



Scala Course for non-Java developers

16 hours

Overview:

Scala course will teach you the key language concepts and programming techniques you need. Scala is a programming language that is a superset of Java, blending the object-oriented and the functional programming paradigms. The language is complex and could take a semester or more to master. This class focuses only on the basic elements that are necessary to be able to program in Spark.

Course objectives:

- What Scala is and how it differs from languages such as Java or Python
- Why Scala is a good choice for Spark programming
- How to use key language features such as data types, collections, and flow control
- How to implement functional programming solutions in Scala
- How to work with Scala classes, packages, and libraries
- Working with libraries

Who should attend:

OOP developers

Required Skills:

Basic knowledge of programming concepts such as objects, conditional statements, and looping is required. Basic knowledge of Linux is assumed.

Course Contents:

Java Concepts for Scala Programming

- Introduction to Java: History, Platform
- Java for C/C++ developers
- Conventions
- Development/Compile/Runtime environments
- The Java API
- Classes, Objects, Built-In classes
- Instance Fields/Methods, Constructors
- Inheritance
- Overloading and Overriding
- Inheritance
- Abstract Classes, Interfaces
- Polymorphism
- Java Collections



Scala Overview

- Introducing Scala
- Scala's Role in Distributed

Data Processing

- The Motivation for Scala

Scala Basics

- Key Scala Concepts
- Programming in Scala
- Putting Scala Basics to Work

Working with Data Types

- Overview of Scala Variables
- Operating with Numeric Types
- Building Boolean Expressions
- Working with Strings

Grouping Data Together

- Storing Elements of Different Types
- Overview of Scala Collection Types
- Creating a Collection of Unique Elements
- Fast Access to Head of Collection
- Fast Access to Arbitrary Elements
- Fast Access with a Key
- Common Collection Type Conversions

Flow Control in Scala

- Looping
- Using Iterators
- Writing Functions
- Passing Functions as Arguments
- Collection Iteration Methods
- Pattern Matching

- Processing Data with Partial Functions

Using and Creating Libraries

- Using Classes and Objects
- Creating and Using Packages
- Importing Part of a Package