alpaka Parallel Programming - Online Tutorial

Lecture 00 - Getting Started with alpaka

Lesson 05: Testing Your alpaka Installation



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Running the alpaka test suite

- Reconfigure your build directory (created in the previous lesson): cmake -DBUILD_TESTING=ON -DCMAKE_BUILD_TYPE=Release ...
- Build the test suite (note the dot). Adjust the number of parallel compilation jobs to your number of CPU cores and available RAM (requires ~2.5 GiB of **free** memory per job): cmake --build . --parallel 2 --config Release
- Run the test suite: ctest -C Release
- Any errors? Please report them: https://github.com/alpaka-group/alpaka/issues



Accessing alpaka examples

• There are many examples in the example directory! You can build them all at once from your build directory:

```
cmake -Dalpaka_BUILD_EXAMPLES=ON -DCMAKE_BUILD_TYPE=Release ...
cmake --build . --config Release
```

Additional examples are available at https://github.com/alpaka-group/



Advertising your alpaka installation

Switch to the vectorAdd example (from the top-level source directory):

```
cd example/vectorAdd
mkdir build
cd build
```

- If you installed alpaka to a standard location (= default CMAKE_INSTALL_PREFIX): cmake -DCMAKE BUILD TYPE=Release ...
- If you installed alpaka to a non-standard location: cmake -DCMAKE_BUILD_TYPE=Release -Dalpaka_ROOT=/path/to/installed/alpaka ...
- Alternative: Set the CMAKE_PREFIX_PATH environment variable (note the missing alpaka):
 - Linux / macOS: export CMAKE_PREFIX_PATH=/path/to/installed
 - Windows: set CMAKE_PREFIX_PATH=C:\path\to\installed



Building the example

• Build the example (note the dot):

cmake --build . --config Release



Executing the example

- If everything worked correctly you should see the executable somewhere in your build tree: ls
 - Linux / macOS: CMakeCache.txt CMakeFiles cmake_install.cmake Makefile vectorAdd
 - Windows: The executable should be in the Release subdirectory of build. cd to the Release directory.
- Execute the example:

./vectorAdd

Expected output: Execution results correct!

Unexpected results? Please report them: https://github.com/alpaka-group/alpaka/issues



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