

Advanced Scala Programming

Course Outline

1-- Building with sbt

- Creating projects
- Commands
- Build definition files
- Dependencies
- Building a workflow

2 – Working with Types

- require and assume
- Inheritance and case classes
- Review of traits
- The Product trait
- Type Constructor Polymorphism
- Covariance and contravariance
- Type bounds

3 – Functional Programming

- Tail Recursion
- @tailrec
- Currying and Partial Function Application
- Closures
- Partial Functions
- Lazy evaluation
- collect

4 – Collections

- Mutable and immutable collections
- Scala vs Java collections

- Iterators
- Working with Streams
- Manifests and class tags

5 – Pattern Matching

- Deep Matching
- Using Extractors
- Using regular expressions
- The @switch annotation

6 – Implicits

- Implicit arguments
- implicitly
- Implicit conversions
- Context and view bounds
- Type classes

7 – Functional Exception Handling

- Traditional exception handling
- Problems with exceptions
- A functional alternative – Try
- Using Try with for comprehensions