Scala workshop

whoami

- Agata Przybyszewska
  - Phd i matematik/datalogi.
  - Enterprise Arkitekt
  - Instruktør at Lund&Bendsen
  - Email: agata@lundogbendsen.dk

- Specialist i integrationsarkitektur, sikkerhed, SOA og REST.

About

- Introductory course
    - Scala programming language
    - Functional design patterns
- The participants will learn how to use the Scala language, and how to best benefit from the functional programming style.
- The course is taught **work**shop style, where theory and slides are mixed with lots of practical hands-on exercises.
- Emphasis is put on design thinking and group exercises.
- We challenge the students with games and role playing exercises, to reinforce key concepts.

Course Contents

- Scala language basics - control structures, classes and objects, basic types
- Using the REPL
- Unit testing
- Building (sbt and gradle)
- Interoperability with Java
- Functional objects, Functions and Closures
- Composition and Inheritance, Traits
- Pattern matching, case classes
- Type inference, conversions
- Higher order functions
- Collection API
- OO meets functional programming - patterns and best practices
- Mutable vs immutable
- Pure vs Side Effects

Practicalities

- 2 day course, 09-16
- Lunch break 12-13
- Course content on Github:
- USB with Eclipse + Scala plugin, gradle, sbt

Let’s get started

- Open the Scala REPL
- Type a few expressions - what is 1+1 today?
- :q to quit

```
# open a shell and type
Agatas-MacBook-Pro:learning_scala agatanoair$ scala
Welcome to Scala 2.12.4 (Java HotSpot(TM) 64-Bit Server VM, Java
1.8.0_74).
Type in expressions for evaluation. Or try :help.

scala>
```

Expressions

- Primitive: 1, true, “Hello”

```
scala> "Hello"
res3: String = Hello
```

- Compound: 1+2

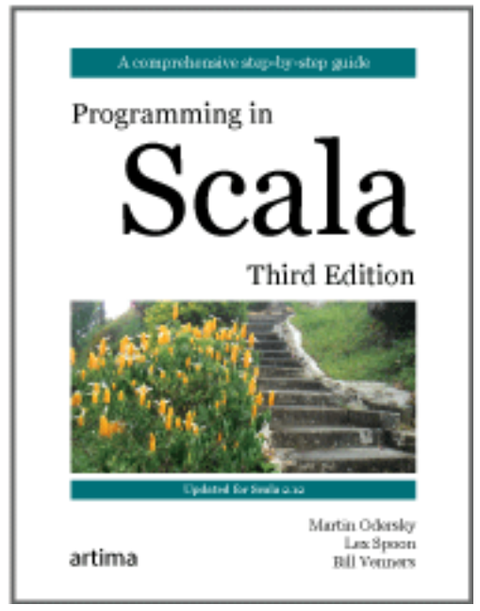
```
scala> 1+2
res0: Int = 3
```

- Evaluation: left -> right

Recommended reading

- Online tutorial: https://docs.scala-lang.org/tour/tour-of-scala.html

- Book: Programming in scala, 3rd edition



- Coursera: https://www.coursera.org/learn/progfun1/home/welcome

- Twitter's Scala School: https://twitter.github.io/scala_school/

- Scala koans: http://www.scalakoans.org/

Lab 00

Inspect the tools:

- JDK
- Scala
- Eclipse
- REPL
- sbt
- gradle

```
# Check out the course content from the USB
Lab 00
```