

# Microservices Iot And Azure Leveraging Devops And Microservice Architecture To Deliver SaaS Solutions

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## **Practical Site Reliability Engineering** - Pethuru Raj Chelliah

2018-11-30

Create, deploy, and manage applications at scale using SRE principles  
Key Features  
Build and run highly available, scalable, and secure software  
Explore abstract SRE in a simplified and streamlined way  
Enhance the reliability of cloud environments through SRE enhancements  
Book Description  
Site reliability engineering (SRE) is being touted as the most competent paradigm in establishing and ensuring next-generation high-quality software solutions. This book starts by introducing you to the SRE paradigm and covers the need for highly reliable IT platforms and infrastructures. As you make your way through the next set of chapters, you will learn to develop microservices using Spring Boot and make use of RESTful frameworks. You will also learn about GitHub for deployment, containerization, and Docker containers. Practical Site Reliability Engineering teaches you to set up and sustain containerized cloud environments, and also covers

architectural and design patterns and reliability implementation techniques such as reactive programming, and languages such as Ballerina and Rust. In the concluding chapters, you will get well-versed with service mesh solutions such as Istio and Linkerd, and understand service resilience test practices, API gateways, and edge/fog computing. By the end of this book, you will have gained experience on working with SRE concepts and be able to deliver highly reliable apps and services. What you will learn  
Understand how to achieve your SRE goals  
Grasp Docker-enabled containerization concepts  
Leverage enterprise DevOps capabilities and Microservices architecture (MSA)  
Get to grips with the service mesh concept and frameworks such as Istio and Linkerd  
Discover best practices for performance and resiliency  
Follow software reliability prediction approaches and enable patterns  
Understand Kubernetes for container and cloud orchestration  
Explore the end-to-end software engineering process for the containerized world  
Who this book is for  
Practical Site Reliability Engineering helps software developers, IT

professionals, DevOps engineers, performance specialists, and system engineers understand how the emerging domain of SRE comes handy in automating and accelerating the process of designing, developing, debugging, and deploying highly reliable applications and services.

### **Cloud Security: Concepts, Methodologies, Tools, and Applications**

- Management Association, Information Resources 2019-04-01

Cloud computing has experienced explosive growth and is expected to continue to rise in popularity as new services and applications become available. As with any new technology, security issues continue to be a concern, and developing effective methods 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-volume book is ideally designed for IT specialists, web designers, computer engineers, software developers, academicians, researchers, and graduate-level students interested in cloud computing concepts and security.

97 Things Every Cloud Engineer Should Know - Emily Freeman  
2020-12-04

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 from 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 delve 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 "Serverless Bad Practices," Manases Jesus Galindo Bello "Failing a Cloud Migration," Lee Atchison "Treat Your Cloud Environment as If It Were On Premises," Iyana 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 Cummins

Innovation in Medicine and Healthcare - Yen-Wei Chen 2020-06-10

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.

**PHP Microservices** - Carlos Perez Sanchez 2017-03-29

Transit from monolithic architectures to highly available, scalable, and fault-tolerant microservices About This Book Build your own applications based on event-driven microservices and set them up on a production server. Successfully transform any monolithic application into a microservice. Monitor the health of your application, prevent downtime, and reduce costs. Who This Book Is For PHP developers who want to build scalable, highly available, and secure applications will find this book useful. No knowledge of microservices is assumed. What You Will Learn Set up a development environment using the right strategies and tools. Learn about application design and structure to start implementing your application. Transform a monolithic application into microservices. Explore the best way to start implementing your application using testing. Understand how to monitor your microservices, handle errors, and debug the application. Deploy your finished application into a

production environment and learn how to solve common problems. Know how to scale your application based on microservices once it is up-and-running. In Detail The world is moving away from bulky, unreliable, and high-maintenance PHP applications, to small, easy-to-maintain and highly available microservices and the pressing need is for PHP developers to understand the criticalities in building effective microservices that scale at large. This book will be a reliable resource, and one that will help you to develop your skills and teach you techniques for building reliable microservices in PHP. The book begins with an introduction to the world of microservices, and quickly shows you how to set up a development environment and build a basic platform using Docker and Vagrant. You will then get into the different design aspects to be considered while building microservices in your favorite framework and you will explore topics such as testing, securing, and deploying microservices. You will also understand how to migrate a monolithic application to the microservice architecture while keeping scalability and best practices in mind. Furthermore you will get into a few important DevOps techniques that will help you progress on to more complex domains such as native cloud development, as well as some interesting design patterns. By the end of this book you will be able to develop applications based on microservices in an organized and efficient way. You will also gain the knowledge to transform any monolithic applications into microservices. Style and approach Filled with code that you can start typing straightaway, this book will take you through building, testing, securing, and deploying microservices in the most practical way possible. The focus of the book is more inclined towards showing you how it's done, rather than with what to do, although you will get a good idea of those tools most widely used to build microservices.

[Intelligent Interactive Multimedia Systems and Services](#) - Giuseppe De Pietro 2018-06-11

This volume presents a series of carefully selected papers on the theme of Intelligent Interactive Multimedia Systems and Services (IIMSS-18), but also including contributions on Innovation in Medicine and Healthcare (InMed-18) and Smart Transportation Systems (STS-18). The

papers were presented at the Smart Digital Futures 2018 multi-theme conference, which grouped the AMSTA, IDT, InMed, SEEL, STS and IIMSS conferences in one venue in Gold Coast, Australia in June 2018. IIMSS-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.

**Azure DevOps Explained** - Sjoukje Zaal 2020-12-11

Implement real-world DevOps and cloud deployment scenarios using Azure Repos, Azure Pipelines, and other Azure DevOps tools Key FeaturesImprove your application development life cycle with Azure DevOps in a step-by-step mannerApply continuous integration and continuous deployment to reduce application downtimeWork with real-world CI/CD scenarios curated by a team of renowned Microsoft MVPs and MCTsBook Description Developing applications for the cloud involves changing development methodologies and procedures. Continuous integration and continuous deployment (CI/CD) processes are a must today, but are often difficult to implement and adopt. Azure DevOps is a Microsoft Azure cloud service that enhances your application development life cycle and enables DevOps capabilities. Starting with a comprehensive product overview, this book helps you to understand Azure DevOps and apply DevOps techniques to your development projects. You'll find out how to adopt DevOps techniques for your development processes by using built-in Azure DevOps tools. Throughout the course of this book, you'll also discover how to manage a project with the help of project management techniques such as Agile and Scrum, and then progress toward development aspects such as source code management, build pipelines, code testing and artifacts, release pipelines, and GitHub integration. As you learn how to implement DevOps practices, this book will also provide you with real-world

examples and scenarios of DevOps adoption. By the end of this DevOps book, you will have learned how to adopt and implement Azure DevOps features in your real-world development processes. What you will learnGet to grips with Azure DevOpsFind out about project management with Azure BoardsUnderstand source code management with Azure ReposBuild and release pipelinesRun quality tests in build pipelinesUse artifacts and integrate Azure DevOps in the GitHub flowDiscover real-world CI/CD scenarios with Azure DevOpsWho this book is for This book is for developers, solutions architects, and DevOps engineers interested in getting started with cloud DevOps practices on Azure. Prior understanding of Azure architecture and services is necessary. Some knowledge of DevOps principles and techniques will be useful.

### **Cloud-native Computing** - Pethuru Raj 2022-10-06

Explore the cloud-native paradigm for event-driven and service-oriented applications In *Cloud-Native Computing: How to Design, Develop, and Secure Microservices and Event-Driven Applications*, a team of distinguished professionals delivers a comprehensive and insightful treatment of cloud-native computing technologies and tools. With a particular emphasis on the Kubernetes platform, as well as service mesh and API gateway solutions, the book demonstrates the need for reliability assurance in any distributed environment. The authors explain the application engineering and legacy modernization aspects of the technology at length, along with agile programming models. Descriptions of MSA and EDA as tools for accelerating software design and development accompany discussions of how cloud DevOps tools empower continuous integration, delivery, and deployment. Cloud-Native Computing also introduces proven edge devices and clouds used to construct microservices-centric and real-time edge applications. Finally, readers will benefit from: Thorough introductions to the demystification of digital transformation Comprehensive explorations of distributed computing in the digital era, as well as reflections on the history and technological development of cloud computing Practical discussions of cloud-native computing and microservices architecture, as well as event-driven architecture and serverless computing In-depth examinations of

the Akka framework as a tool for concurrent and distributed applications development Perfect for graduate and postgraduate students in a variety of IT- and cloud-related specialties, Cloud-Native Computing also belongs in the libraries of IT professionals and business leaders engaged or interested in the application of cloud technologies to various business operations.

[Developing Cloud Native Applications in Azure using .NET Core](#) - Kodali Rekha 2020-02-01

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- Azure Machine Learning Basicsa- Enterprise Digital JourneysDescriptionThe mainstreaming of the cloud-native 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. 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:

- a- Demonstrate the importance of cloud-native applications in elevating the effectiveness of organizational transformation programs and digital enterprise journeys using MS Azure.
- a- Disseminate current advancements and thought leadership in the area of cloud-native architecture in the context of digital enterprises.
- a- 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.

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

*Azure Stack Hub Demystified* - Richard Young 2021-10-07

Deploy, configure, administer, and run Microsoft Azure Stack Hub Key Features Understand the topics required for the Microsoft Azure AZ-600 exam Configure and provide services from Microsoft Azure Stack Hub Implement data center integration with Microsoft Azure Stack Hub

Book Description Azure Stack Hub is the on-premise offering from Microsoft, which provides Azure Cloud services within a customer's own data center. It provides consistent processes between on-site and the cloud, allowing developers to test locally and deploy to the cloud in

exactly the same manner. Azure Stack Hub Demystified provides complete coverage of deploying, configuring, administrating, and running Microsoft Azure Stack Hub efficiently. Firstly, you will learn how to deploy Azure Stack Hub within an organization. As you progress, you'll understand configuration and the different services provided by the platform. The book also focuses on the underlying architecture and connectivity options for the modern data center. Later, you will understand various approaches to DevOps and their implementation, and learn key topics for the AZ-600 exam. By the end of this Azure book, you will have a thorough understanding of Azure Stack Hub and the services that are provided by the platform, along with the confidence and information you need to be able to pass the AZ-600 exam. What you will learn

Understand the architecture of Azure Stack Hub  
Get up to speed with the management and administration of Azure Stack Hub  
Explore how to administer virtual networking within your Azure Stack  
Become well versed in using the Azure Stack Hub support model and updating Azure Stack Hub  
Understand how licensing and billing is done with Azure Stack Hub  
Discover the tools that can be used to implement security within Azure Stack Hub  
Focus on how DevOps practices can be incorporated with Azure Stack Hub

Who this book is for If you are an Azure Administrator and Azure Stack Hub Operator who provides or is looking to provide cloud services to end users or customers within their own data center, then this book is for you. This book will also be beneficial to those who are preparing for Exam AZ-600: Configuring and Operating a Hybrid Cloud with Microsoft Azure Stack Hub.

*Enterprise Architecture for Global Companies in a Digital IT Era* -

Yoshimasa Masuda 2019-01-24

This book investigates solutions incorporated by architecture boards in global enterprises to resolve issues and mitigate related 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)

### **Service-Oriented Architecture** - Thomas Erl 2016-12-23

The Top-Selling, De Facto Guide to SOA--Now Updated with New Content and Coverage of Microservices! For more than a decade, Thomas Erl's best-selling Service-Oriented Architecture: Concepts, Technology, and Design has been the definitive end-to-end tutorial on SOA, service-orientation, and service technologies. Now, Erl has thoroughly updated the industry's de facto guide to SOA to reflect new practices, technologies, and strategies that have emerged through hard-won experience and creative innovation. This Second Edition officially introduces microservices and micro task abstraction as part of service-oriented architecture and its associated service layers. Updated case study examples and illustrations further explain and position the microservice model alongside and in relation to more traditional types of services. Coverage includes:

- Easy-to-understand, plain English explanations of SOA and service-orientation fundamentals (as compiled from series titles)
- Microservices, micro task abstraction, and containerization
- Service delivery lifecycle and associated phases

Analysis and conceptualization of services and microservices • Service API design with REST services, web services, and microservices • Modern service API and contract versioning techniques for web services and REST services • Up-to-date appendices with service-orientation principles, REST constraints, and SOA patterns (including three new patterns) Service-Oriented Architecture: Analysis and Design for Services and Microservices, Second Edition, will be indispensable to application architects, enterprise architects, software developers, and any IT professionals interested in learning about or responsible for designing or implementing modern-day, service-oriented solutions.

Chapter 1: Introduction Chapter 2: Case Study Backgrounds Part I: Fundamentals Chapter 3: Understanding Service-Orientation Chapter 4: Understanding SOA Chapter 5: Understanding Layers with Services and Microservices Part II: Service-Oriented Analysis and Design Chapter 6: Analysis and Modeling with Web Services and Microservices Chapter 7: Analysis and Modeling with REST Services and Microservices Chapter 8: Service API and Contract Design with Web Services Chapter 9: Service API and Contract Design with REST Services and Microservices Chapter 10: Service API and Contract Versioning with Web Services and REST Services Part III: Appendices Appendix A: Service-Orientation Principles Reference Appendix B: REST Constraints Reference Appendix C: SOA Design Patterns Reference Appendix D: The Annotated SOA Manifesto [On the Move to Meaningful Internet Systems. OTM 2017 Conferences](#) - Hervé Panetto 2017-10-20

This double volumes LNCS 10573-10574 constitutes the refereed proceedings of the Confederated International Conferences: Cooperative Information Systems, CoopIS 2017, Ontologies, Databases, and Applications of Semantics, ODBASE 2017, and Cloud and Trusted Computing, C&TC, held as part of OTM 2017 in October 2017 in Rhodes, Greece. The 61 full papers presented together with 19 short papers were carefully reviewed and selected from 180 submissions. The OTM program every year covers data and Web semantics, distributed objects, Web services, databases, information systems, enterprise workflow and collaboration, ubiquity, interoperability, mobility, grid and high-

performance computing.

**Balancing Agile and Disciplined Engineering and Management Approaches for IT Services and Software Products** - Mora, Manuel  
2020-07-10

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 principles as an agile approach, both of which have complicated implementation processes as well as copious 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.

**Smart Sensors Networks** - Fatos Xhafa 2017-06-14

*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 wireless sensor networks through their usage in a broad range of areas, including healthcare for the elderly, energy consumption, industrial automation, intelligent transportation systems, smart homes and cities, and more. The book shows how sensor-networks work and how they are applied to monitor our surrounding environment. It explores the most important aspects 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

*The Definitive Guide to Modernizing Applications on Google Cloud* - Steve (Satish) Sangapu 2022-01-06

Get to grips with the tools, services, and functions needed for application migration to help you move from legacy applications to cloud-native on Google Cloud Key Features Discover how a sample legacy application can be transformed into a cloud-native application on Google Cloud Learn where to start and how to apply application modernization techniques and tooling Work with real-world use cases and instructions to modernize an application on Google Cloud Book Description Legacy applications, which comprise 75–80% of all enterprise applications, often end up being stuck in data centers. Modernizing these applications to make them cloud-native enables them to scale in a cloud environment without taking months or years to start seeing the benefits. This book will help software developers and solutions architects to modernize their applications on Google Cloud and transform them into cloud-native applications. This book helps you to build on your existing knowledge of enterprise application development and takes you on a journey through the six Rs: rehosting, replatforming, rearchitecting, repurchasing, retiring, and retaining. You'll learn how to modernize a legacy enterprise application on Google Cloud and build on existing assets and skills effectively. Taking an iterative and incremental approach to modernization, the book introduces the main services in Google Cloud in an easy-to-understand way that can be applied immediately to an application. By the end of this Google Cloud book, you'll have learned how to modernize a legacy enterprise application by exploring various interim architectures and tooling to develop a cloud-native microservices-based application. What you will learn Discover the principles and best practices for building cloud-native applications Study the six Rs of migration strategy and learn when to choose which strategy Rehost a legacy enterprise application on

Google Compute Engine  
Replatform an application to use Google Load Balancer and Google Cloud SQL  
Refactor into a single-page application (SPA) supported by REST services  
Replatform an application to use Google Identity Platform and Firebase Authentication  
Refactor to microservices using the strangler pattern  
Automate the deployment process using a CI/CD pipeline with Google Cloud Build  
Who this book is for  
This book is for software developers and solutions architects looking to gain experience in modernizing their enterprise applications to run on Google Cloud and transform them into cloud-native applications. Basic knowledge of Java and Spring Boot is necessary. Prior knowledge of Google Cloud is useful but not mandatory.

**Human Centred Intelligent Systems** - Alfred Zimmermann 2020-05-29

This 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-centred perspective on artificial intelligence, of intelligent value co-creation, ethics, value-oriented digital models, transparency, and intelligent digital architectures and engineering to support digital services 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.

**Kubernetes Microservices with Docker** - Deepak Vohra 2016-04-16

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 Microservices 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 on a multi

node cluster. /div "a concise but clear introduction to containers, Docker and Kubernetes, using simple real-world examples to pass on the core concepts, via repetition, and is a very useful enabler." 10/10 Dave Hay  
MBCS CITP: review for BCS, The Chartered Institute for IT  
(<http://www.bcs.org/content/conWebDoc/58512>)  
What You Will Learn  
Install Kubernetes on a single node  
Set environment variables  
Create multi-container pods using Docker  
Use volumes  
Use Kubernetes with the Apache Hadoop ecosystem, NoSQL databases, and RDBMSs  
Install Kubernetes on a multi-node cluster  
Who This Book Is For  
Application developers including Apache Hadoop developers, database developers and NoSQL developers.

**Driving Efficiency in Local Government Using a Collaborative Enterprise Architecture Framework: Emerging Research and Opportunities** - Tiwary, Amit 2017-05-17

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 implementations, and addresses prevalent internal and external security risks. Featuring extensive coverage on a broad range of topics such as technology funds, mobile technology, and cloud computing, this book is ideally designed for professionals, academicians, researchers, and students seeking current research on the ways in which governments can advance and prosper.  
*Microservices, IoT and Azure* - Bob Familiar 2015-11-07

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 architecture, deployed to the Azure cloud, and managed through automation. Microservices, IoT, and Azure offers software 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 Layered Architecture. A fictitious, homebiomedical 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 are they're a compelling architecture pattern for SaaS applications How to design, develop, and deploy microservices using Visual Studio, PowerShell, and Azure Microservice patterns for cross-cutting concerns and business capabilities Microservice patterns for Internet of Things and big data analytics solutions using IoT Hub, Event Hub, 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

**Practical Microservices Architectural Patterns** - Binildas Christudas  
2019-06-25

Take your distributed applications to the next level and see what the reference architectures associated with microservices can do for you. This book begins by showing you the distributed computing architecture landscape and provides an in-depth view of microservices architecture. Following this, you will work with CQRS, an essential pattern for microservices, and get a view of how distributed messaging works. Moving on, you will take a deep dive into Spring Boot and Spring Cloud. Coming back to CQRS, you will learn how event-driven microservices work with this pattern, using the Axon 2 framework. This takes you on to how transactions work with microservices followed by advanced architectures to address non-functional aspects such as high availability

and scalability. In the concluding part of the book you develop your own enterprise-grade microservices application using the Axon framework and true BASE transactions, while making it as secure as possible. What You Will Learn Shift from monolith architecture to microservices Work with distributed and ACID transactions Build solid architectures without two-phase commit transactions Discover the high availability principles in microservices Who This Book Is For Java developers with basic knowledge of distributed and multi-threaded application architecture, and no knowledge of Spring Boot or Spring Cloud. Knowledge of CQRS and event-driven architecture is not mandatory as this book will cover these in depth.

Cloud Computing for Science and Engineering - Ian Foster 2017-09-29  
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 information technology to cloud services. Science, however, has not fully exploited the advantages of the cloud. Could 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 technology that underpins the cloud, new approaches to technical problems enabled by the cloud, and the concepts 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 is accompanied by a website, [Cloud4SciEng.org](http://Cloud4SciEng.org), that provides a variety

of supplementary material, including exercises, lecture slides, and other resources helpful to readers and instructors.

Massively Multi-Agent Systems II - Donghui Lin 2019-05-18

This book contains revised selected 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 carefully reviewed and selected for inclusion in this volume. Also included are 3 post-workshop papers. 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.

**Microservices, IoT and Azure** - Bob Familiar 2015-10-20

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 architecture, deployed to the Azure cloud, and managed through automation. Microservices, IoT, and Azure offers software 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 Layered Architecture. A fictitious, homebiomedical 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 are they're a compelling architecture pattern for SaaS applications How to design, develop, and deploy microservices using Visual Studio, PowerShell, and Azure Microservice patterns for cross-cutting concerns and business capabilities Microservice patterns for Internet of Things and big data analytics solutions using IoT Hub, Event Hub, 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  
**The DevOps Handbook** - Gene Kim 2016-10-06

Increase profitability, elevate work culture, and exceed productivity goals through DevOps practices. More than ever, the effective management of technology is critical for business competitiveness. For decades, technology leaders have struggled to balance agility, reliability, and security. The consequences of failure have never been greater—whether it's the healthcare.gov debacle, cardholder data breaches, or missing the boat with Big Data in the cloud. And yet, high performers using DevOps principles, such as Google, Amazon, Facebook, Etsy, and Netflix, are routinely and reliably deploying code into production hundreds, or even thousands, of times per day. Following in the footsteps of The Phoenix Project, The DevOps Handbook shows leaders how to replicate these incredible outcomes, by showing how to integrate Product Management, Development, QA, IT Operations, and Information Security to elevate your company and win in the marketplace.

Achieving DevOps - Dave Harrison 2019-05-22

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 provides you with the knowledge you need to navigate the internal political waters, build management support, show 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 instill 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

**Complexity in Information Systems Development** - Jerzy Goluchowski 2017-04-18

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.

[Business in Real-Time Using Azure IoT and Cortana Intelligence Suite](#) -

Bob Familiar 2017-06-05

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 product life cycle using PowerShell, Azure Resource Manager Templates, and Visual Studio Team Services 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/CTA Technical Leadership Professionals

[Microservices](#) - Eberhard Wolff 2016-10-03

The Most Complete, Practical, and Actionable Guide to Microservices Going beyond mere theory and marketing hype, Eberhard Wolff presents all the knowledge you need to capture the full benefits of this emerging paradigm. He illuminates microservice concepts, architectures, and scenarios from a technology-neutral standpoint, and demonstrates how to implement them with today’s leading technologies such as Docker,

Java, Spring Boot, the Netflix stack, and Spring Cloud. The author fully explains the benefits and tradeoffs associated with microservices, and guides you through the entire project lifecycle: development, testing, deployment, operations, and more. You'll find best practices for architecting microservice-based systems, individual microservices, and nanoservices, each illuminated with pragmatic examples. The author supplements opinions based on his experience with concise essays from other experts, enriching your understanding and illuminating areas where experts disagree. Readers are challenged to experiment on their own the concepts explained in the book to gain hands-on experience. Discover what microservices are, and how they differ from other forms of modularization Modernize legacy applications and efficiently build new systems Drive more value from continuous delivery with microservices Learn how microservices differ from SOA Optimize the microservices project lifecycle Plan, visualize, manage, and evolve architecture Integrate and communicate among microservices Apply advanced architectural techniques, including CQRS and Event Sourcing Maximize resilience and stability Operate and monitor microservices in production Build a full implementation with Docker, Java, Spring Boot, the Netflix stack, and Spring Cloud Explore nanoservices with Amazon Lambda, OSGi, Java EE, Vert.x, Erlang, and Seneca Understand microservices' impact on teams, technical leaders, product owners, and stakeholders Managers will discover better ways to support microservices, and learn how adopting the method affects the entire organization. Developers will master the technical skills and concepts they need to be effective. Architects will gain a deep understanding of key issues in creating or migrating toward microservices, and exactly what it will take to transform their plans into reality.

Innovation in Medicine and Healthcare Systems, and Multimedia - Yen-Wei Chen 2019-06-05

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-InMed-19 include: Digital IT Architecture in Healthcare; Advanced ICT for Medical and Healthcare; Biomedical Engineering, Trends, Research and Technologies and Healthcare Support System. 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. *Outcome-Driven Business Architecture* - Amit Tiwary 2018-08-06

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 and practical experience with large clients in applying APQC capability framework for undertaking multiple enterprise-wide capability assessments.

*IoT Solutions in Microsoft's Azure IoT Suite* - Scott Klein 2017-04-20

Collect and analyze sensor and usage data from Internet 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. You'll learn in this book about data acquisition and analysis, including real-time analysis. Real-world examples are provided to teach you to detect anomalous patterns in your data that might lead to business advantage. We live in a time when 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 journey of how to collect and store data from Internet-connected devices. You'll learn to analyze the data and to apply your results to solving real-world problems. Your customers will benefit from the increasingly capable and reliable applications that you'll 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 analytic services and where they fit into the analytical ecosystem Look at 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

### **Intelligent Systems and Applications** - Kohei Arai 2022

This book is a remarkable collection of chapters covering a wide domain of topics related to artificial intelligence and its applications to the real world. The conference attracted a total of 494 submissions from many academic pioneering researchers, scientists, industrial engineers, and students from all around the world. These submissions underwent a double-blind peer-reviewed process. Of the total submissions, 176 submissions have been selected to be included in these proceedings. It is difficult to imagine how artificial intelligence has become an inseparable part of our life. From mobile phones, smart watches, washing machines to smart homes, smart cars, and smart industries, artificial intelligence has helped to revolutionize the whole globe. As we witness exponential growth of computational intelligence in several directions and use of intelligent systems in everyday applications, this book is an ideal

resource for reporting latest innovations and future of AI. Distinguished researchers have made valuable studies to understand the various bottlenecks existing in different arenas and how they can be overcome with the use of intelligent systems. This book also provides new directions and dimensions of future research work. We hope that readers find the volume interesting and valuable.

### Pro Spring Boot 2 - Felipe Gutierrez 2018-12-12

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 what's been added to the new Spring Boot 2 release, including Spring Framework 5 features like WebFlux, 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 first-hand knowledge about how Spring Boot technology 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 JDBC, JPA and NoSQL Databases Messaging with JMS, RabbitMQ and WebSockets Test and deploy with Spring Boot A quick look at the Spring Cloud projects Microservices and deployment to the Cloud Extend Spring Boot by creating your own Spring Boot Starter 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.

### **Implementing Azure: Putting Modern DevOps to Use** - Florian

Klaffenbach 2019-01-31

Explore powerful Azure DevOps solutions to develop and deploy your software faster and more efficiently. Key Features Build modern microservice-based systems with Azure architecture Learn to deploy and manage cloud services and virtual machines Configure clusters with Azure Service Fabric for deployment Book Description This Learning Path helps you understand microservices architecture and leverage various services of Microsoft Azure Service Fabric to build, deploy, and maintain highly scalable enterprise-grade applications. You will learn to select an appropriate Azure backend structure for your solutions and work with its toolkit and managed apps to share your solutions with its service catalog. As you progress through the Learning Path, you will study Azure Cloud Services, Azure-managed Kubernetes, and Azure Container Services deployment techniques. To apply all that you've understood, you will build an end-to-end Azure system in scalable, decoupled tiers for an industrial bakery with three business domains. Toward the end of this Learning Path, you will build another scalable architecture using Azure Service Bus topics to send orders between decoupled business domains with scalable worker roles processing these orders. By the end of this Learning Path, you will be comfortable in using development, deployment, and maintenance processes to build robust cloud solutions on Azure. This Learning Path includes content from the following Packt products: Learn Microsoft Azure by Mohamed Wali Implementing Azure Solutions - Second Edition by Florian Klaffenbach, Oliver Michalski, Markus Klein Microservices with Azure by Namit Tanasseri and Rahul Rai What you will learn Study various Azure Service Fabric application programming models Create and manage a Kubernetes cluster in Azure Kubernetes Service Use site-to-site VPN and ExpressRoute connections in your environment Design an Azure IoT app and learn to operate it in various scenarios Implement a hybrid Azure design using Azure Stack Build Azure SQL databases with Code First Migrations Integrate client applications with Web API and SignalR on Azure Implement the Azure Active Directory (Azure AD) across the entire system Who this book is for If you are an IT system architect, network admin, or a DevOps

engineer who wants to implement Azure solutions for your organization, this Learning Path is for you. Basic knowledge of the Azure Cloud platform will be beneficial.

**Holistic Approach to Quantum Cryptography in Cyber Security -**  
Shashi Bhushan 2022-08-09

This new book discusses the concepts while also highlighting the challenges in the field of quantum cryptography and also covering cryptographic techniques and cyber security techniques, in a single volume. It comprehensively covers important topics in the field of quantum cryptography with applications, including quantum key distribution, position-based quantum cryptography, quantum teleportation, quantum e-commerce, quantum cloning, cyber security techniques' architectures and design, cyber security techniques management, software-defined networks, and cyber security techniques for 5G communication. The text also discusses the security of practical quantum key distribution systems, applications and algorithms developed for quantum cryptography, as well as cyber security through quantum computing and quantum cryptography. The text will be beneficial for graduate students, academic researchers, and professionals working in the fields of electrical engineering, electronics and communications engineering, computer science, and information technology.

Análise de sistemas - Henrique Pontes Gonçalves de Oliveira 2019-10-29  
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 práticos adequados às exigências profissionais até a formação ética e sólida. Análise de sistemas aborda o ciclo de vida de 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.

*Microsoft Azure Security Center* - Yuri Diogenes 2018-06-04

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 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

**Digital Transformation** - Jacek Maślankowski 2023

*Building Microservices Applications on Microsoft Azure* - Harsh Chawla 2019-07-17

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