HashiCorp Vault for Secrets Management Trainng Course

Professional Development Training Course Outline

Category	Data Security	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The landscape of modern IT, driven by multi-cloud and microservices architecture, has led to an explosion of digital secrets. This phenomenon, known as Secret Sprawl, poses a massive cybersecurity risk and makes regulatory compliance a near-impossible task. HashiCorp Vault for Secrets Management Trainng Course introduces HashiCorp Vault as the industry-leading, identity-based Secrets Management solution, designed to centralize, secure, and dynamically control access to sensitive data across any environment from on-premises data centers to complex hybrid-cloud deployments. Attendees will move beyond outdated, static secret practices to master dynamic secrets generation, encryption-as-a-service (EaaS), and a Zero Trust security model.

This program provides the DevSecOps and Platform Engineering skills necessary to deploy, configure, and operate a production-grade Vault cluster. You will learn to eliminate hard-coded credentials, automate secret rotation, enforce fine-grained access control using ACL policies, and seamlessly integrate Vault with popular tools like Kubernetes and AWS IAM. By focusing on High Availability (HA), Disaster Recovery (DR), and leveraging the Transit Secrets Engine for data protection, you will gain the expertise to secure your entire CI/CD pipeline and meet stringent risk & compliance requirements in today's demanding digital world.

Programme Curriculum

HashiCorp Vault for Secrets Management Trainng Course

Introduction

The landscape of modern IT, driven by multi-cloud and microservices architecture, has led to an explosion of digital secrets. This phenomenon, known as Secret Sprawl, poses a massive cybersecurity risk and makes regulatory compliance a near-impossible task. HashiCorp Vault for Secrets Management Trainng Course introduces HashiCorp Vault as the industry-leading, identity-based Secrets Management solution, designed to

centralize, secure, and dynamically control access to sensitive data across any environment from on-premises data centers to complex hybrid-cloud deployments. Attendees will move beyond outdated, static secret practices to master dynamic secrets generation, encryption-as-a-service (EaaS), and a Zero Trust security model.

This program provides the DevSecOps and Platform Engineering skills necessary to deploy, configure, and operate a production-grade Vault cluster. You will learn to eliminate hard-coded credentials, automate secret rotation, enforce fine-grained access control using ACL policies, and seamlessly integrate Vault with popular tools like Kubernetes and AWS IAM. By focusing on High Availability (HA), Disaster Recovery (DR), and leveraging the Transit Secrets Engine for data protection, you will gain the expertise to secure your entire CI/CD pipeline and meet stringent risk & compliance requirements in today's demanding digital world.

Course Duration

5 days

Course Objectives

1. Comprehend the Vault Architecture, core components, and the Seal/Unseal process, including Auto-Unseal with cloud KMS.
2. Implement and manage various Authentication Methods to establish trusted identity.
3. Master the configuration and operation of the Key-Value (KV) Secrets Engine for managing static secrets and their versions.
4. Configure and utilize Dynamic Secrets Generation for databases and cloud providers to enforce least privilege.
5. Define, deploy, and enforce fine-grained Access Control List Policies to manage permissions and secure secret paths.
6. Utilize the Transit Secrets Engine for API-driven encryption of application data, supporting key rotation and re-wrapping.
7. Configure the PKI Secrets Engine to function as an internal Certificate Authority (CA) for automated certificate issuance and rotation.
8. Integrate Vault with CI/CD Pipelines using the Vault Agent and Injectors to eliminate hard-coded credentials.
9. Configure Audit Devices to provide a comprehensive, immutable log of all secret access events for forensic analysis and regulatory compliance.
10. Deploy and operate a production-ready Vault Cluster using Integrated Storage (Raft) for fault tolerance and High Availability.
11. Implement Performance Replication and Disaster Recovery Replication strategies for multi-region and multi-datacenter resilience.
12. Use the Vault Secrets Operator (VSO) or CSI Provider to natively inject secrets into Kubernetes Pods without persisting secrets in etcd.
13. Master monitoring, troubleshooting, and performing advanced operational tasks like secret rotation, backup, and restore.

Target Audience

1. DevOps & Site Reliability Engineers.
2. Security Architects & Engineers.
3. Cloud Engineers.
4. Platform Engineers.

5. System/Linux Administrators.
6. Application Developers.
7. Compliance and Audit Teams.
8. HashiCorp Certification Aspirants.

Course Modules

Module 1: Vault Fundamentals and Architecture

- HashiCorp Vault and Traditional Secrets Management
- Understanding the Vault Architecture.
- Interacting with Vault via CLI, UI, and API and configuring Audit Devices.
- Configuring High Availability using the Raft integrated storage for zero downtime.
- Case Study: Mitigating Secret Sprawl.

Module 2: Authentication and Identity Management

- Introduction to the Identity-Based Security Model and the concept of Trusted Identity.
- Configuring Human-Centric Auth Methods
- Implementing Machine-Centric Auth Methods.
- Understanding Vault Tokens, their hierarchy, and managing the full token lifecycle
- Case Study: Securing CI/CD Access.

Module 3: Static and Versioned Secrets

- Deep dive into the Key-Value Secrets Engine
- Best practices for organizing secret paths and using the vault kv CLI commands.
- Managing Secret Versioning and soft/hard deletion of secrets.
- Leveraging Vault's data encryption capabilities at rest and the concept of the Master Key.
- Case Study: Secure Configuration Management.

Module 4: Dynamic Secrets Generation

- Fundamentals of Dynamic Secrets.
- Configuring the Database Secrets Engine to create temporary database credentials on-demand.
- Setting up Cloud Secrets Engines to generate short-lived credentials for specific roles.
- Advanced techniques for managing and renewing leases and immediate revocation.
- Case Study: AWS Least Privilege.

Module 5: Access Control and Policy Management

- The role of ACL Policies in enforcing fine-grained access to secrets and paths.
- Writing and deploying declarative policies using HCL.
- Mapping Policies to Identities and managing policy updates.
- Understanding policy capabilities and practical examples.
- Case Study: Auditable Separation of Duties.

Module 6: Encryption-as-a-Service (EaaS)

- Introduction to the Transit Secrets Engine for protecting data without exposing encryption keys.
- Performing cryptographic operations.
- Implementing Key Rotation strategies and managing multiple key versions within a keyring.

- Use cases for data tokenization, format-preserving encryption (FPE), and developer offload.
- Case Study: Customer Data Protection.

Module 7: Vault in Kubernetes and Cloud-Native

- Integrating Vault with Kubernetes using the Auth Method and Injector for seamless secret delivery.
- Deploying and configuring the Vault Secrets Operator to sync secrets from Vault into native Kubernetes Secrets.
- Utilizing the CSI Secrets Store Driver for mounting secrets as temporary volumes in a Pod.
- Securing network traffic, service mesh integration, and mitigating the etcd risk.
- Case Study: Kubernetes Deployment Security.

Module 8: Production Operations, Disaster Recovery & PKI

- Configuring and running a Production Vault Cluster with a robust integrated storage
- Implementing Disaster Recovery Replication for multi-region failover and Performance Replication for scaling reads across regions.
- Managing the PKI Secrets Engine to act as a Certificate Authority for internal mTLS, web, and SSH certificates.
- The process of Backup, Restore, and Snapshot management for the Vault data.
- Case Study: Multi-Region Resilience.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call +254769199797

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com