FP @ TCD

Scala Module

roland@tritsch.org
glenn.strong@cs.tcd.ie

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What are we going to do?

- Lecture (90 mins)
  - Introduction to Scala

- Lab1 - Rewriting Java
  - Josephus problem

- Lab2 - Integrating with Java
  - Josephus problem using Apache commons

Why are we doing this?

- Functional programming is on the rise
  - Immutable data and side-effect free functions make development and maintenance of large, complex SW development projects more manageable
- Haskell is a very good way to learn FP
  - Green field, good concepts, clean, ...
- Right now in the industry Scala is the language of choice to move teams and larger chunks of source code towards FP
  - Scala allows phased adoption (rewrite, refactor, rethink)
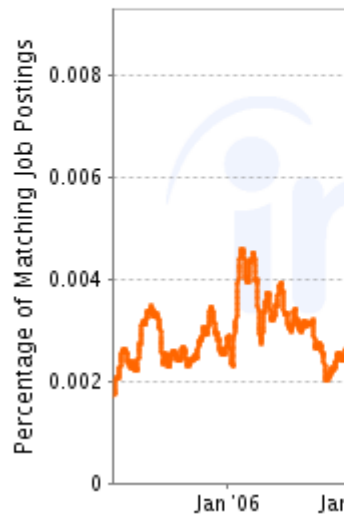 - Scala integrates well with existing Java code
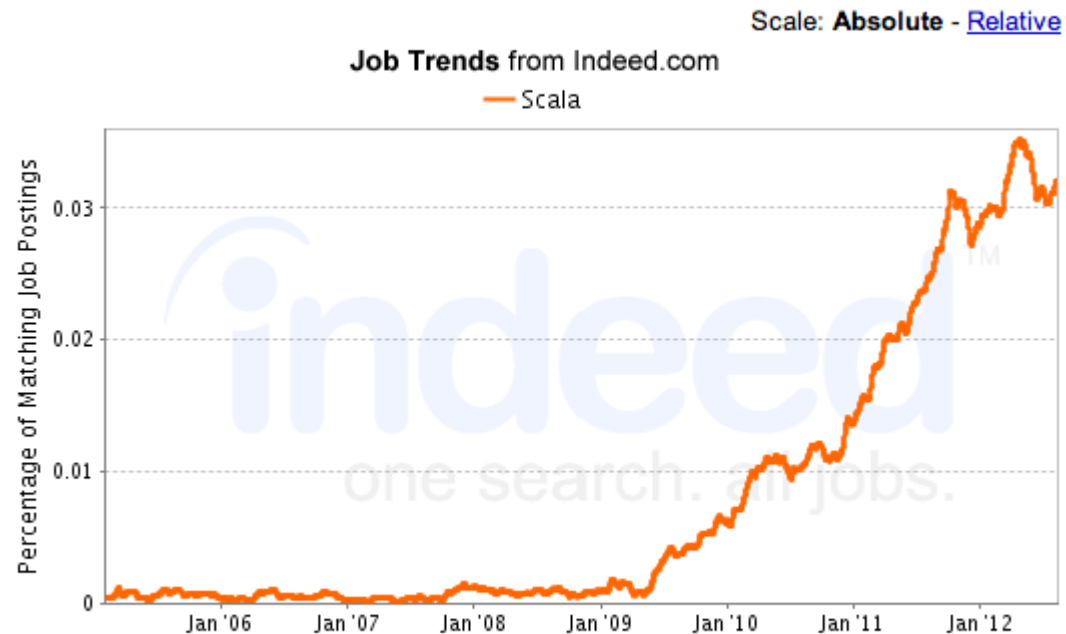
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Tools

- Git - Source code management

- SBT - Build tool/environment

- Scala - Repl, compiler, ...

- ScalaTest - TDD, BDD, ...

- IDE - Edit, debug, ... (IntelliJ, Eclipse, Emacs)

Objectives

- Kickstart you on Scala ...
  - ... so that you can continue on your own (if you want)
- Focus on the language and the dev env ...
  - ... not on FP concepts (you can get these from the rest of the course)
- Work with a minimal, but complete tool suite

Resources

- Learn - Scala Home Page
  - http://www.scala-lang.org/
  - Downloads, documentation, books, ...
  - Read Martin's book
- Learn - Coursera Prog Func 2012
  - https://class.coursera.org/progfun-2012-001
- Play - Scala Puzzles
  - http://scalapuzzles.org
- Play - 99 Scala Problems
  - http://aperiodic.net/phil/scala/s-99/

Ready?