

DEVOPS

ADVANCED

5 DAYS

Continuous Integration, Delivery and Deployment with GitHub Actions

Build a strong foundation in CI/CD using GitHub Actions to automate builds, testing, and deployments. Learn how to design, customize, monitor, and troubleshoot workflows while applying best practices for version control and scalable development automation.

Why GitHub Actions?

Faster time-to-market

By automating the development process, organizations can release software changes faster and with greater frequency.

Increased collaboration

CI/CD pipelines promote collaboration between developers, testers, and operations teams, fostering a culture of shared responsibility and ownership.

Improved quality

Continuous Integration and Delivery help catch issues early in the development process, reducing the number of bugs that make it to production.

Cost savings

Automation reduces the time and effort required to deploy software changes, saving organizations money on manual testing and deployment.

What you'll be able to do

- ✓ Understanding the concepts of Continuous Integration, Delivery, and Deployment
- ✓ Gain a comprehensive overview of GitHub Actions and how it can be used to automate the development process
- ✓ Learn how to create CI/CD pipelines using GitHub Actions
- ✓ Get familiarized with the techniques for automating testing and quality assurance using GitHub Actions
- ✓ Get guidance on best practices for version control and code management
- ✓ Learn how to monitor and troubleshoot CI/CD pipelines
- ✓ Learn how to customize and extend GitHub Actions workflows to meet the specific needs of an organization

Who this is for

- Developers
- DevOps Engineers
- IT professionals
- Release Engineers
- Quality assurance (QA) Engineers
- System Administrators
- Project Managers

Curriculum

01 CI/CD and Actions Foundations

- Apply ci/cd and actions foundations with GitHub Actions in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

02 Build a First Pipeline

- Apply build a first pipeline with GitHub Actions in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

03 Testing and Quality Gates

- Apply testing and quality gates with GitHub Actions in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

04 Secrets and Environments

- Apply secrets and environments with GitHub Actions in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

05 Deploy Web Apps

- Apply deploy web apps with GitHub Actions in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

06 Docker and Kubernetes Integration

- Apply docker and kubernetes integration with GitHub Actions in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

07 Branching Strategies and Advanced Workflows

- Apply branching strategies and advanced workflows with GitHub Actions in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

08 Release Management and Versioning

- Apply release management and versioning with GitHub Actions in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

09 Infra Automation and Multi-env

- Apply infra automation and multi-env with GitHub Actions in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

10 Third-party Integrations

- Apply third-party integrations with GitHub Actions in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

11 Security, Compliance, and Cost

- Apply security, compliance, and cost with GitHub Actions in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

12 Custom Actions, Monitoring, and Collaboration

- Apply custom actions, monitoring, and collaboration with GitHub Actions in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards