DevSecOps in Action: Building Secure, Scalable Workflows - TTDV8400

Master practical DevSecOps skills to secure your code, pipelines, containers, and cloud infrastructure.

Duration: 5 Days
Skill Level: Intermediate
Available Format: Instructor-Led Online; Instructor-Led, Onsite In Person ; Blended; On Public Schedule

If you are ready to make your software delivery faster and safer, this course gives you the skills to bring security directly into your day-to-day workflows. You will learn how to catch issues earlier, automate security checks, and reduce the manual effort of compliance and review. Through expert guidance and hands-on labs, you will explore how to secure your pipelines, containers, infrastructure, and cloud environments using tools that real teams rely on every day. Everything is set up and ready in the course environment, so you can focus on building skills without the stress of configuration. You will see how to improve code quality with static analysis, run automated scans in your CI/CD tools, and enforce policies using Terraform and Kubernetes. You will also learn how to respond to incidents, monitor cloud activity, and meet common security frameworks like NIST and ISO 27001. This course is ideal for developers, DevOps professionals, and security engineers who already know the basics and want to take a clear next step. The instructor brings real-world experience to every topic, showing you what works, what to avoid, and how to apply security in a way that fits your team's goals. You will leave with practical experience, useful takeaways, and the confidence to put DevSecOps into practice.

What You'll Learn

Overview

DevSecOps gives you the ability to build and deliver software that is secure from the start. This expert-led course is for professionals who already understand the basics of

CI/CD, containers, and cloud platforms and want to grow their skills by bringing security into every part of the development process. Over five days, you will learn how to catch risks earlier, automate the right security checks, and reduce manual effort by setting up smarter workflows. You will work with tools like SonarQube, Trivy, OWASP ZAP, Terraform, and Kubernetes, but more importantly, you will learn how to make them work together in real-world scenarios. Everything is ready for you in our fully prepared lab environment so you can focus on building skills instead of setting up tools.

This course is about fifty percent hands-on and guided by an expert who has helped real teams solve security challenges in live environments. You will not just see how tools work but understand where they fit, why they matter, and how to use them to make your own processes stronger. You will gain experience building policies into pipelines, securing Kubernetes clusters, scanning infrastructure code, and improving visibility across your cloud environments. You will also explore how to meet common compliance goals without adding extra overhead. Whether your focus is personal growth or helping your team work more securely and efficiently, this course will give you practical skills you can put to use right away.

Objectives

The goal of this course is to help you feel confident adding security into your development and deployment workflows without slowing things down. You will leave with practical, hands-on experience and a clear understanding of how to apply what you have learned in your own environment.

Here are six key skills you will build during the course:

- **Build secure pipelines** by adding automated checks and scanners into your CI/CD tools like GitHub Actions and Jenkins.
- **Find and fix code vulnerabilities early** using tools like SonarQube, OWASP ZAP, and Trivy in a repeatable and efficient way.
- **Harden containers and Kubernetes** by setting up access controls, network policies, and runtime monitoring that protect your workloads.
- **Secure infrastructure as code** using Terraform with scanning tools like Checkov and Tfsec to catch misconfigurations before deployment.
- **Improve visibility and response** by setting up security monitoring with tools like AWS Config, GuardDuty, and Kubernetes log analysis.
- **Support compliance goals** with practical ways to align your workflows to frameworks like NIST, ISO 27001, and OWASP Top 10 without adding extra work.

Throughout the course, you will get to apply these skills in real examples with everything already set up and ready to go, so you can focus on learning and practicing.

Audience

This course is designed for professionals who are already comfortable with modern DevOps workflows and are ready to start applying security practices throughout the software development lifecycle. It is a great fit for DevOps engineers, cloud engineers, developers, and security professionals who want to build real-world DevSecOps skills. You should be familiar with CI/CD tools, container basics, and working in cloud environments.

To get the most out of this course, you should already know how to:

- Work with Git and understand basic version control workflows
- Use Docker to build and run containers
- Navigate Linux environments and write simple scripts in Bash or Python

Pre-Requisites

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Take Before: In order to gain the most from this course, you should have incoming skills equivalent to those in the course listed below, or should have attended this as a prerequisite:

TTDV7585	Advanced Ansible in Action: Building Smarter, Stronger Automation
TTDV7551	Introduction to GitHub for Developers
TTLX2103	Introduction to Linux / Linux Essentials

Agenda

Please note that this list of topics is based on our standard course offering, evolved from current industry uses and trends. We will work with you to tune this course and level of coverage to target the skills you need most. Course agenda, topics and labs are subject to adjust during live delivery in response to student skill level, interests and participation. The course tools, topics, use cases and hands-on labs can be adjusted to suit your specific needs, goals or requirements.

1: Introduction to DevSecOps and Secure Development Practices

Learn the foundations of DevSecOps and how to build security into your coding practices from day one.

- Understand core DevSecOps principles
- Explore secure SDLC and team culture
- Review top security risks (OWASP Top 10)
- Apply threat modeling and secure coding basics
- Lab: Scan dependencies using OWASP Dependency-Check
- Lab: Run static code analysis with SonarQube

2: CI/CD Pipeline Security and Automated Testing

Secure your pipelines by embedding automated testing and scanning tools into CI/CD workflows.

- Design secure CI/CD pipelines
- Implement SAST and DAST tools
- Use SonarQube, Snyk, Trivy, and OWASP ZAP
- Add security checks to pipeline stages
- Lab: Add SAST to Jenkins or GitHub Actions
- Lab: Run DAST scans with OWASP ZAP

3: Container Security and Kubernetes Hardening

Learn how to secure containerized apps and strengthen Kubernetes security.

- Identify container security risks
- Scan Docker images for vulnerabilities
- Configure RBAC and network policies in Kubernetes
- Monitor workloads with Falco and Sysdig
- Lab: Scan containers using Trivy and Anchore

- Lab: Apply Kubernetes RBAC and policies

4: Infrastructure-as-Code and Cloud Security Best Practices

Secure cloud environments using code and apply monitoring across platforms.

- Scan Terraform with Checkov and Tfsec
- Apply cloud security best practices (AWS, GCP, Azure)
- Set up logging and alerts
- Enforce policies using Sentinel or OPA
- Lab: Secure Terraform deployments
- Lab: Monitor cloud resources with AWS tools

5: Incident Response, Compliance, and Governance

Prepare for incidents, align with compliance, and automate policy enforcement.

- Build incident response workflows
- Use forensics and audit-ready logging
- Map workflows to NIST, ISO 27001, SOC 2
- Explore Zero Trust and maturity models
- Lab: Respond to a simulated security incident
- Lab: Enforce policies with Open Policy Agent

Related Courses

TTDV7585	Advanced Ansible in Action: Building Smarter, Stronger Automation

Setup Made Simple! All of our AI for Business course software, digital course files or course notes, labs, data sets and solutions, live coaching support channels and rich extended learning and post training resources are provided for you in our easy access, single source, no install required online Learning Experience Platform (LXP), remote lab and content environment. Or we can provide a local installation (trial edition) to setup and use on your machine. Access periods and versions vary by course. Please inquire about set up details and options for your specific course of interest. Regardless of setup option, we will collaborate with you to ensure your team is set up and ready to go well in advance of the class.

Ways to Learn: At Trivera, we believe that Experience is Everything. Our customizable, hands-on courses are delivered live online, onsite, or in a blended format for maximum flexibility. We provide real-time expert-led training and coaching for all skill levels, from small groups to enterprise-wide programs, ensuring every learner gains the latest, most relevant job-ready skills they can apply with confidence. This course is also available for individuals or small groups on our extensive Public Schedule (see current dates below). We look forward to helping you take the next steps in your modern web developer learning journey.

For More Information

Please contact us or call 844-475-4559 toll free for more information about our training services (instructor-led, self-paced or blended), coaching and mentoring services, public course enrollment or questions, partner programs, courseware licensing options and more.