Introduction to the Boost C++ Libraries

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What is Boost?

- **A set of C++ libraries**
  - Free and open-source
- **Cover diverse aspects of development**
  - Things missing in STL
- **Portable**
  - Does not require 'modern' C++
  - Watch out for compiler issues
- **Widely used**
  - Forms the foundation of popular libraries (e.g. QuantLib)
- **Features keep migrating to C++**
  - Don't worry, they stay in Boost, too
  - Sometimes implementations differ

What's in the Course?

- **Bite-sized coverage of several Boost libraries**
  - Library overview
  - API overview
  - Implementation
- **This course uses**
  - Boost 1.55
  - Visual Studio 2013
- **Requirements**
  - Good knowledge of C++
  - A C++ compiler

Overview

- **Getting Boost**
- **Using Boost**
- **Building Boost (if necessary)**
- **Getting Help**

Getting Boost

- **http://boost.org**
  - Distributed in either source form or binary format
  - Compilation might not be required (more on this later)
- **Ports to other platforms**
  - E.g., iOS, Android, Blackberry
  - Not officially supported (require regression tests)
- **Check compatibility!**
  - E.g. VS2013 has issues with Boost 1.55

Building Boost

- **Boost is a header-only (.hpp) library**
- **Only a few libraries require you to *compile* boost**
  - ☐ Compiler will complain about missing library files
- **When compiling, you need to watch out for**
  - ☐ Compilers and compiler versions
  - ☐ Debug vs. Release
  - ☐ Bitness (32bit vs 64bit)
- **Warning: compilation takes a long time**
- **Own build system (Boost.Build)**
  - ☐ b2.exe is the runner
  - ☐ Compilation options provided as arguments

Getting Help

- **Boost documentation pages**

- **StackOverflow**

- **Any C++ community/group**

- **Boost mailing lists**
  http://lists.boost.org

- **Books**

Quick answers to common problems

Boost C++ Application Development Cookbook

Over 80 practical, task-based recipes to create applications using Boost libraries

Antony Polukhin

[PACKT] open source *
PUBLISHING   community experience distilled