Scala Fundamentals Workshop

Presented by: Philadelphia Area Scala Enthusiasts (PHASE)

Introduction

PHASE is proud to bring you its first formal training event for the fastest growing programming language on the planet.

The instructors for this event have been carefully selected from the Philadelphia technology community and all are experienced Scala developers as well as seasoned presenters.

Your organizers and instructors for this event are all volunteers and represent themselves and not their respective organizations.

Prerequisites

Attendees are expected to have programming aptitude and experience, but there are no Scala or Functional Programming prerequisites. **Any** programming experience in **any** language is sufficient to participate in the workshop.

Venue

A special thank you to the Cerner Corporation for providing the venue for this event.

51 Valley Stream Parkway
Malvern, PA 19355
Map

Entry

All people attending the workshop **must** enter the **Building I** from the MAIN entrance at 51 Valley Stream Parkway. The main entrance offers attendees a wealth of visitor parking spaces. Event organizers will be at the door on Saturday morning to greet the attendees and direct them to the auditorium for the workshop. Signage will be posted throughout the buildings to guide people on their way.

Transportation

If you require transportation from the Paoli train station to the venue, please contact the organizers and they will coordinate with you to make the appropriate arrangements.

There is ample free parking for those arriving by car.

What to Bring

Laptop

Attendees should bring a personal laptop so that they may follow along with the exercises and instruction. Wireless Internet access will be provided.

Computers will NOT be provided.

Software

Please make sure you have a recent copy of either Chrome or Firefox. The workshop will be conducted entirely using browser-based tools. Specifically, attendees to not need to install Scala or SBT to participate in this workshop.

Databricks Community Edition account

Please sign up for a Databricks Community Edition account (databricks.com/ce) before the class. We will be doing our training on that platform.

The instructors will be presenting using Scala notebooks created on this platform.

If you can, please spend a little time familiarizing yourself with the platform. But don't worry too much: We'll be going over it, briefly, at the beginning of the workshop.

You can find a cheat sheet at http://tinyurl.com/databricks-cheat-sheet

Schedule

8:30 - 9:00 Breakfast

9:00 - 9:05 Welcome

9:05 - 10:05 Basic Types and Expressions

Presented by: Sujan Kapadia
Basic types and expressions
Numeric Literals and Strings
Values, Vars
Immutability and Mutability
Referential Transparency For Values
Object Equality
String Interpolation
Conditionals
Blocks, Blocks as Expressions
Tuples
Exposure to ScalaDocs and Language Specification

10:05 - 11:05 Functions

Presented by: Brad Miller

11:05 - 11:20 Break

11:20 - 12:20 Collections & Option

Presented by: Martin Snyder
Filter
Map
Flatten
FlatMap

12:20 - 1:15 Lunch

1:15 - 1:45 Miscellany

Presented by: Marcus Henry
Namespaces

Packages
Import mechanics including aliasing
Package objects
Types: Any, AnyRef, Nothing
What's the point of Any and Nothing?

1:45 - 2:45 Classes, Traits and Objects

Presented by: Brian Clapper

2:45 - 3:00 Break

3:00 - 4:00 Case Classes, Pattern Matching, and ADTs

Presented by: Michael Pilquist
Case classes
Apply methods
Pattern Matching
Algebraic Data Types

4:00 - 5:00 For Comprehensions

Presented by: Marcus Henry

5:00 - 5:05 Closing Remarks

Instructor Bios

Brian Clapper (@BrianClapper / LinkedIn)

Brian currently works at Databricks, leading curriculum development, managing instructor preparation, and doing occasional Apache Spark application development. He also has his own consulting company, ArdenTex, and, prior to taking the position at Databricks, worked as an independent consultant for 7 years. Brian has more than 30 years' experience developing software, both frontend and backend, across many industries. He founded and co-organizes the Philly Area Scala Enthusiasts (PHASE) Scala user group. He is also a co-organizer of the annual Northeast Scala Symposium and has served on the organizing committee for the Philly ETE conference.

Marcus Henry (@DreadedSoftware / LinkedIn)

Marcus Henry is a Software Developer for Integrichain, a company which provides actionable data insights for the life sciences. He develops mostly in functional Scala to deliver responsive, multi threaded solutions using Akka, Futures and FS2.

Sujan Kapadia (@SujanKapadia / LinkedIn)

Sujan loves building products, leading teams, and fueling growth and innovation. The creative process behind product design utterly fascinates him. As a leader he strive to enhance focus, bandwidth, and feedback believing those to be the keys to unlocking a team's full potential and happiness.

His experience spans a range of industries: Pharma, Defense, Finance, Cable / Telecom, E-commerce, and Education.

Brad Miller (Blog / LinkedIn)

Brad is a veteran software developer with expertise across a wide range of technologies. He has written software in Java, Scala, C#, and Python with a variety of databases and has deep experience in the design and implementation of concurrent, loosely coupled, scalable applications and processing large (terabytes) data sets in a big data environment. Brad's current work involves the implementation of an actor system in Scala and Akka for an enterprise-wide data synchronization platform. Brad's computing interests include reactive programming, graph processing, event-based actor frameworks, publish-subscribe architectures, web-scraping, bot development, and functional programming.

Michael Pilquist (@MPilquist / LinkedIn)

Michael Pilquist is the author of Scodec, a suite of open source Scala libraries for working with binary data, and Simulacrum, a library that simplifies working with type classes. He is also a committer on a number of other projects in the Scala ecosystem, including Cats and FS2. He is also the chief software architect at Combined Conditional Access Development (CCAD), a joint venture between Comcast and ARRIS, Inc., where he is responsible for the design and development of control systems that manage tens of millions of cable system devices, including set-top boxes and head-end equipment.

Martin Snyder (@MartinSnyder / Blog / LinkedIn)

As Chief Technology Officer for Wingspan Technology, Inc., Martin is responsible for technology and software engineering leadership. He brings over 20 years of experience as an executive and architect for enterprise applications, integration, and document management for global enterprise applications. Wingspan creates document management applications for regulated industries.

Prior to joining Wingspan, Martin founded and operated Ethermoon Entertainment, a video game development company and was the CTO of Apricus, a clinical data company. He has held leadership positions in Philadelphia, Boston, and Silicon Valley. Martin has also published and presented on a variety of topics over the years, most recently on the Scala programming language and Functional Programming.

Martin is active in the Philadelphia software development community serving as an organizer for Philly JUG, PHASE, Philly ETE and the Northeast Scala Symposium. Martin graduated from Cornell University and holds a BS in Computer Science.