KOENIG SOLUTIONS · COURSE OUTLINE

Azure Serverless: Durable Functions & Chaos Engineering

Learn to build, secure and observe serverless systems on Azure using durable functions, queues and chaos engineering.

2 Days	6	19
DURATION	MODULES	TOPICS

COURSE OVERVIEW

Advanced Serverless Architectures with Microsoft Azure redefines your experience of designing serverless systems. It shows you how to tackle challenges of varying levels, not just the straightforward ones. You'll be learning how to deliver features quickly by building systems, which retain the scalability and benefits of serverless. You'll begin your journey by learning how to build a simple, completely serverless application. Then, you'll build a highly scalable solution using a queue, load messages onto the queue, and read them asynchronously. To boost your knowledge further, the book also features durable functions and ways to use them to solve errors in a complex system. You'll then learn about security by building a security solution from serverless components. Next, you'll gain an understanding of observability and ways to leverage application insights to bring you performance benefits. As you approach the concluding chapters, you'll explore chaos engineering and the benefits of resilience, by actively switching off a few of the functions within a complex system, submitting a request, and observing the resulting behavior. By the end of this book, you will have developed the skills you need to build and maintain increasingly complex systems that match evolving platform requirements.

WHO THIS COURSE IS FOR

Who Should Attend

Advanced Serverless Architectures with Microsoft Azure is ideal if you want to build serverless systems with fewer outages and high performance using Azure. Familiarity with the C# syntax and Azure Functions and ARM templates will help you to benefit more from this book. Prior knowledge of basic front-end development, HTML, JS, and CSS is beneficial but not essential. Some DevOps knowledge is also beneficial but not essential.

PREREQUISITES

- Familiarity with the C# syntax and Azure Functions and ARM templates
- Prior knowledge of basic front-end development, HTML, JS, and CSS is beneficial but not essential
- Some DevOps knowledge is also beneficial but not essential

TOOLS AND REQUIREMENTS

Technical Requirements

- Processor: Intel Core i3 or equivalent
- Memory: 4GB RAM
- Storage: 1 GB available space
- OS: Any desktop Linux version or macOS, or Windows 10
- Browser: Use one of the latest browsers such as Firefox, Chrome, Safari, Edge, or IE11, for example

LEARNING OBJECTIVES

- Build a serverless application using an HTTP trigger and Cosmos DB
- Implement serverless queues and caching for asynchronous scaling
- Explain how Azure Durable Functions handle errors and human interaction
- Secure Azure Functions with API Management and Azure Active Directory B2C
- Apply structured logging with Azure Application Insights
- Assess client-side metrics for observability
- Plan chaos engineering experiments to test system resilience
- Configure automated deployments with Azure DevOps

COURSE SYLLABUS

6 Modules, 19 Topics

01

Complete Serverless Architectures

TOPICS

- Function-as-a-Service with a Simple HTTP Trigger
- Serverless Database with Cosmos DB
- Serverless Websites with Azure Storage

02

Microservices and Serverless Scaling Patterns

TOPICS

Microservices · Serverless Queues · Caching · Asynchronous by Default

03

Azure Durable Functions

TOPICS

- Understanding Azure Durable Functions
- Interacting with Humans in Azure Durable Functions
- Error Handling with Durable Functions

04

Security

TOPICS

- Serverless Security
- Protecting Azure Functions with API Management
- Protecting Client Information with Azure Active Directory B2C

05

Observability

TOPICS

- Understanding Observability
- Structured Logging with Azure Application Insights
- Client Side Metrics with Azure Application Insights

06

Chaos Engineering

TOPICS

Chaos Engineering · Automation of Deployments with Azure DevOps · Continuous Automated Chaos

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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