Microservices Iot And Azure Leveraging Devops And Microservice Architecture To Deliver Saas Solutions

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Cloud Computing for Science and Engineering

If you create, manage, operate, or configure systems running in the cloud, you're a cloud engineer—even if you work as a system administrator, software developer, data scientist, or site reliability engineer. With this book, professionals around the world provide valuable insight into today's cloud engineering role. These concise articles explore the entire cloud computing experience, including fundamentals, architecture, and migration. You'll dive into security and compliance, operations and reliability, and software development. And examine networking, organizational culture, and more. You're sure to find 1, 2, or 97 things that inspire you to dig deeper and expand your own career. "Three Keys to Making the Right Multicloud Decisions," Brendan O'Leary "Securing Your Multicloud Environment," Iyana Gallyn Bello "Failing a Cloud Migration," Lee Atkinson "Treat Your Cloud Environment as If It Were On Premises," Lyana Garry "What Is Toil, and Why Are SREs Obsessed with It?" Zachary Nickens "Lean QA: The QA Evolving in the DevOps World," Theresa Neate "How Economies of Scale Work in the Cloud," Jon Moore "The Cloud Is Not About the Cloud," Ken Corless "Data Gravity: The Importance of Data Management in the Cloud," Geoff Hughes "Even in the Cloud, the Network Is the Foundation," David Murray "Cloud Engineering Is About Culture, Not Containers," Holly Cummings

Building Microservices with Go

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.

Driving Efficiency in Local Government

Using a Collaborative Enterprise Architecture Framework: Emerging Research and OpportunitiesThis book highlights new trends and challenges in intelligent systems, which play an important part in the digital transformation of many areas of science and practice. It includes papers offering a deeper understanding of the human-centric perspective on artificial intelligence, of intelligent value co-creation, ethics, value-oriented digital models, transparency, and intelligent digital architectures and engineering to support digital and intelligent systems, the transformation of structures in digital businesses and intelligent systems based on human practices, as well as the study of interaction and the co-adaptation of humans and systems. All papers were originally presented at the International KES Conference on Human Centred Intelligent Systems 2020 (KES-HCIS 2020), held on June 17-19, 2020, in Split, Croatia.

Achieving DevOps

This volume presents a series of carefully selected papers on the theme of Intelligent Interactive Multimedia Systems and Services (IMISS-18), but also including contributions on Innovation in Medicine and Healthcare (InMed-18) and Smart City Systems (STSS-18). The Smart City Systems 2018 conference, which grouped the AMSTA, IDT, InMed, SEEL, STS and IMISS conferences in one venue in Gold Coast, Australia in June 2018. IMISS-18 included sessions on 'Cognitive Systems and Big Data Analytics', 'Data Processing and Secure Systems', 'Innovative Information Services for Advanced Knowledge Activity', 'Autonomous System' and 'Image Processing'. InMed-18 papers cover major areas of 'Digital Architecture for Internet of Things, Big data, Cloud and Mobile IT in Healthcare' and 'Advanced ICT for Medical and Healthcare'. STS-18 papers provide a comprehensive overview of various aspects of current research into intelligent transportation technology.

Developing Cloud Native Applications in Azure using .NET Core Learn how today's businesses can transform themselves by leveraging real-time data and advanced machine learning analytics. This book provides prescriptive guidance for architects and developers on the design and development of modern Internet of Things (IoT) and Advanced Analytics solutions. In addition, Business in Real-Time Using Azure IoT and Cortana Intelligence Suite offers patterns and practices for those looking to engage their customers and partners through Software-as-a-Service solutions that work on any device. Whether you're working in Health & Life Sciences, Manufacturing, Retail, Smart Cities and Buildings or Process Control, there exists a common platform from which you can create your targeted vertical solutions. Business in Real-Time Using Azure IoT and Cortana Intelligence Suite uses a reference architecture as a road map. Building on Azure's PaaS services, you'll see how a solution architecture unfolds that demonstrates a complete end-to-end IoT and Advanced Analytics scenario. What You'll Learn: Automate your software lifecycle using PowerShell, Azure Resource Manager Templates, and Azure Blueprint Studio. Build and implement smart devices using Node.js and C# Use Azure Streaming Analytics to ingest millions of events Provide both "Hot" and "Cold" path outputs for real-time alerts, data transformations, and aggregation analytics Implement batch processing using Azure Data Factory Create a new form of Actionable Intelligence (AI) to drive mission critical business processes Provide rich Data Visualizations across a wide variety of mobile and web devices Who This Book is For: Solution Architects, Software Developers, Data Architects, Data Scientists, and CIO/CTO Technical Leadership Professionals

Microservices with Docker on Microsoft Azure (includes Content Update Program) Discover the essential design and architectural patterns with ASP.NET Core to solve common software design problems. With this book, you'll learn how to use a combination of design patterns and build fault-tolerant and robust full-stack apps and microservices with ASP.NET Core and C#.
Business in Real-Time Using Azure IoT and Cortana Intelligence Suite This book discusses business architecture as a basis for aligning efforts with outcomes. It views BA as complementary to enterprise architecture, where the focus of technological initiatives and inventories is to understand and improve business organization, business direction, and business decision-making. This book provides a practical, long-term view on BA. Based on the authors' consulting experience and industrial research, the material in this book is a valuable addition to the thought processes around BA and EA. The lead author has direct practical experience with large clients in applying APQC capability framework for undertaking multiple enterprise-wide capability assessments.

Massively Multi-Agent Systems II Smart Sensors Networks: Communication Technologies and Intelligent Applications explores the latest sensor and sensor networks techniques and applications, showing how networked wireless sensors are used to monitor and gather intelligence from our surrounding environment. It provides a systematic look at the unique characteristics of modern sensors technologies, providing insights on the newest technologies and the systems needed to operate them. Readers will find the book to be an entry point for understanding the fundamental differences between the various sensor technologies and their use in for different scenarios. Indexing: The books of this series are submitted to EI-Compendex and SCOPUS Presents numerous specific use-cases throughout, showing practical applications of concepts Contains contributions from leading experts around the globe Collects, in one place, the latest thinking on an emerging topic Addresses the security and privacy issues inherent in sensor deployment

Innovation in Medicine and Healthcare Systems, and Multimedia Your one-stop guide to the common patterns and practices, providing insights on the newest technologies and the systems needed to operate them. Readers will find the book to be an entry point for understanding the fundamental differences between the various sensor technologies and their use in for different scenarios. Indexing: The books of this series are submitted to EI-Compendex and SCOPUS Presents numerous specific use-cases throughout, showing practical applications of concepts Contains contributions from leading experts around the globe Collects, in one place, the latest thinking on an emerging topic Addresses the security and privacy issues inherent in sensor deployment

97 Things Every Cloud Engineer Should Know Collect and analyze sensor and usage data from a variety of things applications with Microsoft Azure IoT Suite. Internet connectivity to everyday devices such as light bulbs, thermostats, and even voice-command devices such as Google Home and Amazon.com’s Alexa is exploding. These connected devices and their respective applications generate large amounts of data that can be mined to enhance user-friendliness and make predictions about what a user might be likely to do next. Microsoft’s Azure IoT Suite is a cloud-based platform that is ideal for collecting data from connected devices and analyzing, including virtualization, edge computing, and real-time analysis. Examples and case studies are provided to teach you to detect anomalous patterns in your data that might lead to business advantage. We live in a world where the amount of data being generated and stored is growing at an exponential rate. Understanding and getting real-time insight into these data is critical to business. IoT Solutions in Microsoft’s Azure IoT Suite walks you through a complete, end-to-end guide on how to collect, analyze, and act on connected devices. You will learn how to apply your results to solving real-world problems. Your customers will benefit from the increasingly capable and reliable applications that you will be able to deploy to them. You and your business will benefit from the gains in insight and knowledge that can be applied to delight your customers and increase the value from their business. What You’ll Learn Go through data generation, collection, and storage from sensors and devices, both relational and non-relational Understand, from end to end, Microsoft’s Azure IoT Suite and ecosystem Understand how to fit in the Internet of your things and find ways to discover and draw on the insights your data can provide Understand Microsoft’s IoT technologies and services, and stitch them together for business insight and advantage Who This Book Is For Developers and architects who plan on delivering IoT solutions, data scientists who want to understand how to get better insights into their data, and anyone needing or wanting to do real-time analysis of data from the Internet of Things

Pro Spring Boot 2 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 Gather 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 relate with .NET Core and .NET 5.0.4. What You Need .NET Core 3.1 and Visual Studio 2019. Who This Book Is For .NET Core developers who want to design, develop, and deploy 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.

Innovation in Medicine and Healthcare Systems, and Multimedia Your one-stop guide to the common patterns and practices, showing you how to apply these using the Go programming language About This Book This short, concise, and practical guide is packed with real-world examples of building microservices with Go It is easy to read and will benefit smaller teams who want to extend the functionality of their existing systems Using this practical approach will save your money in terms of maintaining a monolithic architecture and demonstrate capabilities in ease of use Who This Book Is For You should have a working knowledge of programming in Go, including writing and compiling basic applications. However, no knowledge of RESTful architecture, microservices, or web services is expected. If you are looking to apply techniques to your own projects, taking an in-depth understanding of what makes a Go microservice architecture and how they are different from other architectures, is essential. This book is designed to deliver a comprehensive understanding of the common patterns in microservices architecture By leveraging the Go framework, you will learn how to design and develop high-performing, scalable, and secure microservices. This book covers core concepts such as dependency injection, unit testing, and dependency management, as well as advanced topics like authentication, authorization, and observability. By the end of this book, you will have a solid understanding of how to design and implement secure, scalable, and maintainable Go microservices applications.

This book will teach you the common patterns and practices, showing you how to apply these using the Go programming language. It will teach you the fundamental concepts of architectural design and RESTful communication, and show you patterns that provide manageable code that is supportable in development and at scale in production. We will
Microservice Architecture To Deliver Saas Solutions

Access Free Microservices Iot And Azure Leveraging Devops And Microservice Architecture To Deliver Saas Solutions

provide you with examples on how to put these concepts and patterns into practice with Go. Whether you are planning a new application or working in an existing monolith, this book will explain and illustrate with practical examples how teams of all sizes can leverage a microservices architecture in their projects. You’ll learn how to understand Docker and Docker-Compose and how it can be used to isolate microservice dependencies and build environments. We finish off by showing you various techniques to monitor, test, and secure your microservices. By the end, you’ll know the benefits of system resilience of a microservice and the advantages of Go stack. Style and approach The step-by-step tutorial focuses on building microservices. Each chapter expands upon the previous one, teaching you the main skills and techniques required to be a successful microservice practitioner.

Outcome-Driven Business Architecture Avoid getting lost in the complexity of Azure with The Azure Cloud Native Architecture Mapbook. This book will give you an expert-guided tour of Azure and help you map different architectural perspectives for various architecture disciplines. You’ll learn how to apply the different architectural styles and become a better Azure Architect.

Kubernetes Microservices with Docker This book provides practical guidance for adopting a high velocity, continuous delivery process to create reliable, scalable, Software-as-a-Service (SaaS) solutions that are designed and built using a microservice architectural style, to the Azure Kubernetes Service, Azure DevOps, and Microsoft Azure Kubernetes Service. You’ll learn how to create and manage developers, architects, and operations engineers’ step-by-step directions for building SaaS applications—applications that are available 24x7, work on any device, scale elastically, and are resilient to change—through code, script, exercises, and a working reference implementation. The book provides a working definition of microservices and contrasts this approach with traditional monolithic IaaS Architecture. A fictitious, home-information startup is used to demonstrate microservice architecture and automation capabilities for cross-cutting and business services as well as connected device scenarios for Internet of Things (IoT). Several Azure PaaS services are detailed including Storage, SQL Database, DocumentDb, Redis Cache, Cloud Services, Web API’s, API Management, IoT Hub, IoT Suite, Event Hub, and Stream Analytics. Finally the book looks to the future and examines Service Fabric to see how microservices are becoming the de facto approach to building reliable software in the cloud. In this book, you’ll learn: What microservices are and why they’re a compelling architecture pattern for SaaS applications How to design, develop, and deploy microservices using Visual Studio, PowerShell, and Azure Microservices patterns for cross-cutting concerns and business capabilities Microservices pattern for Azure IoT Hub, Azure Service Fabric, and Stream Analytics Techniques for automating microservice provisioning, building, and deployment What Service Fabric is and how it’s the future direction for microservices on Microsoft Azure

Balancing Agile and Disciplined Engineering and Management Approaches for IT Services and Software Products Cloud computing has experienced explosive growth and is expected to continue to rise in popularity as new services and applications become available with new real-time, developing cloud, security, and related needs to protect sensitive information and data on the cloud is imperative. Cloud Security: Concepts, Methodologies, Tools, and Applications explores the difficulties and challenges of securing user data and information on cloud platforms. It also examines the current approaches to cloud-based technologies and assesses the possibilities for future advancements in this field. Highlighting a range of topics such as cloud forensics, information privacy, and standardization and security in the cloud, this multi-author, ideally designed for IT professionals, computer engineers, system administrators, software developers, academicians, researchers, and graduate-level students interested in cloud computing concepts and security.

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

Developing Cloud Native Applications in Azure using .NET Core Unveil the world of mixed reality with HoloLens About This Book Bring holographic insights to existing line-of-business applications, tools, and workflows Focus on developing end-to-end realistic holographic application. Build interactive model scripts and test them in Unity3D and holographic emulators Who This Book Is For This book is targeted at developers and designers working on mixed-reality developments for complex integrated scenarios. What You’ll Learn Build applications using different interaction models for first holographic app Integrate holographic applications with cloud systems Visualize data feeds coming from the cloud through holograms Manage holographic application distribution of enterprise-enabled HoloLens Integrate HoloLens applications with services deployed on Azure Identify and create 3D Assets and Scenes Use HoloLens to explore the Internet of Things In Detail Do you want to learn about applications using Microsoft HoloLens and its capabilities? If so, this is the book for you. This book introduces and demystifies the HoloLens platform and shows you different ways of interaction with computers (mixed-reality). You will start your mixed-reality journey by understanding different types of digital reality. You will learn to build your first holographic app. Also, you will understand holographic application integration possibilities within Line of Business Applications using Azure. Moving ahead, you will create Integrated Solutions using IoT with HoloLens. Gradually you’ll learn how to create and deploy apps on a device. You will learn to publish application to the store; if you are an enterprise developer, you will also manage and distribute applications for enterprise-enabled or domain-joined HoloLens. Finally, you will develop an end-to-end realistic holographic app, ranging from scenario identification to sketching, development, deployment, and, finally, production. Style and approach The book is a project-based guide to help you to create some really astonishing mixed-reality applications. It will provide end-to-end solutions and enable you to build stunning applications for HoloLens.

Análise de sistemas This book investigates solutions incorporated by architecture boards in global enterprises to resolve issues and mitigate real-world architecture risks, while also proposing and implementing an adaptive integrated digital architecture framework (AIDAF) and related models and approaches/platforms, which can be applied in companies to promote IT strategies using cloud/mobile IT/digital IT. The book is divided into three main parts, the first of which (Chapters 1-2) addresses the background and motivation for AIDAF aligned with digital IT strategies. The second part (Chapter 3) provides an overview of strategic enterprise architecture (EA) frameworks for digital IT, elaborates on the essential elements of EA frameworks in the digital IT era, and advocates using AIDAF, models for architecture assessment/risk management, knowledge management on digital platforms. In turn, the third part (Chapters 4-7) demonstrates the application and benefits of AIDAF and related models, as shown in three case studies. “I found this book to be a very nice contribution to the EA community of practice. I can recommend this book as a textbook for digital IT strategists/practitioners, EA practitioners, students in universities and graduate schools.” (From the Foreword by Scott A. Bernard) “In this new age of the digital information society, it is necessary to advocate a new EA framework. This book provides state-of-the-art knowledge and practices about EA frameworks beneficial for IT practitioners, IT strategists, CIO, IT architects, and even students. It serves as an introductory textbook for all who drive the information society in this era.”(From the Foreword by Jun Murai)

HoloLens Blueprints A guide to cloud computing for students, scientists, and engineers, with advice and many hands-on examples. The emergence of powerful, always-on cloud utilities has transformed how consumers interact with information technology, enabling video streaming, intelligent personal assistants, and the sharing of content. Businesses, too, have benefited from the cloud, outsourcing much of their infrastructure technology to cloud services. Science, however, has not fully exploited the advantages of the cloud. Scientific discovery be accelerated if mundane chores were automated and
outsourced to the cloud? Leading computer scientists Ian Foster and Dennis Gannon argue that it can, and in this book offer a guide to cloud computing for students, scientists, and engineers, with advice and many hands-on examples. The book surveys the landscape of problems enabling the cloud and required to integrate cloud services into scientific work. It covers managing data in the cloud, and how to program these services; computing in the cloud, from deploying single virtual machines or containers to supporting basic interactive science experiments to gathering clusters of machines to do data analytics; using the cloud as a platform for automating analysis procedures, machine learning, and analyzing streaming data; building your own cloud with open source software; and cloud security. The book’s companion, Cloud SciEng, is a website that provides a variety of supplementary material, including exercises, lecture slides, and other resources helpful to readers and instructors.

Intelligent Interactive Multimedia Systems and Services Start using Kubernetes in complex big data and enterprise applications, including Docker containers. Starting with installing Kubernetes on a single node, the book introduces Kubernetes with a simple Hello example and discusses using environment variables in Kubernetes. Next, Kubernetes with Docker discusses using Kubernetes with all major groups of technologies such as relational databases, NoSQL databases, and in the Apache Hadoop ecosystem. The book concludes with using multi container pods and installing Kubernetes and Node.js cluster configuration to contain multiple nodes and Kubernetes. The book includes real-world examples to pass on the core concepts, via repetition, and is a very useful enabler.”

The book covers creating multi-container pods using Docker and Kubernetes, deploying applications with Kubernetes, and managing Kubernetes. The book is accompanied by a website, Cloud4SciEng.org, that provides a variety of supplementary material, including exercises, lecture slides, and other resources helpful to readers and instructors.

Migrating Applications to the Cloud with Azure The highly dynamic world of information technology service management stresses the benefits of the quick and correct implementation of IT services. A disciplined approach relies on a separate set of assumptions and includes implementation, business, and technical factors. The book provides an introduction to cloud computing and its benefits. Combining these two approaches to enhance the effectiveness of each, while difficult, can yield exceptional dividends. Balancing Agile and Disciplined Engineering and Management Approaches for IT Services and Software Products is an essential publication that focuses on clarifying theoretical foundations of balanced design methods with conceptual frameworks and empirical cases. Highlighting a broad range of topics including business trends, IT service, and software development, this book is ideally designed for software engineers, software developers, programmers, information technology professionals, researchers, academicians, and students.

Human Centred Intelligent Systems This volume is a collection of papers on emerging concepts, approaches and ideas in information systems research. It examines theoretical and methodological issues related to both information systems development in general and the complexity of information systems as socio-technical systems. The book draws on invited papers selected from the proceedings of the 25th International Conference on Information Systems Development (ISD) held in Katowice, Poland, August 24 - 26, 2016. The invited conference papers were revised and expanded and present research that is focused on context, creativity, and cognition in information systems development. These issues are significant as they provide the basis for organizations to identify new markets, support innovative technology deployment, and enable mobile applications to detect, sense, interpret, and respond to the environment.

On the Move to Meaningful Internet Systems. OTM 2017 Conferences Book + Content Update Program “Beyond just describing the basics, this book dives into best practices every aspiring microservices developer or architect should know.” —Foreword by Corey Sanders, Partner Director of Program Management, Azure Microservice-based applications enable unprecedented agility and ease of management, and Docker containers are ideal for building them. Microsoft Azure offers all the foundational technologies and level services needed to start building any microservices application. Migrating to a cloud-based approach with Docker on Microsoft Azure brings together essential knowledge for creating these applications from the ground up, or incrementally deconstructing monolithic applications over time. The authors draw on their pioneering experience helping to develop Azure’s microservices features and collaborating with Microsoft product teams who’ve relied on microservices architectures for years. They illuminate the benefits and challenges of microservices development and share best practices all developers and architects will find valuable. You’ll gain insights that will save you time, as well as access to a detailed sample application at github.com/flakio/flakio.github.io. Step by step, you’ll walk through working with services written in Node.js, Go, and ASP.NET, using diverse data stores (mysql, elasticsearch, block storage). The authors guide you through using Docker Hub as a service registry, and Microsoft Azure Container service for cluster management and service orchestration. Coverage includes: Recognizing when microservices are different, and when they make sense Understanding Docker containers in the context of microservices architectures Building, pulling, and layering Docker images Working with Docker volumes, containers, images, tags, and logs Using Docker Swarm, Docker Compose, and Docker Networks Creating Docker hosts using the Azure portal, Azure Resource Manager, the command line, docker-machine, or locally via Docker toolbox Establishing development and DevOps environments to support microservices applications Making the most of Docker’s continuous delivery options Using Azure’s cluster and container orchestration capabilities to operate and scale containerized microservices applications with maximum resilience Monitoring microservices with Azure Diagnostics, Visual Studio Application Insights, and Microsoft Operations Management Suite Developing microservices applications faster and more effectively with Azure Service Fabric An extensive sample application demonstrating the microservices concepts discussed throughout the book is available online. In addition, this book is part of InformIT’s exciting new Content Update Program, which provides content updates for major technology improvements! As significant updates are made to Docker and Azure, sections of this book will be updated or new sections will be added to match the updates to the technologies. As updates become available, they will be delivered to you via a free Web Edition of this book, which can be accessed with any Internet connection. To learn more, visit informit.com/cup. How to Access the Web Edition: Follow the instructions inside to learn how to register your book to access the FREE Web Edition.

An Atypical ASP.NET Core 5 Design Patterns Guide The overall functions of a government impact a wide range of sectors in society. It is imperative for governments to work at full capacity and potential in order to ensure quality progress for its citizens. Driving Efficiency in Local Government Using a Collaborative Enterprise Architecture Framework: Emerging Research and Opportunities is an essential scholarly publication for the latest research on methods for smart government initiatives and opportunities. Whether you are an academicians, researchers, and students seeking current research on the ways in which governments can advance and prosper. Enterprise Application Architecture with .NET Modernize your apps with Microsoft Azure by moving web, desktop, and mobile apps to the cloud. Key Features Decide which migration strategy is most suitable for your organization and create a migration plan. Explore existing cloud strategies to reduce the cost of moving to Azure. Design secure, scalable, and cost-effective solutions with the help of practical examples Book Description Whether you are an...
application efficiency by using container services such as Azure Container Service, Azure Kubernetes Service (AKS), and more. Next, you will learn to modernize your application by implementing DevOps throughout your application development life cycle. You will also learn how to increase the overall application performance by using microservices and learn how to add extra functionality to your application with Azure serverless solutions. Finally, you’ll get up to speed with monitoring and troubleshooting techniques. By the end of this book, you will have learned how to use the Azure ecosystem to refactor, re-architect, and rebuild your web, mobile, and desktop applications. What you will learn Use DevOps and containerized architectures to modernize your applications and infrastructure Build and deploy web-based applications using Azure Service Fabric Develop and deploy applications using Azure Functions Manage and deploy your application code and database connectivity Secure and monitor your applications in Azure effectively Design for high availability and disaster recovery This book is for

This book is for .NET and Java developers who want to modernize their applications using Azure. Solution architects and experienced developers interested in modernizing legacy applications using Azure will also find this book useful. Some prior knowledge of cloud computing concepts will be beneficial.

Microsoft Azure Security Center A Série Universitária foi desenvolvida pelo Senac São Paulo com o intuito de preparar profissionais para o mercado de trabalho. Os títulos abrangem diversas áreas, abordando desde conhecimentos teóricos e princípios de engenharia de software até o desenvolvimento de sistemas de software, apresentando modelos, metodologias, ferramentas de desenvolvimento, fundamentos e características do gerenciamento de projetos de sistemas de software, suas principais etapas e atividades. Abrange os principais elementos e métodos de identificação e análise de requisitos de sistemas e discute as principais ferramentas utilizadas no processo de desenvolvimento de software. Por fim, apresenta conceitos essenciais da lógica de programação, principais estruturas, comandos e operações. Esta obra tem como principal objetivo apresentar ao leitor um panorama dos princípios da engenharia de software.

Cloud Security Concepts, Methodologies, Tools, and Applications Unleash the power of serverless integrations with Azure This Book Build and support highly available and scalable API Apps by learning powerful Azure-based cloud integration Deploy and deliver applications that integrate seamlessly in the cloud and quickly adapt as per your integration needs Deploy hybrid applications that work and integrate on the cloud (using Logic Apps and BizTalk Server) Who This Book Is For This book is for Microsoft Enterprise developers, DevOps, and IT professionals who would like to use Azure App Service and Microsoft Cloud Intelligent services to create a new, cloud-native web experience You will learn about the different services available in the cloud integration in Microsoft Azure Create your own connector and learn how to publish and manage it Build reliable, scalable, and secure business workflows using Azure Logic Apps Simplify SaaS connectivity with Azure using Logic Apps Connect your on-premises system to Azure securely Get to know more about Logic Apps and how to connect to on-premises “line-of-business” applications using Azure BizTalk or Azure Service Bus In Detail: You will learn how to focus heavily on cloud native integration using the Azure Service Bus. You will learn about the different options available in Azure. You will understand the basics of developing IoT applications. You will understand Machine Learning basics and how to develop a simple ML application. Different enterprise use cases, which developers can build scalable web and mobile applications and services in the cloud. In short, Enterprise connectivity from anywhere and to any device. These integration services are being offered through powerful Azure-based services. This book will teach you how to design and implement cloud integration using Microsoft Azure. It starts by showing you how to build, deploy, and secure the API app. Next, it introduces you to Logic Apps and helps you quickly start building your integration applications. We’ll then go through the different connectors to add an automated business process workflow. Further on, you will see how to create a complex workflow in Logic Apps using Azure Function. You will then add a SaaS application to your existing cloud applications and create Queues and Topics in Service Bus on Azure using Azure Portal. Towards the end, we’ll explore event hubs and IoT hubs, and you’ll get to know more about how to test and monitor the business workflow in Logic Apps. Finally, you will be able to connect to data anywhere in Azure, on-premises, or your on-premises systems and services. Style and approach This practical hands-on tutorial shows you the full capability of App Service and other Azure-based integration services to build scalable and highly available web and mobile applications. It helps you successfully build and support your applications in the cloud or on-premises successfully. We’ll debunk the popular myth that switching to cloud is risky—it’s not!

"Microsoft Azure Essentials - Fundamentals of Azure Guiding to designing and developing cloud native applications in Azure DESCRIPTION The main-streaming 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 be running on hybrid cloud platforms, while 25% will be running on public cloud platforms. However, organizations are still 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 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 simple practical guidelines to an architect/designer/consultant/developer, who is a part of the Cloud Native definition team. The book articulates a methodology that the implementation team needs to follow in a step-by-step manner and adopt them to fulfill 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 implementing. It also highlights the steps to the framework 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 in 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 the cloud native development of DevOps: The reader will understand the cloud native development of cloud native applications 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 the 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 IoT IOT Applications Machine Learning Basics Entrepreneurship WHIT RETHINK YOUR WAY TO LEARN THE 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 enterprise projects; Provide initiatives with evidence-based, credible, field tested and practical guidance in crafting their responses; and Show the alignment of the innovative ideas of Cloud Native architectures with organizational 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, Bots 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 propositions to their customers and partners; • Developers and consultants 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 technology projects.

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Microservices with Azure Why a book about logs? That’s easy: the humble log is an abstraction that lies at the heart of many systems, from NoSQL databases to cryptocurrencies. Even though most engineers don’t think much about them, this short book shows you why logs are worthy of your attention. Based on his popular blog posts, LinkedIn principal engineer Jay Kreps shows you how to leverage distributed systems concepts and best practices in a simple example that demonstrates how logs are used—data integration, enterprise architecture, real-time stream processing, data system design, and abstract computing models. Go ahead and take the plunge with logs; you’re going love them. Learn how logs are used for programmatic access in databases and distributed systems! Discover solutions to the huge data integration problem when more data of more varieties meet more systems Understand why logs are at the heart of real-time stream processing Learn the role of a log in the internals of online data systems Explore how Jay Kreps applies these ideas to his own work on data infrastructure systems at LinkedIn

Microservices, IoT and Azure This book contains revised and invited papers presented at the International Workshop on Massively Multi-Agent Systems, MMAS 2018, held in Stockholm, Sweden, in July 2018. The 7 revised full papers presented were selected and reviewed after selective invitations and rigorous review processes. The papers discuss enabling technologies, new architectures, promising applications, and challenges of massively multi-agent systems in the era of IoT. They are organized in the following topical sections: multi-agent systems and Internet of Things; architectures for massively multi-agent systems; and applications of massively multi-agent systems.

Enterprise Architecture for Global Companies in a Digital IT Era Quickly and productively develop complex Spring applications and microservices out of the box, with minimal concern over things like configurations. This revised book will show you how to fully leverage the Spring Boot 2 technology and how to apply it to create enterprise ready applications that just work. It will also cover the best practices and new features like live-reloading, Spring Cloud, Spring Cloud Gateway, security, Actuator and the new way to expose Metrics through Micrometer framework, and more. This book is your authoritative hands-on practical guide for increasing your enterprise java and cloud application productivity while decreasing development time. It’s a no nonsense guide with case studies of increasing complexity throughout the book. The author, a senior solutions architect and Principal Technical instructor with Pivotal, the company behind the Spring Framework, shares his experience, insights, and knowledge works and best practices. Pro Spring Boot 2 is an essential book for your Spring learning and reference library. What You Will Learn Configure and use Spring Boot Use non-functional requirements with Spring Boot Actuator Carry out web development with Spring Boot Persistence with JDBD, JPA and NoSql Databases Messaging with JMS, RabbitMQ and WebSockets Test and deploy with Spring Boot A quick look at the Spring Cloud, Microservices, Spring Cloud Gateway, Spring Cloud Function Extending Spring Boot through your own @Enable and @Enable feature Who This Book Is For Experienced Spring and Java developers seeking increased productivity gains and decreased complexity and development time in their applications and software services.

Innovation in Medicine and Healthcare This book presents the proceedings of the KES International Conferences on Innovation in Medicine and Healthcare (KES-InMed-19), held in Split, Croatia, on June 17–19, 2020. Covering a number of key areas, including digital IT architecture in healthcare; advanced ICT for medicine and healthcare; biomedical engineering, trends, research and technologies; and healthcare support systems, this book is a valuable resource for researchers, managers, industrialists and anyone wishing to gain an overview of the latest research in these fields.

Microservice by examples using .NET Core This book contains the proceedings of the KES International conferences on Innovation in Medicine and Healthcare (KES-InMed-19) and Intelligent Interactive Multimedia Systems and Services (KES-IIMSS-19), held on 17–19 June 2019 and co-located in St. Julians, on the island of Malta, as part of the KES Smart Digital Futures 2019 multi-theme conference. The major areas covered by KES-IIMSS-19 were: Interactive Technologies; Artificial Intelligence and Data Analytics; Intelligent Services and Architectures and Applications. This book is of use to researchers in these vibrant areas, managers, industrialists and anyone wishing to gain an overview of the latest research in these fields.

Complexity in Information Systems Development Ben is stuck. A development lead with a strong vision for how the intersection of development and operations at his office can be improved, he can’t help but feel overwhelmed and discouraged by common problems such as slow turnaround time, rushed and ineffective handover documentation, mounting technical debt, and a lagging QA process. What steps should Ben take to build the momentum needed to create positive changes within his company? In this unique business novel by Dave Harrison and Knox Lively, two DevOps professionals with years of diverse experience in the industry, you follow Ben as he solves work frustrations in order to adopt Agile, DevOps, and microservices architectures for his organization. Achieving DevOps addresses the “Now what?” moment many DevOps professionals face on their journey. The story delivers the knowledge you need to navigate the internal political waters, build management support, see measurable results, and bring DevOps successfully into your organization. Come away with practical lessons and timeless business concepts. You’ll know how to effect change in a company from the bottom up, gain support, and install a pattern of progressively building on success. Experience Ben’s progress vicariously in Achieving DevOps and bridge the gap between inspiration and the implementation of your own DevOps practices. Who This Book Is For Those serving as change agents who are working to influence and move their organizations toward a DevOps approach to software development and deployment; those working to effect change from the bottom up such as development leads, QA leads, project managers, and individual developers; and IT directors, CTOs, and others at the top of an organization who are being asked to lend their support toward DevOps implementation efforts

Building Microservices Applications on Microsoft Azure Guide to designing and developing cloud native applications in Azure

Key Featuresa- Basics of Cloud Native Applications a- Designing Microservicesa- Different cloud native options for developing Cloud Native Applications in Azurea- BOTS, Web Apps, Mobile Apps, Logic Apps, Service Bus, Azure Functionsa- Azure IOT Applicationsa- Machine Learninga- Intelligent Journeysa- Developer Experiencea- Enterprise Microservicesa- Enterprise architecture as an enterprise discipline is well underway. According to the Forbes report, in January 2018, 83% of enterprise workloads will be in the cloud by 2020. 41% of enterprise workloads will run on public cloud platforms while another 22% will be running on hybrid cloud platforms. Customers are embarking on enterprise digital transformation journeys. Adopting cloud, cloud-native architectures, and microservices is an important aspect of the journey. This book starts with a brief introduction to the basics of cloud-native applications and cloud-native application patterns. It covers cloud-native options available in Azure. Page 7/8
The objective of the book is to provide practical guidelines to an architect/designer/consultant/developer who is part of the Cloud application definition team. The book articulates a methodology that the implementation team needs to follow in a systematic manner and adapt them to fulfill the requirements for enabling the cloud-native application. It emphasizes on the interpersonal skills and techniques for organizing and directing the cloud-native definition, leadership buy-in, and leading the transition from planning to implementation. It also highlights steps to be followed and the patterns for developing cloud-native applications, cloud-native options available in Azure, developing BOT, and microservices based on Azure. It also covers how to develop simple IoT applications, Machine learning-based applications, and the serverless architecture using Azure with a practical and pragmatic approach. This book embraces a structured approach around the following key themes that represent the typical phases an enterprise traverses during its cloud-native application journey.

What will you learn?
This book aims to:

- Demonstrate the importance of cloud-native applications 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 designing their respective architectures.

Who this book is for:
The book is intended for anyone looking for a career in Cloud technology, especially all aspiring Cloud Architects who want to learn cloud-native architectures, Microservices, IoT, BOT, and Microsoft Azure platform.

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The The Azure Cloud Native Architecture Mapbook Discover high-value Azure security insights, tips, and operational optimizations

This book presents comprehensive Azure Security Center techniques for safeguarding cloud and hybrid environments. Leading Microsoft security and cloud experts Yuri Diogenes and Dr. Thomas Shinder show how to apply Azure Security Center’s full spectrum of features and capabilities to address protection, detection, and response in key operational scenarios. You’ll learn how to secure any Azure workload, and optimize virtually all facets of modern security, from policies and identity to incident response and risk management. Whatever your role in Azure security, you’ll learn how to save hours, days, or even weeks by solving problems in most efficient, reliable ways possible. Two of Microsoft’s leading cloud security experts show you how to:

- Assess the impact of cloud and hybrid environments on security, compliance, operations, data protection, and risk management
- Master a new security paradigm for a world without traditional perimeters
- Gain visibility and control to secure compute, network, storage, and application workloads
- Incorporate Azure Security Center into your security operations center
- Integrate Azure Security Center with Azure AD Identity Protection Center and third-party solutions
- Adapt Azure Security Center’s built-in policies and definitions for your organization
- Perform security assessments and implement Azure Security Center recommendations
- Use incident response features to detect, investigate, and address threats
- Create high-fidelity fusion alerts to focus attention on your most urgent security issues
- Implement application whitelisting and just-in-time VM access
- Monitor user behavior and access, and investigate compromised or misused credentials
- Customize and perform operating system security baseline assessments
- Leverage integrated threat intelligence to identify known bad actors

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

See the deployment options for Microservices on Azure Stack Implement database patterns to handle the complexities introduced by microservices Who This Book Is For Architects and consultants who work on Microsoft Azure and manage large-scale deployments.

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