

Building Microservices With Core Develop Skills In Reactive Microservices Database Scaling Azure Microservices And More

Written by the core development team of JHipster and fully updated for JHipster 6, Java 11, and Spring Boot 2.1, this book will show you how to build modern web applications with real-world examples and best practices **Key Features** *Build full stack applications with modern JavaScript frameworks such as Angular, React, and Vue.js Explore the JHipster microservices stack, which includes Spring Cloud, Netflix OSS, and the Elastic Stack Learn advanced local and cloud deployment strategies using Docker and Kubernetes Book Description* **JHipster** *is an open source development platform that allows you to easily create web apps and microservices from scratch without spending time on wiring and integrating different technologies. Updated to include JHipster 6, Java 11, Spring Boot 2.1, Vue.js, and Istio, this second edition of Full Stack Development with JHipster will help you build full stack applications and microservices seamlessly. You'll start by understanding JHipster and its associated tools, along with the essentials of full stack development, before building a monolithic web app. You'll then learn the JHipster Domain Language (JDL) with entity modeling using JDL-Studio. With this book, you'll create production-ready web apps using Spring Boot, Spring Framework, Angular, and Bootstrap, and run tests and set up continuous integration pipelines with Jenkins. As you advance, you'll learn how to convert your monoliths to microservices and how to package your application for production with various deployment options, including Heroku and Google Cloud. You'll also learn about Docker and Kubernetes, along with an introduction to the Istio service mesh. Finally, you'll build your client-side with React and Vue.js and discover JHipster's best practices. By the end of the book, you'll be able to leverage the best tools available to build modern web apps. What you will learn* **Create full stack apps from scratch using the latest features of JHipster 6 and Spring Boot 2.1** *Build business logic by creating and developing entity models using JDL Understand how to convert a monolithic architecture into a full-fledged microservices architecture Build and package your apps for production using Docker Deploy your application to Google Cloud with Kubernetes Create continuous integration/continuous delivery pipelines with Jenkins Create applications using Angular, React, and Vue.js client-side frameworks* **Who this book is for** *This book is for full stack developers who want to build web applications and microservices speedily without writing a lot of boilerplate code. If you're a backend developer looking to learn full stack development with JavaScript frameworks and libraries such as Angular, React, and Vue.js, you'll find this book useful. Experience in building Java web applications is required. Some exposure to the Spring Framework would be beneficial but not necessary to get the most out of this book.*

Architect your .NET applications by breaking them into really small pieces-microservices-using this practical, example-based guide **About This Book** ** This book will show you the basics of microservices and when you should consider this architectural style* This book will help you understand how to implement separate services using the C#, ASP.NET MVC/Web API, and more* You'll learn to integrate services using ASP.NET Web API and Azure Service Bus* **Who This Book Is For** *This book is for NET developers who are familiar with .NET framework and now want to learn how to implement microservices architecture in their .NET applications. It's ideal for developers who are completely*

new to Microservices or have just a theoretical understanding of this architectural approach and want to gain a practical perspective in order to better manage application complexity

What You Will Learn*

- Compare microservices with Monolithic and SOA**
- Identify the appropriate service boundaries by mapping them to the relevant Bounded Contexts**
- Define the service interface and implement the APIs using ASP.NET Web API**
- Integrate the services via synchronous and asynchronous mechanisms**
- Implement service security policies using Azure Active Directory, OpenId Connect, and OAuth**
- Configure Azure Diagnostics and automatic scaling policies in Azure*

In Detail

Microservices is an architectural style that promotes the development of complex applications as a suite of small services based on business capabilities. This book will help you identify the appropriate service boundaries within the business domain to ensure high cohesion and to define the correct service interfaces to promote loose coupling. We 'll start by looking at what microservices are, what the main characteristics are, and how they compare with Monolithic and SOA approaches. Next, we'll briefly go through the benefits of using this style, the challenges to consider, and the prerequisites to succeed when engaging in this approach. Moving forward, you 'll be introduced to a real-life application, implemented initially as a Monolith that is currently struggling to cope with increasing user demand and complexity. After assessing the current issues, we will begin the journey of transforming this application by splitting it into a suite of microservices. You'll identify the business domain boundaries as a reference for our service boundaries, split the application into multiple services, and define the service contracts. You'll be able to choose the appropriate integration techniques, set up an automated infrastructure to handle testing and deployment, and implement appropriate security policies to keep our services safe from unauthorized access. You'll find out how to configure and implement monitoring to ensure the health of our services, and configuring scaling to allow our application to quickly adapt to increased demand in the future. Improve the speed of your code and optimize the performance of your apps

Key Features

- Understand the common performance pitfalls and improve your application's performance*
- Get to grips with multi-threaded and asynchronous programming in C#*
- Develop highly performant applications on .NET Core using microservice architecture*

Book Description

While writing an application, performance is paramount. Performance tuning for realworld applications often involves activities geared toward finding bottlenecks; however, this cannot solve the dreaded problem of slower code. If you want to improve the speed of your code and optimize an application's performance, then this book is for you. C# 7 and .NET Core 2.0 High Performance begins with an introduction to the new features of what?explaining how they help in improving an application's performance. Learn to identify the bottlenecks in writing programs and highlight common performance pitfalls, and learn strategies to detect and resolve these issues early. You will explore multithreading and asynchronous programming with .NET Core and learn the importance and efficient use of data structures. This is followed with memory management techniques and design guidelines to increase an application's performance. Gradually, the book will show you the importance of microservices architecture for building highly performant applications and implementing resiliency and security in .NET Core. After reading this book, you will learn how to structure and build scalable, optimized, and robust applications in C#7 and .NET. What you will learn

- Measure application performance using BenchmarkDotNet*
- Explore the techniques to write multithreaded applications*
- Leverage TPL and PLinq libraries to perform asynchronous operations*
- Get familiar with data structures to write optimized code*
- Understand design techniques to increase your application's performance*
- Learn about memory management techniques in .NET Core*
- Develop a containerized application based on microservices architecture*
- Learn*

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tools and techniques to monitor application performance Who this book is for This book is for .NET developers looking at improving the speed of their code or simply wanting to take their skills to the next level. Basic C# knowledge is assumed.

Architect your .NET applications by breaking them into really small pieces—microservices—using this practical, example-based guide About This Book Start your microservices journey and understand a broader perspective of microservices development Build, deploy, and test microservices using ASP.Net MVC, Web API, and Microsoft Azure Cloud Get started with reactive microservices and understand the fundamentals behind it Who This Book Is For This book is for .NET Core developers who want to learn and understand microservices architecture and implement it in their .NET Core applications. It's ideal for developers who are completely new to microservices or have just a theoretical understanding of this architectural approach and want to gain a practical perspective in order to better manage application complexity. What You Will Learn Compare microservices with monolithic applications and SOA Identify the appropriate service boundaries by mapping them to the relevant bounded contexts Define the service interface and implement the APIs using ASP.NET Web API Integrate the services via synchronous and asynchronous mechanisms Implement microservices security using Azure Active Directory, OpenID Connect, and OAuth 2.0 Understand the operations and scaling of microservices in .NET Core Understand the testing pyramid and implement consumer-driven contract using pact net core Understand what the key features of reactive microservices are and implement them using reactive extension In Detail Microservices is an architectural style that promotes the development of complex applications as a suite of small services based on business capabilities. This book will help you identify the appropriate service boundaries within the business. We'll start by looking at what microservices are, and what the main characteristics are. Moving forward, you will be introduced to real-life application scenarios, and after assessing the current issues, we will begin the journey of transforming this application by splitting it into a suite of microservices. You will identify the service boundaries, split the application into multiple microservices, and define the service contracts. You will find out how to configure, deploy, and monitor microservices, and configure scaling to allow the application to quickly adapt to increased demand in the future. With an introduction to the reactive microservices, you strategically gain further value to keep your code base simple, focusing on what is more important rather than the messy asynchronous calls. Style and approach This guide serves as a stepping stone that helps .NET Core developers in their microservices architecture. This book provides just enough theory to understand the concepts and apply the examples.

Microservice Architecture

Designing, Developing, Deploying, and Monitoring

Cloud Native Microservices with Spring and Kubernetes

Developing Distributed Web Services to improve scalability with .NET Core 2.0 and ASP.NET Core 2.0

Developing Microservices Architecture on Azure with Open Source Technologies

C# 7 and .NET Core 2.0 High Performance

Building Web Applications and Microservices for the Cloud with Go and React

Learn the essential concepts, techniques, and design patterns that will help you build scalable and maintainable

distributed systems Key Features Learn to design, implement, test, and deploy your microservices Understand the challenges and complexities of testing and monitoring distributed services Build modular and robust microservice architectures with the latest features of C# 8 and .NET Core 3.1 Book Description The microservice architectural style promotes the development of complex applications as a suite of small services based on specific business capabilities. With this book, you'll take a hands-on approach to build microservices and deploy them using ASP .NET Core and Microsoft Azure. You'll start by understanding the concept of microservices and their fundamental characteristics. This microservices book will then introduce a real-world app built as a monolith, currently struggling under increased demand and complexity, and guide you in its transition to microservices using the latest features of C# 8 and .NET Core 3. You'll identify service boundaries, split the application into multiple microservices, and define service contracts. You'll also explore how to configure, deploy, and monitor microservices using Docker and Kubernetes, and implement autoscaling in a microservices architecture for enhanced productivity. Once you've got to grips with reactive microservices, you'll discover how keeping your code base simple enables you to focus on what's important rather than on messy asynchronous calls. Finally, you'll delve into various design patterns and best practices for creating enterprise-ready microservice applications. By the end of this book, you'll be able to deconstruct a monolith successfully to create well-defined microservices. What you will learn Package, deploy, and manage microservices and containers with Azure Service Fabric Use REST APIs to integrate services using a synchronous approach Protect public APIs using Azure Active Directory and OAuth 2.0 Understand the operation and scaling of microservices using Docker and Kubernetes Implement reactive microservices with Reactive Extensions Discover design patterns and best practices for building enterprise-ready apps Who this book is for This book is for C# and .NET Core developers who want to understand microservices architecture and implement it in their .NET Core applications. If you're new to building microservices or have theoretical knowledge of the architectural approach, this book will help you gain a practical perspective to manage application complexity efficiently. Organizations today often struggle to balance business requirements with ever-increasing volumes of data. Additionally, the demand for leveraging large-scale, real-time data is growing rapidly among the most competitive digital industries. Conventional system architectures may not be up to the task. With this practical guide, you'll learn how to leverage large-scale data usage across the business units in your organization using the principles of event-driven microservices. Author Adam Bellemare takes you through the process of building an event-driven microservice-powered organization. You'll reconsider how data is produced, accessed, and propagated across your organization. Learn powerful yet simple patterns for unlocking the value of this data. Incorporate event-driven design and architectural principles into your own systems. And completely rethink how your organization delivers value by unlocking near-real-time access to data at scale. You'll learn: How to leverage event-driven architectures to deliver exceptional business value The role of microservices in supporting event-driven designs Architectural patterns to ensure success both within and between teams in your organization Application patterns for developing powerful event-driven microservices Components and tooling required to get your microservice ecosystem off the ground Microservices in .NET, Second Edition teaches you to build and deploy microservices using ASP.NET and Azure services.

Summary In Microservices in .NET, Second Edition you will learn how to: Build scalable microservices that are reliable in production Optimize microservices for continuous delivery Design event-based collaboration between microservices Deploy microservices to Kubernetes Set up Kubernetes in Azure Microservices in .NET, Second Edition is a comprehensive guide to building microservice applications using the .NET stack. After a crystal-clear introduction to the microservices architectural style, it teaches you practical microservices development skills using ASP.NET. This second edition of the bestselling original has been revised with up-to-date tools for the .NET ecosystem, and more new coverage of scoping microservices and deploying to Kubernetes. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Microservice architectures connect independent components that must work together as a system. Integrating new technologies like Docker and Kubernetes with Microsoft's familiar ASP.NET framework and Azure cloud platform enables .NET developers to create and manage microservices efficiently. About the book Microservices in .NET, Second Edition teaches you to build and deploy microservices using ASP.NET and Azure services. It lays out microservice architecture simply, and then guides you through several real-world projects, such as building an ecommerce shopping cart. In this fully revised edition, you'll learn about scoping microservices, deploying to Kubernetes, and operations concerns like monitoring, logging, and security. What's inside Optimize microservices for continuous delivery Design event-based collaboration between microservices Deploy microservices to Kubernetes Set up Kubernetes in Azure About the reader For C# developers. No experience with microservices required. About the author Christian Horsdal is an independent consultant with more than 20 years of experience building projects from large-scale microservice systems to tiny embedded systems. Table of Contents PART 1 GETTING STARTED WITH MICROSERVICES 1 Microservices at a glance 2 A basic shopping cart microservice 3 Deploying a microservice to Kubernetes PART 2 BUILDING MICROSERVICES 4 Identifying and scoping microservices 5 Microservice collaboration 6 Data ownership and data storage 7 Designing for robustness 8 Writing tests for microservices PART 3 HANDLING CROSS-CUTTING CONCERNS: BUILDING A REUSABLE MICROSERVICE PLATFORM 9 Cross-cutting concerns: Monitoring and logging 10 Securing microservice-to-microservice communication 11 Building a reusable microservice platform PART 4 BUILDING APPLICATIONS 12 Creating applications over microservices

Understand the key challenges and solutions around building microservices in the enterprise application environment. This book provides a comprehensive understanding of microservices architectural principles and how to use microservices in real-world scenarios. Architectural challenges using microservices with service integration and API management are presented and you learn how to eliminate the use of centralized integration products such as the enterprise service bus (ESB) through the use of composite/integration microservices. Concepts in the book are supported with use cases, and emphasis is put on the reality that most of you are implementing in a "brownfield" environment in which you must implement microservices alongside legacy applications with minimal disruption to your business. Microservices for the Enterprise covers state-of-the-art techniques around microservices messaging, service development and description, service discovery, governance, and data management technologies and guides you through the microservices design process. Also included is the importance of organizing services as core versus atomic, composite versus integration, and

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API versus edge, and how such organization helps to eliminate the use of a central ESB and expose services through an API gateway. What You'll Learn Design and develop microservices architectures with confidence Put into practice the most modern techniques around messaging technologies Apply the Service Mesh pattern to overcome inter-service communication challenges Apply battle-tested microservices security patterns to address real-world scenarios Handle API management, decentralized data management, and observability Who This Book Is For Developers and DevOps engineers responsible for implementing applications around a microservices architecture, and architects and analysts who are designing such systems

**Microservice by examples using .NET Core
Designing, Developing, and Deploying**

The Tao of Microservices

Aligning Principles, Practices, and Culture

Building Microservices with .NET Core 2.0

Embracing Microservices Design

Designing Distributed Systems

ASP.NET Core in Action, Second Edition is a comprehensive guide to creating web applications with ASP.NET Core 5.0. Go from basic HTTP concepts to advanced framework customization. Summary Fully updated to ASP.NET 5.0, ASP.NET Core in Action, Second Edition is a hands-on primer to building cross-platform web applications with your C# and .NET skills. Even if you've never worked with ASP.NET you'll start creating productive cross-platform web apps fast. And don't worry about late-breaking changes to ASP.NET Core. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Build full-stack web applications that run anywhere. Developers love ASP.NET Core for its libraries and pre-built components that maximize productivity. Version 5.0 offers new features for server-side apps, as well as background services for cross-platform development. About the book ASP.NET Core in Action, Second Edition is a comprehensive guide to creating web applications with ASP.NET Core 5.0. Go from basic HTTP concepts to advanced framework customization. Illustrations and annotated code make learning visual and easy. Master logins, dependency injection, security, and more. This updated edition covers the latest features, including Razor Pages and the new hosting paradigm. What's inside Developing apps for Windows and non-Windows servers Configuring applications Building custom components Logging, testing, and

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security About the reader For intermediate C# developers. About the author Andrew Lock is a Microsoft MVP who has worked with ASP.NET Core since before its first release. Table of Contents PART 1 - GETTING STARTED WITH ASP.NET CORE 1 Getting started with ASP.NET Core 2 Your first application 3 Handling requests with the middleware pipeline 4 Creating a website with Razor Pages 5 Mapping URLs to Razor Pages using routing 6 The binding model: Retrieving and validating user input 7 Rendering HTML using Razor views 8 Building forms with Tag Helpers 9 Creating a Web API for mobile and client applications using MVC PART 2 - BUILDING COMPLETE APPLICATIONS 10 Service configuration with dependency injection 11 Configuring an ASP.NET Core application 12 Saving data with Entity Framework Core 13 The MVC and Razor Pages filter pipeline 14 Authentication: Adding users to your application with Identity 15 Authorization: Securing your application 16 Publishing and deploying your application PART 3 - EXTENDING YOUR APPLICATIONS 17 Monitoring and troubleshooting errors with logging 18 Improving your application's security 19 Building custom components 20 Building custom MVC and Razor Pages components 21 Calling remote APIs with IHttpConnectionFactory 22 Building background tasks and services 23 Testing your application This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Through four complete sprints, this book takes you through every step needed to build brand new cross-platform web apps with ASP.NET Core, and make them available on the Internet. You won't just master Microsoft's revolutionary open source ASP.NET Core technology: you'll learn how to integrate the immense power of MVC, Docker, Azure Web Apps, Visual Studio and Visual Studio Code, C#, JavaScript, TypeScript, and Entity Framework. Working through the authors' carefully designed sprints, you'll start with a blank canvas, move through software architecture and design, adjusting to user feedback, recovering from mistakes, builds, testing, deployment, maintenance, refactoring, and more. Along the way, you'll learn techniques for delivering state-of-the-art software to users more rapidly and repeatably than ever before.

In Microservices in .NET, Second Edition, you'll start by getting to grips with the unique architectural style of microservices, then move on quickly to practical

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development skills for building your own microservices. *Microservices in .NET, Second Edition* is a comprehensive guide to building microservice applications using the .NET stack. After a crystal-clear introduction to the microservices architectural style, it teaches you practical microservices development skills. In *Microservices in .NET, Second Edition*, you'll start by getting to grips with the unique architectural style of microservices, then move on quickly to practical development skills for building your own microservices. You'll design and build individual services in C# and learn how to compose them into a simple but functional application back end. In brand-new coverage in this second edition of the bestselling original, you'll also learn about scoping microservices and how to handle the complexities of deploying to Kubernetes. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. Learn the essential concepts, techniques, and design patterns that will help you build scalable and maintainable distributed systems

Key Features Learn to design, implement, test, and deploy your microservices Understand the challenges and complexities of testing and monitoring distributed services Build modular and robust microservice architectures with the latest features of C# 8 and .NET Core 3.1

Book Description The microservice architectural style promotes the development of complex applications as a suite of small services based on specific business capabilities. With this book, you'll take a hands-on approach to build microservices and deploy them using ASP .NET Core and Microsoft Azure. You'll start by understanding the concept of microservices and their fundamental characteristics. This microservices book will then introduce a real-world app built as a monolith, currently struggling under increased demand and complexity, and guide you in its transition to microservices using the latest features of C# 8 and .NET Core 3. You'll identify service boundaries, split the application into multiple microservices, and define service contracts. You'll also explore how to configure, deploy, and monitor microservices using Docker and Kubernetes, and implement autoscaling in a microservices architecture for enhanced productivity. Once you've got to grips with reactive microservices, you'll discover how keeping your code base simple enables you to focus on what's important rather than on messy asynchronous calls. Finally, you'll delve into

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various design patterns and best practices for creating enterprise-ready microservice applications. By the end of this book, you'll be able to deconstruct a monolith successfully to create well-defined microservices. What you will learn Package, deploy, and manage microservices and containers with Azure Service Fabric Use REST APIs to integrate services using a synchronous approach Protect public APIs using Azure Active Directory and OAuth 2.0 Understand the operation and scaling of microservices using Docker and Kubernetes Implement reactive microservices with Reactive Extensions Discover design patterns and best practices for building enterprise-ready apps Who this book is for This book is for C# and .NET Core developers who want to understand microservices architecture and implement it in their .NET Core applications. If you're new to building microservices or have theoretical knowledge of the architectural app...

Building Event-Driven Microservices

Learn to program in C# and .NET Core by building a series of practical, cross-platform projects

.NET Core 2.0 By Example

Designing Fine-Grained Systems

A Practical Approach of Learning Microservices Using ASP. NET Core

C# 8 and .NET Core 3 Projects Using Azure

Develop Microservices and Implement Serverless Applications with .NET Core 3.1 and AWS Lambda (English Edition)

Build and deploy scalable cloud native microservices using the Spring framework and Kubernetes. KEY FEATURES □ Complete coverage on how to design, build, run, and deploy modern cloud native microservices. □ Includes numerous sample code exercises on microservices, Spring and Kubernetes. □ Develop a stronghold on Kubernetes, Spring, and the microservices architecture. □ Complete guide of application containerization on Kubernetes containers. □ Coverage on managing modern applications and infrastructure using observability tools.

DESCRIPTION The main objective of this book is to give an overview of cloud native microservices, their architecture, design patterns, best practices, real use cases and practical coverage of modern applications. This book covers a strong understanding of the fundamentals of microservices, API first approach, Testing, observability, API Gateway, Service Mesh and Kubernetes alternatives of Spring Cloud. This book covers the implementation of various design patterns of developing cloud native microservices using Spring framework docker and Kubernetes libraries. It covers containerization concepts and hands-on lab exercises like how to build, run and manage microservices applications using Kubernetes. After reading this book, the readers will have a holistic understanding of building, running, and managing

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cloud native microservices applications on Kubernetes containers. WHAT YOU WILL LEARN □ Learn fundamentals of microservice and design patterns. □ Learn microservices development using Spring Boot and Kubernetes. □ Learn to develop reactive, event-driven, and batch microservices. □ Perform end-to-end microservices testing using Cucumber. □ Implement API gateway, authentication & authorization, load balancing, caching, rate limiting. □ Learn observability and monitoring techniques of microservices. WHO THIS BOOK IS FOR This book is for the Spring Developers, Microservice Developers, Cloud Engineers, DevOps Consultants, Technical Architect and Solution Architects, who have some familiarity with application development, Docker and Kubernetes containers. TABLE OF CONTENTS 1. Overview of Cloud Native microservices 2. Microservice design patterns 3. API first approach 4. Build microservices using the Spring Framework 5. Batch microservices 6. Build reactive and event-driven microservices 7. The API gateway, security, and distributed caching with Redis 8. Microservices testing and API mocking 9. Microservices observability 10. Containers and Kubernetes overview and architecture 11. Run microservices on Kubernetes 12. Service Mesh and Kubernetes alternatives of Spring Cloud

Master the art of implementing scalable microservices in your production environment with ease About This Book Use domain-driven design to build microservices Use Spring Cloud to use Service Discovery and Registration Use Kafka, Avro and Spring Streams for implementing event based microservices Who This Book Is For This book is for Java developers who are familiar with the microservices architecture and now wants to take a deeper dive into effectively implementing microservices at an enterprise level. A reasonable knowledge level and understanding of core microservice elements and applications is expected. What You Will Learn Use domain-driven design to design and implement microservices Secure microservices using Spring Security Learn to develop REST service development Deploy and test microservices Troubleshoot and debug the issues faced during development Learning best practices and common principals about microservices In Detail Microservices are the next big thing in designing scalable, easy-to-maintain applications. It not only makes app development easier, but also offers great flexibility to utilize various resources optimally. If you want to build an enterprise-ready implementation of the microservices architecture, then this is the book for you! Starting off by understanding the core concepts and framework, you will then focus on the high-level design of large software projects. You will gradually move on to setting up the development environment and configuring it before implementing continuous integration to deploy your microservice architecture. Using Spring security, you will secure microservices and test them effectively using REST Java clients and other tools like RxJava 2.0. We'll show you the best patterns, practices and common principals of microservice design and you'll learn to troubleshoot and debug the issues faced during development. We'll show you how to design and implement reactive microservices. Finally, we'll show you how to migrate a monolithic application to microservices based application. By the end of the book, you will know how to build smaller, lighter, and faster services that can be implemented easily in a production environment. Style and approach This book starts from the basics, including environment setup and provides easy-to-follow steps to implement the sample project using microservices.

"A comprehensive overview of the challenges teams face when moving to microservices, with industry-tested solutions to these problems." - Tim Moore, Lightbend 44 reusable patterns to develop and deploy reliable production-quality microservices-based applications, with worked examples in Java Key Features 44 design patterns for building and deploying microservices applications Drawing on decades of unique experience from author and microservice architecture pioneer Chris Richardson A pragmatic approach to the benefits and the drawbacks of microservices architecture Solve service decomposition, transaction management, and inter-service communication Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Microservices Patterns teaches

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you 44 reusable patterns to reliably develop and deploy production-quality microservices-based applications. This invaluable set of design patterns builds on decades of distributed system experience, adding new patterns for composing services into systems that scale and perform under real-world conditions. More than just a patterns catalog, this practical guide with worked examples offers industry-tested advice to help you design, implement, test, and deploy your microservices-based application. What You Will Learn How (and why!) to use microservices architecture Service decomposition strategies Transaction management and querying patterns Effective testing strategies Deployment patterns This Book Is Written For Written for enterprise developers familiar with standard enterprise application architecture. Examples are in Java. About The Author Chris Richardson is a Java Champion, a JavaOne rock star, author of Manning's POJOs in Action, and creator of the original CloudFoundry.com. Table of Contents Escaping monolithic hell Decomposition strategies Interprocess communication in a microservice architecture Managing transactions with sagas Designing business logic in a microservice architecture Developing business logic with event sourcing Implementing queries in a microservice architecture External API patterns Testing microservices: part 1 Testing microservices: part 2 Developing production-ready services Deploying microservices Refactoring to microservices

Get up to speed with using C# 8 and .NET Core 3.0 features to build real-world .NET Core applications Key Features Learn the core concepts of web applications, serverless computing, and microservices Create an ASP.NET Core MVC application using controllers, routing, middleware and authentication Build modern applications using cutting-edge services from Microsoft Azure Book Description .NET Core is a general-purpose, modular, cross-platform, and opensource implementation of .NET. The latest release of .NET Core 3 comes with improved performance and security features, along with support for desktop applications. .NET Core 3 is not only useful for new developers looking to start learning the framework, but also for legacy developers interested in migrating their apps. Updated with the latest features and enhancements, this updated second edition is a step-by-step, project-based guide. The book starts with a brief introduction to the key features of C# 8 and .NET Core 3. You'll learn to work with relational data using Entity Framework Core 3, before understanding how to use ASP.NET Core. As you progress, you'll discover how you can use .NET Core to create cross-platform applications. Later, the book will show you how to upgrade your old WinForms apps to .NET Core 3. The concluding chapters will then help you use SignalR effectively to add real-time functionality to your applications, before demonstrating how to implement MongoDB in your apps. Finally, you'll delve into serverless computing and how to build microservices using Docker and Kubernetes. By the end of this book, you'll be proficient in developing applications using .NET Core 3. What you will learn Understand how to incorporate the Entity Framework Core 3 to build ASP.NET Core MVC applications Create a real-time chat application using Azure's SignalR service Gain hands-on experience of working with Cosmos DB Develop an Azure Function and interface it with an Azure Logic App Explore user authentication with Identity Server and OAuth2 Understand how to use Azure Cognitive Services to add advanced functionalities with minimal code Get to grips with running a .NET Core application with Kubernetes Who this book is for This book is for developers and programmers of all levels who want to build real-world projects and explore the new features of .NET Core 3. Developers working on legacy desktop software who are looking to migrate to .NET Core 3 will also find this book useful. Basic knowledge of .NET Core and C# is assumed.

With examples in Java
Building Microservices
Pro Microservices in .NET 6

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Building Microservices with Micronaut®

C# 10 and .NET 6 - Modern Cross-Platform Development

Spring Microservices in Action

Hands-On Microservices with C# 8 and .NET Core 3

A handbook to get familiar with the Microservices concept and developing microservices using ASP.NET Core. This is a small book to cover the topic of microservices using a practical approach. Section 1, The Concept, makes you familiar with the concept of the Microservices. This section explains what are microservices, the architecture of microservices, the difference between monolithic and microservices. This section builds a deep understanding of microservices concept and architecture which is very important before you start development on microservices. Section 2, Docker section three of the book demonstrates the development of microservices and running microservices in separate instances at the same time. One of the instances would be running in a docker container. This section demonstrates the pre-requisites of having the microservice running in Docker and Docker installation. Section 3, Microservice using ASP.NET Core, this section will train you on how to create a microservice using ASP.NET Core. This section is a step by step guide to create a microservice using ASP.Net Core and Entity Framework Core and deploy and run the microservice.

Annotation Over the past 10 years, distributed systems have become more fine-grained. From the large multi-million line long monolithic applications, we are now seeing the benefits of smaller self-contained services. Rather than heavy-weight, hard to change Service Oriented Architectures, we are now seeing systems consisting of collaborating microservices. Easier to change, deploy, and if required retire, organizations which are in the right position to take advantage of them are yielding significant benefits. This book takes an holistic view of the things you need to be cognizant of in order to pull this off. It covers just enough understanding of technology, architecture, operations and organization to show you how to move towards finer-grained systems.

Implement microservices starting with their architecture and moving on to their deployment, manageability, security, and monitoring. This book focuses on the key scenarios where microservices architecture is preferred over a monolithic architecture. Building Microservices Applications on Microsoft Azure begins with a survey of microservices architecture compared to monolithic architecture and covers microservices implementation in detail. You'll see the key scenarios where microservices architecture is preferred over a monolithic approach. From there, you will explore the critical components and various deployment options of microservices on platforms such as Microsoft Azure (public cloud) and Azure Stack (hybrid cloud). This includes in-depth coverage of developing, deploying, and monitoring microservices on containers and orchestrating with Azure Service Fabric and Azure Kubernetes Cluster (AKS). This book includes practical experience from large-scale enterprise deployments, therefore it can be a quick reference for solution architects and developers to understand the critical factors while designing a microservices application. What You Will Learn Explore the use cases of microservices and monolithic architecture Discover the architecture patterns to build scalable, agile, and secure microservices applications Develop and deploy microservices using Azure Service Fabric and Azure Kubernetes Service Secure microservices using the gateway pattern See the deployment options for Microservices on Azure Stack Implement database patterns to handle the complexities introduced by microservices Who This Book Is For Architects and consultants

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who work on Microsoft Azure and manage large-scale deployments.

In the race to compete in today's fast-moving markets, large enterprises are busy adopting new technologies for creating new products, processes, and business models. But one obstacle on the road to digital transformation is placing too much emphasis on technology, and not enough on the types of processes technology enables. What if different lines of business could build their own services and applications—and decision-making was distributed rather than centralized? This report explores the concept of a digital business platform as a way of empowering individual business sectors to act on data in real time. Much innovation in a digital enterprise will increasingly happen at the edge, whether it involves business users (from marketers to data scientists) or IoT devices. To facilitate the process, your core IT team can provide these sectors with the digital tools they need to innovate quickly. This report explores: Key cultural and organizational changes for developing business capabilities through cross-functional product teams A platform for integrating applications, data sources, business partners, clients, mobile apps, social networks, and IoT devices Creating internal API programs for building innovative edge services in low-code or no-code environments Tools including Integration Platform as a Service, Application Platform as a Service, and Integration Software as a Service The challenge of integrating microservices and serverless architectures Event-driven architectures for processing and reacting to events in real time You'll also learn about a complete pervasive integration solution as a core component of a digital business platform to serve every audience in your organization.

Microservices Using ASP. NET Core

Develop, Test, and Deploy Cross-Platform Services in the Cloud

Microservices in .NET, Second Edition

Mastering Microservices with Java 9

With C#, the Nancy Framework, and Owin Middleware

Microservices Patterns

Building and hosting microservices without servers using AWS Lambda KEY FEATURES ? Learn end-to-end development of microservices using .NET Core and AWS Lambda. ? Learn a new way of hosting the .NET Core Web API on the AWS Lambda serverless platform. ? Mastering microservices using .NET Core and AWS Lambda. DESCRIPTION Building Modern Serverless Web APIs introduces you to the serverless paradigm of the Web API application, its advantages, and presents you the modern approach of developing the Web API. The book makes efficient use of AWS Lambda services to develop efficient, scalable, and cost-effective API solutions. The book begins with a quick introduction to microservices, its characteristics, and current challenges faced in developing and implementing them. The book explores core concepts of ASP.NET Core and some important AWS services that are commonly used to build microservices using AWS. It explores and provides real hands-on microservice patterns and some of the best practices used in designing the serverless architecture. Furthermore, the book covers end-to-end demonstration of an application where you will learn to develop, build, deploy, and monitor microservices on AWS Lambda using .NET Core 3.1. By the end of this book, you will be proficient in developing microservices with AWS Lambda and become a self-starter to build your own secure microservices. WHAT YOU WILL LEARN ? Learn about microservices, their characteristics,

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patterns, and where to use them. ? Understand popular microservice design patterns being used with the serverless architecture. ? Learn about the ASP.NET Core Web API and its hosting strategies for building serverless microservices. ? Learn about Amazon Web Services and the services commonly used to build microservices. ? Discover how to configure authorization and authentication to secure microservices in AWS. ? Learn about AWS services available for Continuous Deployment and Integration to deploy microservices. WHO THIS BOOK IS FOR This book is for a seasoned .NET developer or AWS practitioner who wants to learn about the microservices architecture, patterns, and how to deploy using AWS Lambda. TABLE OF CONTENTS 1. Microservices: Its Characteristics and Challenges 2. Introduction to the ASP.NET Core Web API 3. Introduction to AWS Services 4. Microservices Patterns 5. The Serverless Paradigm 6. Communication Patterns and Service Discovery 7. Collaborating between Microservices 8. Distributed Monitoring 9. Security 10. Continuous Integration and Deployment 11. AWS Best Practices

Explore different aspects of building modular microservices such as development, testing, maintenance, and deployment using the Micronaut framework Key Features Learn how to build scalable, fast, and resilient microservices with this concise guide Explore the many advantages of using reflection-free, compile-time dependency injections and aspect-oriented programming Build cloud-native applications easily with the Micronaut framework Book Description The open source Micronaut® framework is a JVM-based toolkit designed to create microservices quickly and easily. This book will help full-stack and Java developers build modular, high-performing, and reactive microservice-based apps using the Micronaut framework. You'll start by building microservices and learning about the core components, such as ahead-of-time compilation, reflection-less dependency injection, and reactive baked-in HTTP clients and servers. Next, you will work on a real-time microservice application and learn how to integrate Micronaut projects with different kinds of relational and non-relational databases. You'll also learn how to employ different security mechanisms to safeguard your microservices and integrate microservices using event-driven architecture in the Apache Kafka ecosystem. As you advance, you'll get to grips with automated testing and popular testing tools. The book will help you understand how you can easily handle microservice concerns in Micronaut projects, such as service discovery, API documentation, distributed configuration management, fallbacks, and circuit breakers. Finally, you'll explore the deployment and maintenance aspects of microservices and get up to speed with the Internet of Things (IoT) using the Framework. By the end of this book, you'll be able to build, test, deploy, and maintain your own microservice apps using the framework. What you will learn Understand why the Micronaut framework is best suited for building microservices Build web endpoints and services in the Micronaut framework Safeguard microservices using Session, JWT, and OAuth in Micronaut projects Get to grips with event-driven architecture in Micronaut applications Discover how to automate testing at various levels using built-in tools and testing frameworks Deploy your microservices to containers and cloud platforms Become well-versed with distributed logging, tracing, and monitoring in Micronaut projects Get hands-on with the IoT using Alexa and the Micronaut framework Who this book is for This book is for developers who have been building microservices on traditional frameworks such as Spring Boot and are looking for a faster alternative. Intermediate-level knowledge of Java programming and implementing web services development in Java is required.

Developing Microservices Architecture on Azure with Open Source Technologies is a complete, step-by-step guide to building flexible microservices architectures by leveraging services provided by the Microsoft Azure cloud platform, and key open-source technologies such as Java, Node.JS, .NET Core and Angular. Expert Microsoft consultants Ovais Mehboob and Arvind Chandaka guide students step-by-step through a realistic case study project that illuminates key technical implementation tasks for establishing end to end infrastructure, developing

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cloud-native applications, automating deployment, and realizing value.

Architect your .NET applications by breaking them into really small pieces - microservices -using this practical, example-based guide. Key Features Start your microservices journey and get a broader perspective on microservices development using C# 7.0 with .NET Core 2.0 Build, deploy, and test microservices using ASP.Net Core, ASP.NET Core API, and Microsoft Azure Cloud Get the basics of reactive microservices Book Description The microservices architectural style promotes the development of complex applications as a suite of small services based on business capabilities. This book will help you identify the appropriate service boundaries within your business. We'll start by looking at what microservices are and their main characteristics. Moving forward, you will be introduced to real-life application scenarios; after assessing the current issues, we will begin the journey of transforming this application by splitting it into a suite of microservices using C# 7.0 with .NET Core 2.0. You will identify service boundaries, split the application into multiple microservices, and define service contracts. You will find out how to configure, deploy, and monitor microservices, and configure scaling to allow the application to quickly adapt to increased demand in the future. With an introduction to reactive microservices, you'll strategically gain further value to keep your code base simple, focusing on what is more important rather than on messy asynchronous calls. What you will learn Get acquainted with Microsoft Azure Service Fabric Compare microservices with monolithic applications and SOA Learn Docker and Azure API management Define a service interface and implement APIs using ASP.NET Core 2.0 Integrate services using a synchronous approach via RESTful APIs with ASP.NET Core 2.0 Implement microservices security using Azure Active Directory, OpenID Connect, and OAuth 2.0 Understand the operation and scaling of microservices in .NET Core 2.0 Understand the key features of reactive microservices and implement them using reactive extensions Who this book is for This book is for .NET Core developers who want to learn and understand the microservices architecture and implement it in their .NET Core applications. It's ideal for developers who are completely new to microservices or just have a theoretical understanding of this architectural approach and want to gain a practical perspective in order to better manage application complexities.

Microservices for the Enterprise

Design and Build Modern Cloud Native Applications using Spring and Kubernetes (English Edition)

Build professional desktop, mobile, and web applications that meet modern software requirements, 2nd Edition

Cloud Native Go

Building Modern Serverless Web APIs

Learn Microservices - ASP.NET Core and Docker

A quick-start guide to building high-performance reactive microservices for Java developers

Building Complete E-commerce/Shopping Cart Application Key Features Follow best practices and explore techniques such as clustering and caching to achieve a reactive, scalable web service Leverage the .NET Framework to quickly implement RESTful endpoints. Learn to implement a client library for a RESTful web service using ASP.NET Core. Book Description REST is an architectural style that tackles the challenges of building scalable web services. In today's connected world, APIs have taken a central role on the web. APIs provide the fabric

through which systems interact, and REST has become synonymous with APIs. The depth, breadth, and ease of use of ASP.NET Core makes it a breeze for developers to work with for building robust web APIs. This book takes you through the design of RESTful web services and leverages the ASP.NET Core framework to implement these services. This book begins by introducing you to the basics of the philosophy behind REST. You'll go through the steps of designing and implementing an enterprise-grade RESTful web service. This book takes a practical approach, that you can apply to your own circumstances. This book brings forth the power of the latest .NET Core release, working with MVC. Later, you will learn about the use of the framework to explore approaches to tackle resilience, security, and scalability concerns. You will explore the steps to improve the performance of your applications. You'll also learn techniques to deal with security in web APIs and discover how to implement unit and integration test strategies. By the end of the book, you will have a complete understanding of Building a client for RESTful web services, along with some scaling techniques. What you will learn Add basic authentication to your RESTful API Create a Carts Controller and Orders Controller to manage and process Orders Intercept HTTP requests and responses by building your own middleware Test service calls using Postman and Advanced REST Client Secure your data/application using annotations Who this book is for This book is intended for those who want to learn to build RESTful web services with the latest .NET Core Framework. To make best use of the code samples included in the book, you should have a basic knowledge of C# and .NET Core.

One of the biggest challenges for organizations that have adopted microservice architecture is the lack of architectural, operational, and organizational standardization. After splitting a monolithic application or building a microservice ecosystem from scratch, many engineers are left wondering what's next. In this practical book, author Susan Fowler presents a set of microservice standards in depth, drawing from her experience standardizing over a thousand microservices at Uber. You'll learn how to design microservices that are stable, reliable, scalable, fault tolerant, performant, monitored, documented, and prepared for any catastrophe. Explore production-readiness standards, including: Stability and Reliability: develop, deploy, introduce, and deprecate microservices; protect against dependency failures

Scalability and Performance: learn essential components for achieving greater microservice efficiency
Fault Tolerance and Catastrophe Preparedness: ensure availability by actively pushing microservices to fail in real time
Monitoring: learn how to monitor, log, and display key metrics; establish alerting and on-call procedures
Documentation and Understanding: mitigate tradeoffs that come with microservice adoption, including organizational sprawl and technical debt

Build cross-platform solutions with .NET Core 2.0 through real-life scenarios
Key Features
Bridges the gap between learning and doing and improves your software development skills
Covers the best practices of .NET development to improve your productivity
Example-based approach to get you started quickly with software programming
Book Description
With the rise in the number of tools and technologies available today, developers and architects are always exploring ways to create better and smarter solutions. Before, the differences between target platforms was a major roadblock, but that's not the case now. .NET Core 2.0 By Example will take you on an exciting journey to building better software. This book provides fresh and relevant content to .NET Core 2.0 in a succinct format that's enjoyable to read. It also delivers concepts, along with the implications, design decisions, and potential pitfalls you might face when targeting Linux and Windows systems, in a logical and simple way. With the .NET framework at its center, the book comprises of five varied projects: a multiplayer Tic-tac-toe game; a real-time chat application, Let'sChat; a chatbot; a microservice-based buying-selling application; and a movie booking application. You will start each chapter with a high-level overview of the content, followed by the above example applications described in detail. By the end of each chapter, you will not only be proficient with the concepts, but you'll also have created a tangible component in the application. By the end of the book, you will have built five solid projects using all the tools and support provided by the .NET Core 2.0 framework. What you will learn
Build cross-platform applications with ASP.NET Core 2.0 and its tools
Integrate, host, and deploy web apps with the cloud (Microsoft Azure)
Leverage the ncurses native library to extend console capabilities in .NET Core on Linux and interop with native coden .NET Core on Linux and learn how to interop with existing native code
Reuse existing .NET Framework and Mono assemblies from

.NET Core 2.0 applications Develop real-time web applications using ASP.NET Core Learn the differences between SOA and microservices and get started with microservice development using ASP.NET Core 2.0 Walk through functional programming with F# and .NET Core from scratch Who this book is for If you are a developer or architect and want to learn how to build cross-platform solutions using Microsoft .NET Core, this book is for you. It is assumed that you have some knowledge of the .NET Framework, OOP, and C# (or a similar programming language).

The Complete Guide to Building Cloud-Based Services Cloud Native Go shows developers how to build massive cloud applications that meet the insatiable demands of today's customers, and will dynamically scale to handle virtually any volume of data, traffic, or users. Kevin Hoffman and Dan Nemeth describe the modern cloud-native application in detail, illuminating factors, disciplines, and habits associated with rapid, reliable cloud-native development. They also introduce Go, a "simply elegant" high-performance language that is especially well-suited for cloud development. You'll walk through creating microservices in Go, adding front-end web components using ReactJS and Flux, and mastering advanced Go-based cloud-native techniques. Hoffman and Nemeth show how to build a continuous delivery pipeline with tools like Wercker, Docker, and Dockerhub; automatically push apps to leading platforms; and systematically monitor app performance in production. Learn "The Way of the Cloud": why developing good cloud software is fundamentally about mindset and discipline Discover why Go is ideal for cloud-native microservices development Plan cloud apps that support continuous delivery and deployment Design service ecosystems, and then build them in a test-first manner Push work-in-progress to a cloud Use Event Sourcing and CQRS patterns to react and respond to enormous volume and throughput Secure cloud-based web applications: do's, don'ts, and options Create reactive applications in the cloud with third-party messaging providers Build massive-scale, cloud-friendly GUIs with React and Flux Monitor dynamic scaling, failover, and fault tolerance in the cloud

Building Standardized Systems Across an Engineering Organization

Build domain-driven microservice-based applications with Spring, Spring Cloud, and Angular Transitioning monolithic architectures using microservices with .NET Core 2.0 using C# 7.0,

2nd Edition

A practical guide to revealing anti-patterns and architectural pitfalls to avoid microservices fallacies

Microservices For .NET

Refactor Your Monolith Architecture Into Microservices Using Azure, 3rd Edition

Full Stack Development with JHipster

Building Microservices with ASP.NET Core Develop, Test, and Deploy Cross-Platform Services in the Cloud"O'Reilly Media, Inc."

A comprehensive guide for beginners to learn the key concepts, real-world applications, and latest features of C# 10 and .NET 6 with hands-on exercises using Visual Studio 2022 and Visual Studio Code Key Features Explore the newest additions to C# 10, the .NET 6 class library, and Entity Framework Core 6 Create professional websites and services with ASP.NET Core 6 and Blazor Build cross-platform apps for Windows, macOS, Linux, iOS, and Android Book Description Extensively revised to accommodate all the latest features that come with C# 10 and .NET 6, this latest edition of our comprehensive guide will get you coding in C# with confidence. You'll learn object-oriented programming, writing, testing, and debugging functions, implementing interfaces, and inheriting classes. The book covers the .NET APIs for performing tasks like managing and querying data, monitoring and improving performance, and working with the filesystem, async streams, and serialization. You'll build and deploy cross-platform apps, such as websites and services using ASP.NET Core. Instead of distracting you with unnecessary application code, the first twelve chapters will teach you about C# language constructs and many of the .NET libraries through simple console applications. In later chapters, having mastered the basics, you'll then build practical applications and services using ASP.NET Core, the Model-View-Controller (MVC) pattern, and Blazor. What you will learn Build rich web experiences using Blazor, Razor Pages, the Model-View-Controller (MVC) pattern, and other features of ASP.NET Core Build your own types with object-oriented programming Write, test, and debug functions Query and manipulate data using LINQ Integrate and update databases in your apps using Entity Framework Core, Microsoft SQL Server, and SQLite Build and consume powerful services using the latest technologies, including gRPC and GraphQL Build cross-platform apps using XAML Who this book is for Designed for both beginners and C# and .NET programmers who have worked with C# in the past and want to catch up with the changes made in the past few years, this book doesn't need you to have any C# or .NET experience. However, you should have a general understanding of programming before you jump in.

You're a developer who knows nothing to Microservices. Which is fine, except that you need to start coding your next Microservices-based application using ASP.NET Core and Docker. Don't worry: I have you covered. I've been training hundreds of developers like you during 16 years, and converted my experience into this book. I know from experience teaching what takes more time to learn in Microservices, and will spend time only where appropriate. Plus this book is packed with exercises which build up into a full project: you develop two interdependent Microservices, each exposing a CRUD JSON API. You publish them in a Docker repository and run them in Docker. Read

this book, and you can code your Microservices within a week.

Microservices are responsible for very tightly focused capabilities that are part of a more complex server-side software system.

Microservices, when done well, are malleable, scalable, resilient, and allow a short lead time from start of implementation to deployment to production. When using microservices, the need for the technology to be lightweight and low ceremony grows, because creating new microservices needs to be quick and easy. OWIN is great for reuse of plumbing code and a lightweight web framework, like Nancy, is ideal. Microservices in .NET Core teaches readers how to build and deploy secure and operations-friendly microservices using Nancy. The book starts with an introduction to the microservices architectural style. Next, readers learn important practical aspects of developing microservices from simple core concepts to more sophisticated. Throughout the book, readers will see many code examples implementing it with lightweight .NET technologies' most prominently Nancy. By the end, they'll be able to quickly and easily build reliable and operations-friendly microservices using Nancy, OWIN and other open technologies. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

ASP.NET Core Application Development

Building Microservices with .NET Core

Build full stack applications and microservices with Spring Boot and modern JavaScript frameworks, 2nd Edition

Build highly performant, multi-threaded, and concurrent applications using C# 7 and .NET Core 2.0

ASP.NET Core in Action

Building Microservices with ASP.NET Core

Hands-On Microservices with C# 8 and .NET Core 3 - Third Edition

At a time when nearly every vertical, regardless of domain, seems to need software running in the cloud to make money, microservices provide the agility and drastically reduced time to market you require. This hands-on guide shows you how to create, test, compile, and deploy microservices, using the ASP.NET Core free and open-source framework. Along the way, you'll pick up good, practical habits for building powerful and robust services. Building microservices isn't about learning a specific framework or programming language; it's about building applications that thrive in elastically scaling environments that don't have host affinity, and that can start and stop at a moment's notice. This practical book guides you through the process. Learn test-driven and API-first development concepts Communicate with other services by creating and consuming backing services such as databases and queues Build a microservice that depends on an external data source Learn about event sourcing, the event-centric approach to persistence Use ASP.NET Core to build web applications designed to thrive in the cloud Build a service that consumes, or is consumed by, other services Create services and applications that accept external configuration Explore ways to secure ASP.NET Core microservices and applications This book predominately covers Microservices architecture with real-world example which can help

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professionals with ease of adoption of this technology. Following the trend of modularity in real world, the idea behind Microservice by Examples is to allow developers to build their applications from various independent components which can be easily changed, removed or upgraded. Also, it is relevant now because of enterprises are moving towards DevOps/ Modernization, this book will emphasize on containers and Dockers as well.

Know the fundamentals of creating and deploying microservices using .NET 6 and gain insight from prescriptive guidance in this book on the when and why to incorporate them. The microservices architecture is a way of distributing process workloads to independent applications. This distribution allows for the independent applications to scale and evolve separately. It also enables developers to dismantle large applications into smaller, easier-to-maintain, scalable parts. While the return is valuable and the concept straightforward, applying it to an application is far more complicated. Where do you start? How do you find the optimal dividing point for your app, and strategically, how should your app be parceled out into separate services? Pro Microservices in .NET 6 will introduce you to all that and more. The authors get you started with an overview of microservices, .NET 6, event storming, and domain-driven design. You will use that foundational information to build a reference application throughout the book. From there, you will create your first microservice using .NET 6 that you can deploy into Docker and Azure Kubernetes Service. You will also learn about communication styles, decentralizing data, and testing microservices. Finally, you will learn about logging, metrics, tracing, and use that information for debugging. What You Will Learn Build a foundation of basic microservices architecture design Follow an example of using event storming and domain-driven design to understand the monolithic application modified for microservices Understand, via detailed commands, how Docker is used to containerize applications Get an overview of creating microservices from a monolithic application Call microservices using RPC and messaging communication styles with MassTransit Comprehend decentralizing data and handling distributed transactions Use Azure Kubernetes Service to host and scale your microservices Know the methods to make your microservices more robust Discover testing techniques for RPC and messaging communication styles Apply the applications you build for actual use Practice cross-cutting concerns such as logging, metrics, and tracing Who This Book Is For Developers and software architects. Readers should have basic familiarity with Visual Studio and experience with .NET, ASP.NET Core, and C#.

Summary The Tao of Microservices guides you on the path to understanding how to apply microservice architectures to your own real-world projects. This high-level book offers a conceptual view of microservice design, along with core concepts and their application. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology An application, even a complex one, can be designed as a system of independent components, each of

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which handles a single responsibility. Individual microservices are easy for small teams without extensive knowledge of the entire system design to build and maintain. Microservice applications rely on modern patterns like asynchronous, message-based communication, and they can be optimized to work well in cloud and container-centric environments. About the Book The Tao of Microservices guides you on the path to understanding and building microservices. Based on the invaluable experience of microservices guru Richard Rodger, this book exposes the thinking behind microservice designs. You'll master individual concepts like asynchronous messaging, service APIs, and encapsulation as you learn to apply microservices architecture to real-world projects. Along the way, you'll dig deep into detailed case studies with source code and documentation and explore best practices for team development, planning for change, and tool choice. What's Inside Principles of the microservice architecture Breaking down real-world case studies Implementing large-scale systems When not to use microservices About the Reader This book is for developers and architects. Examples use JavaScript and Node.js. About the Author Richard Rodger, CEO of voxgig, a social network for the events industry, has many years of experience building microservice-based systems for major global companies. Table of Contents PART 1 - BUILDING MICROSERVICES Brave new world Services Messages Data Deployment PART 2 - RUNNING MICROSERVICES Measurement Migration People Case study: Nodezoo.com

Patterns and Paradigms for Scalable, Reliable Services

Building an application in four sprints

Microservices in .net Core

Production-Ready Microservices

Building Microservices Applications on Microsoft Azure

Build apps, websites, and services with ASP.NET Core 6, Blazor, and EF Core 6 using Visual Studio 2022 and Visual Studio Code

With Examples Using ASP.NET Core 6, MassTransit, and Kubernetes

Microservices can have a positive impact on your enterprise—just ask Amazon and Netflix—but you can fall into many traps if you don't approach them in the right way. This practical guide covers the entire microservices landscape, including the principles, technologies, and methodologies of this unique, modular style of system building. You'll learn about the experiences of organizations around the globe that have successfully adopted microservices. In three parts, this book explains how these services work and what it means to build an application the Microservices Way. You'll explore a design-based approach to microservice architecture with guidance for implementing various elements. And you'll get a set of recipes and practices for meeting practical, organizational, and cultural challenges to microservice adoption. Learn how microservices can help you drive business objectives Examine the principles, practices, and culture that define microservice architectures Explore a model for creating complex systems and a design process for building a

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microservice architecture Learn the fundamental design concepts for individual microservices Delve into the operational elements of a microservices architecture, including containers and service discovery Discover how to handle the challenges of introducing microservice architecture in your organization

Summary Spring Microservices in Action teaches you how to build microservice-based applications using Java and the Spring platform. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Microservices break up your code into small, distributed, and independent services that require careful forethought and design. Fortunately, Spring Boot and Spring Cloud simplify your microservice applications, just as the Spring Framework simplifies enterprise Java development. Spring Boot removes the boilerplate code involved with writing a REST-based service. Spring Cloud provides a suite of tools for the discovery, routing, and deployment of microservices to the enterprise and the cloud. About the Book Spring Microservices in Action teaches you how to build microservice-based applications using Java and the Spring platform. You'll learn to do microservice design as you build and deploy your first Spring Cloud application. Throughout the book, carefully selected real-life examples expose microservice-based patterns for configuring, routing, scaling, and deploying your services. You'll see how Spring's intuitive tooling can help augment and refactor existing applications with micro services. What's Inside Core microservice design principles Managing configuration with Spring Cloud Config Client-side resiliency with Spring, Hystrix, and Ribbon Intelligent routing using Netflix Zuul Deploying Spring Cloud applications About the Reader This book is written for developers with Java and Spring experience. About the Author John Carnell is a senior cloud engineer with twenty years of experience in Java. Table of contents Welcome to the cloud, Spring Building microservices with Spring Boot Controlling your configuration with Spring Cloud configuration server On service discovery When bad things happen: client resiliency patterns with Spring Cloud and Netflix Hystrix Service routing with Spring Cloud and Zuul Securing your microservices Event-driven architecture with Spring Cloud Stream Distributed tracing with Spring Cloud Sleuth and Zipkin Deploying your microservices

Develop microservice-based enterprise applications with expert guidance to avoid failures and technological debt with the help of real-world examples Key FeaturesImplement the right microservices adoption strategy to transition from monoliths to microservicesExplore real-world use cases that explain anti-patterns and alternative practices in microservices developmentDiscover proven recommendations for avoiding architectural mistakes when designing microservicesBook Description Microservices have been widely adopted for designing distributed enterprise apps that are flexible, robust, and fine-grained into services that are independent of each other. There has been a paradigm shift where organizations are now either building new apps on microservices or transforming existing monolithic apps into microservices-based architecture. This book explores the importance of anti-patterns and the need to address flaws in them with alternative practices and patterns. You'll identify common mistakes caused by a lack of understanding when

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implementing microservices and cover topics such as organizational readiness to adopt microservices, domain-driven design, and resiliency and scalability of microservices. The book further demonstrates the anti-patterns involved in re-platforming brownfield apps and designing distributed data architecture. You'll also focus on how to avoid communication and deployment pitfalls and understand cross-cutting concerns such as logging, monitoring, and security. Finally, you'll explore testing pitfalls and establish a framework to address isolation, autonomy, and standardization. By the end of this book, you'll have understood critical mistakes to avoid while building microservices and the right practices to adopt early in the product life cycle to ensure the success of a microservices initiative. What you will learn

- Discover the responsibilities of different individuals involved in a microservices initiative
- Avoid the common mistakes in architecting microservices for scalability and resiliency
- Understand the importance of domain-driven design when developing microservices
- Identify the common pitfalls involved in migrating monolithic applications to microservices
- Explore communication strategies, along with their potential drawbacks and alternatives
- Discover the importance of adopting governance, security, and monitoring
- Understand the role of CI/CD and testing

Who this book is for This practical microservices book is for software architects, solution architects, and developers involved in designing microservices architecture and its development, who want to gain insights into avoiding pitfalls and drawbacks in distributed applications, and save time and money that might otherwise get wasted if microservices designs fail. Working knowledge of microservices is assumed to get the most out of this book.

Building RESTful Web Services with .NET Core