DevOpsSchool

Course curriculum · November 2026

LEVEL 04 OF 04 · ADVANCED

Microservices Advanced Training

Optimise, scale and govern production microservices with service mesh, consistent data patterns and a planned monolith migration.

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	50 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/microservice/microservices-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 Microservices course path, you will be able to:

1

Design sound service boundaries

Decompose systems with domain-driven design and choose the right patterns and protocols for each interaction.

2

Build and run microservices

Containerise, secure, test and deploy microservices on Kubernetes through automated CI/CD pipelines.

3

Operate microservices at scale

Keep production services fast, resilient and observable with service mesh, data patterns and governance.

WHAT THE ADVANCED LEVEL ADDS

Performance, service mesh, data consistency and migration

Hands-on: Production microservices capstone. Deploy a complete e-commerce microservices application with a service mesh, saga-based orders, SLO dashboards and load-tested autoscaling.

WHO SHOULD ATTEND

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

BEFORE YOU START

- The Intermediate level, or equivalent hands-on experience.
- You can already: Secure, observe and harden microservices with events, OAuth 2.0, resilience patterns, CI/CD pipelines and contract testing.
- 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

Microservices Advanced Training agenda

50 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: Microservices concepts, design principles and decomposition

Included from Foundation

1. Introduction to microservices: definition of microservices architecture and its evolution from SOA
2. Advantages and disadvantages of microservices: independent deployment and team autonomy versus distributed complexity
3. Comparison with monolithic architecture: modular monoliths, when not to split and the cost of distribution
4. Use cases of microservices: typical scenarios, organisational fit and Conway's law
5. Common technologies employed in microservices: REST, JSON, XML, gRPC and AMQP
6. The architecture of a microservice: presentation components, business logic, database access logic and application integration
7. Principles of microservices design: single responsibility, loose coupling, high cohesion and database per service
8. Domain-driven design (DDD): bounded contexts, aggregates, ubiquitous language and context maps
9. Business capabilities identification and decomposition: splitting by capability and subdomain
10. Modelling microservices: service boundaries, API contracts and data ownership
11. First working example: two REST services in Spring Boot or Python calling each other locally

DAY 2 — Essential: Patterns, communication, containers and first deployment

Included from Essential

12. Design patterns for microservices: API gateway, backends for frontends, strangler fig, saga and CQRS
13. Microservices architecture and infrastructure: containers, registries, config servers and platform services
14. API gateway, service registry and discovery: gateway routing and client-side versus server-side discovery
15. Communication protocols: HTTP/REST, gRPC, GraphQL and AMQP messaging, and choosing the right protocol
16. Synchronous and asynchronous communication: request-response versus events, choreography versus orchestration
17. RESTful API and GraphQL: resource design, OpenAPI specifications, versioning and GraphQL schemas
18. Integrating multiple microservices: keeping it simple and avoiding breaking changes with tolerant readers
19. Dealing with legacy systems: anti-corruption layers and incremental strangler migration
20. Building microservices with Docker and Kubernetes: Dockerfiles, images, Deployments and Services
21. Externalised configuration: environment variables, ConfigMaps and Secrets per environment
22. Testing and deploying microservices: unit tests, mock tests and a basic deployment pipeline
23. Hands-on workshop: set up a microservices application and build and deploy it using Docker and Kubernetes

DAY 3 — Intermediate: Events, security, resilience, CI/CD and testing

Included from Intermediate

24. Event-driven architecture and messaging systems: Kafka or RabbitMQ, event schemas and idempotent consumers
25. Hands-on workshop: implementing communication between microservices with REST and events
26. Security best practices: authentication and authorization with OAuth 2.0, OpenID Connect and JWT, and mTLS between services
27. Monitoring and logging: centralised logs, Prometheus metrics and distributed tracing with OpenTelemetry

28. Fault tolerance and resiliency: timeouts, retries, circuit breakers, bulkheads and fallbacks
29. Hands-on workshop: adding security and resilience to microservices
30. Continuous integration and delivery (CI/CD): per-service pipelines, deployment automation and going live
31. Container orchestration and scaling: managing microservices with Kubernetes probes, HPA and rolling updates
32. Hands-on workshop: deploying and scaling microservices with Kubernetes
33. Microservices testing strategies: testing in isolation, integration testing and contract testing with Pact
34. Testing microservices in production: canary releases, feature flags and synthetic checks
35. NoSQL with Amazon DynamoDB: overview, working with DynamoDB, use cases and log aggregation demo and lab
36. Processing big data in real time with Amazon Kinesis: overview, working with Kinesis and use cases demo and lab
37. Maintaining healthy microservices: health endpoints, dependency checks and on-call runbooks

DAYS 4-5 **Advanced: Performance, service mesh, data consistency and migration** **New at this level**

38. Microservices performance optimisation: identifying performance bottlenecks with load tests and profiling
39. Microservices monitoring and profiling: RED metrics, SLOs, error budgets and continuous profiling
40. Caching and load balancing: Redis caching, cache invalidation and client-side versus edge load balancing
41. Service mesh architecture: Istio or Linkerd for mTLS, traffic shifting, retries and mesh telemetry
42. Data consistency at scale: sagas, transactional outbox, event sourcing and CQRS read models
43. Scaling up microservices: autoscaling on custom metrics, multi-region deployment and capacity planning
44. Security hardening: zero trust, secrets management with Vault, signed images and SBOMs
45. Governance: API standards, service catalogue, platform engineering and an internal developer platform
46. Migration and transformation: monolith to microservices with strangler fig and data migration steps
47. Microservices in real-world applications: architectures for e-commerce and finance applications
48. Real-world use cases: case studies and best practices from large-scale microservice estates
49. End-to-end hardening: implementing testing strategies and optimising performance of microservices together
50. Capstone: deploying a complete microservices application with mesh, observability and automated delivery

PRACTICE

Hands-on labs

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

FOUNDATION **Decompose a monolith on paper**

Model an online store with DDD bounded contexts, define service APIs and run two of the services locally.

ESSENTIAL **Deploy a microservices app to Kubernetes**

Containerise three services, expose them through an API gateway and deploy them to a Kubernetes cluster with service discovery.

INTERMEDIATE **Resilient, secured service pipeline**

Add OAuth 2.0, circuit breakers, tracing and contract tests to the services and ship them through a CI/CD pipeline to Kubernetes.

ADVANCED

Production microservices capstone

Deploy a complete e-commerce microservices application with a service mesh, saga-based orders, SLO dashboards and load-tested autoscaling.

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 Microservices 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 MICROSERVICES 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/microservice/

ENROL OR RESERVE A SEAT
Microservices Advanced Training

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