BLACKBIRD FOR TRAINING

Introduction to DevOps: Principles, Practices, and Tools

11 – 15 January 2027
Orlando, Florida (USA)



Introduction to DevOps: Principles, Practices, and Tools

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Why This Course

In today's fast-paced software development environment, organizations must deliver applications rapidly without compromising quality. DevOps bridges development and operations, enabling continuous integration, delivery, and deployment, while fostering collaboration and efficiency. This intensive 1-week course equips IT professionals with practical skills, tools, and methodologies to implement DevOps practices and drive continuous improvement in software delivery processes.

What You'll Learn and Practice

By participating in this course, you will:

- Understand core DevOps principles and their impact on software delivery.
- Gain hands-on experience with essential DevOps tools, including Git, Jenkins, Docker, Kubernetes, Terraform, and Ansible.
- Implement continuous integration CI and continuous delivery CD pipelines.
- Automate infrastructure provisioning and configuration management.
- Explore monitoring, logging, and feedback mechanisms to improve system reliability.
- Develop strategies to foster a collaborative DevOps culture within your organization.

The Program Flow

Day 1: DevOps Fundamentals

- Introduction to DevOps: history, principles, and benefits
- DevOps culture and organizational impact
- Key DevOps practices and methodologies
- DevOps toolchain overview

Day 2: Version Control and Continuous Integration

- Git fundamentals and best practices
- Introduction to continuous integration
- Setting up a CI server Jenkins
- Creating and managing CI pipelines



Day 3: Continuous Delivery and Deployment

- Principles of continuous delivery and deployment
- Deployment strategies and best practices
- Containerization with Docker
- Container orchestration with Kubernetes basics

Day 4: Infrastructure as Code and Configuration Management

- Introduction to infrastructure as code
- Using Terraform for infrastructure provisioning
- Configuration management with Ansible
- Creating and managing automated environments

Day 5: Monitoring, Logging, and DevOps Culture

- Monitoring and alerting best practices
- Log management and analysis
- Implementing feedback loops
- Fostering a DevOps culture and overcoming challenges

Individual Impact

- Develop confidence in using DevOps tools to automate and optimize software delivery.
- Gain practical skills to implement CI/CD pipelines and infrastructure automation.
- Strengthen problem-solving and collaboration abilities in a DevOps environment.
- Acquire knowledge to foster a culture of continuous improvement across development and operations teams.

Work Impact

- Streamline software delivery and deployment processes.
- Reduce operational inefficiencies and increase system reliability.
- Improve collaboration between development and operations teams.
- Enable faster, safer, and more consistent release cycles in your organization.

Training Methodology

This course uses a combination of hands-on exercises, real-world scenarios, and interactive workshops:

- Practical labs on Git, Jenkins, Docker, Kubernetes, Terraform, and Ansible.
- Building CI/CD pipelines and automated deployment workflows.
- Infrastructure automation and configuration management exercises.
- Monitoring and logging simulations to implement feedback-driven improvements.
- Case studies and group discussions on fostering a DevOps culture.



Beyond the Course

Upon completion, participants will be ready to:

- Implement end-to-end CI/CD pipelines in their projects.
- Automate infrastructure provisioning and environment management.
- Monitor applications effectively and respond to operational issues proactively.
- Drive DevOps adoption and continuous improvement within their organizations.

