DevOpsSchool

Course curriculum · November 2026

LEVEL 04 OF 04 · ADVANCED

Redis Advanced Training

Scale Redis horizontally with Cluster, tune it for performance, run it on Kubernetes or managed clouds and design multi-region and AI workloads.

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	48 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/redis/redis-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 Redis course path, you will be able to:

1

Model data in Redis

Choose and use the right Redis data types for caching, queues, leaderboards and analytics.

2

Run Redis reliably

Configure persistence, replication, Sentinel, ACLs and TLS, and troubleshoot production instances.

3

Scale Redis platforms

Operate Redis Cluster on servers, Kubernetes or managed clouds for high-traffic and AI workloads.

WHAT THE ADVANCED LEVEL ADDS

Redis Cluster, performance, Kubernetes and enterprise

Hands-on: Operate a sharded Redis platform. Build a six-node Redis Cluster, reshard under load, benchmark it, deploy it on Kubernetes with an operator and run a failover drill.

WHO SHOULD ATTEND

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

BEFORE YOU START

- The Intermediate level, or equivalent hands-on experience.
- You can already: Make Redis durable, highly available and secure, add search and vector queries, and monitor and troubleshoot production instances.
- 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

Redis Advanced Training agenda

48 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: Redis concepts, installation and core data types

Included from Foundation

1. In-memory data stores: what Redis is, single-threaded event loop, and use cases such as caching, sessions and leaderboards
2. Redis today: Redis 8 Open Source and its licences, Redis Software and Cloud, and the Valkey community fork
3. Installation: apt and dnf packages, the official Docker image, redis.conf basics and starting the server
4. redis-cli: connecting, PING, INFO, SELECT, HELP and running commands interactively and from scripts
5. Keys: naming conventions, EXISTS, DEL, TYPE, RENAME, and why SCAN replaces KEYS in production
6. Expiration: EXPIRE, TTL, PERSIST, SET with EX and NX, and how keys are evicted on expiry
7. Strings: SET, GET, INCR, DECR, APPEND, MSET and atomic counters
8. Lists: LPUSH, RPUSH, LPOP, LRANGE, LTRIM and blocking BLPOP for simple queues
9. Hashes: HSET, HGET, HGETALL, HINCRBY and modelling objects
10. Sets and sorted sets: SADD, SINTER, SUNION, ZADD, ZRANGE, ZRANK and leaderboards
11. Redis Insight: browsing keys, running commands and profiling from the GUI

DAY 2 — Essential: Advanced data types, caching patterns and clients

Included from Essential

12. Bitmaps and HyperLogLog: SETBIT, BITCOUNT, PFADD and PFCOUNT for compact analytics
13. Geospatial indexes: GEOADD, GEOSEARCH and distance queries
14. Streams: XADD, XREAD, XRANGE, consumer groups with XREADGROUP and XACK
15. JSON documents: JSON.SET, JSON.GET and path queries on nested data
16. Transactions: MULTI, EXEC, DISCARD and optimistic locking with WATCH
17. Pub/Sub: PUBLISH, SUBSCRIBE, pattern subscriptions and sharded pub/sub
18. Scripting: EVAL with Lua and Redis Functions for atomic server-side logic
19. Pipelining: batching commands to cut round trips
20. Client libraries: redis-py, Jedis or Lettuce, node-redis and go-redis, connection pools and timeouts
21. Caching patterns: cache-aside, write-through, write-behind and cache stampede protection
22. Memory limits and eviction: maxmemory, allkeys-lru, volatile-ttl and other eviction policies
23. Rate limiting and locks: fixed and sliding window limiters, SET NX locks and their caveats

DAY 3 — Intermediate: Persistence, replication, Sentinel, security and search

Included from Intermediate

24. Persistence: RDB snapshots, AOF with fsync policies, hybrid persistence and restore procedures
25. Replication: REPLICAOF, partial resync, replica read scaling and replication lag
26. Redis Sentinel: monitoring, automatic failover, quorum and Sentinel-aware clients
27. Access control: ACL users, command categories, key patterns and the default user
28. Network security: protected mode, bind, TLS for clients and replication, and secret management
29. Redis Query Engine: FT.CREATE indexes on hashes and JSON, FT.SEARCH and FT.AGGREGATE
30. Vector search: storing embeddings, KNN queries and hybrid filters for AI applications

31. Time series and probabilistic types: TS.ADD and TS.RANGE, Bloom filters and Top-K
32. Monitoring: INFO sections, SLOWLOG, LATENCY DOCTOR, MEMORY USAGE and redis_exporter with Prometheus
33. Troubleshooting memory: big keys and hot keys with --bigkeys and --hotkeys, fragmentation and MEMORY DOCTOR
34. Troubleshooting performance: blocking commands, slow scripts, client output buffers and connection storms
35. Backup automation: scheduled RDB copies, off-host storage and restore testing

DAYS 4-5 **Advanced: Redis Cluster, performance, Kubernetes and enterprise** **New at this level**

36. Redis Cluster: hash slots, hash tags, cluster creation with redis-cli --cluster and cluster-aware clients
37. Cluster operations: resharding, adding and removing nodes, replica migration and failover
38. Performance tuning: I/O threads, pipelining, data encodings, memory optimisation and benchmarking with redis-benchmark
39. High availability design: cluster across availability zones, client retry strategies and failure testing
40. Redis on Kubernetes: StatefulSets, operators and Helm charts, persistence and pod disruption budgets
41. Managed Redis: Amazon ElastiCache, Azure Managed Redis and Google Memorystore trade-offs
42. Active-active geo-distribution: CRDT-based replication in Redis Software and conflict handling
43. Valkey and version migration: compatibility, upgrade paths and rolling upgrades
44. AI workloads: semantic caching, vector sets, RAG retrieval and LLM session memory
45. Capacity planning: memory sizing, key design, data lifecycle and cost control
46. Disaster recovery: cross-region backups, restore drills and RPO and RTO planning
47. Governance: naming standards, multi-tenant isolation with ACLs and change management
48. Capstone: design and operate a sharded, highly available Redis platform for a high-traffic application

PRACTICE

Hands-on labs

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

FOUNDATION **Build a leaderboard and session store**
Install Redis, store user sessions in hashes with TTLs, and build a real-time leaderboard with sorted sets using redis-cli and Redis Insight.

ESSENTIAL **Add caching and a job queue**
Put a cache-aside layer with TTLs in front of a database-backed API, and process background jobs from a Redis stream with a consumer group.

INTERMEDIATE **Build an HA, secured Redis setup**
Run a primary with two replicas and three Sentinels, enable ACLs, TLS and AOF, then simulate a failover and verify the application reconnects.

ADVANCED **Operate a sharded Redis platform**
Build a six-node Redis Cluster, reshard under load, benchmark it, deploy it on Kubernetes with an operator and run a failover drill.

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 Redis 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 REDIS 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/redis/

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