

User Guide for Windows 7

This paper contains practical information for students attending the PhD Summer school 2011, May 2011. After reading this, you should be able to compile and run the exercises using Microsoft Visual Studio 2008 installed on the machines in the VR-databar.

Access to work stations

Work stations that can be used for completing the exercises are equipped with Microsoft Windows 7 and NVIDIA Quadro FX 5800 graphics cards. The lab is located in room 017 in Building 305. If you do not have a DTU login, you need to contact a teacher to receive a guest account. If you use a guest account, make sure to store your files on a removable disk, since there is no home network drive.

Setting up Microsoft Visual Studio

When booting the computer, you will be presented with a couple of options. The first option which is **Boot from hard disk** will boot Windows, this option will automatically be selected after 10 seconds. After you have logged in, download the exercises from the CampusNet course page (see the link below). Unpack the exercises and double click on `..\GPUexercises\GPUexercises.sln`. If this is your first time to start Microsoft Visual Studio, you need to choose your preferred environment setup (we recommend C++). All of the exercises are gathered in this solution file and should appear in the Solution Explorer. Right click on the project `MatrixMultiply` and select *Set as StartUp Project*. The solution is now ready to build by pressing F7. If everything builds, you can run the first exercise by pressing F5 (use ctrl+F5 for the console window to stay open).

If you add new C or C++ with CUDA syntax you might need to add the CUDA include directories to your Visual Studio environment, click *Tools*→*Options*, unfold *Projects and Solutions* and select *VC++ Directories*. In the right drop down select *Include files* and add both `$(CUDA_INC_PATH)`; and `$(NVSDKCOMPUTE_ROOT)\C\common\inc` to the list. See the Figure 1 for help.

Be aware that changes to only kernel files are not automatically detected and compiled, so you need to right click the project and select 'Rebuild' for your changes to take effect.

Syntax highlighting can be added for `.cu` files by going to *Tools*→*Options*→*Text Editor*→*File Extensions*, and adding `.cu` with editor-type defined as Microsoft Visual C++.

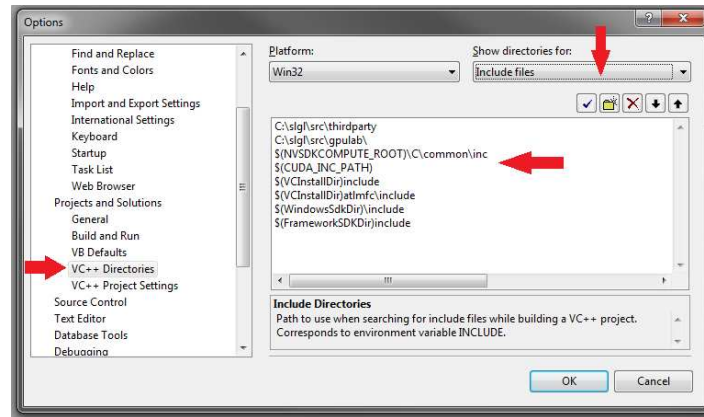


Figure 1: Add the CUDA include paths here.

Compute Visual Profiler

The Compute Visual Profile can be found in the start menu `\Programming\NVidia\CUDA Toolkit\v3.2\Compute Visual Profiler\`

Access to Exercise

All exercise will be available online from the CampusNet course page (<http://gpulab.imm.dtu.dk/PhDschoo12011/Materials.html>). The downloaded file will by default be stored in the Downloads folder in the home directory, so click on **Places** and then **Downloads**. Simply extract the file by right-clicking it and choosing **Extract here**.