Dynamic Clothing Tutorial for DAZ Studio

Your First Drape and Beyond
By: ReDave

What you'll need:
- Victoria 4
- A Dynamic Clothing Outfit
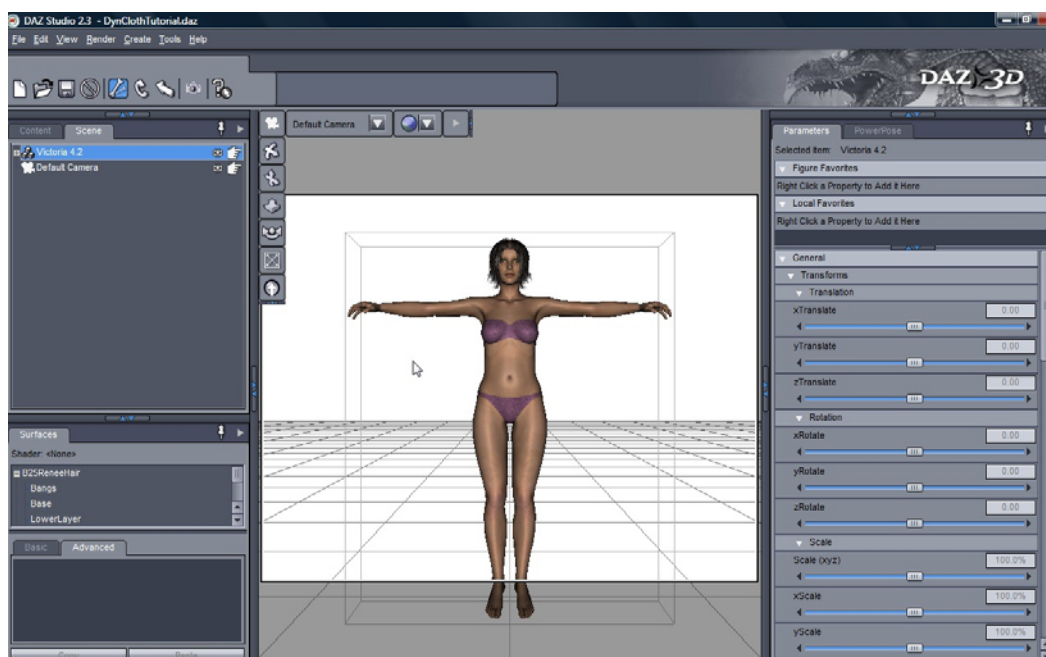- Scene tab
- Content tab
- Dynamic Cloth tab

If you do not have the three tabs, you can spawn any that is missing by clicking on "View" in the top menu, then by pointing to "Tabs" and clicking on each tab's name. Since each tab will be displayed as a window on top of the viewport, you can unclutter it by docking them to either side of the screen by clicking on the tab's top bar and dragging it to the desired side of the screen as described in the overview.

STEP 1) Load V4
If you are viewing folders as tree or list, she will be located in Content>Figures>DAZ People>Victoria 4.2. If you are using Powerloader, select all the morphs you plan on using; otherwise apply them manually by going to Content>Poses>DAZ's Victoria 4>Morph Injections. Spin the dials as you want, and apply a texture. For the morphs, I applied the following FBMs:
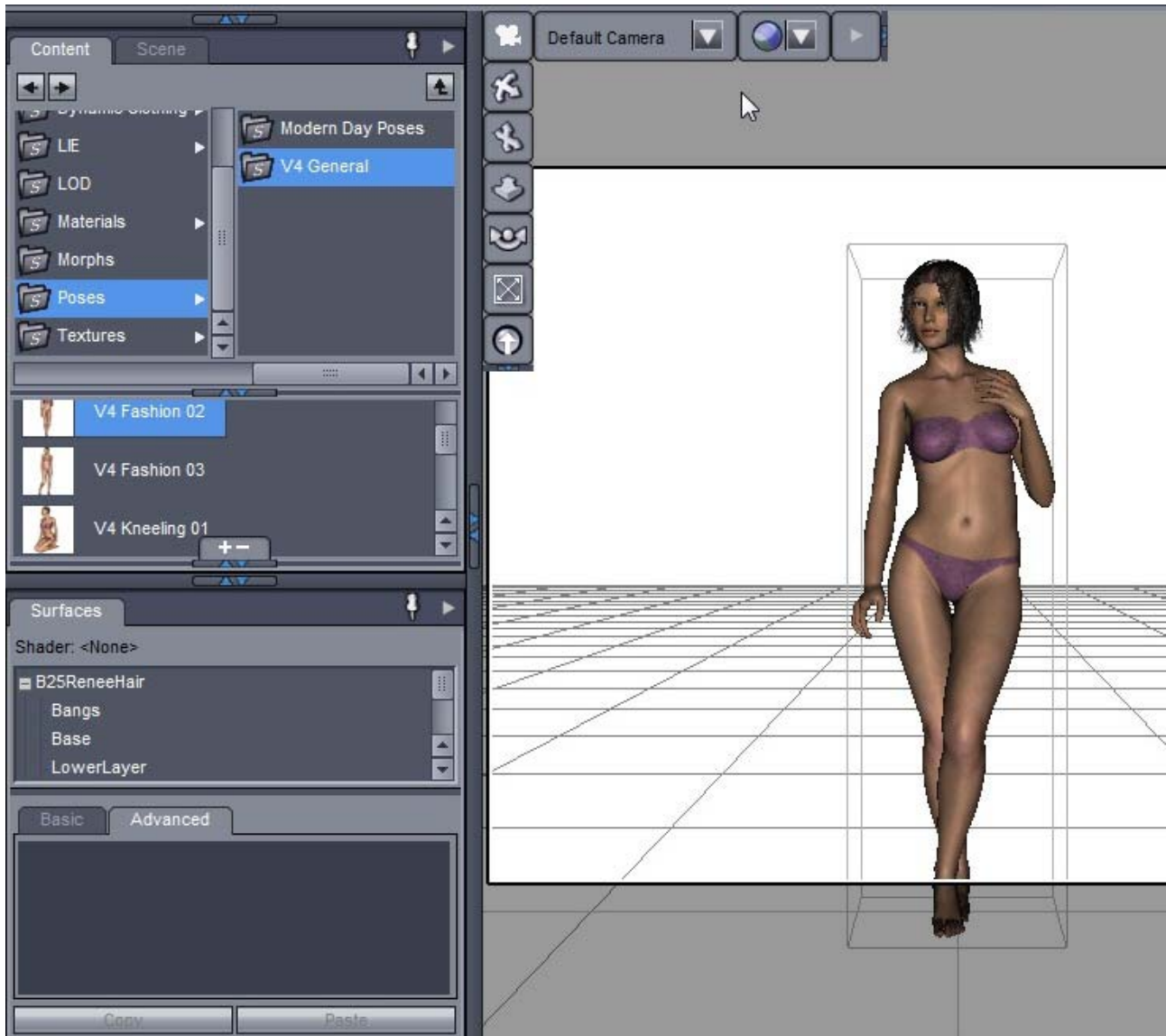
- **Definition: 0.2**
- **Thin: 0.3**
- **Voluptuous: 0.2**
- **PearFigure: 0.5**

I selected the Elite: Marie skin texture. For hair, I picked the "Renee" hair. It is a good idea to spin morph dials before the clothing drape, otherwise some poke-through may appear. For morphs that significantly alter the base figure's appearance it is generally best to use an animated drape or to use the scaling trick (see below). Textures and hair can be loaded or changed after the drape, if you like.
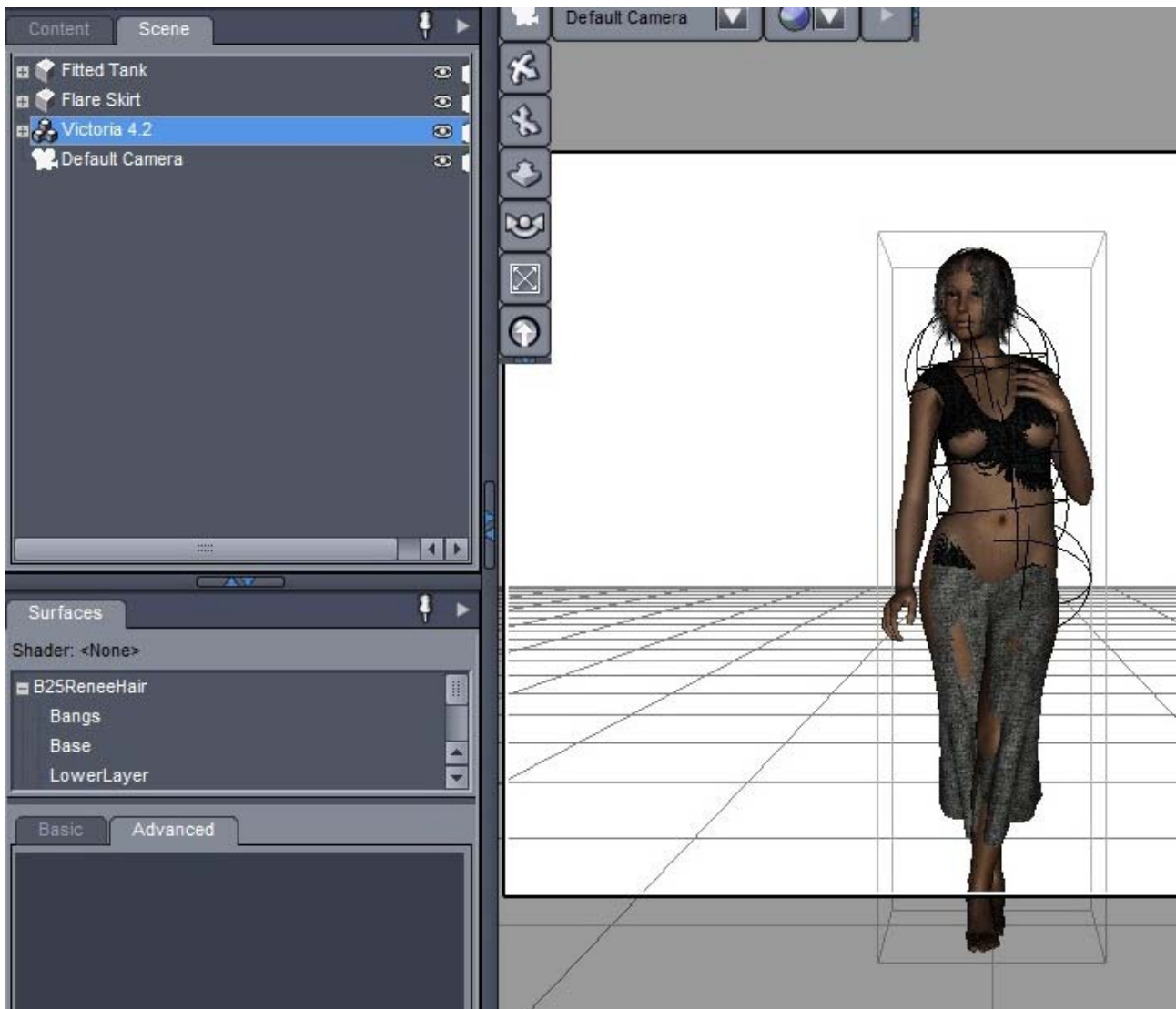
STEP 2) Pose V4

For this first tutorial, I have selected a pre-made pose, namely V4 Fashion 02. It should be located in Studio>People>Victoria 4>Poses>V4 General. **Note:** When viewing folders as tree or list, we switched from the Poser "Runtime" to the DAZ Studio "Content" at this point**. Remember that altering a pose _after_ the drape has taken place will reset the dynamic cloth to its starting position, so make sure you tweak the pose to its final state before running the drape**. It is also preferable to select a pose that doesn't have too sharp bends or hands (or other body parts) self-intersecting V4 body. We will tackle sharp bends and hands on hips later on.
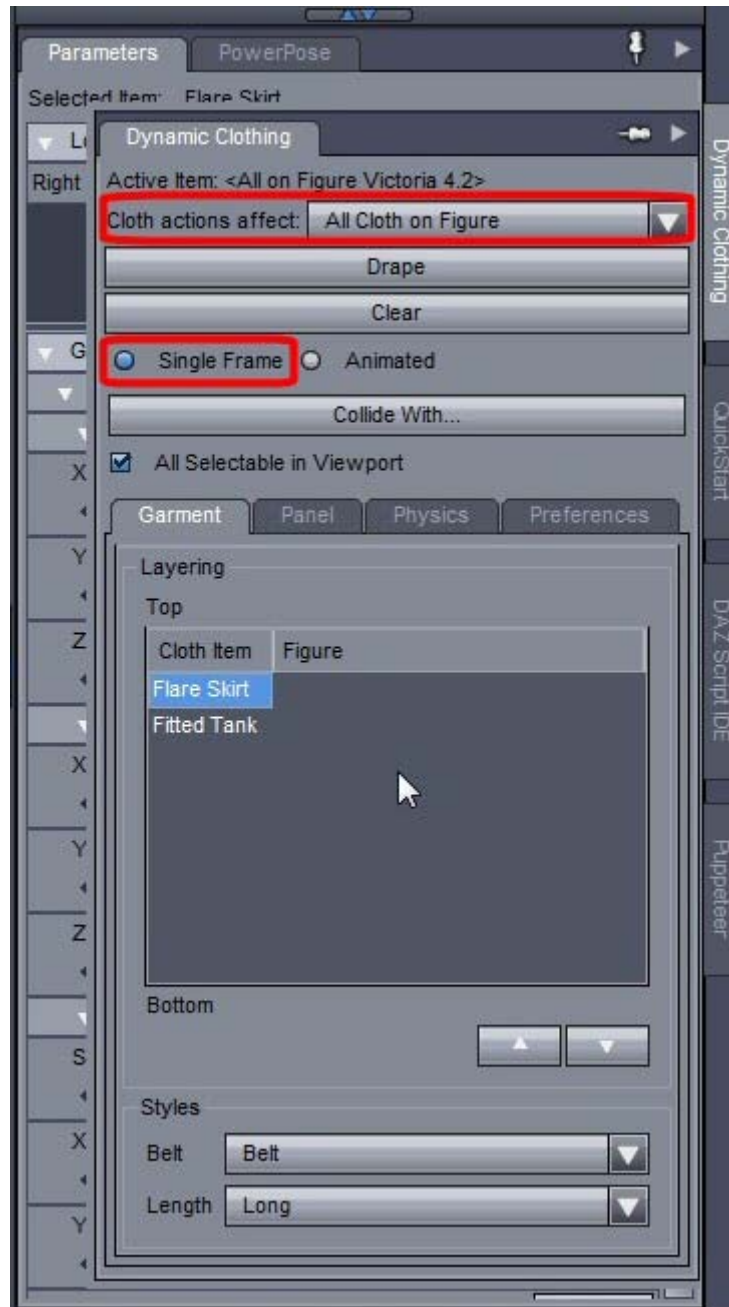
STEP 3) Make sure V4 is selected and load your dynamic garments!

They should be located in Studio>People>Victoria 4>Dynamic Clothing. If by any chance the clothes don't conform at all to V4, select them in the Scene tab and click on the "Fit to" button in the Parameters tab. If you selected the fashion pose, there should be some serious poke-through, but don't worry, the drape will take care of it in a minute.
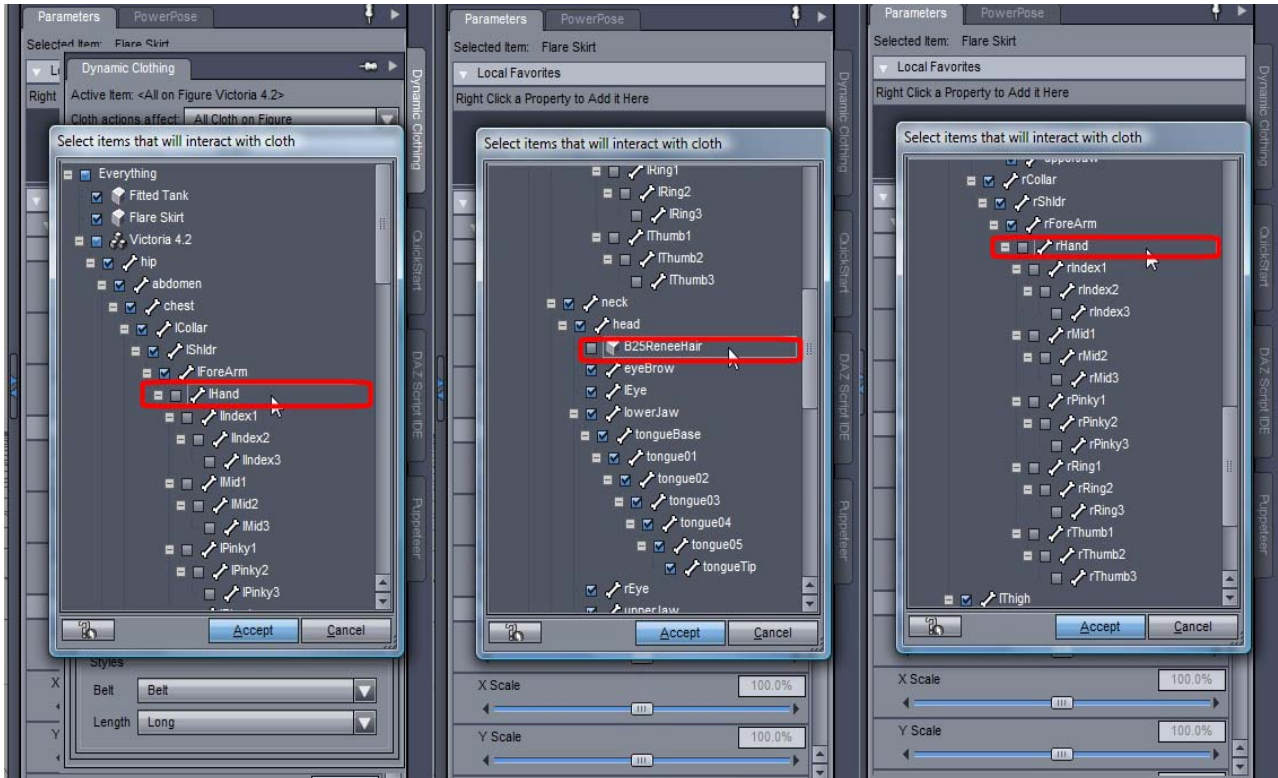
STEP 4) At last we're going to look at the Dynamic Clothing tab!

First, I select "Cloth Actions Affect:" , at the top of the tab, to affect "All Cloth on Figure", by clickig on the little triangle and selecting it in the drop-down menu. I make sure that Single Frame is selected, which it should be by default.
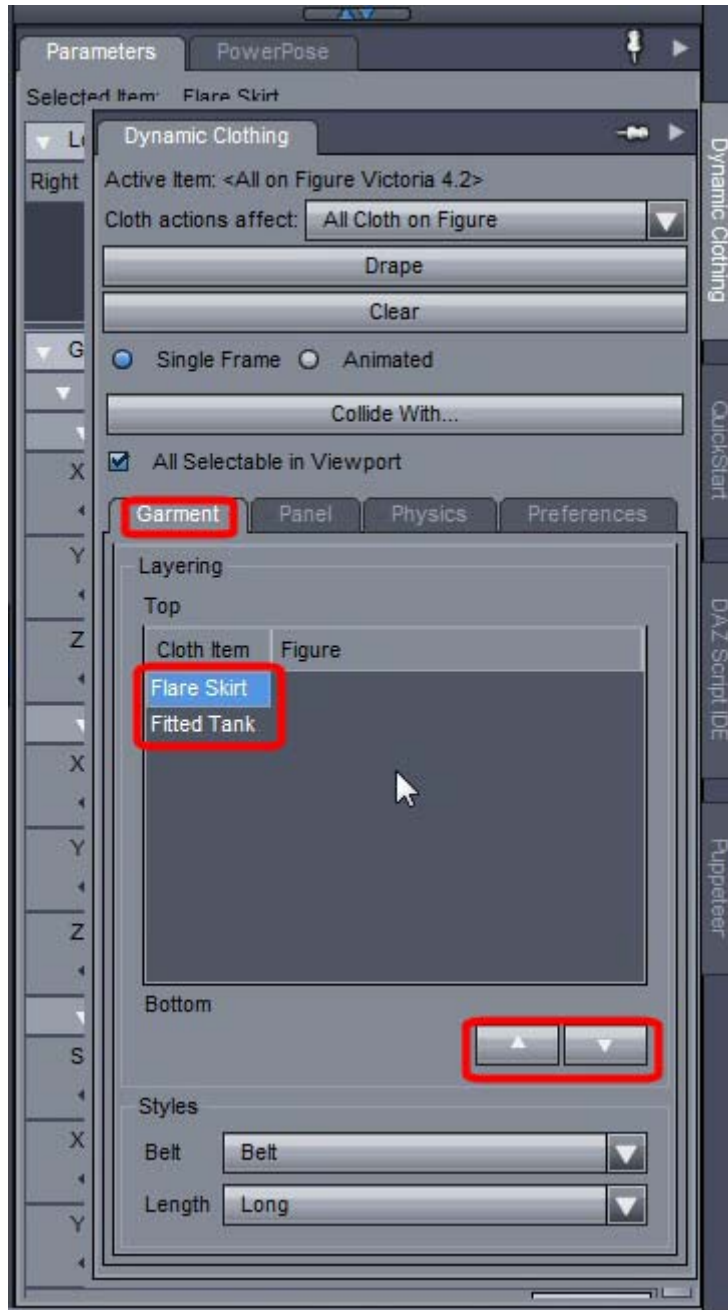
Next I click on the "Collide With" button and make sure the hair, which is the Renee hair in my case, is UN-checked, I also un-check both hands, since they are quite close to self-intersecting V4; I just click on the hand checkboxes, all fingers (and in general children nodes) will be unchecked automatically when I do that. Unchecking both hands and hair is generally a good idea as it will avoid trapping the cloth between hand and body, and as an added bonus also reduces draping time. In the following screenshot I made a collage of three screencaptures to show all nodes I unchecked. Once happy with these settings I click on Accept.

Next I look at the Layering box in the Garment sub-tab. If you loaded more than one dynamic cloth, they will appear here and you can determine which one is the outer cloth by selecting them and clicking the up or down arrows located just below the box itself. Higher place in the list means outer garment, while lower place in the list means inner garment.

I want the shirt to be tucked inside the skirt, so I select the shirt in the box and click the down arrow to place it in second position. Since I only have two clothes, I'm done.

Lastly, I can switch geometries for each dynamic cloth that supports this feature. I do this by selecting the cloth in the Layering box and looking if the Styles section at the bottom of the tab allows me to select a different geometry. In some cases, I may be offered multiple choices.

I'm happy with the default geometries of the Flare Skirt and Fitted Tank, but feel free to change them.

I'm now ready to do the magic!

STEP 5) Click on the Drape button.
You can move around the progress bar window if it obstructs the visuals, by clicking on its top bar and dragging it. With just a shirt and skirt it can take between a minute and four minutes on my laptop for the drape to finish. Let's take a look at the result: looks great doesn't it?

Now let's spin the camera 360 degrees around Vicky. Oopsie, she seems to have a problem on her right leg and buttock!

What can be done to fix it? There are at least two approaches possible. The easiest is to just hit drape again and hope the problem will sort itself out. Using three drapes indeed solves it.

However there is a smarter way: let's reset the drape to its initial state by clicking on the Clear button in the Dynamic Clothing tab and scale the skirt, in the parameter's tab, about 120% in the X axis and 140% in the Z axis. Why do I do this and how did I pick those figures? I'm taking advantage of the fact that during a drape the clothes will tend to get back to their 100% size. I want the skirt to cover V4's body and the easiest way to do it is by making sure it starts in a position that is entirely outside V4. I picked 120% for the skirt's X axis because scaling it much bigger would make it intersect V4's forearm, which would likely raise difficulties during the drape. The same can be said for the Z axis, although there is not much risk of self-intersection in this case, but there's no need to go overboard with the scaling.

Now, let's drape again. Perfect results on a 360 degrees spin after only one drape!

Back view:

What did we learn in this tutorial?

The sequence is:
1. Load figure
2. Pose Figure (including morphs; textures are optional at this point)
3. Load Dynamic Clothing
4. Adjust its settings
5. DRAPE ! (You can change textures after the drape)

Static drape is fast, but not fool-proof, however scaling tricks might help solve the drape correctly.

More on Static drape – Questions and Answers

Q : Do I need to use Victoria 4 with the V4 dynamic clothes?

A : No, you don't. You can use them on any figure as long as he/she/it is more or less of a size with V4 (because as mentioned above, the clothes tend to revert to their 100% size). Consider the following screenshot: the squirrel was scaled up a bit and put in a pose resembling the default T-

pose of human figures, while the shirt was loaded and set _not_ to fit the squirrel. Instead each of its groups was manually translated, rotated and scaled to fit the squirrel as best as possible.
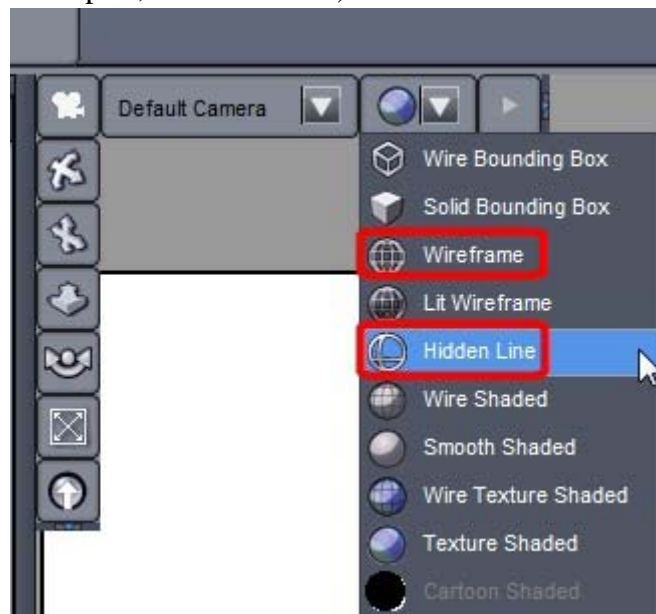
Q : Is there any advantage to making multiple successive static drapes?

A : Yes, sometimes you need more than a single drape to obtain good results. Unfortunately, at times a series of drapes diverges from a proper result, and sometimes it converges. You can generally make an informed guess whether it will converge or not by simply comparing the result of the previous drape with the current drape. Is it improving? If yes, then trying several static drapes in succession is likely to give a good result; if no, you will either need some tricks or an ad-hoc animated drape. In the shirt and squirrel example, I needed three static drapes for the shirt to fit. Starting with a slightly different pose caused the back side of the shirt's neck to come out of the squirrel's throat. As you gain experience with this, you will see you only need "good-enough" matches between the cloth pose and the figure starting pose.

Q : Help, I want clothes to rest on the ground, but they fall through it!

A : If the meshes making up the cloth and the figure have significantly different densities, consider subdiving the less dense mesh (select item to subdivide in the Scene tab then go to Edit->Convert to SubD). You can see the meshes by selecting either Hidden Line or Wireframe as Draw Style (which is one of the icons on the viewport, see screenshot).

In this example, the plane is a default plane 10m with only one division. Draping the skirt causes it go through the plane!

Loading a denser plane, or subdividing it to level 2 gives much better results. If the mesh being subdivided is complex, remember that it will take up four times as much memory as the original mesh per level of subdivision, and you should allow for significantly longer draping times.

Q : I want to drape using a pose with some sharp bends...
A : Your best bet is using an animated drape. Set an initial keyframe with an easy to drape to pose, and go to your hard to drape pose. See the animated drape section.

I use a shirt and skirt/trousers but there's always some poke-through!
In the basic plug-in there is not much that can be done with this, sadly, other than trying one more static drape, using the scaling trick or subdivision. If you have the Control plug-in you can try to alter internal pressure, use sequential vs concurrent drape and especially vary the collision tolerance. Postwork is also ever your friend.
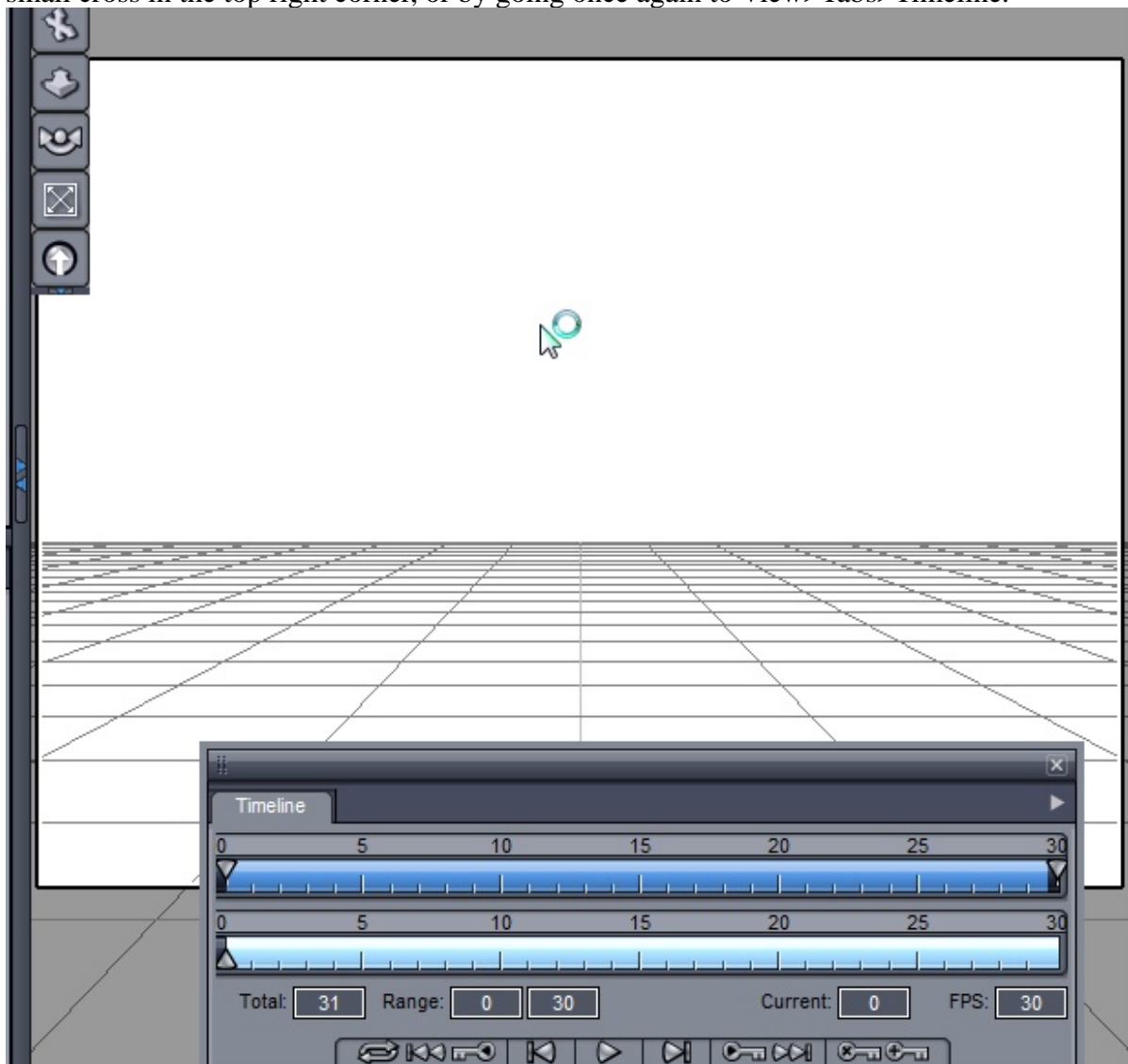
Using Animated Drapes

What you'll need:

- Victoria 4
- Dynamic Clothing
- Scene tab
- Content tab
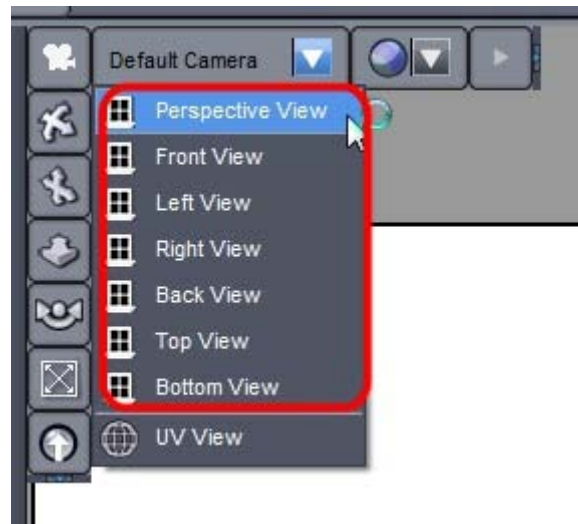- Timeline tab
- Dynamic Clothing tab

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The Timeline tab tends to be docked at the bottom of the screen. Personally I move it down without docking it, and using a Viewport aspect ratio of 4:3 (Render drop-down menu>Render Settings>General tab>Preset set to "Display Standard/Cine 35mm") I find it doesn't take up too much space of the in-camera view; when I am not animating I just close the tab, by clicking on the small cross in the top right corner, or by going once again to View>Tabs>Timeline.

STEP 1) Make sure there are no keyframes on the timeline.

If you are unsure your scene contains any keyframe just make a new scene by clicking on New. While doing animations remember to use the orthogonal or perspective cameras to move around instead of the 'named' cameras. You delete keyframes by jumping to them with the Next or Previous Keyframe, and clicking on Delete Keys on the Timeline tab. All of these buttons look like small keys. You use the orthogonal or perspective cameras by clicking on the button that says "Default Camera" at the top of the viewport, and selecting either the perspective or one of the orthogonal cameras (namely: Front View, Left View, Back View, etc.). This is because any movement done by the default camera will be recorded and played back during the animated drape, which might inconvenience us.

STEP 2) The Timeline

The timeline may be a little confusing if you are not used to it. First off click on the little triangle in the top right corner of the tab and select "Advanced View", which will allow us to add or remove keyframes. This will also make a second timeline appear, but we are only interested in the bottom one, which is displayed as light blue. You'll see the basic timeline comands in the very bottom of the window. Most of them are standard buttons you can see on CD or casette players, however there are also four button shaped like keys. The first one on the left jumps to the previous keyframe. Since there are none it will do nothing for now. The next key shaped button jumps to the next keyframe. The last two key shaped buttons respectively delete and add a keyframe (named respectively 'Delete Keys' and 'Create Keys').
Make sure the little triangle on the light blue timeline is set to 0, if it isn't just drag it there with your mouse, or by typing 0 in the 'Current' box.

STEP 3) Load V4

As usual morph her to your liking and pose her, this time I will leave her initial position be the default T pose. I loaded the skirt and shirt, and I changed the latter geometry to Scoop Neck, by selecting it and going to the Geometry Switching drop-down on the Parameters tab, or alternatively, by using the drop-down under Styles in the Dynamic Clothing tab. I also morphed V4 the same way I did previously, i.e.: FBMs set to: Definition 0.2, Thin 0.3, Voluptuous 0.2 and PearFigure 0.5. Now click once on the Create Keys button, clicking it won't exhibit any visible effect.

STEP 4) Now advance the timeline

Advance the timeline to frame twenty by either clicking on 20 in the light blue timeline or by typing 20 in the 'Current' box. Make sure V4 is selected and pick a pose, I chose V4 Running 01 in Studio>People>Victoria 4>Poses>V4 General poses. After applying the pose click again on the 'Create Keys' button in the Timeline tab, then bring back the timeline to frame 0.

STEP 5) Switch to 'Animated' instead of 'Single Frame' Drape.

Bring up the Dynamic Clothing tab. As previously, check that the outer garment is the one you want, that the hair (and other bodyparts, as necessary) is set not to collide with the clothes, and that only the clothes you want are set to drape. We're ready for the drape! Hit drape in the Dynamic Cloting tab and see the pose progressively go from the initial T pose to the final running pose. Since we didn't alter the Total number of frames, the animation will run for 30 frames. The ten extra frames after the final position can be of use to stabilise the drape but aren't always necessary. A good rule of thumb is to let the animation run its course, then go back and forth in the timeline and select the frame you prefer. Even if a given frame isn't perfect, you can always refine it by running another drape (be it static or animated). Here is the result of letting the animation go to frame 22 then running a static drape.

General Tips on Animated Drapes

- the gentler or slower the movements, the more the cloth will have time to settle and look natural.
- the scaling trick applies on animated drapes too.
- you can use any combination of static and animated drapes. Don't forget to exclude some clothes from the drape if necessary.

This concludes the tutorial, have fun!