

# VWD's Cloth & Hair

## Installation Guide

*Version 2.x*



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**Welcome!**

This is a basic installation guide for the VWD Cloth & Hair - Version 2.x product. This document is a companion to (and derivative of) ***The VWD Cloth & Hair Program Manual Version 2.x***. See the last page of this document for additional information and resources related to the VWD Cloth & Hair product.

# 1 System Requirements

**Operating System:** VWD's Cloth And Hair is a Microsoft Windows-only application. It is successfully running on Windows 7, 8, and 10, although it may run on other variants of those operating system families.

**Host Applications:** VWD's Cloth And Hair V2.x runs with built-in support for Poser 9/Pro 2012 or newer, and DAZ Studio v 4.10 or newer. Using the well-regarded 3<sup>rd</sup> Party VWD to Carrara Bridge product from renderosity.com and a Windows-based Python 2.7 installation, VWD 2.x also works with DAZ Carrara 8.5.

**Hardware and Performance:** VWD's Cloth & Hair capabilities are naturally constrained by the computing resources available to the simulation engine. All resource demands are driven by both the polygon counts within a simulation, and the interactions between active simulation elements. Mesh subdivision and hi-poly figures will have a very real impact on your simulations, but sparse meshes will not simulate well, so it is always a balance. In VWD's Cloth & Hair, textures, lights, cameras, and other non-mesh scene elements do not affect the simulation.

More memory and CPU processing power will always improve the simulation setup and execution experience. Once the simulations are complete, the hardware resources that are needed to actually render a given scene are completely dependent upon the complexity of that scene. These two workflow processes never run at the same time – After building the 3D scene, run the simulation(s) to help create the scene dynamics, then render the resulting scene.

For smaller scenes with a lower polygon 3D-mesh figures and clothing items and/or hair, we recommend *at least*:

- Intel I5 or better, running at at least 3Ghz (or AMD equivalent)
- 8 Gigabytes of memory
- An extra 500 Gigabytes of available disk for the various *Cloth & Hair* working files, in addition to having space for your own final renders!

For a 'good' mid-range system, something like:

- Intel I7 quad-core system, with hyperthreading to 8+), running at at least 3Ghz (or AMD equivalent)
- 16 Gigabytes of memory (32 is better)
- NVIDIA GeForce 700 series or better, if you choose to use VWD's Cloth & Hair GPU functions.
- A Solid-State-Drive for the *Cloth & Hair* installation folder, which is where many of the internal simulation files are written and referenced.
- (disk space for your rendering resources and outputs depend on the kinds of projects you produce)

For simulations involving larger 3D-meshes with complex and high-speed interactions the sky is the limit as far as hardware is concerned. As a frame-of-reference point, our program developer uses:

- Intel XEON 32-core processor
- NVIDIA 1080ti series GPU card
- 32 Gigabytes of System RAM

- SSD and traditional SATA drives on High-Speed controllers
- Terabytes of backed-up drive space...

And of course all of these specifications are rough estimates as the true performance of any system depends on the specific tasks being thrown at it!

## **2 Installing VWD's Cloth & Hair Program**

The installation of VWD's Cloth & Hair product is done manually by copying files from the installation zipfile to your preferred locations. This process is slightly different for each host-application (Poser/DAZ Studio), but the ideas are the same.

With the newly added support for DAZ Studio (v4.10+), and the continued support for Renderosity's Poser (v10+), here are some notes of interest:

- When running VWD V2.x version with DAZ Studio, a plugin module (DLL) must be present and loaded during the DAZ Studio start-up. Poser uses its built-in Python interpreter to interact with VWD. The mentioned Carrara bridge also depends upon its own plugin and Python interpreter.
- Multiple versions of VWD's Cloth and Hair can co-exist in both the DAZ Studio and Poser environments. (E.g. **C:\VWD1\**, **C:\VWD2\**, ...) so long as your start-up scripts are configured to use your chosen version.
- Both Poser and DAZ Studio can leverage the same VWD Cloth & Hair program installation, but two copies *can* be installed - one for each - with little expense in disk space and no known side-effects.
- If you are using VWD's version 1.x with of DAZ Studio version 4.10 (with the VWD to DAZ Studio Bridge product), the VWD V2.x and Bridge product plugins should co-exist without problem.

**Note:** The DAZ Studio 4.11 upgrade included internal changes that broke the VWD to DAZ Studio Bridge, so there's no need to have that product's plugins installed on DAZ Studio versions 4.11 or newer.

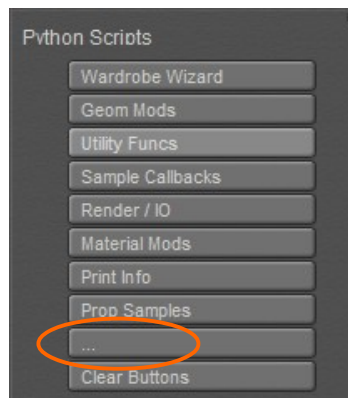
- The (sometimes large) simulation/animation files are generated and stored in the VWD Cloth & Hair core installation directory. This means that both space and access speed may be impacted by your choice of installation locations. In my case, I prefer to install my VWD Cloth & Hair core programs on my second drive, a faster solid state disk (SSD), e.g. **D:\VWD\** for an added performance boost.
- Users that purchase the VWD 2.x Upgrade product from the original Renderosity V1.x product will receive an upgrade extraction tool that will create the normal installation package after finding the original Version 1.x **VWDClothAndHair.exe** file. After that the normal installation procedures will apply.

We'll cover the full installation process for both products next.

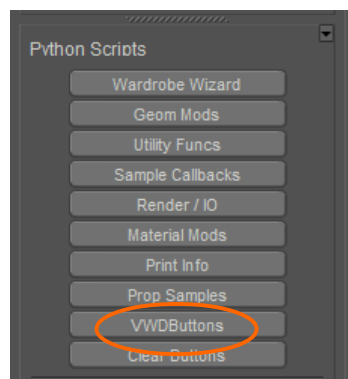
## 2.1 Poser Installation

Install the core VWD Cloth & Hair program and documentation:

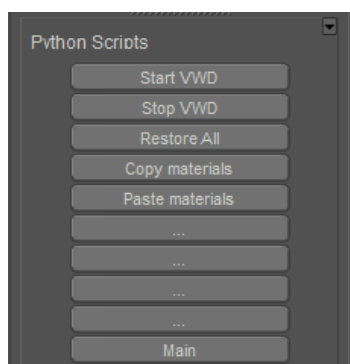
- Extract the VWD Cloth & Hair program files from your installation zipfile.
- From the resulting zipfile **...\installation\** folder, copy or move the **VWD** folder to a location of your liking.
- While you may prefer to install these program elements in a traditional Poser-like location (e.g. a 'runtime' folder location like **Runtime\Python\poserScripts**), it can go most anywhere, and we recommend installing that folder in a low-level drive directory like **C:\VWD\**, allowing quick access, and preventing potential 'path' issues later.
- Launch Poser, and from the main Poser interface, and look for the 'Python scripts' menu.



- Find the '...' button near the bottom (or click on an expendable button while pressing the **Alt** key, and it will clear that function, clearing a new '...' button), and click on it (or any available '...' button...)
- In the pop-up dialog, browse to your VWD installation directory (e.g. **C:\VWD**), and select the **VWDButtons.py** file in the installation directory.
- The '...' button should now change to **VWDButtons** :



Click on the new **VWDButtons** button, and you will see the new **VWD** control buttons in a standalone menu:



### The VWD menu commands:

- **Start VWD** : launches the program interface on the right of the screen.
- **Stop VWD** : ends an active relationship between VWD and Poser. This button will, in theory, never be used, because the loop will stop automatically when VWD stops. However, sometimes (very rarely), it happens that the communication becomes locked. This button is there to stop the Python script.
- **Restore All** : clears the VWD-created scene actors - (**xxx\_VWD**) from the Poser interface and restores the original scene items to their visible state.
- **Copy materials** : saves the materials of a selected scene item. This is used to restore materials to the VWD scene items (e.g. MyHair\_VWD), because when a scene is reloaded, the \_VWD actors have no materials.
- **Paste materials** : applies the currently 'Copied' materials to the selected scene actors. This is used to restore materials to the VWD actors (e.g. MyHair\_VWD) when a scene is reloaded and the \_VWD actors have no materials.
- **Main** : restores the default python script buttons to the Python Scripts interface in the Poser interface.

Your VWD installation for Poser is now complete. We'll detail the program startup, features and usage in later sections.

**Note:** The program documentation and usage guides are located in the main VWD program's **Documentation** folder. (e.g. **C:\VWD\Documentation\**). Version-specific notes and issues are also located in the main VWD program's **\_V1.2.333.4444** directory (where the version number is real, e.g. **C:\VWD\\_V2.1.892.6290\**).

## 2.2 DAZ Studio Installation

First, install the core VWD Cloth & Hair program:

- From your same installation zipfile...
- From the zipfile's **...\installation\** folder, copy the **VWD** folder to a location of your liking. We highly recommend installing that folder in a hard-drive root folder like

**C:\VWD** (allows for quick access, and may prevent 'path' issues.)

- (Remember the location you've chosen... We'll need to browse there a bit later.)

Second, install the appropriate 32/64 bit VWD plugin(s) into your DAZ Studio program **plugins** folder(s) (not your content folders!):

- Extract the VWD Cloth & Hair program files from your installation zipfile.
- From the zipfile's **...\installation\VWD\DAZ\_Studio\_Files\Program\_4.10+\plugins\** folder, find the correct version of your **VWDEExchange\_x64.dll** or **VWDEExchange\_x32.dll** plugin file (64 or 32 bit):

**...\installation\Program\_4.10+\plugins\VWDEExchange\_x64.dll** on 64bit systems

**...\installation\Program\_4.10+\plugins\VWDEExchange\_x32.dll** on 32bit systems

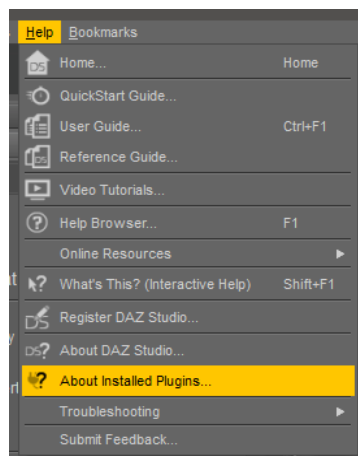
- Copy each to the proper DAZ Studio program's **plugins** folder.

typically **C:\Program Files\DAZ 3D\Studio4\plugins\** on 64bit systems

typically **C:\Program Files (x86)\DAZ 3D\Studio4\plugins\** on 32bit systems

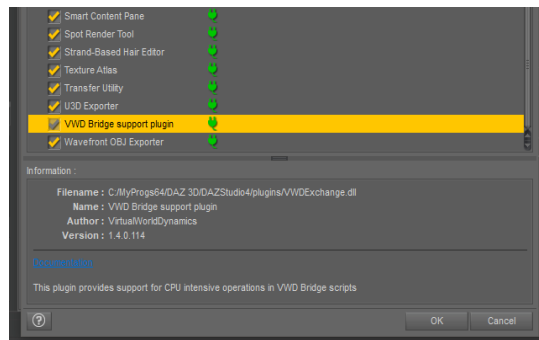
**Important:** If you have installed and/or used any of the VWD 2.x beta versions that required the **VWDEExchange.dll** files (note the subtle name difference!) in the **plugins** directory, please remove these files from your 32bit and/or 64bit DAZ Studio program's plugins directories as *they will conflict*.

If you restart DAZ Studio and this plugin is installed properly, in the main menu, the **Help->About Installed Programs...** menu...





find the VWD plugin in the list (near the bottom), which should look something like:



(See the troubleshooting section if you don't see the expected results - you may have a conflict with another similar plugin).

Lastly, install the User-Facing DAZ Studio Scripts and Documentation:

- From the zipfile's ...\**installation\My DAZ 3D Library** folder, find the **Scripts** and **ReadMe's** folders.
- Open (any one of) your DAZ Studio content libraries, and copy these two folders (**Scripts** and **ReadMe's**) into your preferred DS content library folders of the same name.

typically **C:\Users\Public\Documents\My DAZ 3D Library\**

Even if these target directories (**Scripts / ReadMe's**) already exists, this copy action will merge the folder contents, which is correct.

- **Note:** The program documentation and usage guides are located in the main VWD program's **Documentation** folder. (e.g. **C:\VWD\Documentation\**) and version-specific notes and issues are also located in the main VWD program's **\_V1.2.333.4444** directory (where the version number is real, e.g. **C:\VWD\\_V2.1.892.6290\**).

- If you restart DAZ Studio, or refresh the proper content library, you will see the new VWD scripts in (one of) the DAZ Content libraries, like:

**My DAZ 3D Library : Scripts : VWD : Cloth and Hair (V2.x)** content library folder:



### The scripts:

- ***Start VWD*** : This script launches the VWD Cloth & Hair main program. The main VWD Cloth & Hair program interface will appear on the right edge of the screen after a few moments. It will also prompt you to 'find' the main VWD program if its location is not known during the start-up attempt. This should only occur once.
- ***VWD\_Setup*** : This script lets you (re)configure the main ***Start VWD*** script to 'find' the VWD Cloth & Hair core programs on your system, and 'tells' the ***Start VWD*** script where they are. You should only need to run this one time after your installation, but you can run it whenever needed.
- ***Stop VWD*** : This script signals the ***Start VWD*** script program to stop interacting with the VWD program and exit. Because the ***Start VWD*** script normally exits when the user finishes running their VWD program simulations, this script only needs to be run when the communication between the VWD program and DAZ Studio gets out of sync – especially when the VWD simulation program exits abnormally.
- ***VWD\_Help***: This script opens up the VWD **Documentation** folder in a Windows Browser window, allowing you to view the available VWD documentation. This **Documentation** folder is found in the main VWD program installation folder, so this script will prompt for the user to find that directory if it hasn't already been located in any of the other VWD activities.

The first time you run ***Start VWD***, ***VWD\_Setup***, or ***VWD\_Help***, you will be prompted to locate your VWD program directory with a Windows file-system browser, where you must find and select your **VWDClothAndHair.exe** executable program (in your newly installed VWD program folder - e.g. **C:\VWD**)

## 2.2.1 Trouble-shooting (DAZ Studio Plugin):

If the DAZ Studio *help->about installed plugins...* dialog doesn't show the “*VWD's Cloth & Hair Bridge*” plugin as being present and active (green plug) down near the bottom of the list, none of the DAZ Studio VWD activities will work. You'll have to track down that plugin issue before you can do much else.

### DAZ Studio plugin conflicts:

- **Users of DAZ Studio 4.11 and above:** be sure to check-for *and remove* both the **VWDExchange.dll** and **VWDSupport.dll** plugins from the DAZ Studio program's **../plugins/** directory!

(e.g. **C:\Program Files\DAZ 3D\DAZStudio4\plugins\VWDExchange.dll** and/or **C:\Program Files\DAZ 3D\DAZStudio4\plugins\VWDSupport.dll** – just remove them.).

Neither version is useful since DS 4.11 was released and will only cause conflicts if either of those plugins is present. Depending on the architecture folder, you should only have the **VWDExchange\_x64.dll** and **VWDExchange\_x32.dll** plugins present in those directories.

- **Users of DAZ Studio 4.10 and below:** You should be able have the current V2.x release co-exist with *philemot's* great “*VWD to DS Bridge*” product for VWD V1.x. That product's plugin is called **VWDSupport.dll** and should be able to operate along with VWD's 2.x release (NOT the betas!) plugins should you wish to have both versions available.

**Note:** this bridge product will not work beyond DAZ Studio Version 4.10 due to updates they've made in their 4.11+ systems.

- Users of any of VWD's Cloth and Hair V2.x beta releases should simply remove any DLLs called **VWDExchange.dll** from their DAZ Studio plugins folders (both 32 and 64 bit), as these plugins are now obsolete and likely to cause conflicts.

### DAZ Studio users, Resetting the current path to the VWD main program directory:

In some cases, you may wish to reset your main VWD program directory and have the DS-based VWD scripts prompt you for the current location. From within DAZ Studio's Content library, in the VWD scripts folder, you can remove or manually edit the small text-file containing the path to the main VWD installation directory folder:

- Browse to your DS Content Library folder that contains the VWD Scripts.
- In DS, right-click on the window background to use the *Browse to folder* option.
- In that file browser window, remove (or edit) the **VWDDir** file (or **VWDDir.txt** if you show full filenames in Windows). This file contains the path to your VWD program directory and will be recreated the next time you use the **Start VWD** script.

- Optional: You can Choose this same **VWDdir.txt** file and manually edit the path if you wish (experts only!). Note that the path separators are backwards from the usual default Windows path separators. It should look something like: “**C:/VWD**” unless you've installed VWD in an alternate location.

## 2.3 The V1.x to V2.x Upgrade Utility

Users that purchase the VWD 2.x upgrade product to upgrade their original renderosity.com V1.x product receive an upgrade extraction utility program that will generate a complete installation zipfile package after finding and verifying the original Version 1.x **VWDClothAndHair.exe** program file. After that zipfile package is extracted, the normal VWD installation instructions will apply (full installation instructions are included).

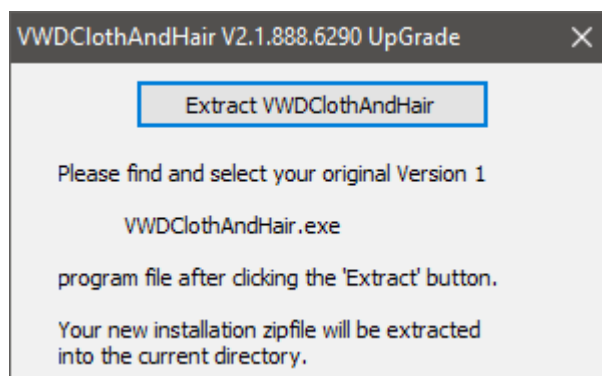
This upgrade utility simply verifies that you have a legitimate copy of the original VWD Cloth and Hair executable program (**VWDClothAndHair.exe**) on your machine. This V1.x executable program file does *not* have to be installed or located in any particular folder, it simply has to be available to the upgrade utility program for verification of ownership. Upon starting the extraction program, you will use a file-manager browser to locate and select this particular file for verification.

To use this extraction tool:

- Download the **VWDClothAndHairUpg\_V2.x.yyy.zzzz.zip\*** zipfile from your download source (your renderosity.com or VWD product library). Extract the content to a local working folder (e.g. your Windows Desktop should be fine). You should now have a new folder (**VWDClothAndHairUpg\_V2.x.yyy.zzzz**) containing the upgrade utility and some basic instructions and release information.
- In the newly extracted **VWDClothAndHairUpg\_V2.x.yyy.zzzz** folder, locate the **VWDClothAndHairUpg\_V2.x.yyy.zzzz.exe** program.

Note: Optionally, you can move or copy that extraction program to a workspace folder of your choice – somewhere you can extract and locate the resulting VWD installation zipfile (e.g. your Windows Desktop or any working folder). The extracted zipfile should only be around 25 Megabytes in size for a complete VWD V2.x installation, smaller if you have a partial update version.

- In your working space, run the **VWDClothAndHairUpg\_V2.x.yyy.zzzz.exe** utility program to open a window that looks something like:



- Click on the **Extract VWDClothAndHair** button, and use the browser to find your Version V1.1.522.3630 copy of **VWDClothAndHair.exe** and select it from that browser.

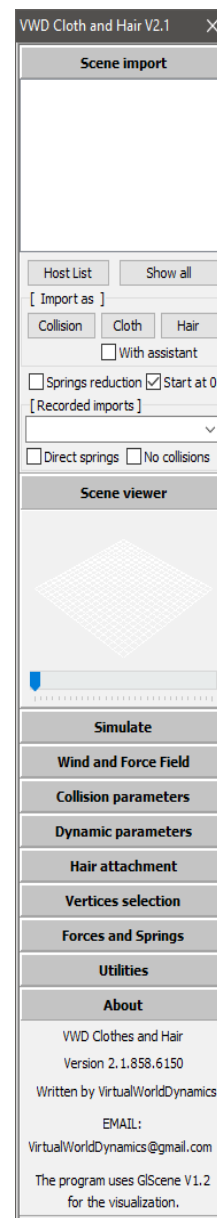
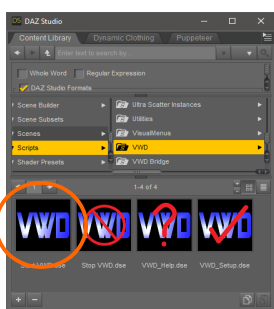
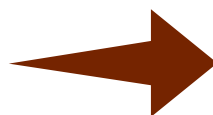
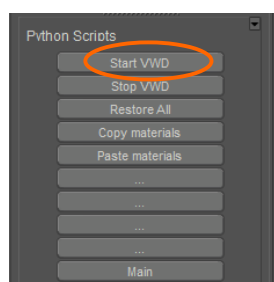
\* Note: Throughout this section, our version 'numbering' convention of V2.x.yyy.zzzz is simply a mechanism to generically describe the traditional versioning scheme that would use real version numbers and look something like V2.1.892.6290.

- If the selected VWD program file is the proper version, a new zipfile for the current version (**VWDClothAndHairUpg\_V2.x.yyy.zzzz.zip**) will be created in the local folder where you started the upgrade utility program, and you should be ready to start the 'official' installation process that precedes this section.

**Note:** It's probably a good idea to save a copy of the newly extracted installation zipfile in your favorite content backup location for future use and reference.

## 2.4 Testing Your Installation(s)

To start the VWD Cloth & Hair main program, find your newly installed host-application startup script (***Start VWD***), and run it.



If the program elements are installed properly, you should get a tall thin VWD program interface on the right side of your screen (see above). The ***About*** tab at the bottom of the interface should show the version you are running (the contents will differ from the above screenshot version).

### 3 Additional Resources:

After you've perused this VWD Program Manual to get a sense of the program's available controls and functions, you will probably want to follow some typical usage examples and view some video tutorials. Here's a list of the resources that are available at this time:

- The official program documentation and usage guides are located in the main VWD program's **Documentation** folder. (e.g. **C:\VWD\Documentation\**) and version-specific notes and issues are also located in the main VWD program's **\_V1.2.333.4444** directory (where the version number is real, e.g. **C:\VWD\\_V2.1.892.6290\**).
- **The VWD website resources page(s):** This should always be the best and most current source of the available VWD resources. If there's information about the status, versions, help-files, tutorials, test-files, or any other VWD-related support assets, this should always be the first place to look.

<https://www.virtualworldldynamics.net/support/>

- **The VWD youtube page(s):** (demos, tests, and tutorials)

<https://www.youtube.com/channel/UCOpGh2GKgryXyMlbcTQ45dg/feed>

- **The VWD Patreon page:** This is where we'll share information, presets, and other VWD-related tidbits, news, and resources.

<https://www.patreon.com/VWD>

- **The VWD Usage Guides:** Usage guides that show real-world examples of the techniques that can be used to produce various effects using VWD's various capabilities. While these should be included in your installation package, it is likely that we might update them (without notice) with corrections and new tricks and techniques. Follow the notes on the website, Patreon site, and/or Renderosity VWD forums to get word of such updates.

(See the VWD website support page up above for the latest versions of our Usage Guides)

- **The Renderosity VWD forums:** Our main product and information discussion users forum. User issues, product help and announcements, etc., are all consolidated here.

[https://www.renderosity.com/mod/forumpro/?forum\\_id=12511](https://www.renderosity.com/mod/forumpro/?forum_id=12511)

- **Availability:** The available suite of VWD products are currently offered at renderosity.com:

<https://www.renderosity.com/mod/bcs/vendor/VirtualWorldDynamics>

Any other resources that we add or any changes we make can be found via the **support** page on our website (<https://www.virtualworldldynamics.net/support>).