

KOENIG SOLUTIONS • COURSE OUTLINE

GH-900: GitHub Foundations

Learn to use Git and GitHub for version control, collaboration, project management, security and GitHub Copilot.

1 Day

DURATION

16

MODULES

57

TOPICS

12

HANDS-ON EXERCISES

COURSE OVERVIEW

This course covers version control fundamentals with Git and the core features of GitHub, including the GitHub flow, GitHub's products, code scanning, GitHub Copilot and Codespaces. It then looks at managing work with GitHub Projects and communicating with Markdown, before moving into contributing to open-source and InnerSource projects. Later modules address securing repositories, GitHub administration, authentication and authorization, pull requests, repository history, and using GitHub Copilot with Python.

WHO THIS COURSE IS FOR

Audience profile for this course is the following:

Software developers who want to learn about version control, Git, and GitHub

Documentation writers who collaborate on various projects and need to manage changes effectively

Teams that work on collaborative projects and need to track changes, manage project history, and facilitate collaboration will benefit from this course

Individuals who are new to Git and GitHub and want to gain a solid understanding of their fundamental features and collaborative tools are the primary audience

PREREQUISITES

Candidates should have the following:

- Basic understanding of software development concepts and practices.
- Familiarity with command-line interfaces and basic commands.
- Experience with version control systems, although not necessarily Git.
- Willingness to engage in hands-on exercises and practical applications.
- Experience of working with Microsoft Azure services.

LEARNING OBJECTIVES

What You Will Learn

After completing this course, students will be able to:

- Understand what version control is and learn about distributed version control systems like Git
- Recognize the differences between Git and GitHub and understand their roles in the software development lifecycle
- Identify the fundamental features of GitHub, including repository management and the GitHub flow
- Explore the collaborative features of GitHub by reviewing issues and discussions
- Learn how to manage your GitHub notifications and subscriptions
- Gain an understanding of how to configure and use GitHub Copilot to enhance productivity and code quality

TRAINING APPROACH

This course is designed to be delivered in one full day. The activities are approximately 70% instructional led and 30% student interactive exercises and/or instructor demos.

COURSE SYLLABUS

16 Modules, 57 Topics

Learning Path: GitHub Foundations Part 1 of 2

01

Exercise

Introduction to Git

TOPICS

Introduction · What is version control? · Basic Git commands

02

Exercise

Introduction to GitHub

TOPICS

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

03

Introduction to GitHub's Products

TOPICS

Introduction · GitHub accounts and plans · GitHub Mobile and GitHub Desktop · GitHub billing

04

Configure Code Scanning on GitHub

TOPICS

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

05**Exercise**

Introduction to GitHub Copilot

TOPICS

- Introduction
- GitHub Copilot, your AI pair programmer
- Interact with Copilot
- Set up, configure, and troubleshoot GitHub Copilot

06**Exercise**

Code with GitHub Codespaces

TOPICS

Introduction · The Codespace lifecycle ·
Personalize your Codespace · Codespaces versus
GitHub.dev editor

07

Manage Your Work with GitHub Projects

TOPICS

Introduction · Projects versus Projects Classic · How
to create a project · How to organize your project ·
How to organize and automate your project · Insight
and automation with projects

08**Exercise**

Communicate Effectively on GitHub Using Markdown

TOPICS

Introduction · What is Markdown?

Learning Path: GitHub Foundations Part 2 of 2

09**Exercise**

Contribute to an open-source Project on GitHub

TOPICS

Introduction · Identify where you can help · Contribute to an open-source repository

10**Exercise**

Manage an InnerSource Program by Using GitHub

TOPICS

- Introduction
- How to manage a successful InnerSource program

11**Exercise**

Maintain a Secure Repository by Using GitHub Best Practices

TOPICS

Introduction · How to maintain a secure GitHub repository · Automated security

12

Introduction to GitHub Administration

TOPICS

- Introduction
- What is GitHub administration?
- How does GitHub authentication work?
- How does GitHub organization and permissions work?

13

Authenticate and Authorize User Identities on GitHub

TOPICS

Introduction · User identity and access management · User authentication · User authorization · Team synchronization

14**Exercise**

Manage Repository Changes by Using Pull Requests on GitHub

TOPICS

Introduction · What are pull requests?

15**Exercise**

Search and Organize Repository History by Using GitHub

TOPICS

- Introduction
- How to search and organize repository history by using GitHub

16**2 Exercises**

Using GitHub Copilot with Python

TOPICS

Introduction · What is GitHub Copilot? · Use GitHub Copilot with Python

NOTES

- 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 and Demos (11 exercises, 4 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 Git	Try out Git
02	Introduction to GitHub	A guided tour of GitHub
05	Introduction to GitHub Copilot	Develop with AI-powered code suggestions by using GitHub Copilot and VS Code
06	Code with GitHub Codespaces	Code with Codespaces and Visual Studio Code
08	Communicate Effectively on GitHub Using Markdown	Communicate using Markdown
09	Contribute to an open-source Project on GitHub	Create your first pull request
10	Manage an InnerSource Program by Using GitHub	InnerSource fundamentals
11	Maintain a Secure Repository by Using GitHub Best Practices	Secure your repository's supply chain
14	Manage Repository Changes by Using Pull Requests on GitHub	Reviewing pull requests
15	Search and Organize Repository History by Using GitHub	Connect the dots in a GitHub repository
16	Using GitHub Copilot with Python	■ Set up GitHub Copilot to work with Visual Studio Code ■ Update a Python web API with GitHub Copilot

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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