Cloud Native Python: Build And Deploy Resilent Applications On The Cloud Using Microservices, AWS, Azure And More

Effectively deploy fully managed workloads using Google Cloud's serverless services Key FeaturesUse real-world use cases to understand the core functionalities of Functions as a ServiceExplore the potential of Cloud Run, Knative, Cloud Build, Google

Kubernetes Engine, and Cloud StorageGet to grips with architectural decisions, seamless deployments, containerization, and serverless solutionsBook Description Google Cloud's serverless platform allows organizations to scale fully managed solutions without worrying about the underlying infrastructure. With this book, you will learn how to design, develop, and deploy full stack serverless apps on Google Cloud. The book starts with a

quick overview of the Google Cloud console, its features, user interface (UI), and capabilities. After getting to grips with the Google Cloud interface and its features, you will explore the core aspects of serverless products such as Cloud Run, Cloud Functions and App Engine. You will also learn essential features such as version control, containerization, and identity and access management with the help of real-world use cases. Later,

you will understand how to incorporate continuous integration and continuous deployment (CI/CD) techniques for serverless applications. Toward the concluding chapters, you will get to grips with how key technologies such as Knative enable Cloud Run to be hosted on multiple platforms including Kubernetes and VMware. By the end of this book, you will have become proficient in confidently developing, managing, and deploying containerized

applications on Google Cloud. What you will learnExplore the various options for deploying serverless workloads on Google CloudDetermine the appropriate serverless product for your application use caseIntegrate multiple lightweight functions to build scalable and resilient servicesIncrease productivity through build process automationUnderstand how to secure serverless workloads using service accountsBuild a scalable architecture

with Google Cloud Functions and Cloud RunWho this book is for If you are a cloud administrator, architect, or developer who wants to build scalable systems and deploy serverless workloads on Google Cloud, then this book is for you. To get the most out of this book, a basic understanding of the serverless ecosystem and cloud computing will be beneficial.

The cloud is becoming the de facto home for companies ranging from enterprises

to startups. Moving to the cloud means moving your applications from monolith to microservices. But once you do, maintaining and running these services brings its own level of complexity. The answer? Modularity, deployability, observability, and self-healing capacity through cloud native development. With this practical book, Nishant Singh and Michael Kehoe show you how to build a true cloud native infrastructure on Microsoft Azure,

following guidelines from the Cloud Native Computing Foundation (CNCF). DevOps and site reliability engineers will learn how adapting applications to cloud native early in the design phase helps you fully utilize the elasticity and distributed nature of the cloud. Chapters include: "Introduction: Why Cloud Native?" "Infrastructure as Code: Setting Up the Gateway" "Containerizing Your Application: More Than Boxes" "Kubernetes: The Grand Orchestrator"

"Creating a Kubernetes Cluster on Azure" "Observability: Following the Breadcrumbs" "Service Discovery and Service Mesh: Finding New Territories and Crossing Borders" "Networking and Policy Management: Behold the Gatekeepers" "Distributed Databases and Storage: The Central Bank" "Getting the Message" "Serverless"

"Businesses today are evolving so rapidly that having their own infrastructure to support their

expansion is not feasible. As a result, they have been resorting to the elasticity of the cloud to provide a platform to build and deploy their highly scalable applications.This video will be the one stop for you to learn all about building cloud-native architectures in Python. It will begin by introducing you to cloud-native architecture and will help break it down for you. Then you'll learn how to build microservices in Python using

REST APIs in an event-driven approach and you will build the web layer."--Resource description page. Build cloud native applications in Python About This Book This is the only reliable resource that showcases the tools and techniques you need build robust and resilient cloud native applications in Python Learn how to architect your application on both, the AWS and Azure clouds for high availability Assess, monitor, and

troubleshoot your applications in the cloud Who This Book Is For This book is ideal for developers with a basic knowledge of Python who want to learn to build, test, and scale their Python-based applications. No prior experience of writing microservices in Python is required. What You Will Learn Get to know “the way of the cloud”, including why developing good cloud software is fundamentally about mindset and discipline Know what microservices are

and how to design them Create reactive applications in the cloud with third-party messaging providers Build massive-scale, user-friendly GUIs with React and Flux Secure cloud-based web applications: the do's, don'ts, and options Plan cloud apps that support continuous delivery and deployment In Detail Businesses today are evolving so rapidly that having their own infrastructure to support their expansion is not feasible. As a result,

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and you will build the web layer. Next, you'll learn about Interacting data services and building Web views with React, after which we will take a detailed look at application security and performance. Then, you'll also learn how to Dockerize your services. And finally, you'll learn how to deploy the application on the AWS and Azure platforms. We will end the book by discussing some concepts and techniques around troubleshooting problems that

might occur with your applications after you've deployed them. This book will teach you how to craft applications that are built as small standard units, using all the proven best practices and avoiding the usual traps. It's a practical book: we're going to build everything using Python 3 and its amazing tooling ecosystem. The book will take you on a journey, the destination of which, is the creation of a complete Python

application based on microservices over the cloud platform Style and approach Filled with examples, this book takes a step-by-step approach to teach you each and every configuration you need to make your application highly available and fault tolerant.

Cloud Native Security

Kubernetes Patterns

Use Serverless, Microservices and Containers to Rapidly Build and Deploy Apps on Google Cloud (English Edition)

Cloud Native Patterns

Hands-On Serverless Computing with Google Cloud

Building Web Applications and Microservices for the Cloud with Go and React

Cloud Native Infrastructure

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

Explore the latest and most comprehensive guide to securing your Cloud Native technology stack Cloud

Native Security delivers a detailed study into minimizing the attack surfaces found on today's Cloud Native infrastructure. Throughout the work hands-on examples walk through mitigating threats and the areas of concern that need to be addressed. The book contains the information that professionals need in order to build a diverse mix of the niche knowledge required to harden Cloud Native estates. The book begins with more

accessible content about understanding Linux containers and container runtime protection before moving on to more advanced subject matter like advanced attacks on Kubernetes. You'll also learn about: Installing and configuring multiple types of DevSecOps tooling in CI/CD pipelines Building a forensic logging system that can provide exceptional levels of detail, suited to busy containerized estates Securing the most popular container orchestrator,

Kubernetes Hardening cloud platforms and automating security enforcement in the cloud using sophisticated policies Perfect for DevOps engineers, platform engineers, security professionals and students, Cloud Native Security will earn a place in the libraries of all professionals who wish to improve their understanding of modern security challenges.

In the past few years, going cloud native has been a big advantage for

many companies. But it's a tough technique to get right, especially for enterprises with critical legacy systems. This practical hands-on guide examines effective architecture, design, and cultural patterns to help you transform your organization into a cloud native enterprise—whether you're moving from older architectures or creating new systems from scratch. By following Wealth Grid, a fictional company, you'll understand the

challenges, dilemmas, and considerations that accompany a move to the cloud. Technical managers and architects will learn best practices for taking on a successful company-wide transformation. Cloud migration consultants Pini Reznik, Jamie Dobson, and Michelle Gienow draw patterns from the growing community of expert practitioners and enterprises that have successfully built cloud native systems. You'll learn what works and

what doesn't when adopting cloud native—including how this transition affects not just your technology but also your organizational structure and processes. You'll learn: What cloud native means and why enterprises are so interested in it Common barriers and pitfalls that have affected other companies (and how to avoid them) Context-specific patterns for a successful cloud native transformation How to implement a safe, evolutionary

cloud native approach How companies addressed root causes and misunderstandings that hindered their progress Case studies from real-world companies that have succeeded with cloud native transformations Practical techniques to build apps that dynamically scale to handle any volume of data, traffic, or users About This Video This is the only reliable resource that showcases the tools and techniques you need build robust and

resilient cloud-native applications in Python Learn how to architect your application on both, the AWS and Azure clouds for high availability Assess, monitor, and troubleshoot your applications in the cloud In Detail Businesses today are evolving so rapidly that having their own infrastructure to support their expansion is not feasible. As a result, they have been resorting to the elasticity of the cloud to provide a

platform to build and deploy their highly scalable applications. This video will be the one stop for you to learn all about building cloud-native architectures in Python. You'll learn about interacting data services and building Web views with React, after which we will take a detailed look at application security and performance.

Grpc: Up and Running

Cloud Native Python

Design high-availability and cost-

effective applications for the cloud
Cloud Native Architectures
Building Reliable Services in Unreliable Environments
Build Cloud-Native Enterprise Java Applications and Microservices
Cloud-Native Applications in Java
Discover practical techniques to build cloud-native apps that are scalable, reliable, and always available. Key Features Build well-designed and secure microservices. Enrich your microservices with continous integration and

monitoring. Containerize your application with Docker Deploy your application to AWS. Learn how to utilize the powerful AWS services from within your application Book Description Cloud computing and microservices are two very important concepts in modern software architecture. They represent key skills that ambitious software engineers need to acquire in order to design and build software applications capable of performing and scaling. Go is a modern cross-platform programming language that is very powerful yet simple; it is an excellent

choice for microservices and cloud applications. Go is gaining more and more popularity, and becoming a very attractive skill.. The book will take you on a journey into the world of microservices and cloud computing with the help of Go. It will start by covering the software architectural patterns of cloud applications, as well as practical concepts regarding how to scale, distribute, and deploy those applications. You will also learn how to build a JavaScript-based front-end for your application, using TypeScript and React. From there, we dive into

commercial cloud offerings by covering AWS. Finally, we conclude our book by providing some overviews of other concepts and technologies that the reader can explore to move from where the book leaves off. What you will learn Understand modern software applications architectures Build secure microservices that can effectively communicate with other services Get to know about event-driven architectures by diving into message queues such as Kafka, Rabbitmq, and AWS SQS. Understand key modern database technologies

such as MongoDB, and Amazon's DynamoDB Leverage the power of containers Explore Amazon cloud services fundamentals Know how to utilize the power of the Go language to access key services in the Amazon cloud such as S3, SQS, DynamoDB and more. Build front-end applications using ReactJS with Go Implement CD for modern applications Who this book is for This book is for developers who want to begin building secure, resilient, robust, and scalable Go applications that are cloud native. Some knowledge of the Go programming language

should be sufficient.To build the front-end application, you will also need some knowledge of JavaScript programming.

The way developers design, build, and run software has changed significantly with the evolution of microservices and containers. These modern architectures use new primitives that require a different set of practices than most developers, tech leads, and architects are accustomed to. With this focused guide, Bilgin Ibryam and Roland Huß from Red Hat provide common reusable elements, patterns, principles,

and practices for designing and implementing cloud-native applications on Kubernetes. Each pattern includes a description of the problem and a proposed solution with Kubernetes specifics. Many patterns are also backed by concrete code examples. This book is ideal for developers already familiar with basic Kubernetes concepts who want to learn common cloud native patterns. You'll learn about the following pattern categories: Foundational patterns cover the core principles and practices for building container-based cloud-

native applications. Behavioral patterns explore finer-grained concepts for managing various types of container and platform interactions. Structural patterns help you organize containers within a pod, the atom of the Kubernetes platform. Configuration patterns provide insight into how application configurations can be handled in Kubernetes. Advanced patterns covers more advanced topics such as extending the platform with operators.

Harness the power of Quarkus, the supersonic subatomic cloud-native Java platform from Red

Hat. This book covers everything you need to know to get started with the platform, which has been engineered from the ground up for superior performance and cloud-native deployment. You'll start with an overview of the Quarkus framework and its features. Next, you'll dive into building your first microservice using Quarkus, including the use of JAX-RS, Swagger, Microprofile, REST, reactive programming, and more. You'll see how to seamlessly add Quarkus to existing Spring framework projects. The book continues with a dive into the dependency

injection pattern and how Quarkus supports it, working with annotations and facilities from both Jakarta EE CDI and the Spring framework. You'll also learn about dockerization and serverless technologies to deploy your microservice. Next you'll cover how data access works in Quarkus with Hibernate, JPA, Spring Boot, MongoDB, and more. This will also give you an eye for efficiency with reactive SQL, microservices, and many more reactive components. You'll also see tips and tricks not available in the official documentation for

Quarkus. Lastly, you'll test and secure Quarkus-based code and use different deployment scenarios to package and deploy your Quarkus-based microservice for the cloud, using Amazon Web Services as a focus. After reading and using Beginning Quarkus Framework, you'll have the essentials to build and deploy cloud-native microservices and full-fledged applications. Author Tayo Koleoso goes to great lengths to ensure this book has up to date material including brand new and some unreleased features! What You Will Learn Build

and deploy cloud-native Java applications with Quarkus Create Java-based microservices Integrate existing technologies such as the Spring framework and vanilla Java EE into the Quarkus framework Work with the Quarkus data layer on persistence with SQL, reactive SQL, and NoSQL Test code in Quarkus with the latest versions of JUnit and Testcontainers Secure your microservices with JWT and other technologies Package your microservices with Docker containers and GraalVM native image tooling Tips and techniques you won't find in the

official Quarkus documentation Who This Book Is For Intermediate Java developers familiar with microservices, the cloud in general, and REST web services, but interested in modern approaches.

Build cloud native applications in PythonAbout This Book* This is the only reliable resource that showcases the tools and techniques you need build robust and resilient cloud native applications in Python* Learn how to architect your application on both, the AWS and Azure clouds for high availability* Assess, monitor, and

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Cloud Native Go

Building Cloud Native Applications

Spring Boot: Up and Running

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

Design Patterns for Cloud Native Applications

Practical Patterns for Innovation

Design high-performing and cost-effective applications for the cloud

Leverage Kubernetes and container architecture to successfully run production-ready workloads Key FeaturesImplement Kubernetes to orchestrate and scale applications proficientlyLeverage the latest features of Kubernetes to resolve common as well as complex problems in a cloud-native environmentGain hands-on experience in securing, monitoring, and troubleshooting your applicationBook Description Kubernetes is a popular open source orchestration platform for managing containers in a cluster environment. With this Kubernetes cookbook,

you ' ll learn how to implement Kubernetes using a recipe-based approach. The book will prepare you to create highly available Kubernetes clusters on multiple clouds such as Amazon Web Services (AWS), Google Cloud Platform (GCP), Azure, Alibaba, and on-premises data centers. Starting with recipes for installing and configuring Kubernetes instances, you ' ll discover how to work with Kubernetes clients, services, and key metadata. You ' ll then learn how to build continuous integration/continuous delivery (CI/CD) pipelines for your applications, and understand various methods to manage containers. As you advance, you ' ll delve into Kubernetes' integration with Docker and Jenkins, and even perform a batch process and configure data volumes. You ' ll get to grips with methods for scaling,

security, monitoring, logging, and troubleshooting. Additionally, this book will take you through the latest updates in Kubernetes, including volume snapshots, creating high availability clusters with kops, running workload operators, new inclusions around kubectl and more. By the end of this book, you ' ll have developed the skills required to implement Kubernetes in production and manage containers proficiently. What you will learnDeploy cloud-native applications on KubernetesAutomate testing in the DevOps workflowDiscover and troubleshoot common storage issuesDynamically scale containerized services to manage fluctuating traffic needsUnderstand how to monitor your containerized DevOps environmentBuild DevSecOps into CI/CD pipelinesWho this book is for This

Kubernetes book is for developers, IT professionals, and DevOps engineers and teams who want to use Kubernetes to manage, scale, and orchestrate applications in their organization. Basic understanding of Kubernetes and containerization is necessary.

While containers, microservices, and distributed systems dominate discussions in the tech world, the majority of applications in use today still run monolithic architectures that follow traditional development processes. This practical book helps developers examine long-established Java-based models and demonstrates how to bring these monolithic applications successfully into the future. Relying on their years of experience modernizing applications, authors Markus Eisele and Natale Vinto walk you through

the steps necessary to update your organization's Java applications. You'll discover how to dismantle your monolithic application and move to an up-to-date software stack that works across cloud and on-premises installations. Learn cloud native application basics to understand what parts of your organization's Java-based applications and platforms need to migrate and modernize Understand how enterprise Java specifications can help you transition projects and teams Build a cloud native platform that supports effective development without falling into buzzword traps Find a starting point for your migration projects by identifying candidates and staging them through modernization steps Discover how to complement a traditional enterprise Java application with components

on top of containers and Kubernetes

With over 75 million downloads per month, Spring Boot is the most widely used Java framework available. Its ease and power have revolutionized application development from monoliths to microservices. Yet Spring Boot's simplicity can also be confounding. How do developers learn enough to be productive immediately? This practical book shows you how to use this framework to write successful mission-critical applications. Mark Heckler from VMware, the company behind Spring, guides you through Spring Boot's architecture and approach, covering topics such as debugging, testing, and deployment. If you want to develop cloud native Java or Kotlin applications with Spring Boot rapidly and effectively--using reactive programming,

building APIs, and creating database access of all kinds--this book is for you. Learn how Spring Boot simplifies cloud native application development and deployment Build reactive applications and extend communication across the network boundary to create distributed systems Understand how Spring Boot's architecture and approach increase developer productivity and application portability Deploy Spring Boot applications for production workloads rapidly and reliably Monitor application and system health for optimal performance and reliability Debug, test, and secure cloud-based applications painlessly

GitOps has caused quite some fuss on Twitter and KubeCon, and still continues to do so. This book aggregates the essence of GitOps to help clear up the confusion. This book

answers the following questions: What is GitOps? Why should I use GitOps? How does GitOps work? How to get started with GitOps on Kubernetes? What's the Future of GitOps? Early Praise"Software development nowadays requires to be fast and iterative, infrastructure needs to adapt and evolve with the same velocity. GitOps is fundamental for modern infrastructure implementation. With GitOps your source of truth is one or more Git repositories, your process is automated and, most likely, your infrastructure is implemented in a declarative manner. For over four years I've been helping companies implementing GitOps. In this book, you find a great introduction to GitOps and how to apply it to real-world use cases with great hands-on examples." Vincenzo Ferme,

Cloud Native Tech Lead at Kiratech "GitOps - Cloud-native Continuous Deployment is at the heart of modern Cloud development, automation is king and efficiency is what you get. This GitOps book is very much the same as GitOps development: nice and handy." Dr. Andreas Schönberger, Founder Lion5 GmbH "Informative and concise introduction to a neat CI/CD method built around Git." Dr. Michael Oberparleiter, Software consultant at TNG Technology Consulting

Cloud Native Infrastructure with Azure

A guide for programmers interested in developing cloud native applications using Ballerina Swan Lake

GitOps

Build, deploy, and containerize apps using Cloud Functions,

Cloud Run, and cloud-native technologies
Getting Started with Cloud-native Python
Reusable Elements for Designing Cloud-Native Applications
Cloud Native DevOps with Kubernetes

What separates the traditional enterprise from the likes of Amazon, Netflix, and Etsy? Those companies have refined the art of cloud native development to maintain their competitive edge and stay well ahead of the competition. This practical guide shows Java/JVM developers how to build better software, faster, using Spring Boot, Spring Cloud, and Cloud Foundry. Many organizations have

already waded into cloud computing, test-driven development, microservices, and continuous integration and delivery. Authors Josh Long and Kenny Bastani fully immerse you in the tools and methodologies that will help you transform your legacy application into one that is genuinely cloud native. In four sections, this book takes you through: The Basics: learn the motivations behind cloud native thinking; configure and test a Spring Boot application; and move your legacy application to the cloud Web Services: build HTTP and RESTful services with Spring; route requests in your

distributed system; and build edge services closer to the data Data Integration: manage your data with Spring Data, and integrate distributed services with Spring's support for event-driven, messaging-centric architectures Production: make your system observable; use service brokers to connect stateful services; and understand the big ideas behind continuous delivery

A practical guide to solving inner development loop problems in cloud-native applications by automating build, push, and deploy boilerplate using Skaffold Key FeaturesLearn how to build and deploy cloud-

native applications quickly with KubernetesCreate a production-ready continuous integration and continuous delivery (CI/CD) pipeline for cloud-native appsDiscover ways to create a GitOps-style CD workflow for cloud-native applicationsBook Description Kubernetes has become the de facto standard for container orchestration, drastically improving how we deploy and manage cloud-native apps. Although it has simplified the lives of support professionals, we cannot say the same for developers who need to be equipped with better tools to increase productivity. An automated

workflow that solves a wide variety of problems that every developer faces can make all the difference! Enter Skaffold – a command-line tool that automates the build, push, and deploy steps for Kubernetes applications. This book is divided into three parts, starting with common challenges encountered by developers in building apps with Kubernetes. The second part covers Skaffold features, its architecture, supported container image builders, and more. In the last part, you'll focus on practical implementation, learning how to deploy Spring Boot apps to cloud platforms such as Google Cloud

Platform (GCP) using Skaffold. You'll also create CI/CD pipelines for your cloud-native apps with Skaffold. Although the examples covered in this book are written in Java and Spring Boot, the techniques can be applied to apps built using other technologies too. By the end of this Skaffold book, you'll develop skills that will help accelerate your inner development loop and be able to build and deploy your apps to the Kubernetes cluster with Skaffold. What you will learnOvercome challenges faced while working in an inner development loop using SkaffoldAccelerate your development workflow

using SkaffoldUnderstand Skaffold's architecture, internal working, and supported CLI commandsBuild and deploy containers to Kubernetes using the Skaffold CLI and Cloud CodeDeploy Spring Boot applications to fully managed Kubernetes services such as Google Kubernetes Engine using SkaffoldExplore best practices for developing an app with SkaffoldAvoid common pitfalls when developing cloud-native apps with Skaffold in KubernetesWho this book is for Cloud-native application developers, software engineers working with Kubernetes, and DevOps professionals who are looking for a solution

to simplify and improve their software development life cycle will find this book useful. Beginner-level knowledge of Docker, Kubernetes, and the container ecosystem is required to get started with this book. What do Docker, Kubernetes, and Prometheus have in common? All of these cloud native technologies are written in the Go programming language. This practical book shows you how to use Go's strengths to develop cloud native services that are scalable and resilient, even in an unpredictable environment. You'll explore the composition and construction of these applications, from lower-level features of Go to

mid-level design patterns to high-level architectural considerations. Each chapter builds on the lessons of the last, walking intermediate to advanced developers through Go to construct a simple but fully featured distributed key-value store. You'll learn best practices for adopting Go as your development language for solving cloud native management and deployment issues. Learn how cloud native applications differ from other software architectures Understand how Go can solve the challenges of designing scalable distributed services Leverage Go's lower-level features, such as channels and

goroutines, to implement a reliable cloud native service Explore what "service reliability" is and what it has to do with cloud native Apply a variety of patterns, abstractions, and tooling to build and manage complex distributed systems

Discover practical techniques to build cloud-native apps that are scalable, reliable, and always available. Key Features Build well-designed and secure microservices. Enrich your microservices with continous integration and monitoring. Containerize your application with Docker Deploy your application to AWS. Learn how to utilize the powerful AWS

services from within your application Book Description Awarded as one of the best books of all time by BookAuthority, Cloud Native Programming with Golang will take you on a journey into the world of microservices and cloud computing with the help of Go. Cloud computing and microservices are two very important concepts in modern software architecture. They represent key skills that ambitious software engineers need to acquire in order to design and build software applications capable of performing and scaling. Go is a modern cross-platform programming language that is very powerful

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that you can explore, to move from where the book leaves off. What you will learn Understand modern software applications architectures Build secure microservices that can effectively communicate with other services Get to know about event-driven architectures by diving into message queues such as Kafka, Rabbitmq, and AWS SQS. Understand key modern database technologies such as MongoDB, and Amazon's DynamoDB Leverage the power of containers Explore Amazon cloud services fundamentals Know how to utilize the power of the Go language to access key services in the Amazon

cloud such as S3, SQS, DynamoDB and more. Build front-end applications using ReactJS with Go Implement CD for modern applications Who this book is for This book is for developers who want to begin building secure, resilient, robust, and scalable Go applications that are cloud native. Some knowledge of the Go programming language should be sufficient.To build the front-end application, you will also need some knowledge of JavaScript programming.

Cloud Native Apps on Google Cloud Platform

Build microservice-based cloud-native applications

that dynamically scale
Cloud Native Applications with Ballerina
Building User Interface Using React And Flux
Building, Deploying, and Scaling Modern Applications in the Cloud
Designing change-tolerant software
Simplify the development and deployment of cloud-native Spring Boot applications on Kubernetes with Skaffold

Cloud native infrastructure is more than servers, network, and storage in the cloud—it is as much about operational hygiene as it is about elasticity and scalability. In this book,

you'll learn practices, patterns, and requirements for creating infrastructure that meets your needs, capable of managing the full life cycle of cloud native applications. Justin Garrison and Kris Nova reveal hard-earned lessons on architecting infrastructure from companies such as Google, Amazon, and Netflix. They draw inspiration from projects adopted by the Cloud Native Computing Foundation (CNCF), and provide examples of patterns seen in existing tools such as Kubernetes. With this book, you will: Understand why cloud native infrastructure is necessary to effectively run cloud native applications Use guidelines to decide when—and if—your business should adopt cloud native practices Learn patterns for deploying and managing infrastructure and applications Design tests to prove that

your infrastructure works as intended, even in a variety of edge cases Learn how to secure infrastructure with policy as code

Summary Cloud Native Patternsis your guide to developing strong applications that thrive in the dynamic, distributed, virtual world of the cloud. This book presents a mental model for cloud-native applications, along with the patterns, practices, and tooling that set them apart. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Cloud platforms promise the holy grail: near-zero downtime, infinite scalability, short feedback cycles, fault-tolerance, and cost control. But how do you get there? By applying cloudnative designs, developers can build resilient, easily

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

downtime upgrades, versioned services, and parallel deploys Service discovery and dynamic routing Managing interactions between services, including retries and circuit breakers About the Reader Requires basic software design skills and an ability to read Java or a similar language. About the Author Cornelia Davis is Vice President of Technology at Pivotal Software. A teacher at heart, she's spent the last 25 years making good software and great software developers. Table of Contents PART 1 - THE CLOUD-NATIVE CONTEXT You keep using that word: Defining "cloud-native" Running cloud-native applications in production The platform for cloud-native software PART 2 - CLOUD-NATIVE PATTERNS Event-driven microservices: It's not just request/response App redundancy: Scale-out and statelessness Application

configuration: Not just environment variables The application lifecycle: Accounting for constant change Accessing apps: Services, routing, and service discovery Interaction redundancy: Retries and other control loops Fronting services: Circuit breakers and API gateways Troubleshooting: Finding the needle in the haystack Cloud-native data: Breaking the data monolith

Get a comprehensive understanding of gRPC fundamentals through real-world examples. With this practical guide, you'll learn how this high-performance interprocess communication protocol is capable of connecting polyglot services in microservices architecture, while providing a rich framework for defining service contracts and data types. Complete with hands-on examples written in Go, Java,

Node, and Python, this book also covers the essential techniques and best practices to use gRPC in production systems. Authors Kasun Indrasiri and Danesh Kuruppu discuss the importance of gRPC in the context of microservices development.

Build enterprise-grade cloud-native systems and learn all about cloud-native architecture and design. This book provides extensive in-depth details of patterns, tools, techniques, and processes with plenty of examples. Cloud Native Architecture and Design begins by explaining the fundamentals of cloud-native architecture and services, what cloud principles and patterns to use, and details of designing a cloud-native element. The book progresses to cover the details of how IT systems can modernize to

embrace cloud-native architecture, and also provides details of various enterprise assessment techniques to decide what systems can move and cannot move into the cloud. Architecting and designing a cloud-native system isn't possible without modernized software engineering principles, the culture of automation, and the culture of innovation. As such, this book covers the details of cloud-native software engineering methodologies, and process, and how to adopt an automated governance approach across enterprises with the adoption of artificial intelligence. Finally, you need your cloud-native applications to run efficiently; this section covers the details of containerization, orchestration, and virtualization in the public, private, and hybrid clouds. After reading this book,

you will have familiarity with the many concepts related to cloud-native and understand how to design and develop a successful cloud-native application. Technologies and practices may change over time, but the book lays a strong foundation on which you can build successful cloud-native systems. What You Will Learn Discover cloud-native principles and patterns, and how you can leverage them to solve your business problems Gain the techniques and concepts you need to adapt to design a cloud-native application Use assessment techniques and tools for IT modernization Apply cloud-native engineering principles to the culture of automation and culture of innovation Harness the techniques and tools to run your cloud-native applications and automate infrastructure Operate your

cloud-native applications by using AI techniques and zero operation techniques Who This Book Is For Software architects, leaders, developers, engineers, project managers, and students.

Designing Resilient Systems with Spring Boot, Spring Cloud, and Cloud Foundry

Develop Microservice-Based High Performance Web Apps for the Cloud with Go

Cloud-native Continuous Deployment

Beginning Quarkus Framework

gRPC: Up and Running

Cloud Native Architecture and Design

A Handbook for Modern Day Architecture and Design with Enterprise-Grade Examples

The Complete Guide to Building Cloud-Based Services Cloud Native Go shows developers how to build massive cloud applications that meet the insatiable demands of today's customers, and will dynamically scale to handle virtually any volume of data, traffic, or users. Kevin Hoffman and Dan Nemeth describe the modern cloud-native application in detail, illuminating factors, disciplines, and habits associated with rapid, reliable cloud-native development. They also introduce Go, a "simply elegant" high-performance

language that is especially well-suited for cloud development. You'll walk through creating microservices in Go, adding front-end web components using ReactJS and Flux, and mastering advanced Go-based cloud-native techniques. Hoffman and Nemeth show how to build a continuous delivery pipeline with tools like Wercker, Docker, and Dockerhub; automatically push apps to leading platforms; and systematically monitor app performance in production. Learn "The Way of the Cloud": why developing good cloud software is

fundamentally about mindset and discipline Discover why Go is ideal for cloud-native microservices development Plan cloud apps that support continuous delivery and deployment Design service ecosystems, and then build them in a test-first manner Push work-in-progress to a cloud Use Event Sourcing and CQRS patterns to react and respond to enormous volume and throughput Secure cloud-based web applications: do's, don'ts, and options Create reactive applications in the cloud with third-party messaging providers Build massive-scale,

cloud-friendly GUIs with React and Flux Monitor dynamic scaling, failover, and fault tolerance in the cloud

Developers often struggle when first encountering 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 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

Kubernetes is the operating system of the cloud native world, providing a reliable and scalable platform for running containerized workloads. In this friendly,

pragmatic book, cloud experts John Arundel and Justin Domingus show you what Kubernetes can do—and what you can do with it. You'll learn all about the Kubernetes ecosystem, and use battle-tested solutions to everyday problems. You'll build, step by step, an example cloud native application and its supporting infrastructure, along with a development environment and continuous deployment pipeline that you can use for your own applications. Understand containers and Kubernetes from first principles; no

experience necessary Run your own clusters or choose a managed Kubernetes service from Amazon, Google, and others Use Kubernetes to manage resource usage and the container lifecycle Optimize clusters for cost, performance, resilience, capacity, and scalability Learn the best tools for developing, testing, and deploying your applications Apply the latest industry practices for security, observability, and monitoring Adopt DevOps principles to help make your development teams lean, fast, and effective

Get a comprehensive understanding of gRPC fundamentals through real-world examples. With this practical guide, you'll learn how this high-performance interprocess communication protocol is capable of connecting polyglot services in microservices architecture, while providing a rich framework for defining service contracts and data types. Complete with hands-on examples written in Go, Java, Node, and Python, this book also covers the essential techniques and best practices to use gRPC in production

systems. Authors Kasun Indrasiri and Danesh Kuruppu discuss the importance of gRPC in the context of microservices development.

Cloud Native Java

Build, Design, and Deploy Cloud-Native Applications and Microservices with Jakarta EE (English Edition)

Cloud Native Transformation

Modernizing Enterprise Java

Hands-On Cloud-Native Microservices with Jakarta EE

Build scalable and reactive microservices

with Docker, Kubernetes, and OpenShift

Effortless Cloud-Native App Development Using Skaffold

If you want to study, build, or simply validate your thinking about modern cloud native data center networks, this is your book. Whether you ' re pursuing a multitenant private cloud, a network for running machine learning, or an enterprise data center, author Dinesh Dutt takes you through the steps necessary to design a data center that ' s affordable, high capacity, easy to manage, agile, and reliable. Ideal for network architects, data center operators, and network and containerized application developers, this book mixes theory with practice to guide you through the architecture and

protocols you need to create and operate a robust, scalable network infrastructure. The book offers a vendor-neutral way to look at network design. For those interested in open networking, this book is chock-full of examples using open source software, from FRR to Ansible. In the context of a cloud native data center, you ' ll examine: Clos topology Network disaggregation Network operating system choices Routing protocol choices Container networking Network virtualization and EVPN Network automation

With the immense cost savings and scalability the cloud provides, the rationale for building cloud native applications is no longer in question. The real issue is how. With this practical guide, developers will learn about the most commonly used design patterns for building cloud native

applications using APIs, data, events, and streams in both greenfield and brownfield development. You'll learn how to incrementally design, develop, and deploy large and effective cloud native applications that you can manage and maintain at scale with minimal cost, time, and effort. Authors Kasun Indrasiri and Sriskandarajah Suhothayan highlight use cases that effectively demonstrate the challenges you might encounter at each step. Learn the fundamentals of cloud native applications Explore key cloud native communication, connectivity, and composition patterns Learn decentralized data management techniques Use event-driven architecture to build distributed and scalable cloud native applications Explore the most commonly used patterns for API management and consumption Examine some of the tools

and technologies you'll need for building cloud native systems

What do Docker, Kubernetes, and Prometheus have in common? All of these cloud native technologies are written in the Go programming language. This practical book shows you how to use Go's strengths to develop cloud native services that are scalable and resilient, even in an unpredictable environment. You'll explore the composition and construction of these applications, from lower-level features of Go to mid-level design patterns to high-level architectural considerations. Each chapter builds on the lessons of the last, walking intermediate to advanced developers through Go to construct a simple but fully featured distributed key-value store. You'll learn best

practices for adopting Go as your development language for solving cloud native management and deployment issues. Learn how cloud native applications differ from other software architectures Understand how Go can solve the challenges of designing scalable, distributed services Leverage Go's lower-level features, such as channels and goroutines, to implement a reliable cloud native service Explore what "service reliability" is and what it has to do with "cloud native" Apply a variety of patterns, abstractions, and tooling to build and manage complex distributed systems Learn and understand the need to architect cloud applications and migrate your business to cloud efficiently Key Features Understand the core design elements required to build scalable systems Plan resources and technology

stacks effectively for high security and fault tolerance Explore core architectural principles using real-world examples Book Description Cloud computing has proven to be the most revolutionary IT development since virtualization. Cloud native architectures give you the benefit of more flexibility over legacy systems. To harness this, businesses need to refresh their development models and architectures when they find they don ' t port to the cloud. Cloud Native Architectures demonstrates three essential components of deploying modern cloud native architectures: organizational transformation, deployment modernization, and cloud native architecture patterns. This book starts with a quick introduction to cloud native architectures that are used as a base to define and explain what cloud native

architecture is and is not. You will learn what a cloud adoption framework looks like and develop cloud native architectures using microservices and serverless computing as design principles. You ' ll then explore the major pillars of cloud native design including scalability, cost optimization, security, and ways to achieve operational excellence. In the concluding chapters, you will also learn about various public cloud architectures ranging from AWS and Azure to the Google Cloud Platform. By the end of this book, you will have learned the techniques to adopt cloud native architectures that meet your business requirements. You will also understand the future trends and expectations of cloud providers. What you will learn Learn the difference between cloud native and traditional architecture Explore the aspects

of migration, when and why to use it Identify the elements to consider when selecting a technology for your architecture Automate security controls and configuration management Use infrastructure as code and CICD pipelines to run environments in a sustainable manner Understand the management and monitoring capabilities for AWS cloud native application architectures Who this book is for Cloud Native Architectures is for software architects who are keen on designing resilient, scalable, and highly available applications that are native to the cloud.

Patterns for Scalable Infrastructure and Applications in a Dynamic Environment

Architecting Cloud Native Applications

Cloud Native Applications with Jakarta EE

Cloud Native

Kubernetes Cookbook

Building Cloud Native Applications with Go and Java for Docker and Kubernetes

Architecture, Protocols, and Tools

Apply cloud native patterns and practices to deliver responsive, resilient, elastic, and message-driven systems with confidence Key FeaturesDiscover best practices for applying cloud native patterns to your cloud applicationsExplore ways to effectively plan resources and technology stacks for high security and fault toleranceGain insight into core architectural principles using real-world examplesBook Description Cloud

computing has proven to be the most revolutionary IT development since virtualization. Cloud native architectures give you the benefit of more flexibility over legacy systems. This Learning Path teaches you everything you need to know for designing industry-grade cloud applications and efficiently migrating your business to the cloud. It begins by exploring the basic patterns that turn your database inside out to achieve massive scalability. You'll learn how to develop cloud native architectures using microservices and serverless computing as your design principles. Then, you'll explore ways to continuously deliver production code by implementing continuous observability in production. In

the concluding chapters, you'll learn about various public cloud architectures ranging from AWS and Azure to the Google Cloud Platform, and understand the future trends and expectations of cloud providers. By the end of this Learning Path, you'll have learned the techniques to adopt cloud native architectures that meet your business requirements. This Learning Path includes content from the following Packt products: Cloud Native Development Patterns and Best Practices by John GilbertCloud Native Architectures by Erik Farr et al.What you will learnUnderstand the difference between cloud native and traditional architectureAutomate security controls and configuration managementMinimize risk by evolving

your monolithic systems into cloud native applicationsExplore the aspects of migration, when and why to use itApply modern delivery and testing methods to continuously deliver production codeEnable massive scaling by turning your database inside outWho this book is for This Learning Path is designed for developers who want to progress into building cloud native systems and are keen to learn the patterns involved. Software architects, who are keen on designing scalable and highly available cloud native applications, will also find this Learning Path very useful. To easily grasp these concepts, you will need basic knowledge of programming and cloud computing.

Discover how cloud-native microservice architecture helps you to build dynamically scalable applications by using the most widely used and adopted runtime environments Key FeaturesBuild robust cloud-native applications using a variety of toolsUnderstand how to configure both Amazon Web Services (AWS) and Docker clouds for high availabilityExplore common design patterns used in building and deploying microservices architecture.Book Description Businesses today are evolving rapidly, and developers now face the challenge of building applications that are resilient, flexible, and native to the cloud. To achieve this, you'll need to be aware of the environment, tools, and

resources that you're coding against. The book will begin by introducing you to cloud-native architecture and simplifying the major concepts. You'll learn to build microservices in Jakarta EE using MicroProfile with Thorntail and Narayana LRA. You'll then delve into cloud-native application x-rays, understanding the MicroProfile specification and the implementation/testing of microservices. As you progress further, you'll focus on continuous integration and continuous delivery, in addition to learning how to dockerize your services. You'll also cover concepts and techniques relating to security, monitoring, and troubleshooting problems that might occur with applications after you've written them.

By the end of this book, you will be equipped with the skills you need to build highly resilient applications using cloud-native microservice architecture. What you will learnIntegrate reactive principles in MicroProfile microservices architectureExplore the 12-factors-app paradigm and its implicationsGet the best out of Java versions 8 and 9 to implement a microservice based on ThorntailUnderstand what OpenShift is and why it is so important for an elastic architectureBuild a Linux container image using Docker and scale the application using KubernetesImplement various patterns such as, Circuit Breaker and bulkheadsGet to grips with the DevOps methodology using continuous integration (CI)

and continuous deployment (CD)Who this book is for
This book is for developers with basic knowledge of Java EE and HTTP-based application principles who want to learn how to build, test and scale Java EE microservices. No prior experience of writing microservices in Java EE is required.

Learn how to build scalable cloud native applications with the new-generation Ballerina language using expert tips and best practices Key FeaturesWork with code samples based on the Ballerina Swan Lake Beta1 versionExplore the in-built networking protocol support in Ballerina to develop secure distributed appsBuild a Ballerina app with an automated CI/CD pipeline with

observability to simplify maintenance and deploymentBook Description The Ballerina programming language was created by WSO2 for the modern needs of developers where cloud native development techniques have become ubiquitous. Ballerina simplifies how programmers develop and deploy cloud native distributed apps and microservices. Cloud Native Applications with Ballerina will guide you through Ballerina essentials, including variables, types, functions, flow control, security, and more. You'll explore networking as an in-built feature in Ballerina, which makes it a first-class language for distributed computing. With this app development book, you'll learn about

different networking protocols as well as different architectural patterns that you can use to implement services on the cloud. As you advance, you'll explore multiple design patterns used in microservice architecture and use serverless in Amazon Web Services (AWS) and Microsoft Azure platforms. You will also get to grips with Docker, Kubernetes, and serverless platforms to simplify maintenance and the deployment process. Later, you'll focus on the Ballerina testing framework along with deployment tools and monitoring tools to build fully automated observable cloud applications. By the end of this book, you will have learned how to apply the Ballerina language for building

scalable, resilient, secured, and easy-to-maintain cloud native Ballerina projects and applications. What you will learnUnderstand the concepts and models in cloud native architectureGet to grips with the high-level concepts of building applications with the Ballerina languageUse cloud native architectural design patterns to develop cloud native Ballerina applicationsDiscover how to automate, maintain, and observe cloud native Ballerina applicationsUse a container to deploy and maintain a Ballerina application with Docker and KubernetesExplore serverless architecture and use Microsoft Azure and the AWS platform to build serverless applicationsWho this book is for This Ballerina

Swan Lake book is for cloud developers, integration developers, and microservices developers who are facing challenges with legacy tooling and are looking for the latest tools and technologies to solve them. Beginner-level programming knowledge is required before getting started with this Ballerina book.

Kubernetes is becoming the de-facto standard for container orchestration and distributed applications management across a microservices framework. With this practical cookbook, you'll learn hands-on recipes for automating the deployment, scaling, and operations of application containers across clusters of hosts. The book's easy-lookup problem-solution-discussion format

helps you find the detailed answers you need—quickly. Kubernetes lets you deploy your applications quickly and predictably, so you can efficiently respond to customer demand. This cookbook, ideal for developers and system administers alike, provides the essential knowledge you need to get there. You'll find recipes for: Kubernetes installation Kubernetes API, API groups Application primitives Monitoring Troubleshooting

Develop microservice-based high performance web apps for the cloud with Go

Build and manage your applications, orchestrate containers, and deploy cloud-native services

97 Things Every Cloud Engineer Should Know

Kubernetes - A Complete DevOps Cookbook
Cloud Native Data Center Networking
Cloud Native Programming with Golang
Python for Continuous Delivery and Application Security
Deploy serverless and scalable cloud-native applications with Jakarta EE KEY FEATURES ● Example-driven approach crafted specially for developers and architects. ● Covers all core areas for cloud-native development. ● Step-by-step implementation of core concepts, including application scalability and security, serverless, and containerization. DESCRIPTION The book helps readers to get a basic understanding of features

provided by the cloud and core concepts of cloud native development. A hands-on approach makes sure that after reading the book, one can straight away implement the concepts in their daily design and development activities. The book starts with the basics of cloud computing and moves on to understanding the core concepts to create a production-ready cloud-native application. The book helps readers to develop a code that is testable and maintainable to support Agile cloud native development. This book also talks about the security and scalability aspects of applications which are the backbone of any large-scale application. The book covers advanced cloud-native

application development approaches using containers and serverless approaches. The book will help readers to get ready for a cloud-native development journey. Whether one is creating a small application or a large-scale application, core concepts explained in this book remain relevant and will work as a guiding light for developers and architects. WHAT YOU WILL LEARN ● Explains the core features that are part of cloud computing. ● Build applications that are fast to market due to testability and maintainability. ● Build applications that are secured against vulnerabilities. ● Build applications that are easy to scale. WHO THIS BOOK IS FOR The book is meant for software

developers, architects, and technical readers who want to learn about Cloud-based application development. Basic knowledge of the Java programming language or Jakarta EE platform is expected to understand code examples used in the book. TABLE OF CONTENTS 1. Introduction to Cloud Computing 2. Design for Cloud 3. Major Players in Cloud Computing 4. Sample Application Using Jakarta EE 5. Testing Cloud-Native Applications 6. Continuous Integration and Continuous Delivery 7. Securing Cloud-Based Applications 8. Scalability 9. Monitoring, Alerting, and Reporting 10. Containers 11. Serverless Computing 12. Best Practices for Developing Cloud-

Native Applications

"Businesses today are evolving so rapidly that having their own infrastructure to support their expansion is not feasible. As a result, they have been resorting to the elasticity of the cloud to provide a platform to build and deploy their highly scalable applications.This video will be the one stop for you to learn all about building cloud-native architectures in Python. It will begin by introducing you to cloud-native architecture and will help break it down for you. Then you'll learn how to build microservices in Python using REST APIs in an event driven approach and you will build the web layer. Next, you'll learn about Interacting data

services and building Web views with React, after which we will take a detailed look at application security and performance. Then, you'll also learn how to Dockerize your services. And finally, you'll learn how to deploy the application on the AWS and Azure platforms. We will end the video by discussing some concepts and techniques around troubleshooting problems that might occur with your applications after you've deployed them. This video will teach you how to craft applications that are built as small standard units, using all the proven best practices and avoiding the usual traps. It's a practical video: we're going to build everything using Python 3 and its amazing

tooling ecosystem. The video will take you on a journey, the destination of which, is the creation of a complete Python application based on microservices over the cloud platform."--Resource description page.
Step-by-step guide for developing cloud native apps on GCP powered by hands-on interactive learning KEY FEATURES ● Cutting-edge coverage on Google Cloud Build, Cloud Run, GKE, Kubectl and Anthos. ● Includes tutorials and exercises to learn designing, deploying and running cloud native apps. ● Covers Service Mesh, Apps Optimization, logs monitoring and cloud IAM access. DESCRIPTION The book “Cloud Native Apps on Google Cloud Platform” teaches the

readers how to design, construct, and maintain successful cloud-native apps using the Google Cloud Platform. With interactive tutorials, the book reinforces learning and helps to develop practical skills for working in an Agile and DevOps context. The book provides a step-by-step approach to building and managing cloud-native applications on Google Cloud Platform for Google Cloud Users, DevOps teams, and Cloud-Native Developers. First, you will investigate the advantages and applicability of each Google Serverless Computing option. You'll learn about Cloud Build and how to use it to prepare code files, create microservices, and build container images. The book

walks readers through creating and running Docker image containers on Cloud Run and App Engine. You'll learn how to use kubectl to create and manage Kubernetes clusters, as well as how to configure the autoscaler for increased resilience and availability. You'll build a pipeline that uses Cloud Build to automate CI/CD and Pub/Sub to ingest streaming data. Finally, you'll have the opportunity to learn about Anthos, which enables you to manage massive GKE clusters in both Cloud and on-premises environments. WHAT YOU WILL LEARN ● Distinguish between using containers or microservices for cloud native apps. ● Build a streaming data pipeline using BigQuery and

Dataflow using Pub/Sub. ● Practice to deploy and optimize cloud native applications on Kubernetes Engine. ● Build continuous integration/continuous delivery pipelines and improve Kubernetes apps. ● Learn to protect apps running on GCP from cyberattacks. WHO THIS BOOK IS FOR This book is meant for the Cloud and DevOps professionals and for those who wish to learn about Google Cloud services and incorporate them into end-to-end cloud applications. TABLE OF CONTENTS 1. Introducing Cloud Native Apps 2. Developing Cloud Native Apps with Cloud Shell 3. Preparing Source-Code with Cloud Build 4. Create and Deploy Microservices 5. Building

and Deploying Containers in Cloud Build 6. Create a Serverless Pipeline with Pub/Sub, Dataflow and BigQuery 7. Container Orchestration with Google Kubernetes Engine 8. Deploying and Managing Kubernetes Applications 9. Optimizing Kubernetes Cluster and Apps in GKE 10. Deploying a CI/CD Pipeline with Kubernetes and Cloud Build 11. Build a Software Delivery Platform with Anthos 12. Application Management with Anthos 13. Securing Cloud Native Apps in Anthos

Highly available microservice-based web apps for Cloud with Java Key Features Take advantage of the simplicity of Spring to build a full-fledged application

Let your applications run faster while generating smaller cloud service bills Integrate your application with various tools such as Docker and ElasticSearch and use specific tools in Azure and AWS Book Description Businesses today are evolving so rapidly that they are resorting to the elasticity of the cloud to provide a platform to build and deploy their highly scalable applications. This means developers now are faced with the challenge of building build applications that are native to the cloud. For this, they need to be aware of the environment, tools, and resources they're coding against. If you're a Java developer who wants to build secure, resilient, robust, and scalable

applications that are targeted for cloud-based deployment, this is the book for you. It will be your one stop guide to building cloud-native applications in Java Spring that are hosted in On-prem or cloud providers - AWS and Azure The book begins by explaining the driving factors for cloud adoption and shows you how cloud deployment is different from regular application deployment on a standard data centre. You will learn about design patterns specific to applications running in the cloud and find out how you can build a microservice in Java Spring using REST APIs You will then take a deep dive into the lifecycle of building, testing, and deploying applications with maximum

automation to reduce the deployment cycle time. Gradually, you will move on to configuring the AWS and Azure platforms and working with their APIs to deploy your application. Finally, you'll take a look at API design concerns and their best practices. You'll also learn how to migrate an existing monolithic application into distributed cloud native applications. By the end, you will understand how to build and monitor a scalable, resilient, and robust cloud native application that is always available and fault tolerant. What you will learn See the benefits of the cloud environment when it comes to variability, provisioning, and tooling support Understand the architecture

patterns and considerations when developing on the cloud Find out how to perform cloud-native techniques/patterns for request routing, RESTful service creation, Event Sourcing, and more Create Docker containers for microservices and set up continuous integration using Jenkins Monitor and troubleshoot an application deployed in the cloud environment Explore tools such as Docker and Kubernetes for containerization and the ELK stack for log aggregation and visualization Use AWS and Azure specific tools to design, develop, deploy, and manage applications Migrate from monolithic architectures to a cloud native deployment Who this book is for Java

developers who want to build secure, resilient, robust and scalable applications that are targeted for cloud based deployment, will find this book helpful. Some knowledge of Java, Spring, web programming and public cloud providers (AWS, Azure) should be sufficient to get you through the book.