DevOpsSchool

Course curriculum · November 2026

LEVEL 03 OF 04 · INTERMEDIATE

Kubernetes Intermediate Training

Give applications persistent storage, external configuration and secrets, and run StatefulSets, DaemonSets, Jobs and CronJobs.

LIVE ONLINE **Max 8-10 hours**	CORPORATE (DAY-WISE) **3 days · Days 1-3**	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 · This curriculum	5 days · Next step

INSIDE THIS CURRICULUM

What you will achieve	Outcomes and level focus
Who should attend	Audience and prerequisites
Agenda	41 topics · Foundation to Intermediate
Hands-on labs	3 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/kubernetes/kubernetes-intermediate-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 Kubernetes course path, you will be able to:

1

Build and run clusters

Install, configure and upgrade kubeadm-based Kubernetes clusters with working kubectl access.

2

Deploy real workloads

Run stateless and stateful applications with Deployments, Services, storage, ConfigMaps, Secrets and Jobs.

3

Secure and troubleshoot

Apply networking, RBAC and Network Policies, then monitor, back up and troubleshoot clusters with confidence.

WHAT THE INTERMEDIATE LEVEL ADDS

Storage, configuration and stateful workloads

Hands-on: Run a stateful app with persistent storage. Deploy a database as a StatefulSet with dynamically provisioned volumes, feed it configuration from a ConfigMap and Secret, and schedule a nightly backup CronJob.

WHO SHOULD ATTEND

- Regular Kubernetes users who want to automate, integrate and manage it at a deeper level.
- Specialists who support Kubernetes for colleagues or customers.
- Leads preparing Kubernetes for wider use across projects.

BEFORE YOU START

- The Essential level, or equivalent hands-on experience.
- You can already: Run stateless applications with Deployments, select them with labels and expose them through Services for real Java and Node.js stacks.
- 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 INTERMEDIATE

Kubernetes Intermediate Training agenda

41 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: Architecture, kubeadm cluster setup and first pod

Included from Foundation

1. Understanding the need of Kubernetes: container orchestration, self-healing, scaling and declarative desired state
2. Kubernetes architecture: control plane and worker nodes, the API server as the single entry point
3. Control plane (master) components: kube-apiserver, etcd, kube-scheduler, kube-controller-manager, cloud-controller-manager
4. Node components: kubelet, kube-proxy and the container runtime (containerd, CRI-O) through the CRI
5. Kubernetes concepts and terminology: cluster, node, pod, object, spec and status, controller, manifest, context
6. Kubernetes cluster requirements: supported Linux, CPU and memory, swap, unique hostnames, required ports, container runtime
7. Understanding Kubernetes clusters using kubeadm: kubeadm init, join tokens, certificates and the pod network add-on
8. Demo: installing and configuring the Kubernetes control plane (master) node with kubeadm
9. Demo: installing and configuring Kubernetes worker nodes and joining them with kubeadm join
10. Demo: install and configure a workstation using kubectl: kubeconfig, contexts, kubectl get nodes and cluster-info
11. Understanding the concept of Namespace: default, kube-system, kube-public, creating and switching namespaces
12. Demo: define your first Kubernetes pod with kubectl run and a YAML manifest (apiVersion, kind, metadata, spec)
13. Demo: working and deep dive with Kubernetes pods: describe, logs, exec, port-forward, multi-container pods and delete

DAY 2 — Essential: Controllers, deployments, labels and services

Included from Essential

14. Declarative manifests in daily use: kubectl apply vs create, dry-run=client -o yaml, explain and diff
15. Understanding Kubernetes replication controllers and their successor ReplicaSets: desired replicas and self-healing
16. Demo: define your first replication controller and scale it with kubectl scale
17. Demo: working with Kubernetes replication controllers: pod replacement, selectors and safe deletion
18. Understanding Kubernetes Deployments: ReplicaSet management, rolling update strategy, maxSurge and maxUnavailable
19. Demo: define your first Deployment and update its container image
20. Demo: working and deep dive with Deployments: kubectl rollout status, history, undo, pause and resume
21. Understanding Kubernetes labels and selectors: equality and set-based selectors, annotations versus labels
22. Demo: define your first Kubernetes labels and work with them: kubectl label, -l filters and relabelling pods
23. Understanding Kubernetes Services: ClusterIP, NodePort, LoadBalancer, ExternalName and endpoints
24. Demo: define your first Kubernetes Service and reach a Deployment by its stable DNS name
25. Demo: working and deep dive with Services: session affinity, targetPort, headless services and EndpointSlices
26. Demo: deploy a Java stack application on Kubernetes with Deployments and Services
27. Demo: deploy a Node.js stack application on Kubernetes with Deployments and Services

DAY 3 **Intermediate: Storage, configuration and stateful workloads** New at this level

28. Understanding Kubernetes volumes: pod-scoped storage, volume mounts and lifecycle
29. Understanding types of volumes: emptyDir, hostPath, nfs, configMap, secret, projected and CSI volumes
30. Static and dynamic provisioning: pre-created PersistentVolumes versus StorageClass-driven provisioning
31. Understanding PersistentVolume and PersistentVolumeClaim: access modes, capacity, reclaim policy and binding
32. Understanding ConfigMap and Secret: env, envFrom and volume mounts, base64 encoding and encryption at rest
33. Understanding StorageClass: provisioners, parameters, volumeBindingMode, allowVolumeExpansion and default class
34. Demo: working with PersistentVolume and PersistentVolumeClaim for a database pod
35. Demo: working with ConfigMap and Secret created from literals, files and YAML
36. Demo: StorageClass with dynamic provisioning and volume expansion
37. Understanding StatefulSet and DaemonSet: stable network identity, ordered rollout, per-pod volume claims, one pod per node
38. Understanding CronJob and Job: completions, parallelism, backoffLimit, schedules and concurrencyPolicy
39. Demo: working with a StatefulSet and a DaemonSet (log or monitoring agent on every node)
40. Demo: working with Job and CronJob, inspecting history and failed runs
41. Demo: stateless example: PHP guestbook with Redis leader and followers

PRACTICE

Hands-on labs

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

FOUNDATION **Stand up a kubeadm cluster**
Install a control plane and two workers with kubeadm, configure kubectl on a workstation and run a first nginx pod in its own namespace.

ESSENTIAL **Deploy and expose a two-tier application**
Deploy a Java or Node.js application as a Deployment, label it, expose it with ClusterIP and NodePort Services and perform a rolling update with rollback.

INTERMEDIATE **Run a stateful app with persistent storage**
Deploy a database as a StatefulSet with dynamically provisioned volumes, feed it configuration from a ConfigMap and Secret, and schedule a nightly backup CronJob.

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 Kubernetes levels, plus 20+ more courses and 50+ tools, at your own pace.	**INR 833/month** billed yearly at INR 9,996
Corporate (day-wise)	3 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 KUBERNETES 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/kubernetes/

ENROL OR RESERVE A SEAT
Kubernetes Intermediate Training

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Next step after this level: Kubernetes Advanced Training - Secure, network, upgrade, back up, monitor and troubleshoot a production Kubernetes cluster end to end.