To get started we're going to come up and "**File>Open**" our character.

This brings up our "**Open Options**" dialogue window. In here we just going to **Right-Click** and "**Load All Elements**". We don't want any animation in the scene when we're characterizing our characters. So, we're going to **Right-Click**. "**Discard All Animation**". We can **Right-Click** and "**Load All Settings**". This file was actually saved without any animation in it so there are no takes showing up. If there were, you just want to make sure they're un-ticked and then we can deselect all the options down here and click "**Open**".

Once our character's open, we can "**Ctrl+w**" view into the "**Schematic View**" and hit "**a**" to "**Frame All**".

We're just going to select the top joint in the character, which is usually the "Hips" and "ctrl+w" back into the "Perspective View". We can hit "**t**" for **Translate** and then "**F6**" to go into "Global Mode" and we're just going to set the X and Z to "**0**" to make sure she's centred in the scene.

We can hit "**r**" and we're just going to make sure that she's aligned. She must be facing down positive Z. So, if we look down in the corner of the screen, you can see the X, Y, Z axes. So positive Z is actually screen right as we're looking her. The other way to check this is to "**Ctrl+f**" into the "**Front View**". Your character should be looking straight at you. If they're not, you can come down here. And then **Left-Click+Drag** left and right or type in values to make sure they're aligned down the correct axis.

Now we've got our character correctly in aligned in the scene. We can start putting her in a T-Pose. I used to Adobe Fuse to generate this character mesh, which actually builds the character this T-Pose. So, I actually rigged in the same **T-Pose**.

But these days it is more common for characters to be built and rigged with their arms down by the side in this kind of "**A-Pose**", this just helps with skinning and deformation around the shoulders. So, for this tutorial I'm going to pretend that she was actually built and rigged in this position so you can see the whole process you need to go through to align her into T-Pose.

Because all the joints in the character are all FK, you need to start T-Posing your character at the top of a joint chain and then work your way down.

So, for the arms we're going to start with the clavicle. If we zoom in and look at the clavicle, these are usually built and rigged in the correct pose. What you're looking for is this sort of neutral pose. So, when you rotate the arms down by the side, you get this nice sort of natural pose for the shoulders. What you don't want is something with a character, looks like they're shrugging or like their shoulders are drooping.

Like I say, this is in the correct position to start with, so what we can do now is "**Ctrl+a**" to show the skeleton. Then I'm just going to use "**Atl+Down**" on the keyboard to step down the hierarchy. To start positioning the arms what I usually do is align them in "Global" space. So, if we switch to **F6** and then down here, we can type in our values to align the joints. Then again, we can use the "**Alt+Down**" to go down to the elbow. Set this value and "**Alt+Down**" again and zero out the wrist.

Now, I know all the joints are aligned with the world axes. Problem now is if you look at the top view because the characters are usually rigged with a slight bend in their arms like this. When you actually go back and zero them out, you get this sort of weird bulge, which we don't really want. What we

need to do is just rotate this arm backwards slightly. So, we put this back by **3 degrees**, we can "**Alt+Down**" to come to the elbow and this you want to change to the opposite so that will be "**-3**".

So, what that does is, if you look at this in a line now, using the bottom of the screen is a handy ruler. You see these joints are still in alignment. So that's why I use the "-3, +3" value on here. Whatever I rotate this back by I rotate this hand forward so that the shoulder and the wrist are always in line. And if we just "**Ctrl+a**" to hide the joints, you can see now the arms actually looking a lot straighter. We don't have that weird bend. Now we know our arms are nice and straight, we can come down and check the hand.

What we're looking for here is that the palm is nice and square and aligned with the world. If we look at the knuckles in relation to this grid line on the floor. You can see they're pretty straight. So, it's good from the top view. But if we look in the front view, you can see the hand's tilted down like this. What you actually want is the palm flat with the floor. So, you can step down the hierarchy again using the down arrow, "**Alt+Down**" and then we can just come in here and **Left-Click+Drag** to raise this up. Let's say "**10**" degrees.

So, we've got our arm nice and straight palms flat to the floor. We can start aligning the fingers. If we go into a top view. "**Ctrl+a**" to show all the joints. You can select all these finger joints, being careful not to select any of the others, and then we can just align these globally. Nice and easy. If we look in the front, now, we can see our fingers are nice and straight.

The way I usually align the thumb is starting with the base of the thumb. I'll rotate this inwards until the join the thumb is in line with the palm of the hand. What I'm looking for is a sort of tucked under shape from the thumb and then we'll go in the front view and we can rotate this up in 'z' so that this is aligned with the hand. Get that nice and straight. And then again, we can use "**Alt+Down**" to step down the hierarchy and we can set these to the correct values to make sure this is straight with the world. What you want to be looking for in the thumb as well is that the thumbnails actually facing towards you in the front view.

So, there we have our left arm, nice and straight. Then we can repeat this on the opposite side. Easiest way to do this is just look at the values on here and then copy them across but invert them. We can set this to '-90'. Set this to '0'. Set this to 0. And then we know this is rotated backwards by 3'. On this side we want to change this to '-3' because I've actually mirrored the behaviour to the joints. Then this one is going to be '+3'. If you look at the value on the wrist, we want to bring the wrist up by '-10'. We can "**Ctrl+a**" into X-ray mode. Select all the joints again. Then just zero these out. And then to align the thumb we can do exactly the same as we have with the hands. And we can copy the values from this side. And put them in this side, again, making sure we use the inverse value, so if it's a negative value, we just take the minus off. And if it's a positive value, we add the minus '-' on. And we can set that to 0. And then "**Alt+Down**" and align the second joint of our thumb. And the "**Alt+Down**" again, just to make sure the bottom part of the thumb is straight.

So, we have our character with her arms nicely T-Posed. Next thing we're going to do is the legs. We're going to "**Ctrl+a**" to bring up the skeleton.

Before we start moving her legs, what we want to do is store the positions of her feet. The easiest way to do that is to come down into "**Elements**" Left-Click and grab a "**Null**" and then drag it in onto the foot. And we can "**Alt+Left-Click+Drag**" onto the foot again and then use "**Align > Rotation**". So that's going to align the rotation of these nulls which we can use later to realign the rotation of the

feet if we actually move the legs, we can just realign the feet with the nulls and get the foot back on the floor again.

So, for the legs were going to "**Ctrl+r**" into a **Right View**. What you want to be looking for here is that there's a nice line where the characters standing on balance and there should be a slight bend backwards in the legs. So, what we can do is grab a "**Plane**", bring that in. We're going to rotate it by 90 so we get a nice straight line. Centre that in the scene. So that's aligned to her hips.

So what you want be looking for there should be a line roughly from where her ear is going to be, which is somewhere around where the neck finishes here, down through the hips, behind the kneecap, and then back through the centre of the foot, roughly where it is now. So, we want to bring this foot forward slightly.

If we come into the Perspective View, we can just grab the both legs, go back into the Right View, and we're going to rotate these forwards slightly. And we're going to use "**Alt+Down**" to select both lower legs. So, then we can rotate our legs back slightly, roughly to where they were before. We can look and check with the plane again. Now you've got a better alignment between the ear through the hips behind the kneecap and then through the middle of the foot.

We can go into the front view. We can delete our plane - we don't need that anymore.

We just want to make sure these legs are straight down and that the feet are underneath the hips because sometimes character's legs are built, sort of slightly further apart, if they've been scanned especially, then they'll leave more space between the feet. If that was a case, put in our values over here to align them to the world.

So now we know our legs are straight, we can **"Ctrl+e"** back into Perspective View. Then realign our feet using the "Nulls" that we put in earlier. We're just going to "**Alt+Left-Click+Drag**" on to each of the nulls. Then use a "**Align > Rotation**". And same thing with the other foot. Reason I'm dragging down here because it's just easier to hit these "Nulls" down here than it is in the actual scene. We can do "**Align > Rotation**" and we can delete out our 2 'Nulls'. That's our legs nice and straight.

So, we can switch back into the Right View. We just want to check to make sure the character standing upright and that they're looking straight ahead. Most of the time, again, the characters are usually built in this sort of upright position and facing straight ahead.