INFOSECTRAIN

DEVSECOPS PRACTICAL APPROACH

COURSE HIGHLIGHTS

- 40 Hours of Instructor-led Training
- Learn with Practical Approach
- Post Training Support
- Access to Recorded Sessions
- Free Career Guidance

COURSE OVERVIEW

DevSecOps: Practical Approach training course from InfosecTrain has been meticulously crafted to equip participants with an extensive comprehension and hands-on expertise in the seamless implementation of **DevSecOps practices** within the context of a Docker and Kubernetes environment, with specific emphasis on Spring Boot applications.

Throughout this comprehensive training course, participants will delve into the optimal utilization of Docker and Kubernetes to establish streamlined DevOps workflows, skillfully integrating security measures at every stage of the software development lifecycle. The course curriculum thoughtfully merges theoretical concepts with immersive, hands-on labs and a compelling Spring Boot application demonstration, ensuring participants garner a prof
and best **practices of DevSecOps.**

Why DevSecOps- Practical Approach Course with InfosecTrain?

InfosecTrain is a leading IT security training and consulting organization offering best-in-class yet cost-effective, customized training programs to enterprises and individuals across the globe. We offer role-specific certification training programs and prepare professionals for the future. Our DevSecOps: Practical Approach training course will equip you with comprehensive skills in implementing DevSecOps practices within a Docker and Kubernetes environment, specifically emphasizing Spring Boot applications.

Here's what you get when you choose InfosecTrain as your learning partner:

- **Flexible Schedule:** Training sessions to match your schedule and accommodate your needs.
- **Post Training Support with No Expiry Date:** Ongoing assistance and support until the learners achieve their certification goals.
- **Recorded Sessions:** Access to LMS or recorded sessions for post-training reference.
- **Customized Training:** A training program that caters to your specific learning needs.
- **Knowledge Sharing Community:** Collaborative group discussions to facilitate knowledge sharing and learning.
- **Certificate:** Each candidate receives a certificate of participation as a testament to their accomplishment.
- **Expert Career Guidance:** Free Career Guidance and support from industry experts.

TARGET AUDIENCE

- DevOps Engineers
- Security Engineers
- Software Engineers
- System Administrators
- Architects and Product Managers

PRE-REQUISITE

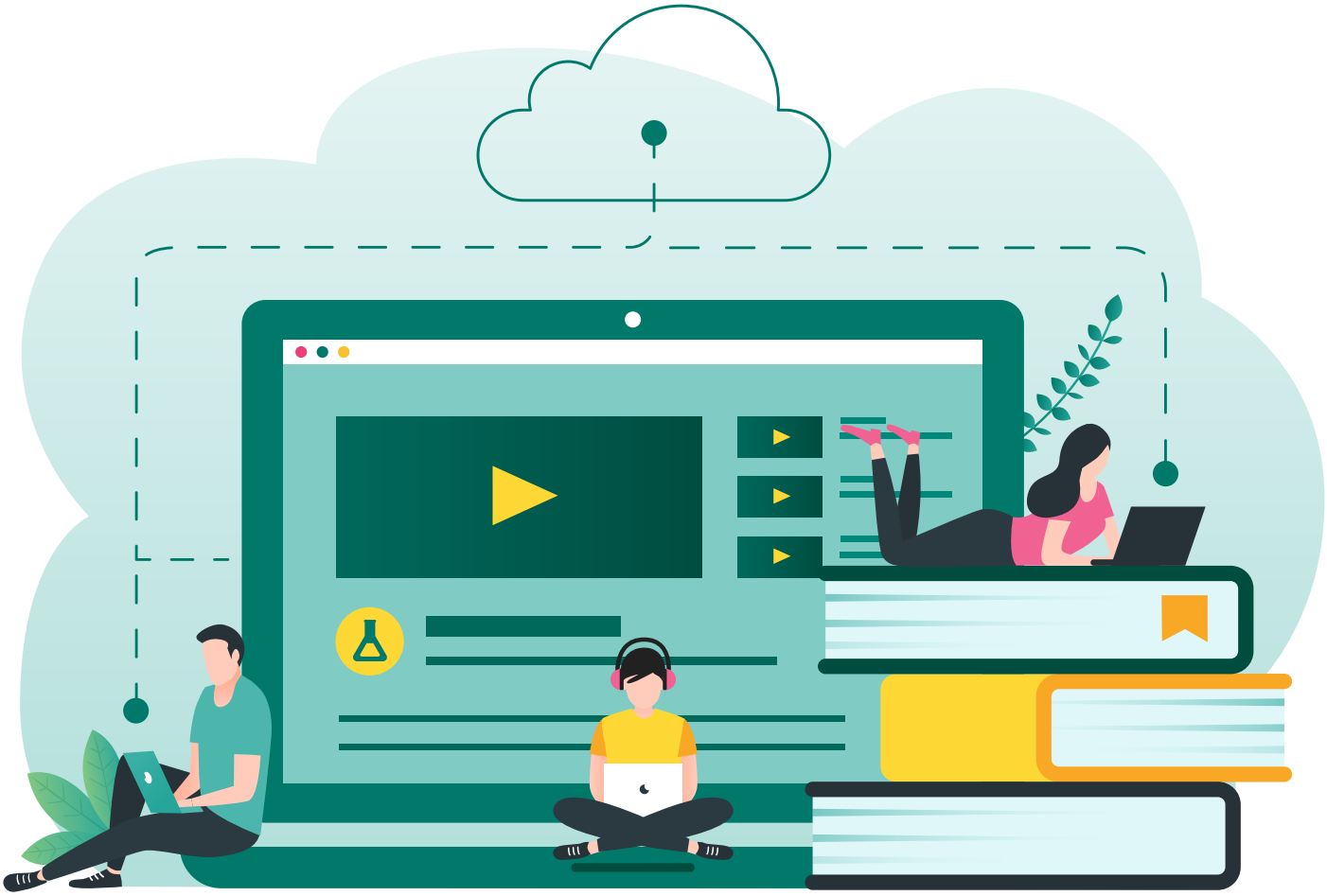
- Basic knowledge of Linux command-line usage, containerization concepts, and general DevOps practices.
- Understanding of Spring Boot application development and Jenkins is required.

COURSE OBJECTIVES

- Understand DevSecOps principles, benefits, and challenges
- Familiarize with Docker and Kubernetes for container management
- Deploy Spring Boot applications on Kubernetes
- Implement CI/CD pipelines using Jenkins and Kubernetes
- Perform vulnerability scanning and testing in DevSecOps
- Utilize tools for identifying code and resource vulnerabilities
- Secure Kubernetes networking and communication with TLS
- Authenticate and authorize Kubernetes API Server, etc
- Monitor Kubernetes for security
- Manage secrets and sensitive data in the DevSecOps pipeline
- Learn about popular secrets management tools like HashiCorp Vault
- Integrate Vault with Kubernetes for secure secret injection
- Explore bonus topics covering security orchestration tools

COURSE CONTENT

- Introduction to DevSecOps, Containers (Docker), and Orchestration (K8S) Fundamentals and Security Concepts
- Building and Managing Spring Boot Applications on Kubernetes
- Vulnerability Scanning and Testing in DevSecOps
- Kubernetes Network and Operation Security
- Manage Secrets and Protect Sensitive Data in DevSecOps Pipeline
- Bonus Topic: Hands-on with Security Orchestration Tools



Introduction to DevSecOps, Containers (Docker), and Orchestration (K8S) Fundamentals and Security Concepts

- Introduction to DevSecOps: Principles, Benefits, and Challenges
- Overview of Docker and Container Orchestration (K8S)
- Setting up the Development Environment: Kubernetes Cluster Setup
- Deploying Spring Boot Applications on Kubernetes
- Basic Kubernetes Operations and Concepts

Building and Managing Spring Boot Applications on Kubernetes

- Containerizing Spring Boot Applications: Dockerizing and Publishing to Container Registry
- Working with Kubernetes Objects: Pods, Deployments, Services, ConfigMaps, and Secrets
- Continuous Integration and Continuous Deployment (CI/CD) Pipelines with Kubernetes and Jenkins
- Best Practices for Building and Managing Spring Boot Applications on Kubernetes

Vulnerability Scanning and Testing in DevSecOps

- Git Hooks and Talisman HandsOn
- Identifying Vulnerabilities in Dependencies, Dockerfiles, Images, and Kubernetes Resources
- Unit Testing and Mutation Testing for Code Quality
- Static Application Security Testing (SAST) - SonarQube
- SCA - Dependency Check
- Dynamic Application Security Testing (DAST) - Owasp ZAP
- GitLeaks, GitSceret
- Kubesec
- Trivy - Kubernetes
- Integration Testing and Security Considerations
- OWASP ZAP - Jenkins Integration
- Issue / Bug Triaging

Kubernetes Network and Operation Security

- Kubernetes Networking Basics: Services, Ingress, and Load Balancing
- Network Policies for Isolating and Controlling Traffic
- Implementing Secure Communication with TLS Certificates
- Protecting Kubernetes API Server, etc.: Authentication and Authorization
- CIS Benchmarking and Kube-bench
- K8S Monitoring
- Prometheus & Grafana, Falco, slack
- Kubescan
- CSPM tool (Optix, Aquasec, Checkpoint)

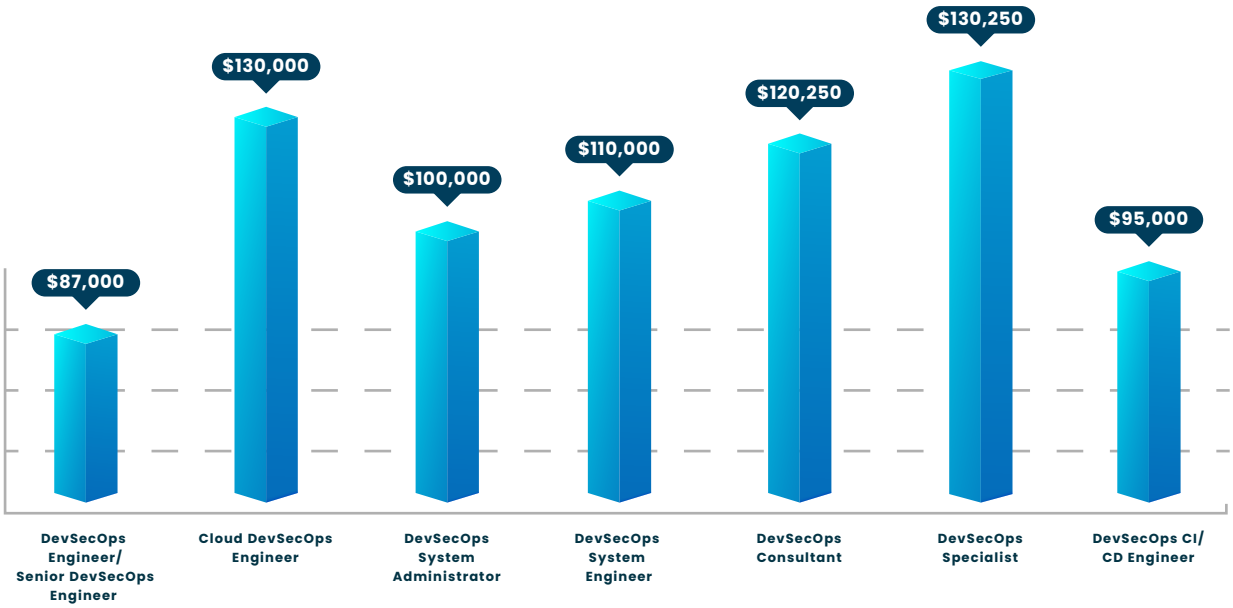
Manage Secrets and Protect Sensitive Data in DevSecOps Pipeline

- Understanding the Importance of Secret Management
- Introduction to Secure Key Management and Encryption
- Overview of Popular Secrets Management Tools (e.g., HashiCorp Vault, AWS Secrets Manager, Azure Key Vault)
- Hands-on HashiCorp Vault, Including Secrets Engine, Authentication, and Authorization
- Integrating Vault with K8S
- Secret Injection into Kubernetes Pods

Bonus Topic: Hands-on with Security Orchestration Tools

- DefectDojo
- Archery
- Kubernetes-goat

COURSE BENEFITS



HIRING COMPANIES

Source: Indeed, Glassdoor