



Mastering GitHub Actions

MGA | 1 Day

Supercharge your automation capabilities with GitHub Actions. This one-day course is designed to help you unlock the full power of GitHub Actions to build, test, and deploy applications automatically and securely. Through hands-on labs and real-world examples, attendees will work in teams to learn how to create and manage workflows that streamline their development and release processes.

Who should take this class?

This course is designed for developers, DevOps engineers, QA professionals, and technical team members who want to automate their workflows using GitHub Actions. It's especially valuable for those involved in building, testing, or deploying applications, as well as team leads and architects responsible for standardizing development processes. Prior experience with GitHub and basic scripting (such as YAML or shell) is recommended and a background in CI/CD or DevOps principles is helpful but not required.

Course content

This course progressively explains how to use GitHub Actions to build and deploy modern software systems. Students will work in teams using a shared GitHub environment to configure and execute real workflows.

- 1. INTRODUCTION TO GITHUB ACTIONS**
 - GitHub Actions overview
 - Events, workflows, jobs, and steps
 - GitHub-hosted vs. self-hosted runners
 - Common use cases for Actions
 - Workflow triggers: types and purpose
 - Workflow syntax and structure (YAML)
 - Creating your first workflow
 - Exploring the GitHub Actions Marketplace
 - Team-based, hands-on exercises
- 2. AUTOMATING BUILDS, TESTS, AND DEPLOYMENTS**
 - Configuring build and test pipelines
 - Matrix builds for versions or platforms
 - Environment variables and secrets
 - Reusable workflows and composite actions
 - Setting up CI/CD pipelines with Actions
 - Deploying to Pages, cloud, or containers
 - Caching dependencies and artifacts
 - Status checks and required workflows
 - Securing your workflows
 - Team-based, hands-on exercises
- 3. ADVANCED TECHNIQUES AND BEST PRACTICES**
 - Debugging workflows and job logs
 - Conditional execution and expressions
 - Using concurrency and job dependencies
 - Dynamic configuration with workflow inputs
 - Managing environments and approvals
 - Third-party integrations (Slack, Jira, etc.)
 - Monitoring and auditing Actions usage
 - Workflow structure and best practices
 - Governance and enterprise considerations
 - Team-based, hands-on exercises

Course Designer

This course was designed by Richard Hundhausen, Microsoft's first DevOps MVP, Professional Scrum Trainer, co-creator of the Nexus Scaled Professional Scrum framework, and an experienced software developer. To see other DevOps courses, visit www.accentient.com.