

KOENIG SOLUTIONS • COURSE OUTLINE

Azure DevOps Server

Learn to plan, build, secure and monitor DevOps pipelines using Azure DevOps, GitHub, and related tools.

4 Days

DURATION

9

MODULES

58

TOPICS

20

HANDS-ON LABS

COURSE OVERVIEW

This course covers DevOps transformation fundamentals, team structures, and source control with Azure Repos and GitHub, followed by enterprise development practices such as branching, pull requests, and managing technical debt. It then addresses continuous integration with Azure Pipelines and GitHub Actions, release strategy design, and secure continuous deployment patterns including blue-green, canary, and A/B testing. Later modules examine infrastructure as code with Azure Resource Manager, Azure CLI, DSC, and Bicep, alongside security validation, dependency management, and continuous feedback through monitoring, dashboards, and team knowledge sharing.

WHO THIS COURSE IS FOR

DevOps Engineers

Release Managers

Software Developers

Infrastructure Engineers

Security Engineers

Site Reliability Engineers

LEARNING OBJECTIVES

- Describe DevOps team structures and tool selection
- Apply source control practices using Azure Repos and GitHub
- Manage Git branches, pull requests, and repositories
- Implement continuous integration with Azure Pipelines and GitHub Actions
- Design a release strategy and pipeline for continuous delivery
- Implement secure deployment patterns such as canary and A/B testing
- Manage infrastructure as code with ARM templates and Bicep
- Assess code bases for security and compliance

9 Modules, 58 Topics

01

2 Labs

Get Started on a DevOps Transformation Journey

TOPICS

- Introduction to DevOps
- Choose the right project
- Describe team structures
- Choose the DevOps tools
- Plan Agile with GitHub Projects and Azure Boards
- Introduction to source control
- Describe types of source control systems
- Work with Azure Repos and GitHub

02

Lab

Development for Enterprise DevOps

TOPICS

Structure your Git Repo · Manage Git branches and workflows · Collaborate with pull requests in Azure Repos · Explore Git hooks · Plan foster inner source · Manage Git repositories · Identify technical debt

03

5 Labs

Implement CI with Azure Pipelines and GitHub Actions

TOPICS

- Explore Azure Pipelines
- Manage Azure Pipeline agents and pools
- Describe pipelines and concurrency
- Explore Continuous integration
- Implement a pipeline strategy
- Integrate with Azure Pipelines
- Introduction to GitHub Actions
- Learn continuous integration with GitHub Actions
- Design a container build strategy

04

2 Labs

Design and Implement a Release Strategy

TOPICS

Introduction to continuous delivery · Create a release pipeline · Explore release strategy recommendations · Provision and test environments · Manage and modularize tasks and templates · Automate inspection of health

05**3 Labs**

Implement a Secure Continuous Deployment Using Azure Pipelines

TOPICS

- Introduction to deployment patterns
- Implement blue-green deployment and feature toggles
- Implement canary releases and dark launching
- Implement A/B testing and progressive exposure deployment
- Integrate with identity management systems
- Manage application configuration data

06**Lab**

Manage Infrastructure as Code Using Azure and DSC

TOPICS

- Explore infrastructure as code and configuration management
- Create Azure resources using Azure Resource Manager templates
- Create Azure resources by using Azure CLI
- Explore Azure Automation with DevOps
- Implement Desired State Configuration (DSC)
- Implement Bicep

07**2 Labs**

Implement Security and Validate Code Bases for Compliance

TOPICS

Introduction to Secure DevOps · Implement open-source software · Software Composition Analysis · Static analyzers · OWASP and Dynamic Analyzers · Security Monitoring and Governance

08**Lab**

Design and Implement a Dependency Management Strategy

TOPICS

Explore package dependencies · Understand package management · Migrate, consolidate, and secure artifacts · Implement a versioning strategy · Introduction to GitHub Packages

09**3 Labs**

Implement Continuous Feedback

TOPICS

- Implement tools to track usage and flow
- Develop monitor and status dashboards
- Share knowledge within teams
- Design processes to automate application analytics
- Manage alerts, Blameless retrospectives and a just culture

Practise What You Learn

#	MODULE	ACTIVITY
01	Get Started on a DevOps Transformation Journey	■ Agile planning and portfolio management with Azure Boards ■ Version controlling with Git in Azure Repos
02	Development for Enterprise DevOps	Version controlling with Git in Azure Repos
03	Implement CI with Azure Pipelines and GitHub Actions	■ Configuring agent pools and understanding pipeline styles ■ Enabling continuous integration with Azure Pipelines ■ Integrating external source control with Azure Pipelines ■ Implementing GitHub Actions by using DevOps Starter ■ Deploying Docker Containers to Azure App Service web apps
04	Design and Implement a Release Strategy	■ Creating a release dashboard ■ Controlling deployments using Release Gates
05	Implement a Secure Continuous Deployment Using Azure Pipelines	■ Configuring pipelines as code with YAML ■ Setting up and running functional tests ■ Integrating Azure Key Vault with Azure DevOps
06	Manage Infrastructure as Code Using Azure and DSC	Azure deployments using Azure Resource Manager templates
07	Implement Security and Validate Code Bases for Compliance	■ Implement security and compliance in Azure Pipelines ■ Managing technical debt with SonarQube and Azure DevOps
08	Design and Implement a Dependency Management Strategy	Package management with Azure Artifacts
09	Implement Continuous Feedback	■ Monitoring application performance with Application Insights ■ Integration between Azure DevOps and Microsoft Teams ■ Sharing Team Knowledge using Azure Project Wikis

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

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Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

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