training code: GH-200 / ENG DL 1d / EN

Automate your workflow with GitHub Actions

The training covers essential tools, workflows, and strategies for automating the software development lifecycle with GitHub Actions. It provides comprehensive coverage of foundational workflow planning, application builds, GitHub Script API interactions, and secure package publishing. The course is designed as a blended learning experience combining instructor-led training with online materials on the Microsoft Learn platform

Training recipients

- DevOps Engineers looking to streamline support escalation, automate administrative tasks with GitHub APIs, and optimize CI/CD pipelines across enterprise environments
- Developers seeking to build secure, consistent workflows, extend GitHub's capabilities with Marketplace integrations, and enhance team productivity
- Solution Architects interested in scaling collaboration through Enterprise Teams and Apps, improving governance, and designing resilient, automated development infrastructures

Benefits

- Enterprise-grade automation capabilities – You'll learn to implement and manage workflow automation across projects and organizations
- Secure CI/CD pipeline development – You'll master designing and authoring YAML workflows for building, testing, and deploying applications securely
- Advanced workflow optimization – Through hands-on experience with matrix strategies, caching, and artifact management, you'll learn to optimize workflow performance
- Custom integrations development – You'll gain skills in developing custom actions and scripting with GitHub Script API

- Enterprise compliance and governance – You'll learn to maintain compliance, cost control and reliability while implementing automation solutions
- Practical troubleshooting skills – You'll develop abilities to troubleshoot workflow failures and manage support escalation effectively

Training program

1. Automate development tasks by using GitHub Actions
   - Introduction
   - How does GitHub Actions automate development tasks?
   - Identify the components of GitHub Actions
   - Configure a GitHub Actions workflow
   - Exercise – Create and run a basic GitHub Actions workflow
2. Build continuous integration (CI) workflows by using GitHub Actions
   - Introduction
   - How do I use GitHub Actions to create workflows for CI?
   - Customize your workflow with environment variables and artifact data
   - Exercise – Create the CI workflow on GitHub
3. Build and deploy applications to Azure by using GitHub Actions
   - Introduction
   - How do I use GitHub Actions to deploy to Azure?
   - Remove artifacts, create status badges, and configure environment protections
   - Exercise – Create a workflow that deploys a web app to Azure
4. Automate GitHub by using GitHub Script
   - Introduction
   - What is GitHub Script?
   - Exercise – Using GitHub Script in GitHub Actions
5. Leverage GitHub Actions to publish to GitHub Packages
   - Introduction
   - What is GitHub Packages?
   - Publish to GitHub Packages and GitHub Container Registry
   - Exercise – Publish to a GitHub Packages registry
6. Create and publish custom GitHub actions
   - Introduction
   - Create a custom GitHub action
   - Publish a newly created action to the GitHub Marketplace
7. Manage GitHub Actions in the enterprise
   - Introduction
   - Understanding GitHub Enterprise models

- Manage actions and workflows
- Control access and usage of actions in your enterprise
- Managing and leveraging reusable components in GitHub Actions
- Manage runners
- Configure self-hosted runners for enterprise use
- Manage encrypted secrets
- Exercise – Use a repository secret in a GitHub Actions workflow

Expected preparation of the participant

- The participant must have a GitHub account.
- A basic understanding of software development concepts and experience using at least one programming or scripting language
- Familiarity with GitHub, including version control workflows (branching, pull requests) and working within repositories
- General knowledge of enterprise environments or development at scale, including CI/CD practices
- Experience with integrated development environments (IDEs)
- Working knowledge of collaborative development tools or platforms

To increase the comfort of work and training's effectiveness we suggest using an additional monitor. The lack of additional monitor does not exclude participation in the training, however, it significantly influences the comfort of work during classes.
You can find information and requirements of participation in Distance Learning trainings at: https://www.altkomakademia.pl/en/how-it-works/about-courses/

Training Includes

- manual in electronic form available on the platform: https://learn.microsoft.com/pl-pl/training/
- access to Altkom Akademia's student portal

Training method:

- Lecture (50%)
- Exercises (50%)

Language

- Training: English
- Materials: English

Examination method

On-line exam. Record at https://home.pearsonvue.com/Clients/Microsoft.aspx

Duration

1 days / 8 hours

Examination description

GitHub Actions
Exam
URL:https://learn.microsoft.com/en-us/credentials/certifications/github-actions/?practice-assessment-type=certification