

Microsoft Net Architecting Applications For The Enterprise

Use this book as your one-stop shop for architecting a world-class DevOps environment with Microsoft technologies. .NET DevOps for Azure is a synthesis of practices, tools, and process that, together, can equip a software organization to move fast and deliver the highest quality software. The book begins by discussing the most common challenges faced by developers in DevOps today and offers options and proven solutions on how to implement DevOps for your team. Daily, millions of developers use .NET to build and operate mission-critical software systems for organizations around the world. While the marketplace has scores of information about the technology, it is completely up to you to put together all the blocks in the right way for your environment. This book provides you with a model to build on. The relevant principles are covered first along with how to implement that part of the environment. And while variances in tools, language, or requirements will change the needed implementation, the DevOps model is the architecture for the working environment for your team. You can modify parts of the model to customize it to your enterprise, but the architecture will enable all of your teams and applications to accelerate in performance.

What You Will Learn

- Get your .NET applications into a DevOps environment in Azure
- Analyze and address the part of your DevOps process that causes delays or bottlenecks
- Track code using Azure Repos and conduct acceptance tests
- Apply the rules for segmenting applications into Git repositories
- Understand the different types of builds and when to use each
- Know how to think about code validation in your DevOps environment
- Provision and configure environments; deploy release candidates across the environments in Azure
- Monitor and support software that has been deployed to a production environment

Who This Book Is For .NET Developers who are using or want to use DevOps in Azure but don't know where to begin

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.

bull; bull; The .NET Compact Framework (CF) brings the power of .NET to mobile devices, yet there is very little information on how to use it effectively bull; The number of developers using the .NET CF over the next few years is anticipated to increase greatly bull; Covers related important topics such as SQL Server 2000 Windows CE edition

Ready to learn Windows 8 programming? Start Here! Learn the fundamentals of Windows 8 programming—and begin creating apps for desktops, laptops, tablets, and other devices. If you have previous experience with HTML5 and JavaScript—simply start here! This book introduces must-know concepts and getting-started techniques through easy-to-follow explanations, examples, and exercises. Here's where you start learning Windows 8 app development Build on your knowledge of HTML5, CSS, and JavaScript Create photo and media galleries with built-in HTML widgets Interact with the system through live tiles, contracts, and view state detection Store and access data on the local device and via the Internet Access webcam, GPS, and other sensors embedded in the device Create your first programs and publish them to the Windows Store

A Problem-Solution Approach

Software Architecture with C# 9 and .NET 5

Microsoft .Net: Architecting Applications For The Enterprise

Microsoft .NET - Architecting Applications for the Enterprise
Building Blocks for Creating Enterprise Applications and Services
.NET DevOps for Azure
Architecting Software Solutions Using Microservices, DevOps, and Design
Patterns for Azure Cloud

Summary Cloud Native Patterns is your guide to developing strong applications that thrive in the dynamic, distributed, virtual world of the cloud. This book presents a mental model for cloud-native applications, along with the patterns, practices, and tooling that set them apart. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Cloud platforms promise the holy grail: near-zero downtime, infinite scalability, short feedback cycles, fault-tolerance, and cost control. But how do you get there? By applying cloud-native designs, developers can build resilient, easily adaptable, web-scale distributed applications that handle massive user traffic and data loads. Learn these fundamental patterns and practices, and you'll be ready to thrive in the dynamic, distributed, virtual world of the cloud. About the Book With 25 years of experience under her belt, Cornelia Davis teaches you the practices and patterns that set cloud-native applications apart. With realistic examples and expert advice for working with apps, data, services, routing, and more, she shows you how to design and build software that functions beautifully on modern cloud platforms. As you read, you will start to appreciate that cloud-native computing is more about the how and why rather than the where. What's inside The lifecycle of cloud-native apps Cloud-scale configuration management Zero downtime upgrades, versioned services, and parallel deploys Service discovery and dynamic routing Managing interactions between services, including retries and circuit breakers About the Reader Requires basic software design skills and an ability to read Java or a similar language. About the Author Cornelia Davis is Vice President of Technology at Pivotal Software. A teacher at heart, she's spent the last 25 years making good software and great software developers. Table of Contents PART 1 - THE CLOUD-NATIVE CONTEXT You keep using that word: Defining "cloud-native" Running cloud-native applications in production The platform for cloud-native software PART 2 - CLOUD-NATIVE PATTERNS Event-driven microservices: It's not just request/response App redundancy: Scale-out and statelessness Application configuration: Not just environment variables The application lifecycle: Accounting for constant change Accessing apps: Services, routing, and service discovery Interaction redundancy: Retries and other control loops Fronting services: Circuit breakers and API gateways Troubleshooting: Finding the needle in the haystack Cloud-native data: Breaking the data monolith Learn about the responsibilities of a .NET solution architect and explore solution architecture principles, DevOps solutions, and design techniques and standards with hands-on examples of design patterns Key Features Find out what are the essential personality traits and responsibilities of a solution architect Become well-versed with architecture principles and modern design patterns with hands-on examples Design modern web solutions and make the most of Azure DevOps to automate your development life cycle Book Description Understanding solution architecture is a must to build and

integrate robust systems to meet your client's needs. This makes it crucial for a professional .NET software engineer to learn the key skills of a .NET solution architect to create a unique digital journey and build solutions for a wide range of industries, from strategy and design to implementation. With this handbook, developers working with the .NET technology will be able to put their knowledge to work. The book takes a hands-on approach to help you become an effective solution architect. You'll start by learning the principles of the software development life cycle (SDLC), the roles and responsibilities of a .NET solution architect, and what makes a great .NET solution architect. As you make progress through the chapters, you'll understand the principles of solution architecture and how to design a solution, and explore designing layers and microservices. You'll complete your learning journey by uncovering modern design patterns and techniques for designing and building digital solutions. By the end of this book, you'll have learned how to architect your modern web solutions with ASP.NET Core and Microsoft Azure and be ready to automate your development life cycle with Azure DevOps. What you will learn

Understand the role and core responsibilities of a .NET solution architect
Study popular UML (Unified Modeling Language) diagrams for solution architecture
Work with modern design patterns with the help of hands-on examples
Become familiar with microservices and designing layers
Discover how to design modern web solutions
Automate your development life cycle with Azure DevOps

Who this book is for
This book is for intermediate and advanced .NET developers and software engineers who want to advance their careers and expand their knowledge of solution architecture and design principles. Beginner or intermediate-level solution architects looking for tips and tricks to build large-scale .NET solutions will find this book useful.

Master machine learning concepts and develop real-world solutions
Machine learning offers immense opportunities, and
Introducing Machine Learning delivers practical knowledge to make the most of them. Dino and Francesco Esposito start with a quick overview of the foundations of artificial intelligence and the basic steps of any machine learning project. Next, they introduce Microsoft's powerful ML.NET library, including capabilities for data processing, training, and evaluation. They present families of algorithms that can be trained to solve real-life problems, as well as deep learning techniques utilizing neural networks. The authors conclude by introducing valuable runtime services available through the Azure cloud platform and consider the long-term business vision for machine learning.

- 14-time Microsoft MVP Dino Esposito and Francesco Esposito help you*
- Explore what's known about how humans learn and how intelligent software is built*
- Discover which problems machine learning can address*
- Understand the machine learning pipeline: the steps leading to a deliverable model*
- Use AutoML to automatically select the best pipeline for any problem and dataset*
- Master ML.NET, implement its pipeline, and apply its tasks and algorithms*
- Explore the mathematical foundations of machine learning*
- Make predictions, improve decision-making, and apply probabilistic methods*
- Group data via classification and clustering*
- Learn the fundamentals of deep learning, including neural network design*
- Leverage AI cloud services to build better real-world solutions faster*

About This Book

- For professionals who want to build machine learning applications: both developers who*

need data science skills and data scientists who need relevant programming skills . Includes examples of machine learning coding scenarios built using the ML.NET library Delve inside the Windows Runtime - and learn best ways to design and build Windows Store apps. Guided by Jeffrey Richter, a recognized expert in Windows and .NET programming, along with principal Windows consultant Maarten van de Bospoort, you'll master essential concepts. And you'll gain practical insights and tips for how to architect, design, optimize, and debug your apps. With this book, you will: Learn how to consume Windows Runtime APIs from C# Understand the principles of architecting Windows Store apps See how to build, deploy, and secure app packages Understand how apps are activated and the process model controlling their execution Study the rich features available when working with files and folders Explore how to transfer, compress, and encrypt data via streams Design apps that give the illusion of running using live tiles, background transfers, and background tasks Share data between apps using the clipboard and the Share charm Get advice for monetizing your apps through the Windows Store About This Book Requires working knowledge of Microsoft .NET Framework, C#, and the Visual Studio IDE Targeted to programmers building Windows Store apps Some chapters also useful to those building desktop apps Technologies Covered Windows 8.1 Microsoft Visual Studio 2013

Introducing Machine Learning

.NET Core in Action

Architecting software solutions using microservices, DevOps, and design patterns for Azure, 2nd Edition

Windows Runtime via C#

Architecture and Implementation

Programming ASP.NET Core, Programming ASP.NET Core

NET Web Services

Software -- Software Engineering.

Build your expertise as you move beyond the basics--and delve into the core topics of programming with ASP.NET 2.0. Useful to both experienced developers and those developing new skills, this ultimate reference is packed with expert guidance, hands-on programming instruction, and practical examples to help you advance your mastery of developing applications for the Web. Discover how to: Author rich, visually consistent pages and manage layout with themes and Master pages Create personalized pages that persist user preferences Retrieve, modify, and manage data with Microsoft ADO.NET Configure the HTTP pipeline to serve ASP.NET 2.0 pages Control program flow by tracing and handling exceptions Design caching layers and learn state management techniques to optimize application performance Manage users with membership control, registration, and authentication capabilities Build real-world data access layers using common design patterns Use custom collections with data source controls Learn the internals of grid controls PLUS--Get code samples on the Web

Writing robust enterprise applications presents a special challenge for developers, but Microsoft has addressed that challenge with the free, downloadable Enterprise Library for the .NET Framework. Enterprise Library is a collection of application blocks and guidance documents that together provide functionality common to enterprise applications; each application block includes full source code. Lacking in the guidance provided by Microsoft is an overall roadmap to the process of using the application blocks. *Effective Use of Microsoft Enterprise Library* is that roadmap. Microsoft application development lead architect Len Fenster explains exactly how to build applications using Enterprise Library application blocks. Fenster covers all seven application blocks as implemented for .NET Framework 1.1, shows how to develop and use a new application block, and explains how Enterprise Library is changing for .NET Framework 2.0. Readers will learn How the Configuration Application Block is designed and can be used at runtime to easily read and write configuration data How the Configuration Application Block works at design time for all blocks How to use the Data Access Block to create a portable data layer How to use the Exception Handling Application Block to implement a policy-driven, application-wide exception handling system How to use the Logging and Instrumentation Application Block to log and instrument messages independent of the message destination How to add authentication, authorization, role membership, security cache, and profile membership features to an application with the Security Application Block How to use the Cryptography Application Block to add functionality to encrypt and decrypt data and create and compare hashes How to build your own application block and providers that “snap” right into Enterprise Library Whether you plan to extend Enterprise Library for your organization, or just use the existing application blocks to add functionality to your architecture in a consistent, extensible, integrated way, this book will guide you through the complexities and help you find a clear path to success.

Fully updated for ASP.NET MVC 3. Delve into the features, principles, and pillars of the ASP.NET MVC framework—deftly guided by web development luminary Dino Esposito. ASP.NET MVC forces developers to think in terms of distinct components—Model, View, Controller—that make it easier to manage application complexity, while allowing strict control over the markup. Plunge into the framework’s internal mechanics and gain perspectives on how to use this programming model versus Web Forms, and begin building your own MVC-based applications quickly.

Agile Database Techniques
Microsoft ASP.NET and AJAX

Design Patterns

Real-Time Web Application Development

Building Microservices Applications on Microsoft Azure

Designing Distributed Systems

Microsoft.NET

Describes Agile Modeling Driven Design (AMDD) and Test-Driven Design (TDD) approaches, database refactoring, database encapsulation strategies, and tools that support evolutionary techniques Agile software developers often use object and relational database (RDB)

technology together and as a result must overcome the impedance mismatch The author covers techniques for mapping objects to RDBs and for implementing concurrency control, referential integrity, shared business logic, security access control, reports, and XML An agile foundation describes fundamental skills that all agile software developers require, particularly Agile DBAs Includes object modeling, UML data modeling, data normalization, class normalization, and how to deal with legacy databases Scott W. Ambler is author of Agile Modeling (0471202827), a contributing editor with Software Development (www.sdmagazine.com), and a featured speaker at software conferences worldwide

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.

Make the right architectural decisions up front - and improve the quality and reliability of your .NET applications. Led by two enterprise programming experts, you'll learn how to apply the patterns and techniques that help control project complexity - and make systems easier to build, support, and upgrade - right from the start. This Second Edition features new deep dives on domain modeling, Command Query Responsibility Segregation (CQRS), and event sourcing models. Get pragmatic architectural guidance on these topics and more: Building testability, maintainability, and security into your system early in the design Exposing business logic through a service-oriented interface Choosing the best pattern for organizing business logic and behavior Applying patterns to separate the UI and presentation logic Managing impedance mismatch between objects and data How to minimize development effort and avoid over-engineering - to produce more robust results

Make the right architectural decisions up front—and improve the quality and reliability of your results. Led by two enterprise programming experts, you'll learn how to apply the patterns and techniques that help control project complexity—and make systems easier to build, support, and

upgrade—right from the start. Get pragmatic architectural guidance on how to: Build testability, maintainability, and security into your system early in the design Expose business logic through a service-oriented interface Choose the best pattern for organizing business logic and behavior Review and apply the patterns for separating the UI and presentation logic Delve deep into the patterns and practices for the data access layer Tackle the impedance mismatch between objects and data Minimize development effort and avoid over-engineering—and deliver more robust results Get code samples on the Web.

Architecting Mobile Solutions for the Enterprise

Effective Strategies for the Agile Software Developer

The Big Ideas Behind Reliable, Scalable, and Maintainable Systems

Microsoft .NET

Enterprise Application Architecture with .NET Core

Elements of Reusable Object-Oriented Software

Modern Web Development

Celebrate Thanksgiving with Annie and Snowball in this Level 2 Ready-to-Read story from the Theodor Seuss Geisel Award-winning creators of Henry and Mudge! Annie loves fall and she especially loves Thanksgiving. There is a big table at Annie's house, and she wants lots of people around it for a yummy dinner. But Annie lives with just her dad and her bunny, Snowball. She doesn't have a big family of her own. Who can she invite to share Thanksgiving?

Provides information on planning, designing, and building Web applications with ASP.NET and AJAX.

A guide to ASP.NET 2.0 covers such topics as Master Web pages, managing user profiles, data access, applications, security, and configuration.

The complete, pragmatic guide to building high-value solutions with ASP.NET Core Programming ASP.NET Core is the definitive guide to practical web-based application development with Microsoft's new ASP.NET Core framework. Microsoft MVP Dino Esposito introduces proven techniques and well-crafted example code for solving real problems with ASP.NET Core. Step by step he guides you through using all key ASP.NET Core technologies, including MVC for HTML generation, .NET Core, EF Core, ASP.NET Identity, dependency injection, and much more. Esposito thoroughly covers ASP.NET Core's cross-platform capabilities and what's changed from older ASP.NET versions, but he doesn't stop there: he offers a complete learning path for every developer who wants to build production solutions, including mobile-specific solutions. Microsoft MVP Dino Esposito shows how to:

- Create new projects and understand their structure
- Set up and use the familiar MVC application model in ASP.NET Core
- Write controller class code to govern all stages of request processing
- Serve HTML from controllers, or directly via Razor Pages
- Master the Razor language for quickly defining the layout of HTML views
- Manage cross-cutting concerns such as global configuration data, error and exception handling, controller class design, and dependency injection
- Secure applications with user authentication and ASP.NET Core's policy-based user authorization API
- Design for efficient data access, and choose the right option for reading and writing data
- Build ASP.NET Core Web APIs that return JSON, XML, or other data
- Use data binding to programmatically update visual components with fresh information
- Build device-friendly web views for iOS and Android
- Explore the radically new ASP.NET Core runtime environment

Dependency Injection (DI) infrastructure

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

Designing, Developing, Deploying, and Monitoring

Understanding domains, technologies, and user experience

Architecting Applications for the Enterprise

Programming Microsoft ASP.NET 2.0 Core Reference

Designing Data-Intensive Applications

A Practitioner's Guide to Design, Develop and Deploy Apps

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

Design scalable and high-performance enterprise applications using the latest features of C# 8 and .NET Core 3 Key Features Become a software architect capable of creating modular apps for specific business needs Design high-performance software systems using the latest features of C# 8 and .NET Core 3 Solve scalability problems in web apps using enterprise architectural patterns Book Description Software architecture is the practice of implementing structures and systems that streamline the software development process and improve the quality of an app. With this software architecture book, you'll follow a hands-on approach to learning various architectural methods that will help you develop and deliver high-quality products. You'll begin by understanding how to transform user requirements into architectural needs and exploring the differences between functional and non-functional requirements. Next, you'll explore how to carefully choose a cloud solution for your

infrastructure, along with covering dos and don'ts that will help you manage your app in a cloud-based environment. Later chapters will cover techniques and processes such as DevOps, microservices, and continuous integration, along with providing insights into implementing them using Microsoft technologies such as ASP.NET Core, the Entity Framework, Cosmos DB, and Azure DevOps. You will also learn about testing frameworks and automation tools that will help you through the development process. Finally, you'll discover design patterns and various software approaches that will allow you to solve common problems faced during development. By the end of this book, you'll be able to develop and deliver highly scalable enterprise-ready apps that meet customers' business needs. What you will learn

Overcome real-world architectural challenges and solve design consideration issues
Apply architectural approaches like Layered Architecture, service-oriented architecture (SOA), and microservices
Learn to use tools like containers, Docker, and Kubernetes to manage microservices
Get up to speed with Azure Cosmos DB for delivering multi-continental solutions
Learn how to program and maintain Azure Functions using C#
Understand when to use test-driven development (TDD) as an approach for software development
Write automated functional test cases for your projects

Who this book is for
This book is for engineers and senior developers aspiring to become architects or looking to build enterprise applications with the .NET Stack. Experience with C# and .NET is required to understand this book.

Get the definitive guide on designing applications on the Microsoft application platform—straight from the Microsoft patterns & practices team. Learn how to choose the most appropriate architecture and the best implementation technologies that the Microsoft application platform offers applications developers. Get critical design recommendations and guidelines organized by application type—from Web, mobile, and rich Internet applications to Office Business Applications. You'll also get links to additional technical resources that can help with your application development.

Microsoft .NET - Architecting Applications for the Enterprise
Microsoft Press

Solution Architecture with .NET
Clean Architecture

Learn solution architecture principles and design techniques to build modern .NET solutions

Develop, Test, and Deploy Cross-Platform Services in the Cloud
Pattern Enterpr Applica Arch

Effective Use of Microsoft Enterprise Library
Programming Microsoft ASP.NET MVC

Become a professional .NET developer by learning expert techniques for building enterprise-grade applications

Key Features Explore the advanced features of C# and .NET 5 to enhance your code and productivity Follow clear and easy instructions for building an end-to-end enterprise application Learn how to build scalable web applications and host them on the cloud

Description .NET Core is one of the most popular programming platforms in the world for an increasingly large community of developers thanks to its excellent cross-platform support. This book will show you how to confidently use the features of .NET 5 with C# 9 to build robust enterprise applications. Throughout the book, you'll work on creating an enterprise app and adding a key component to the app with each chapter, before finally getting it ready for testing and deployment. You'll learn concepts relating to advanced data structures, the Entity Framework Core, parallel programming, and dependency injection. As you progress, you'll cover various authentication and authorization schemes provided by .NET Core to make your apps and APIs secure. Next, you'll build web apps using ASP.NET Core 5 and deploy them on the cloud while working with various cloud components using Azure. The book then shows you how to use the latest Microsoft Visual Studio 2019 and C# 9 to simplify developer tasks, and also explores tips and tricks in Visual Studio 2019 to improve your productivity. Later, you'll discover various testing techniques such as unit testing and performance testing as well as different methods to deploy enterprise apps. By the end of this book, you'll be able to create enterprise apps using the powerful features of .NET 5 and deploy them on the cloud. What you will learn

Design enterprise apps by making the most of the latest features of .NET 5 Discover different layers of an app, such as the data layer, API layer, and web layer Explore end-to-end architecture, implement an enterprise web app using .NET and C# 9, and deploy the app on Azure Focus on the core concepts of web application development such as dependency injection, caching, logging, configuration, and authentication, and implement them in .NET 5 Integrate the new .NET 5 health and performance check APIs with your app Understand how .NET 5 works and contribute to the .NET 5 platform

Who this book is for If you are a developer, architect, or senior programmer who wants to leverage the features of .NET 5 and the C# language, as well as grasp essential techniques to build your skills, then this C# .NET 5 book is for you. Beginner to intermediate-level knowledge of the .NET framework and C# programming is required to understand the concepts covered in this book more effectively.

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.

Data is at the center of many challenges in system design today. Difficult issues need to be figured out, such as scalability, consistency, reliability, efficiency, and maintainability. In addition, we have an overwhelming variety of tools, including relational databases, NoSQL datastores, stream or batch processors, and message brokers. What are the right choices for your application? How do you make sense of all these buzzwords? In this practical and comprehensive guide, author Martin Kleppmann helps you navigate this diverse landscape by examining the pros and cons of various technologies for processing and storing data. Software keeps changing, but the fundamental principles remain the same. With this book, software engineers and architects will learn how to apply those ideas in practice, and how to make full use of data in modern applications. Peer under the hood of the systems you already use, and learn how to use and operate them more effectively Make informed decisions by identifying the strengths and weaknesses of different tools Navigate the trade-offs around consistency, scalability, fault tolerance, and complexity Understand the distributed systems research upon which modern databases are built Peek behind the scenes of major online services, and learn from their architectures

Summary .NET Core in Action shows .NET developers how to build professional software applications with .NET Core. Learn how to convert existing .NET code to work on multiple platforms or how to start new projects with knowledge of the tools and capabilities of .NET Core. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology .NET Core is an open source framework that lets you write and run .NET applications on Linux and Mac, without giving up on Windows. Built for everything from lightweight web apps to industrial-strength distributed systems, it's perfect for deploying .NET servers to any cloud platform, including AWS and GCP. About the Book .NET Core in Action introduces you to cross-platform development with .NET Core. This hands-on guide concentrates on new Core features as you walk through familiar tasks like testing, logging, data access, and networking. As you go, you'll explore modern architectures like microservices and cloud data storage, along with practical matters like performance profiling, localization, and signing assemblies. What's Inside Choosing the right tools Testing, profiling, and debugging Interacting with web services Converting existing projects to

.NET Core Creating and using NuGet packages About the Reader All examples are in C#. About the Author Dustin Metzgar is a seasoned developer and architect involved in numerous .NET Core projects. Dustin works for Microsoft. Table of Contents Why .NET Core? Building your first .NET Core applications How to build with .NET Core Unit testing with xUnit Working with relational databases Simplify data access with object-relational mappers Creating a microservice Debugging Performance and profiling Building world-ready applications Multiple frameworks and runtimes Preparing for release appendix A - Frameworks and runtimes appendix B - xUnit command-line options appendix C - What's in the .NET Standard Library? appendix D - NuGet cache locations

Fowler

Building Microservices with ASP.NET Core

Patterns and Paradigms for Scalable, Reliable Services

Cloud Native Patterns

Building Solutions with the Microsoft .NET Compact Framework

Developing Cloud Native Applications in Azure using .NET Core

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

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. ? Developing cloud native applications leveraging Microservices: The reader will understand the concepts of developing micro services using the Azure API Gateway Manager. ? Developing Integration capabilities using serverless architecture: The reader will understand the integration capabilities and various options available in Azure ? Developing a simple IoT application: The reader will understand the basics of developing IoT applications. ? Developing a simple ML based application: The reader will understand Machine Learning basics and how to develop a simple ML application ? 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

KEY FEATURES (Add 5-7 key features only) ? Basics of Cloud Native Applications ? Designing Microservices ? Different cloud native options for developing Cloud Native Applications in Azure ? BOTs, Web Apps, Mobile Apps, Logic Apps, Service Bus, Azure Functions ? Azure IOT Applications ? Azure Machine Learning Basics ? Enterprise Digital Journeys

WHAT WILL YOU LEARN This book aims to: ? Demonstrate the importance of a Cloud Native application in elevating the effectiveness of organizational transformation programs and digital enterprise journeys, using MS Azure ? Disseminate current advancements and thought leadership in the area of Cloud Native architecture, in the context of digital enterprises ? Provide initiatives with evidence-based, credible, field tested and practical guidance in crafting their respective architectures; and ? Showcase examples and experiences of the innovative use of Cloud Native Applications in enhancing transformation initiatives.

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, ? Business Leaders, Chief Architects, Analysts and Designers seeking better, quicker and easier approaches to respond to needs of their internal and external customers; ? 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; ? Consultants and practitioners desirous of new solutions and technologies to improve productivity of their clients; ? Academic and consulting researchers looking to uncover and characterize new research problems and programmes ? 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.

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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

Your guide to planning and executing a complete mobile web strategy Revisit your approach to the mobile web—and deliver effective solutions that reach customers and clients on a variety of mobile devices. In this practical guide, web development luminary Dino Esposito shows you how to develop a solid mobile strategy for the enterprise, starting with an effective mobile website. You'll receive essential architectural and implementation guidance, as well as mobile-specific design patterns for building cross-platform and native applications. Discover how to:

- Architect a website accessible from many different mobile devices
- Implement design patterns specific to mobile app development
- Examine tools that enable you to write one codebase for many platforms
- Use technologies for building Windows Phone, iPhone, and Android apps
- Develop cross-platform app features, such as localization and offline behavior

Design scalable and high-performance enterprise applications using the latest features of C# 9 and .NET 5 Key Features Gain fundamental and comprehensive software architecture knowledge and the skillset to create fully modular apps Design high-

performance software systems using the latest features of .NET 5 and C# 9
Solve scalability problems in web apps using enterprise architecture patterns
Book Description
Software architecture is the practice of implementing structures and systems that streamline the software development process and improve the quality of an app. This fully revised and expanded second edition, featuring the latest features of .NET 5 and C# 9, enables you to acquire the key skills, knowledge, and best practices required to become an effective software architect. This second edition features additional explanation of the principles of Software architecture, including new chapters on Azure Service Fabric, Kubernetes, and Blazor. It also includes more discussion on security, microservices, and DevOps, including GitHub deployments for the software development cycle. You will begin by understanding how to transform user requirements into architectural needs and exploring the differences between functional and non-functional requirements. Next, you will explore how to carefully choose a cloud solution for your infrastructure, along with the factors that will help you manage your app in a cloud-based environment. Finally, you will discover software design patterns and various software approaches that will allow you to solve common problems faced during development. By the end of this book, you will be able to build and deliver highly scalable enterprise-ready apps that meet your organization's business requirements. What you will learn
Use different techniques to overcome real-world architectural challenges and solve design consideration issues
Apply architectural approaches such as layered architecture, service-oriented architecture (SOA), and microservices
Leverage tools such as containers, Docker, Kubernetes, and Blazor to manage microservices effectively
Get up to speed with Azure tools and features for delivering global solutions
Program and maintain Azure Functions using C# 9 and its latest features
Understand when it is best to use test-driven development (TDD) as an approach for software development
Write automated functional test cases
Get the best of DevOps principles to enable CI/CD environments
Who this book is for
This book is for engineers and senior software developers aspiring to become architects or looking to build enterprise applications with the .NET Stack. Basic familiarity with C# and .NET is required to get the most out of this book.

Designing change-tolerant software

Microsoft Application Architecture Guide

With ASP.NET Core, SignalR, Docker, and Azure

Architecting Web Applications

Start Here! Build Windows 8 Apps with HTML5 and JavaScript

A Craftsman's Guide to Software Structure and Design

Architect and design highly scalable, robust, clean and highly performant applications in .NET Core

About This Book Incorporate architectural soft-skills such as DevOps and Agile methodologies to enhance program-level objectives

Gain knowledge of architectural approaches on the likes of SOA architecture and microservices to provide traceability and rationale for architectural decisions

Explore a variety of practical use cases and code examples to implement the tools and techniques described in the book

Who This Book Is For This book is for experienced .NET developers who are aspiring to become architects of enterprise-grade applications, as well as software architects who would like to leverage .NET to create effective

blueprints of applications. What You Will Learn Grasp the important aspects and best practices of application lifecycle management Leverage the popular ALM tools, application insights, and their usage to monitor performance, testability, and optimization tools in an enterprise Explore various authentication models such as social media-based authentication, 2FA and OpenID Connect, learn authorization techniques Explore Azure with various solution approaches for Microservices and Serverless architecture along with Docker containers Gain knowledge about the recent market trends and practices and how they can be achieved with .NET Core and Microsoft tools and technologies In Detail If you want to design and develop enterprise applications using .NET Core as the development framework and learn about industry-wide best practices and guidelines, then this book is for you. The book starts with a brief introduction to enterprise architecture, which will help you to understand what enterprise architecture is and what the key components are. It will then teach you about the types of patterns and the principles of software development, and explain the various aspects of distributed computing to keep your applications effective and scalable. These chapters act as a catalyst to start the practical implementation, and design and develop applications using different architectural approaches, such as layered architecture, service oriented architecture, microservices and cloud-specific solutions. Gradually, you will learn about the different approaches and models of the Security framework and explore various authentication models and authorization techniques, such as social media-based authentication and safe storage using app secrets. By the end of the book, you will get to know the concepts and usage of the emerging fields, such as DevOps, BigData, architectural practices, and Artificial Intelligence. Style and approach Filled with examples and use cases, this guide takes a no-nonsense approach to show you the best tools and techniques required to become a successful software architect.

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.

Master powerful new approaches to web architecture, design, and user experience This book presents a pragmatic, problem-driven, user-focused approach to planning, designing, and building dynamic web solutions. You'll learn how to gain maximum value from Domain-Driven Design (DDD), define optimal supporting architecture, and succeed with modern UX-first design approaches. The author guides you through choosing and implementing specific technologies and addresses key user-experience topics, including mobile-friendly and responsive design. You'll learn how to gain more value from existing Microsoft technologies such as ASP.NET MVC and SignalR by using them alongside other technologies such as Bootstrap, AJAX, JSON, and JQuery. By using these techniques and understanding the new ASP.NET Core 1.0, you can quickly build advanced web solutions that solve today's problems and deliver an outstanding user experience. Microsoft MVP Dino Esposito shows you how to: Plan websites and web apps to mirror real-world social and business processes Use DDD to dissect and master the complexity of business domains Use UX-Driven Design to reduce costs

and give customers what they want Realistically compare server-side and client-side web paradigms Get started with the new ASP.NET Core 1.0 Simplify modern visual webpage construction with Bootstrap Master practical, efficient techniques for running ASP.NET MVC projects Consider new options for implementing persistence and working with data models Understand Responsive Web Design's pros, cons, and tradeoffs Build truly mobile-friendly, mobile-optimized websites About This Book For experienced developers and solution architects who want to plan and develop web solutions more effectively Assumes basic familiarity with the Microsoft web development stack

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

Introducing Microsoft ASP.NET 2.0

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

ASP.NET MVC 4 Recipes

A Developer's Guide to DevOps Architecture the Right Way

Improving .NET Application Performance and Scalability

Architecture and Best Practices for Mobile Development

Enhance your C# and .NET skills by mastering the process of developing professional-grade web applications

ASP.NET MVC 4 Recipes is a practical guide for developers creating modern web applications, cutting through the complexities of ASP.NET, jQuery, Knockout.js and HTML 5 to provide straightforward solutions to common web development problems using proven methods based on best practices. The problem-solution approach gets you in, out, and back to work quickly while deepening your understanding of the underlying platform and how to develop with it. Author John Ciliberti guides you through the framework and development tools, presenting typical challenges, along with code solutions and clear, concise explanations, to accelerate application development. Inside you will find recipes dealing with streamlined syntax, full control over HTML, a simple API for creating RESTful web services, writing support for test driven development, and more. Solve problems immediately by pasting in code from the recipes, or put multiple recipe solutions together to overcome challenging development obstacles. Dive head first into ASP.NET MVC web development with ASP.NET MVC 4 Recipes.

Design, develop, and deploy a real-world web application by leveraging modern open source technologies. This book shows you how to use ASP.NET Core to build cross-platform web applications along with SignalR to enrich the application by enabling real-time communication between server and clients. You will use Docker to containerize your application, integrate with GitHub to package the application, and provide continuous deployment to Azure's IaaS platform. Along the way, Real-Time Web Application Development covers topics including designing a Materialize CSS theme, using a test-driven development approach with xUnit.net, and securing your application with the OAuth 2.0 protocol. To further your understanding of the technology, you will learn logging and exception handling; navigation using view components; and how to work with forms and validations. The rich code samples from this book can be used to retrofit or upgrade existing ASP.NET Core applications. What You Will Learn Design and develop a real-world web application Implement security and data storage with OAuth2 and Azure Table Storage Orchestrate real-time notifications through SignalR Use GitHub and Travis CI for continuous integration of code Master Docker containerization and continuous deployment with Docker Cloud to Azure Linux virtual machines Who This Book Is For Developers and software engineers interested in learning an end-to-end approach to application development using Microsoft technologies.

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.

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