DESim Installation Guide

For Quartus® Prime

1 Introduction

The *DESim*® application provides a graphical user interface (GUI) that represents some of the input devices and output displays on a DE-series board that features an Altera® FPGA device. This GUI serves as a "front end" to the *ModelSim* (or *Questa*) HDL simulator. Hence, before using *DESim* you must first install *ModelSim* (or *Questa*) onto your computer. Instruction for installing *ModelSim* (or *Questa*) are provided on the `Software` tab of the website FPGAcademy.org.

After installing your Simulator software, you should follow the process described below to download and configure the *DESim*® application. From the `DESim` section of FPGAcademy.org, download onto your computer the file named *DESim.zip*. Then, *extract* the contents of this *archive* into a folder of your choice. For example, if you use a folder named `C:\DESim`, then it will appear as shown in Figure 1.

2 Configuring the DESim Application

To start the *DESim* application, you execute the *batch* script named *DESim_run.bat*, which is listed in Figure 1. But you should first open this script file to *configure* the *DESim* application. Since it is a plain ASCII text file, you can open *DESim_run.bat* using any editor of your choice. A few of the key statements in this file are shown in Figure 2.

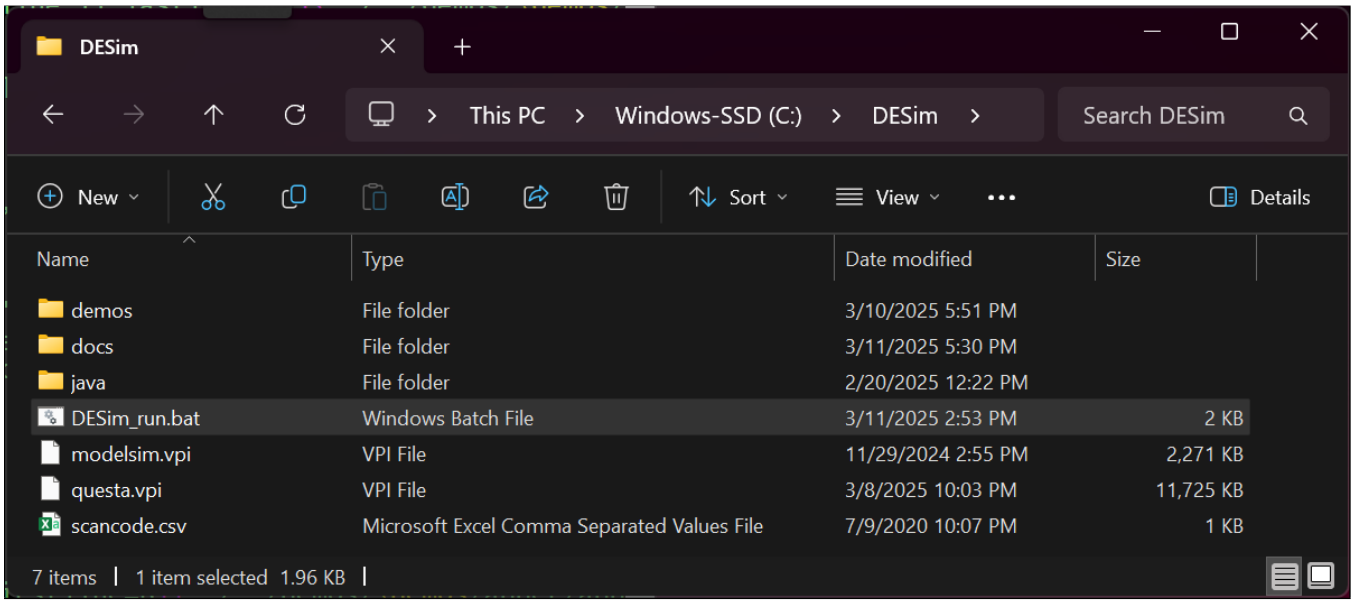

Figure 1. The *DESim* folder.

```
1  REM There are several options that you can select in this file.
2  REM Use the REM keyword to exclude/select your desired options.
3
4  REM Specify whether DESim should use ModelSim, or Questa:
5  set DESimulator=modelsim
6  REM set DESimulator=questa
7  ...
15 start java\bin\javaw.exe -m DESim/GUI.Main
16 ...
25 REM start java\bin\javaw.exe -m DESim/GUI.Main --simulator-path=<SimulatorPath>
26 ...
```

Figure 2. The *DESim_run.bat* script.

Lines 5 and 6 of Figure 2 allow you to specify whether you are using the *ModelSim* or *Questa* simulator. If you are using *ModelSim*, which is the default, then this setting should be left unchanged. But if you are using *Questa*, then insert `REM` to "comment-out" Line 5 and remove the `REM` keyword on Line 6 to select *Questa*.

The default setting provided in Line 15 starts the *DESim* GUI. This statement assumes that your Simulator can be found without specifying its location in the filesystem, meaning that the Simulator's location is included in your operating system's *Path* environment variable. If your computer is set up in this way, then you should keep this setting. But if your *Path* environment variable does not include the location of your Simulator, then you should "comment-out" with `REM` Line 15 and instead use the statement in Line 25 to start *DESim*. Remove the `REM` from Line 25 and replace `<SimulatorPath>` with the actual location of the folder where you have installed your Simulator.

In most cases you will not need to make any other changes to *DESim_run.bat*, and you should be ready to execute this batch script to start *DESim*. Complete instructions for using the *DESim* application are provided in the *docs* folder listed in Figure 1, and also in the `DESim` section of FPGAcademy.org.

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