

KOENIG SOLUTIONS • COURSE OUTLINE

GH-100: GitHub Fundamentals - Administration Basics and Product Features

Learn to administer GitHub, secure repositories, manage identities, and scale GitHub Actions, Packages, and enterprise support.

1 Day

DURATION

9

MODULES

65

TOPICS

5

HANDS-ON EXERCISES

COURSE OVERVIEW

This course covers the GitHub platform and the fundamentals of GitHub administration, including authentication, permissions, and governance. It examines GitHub's products and accounts, plans, billing, and license usage reporting, then moves into securing repositories through best practices, security policies, rulesets, and reporting. It addresses user identity, authentication, authorization, and team synchronization, followed by enterprise support, adoption, and deployment scaling. The course closes with managing GitHub Actions, runners, encrypted secrets, and publishing packages through GitHub Packages and the GitHub Container Registry.

WHO THIS COURSE IS FOR

The audience profile for this course is the following:

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

PREREQUISITES

The audience for this 1-day course includes DevOps Engineers, Developers, and Solution Architects who want to strengthen their expertise in managing GitHub Enterprise environments. Candidates should have the following:

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

LEARNING OBJECTIVES

What You Will Learn

After completing this course, students will be able to:

- Identify and escalate issues appropriately by creating and sharing support bundles with GitHub Support for faster resolution
- Leverage Enterprise Teams and Enterprise Apps to improve collaboration, management, and governance within GitHub Enterprise
- Design secure and scalable developer workflows using best practices for branching strategies, code reviews, automation, and release management
- Implement CI/CD pipelines to streamline the software delivery lifecycle with consistent build, test, and deployment processes
- Configure, secure, scale, and monitor runners (GitHub-hosted and self-hosted) to keep builds fast, available, and compliant
- Safeguard credentials by scoping, rotating, and auditing encrypted secrets and integrating external vaults for centralized management
- Extend and automate GitHub using rate-efficient API scripts, Marketplace Apps, and custom Actions to connect third-party tools and streamline administration

TRAINING APPROACH

This course is designed to be delivered in one full day. The activities are approximately 90% instructional-led and 10% student-interactive knowledge checks. The student training content for this course is in Microsoft Learn and the exercises (hands-on or demonstrations) are included within the Learn modules.

COURSE SYLLABUS

9 Modules, 65 Topics

01

Exercise

Introduction to GitHub

TOPICS

Introduction · What is GitHub? · Components of the GitHub flow · GitHub is a collaborative platform · GitHub platform management · Module assessment · Summary

02

Introduction to GitHub Administration

TOPICS

- Introduction
- What is GitHub administration?
- How does GitHub authentication work?
- How does GitHub organization and permissions work?
- Managing enterprise access, permissions, and governance
- Module assessment
- Summary

03

Introduction to GitHub's Products

TOPICS

- Introduction
- GitHub accounts and plans
- GitHub Mobile and GitHub Desktop
- GitHub billing
- License Usage Stats
- License Usage Stats in Machine and Peripheral Devices
- Metered Usage Reports
- Module assessment
- Summary

04**Exercise**

Maintain a Secure Repository by Using GitHub Best Practices

TOPICS

Introduction · How to maintain a secure GitHub repository · Automated security · Module assessment · Summary

05**Exercise**

Manage Sensitive Data and Security Policies within GitHub

TOPICS

Introduction · Setting security policies · Create and manage repository rulesets · Reporting and logging · Module assessment · Summary

06

Authenticate and Authorize User Identities on GitHub

TOPICS

Introduction · User identity and access management · User authentication · User authorization · Team synchronization · Module assessment · Summary

07

GitHub Administration for Enterprise Support and Adoption

TOPICS

Introduction · GitHub Enterprise features · Support for GitHub Enterprise · Scale your enterprise deployment · GitHub Enterprise Managed Users · Module assessment · Summary

08

Exercise

Manage GitHub Actions in the Enterprise

TOPICS

- 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
- Module assessment
- Summary

09

Exercise

Leverage GitHub Actions to Publish to GitHub Packages

TOPICS

- Introduction
- What is GitHub Packages?
- Publish to GitHub Packages and GitHub Container Registry
- Knowledge check
- GitHub Packages for code packages
- Module assessment
- Summary

NOTES

- Exercises and Demos (5 exercises, 1.5 hours): Exercises are to be used as hands-on activities for individual students which are led by the instructor, or demonstrations led by the instructor. The decision to lead hands-on activities or perform demonstrations is the instructor's responsibility.

HANDS-ON EXERCISES

Practise What You Learn

#	MODULE	ACTIVITY
01	Introduction to GitHub	A guided tour of GitHub
04	Maintain a Secure Repository by Using GitHub Best Practices	Add a .gitignore file
05	Manage Sensitive Data and Security Policies within GitHub	Remove commit history
08	Manage GitHub Actions in the Enterprise	Use a repository secret in a GitHub Actions workflow
09	Leverage GitHub Actions to Publish to GitHub Packages	Publish to a GitHub Packages registry

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

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