The DevOps Practitioner Mastery: From Continuous Integration to Cloud Automation course

28 June – 2 July 2027
Cairo

AGILE LEADERS
Training Center

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Overview

Enterprise technology teams face increasing demands for rapid deployment velocity, system stability, and automated governance across complex multi-cloud ecosystems. The DevOps Practitioner Mastery: From Continuous Integration to Cloud Automation course equips engineering professionals with technical methodologies to design, automate, and optimize modern delivery systems. Participants examine CI/CD pipeline architecture, Infrastructure as Code, container orchestration using Kubernetes and Docker, and DevSecOps implementation across hybrid infrastructure. Through structured analysis of deployment pipelines and telemetry frameworks, technical teams learn to accelerate software delivery while maintaining security compliance and operational resilience. This course is delivered by Agile Leaders Training Center.

Who Should Attend

- DevOps engineers, cloud practitioners, and infrastructure specialists seeking to standardize deployment workflows.
- Cloud engineers and enterprise architects building scalable infrastructure automation frameworks.
- System administrators and IT managers transitioning traditional server environments to automated pipelines.
- Software developers and quality assurance leads integrating continuous testing and automated verification gates.
- Security engineers and DevSecOps practitioners embedding compliance checks into deployment lifecycles.
- IT project managers and agile delivery leads driving operational collaboration across cross-functional teams.

Departments and Industries

This program supports technical professionals responsible for infrastructure, software delivery, and operational reliability across technology-driven sectors.

- Cloud Operations and IT Infrastructure Divisions
- Software Engineering and Application Development Teams
- Quality Assurance and Automated Testing Units
- Information Security, Cybersecurity, and Compliance Groups
- Banking, Financial Services, and FinTech Enterprises
- Telecommunications, Healthcare, and Cloud Technology Providers
- Public Sector and Digital Transformation Initiatives

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Learning Objectives

By the end of this course, participants will be able to:

- Design and deploy resilient CI/CD pipelines for automated application delivery.
- Implement Infrastructure as Code using Terraform and Ansible configuration models.
- Orchestrate containerized services using Kubernetes and Docker platforms.
- Incorporate DevSecOps security gates directly into automated delivery stages.
- Establish continuous monitoring and observability frameworks for system telemetry.
- Execute cloud DevOps practices across hybrid and multi-cloud architectures.
- Align agile release cycles with automated delivery metrics to support organizational goals.

Course Agenda

Day 1: DevOps Foundations and Agile Integration

- DevOps lifecycle phases from planning and coding to deployment and telemetry
- Agile workflow alignment and shared accountability between development and operations
- Cultural patterns and collaboration frameworks for sustainable organizational agility
- Evaluation of DevOps automation tools and repository orchestration practices
- Transformation barrier identification and cultural friction mitigation methods
- DevOps maturity assessment models and operational capability benchmarking

Day 2: CI/CD Pipeline Design and Implementation

- Continuous integration fundamentals, automated builds, and commit triggers
- Scalable CI/CD pipeline architecture across distributed code repositories
- Automating build, test, and package workflows using Jenkins and GitLab CI
- Integrating automated testing suites and static code quality verification gates
- Deployment patterns including blue-green, canary, and rolling releases
- Pipeline performance optimization and recovery strategies for build failures

Day 3: Infrastructure as Code and Automation Mastery

- Infrastructure as Code principles, idempotency, and declarative provisioning
- Configuration management patterns using Ansible automation playbooks
- Automated cloud provisioning and environment creation using Terraform scripts
- State management, modular code reusability, and version control for IaC
- Security compliance policies, secret management, and drift detection within code
- Troubleshooting automation execution and managing multi-environment topologies

Day 4: Containerization, Cloud, and DevSecOps Practices

- Containerization architecture, image layering, and runtime management with Docker
- Kubernetes cluster management, pod scheduling, services, and ingress control
- Multi-cloud deployment orchestration and infrastructure scalability strategies
- DevSecOps implementation with automated vulnerability scanning and software supply chain checks
- Observability frameworks incorporating structured logging, metrics, and distributed tracing
- Reliability engineering patterns for containerized production workloads

Day 5: Scaling, Measuring, and Optimizing DevOps

- DevOps performance metrics including deployment frequency, lead time, and failure rates
- Scaling automation governance across enterprise teams and business divisions
- Continuous improvement loops utilizing organizational capability maturity models
- Change control integration, risk mitigation, and compliance documentation
- Strategic alignment of automation investment with core enterprise objectives
- Capstone project: Designing an end-to-end automated delivery and deployment pipeline

Course Toolbox

- Pipeline architecture design patterns and integration reference diagrams
- Infrastructure as Code configuration templates and audit checklists
- DevSecOps security gate implementation checklists and vulnerability scanning guides
- Monitoring dashboard templates and observability metric reference sheets
- DevOps maturity assessment matrix and organizational roadmap worksheets

FAQs

What specific qualifications or prerequisites are needed for participants before enrolling in the course?

Participants should have a basic understanding of IT infrastructure, software development lifecycles, or cloud environments. Prior exposure to scripting or command-line interfaces is helpful but not required.

How long is each day's session, and is there a total number of hours required for the entire course?

Each day consists of 4 to 5 hours of instruction, structured activities, and technical discussions. The complete course comprises approximately 25 instructional hours over five days.

How can DevSecOps improve CI/CD pipeline performance?

DevSecOps embeds automated security assessments, vulnerability scans, and policy checks early in the pipeline, which resolves compliance issues during development and prevents costly release delays.

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How This Course is Different from Other DevOps Courses

This program combines strategic system design with practical technical execution, balancing operational leadership with hands-on pipeline engineering. Rather than isolating individual tools, it unifies version control, automated testing, container orchestration, Infrastructure as Code, and observability into a single coherent workflow. Participants gain a clear framework to design, govern, and maintain production-ready delivery pipelines that scale across enterprise cloud environments.