DevOpsSchool

Course curriculum · November 2026

LEVEL 04 OF 04 · ADVANCED

Containerd Advanced Training

Migrate to containerd 2.x, tune image pulls and snapshotters, extend containerd with plugins and operate it across node fleets.

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/containerd/containerd-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 Containerd course path, you will be able to:

1

Run containers on containerd

Install, configure and use containerd with ctr, nerdctl and crictl.

2

Operate Kubernetes nodes

Run containerd as the Kubernetes runtime with registries, cgroups, runtimes and troubleshooting.

3

Scale and harden runtimes

Tune, extend, secure and upgrade containerd across production node fleets.

WHAT THE ADVANCED LEVEL ADDS

2.x migration, performance, plugins and fleets

Hands-on: Fleet runtime baseline capstone. Produce and roll out a containerd 2.x baseline for a node fleet with mirrors, tuned snapshotters, a sandboxed runtime and upgrade runbooks.

WHO SHOULD ATTEND

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

BEFORE YOU START

- The Intermediate level, or equivalent hands-on experience.
- You can already: Add sandboxed runtimes, lazy-pulling snapshotters and image verification, and monitor and troubleshoot containerd on nodes.
- 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

Containerd 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: Runtime concepts, installation and CLIs

Included from Foundation

1. Runtime landscape: OCI specs, high-level versus low-level runtimes, containerd, Docker and CRI-O
2. Architecture: daemon, gRPC API, plugins, content store, snapshotters, shims and runc
3. Installation: packages or release binaries, runc, CNI plugins and the systemd service
4. Configuration: containerd config default, config.toml and config version 3 in containerd 2.x
5. ctr basics: pulling images, creating containers and starting tasks
6. Namespaces: default, k8s.io and moby namespaces and why they matter
7. nerdctl: Docker-compatible CLI, nerdctl run and compose
8. crictl: inspecting CRI pods and containers on Kubernetes nodes
9. Image management: pull, tag, export and import, multi-arch platforms
10. First container: run nginx with nerdctl and publish a port

DAY 2 — Essential: Registries, storage, networking and Kubernetes

Included from Essential

11. Registry configuration: hosts.toml under certs.d, mirrors, private registries and authentication
12. Snapshotters: overlayfs, native and devmapper and choosing by filesystem
13. Networking: CNI plugins and bridge networks with nerdctl
14. Storage: volumes, bind mounts, the content store and garbage collection
15. Image builds: BuildKit with nerdctl build
16. Logs and events: ctr events, nerdctl logs and journald
17. Resource limits: cgroups v2 CPU and memory limits
18. Rootless containerd: setup and limitations
19. Kubernetes runtime: CRI plugin, SystemdCgroup = true and kubelet configuration
20. Node migration: moving nodes from dockershim to containerd

DAY 3 — Intermediate: Runtime classes, lazy pulling, security and debugging

Included from Intermediate

21. Runtime classes: runc, gVisor (runsc) and Kata Containers configured in config.toml
22. Lazy pulling: stargz, nydus and SOCI snapshotters
23. Image trust: encrypted images with imgcrypt and signature verification with cosign
24. Monitoring: Prometheus metrics endpoint and key runtime metrics
25. NRI: Node Resource Interface plugins
26. Troubleshooting: ctr tasks, crictl inspect, shim processes and debug logging
27. Security: seccomp, AppArmor or SELinux and user namespaces
28. Go client: writing a small tool with the containerd client to pull and run images
29. Disk management: leases, garbage collection and image cleanup
30. Node operations: image pre-pulling and sandbox (pause) image configuration

DAYS 4-5 **Advanced: 2.x migration, performance, plugins and fleets** — New at this level

31. containerd 2.x migration: removed features, config migration to version 3 and the sandbox API
32. Performance tuning: snapshotter choice, concurrent downloads and image pull speed
33. Extending containerd: proxy plugins and custom snapshotters
34. Node hardening: sandboxed runtimes and CIS benchmark settings
35. Windows containers: containerd on Windows nodes
36. Image distribution at scale: registry mirrors, pull-through caches and peer-to-peer tools such as Spegel
37. Observability: OpenTelemetry tracing in containerd
38. Fleet upgrades: staged node upgrades and rollback
39. Runtime governance: approved runtimes, registries and configuration baselines
40. Capstone: production containerd baseline for a Kubernetes fleet

PRACTICE

Hands-on labs

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

FOUNDATION

Run containers with containerd

Install containerd with runc and CNI plugins, then pull and run nginx with ctr and nerdctl and inspect it from each CLI.

ESSENTIAL

Make containerd the Kubernetes runtime

Configure a private registry mirror and systemd cgroups, join a node to Kubernetes with containerd and verify pods with crictl.

INTERMEDIATE

Add a sandboxed runtime class

Configure gVisor as a RuntimeClass, enable a lazy-pulling snapshotter and debug a failing pod using crictl and containerd logs.

ADVANCED

Fleet runtime baseline capstone

Produce and roll out a containerd 2.x baseline for a node fleet with mirrors, tuned snapshotters, a sandboxed runtime and upgrade runbooks.

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 Containerd 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 CONTAINERD 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/containerd/

ENROL OR RESERVE A SEAT
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