Microsoft Net Architecting Applications For The Enterprise

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Solution Architecture with .NET - Jamil Hallal 2021-08-27
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 FeaturesFind out what are the essential personality traits and responsibilities of a solution architectBecome well-versed with architecture principles and

modern design patterns with hands-on examplesDesign modern web solutions and make the most of Azure DevOps to automate your development life cycleBook 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 learnUnderstand the role and core responsibilities of a .NET solution architectStudy popular UML (Unified Modeling Language) diagrams for solution architectureWork with modern design patterns with the help of hands-on examplesBecome familiar with microservices and designing layersDiscover how to design modern web solutionsAutomate your development life cycle with Azure DevOpsWho 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.

Design Patterns - Erich Gamma 1995

Software -- Software Engineering.

Programming Microsoft ASP.NET MVC - Dino Esposito 2011-10-15

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.

Hands-On Software Architecture with C# 8 and . NET Core 3 - Gabriel Baptista 2019-11-29

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.

Programming ML.Net - Dino Esposito 2021-09-07

With .NET 5's ML.NET and Programming ML.NET, any Microsoft .NET developer can solve serious machine learning problems, increasing their value and competitiveness in

some of today's fastest-growing areas of software development. World-renowned Microsoft development expert Dino Esposito covers everything you need to know about ML.NET, the machine learning pipeline, and real-world machine learning solutions development. Modeled on his popular Programming ASP.NET books, this guide takes the same scenario-based approach Microsoft's team used to build the ML.NET framework itself. Esposito presents and illuminates ML.NET's dedicated mini-frameworks ("ML Tasks") for specific classes of problems, and draws on personal experience to help developers apply these in the real world, where a problem's complexity can vary widely based on data availability or the specific results you need. In a full section on ML.NET neural networks, Esposito introduces key concepts and presents realistic examples you can reuse in your own applications. Along the way, Esposito also shows how to leverage powerful Python-based machine learning tools in the .NET environment. Programming ML.NET will help you add machine learning and artificial intelligence to your tool belt, whether you have a background in these high-demand technologies or not.

Pro .NET Memory Management - Konrad Kokosa 2018-11-12

Understand .NET memory management internal workings, pitfalls, and techniques in order to effectively avoid a wide range of performance and scalability problems in your software. Despite automatic memory management in .NET, there are many advantages to be found in understanding how .NET memory works and how you can best write software that interacts with it efficiently and effectively. Pro .NET Memory Management is your comprehensive guide to writing better software by understanding and working with memory management in .NET. Thoroughly vetted by the .NET Team at Microsoft, this book contains 25 valuable troubleshooting scenarios designed to

help diagnose challenging memory problems. Readers will also benefit from a multitude of .NET memory management “rules” to live by that introduce methods for writing memory-aware code and the means for avoiding common, destructive pitfalls. What You'll LearnUnderstand the theoretical underpinnings of automatic memory management Take a deep dive into every aspect of .NET memory management, including detailed coverage of garbage collection (GC) implementation, that would otherwise take years of experience to acquire Get practical advice on how this knowledge can be applied in real-world software development Use practical knowledge of tools related to .NET memory management to diagnose various memory-related issuesExplore various aspects of advanced memory management, including use of Span and Memory types Who This Book Is For .NET developers, solution architects, and performance engineers

Clean Architecture - Robert C. Martin

2017-09-12

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.

ASP.NET 3.5 Enterprise Application Development with Visual Studio 2008 - Vincent Varallo 2009-02-10

This book provides a step-by-step guide for developing an ASP.NET 3.5 application using the latest features in Visual Studio 2008. The Problem Design Solution series by Wrox is unique because it describes a large case study and builds an entire solution chapter by chapter for each incremental step. This book uses a wide variety of new features in Visual Studio 2008, explains each in detail, and produces a solution that you can use as a starting point for your own applications. If you are responsible for designing or developing enterprise-wide applications, departmental applications, portals, or any line of business application, then this book is for you. Many applications have a similar set of features, and this book builds an application with some of the most common features of enterprise applications. Let's face it: Every application has the same general set of features, but implemented in a different way. A database sits in the back end and you, as the developer, are responsible for enabling users to add, update,

select, and delete records. If only it were that simple, no? The real development work starts when you sit with users and try to understand the business process and why they need a new or improved system in the first place. A lot of companies have departments that use Excel and Access wizards to create small systems that eventually become a lifeline for some part of the business. Usually something bad happens because of the nature of the tool they are using. Senior-level management is called in, project managers are hired, programmers are contracted, and the Project Management Office (PMO) is called to save the world. Suddenly this loosely defined process is high priority and people want documented standard operating procedures, audit reports, more productivity, less people, and of course a system that can do it all, which is where you come in. When you think about it, it's a pretty daunting task. You're expected to become an expert in someone else's business process, flaws and all, and create a system that the company will rely on as the backbone for their existence. OK, maybe I'm exaggerating just a little bit, but when you go looking for that raise you might want to phrase it that way. This book will give you the tools necessary to build a framework that can be extended to create a solution to solve your company's problems. The design pattern uses the normal three layers, the user interface (UI), the business logic layer (BLL), and the data access layer (DAL), but also builds the classes in each layer that encapsulate common business rules such as role-based security, workflow, reporting, dynamic menus, data entry, dynamic querying, notifications, exception handling, and auditing. As the book guides you through the complete solution, each business requirement is thoroughly examined and some of the latest enhancements in ASP.NET 3.5 and Visual Studio 2008 are used to implement them in a reusable framework. Enterprise applications are typically complex, and the teams that build enterprise

applications come in all shapes and sizes. Some of the roles include a project sponsor, a project manager, business analysts, an architect, UI developers, middle-tier developers, database developers, and, if you're really lucky, testers. Just a side note: Users are not testers. If you ever have the pleasure of working with professional testers, you'll realize how important they are in the process, and how they truly are "quality" assurance engineers. Unfortunately, a lot of companies aren't willing to invest in professional testers, so the users and/or developers end up assuming that role. This book is mainly focused on the architect and developers, but testers may find it valuable as well to help them understand the plumbing that goes into developing and architecting an enterprise application. This book is for the intermediate to senior level developer or system architect. It would be helpful if you have experience with Visual Studio, the .NET Framework, ASP.NET, and C# because that is what the samples are written in, but the design pattern could be used in any language. The book is focused on enterprise applications, but the pattern could be used for any type of application that has a web front end and connects to a database. The application framework built in this book provides a foundation that can be extended to meet the specific business needs of your organization. The sample application in this book is built using Visual Studio 2008, ASP.NET 3.5, C#, and SQL Server 2005. Each chapter goes into great detail, with plenty of code samples, and uses some of the new features in Visual Studio 2008 and the language enhancements in the .NET Framework 3.5. The solution includes examples for technologies such as LINQ to SQL, master pages, custom controls, GridViews, business objects, data objects, and Crystal Reports. Some of the language enhancements discussed include LINQ, extension methods, partial methods, automatic properties, anonymous types, lambda expressions, and

object initializers. Of course, I realize that the code is what most developers are interested in, and each chapter provides numerous examples. The Problem Design Solution series is just that. Each chapter has three sections with a description of the problem to be addressed, the design considerations for choosing a solution for the problem, and the solution that ultimately addresses the problem. The solution includes the bulk of the code. Each chapter builds upon the previous chapter, and it is recommended that you read them in order. The base classes that are described in the first few chapters are critical to an understanding of the rest of the book. Later chapters build upon the base classes and extend their functionality in all three layers of the application.

Pro Entity Framework Core 2 for ASP.NET Core MVC - Adam Freeman 2018-04-18

Model, map, and access data effectively with Entity Framework Core 2, the latest evolution of Microsoft's object-relational mapping framework. You will access data utilizing .NET objects via the most common data access layer used in ASP.NET Core MVC 2 projects. Best-selling author Adam Freeman explains how to get the most from Entity Framework Core 2 in MVC projects. He begins by describing the different ways that Entity Framework Core 2 can model data and the different types of databases that can be used. He then shows you how to use Entity Framework Core 2 in your own MVC projects, starting from the nuts and bolts and building up to the most advanced and sophisticated features, going in-depth to give you the knowledge you need. Chapters include common problems and how to avoid them. What You'll Learn Gain a solid architectural understanding of Entity Framework Core 2 Create databases using your MVC data model Create MVC models using an existing database Access data in an MVC application using Entity Framework Core 2 Use Entity Framework in RESTful Web Services Who This Book Is For

ASP.NET Core MVC 2 developers who want to use Entity Framework Core 2 as the data access layer in their projects

Windows Runtime via C# - Jeffrey Richter 2013-11-15

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

Architecting Microsoft .NET Solutions for the Enterprise - Dino Esposito 2009

Provides information on designing and building effective enterprise solutions, covering such topics as UML, the business layer, the service layer, and the data access layer.

Ultra-Fast ASP.NET 4.5 - Rick Kiessig 2012-09-30

Ultra-Fast ASP.NET 4.5 presents a practical approach to building fast and scalable web sites

using ASP.NET and SQL Server. In addition to a wealth of tips, tricks and secrets, you'll find advice and code examples for all tiers of your application, including the client, caching, IIS 7.5, ASP.NET 4.5, threads, session state, SQL Server 2012 (otherwise known as Denali), Analysis Services, infrastructure and operations. By applying author Rick Kiessig's ultra-fast approach to your projects, you'll squeeze every last ounce of performance out of your code and infrastructure—giving your site unrivaled speed. Rather than drowning you in options, Ultra-Fast ASP.NET 4.5 presents and explains specific high-impact recommendations and demonstrates them with detailed examples. Using this knowledge, you will soon be building high-performance web sites that scale easily as your site grows. Apply the key principles that will help you build Ultra-Fast and Ultra-Scalable web sites. Identify performance traps (such as with session state) and learn how to avoid them. Put into practice an end-to-end systems-based approach to web site performance and scalability, which includes everything from the browser and the network to caching, back-end operations, hardware infrastructure, and your software development process.

Programming Microsoft ASP.NET 4 - Dino Esposito 2011-02-15

Completely reengineered for ASP.NET 4—this definitive guide deftly illuminates the core architecture and programming features of ASP.NET 4 in a single, pragmatic volume. Web development expert Dino Esposito provides essential, architectural-level guidance, along with the in-depth technical insights designed to take you—and your solutions—to the next level. The book covers Dynamic Data, AJAX, Microsoft Silverlight, ASP.NET MVC, Web forms, LINQ, and security strategies—and features extensive code samples in Microsoft Visual C#(R) 2010.

Designing Distributed Systems - Brendan Burns 2018-02-20

Without established design patterns to guide

them, developers have had to build distributed systems from scratch, and most of these systems are very unique indeed. Today, the increasing use of containers has paved the way for core distributed system patterns and reusable containerized components. This practical guide presents a collection of repeatable, generic patterns to help make the development of reliable distributed systems far more approachable and efficient. Author Brendan Burns—Director of Engineering at Microsoft Azure—demonstrates how you can adapt existing software design patterns for designing and building reliable distributed applications. Systems engineers and application developers will learn how these long-established patterns provide a common language and framework for dramatically increasing the quality of your system. Understand how patterns and reusable components enable the rapid development of reliable distributed systems Use the side-car, adapter, and ambassador patterns to split your application into a group of containers on a single machine Explore loosely coupled multi-node distributed patterns for replication, scaling, and communication between the components Learn distributed system patterns for large-scale batch data processing covering work-queues, event-based processing, and coordinated workflows

Effective Use of Microsoft Enterprise Library - Len Fenster 2006-06-09

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.

Architecting Mobile Solutions for the Enterprise - Dino Esposito 2012-05-15

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

Microsoft .NET - Architecting Applications for the Enterprise - Dino Esposito 2014-08-28 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.

Software Architecture with C# 9 and .NET 5

- Gabriel Baptista 2020-12-28
Design scalable and high-performance enterprise applications using the latest features of C# 9 and .NET 5 Key FeaturesGain fundamental and comprehensive software architecture knowledge and the skillset to create fully modular appsDesign high-performance software systems using the latest features of .NET 5 and C# 9Solve scalability problems in web apps using enterprise architecture patternsBook 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 learnUse different techniques to overcome real-world architectural challenges and solve design consideration issuesApply architectural approaches such as layered

architecture, service-oriented architecture (SOA), and microservicesLeverage tools such as containers, Docker, Kubernetes, and Blazor to manage microservices effectivelyGet up to speed with Azure tools and features for delivering global solutionsProgram and maintain Azure Functions using C# 9 and its latest featuresUnderstand when it is best to use test-driven development (TDD) as an approach for software developmentWrite automated functional test casesGet the best of DevOps principles to enable CI/CD environmentsWho 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.

IBM Software for SAP Solutions - Yaro Dunchych 2015-09-29

SAP is a market leader in enterprise business application software. SAP solutions provide a rich set of composable application modules, and configurable functional capabilities that are expected from a comprehensive enterprise business application software suite. In most cases, companies that adopt SAP software remain heterogeneous enterprises running both SAP and non-SAP systems to support their business processes. Regardless of the specific scenario, in heterogeneous enterprises most SAP implementations must be integrated with a variety of non-SAP enterprise systems: Portals Messaging infrastructure Business process management (BPM) tools Enterprise Content Management (ECM) methods and tools Business analytics (BA) and business intelligence (BI) technologies Security Systems of record Systems of engagement The tooling included with SAP software addresses many needs for creating SAP-centric environments. However, the classic approach to implementing SAP functionality generally leaves the business with a rigid solution that is difficult and expensive to change

and enhance. When SAP software is used in a large, heterogeneous enterprise environment, SAP clients face the dilemma of selecting the correct set of tools and platforms to implement SAP functionality, and to integrate the SAP solutions with non-SAP systems. This IBM® Redbooks® publication explains the value of integrating IBM software with SAP solutions. It describes how to enhance and extend pre-built capabilities in SAP software with best-in-class IBM enterprise software, enabling clients to maximize return on investment (ROI) in their SAP investment and achieve a balanced enterprise architecture approach. This book describes IBM Reference Architecture for SAP, a prescriptive blueprint for using IBM software in SAP solutions. The reference architecture is focused on defining the use of IBM software with SAP, and is not intended to address the internal aspects of SAP components. The chapters of this book provide a specific reference architecture for many of the architectural domains that are each important for a large enterprise to establish common strategy, efficiency, and balance. The majority of the most important architectural domain topics, such as integration, process optimization, master data management, mobile access, Enterprise Content Management, business intelligence, DevOps, security, systems monitoring, and so on, are covered in the book. However, there are several other architectural domains which are not included in the book. This is not to imply that these other architectural domains are not important or are less important, or that IBM does not offer a solution to address them. It is only reflective of time constraints, available resources, and the complexity of assembling a book on an extremely broad topic. Although more content could have been added, the authors feel confident that the scope of architectural material that has been included should provide organizations with a fantastic head start in defining their own enterprise reference architecture for many of the important

architectural domains, and it is hoped that this book provides great value to those reading it. This IBM Redbooks publication is targeted to the following audiences: Client decision makers and solution architects leading enterprise transformation projects and wanting to gain further insight so that they can benefit from the integration of IBM software in large-scale SAP projects. IT architects and consultants integrating IBM technology with SAP solutions.

Microsoft Power Platform Enterprise Architecture - Robert Rybaric 2020-09-25

Gain a 360-degree view of Microsoft Power Platform and combine the benefits of Power Apps, Power BI, Power Automate, Azure, and Dynamics 365 to build an enterprise application platform for your organization Key FeaturesExplore various Microsoft cloud components and find out how they can enhance your Power Platform solutionsGet to grips with Microsoft Power Platform's security and extensibility, integration, and data migration modelsDiscover architectural best practices for designing complex enterprise solutionsBook Description For forward-looking architects and decision makers who want to craft complex solutions to serve growing business needs, Microsoft Power Platform Enterprise Architecture offers an array of architectural best practices and techniques. With this book, you'll learn how to design robust software using the tools available in the Power Platform suite and be able to integrate them seamlessly with various Microsoft 365 and Azure components. Unlike most other resources that are overwhelmingly long and unstructured, this book covers essential concepts using concise yet practical examples to help you save time. You'll develop the skills you need to architect, design, and manage a complex solution as you follow the journey of a fictitious enterprise customer as they enter the world of Power Platform. Throughout the book, you'll discover how to combine the functionality of Power Apps, Power

Automate, Power BI, and Power Virtual Agents with various methodologies to effectively address application lifecycle management, security, and extensibility. Finally, you'll learn how to overcome common challenges in migrating data to and from Microsoft Power Platform using proven techniques. By the end of this book, you'll have the strategic perspective of an enterprise architect to make accurate architectural decisions for your complex Power Platform projects. What you will learnUnderstand various Dynamics 365 CRM, ERP, and AI modules for creating Power Platform solutionsEnhance Power Platform with Microsoft 365 and AzureFind out which regions, staging environments, and user licensing groups need to be employed when creating enterprise solutionsImplement sophisticated security by using various authentication and authorization techniquesExtend Power Apps, Power BI, and Power Automate to create custom applicationsIntegrate your solution with various in-house Microsoft components or third-party systems using integration patternsWho this book is for This book is for enterprise architects and technical decision makers who want to craft complex solutions using Microsoft Power Platform to serve growing business needs and to stay competitive in the modern IT world. A basic understanding of Microsoft Power Platform will help you to get started with this book.

Enterprise Application Architecture with .NET Core - Ganesan Senthilvel 2017-04-25

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.

Enterprise Services with the .NET Framework - Christian Nagel 2005

Useful for the companies that run distributed or enterprise applications, this book helps you architect a relatively trivial application in a way that would allow it to scale without any rework.

Modern Web Development - Dino Esposito 2016-02-22

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

Improving .NET Application Performance and Scalability - J. D. Meier 2004

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.

Enterprise Application Development with C# 9 and .NET 5 - Ravindra Akella 2021-03-19

Become a professional .NET developer by

learning expert techniques for building enterprise-grade applications Key FeaturesExplore the advanced features of C# and .NET 5 to enhance your code and productivityFollow clear and easy instructions for building an end-to-end enterprise applicationLearn how to build scalable web applications and host them on the cloudBook 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 ?nally 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 di?erent 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 learnDesign enterprise apps by making the most of the latest features of .NET 5Discover di?erent layers of an app, such as the data layer, API layer, and web layerExplore end-to-end architecture, implement an enterprise web app using .NET and C# 9, and deploy the app on

AzureFocus on the core concepts of web application development such as dependency injection, caching, logging, con?guration, and authentication, and implement them in .NET 5Integrate the new .NET 5 health and performance check APIs with your appUnderstand how .NET 5 works and contribute to the .NET 5 platformWho 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.

Microsoft Application Architecture Guide - Microsoft Patterns & Practices Team 2009

Get the definitive guide on designing applications on the Microsoft application platformâ€”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 typeâ€”from Web, mobile, and rich Internet applications to Office Business Applications. Youâ€™ll also get links to additional technical resources that can help with your application development.

Microsoft SharePoint 2013 Designing and Architecting Solutions - Shannon Bray 2013-07-15

Get the information you need to make good SharePoint design decisions Determine the best design for your SharePoint implementation by gaining a deeper understanding of how the platform works. Written by a team of SharePoint experts, this practical guide introduces the Microsoft SharePoint 2013 architecture, and walks you through design considerations for

planning and building a custom SharePoint solution. It's ideal for IT professionals, whether or not you have experience with previous versions of SharePoint. Discover how to: Dive deeper into SharePoint 2013 architecture components Gather requirements for a solution that fits your needs Upgrade from Microsoft SharePoint 2010 to 2013 Design service applications for performance and redundancy Provide the right storage plan for a SharePoint farm Map authentication and authorization requirements to your solution Take steps necessary to design a secure implementation Plan your business continuity management strategy Validate your SharePoint architecture to ensure success

Microsoft .NET - Architecting Applications for the Enterprise - Andrea Saltarello 2008-10-15

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.

Developing Cloud Native Applications in Azure using .NET Core - Rekha Kodali 2020-02-01

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. Table of Contents 1. Basics of Cloud Native Applications 2. Cloud Native Application Patterns 3. Cloud Native Options available in Azure – BOTs, Logic Apps, Service Bus, Azure Microservices, ML services 4. Developing a Simple BOT using .NET Core 5. Developing Cloud Native applications leveraging Microservices 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

.NET DevOps for Azure - Jeffrey Palermo 2019-10-21

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 AzureAnalyze and address the part of your DevOps process that causes delays or bottlenecksTrack code using Azure Repos and conduct acceptance testsApply the rules for segmenting applications into Git repositoriesUnderstand the different types of builds and when to use eachKnow how to think about code validation in your DevOps environmentProvision and configure

environments; deploy release candidates across the environments in AzureMonitor 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

Fowler - Martin Fowler 2012-03-09

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

Enterprise Application Development with C# 10 and .NET 6 - Ravindra Akella 2022-06-17

A comprehensive guide to every important component of C# and .NET 6 required to build robust enterprise web applications Key FeaturesExplore the advanced features of C# and .NET 6 to enhance your code and productivityFollow clear and easy instructions for building an end-to-end enterprise applicationLearn how to build scalable web applications and host them on the cloudBook Description Building production-ready enterprise applications can be a challenging task due to the overabundance of tools and their different versions that make app development complex. This book simplifies the process with an end-to-end road map for building enterprise applications from scratch using the latest features of .NET Core 6 and C# 10. Throughout the book, you'll work on creating an enterprise app, 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. The book then shows you how the latest Microsoft Visual Studio and C# 10 help you simplify developer tasks and shares tips and tricks in Visual Studio to improve your

productivity. 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 6 and deploy them to the cloud while working with various cloud components using Azure. What you will learnDesign enterprise apps by making the most of the latest features of .NET 6Discover different layers of an app, such as the data layer, API layer, and web layerExplore end-to-end architecture by implementing an enterprise web app using .NET and C# 10 and deploying it on AzureFocus on the core concepts of web application development and implement them in .NET 6Integrate the new .NET 6 health and performance check APIs into your appExplore MAUI and build an application targeting multiple platforms - Android, iOS, and WindowsWho this book is for If you are a developer, architect, or senior programmer, this book will show you how to leverage the features of .NET 6 and the C# language, as well as help you grasp essential techniques to build your skills.

Pro ASP.NET MVC 4 - Adam Freeman 2013-01-29

The ASP.NET MVC 4 Framework is the latest evolution of Microsoft’s ASP.NET web platform. It provides a high-productivity programming model that promotes cleaner code architecture, test-driven development, and powerful extensibility, combined with all the benefits of ASP.NET. ASP.NET MVC 4 contains a number of significant advances over previous versions. New mobile and desktop templates (employing adaptive rendering) are included together with support for jQuery Mobile for the first time. New display modes allow your application to select views based on the browser that's making the request while Code Generation Recipes for Visual Studio help you auto-generate project-specific code for a wide variety of situtations

including NuGet support. In this fourth edition, the core model-view-controller (MVC) architectural concepts are not simply explained or discussed in isolation, but are demonstrated in action. You'll work through an extended tutorial to create a working e-commerce web application that combines ASP.NET MVC with the latest C# language features and unit-testing best practices. By gaining this invaluable, practical experience, you'll discover MVC's strengths and weaknesses for yourself—and put your best-learned theory into practice. The book's authors, Steve Sanderson and Adam Freeman, have both watched the growth of ASP.NET MVC since its first release. Steve is a well-known blogger on the MVC Framework and a member of the Microsoft Web Platform and Tools team. Adam started designing and building web applications 15 years ago and has been responsible for some of the world's largest and most ambitious projects. You can be sure you are in safe hands.

Dependency Injection Principles, Practices, and Patterns - Mark Seemann 2019-03-06
Summary Dependency Injection Principles, Practices, and Patterns teaches you to use DI to reduce hard-coded dependencies between application components. You'll start by learning what DI is and what types of applications will benefit from it. Then, you'll work through concrete scenarios using C# and the .NET framework to implement DI in your own projects. As you dive into the thoroughly-explained examples, you'll develop a foundation you can apply to any of the many DI libraries for .NET and .NET Core. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Dependency Injection (DI) is a great way to reduce tight coupling between software components. Instead of hard-coding dependencies, such as specifying a database driver, you make those connections through a third party. Central to application frameworks

like ASP.NET Core, DI enables you to better manage changes and other complexity in your software. About the Book Dependency Injection Principles, Practices, and Patterns is a revised and expanded edition of the bestselling classic Dependency Injection in .NET. It teaches you DI from the ground up, featuring relevant examples, patterns, and anti-patterns for creating loosely coupled, well-structured applications. The well-annotated code and diagrams use C# examples to illustrate principles that work flawlessly with modern object-oriented languages and DI libraries. What's Inside Refactoring existing code into loosely coupled code DI techniques that work with statically typed OO languages Integration with common .NET frameworks Updated examples illustrating DI in .NET Core About the Reader For intermediate OO developers. About the Authors Mark Seemann is a programmer, software architect, and speaker who has been working with software since 1995, including six years with Microsoft. Steven van Deursen is a seasoned .NET developer and architect, and the author and maintainer of the Simple Injector DI library. Table of Contents PART 1 Putting Dependency Injection on the map The basics of Dependency Injection: What, why, and how Writing tightly coupled code Writing loosely coupled code PART 2 Catalog DI patterns DI anti-patterns Code smells PART 3 Pure DI Application composition Object lifetime Interception Aspect-Oriented Programming by design Tool-based Aspect-Oriented Programming PART 4 DI Containers DI Container introduction The Autofac DI Container The Simple Injector DI Container The Microsoft.Extensions.DependencyInjection DI Container

Real-Time Web Application Development - Rami Vemula 2017-12-01

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.

.NET Core in Action - Dustin Metzgar 2018-07-12

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 profi ling, 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

Cloud Native Patterns - Cornelia Davis 2019-05-12

Summary Cloud Native Patternsis 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 cloudnative 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

Introducing Machine Learning - Dino Esposito 2020-02-05

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

Programming ASP.NET Core, Programming ASP.NET Core - Dino Esposito 2018-05-10

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 and Dependency Injection (DI) infrastructure

Microsoft.NET - Dino Esposito 2014

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