

KOENIG SOLUTIONS • COURSE OUTLINE

GH-500: GitHub Advanced Security

Learn to configure and use GitHub Advanced Security features such as Dependabot, secret scanning and CodeQL code scanning to protect repositories.

1 Day

DURATION

8

MODULES

33

TOPICS

6

HANDS-ON EXERCISES

COURSE OVERVIEW

This course covers GitHub Advanced Security (GHAS) and its role within the security ecosystem. It addresses configuring Dependabot alerts, security updates and dependency review, followed by setting up and using secret scanning to prevent secret leaks. It then examines code scanning, including CodeQL database preparation, query execution and workflow customisation with the CodeQL CLI. Finally, it looks at GitHub administration for GHAS, along with managing sensitive data, security policies, repository rulesets, and reporting and logging.

WHO THIS COURSE IS FOR

Audience profile for this course is the following:

A security professional or developer responsible for implementing and managing security measures within their organization

Possesses a foundational understanding of GitHub and its basic functionalities but are looking to deepen their knowledge of advanced security features

Desire to learn how to effectively use GitHub Advanced Security (GHAS) to enhance the security of their codebase and development workflow

PREREQUISITES

The audience for this 1-day course consists of security professionals and developers who are responsible for implementing and managing GitHub security measures within their organizations. The exercise activities in this 1-day class are Advanced and require an intermediate knowledge of Git and GitHub functions and features. Candidates should have the following:

- Experience in using and administering GitHub repositories.
- Experience of working with Microsoft Azure services.
- Technical skills in code scanning, dependency management, and secret scanning, and are familiar with tools like CodeQL and Dependabot.

What You Will Learn

After completing this course, students will be able to:

- Define GitHub Advanced Security (GHAS): Understand the importance of integral features such as Secret scanning, Code scanning, and Dependabot
- Utilize GHAS: Learn how to maximize security impact using GHAS features
- Understand GHAS in the Security Ecosystem: Recognize GHAS's role and its integration into the security workflow
- Configure Dependabot: Learn to enable and configure Dependabot alerts and security updates
- Implement Secret Scanning: Understand how to enable and use secret scanning to prevent secret leaks
- Configure Code Scanning: Learn to implement and configure code scanning using CodeQL and other tools

TRAINING APPROACH

This course is designed to be delivered in one full day. The activities are approximately 60% instructional led and 40% student interactive exercises and/or instructor demos. The student training content for this course is in Microsoft Learn and the exercises (hands-on or demonstrations) are included within the Learn modules. 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.

COURSE SYLLABUS

8 Modules, 33 Topics

01

Introduction to GitHub Advanced Security

TOPICS

- Define GHAS and the importance of its integral features
- How to utilize GHAS to get the most impact
- Understand GHAS and its role in the security ecosystem

02**Exercise**

Configure Dependabot Security Updates on Your GitHub Repo

TOPICS

Manage your dependencies on GitHub ·
Dependabot alerts · Dependabot security updates ·
Manage Dependabot notifications and reports ·
Dependency review

03**Exercise**

Configure and Use Secret Scanning in Your GitHub Repository

TOPICS

What is secret scanning? · Configure secret scanning ·
Use secret scanning

04**Exercise**

Configure Code Scanning on GitHub

TOPICS

What is code scanning? · Enable code scanning with
third party tools · Configure code scanning

05

Identify Security Vulnerabilities in Your Codebase by Using CodeQL

TOPICS

Prepare a database for CodeQL · Run CodeQL in a
database · Understand CodeQL results · Troubleshoot
CodeQL results

06**2 Exercises**

Code Scanning with GitHub CodeQL

TOPICS

- What is CodeQL?
- How does CodeQL analyze code?
- What is QL?
- Code scanning and CodeQL
- Customize your code scanning workflow with CodeQL - Part 1
- Customize your code scanning workflow with CodeQL - Part 2
- Use the CodeQL CLI
- Customize languages and builds for code scanning

07

GitHub Administration for GitHub Advanced Security

TOPICS

- What is GitHub Advanced Security?
- Enable GitHub Advanced Security
- Manage access to GitHub Advanced Security
- Manage the GitHub Advanced Security features and alerts

Manage Sensitive Data and Security Policies within GitHub

TOPICS

Setting security policies · Create and manage repository rulesets · Reporting and logging

HANDS-ON EXERCISES

Practise What You Learn

#	MODULE	ACTIVITY
02	Configure Dependabot Security Updates on Your GitHub Repo	Configure Dependabot security updates
03	Configure and Use Secret Scanning in Your GitHub Repository	Introduction to secret scanning
04	Configure Code Scanning on GitHub	Configure code scanning
06	Code Scanning with GitHub CodeQL	■ Reference a CodeQL query ■ Configure a CodeQL language matrix
08	Manage Sensitive Data and Security Policies within GitHub	Removing a commit from the git history

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.

Visit koenig-solutions.com

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