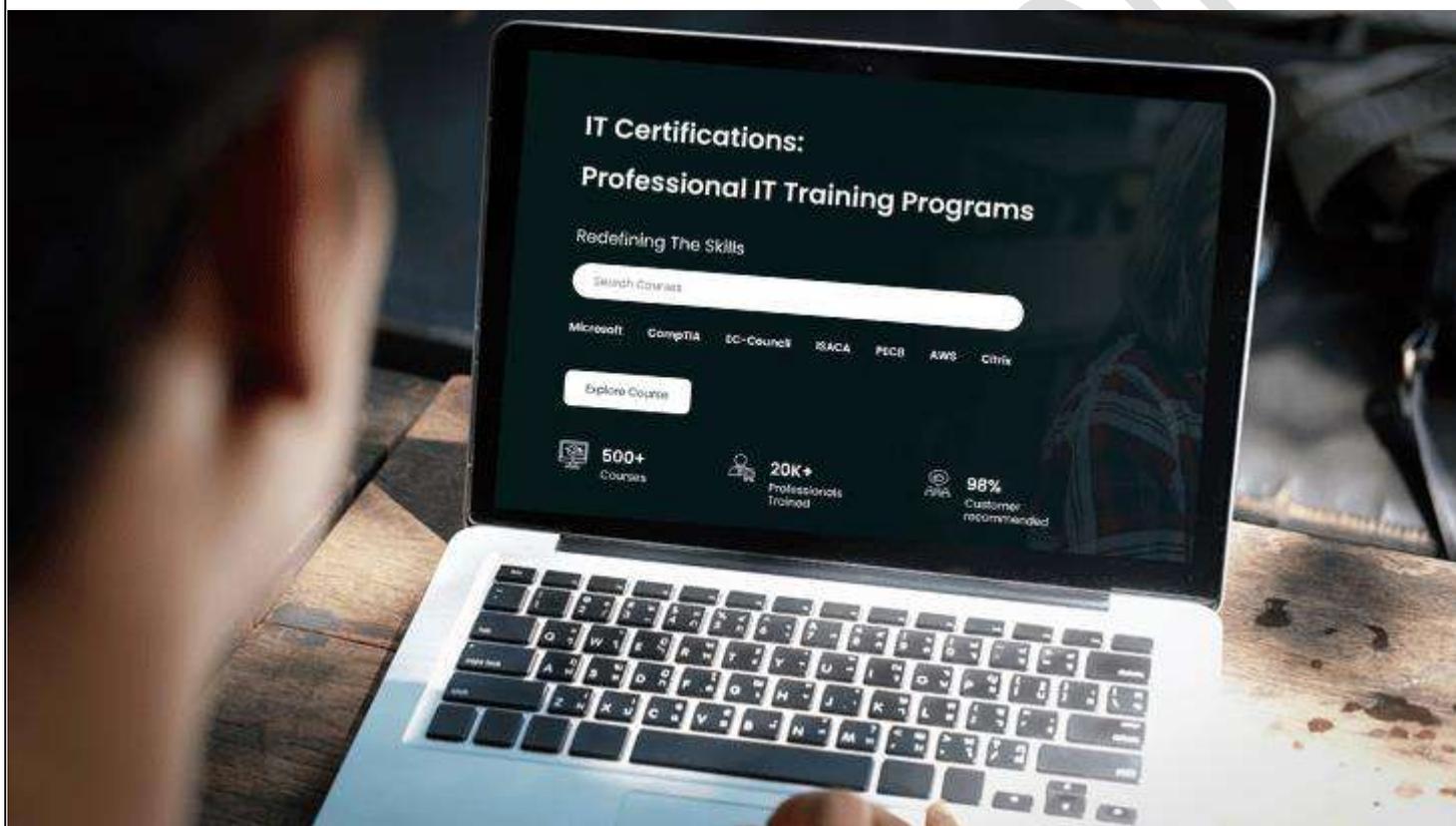# GH-500T00: GitHub Advanced Security Training

DURATION: 1 DAY

Course Overview

GH-500T00: GitHub Advanced Security delivers an in-depth exploration of GitHub's security capabilities, including secret scanning, CodeQL-based code scanning, and dependency management with Dependabot. Participants will learn to configure and apply these tools to strengthen their software development security posture. The course also addresses administrative best practices, such as establishing security policies and managing sensitive data within GitHub.

Who Should Attend This Course?

- DevOps Engineer

What you will learn

- Understand and configure GitHub Advanced Security features.
- Implement Dependabot for automated dependency updates.
- Set up and manage secret scanning to protect sensitive information.
- Configure code scanning using CodeQL for vulnerability detection.
- Analyze and interpret CodeQL scan results.
- Administer security policies and manage sensitive data within GitHub.

Curriculum

Module 1: GitHub Advanced Security Part 1 of 2

Introduction to GitHub Advanced Security

- 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

Configure Dependabot security updates on your GitHub repo

- Manage your dependencies on GitHub
- Dependabot alerts
- Dependabot security updates
- Manage Dependabot notifications and reports
- Dependency review
- Exercise - Configure Dependabot security updates

Configure and use secret scanning in your GitHub repository

- What is secret scanning?
- Configure secret scanning
- Use secret scanning
- Exercise

Configure code scanning on GitHub

- What is code scanning?
- Enable code scanning with third party tools
- Configure code scanning
- Configure code scanning exercise

Module 2: GitHub Advanced Security Part 2 of 2

Identify security vulnerabilities in your codebase by using CodeQL

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

Code scanning with GitHub CodeQL

- What is CodeQL?
- How does CodeQL analyze code?
- What is QL?
- Code scanning and CodeQL
- Customize your code scanning workflow with CodeQL - Part 1
- Exercise - Reference a CodeQL query
- Customize your code scanning workflow with CodeQL - Part 2
- Use the CodeQL CLI
- Customize languages and builds for code scanning
- Exercise - Configure a CodeQL language matrix

GitHub administration for GitHub Advanced Security

- 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

- Setting security policies
- Create and manage repository rulesets
- Reporting and logging
- Exercise

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