

DrivExpress Installation and License Setup Guide

System Requirements

Altera

Quartus II 12.0 (including all service packs and patches)

Simulator

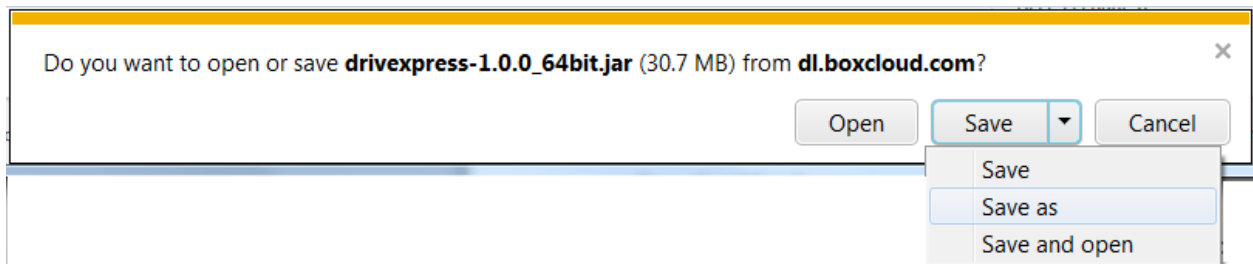
MentorGraphics simulators including: ModelSim Altera Starter Edition (ASE), ModelSim Altera Edition (AE), ModelSim PE/SE/DE 10.1a or later, Questa Sim 10.1a or later

OS

Microsoft Windows 7, RedHat Enterprise Linux 5 and 6, CentOS 5 and 6

Installing on Windows

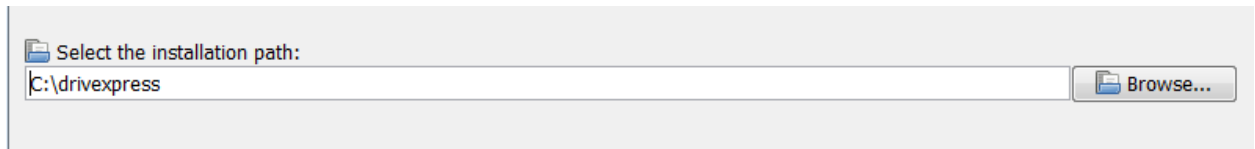
1. [Download the installer](#) for your **simulator** platform, 32-bit or 64-bit. **Note:** ModelSim-Altera (Starter) Edition is 32-bit.
2. When prompted, select *Save and Open* or *Open*. The DrivExpress installer .jar file will download and run.



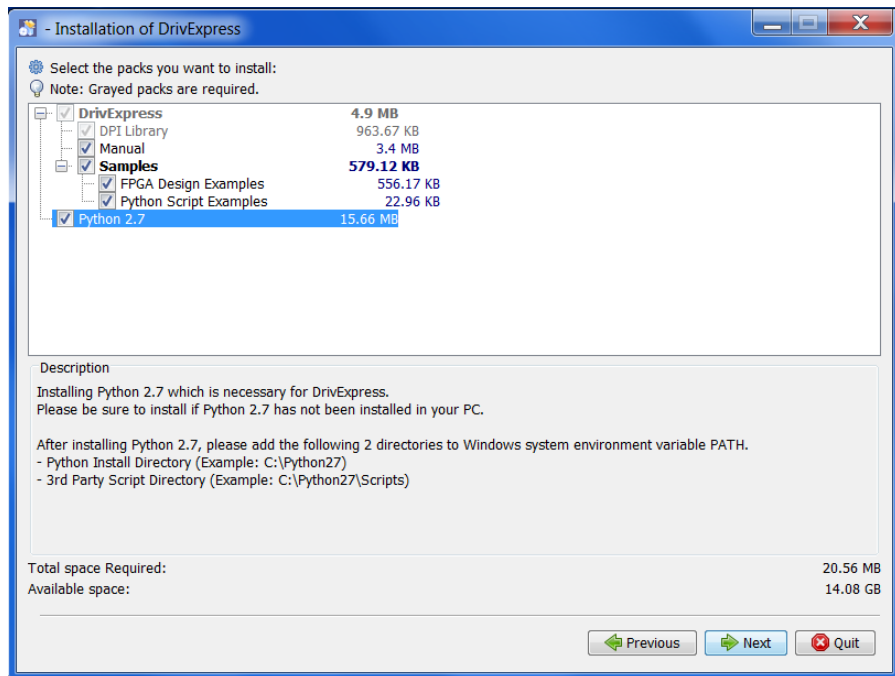
3. Continue to the Licensing Agreement. **Note:** by accepting the Licensing Agreement you agree to use DrivExpress to develop and debug designs **only on Altera FPGAs**.



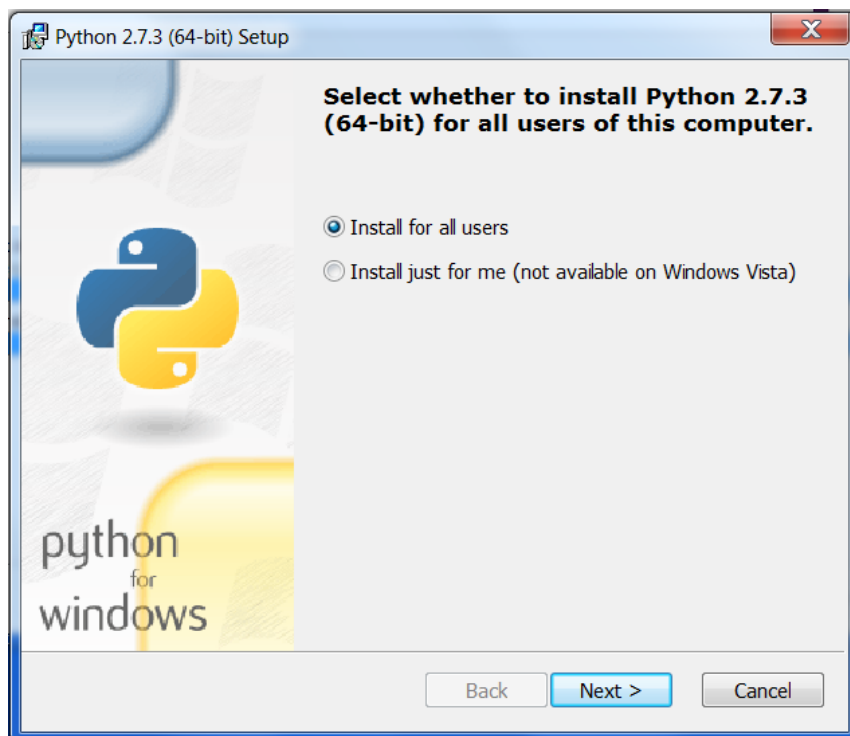
4. Select the installation path. **Note:** the installation path **cannot contain spaces**.



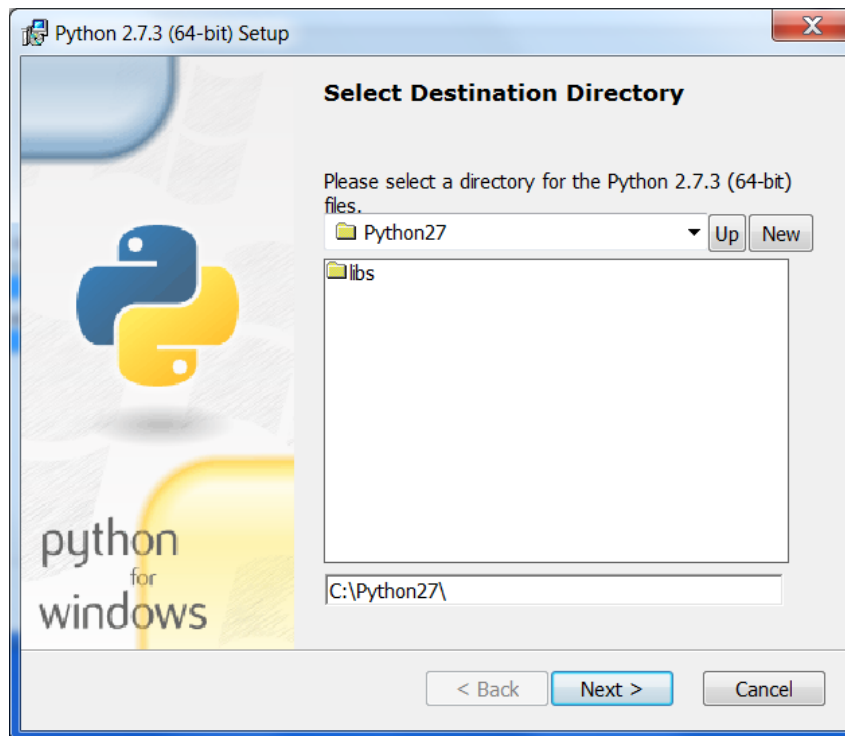
5. Select the installation components. **Note:** DrivExpress requires Python 2.7, which is an optional component in the installer.



6. DrivExpress will perform a quick installation, then run the Python installer. Select *Install for all users* then click *Next*.



7. Select the Python install directory and click *Next*.



8. We recommend a complete Python installation, which is the default setting. Click *Next*.



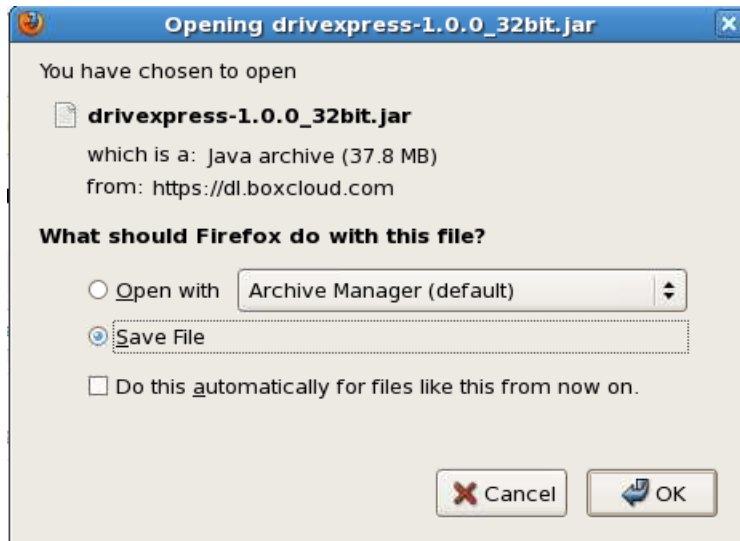
9. The Python installation will proceed. Clicking *Finish* will return to the DrivExpress installer. Click

Next.

10. The Information screen has details about environment variables, licensing, and getting started. Click *Next* then *Done* to finish the installation.

Installing on Linux

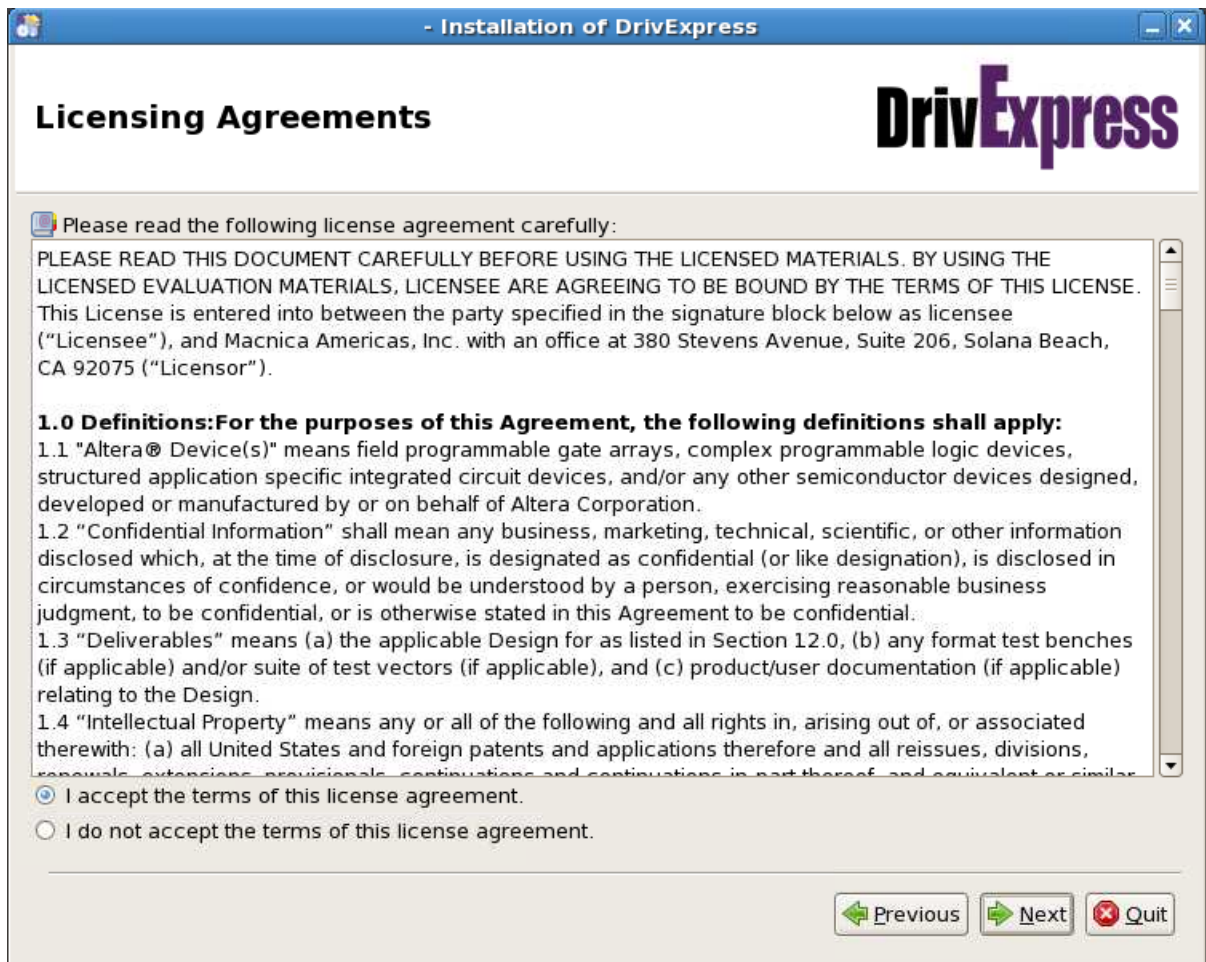
1. [Download the installer](#) for your **simulator** platform, 32-bit or 64-bit. ModelSim-Altera (Starter) Edition is 32-bit.
2. When prompted, select *Save*. The DrivExpress installer .jar file will download.



3. In a terminal window, cd to the directory containing the DrivExpress download, for example:

```
$ cd ~/Downloads
```
4. The installer is run using the java command:

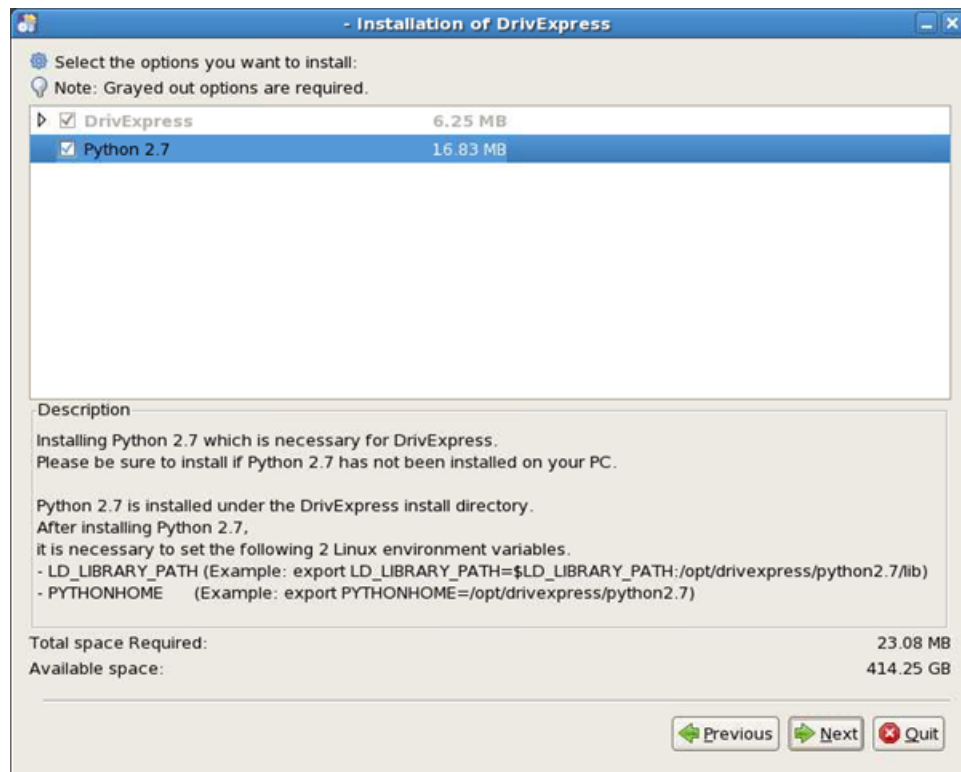
```
$ java -jar drivexpress-<version number>.jar
```
5. Continue to the Licensing Agreement. **Note:** by accepting the Licensing Agreement you agree to use DrivExpress to develop and debug designs **only on Altera FPGAs**.



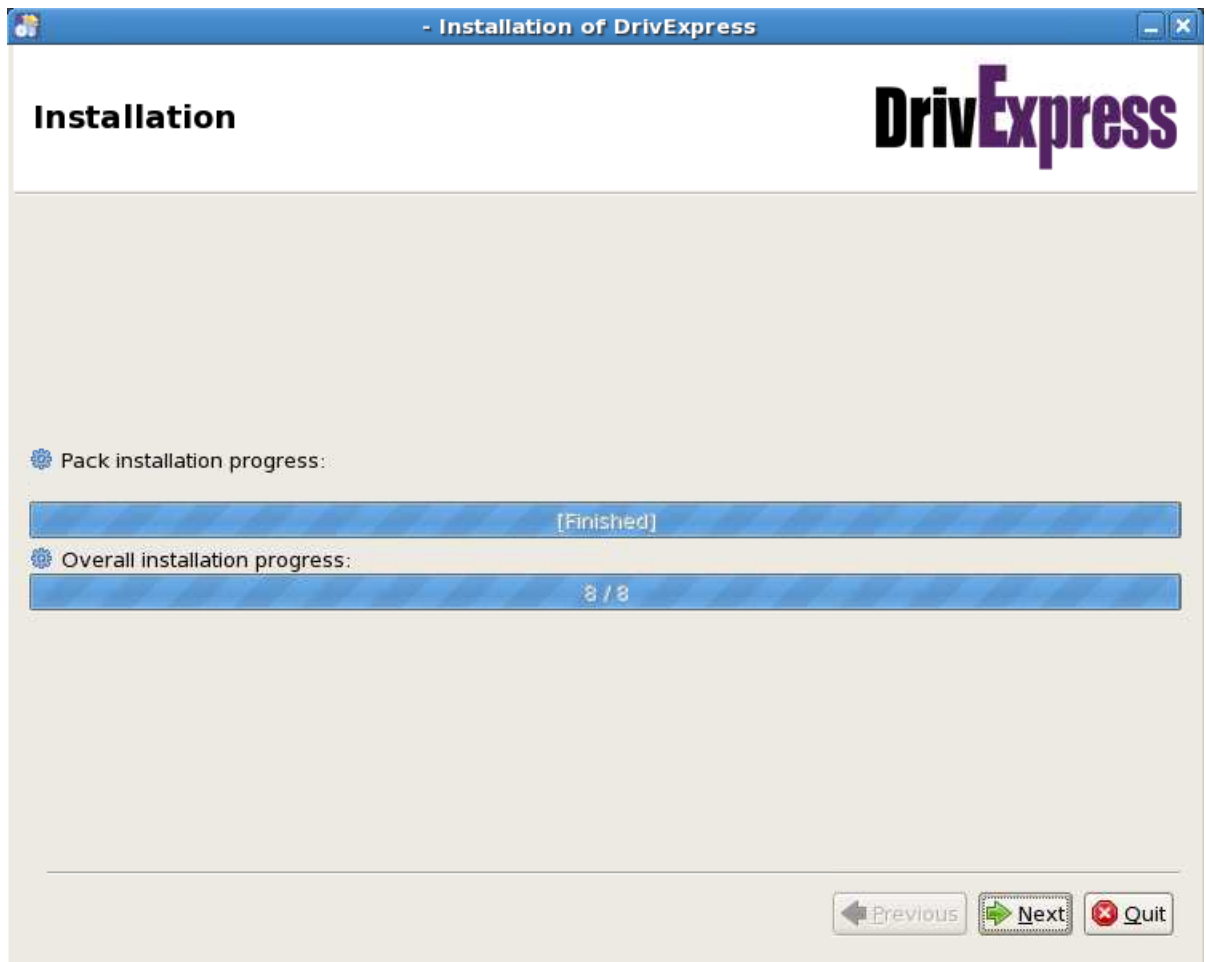
11. Select the installation path. **Note:** the installation path **cannot contain spaces**.

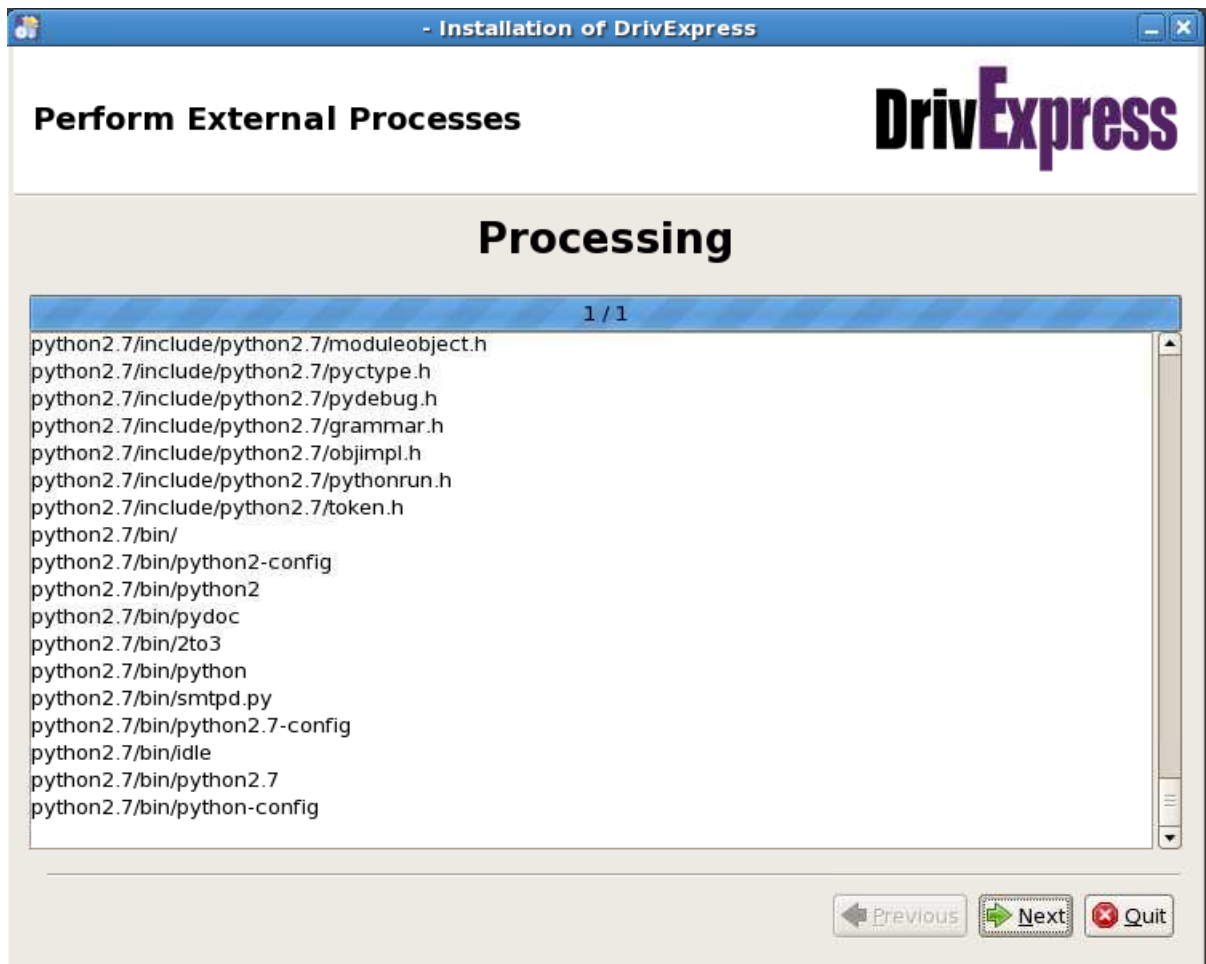


12. Select the installation components. **Note:** DrivExpress requires Python 2.7, which is an optional component in the installer and will likely be required by all RHEL/CentOS 5/6 installations.

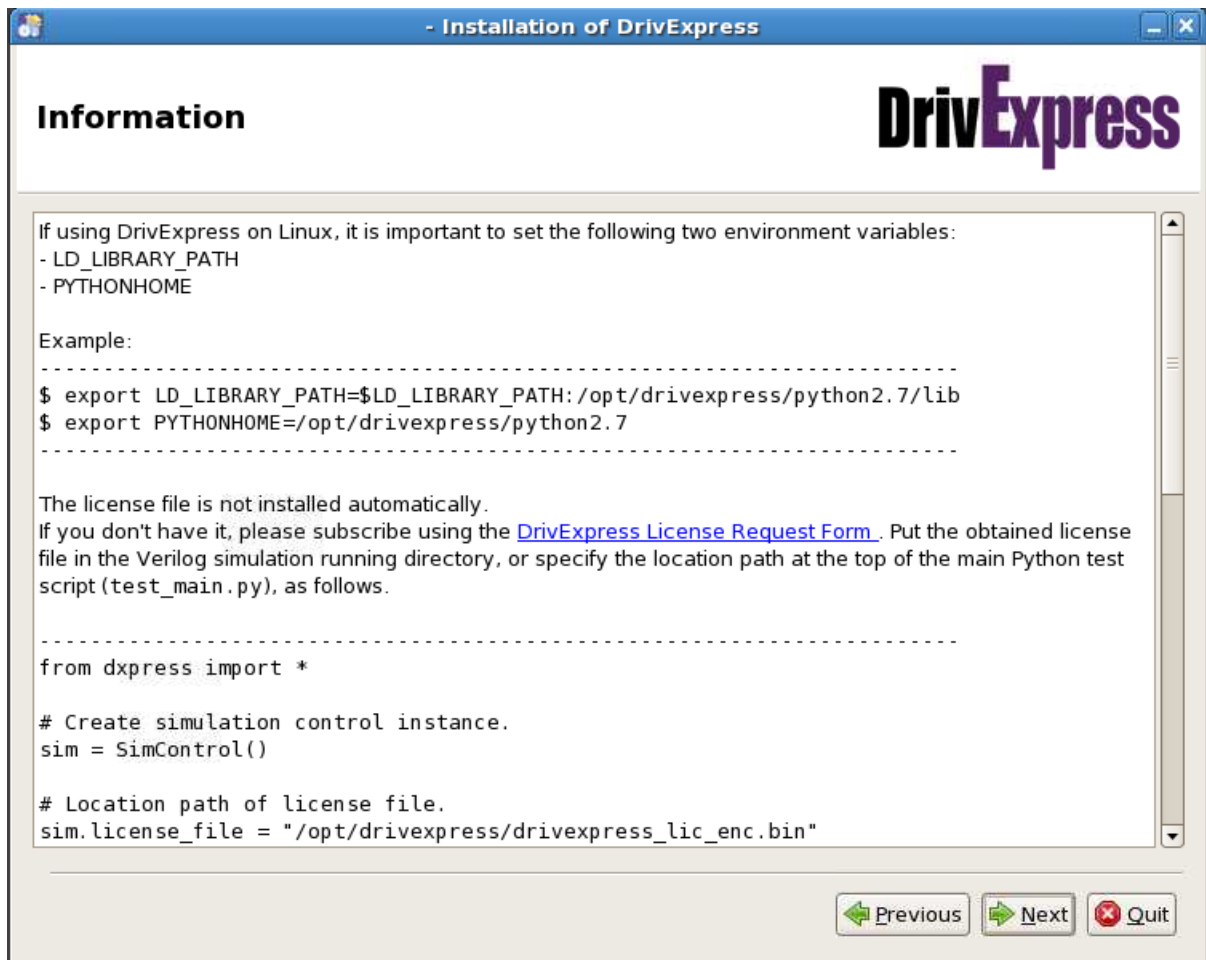


DrivExpress will perform a quick installation, then run the Python installer.

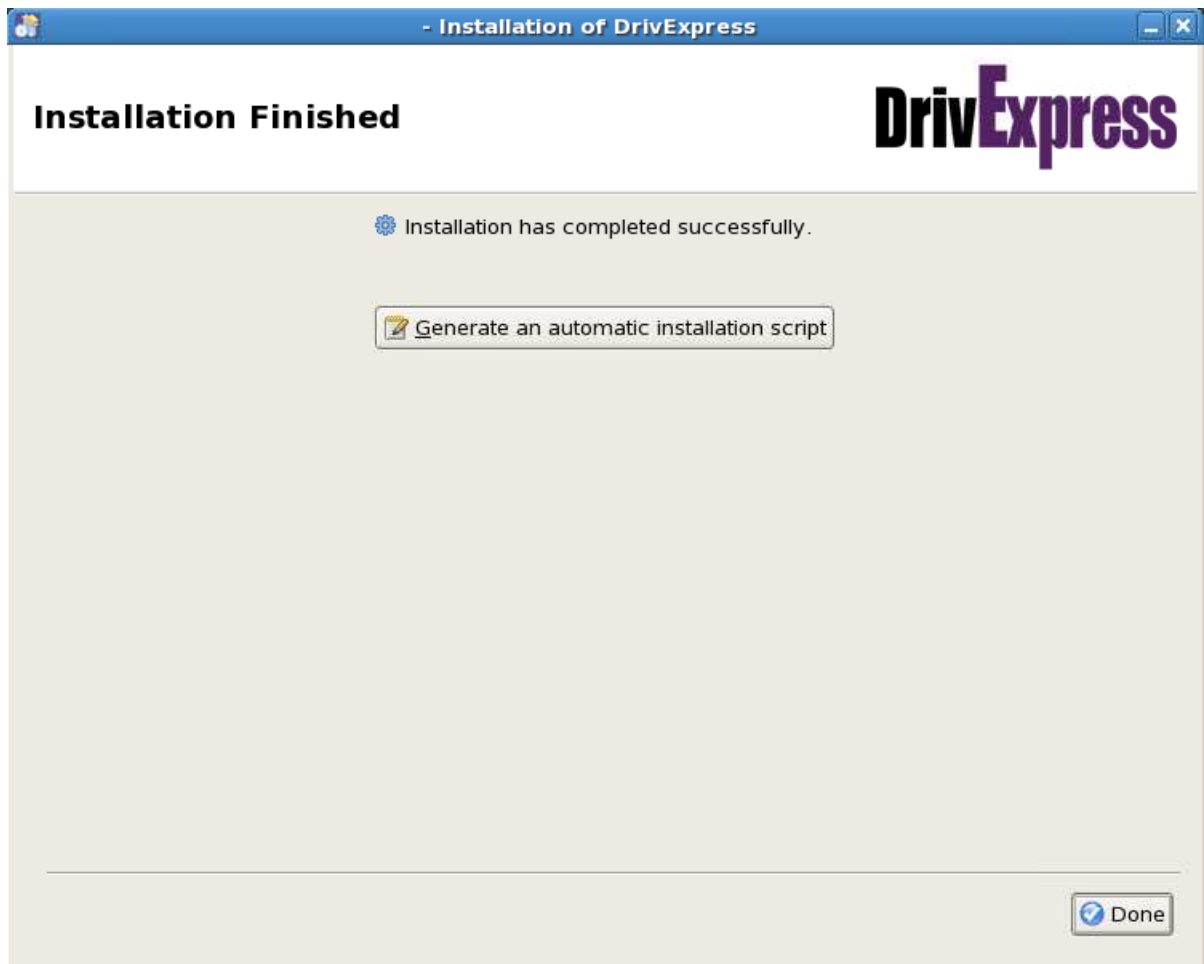




6. The Information screen has details about environment variables, licensing, and getting started.



7. The Generate an automatic installation script button creates an .xml file containing the parameters used in the current installation.



This can be used to run batch mode installations:

```
$ java -jar drivexpress-<version number>.jar <exported name>.xml
```

8. Click *Done* to close the installer.

Licensing

Each time DrivExpress runs, it looks for a license to check feature availability. A valid license file must be specified in the main DrivExpress python script or DrivExpress will not run.

1. To request a license, contact your local Macnica sales representative or use the [online license request page](#).
2. Fill out the form. The [DrivExpress page](#) has a comparison of the 3 Editions.

Macnica Americas Technology

Request a DrivExpress license

Please fill out the information below to get your license.

Name *

First
Last

Email *

Company *

Company Address *

Street Address

Address Line 2

City
State / Province / Region

Postal / Zip Code
Country

DrivExpress Edition *

Operating System Preference *

Simulator Preference *

Comments

- Evaluation licenses will be generated within 24 hours. Other licenses will be generated after the transaction is complete. Macnica sales will contact you as required.
- You will receive your license via email. Save *drivexpress_lic_enc.bin* to the root directory of the DrivExpress installation. This is the location checked by the sample design. **Note:** Do not rename the file.

Additional Licensing Information

- When creating a new design, the location of the license file can be specified. Begin the Python simulation script with the below code, with <path to license file> filled out. **Note:** always use a forward slash “/”, not a backslash “\”, regardless of the operating system.

An example path on Windows:

```
sim.license_file = "c:/drivexpress/drivexpress_lic_enc.bin"
```

Python simulation script starting point:

```

from dxpress import *
sim = SimControl()
sim.license_file = "<path to license file>"

```

Running the Sample Design

The DrivExpress installation includes a sample which simulates Altera's Chaining DMA reference design on a Stratix IV GX FPGA. It can be found in *<DrivExpress installation>/sample*.

By default, the design simulates a Gen2x4 End Point. This can be changed by editing *pcie_gen* to 1 or 2 and *pcie_lane* to 1, 4, or 8 in *<DrivExpress installation>/sample/design/build_run.do*.

Running the Sample

1. Place a copy of the license file in the DrivExpress installation directory (see Licensing section).
2. Make sure the environment variables are set correctly:
 - a. **Windows:** Start Quartus II 12.0 (including all service packs and patches). This will set up the QUARTUS_ROOTDIR environment variable used by DrivExpress.
 - b. **Linux:** Set the environment variables mentioned in the installer including:
 QUARTUS_ROOTDIR=<Quartus 12.0 installation>
 LD_LIBRARY_PATH=<DrivExpress installation>/python2.7/lib
 PYTHONHOME=<DrivExpress installation>/python2.7
3. Start ModelSim or Questa Sim via the GUI or by running *vsim*.
4. Change to the directory: *<DrivExpress installation>/sample/design*
5. Type *do build_run.do*. This script will automatically compile the library files if necessary, generate the Chaining DMA example, and run the design.
6. Once the simulation is complete, you will should see a message similar to this in the console:

```

# *****
# DRIVEXPRESS TEST RESULT <PASSED>
# -----
# Total Errors      : 0
# Total Warnings    : 0
# Total Informations : 442
# *****

```

7. We recommend exploring the example *.do*, *.py*, and *.v* files to learn about DrivExpress.