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Learn and use the design patterns and best practices in Spring to solve common design problems and build user-friendly microservices Key Features Study the benefits of using the right design pattern in

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***your toolkit Manage your code easily with
Spring's dependency injection pattern
Explore the features of Docker and Mesos to
build successful microservices Book
Description Getting Started with Spring
Microservices begins with an overview of the
Spring Framework 5.0, its design patterns,
and its guidelines that enable you to
implement responsive microservices at
scale. You will learn how to use GoF patterns
in application design. You will understand
the dependency injection pattern, which is
the main principle behind the decoupling***

process of the Spring Framework and makes it easier to manage your code. Then, you will learn how to use proxy patterns in aspect-oriented programming and remoting. Moving on, you will understand the JDBC template patterns and their use in abstracting database access. After understanding the basics, you will move on to more advanced topics, such as reactive streams and concurrency. Written to the latest specifications of Spring that focuses on Reactive Programming, the Learning Path teaches you how to build modern,

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internet-scale Java applications in no time. Next, you will understand how Spring Boot is used to deploying serverless autonomous services by removing the need to have a heavyweight application server. You'll also explore ways to deploy your microservices to Docker and managing them with Mesos. By the end of this Learning Path, you will have the clarity and confidence for implementing microservices using Spring Framework. This Learning Path includes content from the following Packt products: Spring 5 Microservices by Rajesh R V Spring 5 Design

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Patterns by Dinesh Rajput What you will learn Develop applications using dependency injection patterns Build web applications using traditional Spring MVC patterns Utilize the reactive programming pattern to build reactive web apps Learn concurrency and handle multiple connections inside a web server Use Spring Boot and Spring Cloud to develop microservices Leverage reactive programming to build cloud-native applications Who this book is for Getting Started with Spring Microservices is ideal

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for Spring developers who want to use design patterns to solve common design problems and build cloud-ready, Internet-scale applications, and simple RESTful services.

Microservices are responsible for very tightly focused capabilities that are part of a more complex server-side software system. Microservices, when done well, are malleable, scalable, resilient, and allow a short lead time from start of implementation to deployment to production. When using microservices, the

need for the technology to be lightweight and low ceremony grows, because creating new microservices needs to be quick and easy. OWIN is great for reuse of plumbing code and a lightweight web framework, like Nancy, is ideal. Microservices in .NET Core teaches readers how to build and deploy secure and operations-friendly microservices using Nancy. The book starts with an introduction to the microservices architectural style. Next, readers learn important practical aspects of developing microservices from simple core concepts to

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more sophisticated. Throughout the book, readers will see many code examples implementing it with lightweight .NET technologies' most prominently Nancy. By the end, they'll be able to quickly and easily build reliable and operations-friendly microservices using Nancy, OWIN and other open technologies. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Docker containers offer simpler, faster, and more robust methods for developing,

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distributing, and running software than previously available. With this hands-on guide, you'll learn why containers are so important, what you'll gain by adopting Docker, and how to make it part of your development process. Ideal for developers, operations engineers, and system administrators—especially those keen to embrace a DevOps approach—Using Docker will take you from Docker and container basics to running dozens of containers on a multi-host system with networking and scheduling. The core of the book walks you

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through the steps needed to develop, test, and deploy a web application with Docker. Get started with Docker by building and deploying a simple web application Use Continuous Deployment techniques to push your application to production multiple times a day Learn various options and techniques for logging and monitoring multiple containers Examine networking and service discovery: how do containers find each other and how do you connect them? Orchestrate and cluster containers to address load-balancing, scaling, failover,

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and scheduling Secure your system by following the principles of defense-in-depth and least privilege

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,

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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

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***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.
Designing change-tolerant software
A Practitioner's Guide to Design, Develop
and Deploy Apps
Windows Developer Power Tools
Microservices and Containers***

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Kubernetes Microservices with Docker
Cloud Architecture Patterns

**Turbocharge Windows Development with
More Than 170 Free and Open Source Tools**

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

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*Practical Software Architecture
Solutions from the Legendary Robert C.
Martin ("Uncle Bob") By applying
universal rules of software
architecture, you can dramatically
improve developer productivity
throughout the life of any software
system. Now, building upon the success
of his best-selling books Clean Code
and The Clean Coder, legendary software
craftsman Robert C. Martin ("Uncle
Bob") reveals those rules and helps you*

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apply them. Martin's Clean Architecture doesn't merely present options. Drawing on over a half-century of experience in software environments of every imaginable type, Martin tells you what choices to make and why they are critical to your success. As you've come to expect from Uncle Bob, this book is packed with direct, no-nonsense solutions for the real challenges you'll face—the ones that will make or break your projects. Learn what

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*software architects need to achieve—and
core disciplines and practices for
achieving it Master essential software
design principles for addressing
function, component separation, and
data management See how programming
paradigms impose discipline by
restricting what developers can do
Understand what's critically important
and what's merely a "detail" Implement
optimal, high-level structures for web,
database, thick-client, console, and*

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embedded applications Define appropriate boundaries and layers, and organize components and services See why designs and architectures go wrong, and how to prevent (or fix) these failures Clean Architecture is essential reading for every current or aspiring software architect, systems analyst, system designer, and software manager—and for every programmer who must execute someone else's designs. Register your product for convenient

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*access to downloads, updates, and/or
corrections as they become available.*

*Learn the essential concepts,
techniques, and design patterns that
will help you build scalable and*

*maintainable distributed systems Key
Features Learn to design, implement,
test, and deploy your microservices*

*Understand the challenges and
complexities of testing and monitoring
distributed services Build modular and
robust microservice architectures with*

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the latest features of C# 8 and .NET Core 3.1 Book Description The microservice architectural style promotes the development of complex applications as a suite of small services based on specific business capabilities. With this book, you'll take a hands-on approach to build microservices and deploy them using ASP .NET Core and Microsoft Azure. You'll start by understanding the concept of microservices and their fundamental

characteristics. This microservices book will then introduce a real-world app built as a monolith, currently struggling under increased demand and complexity, and guide you in its transition to microservices using the latest features of C# 8 and .NET Core 3. You'll identify service boundaries, split the application into multiple microservices, and define service contracts. You'll also explore how to configure, deploy, and monitor

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microservices using Docker and Kubernetes, and implement autoscaling in a microservices architecture for enhanced productivity. Once you've got to grips with reactive microservices, you'll discover how keeping your code base simple enables you to focus on what's important rather than on messy asynchronous calls. Finally, you'll delve into various design patterns and best practices for creating enterprise-ready microservice applications. By the

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end of this book, you'll be able to deconstruct a monolith successfully to create well-defined microservices. What you will learn Package, deploy, and manage microservices and containers with Azure Service Fabric Use REST APIs to integrate services using a synchronous approach Protect public APIs using Azure Active Directory and OAuth 2.0 Understand the operation and scaling of microservices using Docker and Kubernetes Implement reactive

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microservices with Reactive Extensions
Discover design patterns and best practices for building enterprise-ready apps Who this book is for This book is for C# and .NET Core developers who want to understand microservices architecture and implement it in their .NET Core applications. If you're new to building microservices or have theoretical knowledge of the architectural approach, this book will help you gain a practical perspective

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*to manage application complexity
efficiently.*

*A book with lot of practical and
architectural styles for Microservices
using .NET Core 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 the real world, the idea
behind Microservice by Examples is to
allow developers to build their*

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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/ Modernisation, this book will emphasize on containers and Dockers as well. What will you learn: Understand the Microsoft Azure Service Fabric. Know about Docker and container. Learn the operation and scaling of microservices in .NET Core. Who this book is for: This book is for

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*.NET Core developers who are new to
microservices and want to learn,
understand the microservices
architecture*

Kubernetes: Up and Running

*Bootstrapping Microservices with
Docker, Kubernetes, and Terraform
Understanding Its Patterns and*

Architecture

*Transitioning monolithic architectures
using microservices with .NET Core 2.0
using C# 7.0, 2nd Edition*

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**Azure Kubernetes Services with
Microservices**

*Learn Docker in a Month of Lunches
Developing Microservices Architecture
on Azure with Open Source Technologies
**Docker lets you create, deploy, and manage your
applications anywhere at anytime – flexibility is key so
you can deploy stable, secure, and scalable app
containers across a wide variety of platforms and delve
into microservices architecture About This Book This up-
to-date edition shows how to leverage Docker's features
to deploy your existing applications Learn how to
package your applications with Docker and build, ship,***

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*and scale your containers Explore real-world examples of
securing and managing Docker containers Who This*

*Book Is For This book is ideal for developers, operations
managers, and IT professionals who would like to learn
about Docker and use it to build and deploy container-
based apps. No prior knowledge of Docker is expected.*

*What You Will Learn Develop containerized applications
using the Docker version 17.03 Build Docker images from
containers and launch them Develop Docker images and
containers leveraging Dockerfiles Use Docker volumes to
share data Get to know how data is shared between
containers Understand Docker Jenkins integration Gain
the power of container orchestration Familiarize yourself
with the frequently used commands such as docker exec,*

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docker ps, docker top, and docker stats In Detail Docker is an open source containerization engine that offers a simple and faster way for developing and running software. Docker containers wrap software in a complete filesystem that contains everything it needs to run, enabling any application to be run anywhere – this flexibly and portably means that you can run apps in the cloud, on virtual machines, or on dedicated servers. This book will give you a tour of the new features of Docker and help you get started with Docker by building and deploying a simple application. It will walk you through the commands required to manage Docker images and containers. You'll be shown how to download new images, run containers, list the containers running on the

Docker host, and kill them. You'll learn how to leverage Docker's volumes feature to share data between the Docker host and its containers – this data management feature is also useful for persistent data. This book also covers how to orchestrate containers using Docker compose, debug containers, and secure containers using the AppArmor and SELinux security modules. Style and approach This step-by-step guide will walk you through the features and use of Docker, from Docker software installation to the impenetrable security of containers. In the race to compete in today's fast-moving markets, large enterprises are busy adopting new technologies for creating new products, processes, and business models. But one obstacle on the road to digital transformation is

placing too much emphasis on technology, and not enough on the types of processes technology enables. What if different lines of business could build their own services and applications—and decision-making was distributed rather than centralized? This report explores the concept of a digital business platform as a way of empowering individual business sectors to act on data in real time. Much innovation in a digital enterprise will increasingly happen at the edge, whether it involves business users (from marketers to data scientists) or IoT devices. To facilitate the process, your core IT team can provide these sectors with the digital tools they need to innovate quickly. This report explores: Key cultural and organizational changes for developing business

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capabilities through cross-functional product teams A platform for integrating applications, data sources, business partners, clients, mobile apps, social networks, and IoT devices Creating internal API programs for building innovative edge services in low-code or no-code environments Tools including Integration Platform as a Service, Application Platform as a Service, and Integration Software as a Service The challenge of integrating microservices and serverless architectures Event-driven architectures for processing and reacting to events in real time You'll also learn about a complete pervasive integration solution as a core component of a digital business platform to serve every audience in your organization.

The major subjects of the book cover modeling, analysis and efficient management of information in Internet of Everything (IoE) applications and architectures. As the first book of its kind, it addresses the major new technological developments in the field and will reflect current research trends, as well as industry needs. It comprises of a good balance between theoretical and practical issues, covering case studies, experience and evaluation reports and best practices in utilizing IoE applications. It also provides technical/scientific information about various aspects of IoE technologies, ranging from basic concepts to research grade material, including future directions.

Summary The best way to learn microservices

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***development is to build something! Bootstrapping
Microservices with Docker, Kubernetes, and Terraform
guides you from zero through to a complete
microservices project, including fast prototyping,
development, and deployment. You'll get your feet wet
using industry-standard tools as you learn and practice
the practical skills you'll use for every microservices
application. Following a true bootstrapping approach,
you'll begin with a simple, familiar application and build
up your knowledge and skills as you create and deploy a
real microservices project. Purchase of the print book
includes a free eBook in PDF, Kindle, and ePub formats
from Manning Publications. About the technology Taking
microservices from proof of concept to production is a***

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complex, multi-step operation relying on tools like Docker, Terraform, and Kubernetes for packaging and deployment. The best way to learn the process is to build a project from the ground up, and that's exactly what you'll do with this book! About the book In Bootstrapping Microservices with Docker, Kubernetes, and Terraform, author Ashley Davis lays out a comprehensive approach to building microservices. You'll start with a simple design and work layer-by-layer until you've created your own video streaming application. As you go, you'll learn to configure cloud infrastructure with Terraform, package microservices using Docker, and deploy your finished project to a Kubernetes cluster. What's inside Developing and testing

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***microservices applications Working with cloud providers
Applying automated testing Implementing infrastructure
as code and setting up a continuous delivery pipeline
Monitoring, managing, and troubleshooting About the
reader Examples are in JavaScript. No experience with
microservices, Kubernetes, Terraform, or Docker
required. About the author Ashley Davis is a software
developer, entrepreneur, stock trader, and the author of
Manning's Data Wrangling with JavaScript. Table of
Contents 1 Why microservices? 2 Creating your first
microservice 3 Publishing your first microservice 4 Data
management for microservices 5 Communication
between microservices 6 Creating your production
environment 7 Getting to continuous delivery 8***

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***Automated testing for microservices 9 Exploring
FlixTube 10 Healthy microservices 11 Pathways to
scalability***

***Designing, Developing, Deploying, and Monitoring
Dive into the Future of Infrastructure***

Microservices in .NET, Second Edition

***A Craftsman's Guide to Software Structure and Design
Cloud Native Patterns***

Essential Docker for ASP.NET Core MVC

Aligning Principles, Practices, and Culture

Updated for Docker Community Edition v18.09!

Docker book designed for SysAdmins, SREs,
Operations staff, Developers and DevOps who are
interested in deploying the open source container

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service Docker. In this book, we'll walk you through installing, deploying, managing, and extending Docker. We're going to do that by first introducing you to the basics of Docker and its components. Then we'll start to use Docker to build containers and services to perform a variety of tasks. We're going to take you through the development lifecycle, from testing to production, and see where Docker fits in and how it can make your life easier. We'll make use of Docker to build test environments for new projects, demonstrate how to integrate Docker with continuous integration workflow, and then how to build application services and platforms. Finally, we'll show you how to use Docker's API and how to extend

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Docker yourself. We'll teach you how to:

- * Install Docker.
- * Take your first steps with a Docker container.
- * Build Docker images.
- * Manage and share Docker images.
- * Run and manage more complex Docker containers.
- * Deploy Docker containers as part of your testing pipeline.
- * Build multi-container applications and environments.
- * Learn about orchestration using Compose and Swarm for the orchestration of Docker containers and Consul for service discovery.
- * Explore the Docker API.
- * Getting Help and Extending Docker.

Legend has it that Google deploys over two billion application containers a week. How's that possible? Google revealed the secret through a project called

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Kubernetes, an open source cluster orchestrator (based on its internal Borg system) that radically simplifies the task of building, deploying, and maintaining scalable distributed systems in the cloud. This practical guide shows you how Kubernetes and container technology can help you achieve new levels of velocity, agility, reliability, and efficiency. Authors Kelsey Hightower, Brendan Burns, and Joe Beda—who've worked on Kubernetes at Google and other organizations—explain how this system fits into the lifecycle of a distributed application. You will learn how to use tools and APIs to automate scalable distributed systems, whether it is for online services, machine-learning applications, or a cluster of

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Raspberry Pi computers. Explore the distributed system challenges that Kubernetes addresses Dive

into containerized application development, using containers such as Docker Create and run containers on Kubernetes, using the docker image format and container runtime Explore specialized objects

essential for running applications in production Reliably roll out new software versions without

downtime or errors Get examples of how to develop and deploy real-world applications in Kubernetes

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

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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,

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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

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- 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

Build, operate, and orchestrate scalable microservices applications in the cloud This book combines a comprehensive guide to success with Microsoft Azure Service Fabric and a practical catalog of design patterns and best practices for microservices design, implementation, and operation. Haishi Bai brings together all the information you'll need to deliver scalable and reliable distributed microservices

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applications on Service Fabric. He thoroughly covers the crucial DevOps aspects of utilizing Service Fabric, reviews its interactions with key cloud-based services, and introduces essential service integration mechanisms such as messaging systems and reactive systems. Leading Microsoft Azure expert Haishi Bai shows how to: Set up your Service Fabric development environment Program and deploy Service Fabric applications to a local or a cloud-based cluster Compare and use stateful services, stateless services, and the actor model Design Service Fabric applications to maximize availability, reliability, and scalability Improve management efficiency via scripting Configure network security and other

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advanced cluster settings Collect diagnostic data, and use Azure Operational Management Suite to interpret it

Integrate microservices components developed in parallel Use containers to mobilize applications for failover, replication, scaling, and load balancing

Streamline containerization with Docker in Linux and Windows environments Orchestrate containers to schedule workloads and maintain services at desired states

Implement proven design patterns for common cloud application workloads Balance throughput, latency, scalability, and cost

Master design patterns of the Spring framework to build smart, efficient microservices

Building Microservices with .NET Core 2.0

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Learning Docker

Microservice Architecture

Microservices by example using .NET Core

Microservices with Docker on Microsoft Azure
(includes Content Update Program)

One of the biggest challenges for organizations that have adopted microservice architecture is the lack of architectural, operational, and organizational standardization. After splitting a monolithic application or building a microservice ecosystem from scratch, many engineers are left wondering what's next. In this practical book, author Susan Fowler presents a set of microservice standards in depth, drawing from her experience

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standardizing over a thousand microservices at Uber. You'll learn how to design microservices that are stable, reliable, scalable, fault tolerant, performant, monitored, documented, and prepared for any catastrophe. Explore production-readiness standards, including:

- Stability and Reliability: develop, deploy, introduce, and deprecate microservices; protect against dependency failures
- Scalability and Performance: learn essential components for achieving greater microservice efficiency
- Fault Tolerance and Catastrophe Preparedness: ensure availability by actively pushing microservices to fail in real time
- Monitoring: learn how to monitor, log, and display key metrics; establish alerting and on-call procedures

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Documentation and Understanding: mitigate tradeoffs that come with microservice adoption, including organizational sprawl and technical debt

A wealth of open and free software is available today for Windows developers who want to extend the development environment, reduce development effort, and increase productivity. This encyclopedic guide explores more than 100 free and open source tools available to programmers who build applications for Windows desktops and servers. Learn how to run new and old Windows applications in Docker containers. About This Book Package traditional .NET Frameworks apps and new .NET Core apps as Docker images, and run them in containers for increased

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efficiency, portability, and security Design and implement distributed applications that run across connected containers, using enterprise-grade open source software from public Docker images Build a full Continuous Deployment pipeline for a .NET Framework application, and deploy it to a highly-available Docker swarm running in the cloud Who This Book Is For If you want to modernize an old monolithic application without rewriting it, smooth the deployment to production, or move to DevOps or the cloud, then Docker is the enabler for you. This book gives you a solid grounding in Docker so you can confidently approach all of these scenarios. What You Will Learn Comprehend key Docker concepts: images,

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containers, registries, and swarms Run Docker on Windows 10, Windows Server 2016, and in the cloud

Deploy and monitor distributed solutions across multiple Docker containers Run containers with high availability and fail-over with Docker Swarm Master security in-depth with the Docker platform, making your apps more secure Build a Continuous Deployment pipeline by running Jenkins in Docker Debug applications running in Docker containers using Visual Studio Plan the adoption of Docker in your own organization In Detail Docker is a platform for running server applications in lightweight units called containers. You can run Docker on Windows Server 2016 and Windows 10, and run your existing apps in containers

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to get significant improvements in efficiency, security, and portability. This book teaches you all you need to know about Docker on Windows, from 101 to deploying highly-available workloads in production. This book takes you on a Docker journey, starting with the key concepts and simple examples of how to run .NET Framework and .NET Core apps in Windows Docker containers. Then it moves on to more complex examples—using Docker to modernize the architecture and development of traditional ASP.NET and SQL Server apps. The examples show you how to break up monoliths into distributed apps and deploy them to a clustered environment in the cloud, using the exact same artifacts you use to run them locally. To help you

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move confidently to production, it then explains Docker security, and the management and support options. The book finishes with guidance on getting started with Docker in your own projects, together with some real-world case studies for Docker implementations, from small-scale on-premises apps to very large-scale apps running on Azure. Style and approach Using a step-by-step approach, this book shows you how to use Docker on Windows. It includes practical examples and real-world technical and business scenarios that will help you effectively implement Docker in your environment. There are over 50 examples of Dockerized applications, using C# .NET projects as the source and packaging them into Docker images.

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Summary Cloud Native Patterns is your guide to developing strong applications that thrive in the dynamic, distributed, virtual world of the cloud. This book presents a mental model for cloud-native applications, along with the patterns, practices, and tooling that set them apart. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

About the Technology Cloud platforms promise the holy grail: near-zero downtime, infinite scalability, short feedback cycles, fault-tolerance, and cost control. But how do you get there? By applying cloudnative designs, developers can build resilient, easily adaptable, web-scale distributed applications that handle massive user traffic

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and data loads. Learn these fundamental patterns and practices, and you'll be ready to thrive in the dynamic, distributed, virtual world of the cloud. About the Book With 25 years of experience under her belt, Cornelia Davis teaches you the practices and patterns that set cloud-native applications apart. With realistic examples and expert advice for working with apps, data, services, routing, and more, she shows you how to design and build software that functions beautifully on modern cloud platforms. As you read, you will start to appreciate that cloud-native computing is more about the how and why rather than the where. What's inside The lifecycle of cloud-native apps Cloud-scale configuration management Zero downtime

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upgrades, versioned services, and parallel deploys Service discovery and dynamic routing Managing interactions between services, including retries and circuit breakers About the Reader Requires basic software design skills and an ability to read Java or a similar language. About the Author Cornelia Davis is Vice President of Technology at Pivotal Software. A teacher at heart, she's spent the last 2 years making good software and great software developer

Table of Contents PART 1 - THE CLOUD-NATIVE

CONTEXT You keep using that word: Defining "cloud-

native" Running cloud-native applications in production

The platform for cloud-native software PART 2 - CLOUD-

NATIVE PATTERNS Event-driven microservices: It's not

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just request/response App redundancy: Scale-out and statelessness Application configuration: Not just environment variables The application lifecycle:

Accounting for constant change Accessing apps: Services, routing, and service discovery Interaction redundancy: Retries and other control loops Fronting services: Circuit breakers and API gateways Troubleshooting: Finding the needle in the haystack Cloud-native data: Breaking the data monolith

Microsoft Azure Security Center

The The Kubernetes Workshop

Docker and Kubernetes for Java Developers

Microservice by examples using .NET Core

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Microservices in .net Core

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

Developing Cloud Native Applications in Azure using
.NET Core

Developing Microservices Architecture on Azure with Open Source Technologies is a complete, step-by-step guide to building flexible microservices architectures by leveraging services provided by the Microsoft Azure cloud platform, and key open-source technologies such as Java, Node.JS, .NET Core and Angular. Expert Microsoft consultants

Ovais Mehboob and Arvind Chandaka guide students step-by-step through a realistic case study project that illuminates key technical implementation tasks for establishing end to end infrastructure, developing cloud-native applications, automating deployment, and realizing value.

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Universitätsprofessoren aus dem
deutschsprachigen Raum, die sowohl
grundlagenorientiert als auch
anwendungsnah in der Montage, Handhabung**

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**und Industrierobotik erfolgreich forschend
tätig sind. Die Gründung der Gesellschaft
erfolgte im Frühjahr 2012. Der MHI e.V. hat
derzeit 20 Mitglieder, die über ihre Institute
und Lehrstühle zurzeit ca. 1.000
Wissenschaftler repräsentieren. Die
übergeordnete Zielsetzung des MHI e.V. ist
die Förderung der Zusammenarbeit von
deutschsprachigen Wissenschaftlerinnen und
Wissenschaftlern untereinander, sowie mit
der Industrie im Bereich Montage,
Handhabung und Industrierobotik zur**

Beschleunigung der Forschung, Optimierung der Lehre und zur Verbesserung der internationalen Wettbewerbsfähigkeit der deutschen Industrie in diesem Bereich. Das Kolloquium fokussiert auf einen akademischen Austausch auf hohem Niveau, um die gewonnenen Forschungsergebnisse zu verteilen, synergetische Effekte und Trends zu bestimmen, die Akteure persönlich zu verbinden und das Forschungsfeld sowie die MHI-Gemeinschaft zu stärken.

Do you need to learn about cloud computing

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**architecture with Microsoft's Azure quickly?
Read this book! It gives you just enough info
on the big picture and is filled with key
terminology so that you can join the
discussion on cloud architecture.**

**This workshop takes you through a
Kubernetes-oriented application delivery
pipeline in a practical way. You'll learn how to
manage containers efficiently and scale and
stabilize cloud-native applications using
Kubernetes.**

With C#, the Nancy Framework, and Owin

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Middleware

The Docker Book

Building Microservices with Spring

Everything Interconnected

Docker on Windows

Containerization Is the New Virtualization

**Build domain-driven microservice-based
applications with Spring, Spring Cloud, and
Angular**

Summary Go from zero to production readiness with
Docker in 22 bite-sized lessons! Learn Docker in a M
of Lunches is an accessible task-focused guide to D

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on Linux, Windows, or Mac systems. In it, you'll learn practical Docker skills to help you tackle the challenges of modern IT, from cloud migration and microservices to handling legacy systems. There's no excessive theory or niche-use cases—just a quick-and-easy guide to the essentials of Docker you'll use every day. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology The idea behind Docker is simple: package applications in lightweight virtual containers that can be easily installed. The results of this simple idea are huge. Docker makes it possible to manage applications without

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creating custom infrastructures. Free, open source, and battle-tested, Docker has quickly become must-know technology for developers and administrators. About the book *Learn Docker in a Month of Lunches* introduces Docker concepts through a series of brief hands-on lessons. Following a learning path perfected by author Elton Stoneman, you'll run containers by chapter 2 and package applications by chapter 3. Each lesson teaches a practical skill you can practice on Windows, macOS, and Linux systems. By the end of the month you'll know how to containerize and run any kind of application with Docker. What's inside Package applications to run in

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containers Put containers into production Build optimized Docker images Run containerized apps at scale About the reader For IT professionals. No previous Docker experience required. About the author Elton Stoneman a consultant, a former architect at Docker, a Microsoft MVP, and a Pluralsight author. Table of Contents PART - UNDERSTANDING DOCKER CONTAINERS AND IMAGES 1. Before you begin 2. Understanding Docker and running Hello World 3. Building your own Docker images 4. Packaging applications from source code into Docker Images 5. Sharing images with Docker Hub and other registries 6. Using Docker volumes for persistent

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storage PART 2 - RUNNING DISTRIBUTED

APPLICATIONS IN CONTAINERS 7. Running multi-

container apps with Docker Compose 8. Supporting

reliability with health checks and dependency checks 9.

Adding observability with containerized monitoring 10.

Running multiple environments with Docker Compose 11.

Building and testing applications with Docker and Docker

Compose PART 3 - RUNNING AT SCALE WITH A

CONTAINER ORCHESTRATOR 12. Understanding

orchestration: Docker Swarm and Kubernetes 13.

Deploying distributed applications as stacks in Docker

Swarm 14. Automating releases with upgrades and

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rollbacks 15. Configuring Docker for secure remote access and CI/CD 16. Building Docker images that run anywhere: Linux, Windows, Intel, and Arm PART 4 - GETTING YOUR CONTAINERS READY FOR PRODUCTION 17. Optimizing your Docker images for size, speed, and security 18. Application configuration management in containers 19. Writing and managing application logs with Docker 20. Controlling HTTP traffic to containers with a reverse proxy 21. Asynchronous communication with a message queue 22. Never the e Master the art of implementing scalable microservices your production environment with ease About This Book

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Use domain-driven design to build microservices Use
Spring Cloud to use Service Discovery and Registeratio
Use Kafka, Avro and Spring Streams for implementing
event based microservices Who This Book Is For This
book is for Java developers who are familiar with the
microservices architecture and now wants to take a
deeper dive into effectively implementing microservices
an enterprise level. A reasonable knowledge level and
understanding of core microservice elements and
applications is expected. What You Will Learn Use
domain-driven design to design and implement
microservices Secure microservices using Spring Secur

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Learn to develop REST service development Deploy and test microservices Troubleshoot and debug the issues faced during development Learning best practices and common principals about microservices In Detail Microservices are the next big thing in designing scalable easy-to-maintain applications. It not only makes app development easier, but also offers great flexibility to utilize various resources optimally. If you want to build enterprise-ready implementation of the microservices architecture, then this is the book for you! Starting off understanding the core concepts and framework, you then focus on the high-level design of large software

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projects. You will gradually move on to setting up the development environment and configuring it before implementing continuous integration to deploy your microservice architecture. Using Spring security, you will secure microservices and test them effectively using REST Java clients and other tools like RxJava 2.0. We'll show you the best patterns, practices and common principal microservice design and you'll learn to troubleshoot and debug the issues faced during development. We'll show you how to design and implement reactive microservices. Finally, we'll show you how to migrate a monolithic application to microservices based application. By the

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end of the book, you will know how to build smaller, lighter, and faster services that can be implemented easily in a production environment. Style and approach This book starts from the basics, including environment setup and provides easy-to-follow steps to implement the same project using microservices.

Microservices with Docker on Microsoft Azure (includes Content Update Program) Addison-Wesley Professional Find out how to use Docker in your ASP.NET Core MVC applications, and how containers make it easier to develop, deploy and manage those applications in production environments. Packed with examples and

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practical demonstrations, this book will help you deploy even large-scale, cross-platform web applications from development into production. Best-selling author Adam Freeman takes you on a whirlwind tour of Docker, from creating a consistent development environment for your team to deploying a project and scaling it up in production. By the end of the book, you will have a solid understanding of what Docker does, how it does it and why it is useful when developing and deploying ASP.NET Core MVC applications. What You Will Learn Gain a solid understanding of Docker: what it is, and why you should be using it for your ASP.NET Core MVC

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applications Use Docker to create a development platform for ASP.NET Core MVC so that applications behave consistently across development and production Use Docker to test, deploy and manage ASP.NET Core MVC containers Use Docker Swarms to scale up applications cope with large workloads Who This Book Is For ASP.NET Core MVC developers who want to use Docker to containerize and manage their applications From 101 to production with Docker on Windows, 2nd Edition

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A developer's guide to building cloud-native applications
using the Dapr event-driven runtime

Developing and Deploying Software with Containers

Building Standardized Systems Across an Engineering
Organization

Cloud Native

Clean Architecture

**Leverage the lethal combination of
Docker and Kubernetes to automate
deployment and management of Java
applications About This Book Master
using Docker and Kubernetes to build,**

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**deploy and manage Java applications in
a jiff Learn how to create your own
Docker image and customize your own
cluster using Kubernetes Empower the
journey from development to production
using this practical guide. Who This
Book Is For The book is aimed at Java
developers who are eager to build,
deploy, and manage applications very
quickly using container technology.
They need have no knowledge of Docker
and Kubernetes. What You Will Learn**

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**Package Java applications into Docker
images Understand the running of
containers locally Explore development
and deployment options with Docker
Integrate Docker into Maven builds
Manage and monitor Java applications
running on Kubernetes clusters Create
Continuous Delivery pipelines for Java
applications deployed to Kubernetes In
Detail Imagine creating and testing
Java EE applications on Apache Tomcat
Server or Wildfly Application server in**

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**minutes along with deploying and
managing Java applications swiftly.
Sounds too good to be true? But you
have a reason to cheer as such
scenarios are only possible by
leveraging Docker and Kubernetes. This
book will start by introducing Docker
and delve deep into its networking and
persistent storage concepts. You will
then proceed to learn how to refactor
monolith application into separate
services by building an application and**

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then packaging it into Docker containers. Next, you will create an image containing Java Enterprise Application and later run it using Docker. Moving on, the book will focus on Kubernetes and its features and you will learn to deploy a Java application to Kubernetes using Maven and monitor a Java application in production. By the end of the book, you will get hands-on with some more advanced topics to further extend your knowledge about

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Docker and Kubernetes. Style and approach An easy-to-follow, practical guide that will help Java developers develop, deploy, and manage Java applications efficiently.

Architect your .NET applications by breaking them into really small pieces - microservices - using this practical, example-based guide. Key Features Start your microservices journey and get a broader perspective on microservices development using **C# 7.0 with .NET Core**

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**2.0 Build, deploy, and test
microservices using ASP.Net Core,
ASP.NET Core API, and Microsoft Azure
Cloud Get the basics of reactive
microservices Book Description The
microservices architectural style
promotes the development of complex
applications as a suite of small
services based on business
capabilities. This book will help you
identify the appropriate service
boundaries within your business. We'll**

start by looking at what microservices are and their main characteristics. Moving forward, you will be introduced to real-life application scenarios; after assessing the current issues, we will begin the journey of transforming this application by splitting it into a suite of microservices using C# 7.0 with .NET Core 2.0. You will identify service boundaries, split the application into multiple microservices, and define service

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contracts. You will find out how to
configure, deploy, and monitor
microservices, and configure scaling to
allow the application to quickly adapt
to increased demand in the future. With
an introduction to reactive
microservices, you'll strategically
gain further value to keep your code
base simple, focusing on what is more
important rather than on messy
asynchronous calls. What you will learn
Get acquainted with Microsoft Azure

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**Service Fabric Compare microservices
with monolithic applications and SOA
Learn Docker and Azure API management
Define a service interface and
implement APIs using ASP.NET Core 2.0
Integrate services using a synchronous
approach via RESTful APIs with ASP.NET
Core 2.0 Implement microservices
security using Azure Active Directory,
OpenID Connect, and OAuth 2.0
Understand the operation and scaling of
microservices in .NET Core 2.0**

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Understand the key features of reactive microservices and implement them using reactive extensions Who this book is for This book is for .NET Core developers who want to learn and understand the microservices architecture and implement it in their .NET Core applications. It's ideal for developers who are completely new to microservices or just have a theoretical understanding of this architectural approach and want to gain

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a practical perspective in order to better manage application complexities. 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

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**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**

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**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**

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**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

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

**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**

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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.

A project-based guide

Production-Ready Microservices

Mastering Microservices with Java 9

Refactor Your Monolith Architecture Into

Microservices Using Azure, 3rd Edition

Beyond the Internet of Things

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Using Containers, Functions, and Data to Build Next-Generation Applications Using Docker

Guide to designing and developing cloud native applications in Azure DESCRIPTION The mainstreaming of Cloud Native Architecture as an enterprise discipline is well underway. According to the Forbes report in January 2018, 83% of the enterprise workloads will be in the cloud by 2020 and 41% of the enterprise workloads will run on public cloud platforms, while another 22% will be running on hybrid cloud platforms. Customers are embarking on the enterprise digital

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transformation journeys. Adopting cloud and cloud native architectures and microservices is an important aspect of the journey. This book starts with a brief introduction on the basics of cloud native applications, cloud native application patterns. Then it covers the cloud native options available in Azure. The objective of the book is to provide practical guidelines to an architect/designer/consultant/developer, who is a part of the Cloud application definition Team. The book articulates a methodology that the implementation team needs to follow in a step-by-step manner and adopt them to fulfil the requirements for enablement of the Cloud Native application. It emphasizes on the

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interpersonal skills and techniques for organizing and directing the Cloud Native definition, leadership buy-in, leading the transition from planning to implementation. It also highlights the steps to be followed for performing the cloud native applications, cloud native patterns in the development of Cloud native applications, Cloud native options available in Azure, Developing BOT, Microservices based on Azure. It also covers how to develop simple IoT applications, Machine learning based applications, server less architecture, using Azure with a practical and pragmatic approach. This book embraces a structured approach organized around the following key themes,

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which represent the typical phases that an enterprise traverses during its Cloud Native application journey:

Basics of Cloud Native Applications: It covers basics of cloud native applications using .NET core. Cloud

Native Application Patterns: The reader will understand the patterns for developing Cloud Native Applications.

Cloud Native Options available in Azure: The reader will understand the different options available in Azure.

Developing a Simple BOT using .NET Core: The reader will understand the Azure BOT framework basics and will learn how to develop a simple BOT.

Developing cloud native applications leveraging

Microservices: The reader will understand the concepts

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of developing micro services using the Azure API Gateway Manager. Developing Integration capabilities using serverless architecture: The reader will understand the integration capabilities and various options available in Azure Developing a simple IoT application: The reader will understand the basics of developing IoT applications. Developing a simple ML based application: The reader will understand Machine Learning basics and how to develop a simple ML application Different enterprise use cases, which enable digital transformation using the Cloud Native Applications: The reader will learn about different use cases that can be built using cloud native applications

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KEY FEATURES (Add 5-7 key features only) Basics of Cloud Native Applications Designing Microservices

Different cloud native options for developing Cloud Native Applications in Azure BOTs, Web Apps, Mobile Apps, Logic Apps, Service Bus, Azure Functions Azure IOT Applications Azure Machine Learning Basics

Enterprise Digital Journeys WHAT WILL YOU LEARN This book aims to: Demonstrate the importance of a Cloud Native application in elevating the effectiveness of organizational transformation programs and digital enterprise journeys, using MS Azure Disseminate current advancements and thought leadership in the area of Cloud Native architecture, in the context of

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digital enterprises Provide initiatives with evidence-based, credible, field tested and practical guidance in crafting their respective architectures; and Showcase examples and experiences of the innovative use of Cloud Native Applications in enhancing transformation initiatives. WHO THIS BOOK IS FOR The book is intended for anyone looking for a career in Cloud technology, all aspiring Cloud Architects who want to learn Cloud Native Architectures, Microservices, IoT, BoT and Microsoft Azure platform and working professionals who want to switch their career in Cloud Technology. While no prior knowledge of Azure or related technologies is assumed, it will be helpful to have some

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.Net programming experience. In addition, the target audience of this book are, Business Leaders, Chief Architects, Analysts and Designers seeking better, quicker and easier approaches to respond to needs of their internal and external customers; CIOs/CTOs of business software companies interested in incorporating Cloud Native architecture to differentiate their products and services offerings and increasing the value proposition to their customers; Consultants and practitioners desirous of new solutions and technologies to improve productivity of their clients; Academic and consulting researchers looking to uncover and characterize new research problems and

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programmes Practitioners and professionals involved with organizational technology strategic planning, technology procurement, management of technology projects, consulting and advising on technology issues and management of total cost of ownership. Table of Contents 1. Basics of Cloud Native Applications 2. Cloud Native Application Patterns 3. Cloud Native Options available in Azure – BOTs, Logic Apps, Service Bus, Azure Microservices, ML services 4. Developing a Simple BOT using .NET Core 5. Developing Cloud Native applications leveraging Microservices and Azure API Gateway 6. Developing Integration capabilities using serverless architecture 7. Developing

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a simple IoT application 8. Developing a simple ML
based application 9. Different enterprise use cases
which enable digital transformation using Cloud Native
Applications

Design and implement scalable microservices using
Azure Kubernetes Services (AKS) and other Azure
Services. This book will help you understand why and
when to choose microservices as a solution for
modernization and how to use Azure DevOps to
implement CI/CD for deploying microservices. The book
starts with an introduction to the evolution to
microservices and AKS along with its components. You
will learn design patterns to implement microservices

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on AKS and understand Kubernetes as a container orchestration platform. You will go through the common errors faced in AKS-based applications and ways to handle them. You will learn error handling tips and tricks and how to design for business continuity and disaster recovery. The book discusses things you should know related to security and monitoring when working with AKS-based applications. The book presents a practical approach to set up processes for CI/CD, such as building Build and release pipelines for AKS deployment using Azure DevOps. After reading this book, you will understand design considerations for designing scalable microservices and know how to

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implement the design through AKS. What You Will Learn Know design patterns for microservices and how to handle failure scenarios Be aware of architecture and design considerations Understand container and Kubernetes architecture components Understand security and monitoring aspects Take a practical approach to continuous integration and continuous delivery Who This Book Is For IT professionals associated with cloud computing, especially with Microsoft Azure

Containers are a new way to run software. They ' re efficient, secure and portable. You can run apps in Docker with no code changes. Docker helps to meet the

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biggest challenges in IT: modernizing legacy apps, building new apps, moving to the cloud, adopting DevOps and staying innovative. This book teaches all you need to know about Docker on Windows.

Microservices can have a positive impact on your enterprise—just ask Amazon and Netflix—but you can fall into many traps if you don ' t approach them in the right way. This practical guide covers the entire microservices landscape, including the principles, technologies, and methodologies of this unique, modular style of system building. You ' ll learn about the experiences of organizations around the globe that have successfully adopted microservices. In three parts,

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this book explains how these services work and what it means to build an application the Microservices Way.

You ' ll explore a design-based approach to microservice architecture with guidance for implementing various elements. And you ' ll get a set of recipes and practices for meeting practical, organizational, and cultural challenges to microservice adoption. Learn how microservices can help you drive business objectives Examine the principles, practices, and culture that define microservice architectures Explore a model for creating complex systems and a design process for building a microservice architecture Learn the fundamental design concepts for individual

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microservices Delve into the operational elements of a
microservices architecture, including containers and
service discovery Discover how to handle the
challenges of introducing microservice architecture in
your organization

Patterns and Paradigms for Scalable, Reliable Services

Practical Microservices with Dapr and .NET

Programming Microsoft Azure Service Fabric

Building Microservices Applications on Microsoft Azure

Learn how to build and run highly scalable workloads
on Kubernetes

Designing Distributed Systems

Developers often struggle when first encountering

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the cloud. Learning about distributed systems, becoming familiar with technologies such as containers and functions, and knowing how to put everything together can be daunting. With this practical guide, you ' ll get up to speed on patterns for building cloud native applications and best practices for common tasks such as messaging, eventing, and DevOps. Authors Boris Scholl, Trent Swanson, and Peter Jausovec describe the architectural building blocks for a modern cloud native application. You ' ll learn how to use microservices, containers, serverless computing, storage types, portability, and functions. You ' ll

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also explore the fundamentals of cloud native applications, including how to design, develop, and operate them. Explore the technologies you need to design a cloud native application Distinguish between containers and functions, and learn when to use them Architect applications for data-related requirements Learn DevOps fundamentals and practices for developing, testing, and operating your applications Use tips, techniques, and best practices for building and managing cloud native applications Understand the costs and trade-offs necessary to make an application portable Transition to Microservices and DevOps to

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Transform Your Software Development

Effectiveness Thanks to the tech sector ' s latest game-changing innovations—the Internet of Things (IoT), software-enabled networking, and software as a service (SaaS), to name a few—there is now a seemingly insatiable demand for platforms and architectures that can improve the process of application development and deployment. In *Microservices and Containers*, longtime systems architect and engineering team leader Parminder Kocher analyzes two of the hottest new technology trends: microservices and containers. Together, as Kocher demonstrates, microservices and Docker

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containers can bring unprecedented agility and scalability to application development and deployment, especially in large, complex projects where speed is crucial but small errors can be disastrous. Learn how to leverage microservices and Docker to drive modular architectural design, on-demand scalability, application performance and reliability, time-to-market, code reuse, and exponential improvements in DevOps effectiveness. Kocher offers detailed guidance and a complete roadmap for transitioning from monolithic architectures, as well as an in-depth case study that walks the reader through the

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migration of an enterprise-class SOA system.

Understand how microservices enable you to organize applications into standalone components that are easier to manage, update, and scale Decide whether microservices and containers are worth your investment, and manage the organizational learning curve associated with them Apply best practices for interprocess communication among microservices Migrate monolithic systems in an orderly fashion Understand Docker containers, installation, and interfaces Network, orchestrate, and manage Docker containers effectively Use Docker to maximize scalability in microservices-

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based applications Apply your learning with an in-depth, hands-on case study Whether you are a software architect/developer or systems professional looking to move on from older approaches or a manager trying to maximize the business value of these technologies, Microservices and Containers will be an invaluable addition to your library. Register your product at informit.com/register for convenient access to downloads, updates, and/or corrections as they become available.

Microservices in .NET, Second Edition teaches you to build and deploy microservices using ASP.NET

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and Azure services. Summary In *Microservices in .NET, Second Edition* you will learn how to: Build scalable microservices that are reliable in production Optimize microservices for continuous delivery Design event-based collaboration between microservices Deploy microservices to Kubernetes Set up Kubernetes in Azure *Microservices in .NET, Second Edition* is a comprehensive guide to building microservice applications using the .NET stack. After a crystal-clear introduction to the microservices architectural style, it teaches you practical microservices development skills using ASP.NET. This second edition of the bestselling

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original has been revised with up-to-date tools for the .NET ecosystem, and more new coverage of scoping microservices and deploying to Kubernetes. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Microservice architectures connect independent components that must work together as a system. Integrating new technologies like Docker and Kubernetes with Microsoft ' s familiar ASP.NET framework and Azure cloud platform enables .NET developers to create and manage microservices efficiently. About the book Microservices in .NET,

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experience with microservices required. About the author Christian Horsdal is an independent consultant with more than 20 years of experience building projects from large-scale microservice systems to tiny embedded systems. Table of Contents PART 1 GETTING STARTED WITH MICROSERVICES 1 Microservices at a glance 2 A basic shopping cart microservice 3 Deploying a microservice to Kubernetes PART 2 BUILDING MICROSERVICES 4 Identifying and scoping microservices 5 Microservice collaboration 6 Data ownership and data storage 7 Designing for robustness 8 Writing tests for microservices PART

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3 HANDLING CROSS-CUTTING CONCERNS:

BUILDING A REUSABLE MICROSERVICE

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and logging 10 Securing microservice-to-

microservice communication 11 Building a reusable

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