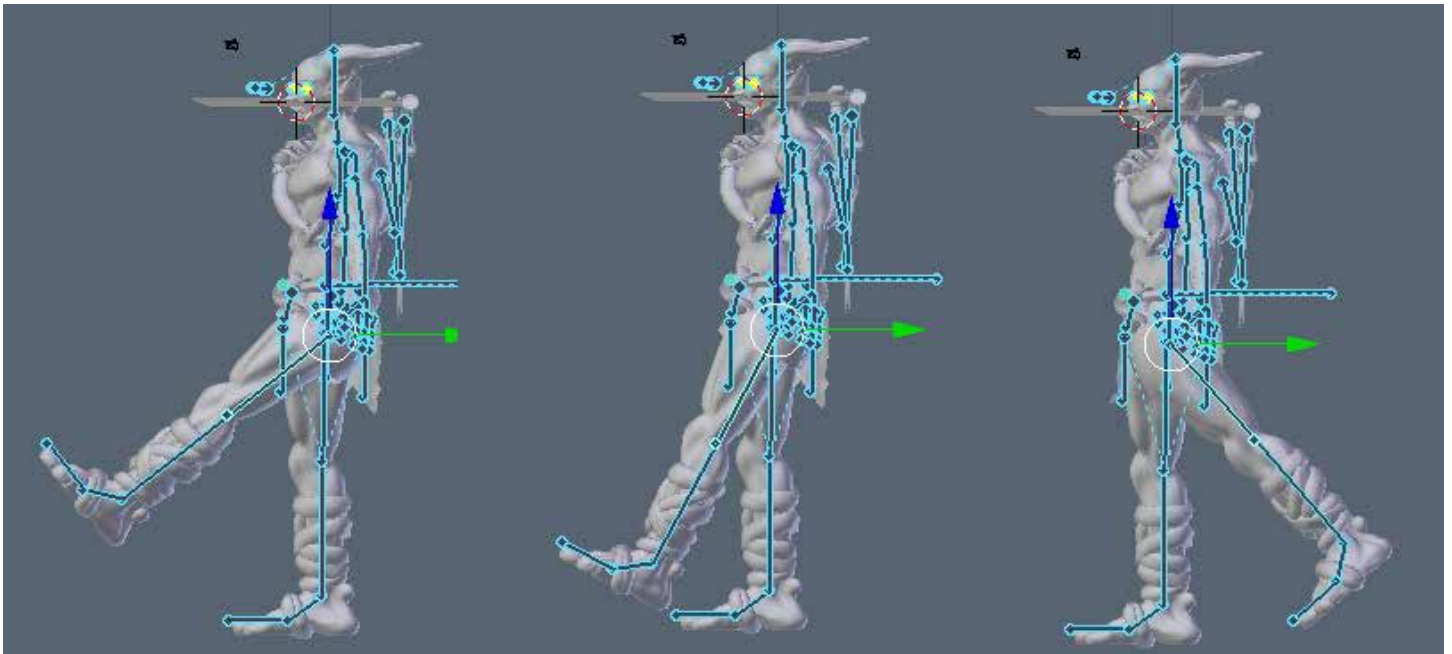
**8. You can also scroll back and forth on the time line and action editor to see the animation play**



You can make the animation as simple or complex as you want. If you make a mistake you can delete a keyframe by highlighting a keyframe and pressing “X.”

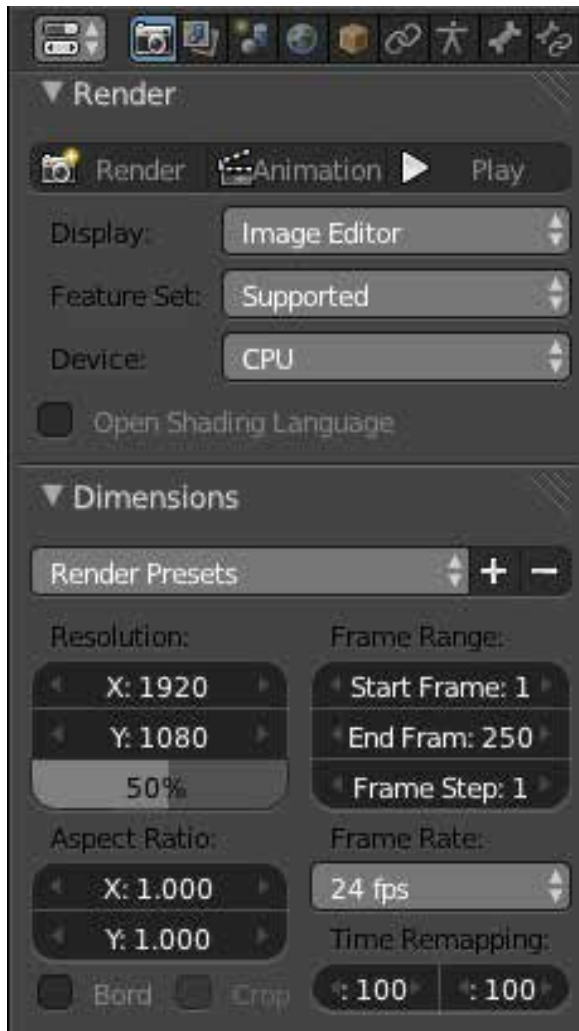
# Tweened Animation

You may have noticed that when scrolling between frames 1 and 10 that the bone you animated moved perfectly between frames without you having to manually set each keyframe. You can set each one individually if you want, but it's easier to let Blender fill in the animation for you. This process is called tweening, and it saves you a lot of time animating because Blender will automatically move the mesh between frames for you.





# Rendering Animation



You are probably interested in rendering this animation out. There are two ways to do this. We'll start with the easiest and discuss the pros and cons of each.

The first way will directly export the video to a video format using Blender's built in codecs.

1. Go to the Render Panel, as shown on the left.
2. Set up your resolution. It should default to 50% of 1080p, adjust it to your preference. The higher the resolution, the longer it will take each frame to render.

3. Set the Frame Range, the starting frame and ending frame. You can also change the frame rate.

When animating you should keep the frame rate in mind, so the animation is timed correctly.

4. Under the Output settings, choose a video format, such .MOV, .AVI, or .MPEG.

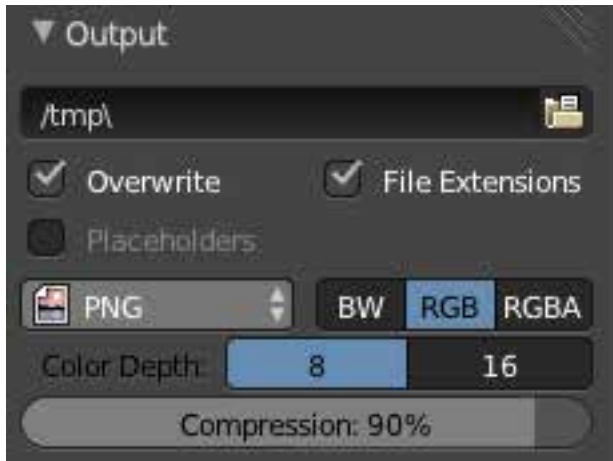
5. Press CTRL + F12 to render animation, or click the Animation button at the top of the

**render settings. The video will save to the selected Output directory, shown the on the next page.**

This is a good way to render animation. The only issue is that it's going to take a while for Blender to render all of those frames if it is a lengthy animation. Also, if Blender crashes, or you lose power while rendering, you have lost the entire animation and will have to start rendering all over again.



# Rendering Continued



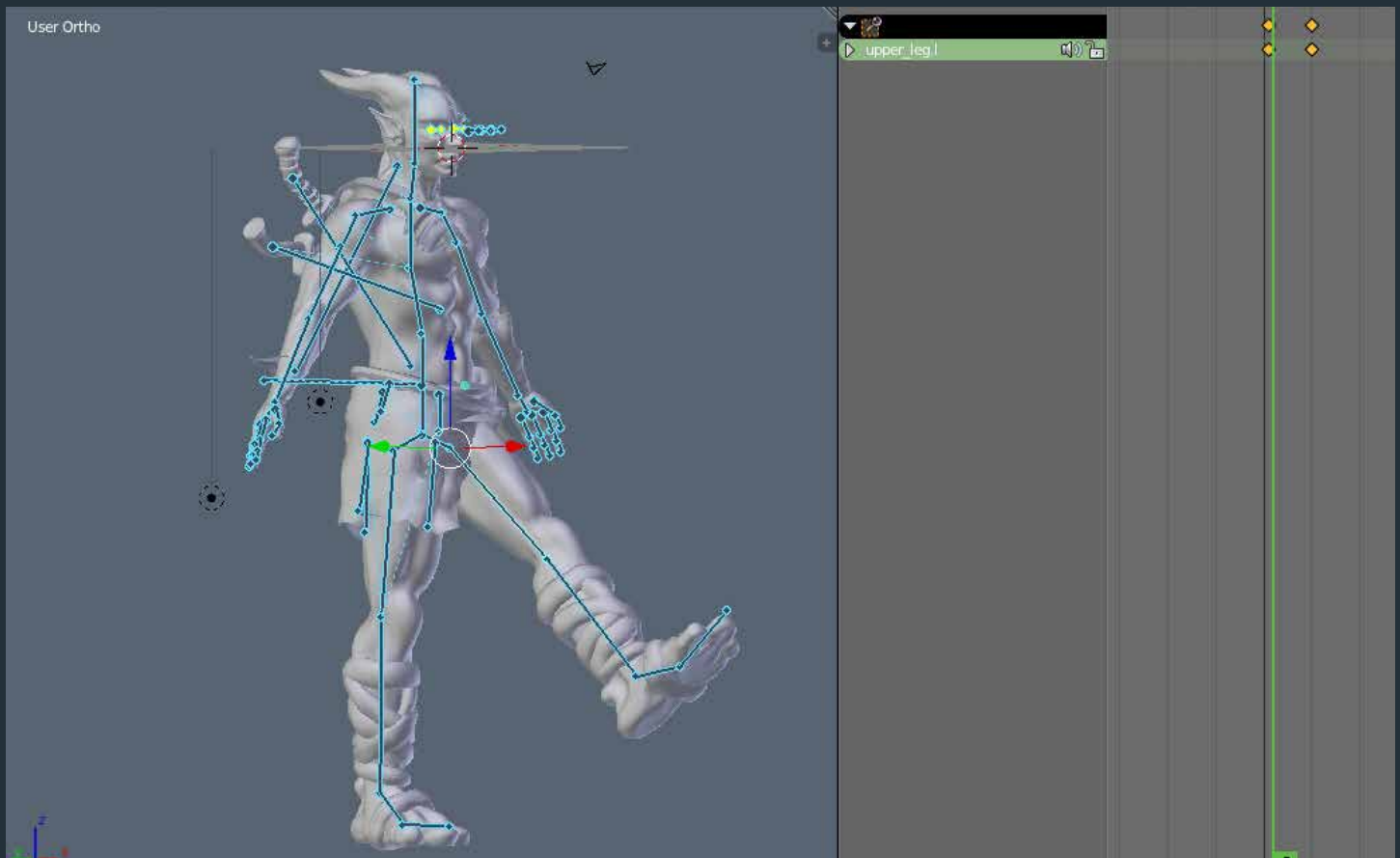
The next method of rendering is practically the same, except that instead of rendering straight to a movie format, you will render out each individual frame to separate image files, then compile it in an external video editor (or the Blender Video Sequence Editor)

**1. Follow all of the steps on the previous page, except change the output to an image file, preferably .png or .bmp, which will maintain the quality of each frame. Then just compile in your own video editing software.**

The images will be placed in the Output directory. I recommend changing this directory. The pros of this typed of rendering are simply this: you can start and stop at anytime. Each frame is automatically saved when rendered, so if you were rendering a 1000 frame animation, and you stopped on frame 500, for whatever reason, you could simply change the start frame to 501 and the end frame to 1000 and continue rendering where you left off. This isn't possible when rendering to a video format, as the entire rendering process needs to finish to make a video.

# Video Companion

When it comes to art, some things are better off being visual rather than being written about in a guide. If you are having trouble with some of these techniques I have supplied a video to re-irritate the focus of this tutorial. Check it out right here: [https://www.youtube.com/watch?v=Tqn1x2Sae\\_A](https://www.youtube.com/watch?v=Tqn1x2Sae_A)



# To be Continued...

That's all for part six! By now you should have the knowledge to animate your model. You should be able to understand tweening and render out your animation. In Part Seven we'll take a look at how I set up my finished scene, and you'll learn some tricks to help bring your character to life.



# Index

<b>A</b>	
Action Editor	5
Actions (Creating)	5
Animation	4
Animation (Output)	8
Animation (Playing)	6
Animation (Rendering)	8
Animation (Resolution)	8
Armature	4
<b>B</b>	
Bones	4
<b>D</b>	
Dope Sheet	5
<b>F</b>	
Frame Number	6
<b>K</b>	
Keyframe (Deleting)	6
Keyframe (Inserting)	6
Keyframes	5, 6
<b>T</b>	
Tweening	7