

Read Book Practical Azure Application
Development A Step By Step Approach To Build
Feature Rich Cloud Ready Solutions

Practical Azure Application Development A Step By Step Approach To Build Feature Rich Cloud Ready Solutions

Here is the expert-level, insider guidance you need on using Azure SQL Database as your back-end data store. This book highlights best practices in everything ranging from full-stack projects to mobile applications to critical, back-end APIs. The book provides instruction on accessing your data from any language and platform. And you learn how to push processing-intensive work into the database engine to be near the data and avoid undue networking traffic. Azure SQL is explained from a developer's point of view, helping you master its feature set and create applications that perform well and delight users. Core to the book is showing you how Azure SQL Database provides relational and post-relational support so that any workload can be managed with easy accessibility from any platform and any language. You will learn about features ranging from lock-free tables to columnstore indexes, and about support for data formats ranging from JSON and key-values to the nodes and edges in the graph database paradigm. Reading this book prepares you to deal with almost all data management challenges, allowing you to create lean and specialized solutions having the elasticity and scalability that are needed in the modern world. You will: Master Azure SQL Database in your development projects from design to the CI/CD pipeline Access your data from any programming language and platform Combine key-value, JSON, and relational data in the same database Push data-intensive compute work into the database for improved efficiency Delight your customers by

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detecting and improving poorly-performing queries Enhance performance through features such as columnstore indexes and lock-free tables Build confidence in your mastery of Azure SQL Database's feature set.

Implement rich Azure SAAS-PAAS-IAAS ecosystems using containers, serverless services, and storage solutions

DESCRIPTION Book explains Azure services offerings to advance resource creation to see how all the moving parts go together. It walks through various cloud development tools which will speed our development process. Books majorly covers practical information to get you started to a Proficient level and towards cloud mindset Azure Cloud offers

enormous services to solve your problem in this modern world. Microsoft Azure has Web, Mobile, Big Data, IoT, AI + Machine Learning, Storage, Database, and so on. We will be going through some of these available services to solve our business problem in this book. If you are a .NET developer who wants to learn Microsoft Azure and want to have cloud mindset, this book is for you. Cloud application development requires a Cloud mindset. Cloud mindset is developed by gradually going through all the available services provided by Microsoft Azure and using the best fit solution for your problem. "If you are C# DEVELOPER who wants to start with Azure, then this book is for you."

KEY FEATURES This book starts from basic fundamentals and takes you to a professional level. Books emphasizes on real life project use case and in-depth implementation. Books starts right from scratch with creation of Azure account to manually creating Azure resources and deploying them. Exclusive topics are dedicated for Azure Web App, Web Job, Cloud Service (Web Role, Worker Role), Azure functions. All practical implementation of Azure services (PASS, Server less computing) are covered. **WHAT WILL YOU LEARN** Azure and Services Offered for .NET Developers To create Free

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Azure Account and Web App Service on Azure Creating and Deploying a Sample ASP.NET Core on Azure Web App. Creating and Running a Background Job with help of Web Jobs on Azure Creating and Running a Service Bus Triggered Web Jobs on Azure to send mail to the Customer using Send Grid Creating your first Cloud Service app on Azure WHO THIS BOOK IS FOR Students of Polytechnic Diploma Classes- Computer Science/ Information Technology Graduate Students- Computer Science/ CSE / IT/ Computer Applications Master Class Students—Msc (CS/IT)/ MCA/ M.Phil, M.Tech, M.S. .NET developer, C# developer Table of Contents 1. The Era of Data Center 2. Abstract 3. Introduction Day 1: Understanding Azure and Services Offered for .NET Developers Day 2: Creating your Free Azure Account and Create Your First Web App Service on Azure Day 3: Creating and Deploying a Sample ASP.NET Core on Azure Web App. Day 4: Creating and Running a Background Job with help of Web Jobs on Azure Day 5: Creating and Running a Service Bus Triggered Web Jobs on Azure to send mail to the Customer using Send Grid Day 6: Creating your first Cloud Service app on Azure Day 7: Logic/Function as a Service Often Termed has Serverless Computing, Creating your First Azure Function on Microsoft Azure References Focus exclusively on the Azure Resource Manager (ARM) deployment model for Azure automation and gain in-depth knowledge of topics such as runbook authoring, different types of automation runbooks, and hybrid cloud automation. This book covers practical approaches to creating runbooks for multiple use cases, including operational tasks such as VM management and integration of Azure automation with infrastructure monitoring solutions, such as Operations Management Suite (OMS). Along the way you'll see how to use PowerShell in Azure automation and cover essentials including Azure automation security, source control

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integration, and runbook output streams. Finally, you learn about integrating Azure automation with Desired State Configuration (DSC) to include various cloud, on-premise, and hybrid scenarios. What You Will Learn · Work with the building blocks of Azure automation · Create different types of runbook · Master hybrid cloud automation with ARM · Implement cloud automation use cases with practical examples Who This Book Is For Infrastructure and cloud architects, cloud support engineers, and system administrators.

Provides information on developing cloud-based applications on the Windows Azure Platform.

Become an expert in implementing Azure Functions to work seamlessly with your serverless applications Key Features Develop scalable, robust multi-tier apps without worrying about infrastructure needs Deploy and manage cost-effective and highly available serverless apps using Azure Functions Accelerate enterprise-level application development by seamlessly integrating different cloud services with Azure Functions Book Description Application development has evolved from traditional monolithic app development to using serverless options and microservices. This book is designed to guide you through using Microsoft's Azure Functions to process data, integrate systems, and build simple APIs and microservices. You will discover how to apply serverless computing to speed up deployment and reduce downtime. You'll also explore Azure Functions, including its core functionalities and essential tools, along with understanding how to debug and even customize Azure Functions. In addition to this, the book will take you through how you can effectively implement DevOps and automation in your working environment. Toward the concluding chapters, you'll cover some quick tips, troubleshooting techniques, and real-world serverless use cases that will help you make the most of

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serverless computing. By the end of this book, you will have gained the skills you need to develop and deliver cost-effective Azure serverless solutions. What you will learn

- Create and deploy advanced Azure Functions
- Learn to extend the runtime of Azure Functions
- Orchestrate your logic through code or a visual workflow
- Add caching, security, routing, and filtering to your APIs
- Use serverless technologies in real-world scenarios
- Understand how to apply DevOps and automation to your working environment

Who this book is for
This book is designed for cloud administrators, architects, and developers interested in building scalable systems and deploying serverless applications with Azure Functions. Prior knowledge of core Microsoft Azure services and Azure Functions is necessary to understand the topics covered in this book.

This ebook walks you through a patterns-based approach to building real-world cloud solutions. The patterns apply to the development process as well as to architecture and coding practices. The content is based on a presentation developed by Scott Guthrie and delivered by him at the Norwegian Developers Conference (NDC) in June of 2013 (part 1, part 2), and at Microsoft Tech Ed Australia in September 2013 (part 1, part 2). Many others updated and augmented the content while transitioning it from video to written form.

Who should read this book
Developers who are curious about developing for the cloud, are considering a move to the cloud, or are new to cloud development will find here a concise overview of the most important concepts and practices they need to know. The concepts are illustrated with concrete examples, and each chapter includes links to other resources that provide more in-depth information. The examples and the links to additional resources are for Microsoft frameworks and services, but the principles illustrated apply to other web development frameworks and cloud environments as well.

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Developers who are already developing for the cloud may find ideas here that will help make them more successful. Each chapter in the series can be read independently, so you can pick and choose topics that you're interested in. Anyone who watched Scott Guthrie's "Building Real World Cloud Apps with Windows Azure" presentation and wants more details and updated information will find that here. Assumptions This ebook expects that you have experience developing web applications by using Visual Studio and ASP.NET. Familiarity with C# would be helpful in places.

Microsoft Azure Essentials from Microsoft Press is a series of free ebooks designed to help you advance your technical skills with Microsoft Azure. The first ebook in the series, Microsoft Azure Essentials: Fundamentals of Azure, introduces developers and IT professionals to the wide range of capabilities in Azure. The authors - both Microsoft MVPs in Azure - present both conceptual and how-to content for key areas, including: Azure Websites and Azure Cloud Services Azure Virtual Machines Azure Storage Azure Virtual Networks Databases Azure Active Directory Management tools Business scenarios Watch Microsoft Press's blog and Twitter (@MicrosoftPress) to learn about other free ebooks in the "Microsoft Azure Essentials" series.

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Gain practical skills with Azure and understand how to start developing scalable and easy-to-maintain cloud applications Key Features Get up and running with the development aspects of Azure cloud Build fault-tolerant and scalable applications on Azure A practical, developer-centric guide for Azure

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developers Book Description Microsoft Azure is one of the fastest growing public cloud service providers in the market currently, and also holds the second highest market share after AWS. Azure has a sophisticated set of services that will help you build fault-tolerant and scalable cloud-based applications. Hands-On Azure for Developers will take you on a journey through multiple PaaS services available in Azure, including App Services, Functions, and Service Fabric, and explain in detail how to build a complete and reliable system with ease. You will learn about how to maximize your skills when building cloud-based solutions leveraging different SQL/NoSQL databases, serverless and messaging components, and even search engines such as Azure Search. In the concluding chapters, this book covers more advanced scenarios such as scalability best practices, serving static content with Azure CDN, and distributing loads with Azure Traffic Manager. By the end of the book, you will be able to build modern applications on the Azure cloud using the most popular and promising technologies, which will help make your solutions reliable, stable, and efficient. What you will learn Implement serverless components such as Azure functions and logic apps Integrate applications with available storages and containers Understand messaging components, including Azure Event Hubs and Azure Queue Storage Gain an understanding of Application

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Insights and other proper monitoring solutions Store your data with services such as Azure SQL and Azure Data Lake Storage Develop fast and scalable cloud applications Who this book is for Hands-On Azure for Developers is for developers who want to build highly scalable cloud-based applications on Azure. Prior knowledge of Azure services will be an added advantage.

Microsoft Power Apps Cookbook is a complete resource filled with meticulously crafted recipes to help you build customized business apps that meet ever-changing enterprise demands. You will learn how to design modern apps with the low-code approach in a rapid application development environment by achieving enterprise-wide business agility.

Start developing Azure Functions and building simple solutions for serverless computing without worrying about infrastructure. With the increased need for deploying serverless computing, Azure Functions integrates with other Azure resources. This book is a quick reference and consists of a practical and problem-driven approach with the latest technology. Guided by step-by-step explanations and sample projects, you'll set up, build, and deploy Azure Functions to get the most out of this compute-on-demand service. After a foundational introduction to Azure Functions you'll prepare a development environment to serve and process an IoT Telemetry

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system, create Microservices, and monitor Azure Functions services to get application insights. What You'll Learn Review the Interaction between Azure Functions and Azure data services Apply Azure Functions in web applications and build interaction systems for mobile applications Develop a serverless micro-service Serve and process IoT Telemetry systems Monitor Azure Functions services and get application insights Who This Book Is For Developers, students, professionals and anyone interested in Azure Function technology and the Azure platform.

Learn Azure in a Month of Lunches, Second Edition, is a tutorial on writing, deploying, and running applications in Azure. In it, you'll work through 21 short lessons that give you real-world experience. Each lesson includes a hands-on lab so you can try out and lock in your new skills. Summary You can be incredibly productive with Azure without mastering every feature, function, and service. Learn Azure in a Month of Lunches, Second Edition gets you up and running quickly, teaching you the most important concepts and tasks in 21 practical bite-sized lessons. As you explore the examples, exercises, and labs, you'll pick up valuable skills immediately and take your first steps to Azure mastery! This fully revised new edition covers core changes to the Azure UI, new Azure features, Azure containers, and the upgraded Azure Kubernetes Service. Purchase

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of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Microsoft Azure is vast and powerful, offering virtual servers, application templates, and prebuilt services for everything from data storage to AI. To navigate it all, you need a trustworthy guide. In this book, Microsoft engineer and Azure trainer Iain Foulds focuses on core skills for creating cloud-based applications. About the book Learn Azure in a Month of Lunches, Second Edition, is a tutorial on writing, deploying, and running applications in Azure. In it, you'll work through 21 short lessons that give you real-world experience. Each lesson includes a hands-on lab so you can try out and lock in your new skills. What's inside Understanding Azure beyond point-and-click Securing applications and data Automating your environment Azure services for machine learning, containers, and more About the reader This book is for readers who can write and deploy simple web or client/server applications. About the author Iain Foulds is an engineer and senior content developer with Microsoft. Table of Contents PART 1 - AZURE CORE SERVICES 1 Before you begin 2 Creating a virtual machine 3 Azure Web Apps 4 Introduction to Azure Storage 5 Azure Networking basics PART 2 - HIGH AVAILABILITY AND SCALE 6 Azure Resource Manager 7 High availability and redundancy 8 Load-balancing applications 9

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Applications that scale 10 Global databases with Cosmos DB 11 Managing network traffic and routing 12 Monitoring and troubleshooting PART 3 - SECURE BY DEFAULT 13 Backup, recovery, and replication 14 Data encryption 15 Securing information with Azure Key Vault 16 Azure Security Center and updates PART 4 - THE COOL STUFF 17 Machine learning and artificial intelligence 18 Azure Automation 19 Azure containers 20 Azure and the Internet of Things 21 Serverless computing

Discover the powerful capabilities of Dapr by implementing a sample application with microservices leveraging the actor model to foster its strengths. Find out how Dapr helps you simplify the creation of resilient and portable microservices with this book.

How do you start? How should you build a plan for cloud migration for your entire portfolio? How will your organization be affected by these changes? This book, based on real-world cloud experiences by enterprise IT teams, seeks to provide the answers to these questions. Here, you'll see what makes the cloud so compelling to enterprises; with which applications you should start your cloud journey; how your organization will change, and how skill sets will evolve; how to measure progress; how to think about security, compliance, and business buy-in; and how to exploit the ever-growing feature set that the cloud offers to gain strategic and competitive advantage.

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Do you need to learn about cloud computing architecture with Microsoft's Azure quickly? Read this book! It gives you just enough info on the big picture and is filled with key terminology so that you can join the discussion on cloud architecture. Develop applications for the real world with a thorough software testing approach Key Features Develop a thorough understanding of TDD and how it can help you develop simpler applications with no defects using C# and JavaScript Adapt to the mindset of writing tests before code by incorporating business goals, code manageability, and other factors Make all your software units and modules pass tests by analyzing failed tests and refactoring code as and when required Book Description Test-Driven Development (TDD) is a methodology that helps you to write as little as code as possible to satisfy software requirements, and ensures that what you've written does what it's supposed to do. If you're looking for a practical resource on Test-Driven Development this is the book for you. You've found a practical end-to-end guide that will help you implement Test-Driven Techniques for your software development projects. You will learn from industry standard patterns and practices, and shift from a conventional approach to a modern and efficient software testing approach in C# and JavaScript. This book starts with the basics of TDD and the components of a simple unit test. Then we look at

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setting up the testing framework so that you can easily run your tests in your development environment. You will then see the importance of defining and testing boundaries, abstracting away third-party code (including the .NET Framework), and working with different types of test double such as spies, mocks, and fakes. Moving on, you will learn how to think like a TDD developer when it comes to application development. Next, you'll focus on writing tests for new/changing requirements and covering newly discovered bugs, along with how to test JavaScript applications and perform integration testing. You'll also learn how to identify code that is inherently un-testable, and identify some of the major problems with legacy applications that weren't written with testability in mind. By the end of the book, you'll have all the TDD skills you'll need and you'll be able to re-enter the world as a TDD expert!

What you will learn

- The core concepts of TDD
- Testing in action with a real-world case study in C# and JavaScript using React
- Writing proper Unit Tests and testable code for your application
- Using different types of test double such as stubs, spies, and mocks
- Growing an application guided by tests
- Exploring new developments on a green-field application
- Mitigating the problems associated with writing tests for legacy applications
- Modifying a legacy application to make it testable

Who this book is for

This book is for software developers with a

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basic knowledge of Test Driven Development (TDD) who want a thorough understanding of how TDD can benefit them and the applications they produce. The examples in this book are in C#, and you will need a basic understanding of C# to work through these examples.

Build enterprise-ready applications and projects with Microsoft SQL Azure using this book and eBook. Leverage Office 365 data and services in powerful custom solutions Learn how to develop custom solutions that access and interact with Office 365 data from your own apps on practically any mobile, web, or desktop platform. Paolo Pialorsi offers practical, code-rich coverage of every key aspect of Office 365 development, walking you through building a complete start-to-finish solution. You'll learn how to use the new Microsoft Graph API to integrate users' mail, calendars, contacts, groups, files, folders, and more. Leveraging Microsoft APIs at the REST level, you'll discover how to create Office 365 solutions for Windows Universal, iOS, or Android devices and target nearly any other modern platform. Top Microsoft developer Paolo Pialorsi shows you how to Understand the Office 365 ecosystem from functional and developer perspectives Set up your Office 365 development environment Develop Office 365 applications, Office Add-ins, and SharePoint Add-ins Invoke Microsoft Graph API endpoints from any platform via bare HTTP requests Authenticate users against online tenants with Microsoft Azure Active Directory Use Mail services to manage Microsoft Exchange Online

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mailboxes Browse, create, update, and manage Office 365 Groups Use File services to consume and manage files on Microsoft OneDrive for Business Make the most of the Microsoft Graph SDK for .NET Manage common tasks via the SharePoint REST API Create and publish Office 365 applications and add-ins In addition, this book is part of the Current Book Service from Microsoft Press. Books in this program will receive periodic updates to address significant software changes for 12 to 18 months following the original publication date via a free Web Edition. Learn more at

<https://www.microsoftpressstore.com/cbs>.

Pass Azure Fundamentals AZ-900 Exam AZ-900 is an essential exam covering all the foundational concepts about the cloud and Microsoft Azure offerings. Azure fundamentals is a series of below 6 study areas to familiarize you with Azure and its many services and features. Describe Cloud Concepts Describe Core Azure Services Describe Core Solutions and Management Tools Describe General Security and Network Security Describe Identity, Governance, Privacy and Compliance Describe Azure cost management and Service Level Agreements By learning all of these concepts using this guide and practice sets, the reader will be ready to take the exam with confidence. Practice sample tests are in this book. You can also access the most updated versions of the sample sets via an online channel. You can prepare within 5 days or more precisely in less than 24 hours. Learn the fundamentals of Azure, and get AZ-900 certified, with this beginner's guide together with practice sets!

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Explore tools for integrating resources and applications with Azure Active Directory for authentication and authorization. This book starts with an introduction to Azure Active Directory (AAD) where you will learn the core concepts necessary to understand AAD and authentication in general. You will then move on to learn OpenID Connect and OAuth along with its flows, followed by a deep dive into the integration of web applications for user-based authentication. Next, you go through user authentication and how to enable the integration of various native applications with AAD. This is followed by an overview of authenticating applications along with a detailed discussion on collaboration with external users and other AD tenants. Moving forward, *Developing Applications with Azure Active Directory* covers using schemas of AD objects, such as users, to add custom attributes on top of ADD's predefined attributes. You will see how multi-tenancy can be supported in Azure AD as well as how to design authorization with Azure AD. After reading this book, you will be able to integrate, design, and develop authentication and authorization techniques in Azure Active Directory. What You Will Learn Integrate applications with Azure AD for authentication Explore various Azure AD authentication scenarios Master core Azure AD concepts Integrate external users and tenants Who is this book for: The book will be useful for architects and developers, planning to use Azure AD for authentication.

Create highly scalable apps and monitor Azure functions in production using Azure Functions 2.0. This book takes

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you through durable functions for statefulness and covers not only the basics, but also how to create bindings in durable functions. It is a deep dive into the Azure Functions serverless API and will guide you through the process of converting monolithic applications to use Azure functions. The author starts by giving an overview of serverless architecture and Azure functions along with Azure App Services. You will then learn to create basic Azure functions using the Azure portal and Visual Studio. Next, you will create a serverless API using Azure Functions and migrate an existing application to Azure Functions. Finally, you will deploy an Azure function and monitor it in production. Here you will deploy the Azure function using ARM templates and secure and configure CORS for Azure functions. After reading this book, you will be able to understand Azure functions and create them using the Azure portal and Visual Studio. What You Will Learn Understand and use triggers and bindings in an Azure function Create a serverless API using Azure Functions and OpenAPI Deploy an Azure function and monitor it in production Understand durable Azure functions, including scalability, disaster recovery, and geo-distribution Who This Book Is For Developers who want to get started with Azure Functions. DevOps will also find value in the guidance for deploying and monitoring functions. Go from zero to sixty deploying and running a Kubernetes cluster on Microsoft Azure! This hands-on practical guide to Microsoft's Azure Kubernetes Service (AKS), a managed container orchestration platform, arms you with the tools and knowledge you need to

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easily deploy and operate on this complex platform. Take a journey inside Docker containers, container registries, Kubernetes architecture, Kubernetes components, and core Kubectl commands. Drawing on hard-earned experience in the field, the authors provide just enough theory to help you grasp important concepts, teaching the practical straightforward knowledge you need to start running your own AKS cluster. You will dive into topics related to the deployment and operation of AKS, including Rancher for management, security, networking, storage, monitoring, backup, scaling, identity, package management with HELM, and AKS in CI/CD. What You Will Learn Develop core knowledge of Docker containers, registries, and Kubernetes Gain AKS skills for Microsoft's fastest growing services in the cloud Understand the pros and cons of deploying and operating AKS Deploy and manage applications on the AKS platform Use AKS within a DevOps CI/CD process Who This Book Is For IT professionals who work with DevOps, the cloud, Docker, networking, storage, Linux, or Windows. Experience with cloud, DevOps, Docker, or application development is helpful.

Straight talking advice on how to design and build enterprise applications for the cloud using Microsoft Azure with this book and eBook.

Kubernetes radically changes the way applications are built and deployed in the cloud. Since its introduction in 2014, this container orchestrator has become one of the largest and most popular open source projects in the world. The updated edition of this practical book shows developers and ops personnel how Kubernetes and

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container technology can help you achieve new levels of velocity, agility, reliability, and efficiency. Kelsey Hightower, Brendan Burns, and Joe Beda—who've worked on Kubernetes at Google and beyond—explain how this system fits into the lifecycle of a distributed application. You'll learn how to use tools and APIs to automate scalable distributed systems, whether it's for online services, machine learning applications, or a cluster of Raspberry Pi computers. Create a simple cluster to learn how Kubernetes works Dive into the details of deploying an application using Kubernetes Learn specialized objects in Kubernetes, such as DaemonSets, jobs, ConfigMaps, and secrets Explore deployments that tie together the lifecycle of a complete application Get practical examples of how to develop and deploy real-world applications in Kubernetes Access detailed content and examples on Azure SQL, a set of cloud services that allows for SQL Server to be deployed in the cloud. This book teaches the fundamentals of deployment, configuration, security, performance, and availability of Azure SQL from the perspective of these same tasks and capabilities in SQL Server. This distinct approach makes this book an ideal learning platform for readers familiar with SQL Server on-premises who want to migrate their skills toward providing cloud solutions to an enterprise market that is increasingly cloud-focused. If you know SQL Server, you will love this book. You will be able to take your existing knowledge of SQL Server and translate that knowledge into the world of cloud services from the Microsoft Azure platform, and in particular into Azure SQL. This book

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provides information never seen before about the history and architecture of Azure SQL. Author Bob Ward is a leading expert with access to and support from the Microsoft engineering team that built Azure SQL and related database cloud services. He presents powerful, behind-the-scenes insights into the workings of one of the most popular database cloud services in the industry.

What You Will Learn Know the history of Azure SQL Deploy, configure, and connect to Azure SQL Choose the correct way to deploy SQL Server in Azure Migrate existing SQL Server instances to Azure SQL Monitor and tune Azure SQL's performance to meet your needs Ensure your data and application are highly available Secure your data from attack and theft **Who This Book Is For** This book is designed to teach SQL Server in the Azure cloud to the SQL Server professional. Anyone who operates, manages, or develops applications for SQL Server will benefit from this book. Readers will be able to translate their current knowledge of SQL Server—especially of SQL Server 2019—directly to Azure. This book is ideal for database professionals looking to remain relevant as their customer base moves into the cloud.

Serverless computing is radically changing the way we build and deploy applications. With cloud providers running servers and managing machine resources, companies now can focus solely on the application's business logic and functionality. This hands-on book shows experienced programmers how to build and deploy scalable machine learning and deep learning models using serverless architectures with Microsoft

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Azure. You'll learn step-by-step how to code machine learning into your projects using Python and pre-trained models that include tools such as image recognition, speech recognition, and classification. You'll also examine issues around deployment and continuous delivery including scaling, security, and monitoring. This book is divided into four parts: Cloud-based development: learn the basics of serverless computing with machine learning, functions as a service (FaaS), and the use of APIs Adding intelligence: create serverless applications using Azure Functions; learn how to use pre-built machine-learning and deep-learning models Deployment and continuous delivery: get up to speed with Azure Kubernetes Service, as well as Azure Security Center, and Azure Monitoring Application examples: deliver data at the edge, build conversational interfaces, and use convolutional neural networks for image classification

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Through four complete sprints, this book takes you through every step needed to build brand new cross-platform web apps with ASP.NET Core, and make them available on the Internet. You won't just master Microsoft's revolutionary open source ASP.NET Core technology: you'll learn how to integrate the immense power of MVC, Docker, Azure Web Apps, Visual Studio and Visual Studio Code, C#, JavaScript, TypeScript, and Entity Framework. Working through the authors' carefully designed sprints, you'll start with a blank canvas, move

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through software architecture and design, adjusting to user feedback, recovering from mistakes, builds, testing, deployment, maintenance, refactoring, and more. Along the way, you'll learn techniques for delivering state-of-the-art software to users more rapidly and repeatably than ever before.

The “Microsoft Azure Essentials” series helps you advance your technical skills with Microsoft Azure. “Microsoft Azure Essentials: Azure Web Apps for Developers” focuses on providing essential information about developing web applications hosted on Azure Web Apps. It is written with the developer who has experience using Visual Studio and the .NET Framework in mind. If Azure Web Apps is new to you, this book is for you. If you have experience developing for Azure Web Apps, this book is for you, too, because there are features and tools discussed in this text that are new to the platform. Get started and learn a step-by-step approach to application development using Microsoft Azure. Select the right services to solve the problem at hand in a cost-effective manner and explore the potential different services and how they can help in building enterprise applications. Azure has an ample amount of resources and tutorials, but most of them focus on specific services and explain those services on their own and in a given context. Practical Azure Application Development focuses on building complete solutions on Azure using different services. This book gives you the holistic approach to Azure as a solutions development platform. This book: Covers Azure as a solution development platform for building applications Provides real-world

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examples to understand why and when an Azure service is required Discusses how Azure helps to achieve continuous improvement and expansion of an application Provides application development experience from purchasing Azure to integrating with core Azure services, including an introduction to DevOps with VSTS What You'll Learn Use Azure services to solve real-world software problems Define the usage of Azure services and select the right services to solve the problem at hand Make clear and less ambiguous decisions about using different Azure services Take a holistic approach to Azure as a solution platform Understand the basics of security, data protection, and cost controls in Azure Who This Book Is For Developers, software engineers, and architects who have experience in .NET and web development, but have little or no knowledge in planning and developing an application on Azure Explore the concept of bots and discover the motivation behind working with these new apps with messaging platforms. This book is an accessible resource teaching the basic concepts behind bot design and implementation. Each chapter builds on previous topics and, where appropriate, real working code is shown that implements the concepts. By just picking up a code editor, you can start creating smart, engaging, and useful bot experiences today. Practical Bot Development will teach you how to create your own bots on platforms like Facebook Messenger and Slack, incorporate extension APIs, and apply AI and ML algorithms in the cloud. By the end of this book, you'll be equipped with the information to reach thousands of new users with the

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bots you create! The book is a great resource for those looking to harness the benefits of building their own bots and leveraging the platform feasibility of them. What You'll Learn Understand the general architecture of a bot Distinguish between a great bot experience versus a bad bot experience. Explore the ideas behind natural language processing and apply them to bot development Implement real Messenger, Slack, and custom channel bots using Node.js and the Microsoft Bot Builder framework Deploy bots to Facebook Messenger and Slack Who This Book Is For Engineers, hobbyists, and the design oriented community looking for an introduction to the technologies and concepts involved in building bots. The experience level could be from beginner to expert, although some familiarity with Node.js and APIs will be assumed.

Learn the business and technical importance of API design and architecture using the available cloud services from Azure and AWS. This book starts off with an introduction to APIs and the concept of API Economy from a business and organizational perspective. You'll decide on a sustainable API strategy and API architecture based on different case scenarios. You'll then look at actual examples on API development guidelines, providing a practical view and approach towards the API development and aligning teams in API development. This book walks you through the API gateway services available in Azure and AWS and reviews different approaches to API Security. This will prepare you for understanding the trade-off between security and the frictionless API experience. What You'll

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Learn Implement API Gateways to streamline API Development Examine Security Mapping with API gateways from Azure and AWS Apply API implementation using Serverless architecture Review evolving APIs for monitoring and changing business requirements Use code samples in API security implementations Who This Book Is For Developers and architects with .NET and web development experience who want to learn about API design.

Get started and learn a step-by-step approach to application development using Microsoft Azure. Select the right services to solve the problem at hand in a cost-effective manner and explore the many services designed to help you in building enterprise applications. This new edition covers Azure PaaS and serverless cloud native solutions and gives you the holistic approach to Azure as a solutions development platform. It discusses recent developments in cloud applications and architecture such as the modern application development landscape and serverless middleware. You will learn about web application development in Azure PaaS with modern JavaScript. Since the last edition was based on the legacy .NET Framework, Practical Azure Application Development has been updated with significant ASP.NET Core changes. Also new in this edition: production-ready setup with traffic flow and configuration of the application with production-ready features. Finally, you'll cover extended architecture patterns to see how you can integrate additional services with the application. After reading this book, you will be able to build complete business solutions on Azure using

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different services. What You Will Learn Discover end-to-end solution design and development in Azure Integrate additional services with the application Understand the basics of security, data protection, and cost controls in Azure Who This Book Is For Developers and architects who have experience in .NET and web development, but have little or no knowledge in planning and developing an application on Azure.

Build, operate, and orchestrate scalable microservices applications in the cloud This book combines a comprehensive guide to success with Microsoft Azure Service Fabric and a practical catalog of design patterns and best practices for microservices design, implementation, and operation. Haishi Bai brings together all the information you'll need to deliver scalable and reliable distributed microservices applications on Service Fabric. He thoroughly covers the crucial DevOps aspects of utilizing Service Fabric, reviews its interactions with key cloud-based services, and introduces essential service integration mechanisms such as messaging systems and reactive systems. Leading Microsoft Azure expert Haishi Bai shows how to: Set up your Service Fabric development environment Program and deploy Service Fabric applications to a local or a cloud-based cluster Compare and use stateful services, stateless services, and the actor model Design Service Fabric applications to maximize availability, reliability, and scalability Improve management efficiency via scripting Configure network security and other advanced cluster settings Collect diagnostic data, and use Azure Operational Management Suite to interpret it

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Integrate microservices components developed in parallel Use containers to mobilize applications for failover, replication, scaling, and load balancing Streamline containerization with Docker in Linux and Windows environments Orchestrate containers to schedule workloads and maintain services at desired states Implement proven design patterns for common cloud application workloads Balance throughput, latency, scalability, and cost

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

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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.

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

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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

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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

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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

Explore the concepts, patterns, and architecture behind AppRun applications. With this end-to-end guide, you will

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be able to build web apps fast to the market with the low learning curve and high development productivity. You will learn how to break down the application logic into three decoupled parts: state, view, and update. You will then see how to connect web page events to the AppRun event life-cycle, route user interactions, access data from the remote servers, compose the user interface using components, and integrate 3rd party libraries. Following examples of various apps, such as the counter app, to-do app, weather app, hacker news reader app, and blog app, you will have all the techniques for developing your AppRun apps including the line of business apps. You will also review wider development concepts such as using strongly typed states practically, unit testing strategies for app state changes, time travel debugging, async web API invocation, server-side virtual DOM, module compilation optimization, the developer tools, and more. What You'll Learn Use AppRun to develop web apps end-to-end Understand the technology behind AppRun Evaluate and compare architecture design Develop applications using Elm architecture, event publication and subscription, and components. Who This Book Is For Web app developers and architects; useful for beginners learning front-end development and more experienced developers interested in learning about AppRun and modern development concepts and principles more generally 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

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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.

Here is the expert-level, insider guidance you need on using Azure SQL Database as your back-end data store. This book highlights best practices in everything ranging

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from full-stack projects to mobile applications to critical, back-end APIs. The book provides instruction on accessing your data from any language and platform. And you learn how to push processing-intensive work into the database engine to be near the data and avoid undue networking traffic. Azure SQL is explained from a developer's point of view, helping you master its feature set and create applications that perform well and delight users. Core to the book is showing you how Azure SQL Database provides relational and post-relational support so that any workload can be managed with easy accessibility from any platform and any language. You will learn about features ranging from lock-free tables to columnstore indexes, and about support for data formats ranging from JSON and key-values to the nodes and edges in the graph database paradigm. Reading this book prepares you to deal with almost all data management challenges, allowing you to create lean and specialized solutions having the elasticity and scalability that are needed in the modern world. What You Will Learn Master Azure SQL Database in your development projects from design to the CI/CD pipeline Access your data from any programming language and platform Combine key-value, JSON, and relational data in the same database Push data-intensive compute work into the database for improved efficiency Delight your customers by detecting and improving poorly performing queries Enhance performance through features such as columnstore indexes and lock-free tables Build confidence in your mastery of Azure SQL Database's feature set Who This Book Is For Developers of

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applications and APIs that benefit from cloud database support, developers who wish to master their tools (including Azure SQL Database, and those who want their applications to be known for speedy performance and the elegance of their code

With more and more companies moving on-premises applications to the cloud, software and cloud solution architects alike are busy investigating ways to improve load balancing, performance, security, and high availability for workloads. This practical book describes Microsoft Azure's load balancing options and explains how NGINX can contribute to a comprehensive solution. Cloud architects Derek DeJonghe and Arlan Nugara take you through the steps necessary to design a practical solution for your network. Software developers and technical managers will learn how these technologies have a direct impact on application development and architecture. While the examples are specific to Azure, these load balancing concepts and implementations also apply to cloud providers such as AWS, Google Cloud, DigitalOcean, and IBM Cloud. Understand application delivery and load balancing--and why they're important Explore Azure's managed load balancing options Learn how to run NGINX OSS and NGINX Plus on Azure Examine similarities and complementing features between Azure-managed solutions and NGINX Use Azure Front Door to define, manage, and monitor global routing for your web traffic Monitor application performance using Azure and NGINX tools and plug-ins Explore security choices using NGINX and Azure Firewall solutions

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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

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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.

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