

Microsoft Net Application Architecture Guide

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Developing Cloud Native Applications in Azure using .NET Core Packt Publishing Ltd
Get expert guidance on patterns—simple, proven mechanisms by which software professionals can share important architectural tradeoffs and design decisions—and help reduce the complexity of building high-performance, enterprise-class business solutions. Focusing on architectural, design, and implementation patterns for Microsoft .NET, this guide captures the knowledge of seasoned developers and shares their time-tested patterns and best practices. Developers and architects learn how to use individual patterns for specific technical scenarios, as well as how to combine patterns to build more complex solutions. All PATTERNS & PRACTICES guides are reviewed and approved by Microsoft engineering teams, consultants, partners, and customers—delivering accurate, real world information that's been technically validated and tested. ASP.NET 3.5 Application Architecture and Design Packt Publishing Ltd
Gain expertise in solution architecture and master all aspects of Power Platform, from data and automation to analytics and security Key Features Become a full-fledged Power Platform expert and lead your solutions with conviction and clarity Adopt a consistent, systematic, and advanced approach to solution architecture Work on practical examples and exercises to develop expert-level skills and prepare for certification Book

DescriptionIf you've been looking for a way to unlock the potential of Microsoft Power Platform and take your career as a solution architect to the next level, then look no further—this practical guide covers it all. Microsoft Power Platform Solution Architect's Handbook will equip you with everything you need to build flexible and cost-effective end-to-end solutions. Its comprehensive coverage ranges from best practices surrounding fit-gap analysis, leading design processes, and navigating existing systems to application lifecycle management with Microsoft Azure DevOps, security compliance monitoring, and third-party API integration. The book takes a hands-on approach by guiding you through a fictional case study throughout the book, allowing you to apply what you learn as you learn it. At the end of the handbook, you'll discover a set of mock tests for you to embed your progress and prepare for PL-600 Microsoft certification. Whether you want to learn how to work with Power Platform or want to take your skills from the intermediate to advanced level, this book will help you achieve that and ensure that you're able to add value to your organization as an expert solution architect. What you will learn Cement the foundations of your applications using best practices Use proven design, build, and go-live strategies to ensure success Lead requirements gathering and analysis with confidence Secure even the most complex solutions and integrations Ensure compliance between the Microsoft ecosystem and your business Build resilient test and deployment strategies to optimize solutions Who this book is for This book is for solution architects, enterprise architects, technical consultants, and business and system analysts who implement, optimize, and architect Power Platform and Dataverse solutions. It will also help anyone who needs a detailed playbook for architecting and delivering successful digital transformation projects that leverage Power Platform apps and the Microsoft business apps ecosystem. A solid understanding of Power Platform configuration and administration, Power

Automate processes, Power Apps Portals, Canvas Apps, Dataverse Plugins, and Workflow Capabilities is expected. **C#.Net Developer's Guide** Addison-Wesley Professional
The practice of enterprise application development has benefited from the emergence of many new enabling technologies. Multi-tiered object-oriented platforms, such as Java and .NET, have become commonplace. These new tools and technologies are capable of building powerful applications, but they are not easily implemented. Common failures in enterprise applications often occur because their developers do not understand the architectural lessons that experienced object developers have learned. Patterns of Enterprise Application Architecture is written in direct response to the stiff challenges that face enterprise application developers. The author, noted object-oriented designer Martin Fowler, noticed that despite changes in technology—from Smalltalk to CORBA to Java to .NET—the same basic design ideas can be adapted and applied to solve common problems. With the help of an expert group of contributors, Martin distills over forty recurring solutions into patterns. The result is an indispensable handbook of solutions that are applicable to any enterprise application platform. This book is actually two books in one. The first section is a short tutorial on developing enterprise applications, which you can read from start to finish to understand the scope of the book's lessons. The next section, the bulk of the book, is a detailed reference to the patterns themselves. Each pattern provides usage and implementation information, as well as detailed code examples in Java or C#. The entire book is also richly illustrated with UML diagrams to further explain the concepts. Armed with this book, you will have the knowledge necessary to make important architectural decisions about building an enterprise application and the proven patterns for use when building them. The topics covered include · Dividing an enterprise application into layers · The major approaches to organizing business logic · An in-depth treatment of mapping between objects and relational databases · Using Model-View-Controller to organize a Web presentation · Handling concurrency for data that spans

multiple transactions · Designing distributed object interfaces
Developing Microservices Architecture on Microsoft Azure with Open Source Technologies Microsoft Press
"The guide is intended to serve as a practical and convenient overview of, and reference to, the general principles of architecture and design on the Microsoft platform and the .NET Framework".
Clean Architecture Addison-Wesley Professional
Framework Design Guidelines, Second Edition, teaches developers the best practices for designing reusable libraries for the Microsoft .NET Framework. Expanded and updated for .NET 3.5, this new edition focuses on the design issues that directly affect the programmability of a class library, specifically its publicly accessible APIs. This book can improve the work of any .NET developer producing code that other developers will use. It includes copious annotations to the guidelines by thirty-five prominent architects and practitioners of the .NET Framework, providing a lively discussion of the reasons for the guidelines as well as examples of when to break those guidelines. Microsoft architects Krzysztof Cwalina and Brad Abrams teach framework design from the top down. From their significant combined experience and deep insight, you will learn The general philosophy and fundamental principles of framework design Naming guidelines for the various parts of a framework Guidelines for the design and extending of types and members of types Issues affecting--and guidelines for ensuring--extensibility How (and how not) to design exceptions Guidelines for--and examples of--common framework design patterns Guidelines in this book are presented in four major forms: Do, Consider, Avoid, and Do not. These directives help focus attention on practices that should always be used, those that should generally be used, those that should rarely be used, and those that should never be used. Every guideline includes a discussion of its applicability, and most include a code example to help illuminate the dialogue.
Framework Design Guidelines, Second Edition, is the only definitive source of best practices for managed code API development, direct from the architects themselves.
Downloadable files can be found at the book's web page. Included in these files are the Designing .NET Class Libraries video series and instructional presentations by the authors on design guidelines for developing classes and components that extend the .NET Framework. A sample API specification (and other useful resources and tools are (also included).
[NET Application Architecture Guide](#) Packt Publishing Ltd
Build robust, scalable ASP.NET applications quickly and easily.
[NET E-business Architecture](#) Packt Publishing Ltd

Use the new, enticing, and highly portable event-driven runtime to simplify building resilient and scalable microservices for cloud and edge applications Key FeaturesBuild resilient, stateless, and stateful microservice applications that run on the cloud and edgeSolve common distributed systems such as low latency and scaling using any language and frameworkUse real-time and proactive monitoring tools to support a reliable and highly available systemBook Description Over the last decade, there has been a huge shift from heavily coded monolithic applications to finer, self-contained microservices. Dapr is a new, open source project by Microsoft that provides proven techniques and best practices for developing modern applications. It offers platform-agnostic features for running your applications on public cloud, on-premises, and even on edge devices. This book will help you get to grips with microservice architectures and how to manage application complexities with Dapr in no time. You'll understand how Dapr offers ease of implementation while allowing you to work with multiple languages and platforms. You'll also understand how Dapr's runtime, services, building blocks, and software development kits (SDKs) help you to simplify the creation of resilient and portable microservices. Dapr provides an event-driven runtime that supports the essential features you need to build microservices, including service invocation, state management, and publish/subscribe messaging. You'll explore all of those in addition to various other advanced features with this practical guide to learning Dapr. By the end of this book, you'll be able to write microservices easily using your choice of language or framework by implementing industry best practices to solve problems related to distributed systems. What you will learnUse Dapr to create services, invoking them directly and via pub/subDiscover best practices for working with microservice architecturesLeverage the actor model to orchestrate data and behaviorUse Azure Kubernetes Service to deploy a sample applicationMonitor Dapr applications using Zipkin, Prometheus, and GrafanaScale and load test Dapr applications on KubernetesWho this book is for This book is for developers looking to explore microservices architectures and implement them in Dapr applications using examples on Microsoft .NET Core. Whether you are new to microservices or have knowledge of this architectural approach and want to get hands-on experience in using Dapr, you ' ll find this book useful. Familiarity with .NET

Core will help you to understand the C# samples and code snippets used in the book.
Domain-driven Design Pearson Education
Guide to designing and developing cloud native applications in Azure _
DESCRIPTION The mainstreaming of Cloud Native Architecture as an enterprise discipline is well underway. According to the Forbes report in January 2018, 83% of the enterprise workloads will be in the cloud by 2020 and 41% of the enterprise workloads will run on public cloud platforms, while another 22% will be running on hybrid cloud platforms. Customers are embarking on the enterprise digital transformation journeys. Adopting cloud and cloud native architectures and microservices is an important aspect of the journey. This book starts with a brief introduction on the basics of cloud native applications, cloud native application patterns. Then it covers the cloud native options available in Azure. The objective of the book is to provide practical guidelines to an architect/designer/consultant/developer, who is a part of the Cloud application definition Team. The book articulates a methodology that the implementation team needs to follow in a step-by-step manner and adopt them to fulfil the requirements for enablement of the Cloud Native application. It emphasizes on the interpersonal skills and techniques for organizing and directing the Cloud Native definition, leadership buy-in, leading the transition from planning to implementation. It also highlights the steps to be followed for performing the cloud native applications, cloud native patterns in the development of Cloud native applications, Cloud native options available in Azure, Developing BOT, Microservices based on Azure. It also covers how to develop simple IoT applications, Machine learning based applications, server less architecture, using Azure with a practical and pragmatic approach. This book embraces a structured approach organized around the following key themes, which represent the typical phases that an enterprise traverses during its Cloud Native application journey: _
_ Basics of Cloud Native Applications: It covers basics of cloud native applications using .NET core.
_ Cloud Native Application Patterns: The reader will understand the patterns for developing Cloud Native Applications.
_ Cloud Native Options available in Azure: The reader will understand the different options available in Azure.
_ Developing a Simple BOT using .NET Core: The

reader will understand the Azure BOT framework basics and will learn how to develop a simple BOT. _ Ê Developing cloud native applications leveraging Microservices: The reader will understand the concepts of developing micro services using the Azure API Gateway Manager. _ Ê Developing Integration capabilities using serverless architecture: The reader will understand the integration capabilities and various options available in Azure _ Ê Developing a simple IoT application: The reader will understand the basics of developing IoT applications. _ Ê Developing a simple ML based application: The reader will understand Machine Learning basics and how to develop a simple ML application _ Ê Different enterprise use cases, which enable digital transformation using the Cloud Native Applications: The reader will learn about different use cases that can be built using cloud native applications Ê KEY FEATURES (Add 5-7 key features only) _ Ê Basics of Cloud Native Applications _ Ê Designing Microservices _ Ê Different cloud native options for developing Cloud Native Applications in Azure _ Ê BOTs, Web Apps, Mobile Apps, Logic Apps, Service Bus, Azure Functions _ Ê Azure IOT Applications _ Ê Azure Machine Learning Basics _ Ê Enterprise Digital Journeys WHAT WILL YOU LEARN This book aims to: _ Ê Demonstrate the importance of a Cloud Native application in elevating the effectiveness of organizational transformation programs and digital enterprise journeys, using MS Azure Ê _ Ê Disseminate current advancements and thought leadership in the area of Cloud Native architecture, in the context of digital enterprises _ Ê Provide initiatives with evidence-based, credible, field tested and practical guidance in crafting their respective architectures; and _ Ê Showcase examples and experiences of the innovative use of Cloud Native Applications in enhancing transformation initiatives. Ê WHO THIS BOOK IS FOR The book is intended for anyone looking for a career in Cloud technology, all aspiring Cloud Architects who want to learn Cloud Native Architectures, Microservices, IoT, BoT and Microsoft Azure platform and working professionals who want to switch their career in Cloud Technology. While no prior knowledge of Azure or related technologies is assumed, it will be helpful to have some .Net programming experience. In addition, the target audience of this book are, Ê _ Ê Business Leaders, Chief Architects, Analysts and Designers seeking better, quicker and

easier approaches to respond to needs of their internal and external customers; _ Ê CIOs/CTOs of business software companies interested in incorporating Cloud Native architecture to differentiate their products and services offerings and increasing the value proposition to their customers; _ Ê Consultants and practitioners desirous of new solutions and technologies to improve productivity of their clients; _ Ê Academic and consulting researchers looking to uncover and characterize new research problems and programmes _ Ê Practitioners and professionals involved with organizational technology strategic planning, technology procurement, management of technology projects, consulting and advising on technology issues and management of total cost of ownership. Ê Table of Contents 1. Basics of Cloud Native Applications 2. Cloud Native Application Patterns 3. Cloud Native Options available in Azure Ð BOTs, Logic Apps, Service Bus, Azure Microservices, ML services 4. Developing a Simple BOT using .NET Core 5. Developing Cloud Native applications leveraging Microservices Ê and Azure API Gateway 6. Developing Integration capabilities using serverless architecture 7. Developing a simple IoT application 8. Developing a simple ML based application 9. Different enterprise use cases which enable digital transformation using Cloud Native Applications [Microsoft Power Platform Solution Architect's Handbook](#) Packt Publishing Ltd A software architect ' s digest of core practices, pragmatically applied Designing effective architecture is your best strategy for managing project complexity – and improving your results. But the principles and practices of software architecting – what the authors call the “ science of hard decisions ” – have been evolving for cloud, mobile, and other shifts. Now fully revised and updated, this book shares the knowledge and real-world perspectives that enable you to design for success – and deliver more successful solutions. In this fully updated Second Edition, you will: Learn how only a deep understanding of domain can lead to appropriate architecture Examine domain-driven design in both theory and implementation Shift your approach to code first, model later – including multilayer architecture Capture the benefits of prioritizing software maintainability See how readability, testability, and extensibility lead to code quality Take a user experience (UX) first approach, rather than designing for data Review patterns for organizing business logic Use event sourcing and CQRS together to model complex business domains more effectively Delve inside the persistence layer, including patterns and implementation. Framework Design Guidelines Pearson Education Microsoft's C# ("C sharp") is a modern, object-

oriented programming language built from the ground up to exploit the power of XML-based Web services on Microsoft's new .NET platform. With its Visual C++ development system heritage, C# will enable millions of C and C++ developers to use existing skills to rapidly build sophisticated XML-based .NET applications. Why Will Web Developers Switch to C#? ...Because it's the ideal solution for C and C++ programmers who need to combine rapid development with the power to access all the functionality of the Microsoft.NET platform. They want an environment that is completely in sync with emerging Web standards and one that provides easy integration with existing applications. C#.net Web Developer's Guide will enhance developer productivity and help them eliminate programming errors that can lead to increased development costs. This book teaches Web developers to quickly and easily build solutions for the Microsoft .NET platform. Web developers will learn to use C# components to build Web services and applications that are available across the Internet, from any application running on any platform. * Timely coverage of newly released product - programmers and developers are anxious to learn about the new technology * Comes with Syngress' revolutionary wallet-sized CD containing a printable HTML version of the book and all of the source code examples and demos of popular C# upgrade and programming tools Solution Architecture with .NET BPB Publications A .NET developer ' s guide to crafting robust, maintainable, and flexible web apps by leveraging C# 9 and .NET 5 features and component-scale and application-scale design patterns Key FeaturesApply software design patterns effectively, starting small and progressing to cloud-scaleDiscover modern application architectures such as vertical slice, clean architecture, and event-driven microservicesExplore ASP.NET design patterns, from options to full-stack web development using BlazorBook Description Design patterns are a set of solutions to many of the common problems occurring in software development. Knowledge of these design patterns helps developers and professionals to craft software solutions of any scale. ASP.NET Core 5 Design Patterns starts by exploring basic design patterns, architectural principles, dependency injection, and other ASP.NET Core mechanisms. You ' ll explore the component scale as you discover patterns oriented toward small chunks of the software, and then move to application-scale patterns and techniques to understand higher-level patterns and how to structure the application as a whole. The book covers a range of significant GoF (Gangs of Four) design patterns such as strategy, singleton, decorator, facade, and composite. The chapters are organized based on scale and topics, allowing you to start

small and build on a strong base, the same way that you would develop a program. With the help of use cases, the book will show you how to combine design patterns to display alternate usage and help you feel comfortable working with a variety of design patterns. Finally, you ' ll advance to the client side to connect the dots and make ASP.NET Core a viable full-stack alternative. By the end of the book, you ' ll be able to mix and match design patterns and have learned how to think about architecture and how it works. What you will learnApply the SOLID principles for building flexible and maintainable softwareGet to grips with .NET 5 dependency injectionWork with GoF design patterns such as strategy, decorator, and compositeExplore the MVC patterns for designing web APIs and web applications using RazorDiscover layering techniques and tenets of clean architectureBecome familiar with CQRS and vertical slice architecture as an alternative to layeringUnderstand microservices, what they are, and what they are notBuild ASP.NET UI from server-side to client-side BlazorWho this book is for This design patterns book is for intermediate-level software and web developers with some knowledge of .NET who want to write flexible, maintainable, and robust code for building scalable web applications. Knowledge of C# programming and an understanding of web concepts like HTTP is necessary.

Application Architecture for .NET Microsoft Press

Improve your Azure architecture practice and set out on a cloud and cloud-native journey with this Azure cloud native architecture guide

Key FeaturesDiscover the key drivers of successful Azure architectureImplement architecture maps as a compass to tackle any challengeUnderstand architecture maps in detail with the help of practical use casesBook Description Azure offers a wide range of services that enable a million ways to architect your solutions. Complete with original maps and expert analysis, this book will help you to explore Azure and choose the best solutions for your unique requirements. Starting with the key aspects of architecture, this book shows you how to map different architectural perspectives and covers a variety of use cases for each architectural discipline. You'll get acquainted with the basic cloud vocabulary and learn which strategic aspects to consider for a successful cloud journey. As you advance through the chapters, you'll understand technical considerations from the perspective of a solutions architect. You'll then explore infrastructure aspects, such as network, disaster recovery, and high availability, and leverage Infrastructure as Code (IaC) through ARM templates, Bicep, and Terraform. The book also guides you through cloud design patterns, distributed architecture, and ecosystem solutions, such as Dapr, from an application architect's perspective. You'll work with both

traditional (ETL and OLAP) and modern data practices (big data and advanced analytics) in the cloud and finally get to grips with cloud native security. By the end of this book, you'll have picked up best practices and more rounded knowledge of the different architectural perspectives. What you will learnGain overarching architectural knowledge of the Microsoft Azure cloud platformExplore the possibilities of building a full Azure solution by considering different architectural perspectivesImplement best practices for architecting and deploying Azure infrastructureReview different patterns for building a distributed application with ecosystem frameworks and solutionsGet to grips with cloud-native concepts using containerized workloadsWork with AKS (Azure Kubernetes Service) and use it with service mesh technologies to design a microservices hosting platformWho this book is for This book is for aspiring Azure Architects or anyone who specializes in security, infrastructure, data, and application architecture. If you are a developer or infrastructure engineer looking to enhance your Azure knowledge, you'll find this book useful.

Applied Architecture Patterns on the Microsoft Platform Addison-Wesley Practical Software Architecture Solutions from the Legendary Robert C. Martin (" Uncle Bob ") By applying universal rules of software architecture, you can dramatically improve developer productivity throughout the life of any software system. Now, building upon the success of his best-selling books Clean Code and The Clean Coder, legendary software craftsman Robert C. Martin (" Uncle Bob ") reveals those rules and helps you apply them. Martin ' s Clean Architecture doesn ' t merely present options. Drawing on over a half-century of experience in software environments of every imaginable type, Martin tells you what choices to make and why they are critical to your success. As you ' ve come to expect from Uncle Bob, this book is packed with direct, no-nonsense solutions for the real challenges you ' ll face – the ones that will make or break your projects. Learn what software architects need to achieve – and core disciplines and practices for achieving it Master essential software design principles for addressing function, component separation, and data management See how programming paradigms impose discipline by restricting what developers can do Understand what ' s critically important and what ' s merely a " detail " Implement optimal, high-level structures for web, database, thick-client, console, and embedded applications Define appropriate boundaries and layers, and organize components and

services See why designs and architectures go wrong, and how to prevent (or fix) these failures Clean Architecture is essential reading for every current or aspiring software architect, systems analyst, system designer, and software manager – and for every programmer who must execute someone else ' s designs. Register your product for convenient access to downloads, updates, and/or corrections as they become available.

NET Programming Apress

Get expert architectural and design-level guidance for building distributed solutions with the Microsoft® .NET

Framework—learning how to synthesize your knowledge of application development, servers, and infrastructure and business requirements. This guide assumes you are familiar with .NET component development and the basic principles of a layered distributed application design. It examines architectural issues and solution design for a range of project stakeholders—whether you build and design applications and services, recommend appropriate technologies and products for applications and services, make design decisions to meet functional and nonfunctional requirements, or choose appropriate communications mechanisms for applications and services—providing straightforward guidance, recommendations, and best practices gleaned from real-world solution development. All PATTERNS & PRACTICES guides are reviewed and approved by Microsoft engineering teams, consultants, partners, and customers—delivering accurate, real-world information that ' s been technically validated and tested.

N-Layered Domain-Oriented Architecture Guide with .Net 4.0 Packt Publishing Ltd Integrate proven performance and scalability techniques throughout the .NET application life cycle--and gain an edge in building better-performing products. This guide presents a robust framework organized by task and role, helping developers, architects, testers, and administrators prioritize and implement the best options at the appropriate time. It offers focused, end-to-end guidance--including processes for modeling performance and techniques for measuring, testing, and fine-tuning your applications. You'll also get tips direct from Microsoft development teams for improving the performance and scalability of managed code; Microsoft ASP.NET, ADO.NET, and SQL Server; Web services; .NET Remoting; XML; and more. The book features a "How To" section that details the steps for a number of specific performance-

related tasks, such as adding performance counters and using the common language runtime (CLR) profiler. PATTERNS & PRACTICES guides are reviewed and approved by Microsoft engineering teams, consultants, partners, and customers--delivering accurate, real-world information that's been technically validated and tested.

Microsoft ADO.NET Entity Framework Step by Step Packt Publishing Ltd "Domain-Driven Design" incorporates numerous examples in Java-case studies taken from actual projects that illustrate the application of domain-driven design to real-world software development.

NET Web Services Packt Publishing Ltd Master Today 's Best Practices for Building Reusable .NET Frameworks, Libraries, and Components " .NET Core [contains] advances important to cloud application developers: performance, resource utilization, container support, and others. This third edition of Framework Design Guidelines adds guidelines related to changes that the .NET team adopted during transition from the world of client-server application to the world of the Cloud. " —From the Foreword by Scott Guthrie Framework Design Guidelines has long been the definitive guide to best practices for developing components and component libraries in Microsoft .NET. Now, this third edition has been fully revised to reflect game-changing API design innovations introduced by Microsoft through eight recent updates to C#, eleven updates to .NET Framework, and the emergence and evolution of .NET Core. Three leading .NET architects share the same guidance Microsoft teams are using to evolve .NET, so you can design well-performing components that feel like natural extensions to the platform. Building on the book 's proven explanatory style, the authors and expert annotators offer insider guidance on new .NET and C# concepts, including major advances in asynchronous programming and lightweight memory access. Throughout, they clarify and refresh existing content, helping you take full advantage of best practices based on C# 8, .NET Framework 4.8, and .NET Core. Discover which practices should always, generally, rarely, or never be used—including practices that are no longer recommended Learn the general philosophy and fundamental principles of modern framework design Explore common framework design patterns with up-to-date C# examples Apply best practices for naming, types, extensibility, and exceptions Learn how to design libraries that scale in the cloud Master new async programming techniques utilizing Task and ValueTask Make the most of the Memory and Span types for lightweight memory access This guide is an indispensable resource for everyone who builds reusable .NET-based frameworks, libraries, or components at any scale: large system frameworks, medium-size reusable

layers of large distributed systems, extensions to system frameworks, or even small shared components. Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

ASP.NET Core Application Development Sams Publishing

Get expert architectural and design-level guidance for building distributed solutions with the Microsoft® .NET Framework-learning how to synthesize your knowledge of application development, servers, and infrastructure and business requirements.

Developer's Guide to Collections in Microsoft .NET Prentice Hall Professional Your hands-on guide to Entity Framework fundamentals Expand your expertise—and teach yourself the fundamentals of the Microsoft ADO.NET Entity Framework 5. If you have previous programming experience but are new to the Entity Framework, this tutorial delivers the step-by-step guidance and coding exercises you need to master core topics and techniques. Discover how to: Access data in a managed way—using minimal code Apply three workflows supported by the Entity Framework Perform essential tasks with full automation in place Manipulate data with both LINQ and Entity SQL Create examples that rely on Table-Valued Functions Determine the remedies for Entity-specific exceptions Explore the use of optimistic and pessimistic concurrency Define mappings between your applications and data sources

Building Microservices with .NET Core Microsoft Press

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.