DevOpsSchool

Course curriculum · November 2026

LEVEL 04 OF 04 · ADVANCED

Spiffe Advanced Training

Design highly available SPIRE deployments with sound CA hierarchies and roll workload identity out across an enterprise.

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	47 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/spiffe/spiffe-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 Spiffe course path, you will be able to:

1

Issue workload identities

Use SPIFFE and SPIRE to give every workload a verifiable, automatically rotated identity.

2

Secure service communication

Protect service-to-service traffic with SVID-based mutual TLS and identity-aware authorisation.

3

Run SPIRE at scale

Federate, harden and operate highly available SPIRE across clusters, clouds and VMs.

WHAT THE ADVANCED LEVEL ADDS

High availability, CA design and enterprise rollout

Hands-on: Highly available SPIRE with Vault. Deploy two SPIRE servers with a PostgreSQL datastore and HashiCorp Vault as upstream authority, then perform a rolling upgrade without breaking workload identity.

WHO SHOULD ATTEND

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

BEFORE YOU START

- The Intermediate level, or equivalent hands-on experience.
- You can already: Attest workloads across clouds, federate trust domains and integrate SPIRE with service meshes and cloud IAM.
- 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

Spiffe Advanced Training agenda

47 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: Workload identity concepts and first SPIRE setup

Included from Foundation

1. Workload identity problem: static secrets, IP-based trust and why zero trust needs cryptographic identity
2. SPIFFE standard: SPIFFE IDs, trust domains and the spiffe://trust-domain/path format
3. SVIDs: X.509-SVIDs and JWT-SVIDs, what each carries and when to use which
4. Trust bundles: root certificates, bundle distribution and validating peer identity
5. Workload API: how workloads fetch SVIDs and bundles over a local Unix domain socket
6. SPIRE architecture: SPIRE Server, SPIRE Agent, datastore and signing keys
7. Attestation overview: node attestation vs workload attestation and selectors
8. Installing SPIRE: release binaries, server.conf and agent.conf and running both on Linux
9. Join token node attestation: generating a token and bringing an agent online
10. First registration entry: spire-server entry create with SPIFFE ID, parent ID and unix selectors
11. Fetching an SVID: spire-agent api fetch x509 and inspecting the certificate

DAY 2 — Essential: SPIRE on Kubernetes and mutual TLS

Included from Essential

12. SPIRE on Kubernetes: Helm charts from the SPIFFE project, namespaces and the spire-crds chart
13. Kubernetes node attestation: k8s_psat projected service account tokens
14. Kubernetes workload attestation: namespace, service account, pod label and container selectors
15. SPIRE Controller Manager: ClusterSPIFFEID resources for automatic registration
16. SPIFFE CSI driver: mounting the Workload API socket into pods
17. Mutual TLS with go-spiffe: X.509 sources, TLS configs and authorising peers by SPIFFE ID
18. spiffe-helper: writing SVIDs to disk and reloading applications that cannot call the API
19. Envoy integration: SPIRE as an SDS server for Envoy sidecars
20. JWT-SVIDs: audiences, fetching and validating tokens for HTTP APIs
21. SVID rotation: TTLs, automatic renewal and observing rotation in logs
22. Debugging: spire-server entry show, agent health checks and common attestation errors

DAY 3 — Intermediate: Cloud attestation, federation and service mesh

Included from Intermediate

23. Cloud node attestation: aws_iid, gcp_iit and Azure managed identity attestors
24. Certificate-based attestation: x509pop and sshpop for on-premises machines
25. Other workload attestors: docker, systemd and unix and combining selectors
26. Federation: bundle endpoints, federates-with relationships and exchanging trust bundles
27. OIDC Discovery Provider: publishing JWKS so cloud IAM trusts JWT-SVIDs
28. Cloud access without secrets: AWS IAM roles, GCP workload identity federation and Azure federated credentials
29. Service mesh integration: SPIRE with Istio and with Envoy-based meshes
30. Datastore options: SQLite for labs and PostgreSQL or MySQL for production

31. Telemetry: Prometheus metrics, health endpoints and logging levels
32. Policy with OPA: authorisation decisions based on SPIFFE IDs
33. Security basics: agent socket permissions, admin API access and registration hygiene
34. Cross-environment troubleshooting: federation bundle refresh, clock skew and attestation failures

DAYS 4-5 **Advanced: High availability, CA design and enterprise rollout** **New at this level**

35. SPIRE high availability: multiple servers, shared SQL datastore and load balancing agents
36. Nested SPIRE: downstream servers, regional deployments and scaling to large fleets
37. Upstream authorities: disk, AWS Private CA, HashiCorp Vault and cert-manager integration
38. Key management: KeyManager plugins, cloud KMS, key rotation and CA TTL planning
39. Disaster recovery: datastore backups, CA continuity and recovering a failed server
40. Performance and scale: entry counts, agent sync intervals and server sizing
41. Plugin development: the SPIRE plugin SDK and writing a custom attestor
42. Management tooling: Tornjak for viewing and managing SPIRE deployments
43. Hardening: least privilege for servers and agents, network isolation and audit logging
44. Migration patterns: replacing static secrets and API keys service by service
45. Upgrades: version skew rules between server and agent and rolling upgrade procedure
46. Governance: naming SPIFFE IDs, ownership of registrations and identity lifecycle
47. Capstone: zero trust workload identity across Kubernetes, VMs and two clouds

PRACTICE

Hands-on labs

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

FOUNDATION **Issue a first workload SVID**
Run SPIRE Server and Agent on a Linux VM, attest the agent with a join token, register a workload by Unix user and fetch its X.509-SVID.

ESSENTIAL **Mutual TLS between two services**
Deploy SPIRE with Helm on Kubernetes, register two services with ClusterSPIFFEID and secure their traffic with go-spiffe mutual TLS and SPIFFE ID authorisation.

INTERMEDIATE **Federate trust and reach cloud APIs**
Federate two SPIRE trust domains, call a service across them with mutual TLS and let a workload read from cloud object storage using a JWT-SVID instead of static keys.

ADVANCED **Highly available SPIRE with Vault**
Deploy two SPIRE servers with a PostgreSQL datastore and HashiCorp Vault as upstream authority, then perform a rolling upgrade without breaking workload identity.

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 Spiffe 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 SPIFFE 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/spiffe/

ENROL OR RESERVE A SEAT
Spiffe Advanced Training

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