DevOpsSchool

Course curriculum · November 2026

LEVEL 04 OF 04 · ADVANCED

Scala With Spark Advanced Training

Build, tune and run Spark applications in Scala with RDDs, DataFrames, Spark SQL and streaming on standalone, YARN, EMR and Kubernetes.

LIVE ONLINE **Max 8-10 hours**	CORPORATE (DAY-WISE) **5 days · Days 1-5**	SELF-PACED VIDEO **1-year LMS access**
BATCH SIZE **Max 10 learners**	NEXT BATCHES **1st of every month · weekends: first Saturday**	CERTIFICATE **Verifiable certificate of completion**

Foundation	Essential	Intermediate	Advanced
1 day · Included	2 days · Included	3 days · Included	5 days · This curriculum

INSIDE THIS CURRICULUM

What you will achieve	Outcomes and level focus
Who should attend	Audience and prerequisites
Agenda	51 topics · Foundation to Advanced
Hands-on labs	4 labs
Formats and fees	Live, 1:1, self-paced, corporate
Trainer and reviews	Rajesh Kumar
Enrolment	Batches, payment, contacts

WHY DEVOPSSCHOOL

- Rated 4.6 on Google
- 1,500+ verifiable certificates issued in the public registry
- Trainer Rajesh Kumar: 20 years in industry
- Small batches: max 10 learners, every session recorded

Course page: www.devopsschool.com/courses/scala/scala-with-spark-advance-training.html
Talk to us: WhatsApp +91 99057 40781 · +1 (469) 756-6329 · contact@DevOpsSchool.com · reply within 1 hour

OUTCOMES

What you will achieve

By the end of the Scala With Spark course path, you will be able to:

1

Write functional Scala

Write safe, immutable Scala using functions, case classes, pattern matching and collections.

2

Design robust Scala code

Combine traits, closures, implicits and Futures to build reusable, concurrent libraries.

3

Process big data with Spark

Build, run and tune Spark applications in Scala on standalone, YARN, EMR and Kubernetes clusters.

WHAT THE ADVANCED LEVEL ADDS

Apache Spark with Scala: RDDs, DataFrames and clusters

Hands-on: Run a Spark pipeline on a cluster. Write a Scala Spark job that loads raw data with RDDs and DataFrames, aggregates it with Spark SQL, submits to EMR or Kubernetes and is tuned via the Spark UI.

WHO SHOULD ATTEND

- Experienced Scala With Spark practitioners responsible for quality, security and scale.
- Senior engineers, architects and leads who design and troubleshoot Scala With Spark solutions.
- Teams making Scala With Spark an organisation-wide standard.

BEFORE YOU START

- The Intermediate level, or equivalent hands-on experience.
- You can already: Combine object-oriented and functional Scala with traits, closures, currying, control abstractions, folds and implicits or givens.
- Basic computer skills and a laptop with a stable internet connection for the live sessions and labs.
- This curriculum includes every earlier level, so it is complete on its own.

AGENDA · FOUNDATION TO ADVANCED

Scala With Spark Advanced Training agenda

51 topics. Each level builds on the one before it, so this curriculum lists every earlier level in full. Days are for corporate (day-wise) delivery; live online batches cover the same agenda in max 8-10 hours.

DAY 1 — Foundation: Scala setup, functional basics, functions and classes

Included from Foundation

1. Introduction to Scala: overview, why learn Scala and what you will learn, Scala 2.13 vs Scala 3
2. Installation: JDK, Coursier and the scala command (Scala CLI), sbt, the Scala REPL and IntelliJ IDEA
3. Functional programming concepts: immutability and expressions vs statements
4. Functions in FP: pure and impure functions, referential transparency and higher-order functions
5. First interaction with Scala: REPL, variables and values (var vs val), type inference
6. Control flow: conditionals as expressions and loops with for and while
7. Functions: structure of a function, parameters, return types and anonymous functions
8. Higher-order functions in practice: passing and returning functions
9. Classes: structure of classes, constructors, fields and methods
10. Companion objects: creating objects using apply and factory methods
11. Case classes: equality, copy, toString and immutability by default
12. Standalone programs: launching programs extending App and the @main annotation in Scala 3

DAY 2 — Essential: Error handling, pattern matching, collections and futures

Included from Essential

13. Null checks and error handling: why null checks are bad and Option as a better alternative
14. Error handling: error handling in imperative languages vs Try and Either in Scala
15. Pattern matching: what it is, match on constants and match on case classes
16. Advanced matches: match on sequences, match on type only and guarding your match
17. Collections: benefits of the Scala collections library, mutable and immutable collections, class hierarchy diagram
18. Core collections: List, Set and Map with examples
19. Collection operations: methods on numeric collections, filtering, size and conversion operations
20. Transforming collections: map, flatMap and for-comprehensions, working with Option and flatMap
21. Concurrency: concurrency and parallelism, Future and ExecutionContext
22. Working with futures: futures transformation, filtering and collecting futures
23. Asynchronous design: other ways to model asynchronous operation and dealing with future failures

DAY 3 — Intermediate: Object-oriented Scala, closures, traits and implicits

Included from Intermediate

24. Understanding object-oriented Scala: classes and objects, creating them and making objects immutable
25. Singleton and functional objects: singleton objects and designing immutable functional objects
26. Class design: abstract classes, inheritance and composition, with a project demo
27. Working with basic types: introduction to Scala types, string interpolation and using methods as operators
28. Scala class hierarchy: Any, AnyVal, AnyRef, Nothing and Null
29. Functions and closures: local functions, function literals and function values, partially applied functions
30. Closures and arguments: understanding closures, repeated arguments, named arguments and default parameter values

31. Tail recursion: @tailrec and stack-safe recursion
32. Creating your own control structures: using function values to remove code duplication and currying
33. Control abstraction: creating control abstractions and by-name parameters
34. Working with traits: rich interfaces, stackable modifications and when to use traits or not
35. Understanding collections: how reduce works and how fold operations work
36. Working with implicits: how implicit conversion works, the rules for implicits and their applications
37. Scala 3 contextual abstractions: given instances, using clauses and extension methods

DAYS 4-5 **Advanced: Apache Spark with Scala: RDDs, DataFrames and clusters** New at this level

38. Introduction to Spark: why Spark, from the Hadoop explosion to Spark unification, Spark's background and Spark 4 changes
39. Spark setup: installation, Spark programming languages, Hello Big Data, logistics and resources
40. Spark Core part 1: Spark appification, what is an RDD, loading data and lambdas
41. RDD operations: transforming data, more transformations, actions and the associative property, acting on data
42. Persistence: storage levels, persist and unpersist
43. Spark Core part 2: implicit conversions, key-value methods and caching data
44. Accumulating data and Java in Spark: accumulators, broadcast variables and Java interoperability
45. DataFrames and Datasets: schemas, encoders, case class Datasets and Spark SQL
46. Structured Streaming: sources, sinks, triggers, watermarks and stateful processing
47. Distribution and instrumentation: spark-submit, cluster management and standalone cluster scripts
48. Cloud clusters: AWS setup, Spark on YARN in EMR and Spark on Kubernetes
49. Spark UI: jobs, stages, tasks, storage and SQL tabs for diagnosing performance
50. Performance tuning: partitioning, shuffles, broadcast joins, adaptive query execution and data skew
51. Capstone: build and tune a Scala Spark pipeline on a cluster from raw data to curated tables

PRACTICE

Hands-on labs

You build these yourself during the course, guided by the trainer.

FOUNDATION **Write a functional Scala program**
Set up an sbt project in IntelliJ IDEA, model data with case classes and companion objects, and process it with pure, higher-order functions.

ESSENTIAL **Build an asynchronous data processor**
Parse records into case classes with Option and Either, transform them with collections and pattern matching, and fetch enrichments in parallel with Futures.

INTERMEDIATE **Design a reusable Scala library**
Build a small domain library with traits, immutable objects, curried control abstractions, folds and given instances for type classes.

ADVANCED

Run a Spark pipeline on a cluster

Write a Scala Spark job that loads raw data with RDDs and DataFrames, aggregates it with Spark SQL, submits to EMR or Kubernetes and is tuned via the Spark UI.

HOW YOU CAN LEARN

Formats and fees

The same agenda in four formats. Fees are in Indian rupees as of November 2026; the course page shows them in your currency.

FORMAT	DURATION	WHAT YOU GET	FEE
Live & interactive (online)	Max 8-10 hours	Instructor-led public batch of max 10 learners with demos, labs, Q&A and assignment review. Weekday batches start on the 1st of every month, weekend batches on the first Saturday of every month.	**INR 34,999**
1:1 live training (online)	Max 8-10 hours, one-to-one	The same agenda, taught one-to-one by the trainer. Starts immediately, without waiting for the next batch; sessions planned around your working hours, at your pace.	**INR 99,999**
Self-paced video	1-year LMS access	All four Scala With Spark levels, plus 20+ more courses and 50+ tools, at your own pace.	**INR 833/month** billed yearly at INR 9,996
Corporate (day-wise)	5 days for this level	A private batch for your team, on demand. Foundation 1 day, Essential 2, Intermediate 3, Advanced 5 (cumulative).	**Quote on request**

ASSESSMENT AND CERTIFICATE

Your progress is checked through hands-on labs and assignments at every level. On completion you receive a DevOpsSchool certificate of completion with a unique credential ID that anyone can verify at devopsschool.com/certificates.

INCLUDED WITH EVERY LIVE BATCH

- Every live session is recorded and stays in your LMS for a year.
- Can't attend your batch? Move to next month's batch.
- Free demo class before you pay.
- Free 10-15 minute call with an advisor or the trainer to check the course fits you.

YOUR TRAINER

Learn from Rajesh Kumar

Principal Architect, trainer and mentor in DevOps, SRE, DevSecOps and platform engineering, with 20 years across 8+ software MNCs, including Staff DevOps/SRE Engineer for a leading Japanese mobile-payment platform and Principal DevOps Architect and Manager in Europe.

Profile: www.rajeshkumar.xyz · Videos: youtube.com/@TheDevOpsSchool

20 years in industry	**200+** corporate trainings
10,000+ engineers mentored	**70+** organisations coached

REVIEWS

What learners say

Rated 4.6 on Google · more reviews at devopsschool.com/testimonials and in our video testimonials.

> "Rajesh is very good trainer. Rajesh was able to resolve our queries and question effectively. We really liked the hands-on examples covered during this training program."
>
> Indrayani, India

> "The training was very useful and interactive. Rajesh helped develop the confidence of all."
>
> Abhinav Gupta, Pune

START YOUR SCALA WITH SPARK TRAINING

Join the next batch

Weekday batches start on the 1st of every month and weekend batches on the first Saturday of every month, with max 10 learners each. 1:1 training can start immediately; corporate batches run on demand. We reply within 1 hour.

Pay by UPI, credit and debit cards, net banking or PayPal. Before you pay, read our refund policy. All levels of this course: www.devopsschool.com/courses/scala/

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