DevOpsSchool

Course curriculum · November 2026

LEVEL 04 OF 04 · ADVANCED

Coredns Advanced Training

Tune and harden CoreDNS for high query volumes, build custom plugins and run CoreDNS for enterprise and multi-cluster DNS.

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	40 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/coredns/coredns-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 Coredns course path, you will be able to:

1

Configure CoreDNS

Write Corefiles that serve, forward, cache and rewrite DNS for apps and clusters.

2

Run reliable cluster DNS

Monitor, scale, secure and troubleshoot DNS in Kubernetes.

3

Engineer DNS at scale

Tune, extend and migrate CoreDNS for enterprise and multi-cluster platforms.

WHAT THE ADVANCED LEVEL ADDS

Performance, HA, custom plugins and migration

Hands-on: Production DNS design capstone. Design, benchmark and document CoreDNS for a multi-cluster platform with HA, a custom plugin and a migration plan from BIND.

WHO SHOULD ATTEND

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

BEFORE YOU START

- The Intermediate level, or equivalent hands-on experience.
- You can already: Scale and secure cluster DNS with NodeLocal DNSCache, autoscaling, encrypted DNS, DNSSEC and cloud DNS integrations.
- 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

Coredns Advanced Training agenda

40 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: DNS basics, Corefile and Kubernetes DNS

Included from Foundation

1. DNS fundamentals: A, AAAA, CNAME, SRV and PTR records, recursion, authoritative and caching servers
2. CoreDNS overview: CNCF graduated DNS server and its plugin chain architecture
3. Installation: binary, container image and CoreDNS as the Kubernetes default DNS
4. Corefile syntax: server blocks, zones, ports and plugin directives
5. Core plugins: forward, cache, log, errors, health and ready
6. Serving zones: the file plugin and zone files
7. Static entries: the hosts plugin
8. Testing: dig and nslookup against CoreDNS
9. CoreDNS in Kubernetes: kube-dns Service, the CoreDNS Deployment and its ConfigMap
10. Kubernetes DNS names: service.namespace.svc.cluster.local, pod DNS and search domains

DAY 2 — Essential: Kubernetes plugin, forwarding, rewrites and metrics

Included from Essential

11. kubernetes plugin: pods mode, fallthrough and TTL options
12. Stub domains and upstreams: per-zone forwarding in the CoreDNS ConfigMap
13. rewrite plugin: renaming queries and rewriting answers
14. Answer handling: the loadbalance plugin and round-robin answers
15. reload and loop plugins: hot reload and forwarding loop detection
16. Metrics: the prometheus plugin, coredns_dns_requests_total and latency histograms
17. Search path performance: ndots, search domains and the autopath plugin
18. Debugging DNS in Kubernetes: dnsutils pod, CoreDNS logs and common failures
19. Dynamic records: the etcd plugin
20. Upgrades: CoreDNS versions in kubeadm clusters and Corefile migration

DAY 3 — Intermediate: NodeLocal DNSCache, scaling and secure DNS

Included from Intermediate

21. NodeLocal DNSCache: architecture, deployment and benefits
22. Scaling: replicas, cluster-proportional-autoscaler, HPA and anti-affinity
23. Encrypted DNS: the tls plugin for DNS over TLS and DNS over HTTPS options
24. Access control: the acl plugin for query restrictions
25. DNSSEC: the dnssec and sign plugins
26. Cloud DNS: route53, azure and clouddns plugins
27. ExternalDNS: publishing Kubernetes services to external DNS providers
28. Split-horizon DNS: the view plugin
29. Observability: Grafana dashboards and alerts on SERVFAIL rates and latency
30. Troubleshooting: conntrack races, UDP issues, upstream timeouts and i/o timeout errors

DAYS 4-5 **Advanced: Performance, HA, custom plugins and migration** — New at this level

31. Performance tuning: cache sizing, prefetch, serve_stale and concurrency limits
32. High availability: multi-zone placement, PodDisruptionBudgets and upstream redundancy
33. Multi-cluster DNS: service discovery across clusters with stub domains and the MCS API
34. Custom plugins: plugin.cfg, setup function, ServeDNS and building a custom binary
35. Authoritative CoreDNS: enterprise internal DNS with zone transfers via the transfer plugin
36. Security hardening: least privilege, query logging policy and network-level rate limits
37. Capacity planning: benchmarking QPS with dnsperf
38. Migration: from kube-dns or BIND to CoreDNS
39. Health handling: lameduck shutdown and readiness during rollouts
40. Capstone: production DNS design for a multi-cluster platform

PRACTICE

Hands-on labs

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

FOUNDATION

Run CoreDNS with a custom zone

Run CoreDNS with a Corefile that serves an internal zone, forwards other queries upstream and caches answers, then test with dig.

ESSENTIAL

Customize and debug cluster DNS

Add a stub domain and a rewrite rule to cluster DNS, expose metrics to Prometheus and fix a seeded DNS resolution failure.

INTERMEDIATE

Scale and secure cluster DNS

Deploy NodeLocal DNSCache, autoscale CoreDNS, add a DNS over TLS upstream and alert on SERVFAIL and latency.

ADVANCED

Production DNS design capstone

Design, benchmark and document CoreDNS for a multi-cluster platform with HA, a custom plugin and a migration plan from BIND.

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 Coredns 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 COREDNS 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/coredns/

ENROL OR RESERVE A SEAT
Coredns Advanced Training

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