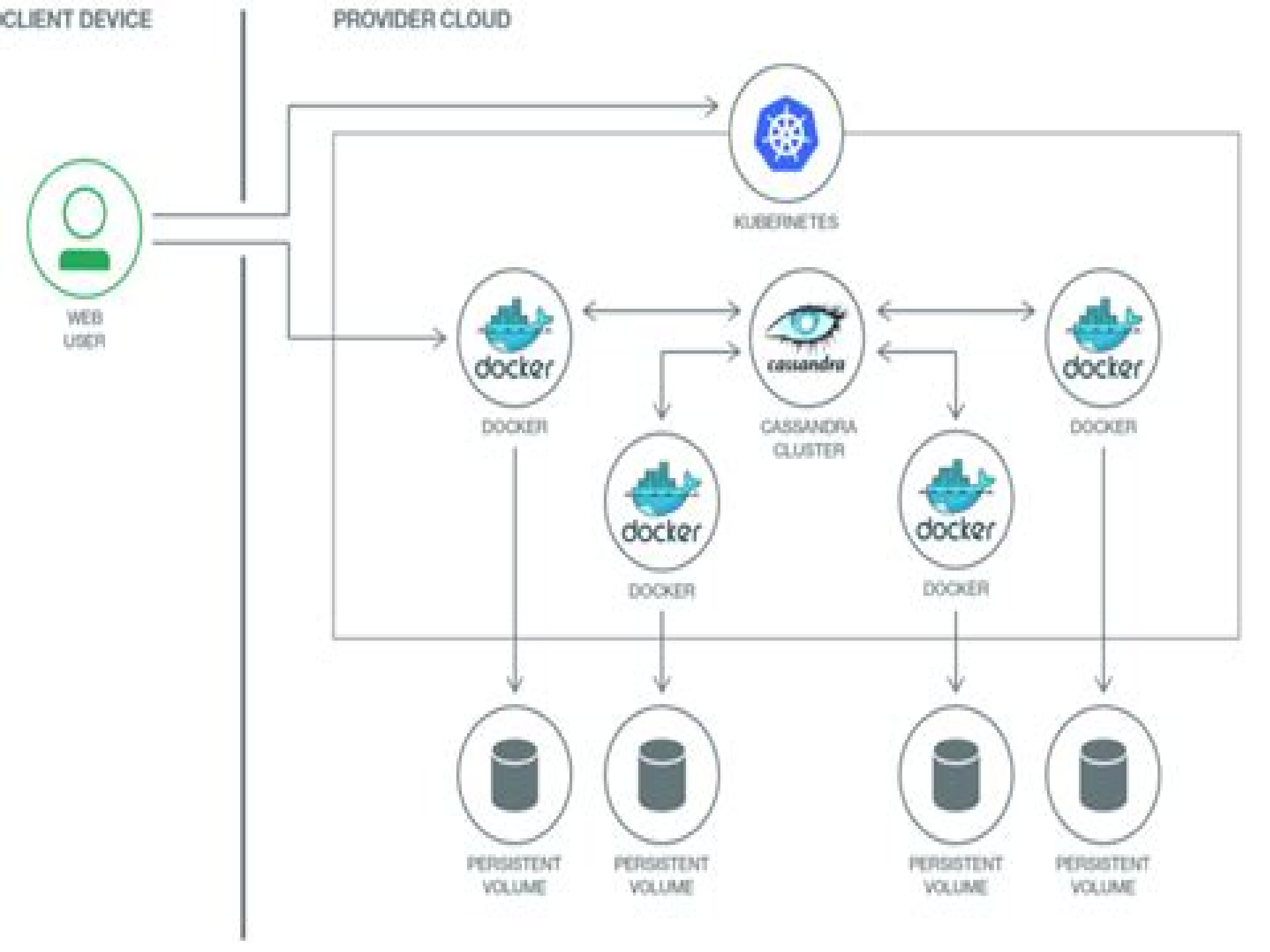
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Kubernetes Microservices With Docker

Nebrass Lamouchi

Kubernetes Microservices With Docker:

Bootstrapping Microservices with Docker, Kubernetes, and Terraform Ashley Davis,2021-01-23 Summary The best way to learn microservices 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 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 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 Automated testing for microservices 9 Exploring FlixTube 10 Healthy microservices 11 Pathways to scalability **Kubernetes Microservices with Docker** Deepak Vohra,2016-04-16 Start using Kubernetes in complex big data and enterprise applications including Docker containers Starting with installing Kubernetes on a single node the book introduces Kubernetes with a simple Hello example and discusses using environment variables in Kubernetes Next Kubernetes Microservices with Docker discusses using Kubernetes with all major groups of technologies such as relational databases NoSQL databases and in the Apache Hadoop ecosystem The book concludes with using multi container pods and installing Kubernetes on a multi node cluster div a concise but clear introduction to containers Docker and Kubernetes using simple real world examples to pass on the core concepts via repetition and is a very useful enabler 10 10 Dave Hay MBCS CITP review for BCS The Chartered Institute for IT http www bcs org content conWebDoc 58512 What You Will Learn Install Kubernetes on a single node Set environment variables Create multi container pods using Docker Use

volumes Use Kubernetes with the Apache Hadoop ecosystem NoSQL databases and RDBMSs Install Kubernetes on a multi node cluster Who This Book Is For Application developers including Apache Hadoop developers database developers and NoSQL developers **Bootstrapping Microservices, Second Edition** Ashley Davis,2024-05-21 Build a microservices application from scratch using industry standard tools and battle tested best practices The best way to learn microservices development is to build something Bootstrapping Microservices with Docker Kubernetes GitHub Actions and Terraform Second Edition guides you from zero through to a complete microservices project including fast prototyping development and deployment In Bootstrapping Microservices Second Edition you ll get hands on experience with microservices development skills like Creating configuring and running a microservice with Node js Building and publishing a microservice using Docker Applying automated testing Running a microservices application in development with Docker Compose Deploying microservices to a production Kubernetes cluster Implementing infrastructure as code and setting up a continuous delivery pipeline Monitoring managing and troubleshooting Bootstrapping Microservices with Docker Kubernetes GitHub Action and Terraform has helped thousands of developers create their first microservices applications This fully revised second edition introduces the industry standard tools and practical skills you ll use for every microservices application Author Ashley Davis s friendly advice and guidance helps cut down the learning curve for Docker Terraform and Kubernetes showing you just what you need to know to start building About the technology Taking a microservices application from proof of concept to production requires many steps and a host of tools like Kubernetes Terraform and GitHub Actions But where do you start With clear practical introductions to each concept and tool this book guides you hands on through designing and building your first microservices application About the book Bootstrapping Microservices Second Edition is your microservices mentor It teaches you to use industry standard tools to create a working video streaming application from the ground up You ll learn the pillars of cloud native development including Terraform for configuration Docker for packaging and a basic Kubernetes deployment Plus this second edition includes coverage of GitHub Actions continuous delivery and Infrastructure as Code What s inside Deploying microservices to Kubernetes Automated testing and continuous delivery Monitoring managing and troubleshooting About the reader Examples are in JavaScript and Node No experience with microservices required About the author Ashley Davis is a software craftsman entrepreneur and author with over 25 years of experience in software development from coding to managing teams to founding companies 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 The road to production 7 Infrastructure as code 8 Continuous deployment 9 Automated testing for microservices 10 Shipping FlixTube 11 Healthy microservices 12 Pathways to scalability Building Server-side and Microservices with Go Dušan Stojanović,2021-09-21 Develop and deploy efficient server side applications and microservice architectures KEY FEATURES Extensive examples of the Go programming language and REST concepts Includes graphical

illustrations and visual explanation of the microservice architecture Graphs and visual explanation for Docker and Kubernetes commands DESCRIPTION Building Server side and Microservices with Go teaches you the fundamentals of Go programming languages REST server applications and microservices You can develop efficient server side applications and use modern development concepts such as microservices after reading this book We will create simple server side applications and add new features as and when a new topic is covered We will begin with the fundamentals of Go programming languages which will create simple server side applications During development a layered design will be introduced with each application layer serving a specific purpose We will introduce you to the microservice concept and it is further divided into a couple of smaller microservices Finally we ll look at how to use Docker and Kubernetes to deploy and scale microservices After reading this book we will be able to successfully develop monolithic and microservice applications and identify when one approach is more appropriate than another This book can also help improve existing applications It is a perfect handy guide to build proficiency with Docker and Kubernetes WHAT YOU WILL LEARN Basics of Go programming language data types structures loops functions concurrency etc REST concept development and implementation Introduction to layered server side application designs and key roles PostgreSQL database design CRUD operations and queries Introduction to microservices common practices and advantages and disadvantages of microservices Microservices development with Go and how to break monolithic applications into microservices Understanding protocol buffers and message queuing protocols for microservice communications WHO THIS BOOK IS FOR This book is intended for backend developers software architects and students interested in learning about the Go programming language REST Server Applications and Microservices Knowing fundamental programming concepts would be an advantage but not essential TABLE OF CONTENTS 1 Fundamentals of Go Programming Language 2 REST Server Applications 3 HTTP Layer and Handler 4 Core Layer 5 Data Layer and Database 6 Microservices 7 Microservices in Go 8 Microservice Communication 9 Deployment and Scaling **Hands-On Docker for Microservices with Python** Jaime Buelta,2019-11-22 A step by step guide to building microservices using Python and Docker along with managing and orchestrating them with Kubernetes Key Features Learn to use Docker containers to create operate and deploy your microservices Create workflows to manage independent deployments on coordinating services using CI and GitOps through GitHub Travis CI and Flux Develop a REST microservice in Python using the Flask framework and Postgres database Book Description Microservices architecture helps create complex systems with multiple interconnected services that can be maintained by independent teams working in parallel This book guides you on how to develop these complex systems with the help of containers You ll start by learning to design an efficient strategy for migrating a legacy monolithic system to microservices You ll build a RESTful microservice with Python and learn how to encapsulate the code for the services into a container using Docker While developing the services you ll understand how to use tools such as GitHub and Travis CI to ensure continuous delivery CD and continuous

integration CI As the systems become complex and grow in size you ll be introduced to Kubernetes and explore how to orchestrate a system of containers while managing multiple services Next you ll configure Kubernetes clusters for production ready environments and secure them for reliable deployments In the concluding chapters you ll learn how to detect and debug critical problems with the help of logs and metrics Finally you ll discover a variety of strategies for working with multiple teams dealing with different microservices for effective collaboration By the end of this book you ll be able to build production grade microservices as well as orchestrate a complex system of services using containers What you will learn Discover how to design test and operate scalable microservices Coordinate and deploy different services using Kubernetes Use Docker to construct scalable and manageable applications with microservices Understand how to monitor a complete system to ensure early detection of problems Become well versed with migrating from an existing monolithic system to a microservice one Use load balancing to ensure seamless operation between the old monolith and the new service Who this book is for This book is for developers engineers or software architects who are trying to move away from traditional approaches for building complex multi service systems by adopting microservices and containers Although familiarity with Python programming is assumed no prior knowledge of Docker is required **Bootstrapping Microservices with Docker, Kubernetes, and Terraform** Ashley Davis,2021 This book lays out a comprehensive approach to building microservices Youll start with a simple design and work layer by layer until youve created your own video streaming application As you go youll learn to configure cloud infrastructure with Terraform package microservices using Docker and deploy your finished project to a Kubernetes cluster **Microservices with Spring Boot and Spring Cloud** Magnus Larsson,2021-07-29 A step by step guide to creating and deploying production quality microservices based applications Key FeaturesBuild cloud native production ready microservices with this comprehensively updated guideUnderstand the challenges of building large scale microservice architecturesLearn how to get the best out of Spring Cloud Kubernetes and Istio in combinationBook Description With this book you ll learn how to efficiently build and deploy microservices This new edition has been updated for the most recent versions of Spring Java Kubernetes and Istio demonstrating faster and simpler handling of Spring Boot local Kubernetes clusters and Istio installation The expanded scope includes native compilation of Spring based microservices support for Mac and Windows with WSL2 and an introduction to Helm 3 for packaging and deployment A revamped security chapter now follows the OAuth 2 1 specification and makes use of the newly launched Spring Authorization Server from the Spring team Starting with a set of simple cooperating microservices you ll add persistence and resilience make your microservices reactive and document their APIs using OpenAPI You ll understand how fundamental design patterns are applied to add important functionality such as service discovery with Netflix Eureka and edge servers with Spring Cloud Gateway You ll learn how to deploy your microservices using Kubernetes and adopt Istio You ll explore centralized log management using the Elasticsearch Fluentd and Kibana EFK stack and monitor microservices using

Prometheus and Grafana By the end of this book you ll be confident in building microservices that are scalable and robust using Spring Boot and Spring Cloud What you will learnBuild reactive microservices using Spring BootDevelop resilient and scalable microservices using Spring CloudUse OAuth 2 1 OIDC and Spring Security to protect public APIsImplement Docker to bridge the gap between development testing and productionDeploy and manage microservices with KubernetesApply Istio for improved security observability and traffic managementWrite and run automated microservice tests with JUnit testcontainers Gradle and bashWho this book is for If you are a Java or Spring Boot developer who wants to learn how to build microservice landscapes from scratch this book is for you No familiarity with microservices architecture is required

Hands-On Cloud-Native Microservices with Jakarta EE Luigi Fugaro,Mauro Vocale,2019-01-31 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

Playing with Java Microservices on Kubernetes and OpenShift Nebrass Lamouchi, Playing with Java Microservices on Kubernetes and OpenShift will teach you how to build and design microservices using Java and the Spring platform This book covers topics related to creating Java microservices and deploy them to Kubernetes and OpenShift Traditionally Java

developers have been used to developing large complex monolithic applications The experience of developing and deploying monoliths has been always slow and painful This book will help Java developers to quickly get started with the features and the concerns of the microservices architecture It will introduce Docker Kubernetes and OpenShift to help them deploying their microservices The book is written for Java developers who wants to build microservices using the Spring Boot Cloud stack and who wants to deploy them to Kubernetes and OpenShift You will be guided on how to install the appropriate tools to work properly For those who are new to Enterprise Development using Spring Boot you will be introduced to its core principles and main features thru a deep step by step tutorial on many components For experts this book offers some recipes that illustrate how to split monoliths and implement microservices and deploy them as containers to Kubernetes and OpenShift The following are some of the key challenges that we will address in this book Introducing Spring Boot Cloud for beginners Splitting a monolith using the Domain Driven Design approach Implementing the cloud microservices patterns Rethinking the deployment process Introducing containerization Docker Kubernetes and OpenShift By the end of reading this book you will have practical hands on experience of building microservices using Spring Boot Cloud and you will master deploying them as containers to Kubernetes and OpenShift *Docker Deep Dive* Aditya Pratap Bhuyan,2024-10-03 Docker Deep Dive Learn Build and Scale with Containers is a comprehensive guide that takes readers on a journey from understanding the fundamentals of Docker to mastering advanced containerization and orchestration techniques Whether you are a beginner looking to grasp the basics or an experienced developer seeking to enhance your skills this book offers something for everyone Starting with Docker s core concepts readers will learn to build manage and deploy containerized applications The book dives into topics such as creating Dockerfiles managing containerized environments with Docker Compose handling networking and persistent data storage and integrating Docker with continuous integration continuous delivery CI CD pipelines As the chapters progress the book delves into advanced topics like container orchestration with Docker Swarm and Kubernetes security best practices performance tuning and deploying Docker in cloud environments Special emphasis is placed on cutting edge networking concepts and service meshes using tools like Istio helping readers to efficiently manage communication between microservices This book equips readers with practical knowledge and hands on examples enabling them to build scalable secure and reliable containerized applications With insights into the future of containerization and trends in the evolving ecosystem Docker Deep Dive is the ultimate resource for developers DevOps engineers and IT professionals looking to master Docker and its powerful features By the end of this book readers will have the skills and confidence to independently manage Docker in production environments **Cracking Containers with Docker and Kubernetes** Nisarg Vasavada,Dhwani Sametriya,2021-12-08 A book that will help you become the Mozart of Microservices KEY FEATURES All codes tested on the latest software versions with visual illustrations Covers bleeding edge DevOps skills to build a future proof job profile Includes expert advice industry insights and logical analogies to craft a

technical narrative DESCRIPTION Cracking Containers with Docker and Kubernetes aims to be a comprehensive guide for learning and referencing all of the essential topics related to creating managing and running containers with Docker and Kubernetes Students and professionals working on Containerized web applications can use this book to lay strong conceptual foundations and sharpen their skills The first few chapters provide an overall picture of resource virtualization in computing and demonstrate the potential of containers The intermediate chapters get to extensive detail about Docker and Kubernetes You will gain in demand skills such as Docker and Kubernetes CLI as well as how to write Dockerfiles Compose files and Kubernetes YAML Manifests Topics like Networking Storage Access Control and Security are discussed with real world implications The final chapters move Kubernetes and Containers to the cloud while expanding their ecosystem with tools for Serverless deployment logging and monitoring CI CD and more for a highly available production ready setup After reading this book you will be able to plan your application s migration to containers prepare for Docker and Kubernetes Certifications or apply for six digit DevOps jobs WHAT YOU WILL LEARN Learn to create manage and orchestrate Containers using Docker and Kubernetes Practice writing Dockerfiles Compose Files and Kubernetes YAML Manifests Perform container networking storage authorization security and scaling in a production environment Explore shipping CI CD Service Mesh Logging Monitoring in detail Get the Cracking Containers with Docker and Kubernetes know how of hosted and Serverless Kubernetes on Cloud WHO THIS BOOK IS FOR This book is intended for students enthusiasts and professionals in Software Development DevOps and Cloud Computing who want to put their career progress on a pedestal by reducing the operational and scaling costs of their web applications and optimizing their IT infrastructure utilization TABLE OF CONTENTS 1 Prologue to the Containers 2 Hello Containers 3 Introduction to Docker 4 Writing Dockerfiles 5 Gearing up the toolbox 6 Connectivity and Storage 7 Multi Container Applications with Docker Compose 8 Container Orchestration with Docker Swarm 9 Introduction to Kubernetes 10 Workload Orchestration with Kubernetes 11 Networking and Storage with Kubernetes 12 Advanced Orchestration with Kubernetes 13 Hosted Kubernetes on Cloud 14 Containers in Production with GKE 15 Serverless Containers 16 The Checkpoint **Hands-On Microservices with Kubernetes** Gigi Sayfan,2019-07-05 Enhance your skills in building scalable infrastructure for your cloud based applications Key FeaturesLearn to design a scalable architecture by building continuous integration CI pipelines with KubernetesGet an in depth understanding of role based access control RBAC continuous deployment CD and observabilityMonitor a Kubernetes cluster with Prometheus and GrafanaBook Description Kubernetes is among the most popular open source platforms for automating the deployment scaling and operations of application containers across clusters of hosts providing a container centric infrastructure Hands On Microservices with Kubernetes starts by providing you with in depth insights into the synergy between Kubernetes and microservices You will learn how to use Delinkcious which will serve as a live lab throughout the book to help you understand microservices and Kubernetes concepts in the context of a real world application Next you will get up to speed with setting

up a CI CD pipeline and configuring microservices using Kubernetes ConfigMaps As you cover later chapters you will gain hands on experience in securing microservices and implementing REST gRPC APIs and a Delinkcious data store In addition to this you ll explore the Nuclio project run a serverless task on Kubernetes and manage and implement data intensive tests Toward the concluding chapters you ll deploy microservices on Kubernetes and learn to maintain a well monitored system Finally you ll discover the importance of service meshes and how to incorporate Istio into the Delinkcious cluster By the end of this book you ll have gained the skills you need to implement microservices on Kubernetes with the help of effective tools and best practices What you will learnUnderstand the synergy between Kubernetes and microservicesCreate a complete CI CD pipeline for your microservices on KubernetesDevelop microservices on Kubernetes with the Go kit framework using best practicesManage and monitor your system using Kubernetes and open source toolsExpose your services through REST and gRPC APIsImplement and deploy serverless functions as a serviceExternalize authentication authorization and traffic shaping using a service meshRun a Kubernetes cluster in the cloud on Google Kubernetes EngineWho this book is for This book is for developers DevOps engineers or anyone who wants to develop large scale microservice based systems on top of Kubernetes If you are looking to use Kubernetes on live production projects or want to migrate existing systems to a modern containerized microservices system then this book is for you Coding skills together with some knowledge of Docker Kubernetes and cloud concepts will be useful *Hands-On Microservices with Spring Boot and Spring Cloud: A Developer's Guide 2025* Sasibhushana Matcha, Prof (Dr) Sandeep Kumar, lutionized the way modern applications are designed developed and deployed Traditional monolithic applications while simple to build initially often become difficult to scale and maintain as business needs evolve Microservices provide a solution by breaking down applications into smaller independent and loosely coupled services enabling agility scalability and faster development cycles This book Hands On Microservices with Spring Boot and Spring Cloud A Developer s Guide is designed to help developers architects and technology enthusiasts understand design and build microservices using the robust ecosystem of Spring Boot and Spring Cloud By combining theoretical concepts with hands on practical examples this book provides a step by step approach to mastering microservices Throughout this book you will learn how to Understand the fundamental principles of microservices architecture Use Spring Boot to build resilient and scalable microservices Leverage Spring Cloud components such as service discovery API gateways and distributed tracing Implement security monitoring and logging in a microservices environment Deploy microservices using Docker and Kubernetes for real world scalability Each chapter is carefully structured to build upon previous concepts ensuring a progressive learning experience Whether you are a beginner exploring microservices for the first time or an experienced developer looking to deepen your expertise this book will provide you with the necessary knowledge and tools to design and implement high quality microservices based applications By the end of this book you will have a solid understanding of how to develop and manage microservices using Spring Boot and Spring Cloud empowering you to build

scalable and robust distributed systems Happy coding Authors Building Microservice Systems with Docker and Kubernetes Ben Straub,2016 This course teaches you how to build microservice systems hosted with Kubernetes It s intended for intermediate to advanced developers or DevOps engineers who have problems they think Kubernetes will solve but are not sure about the best way to move forward Participants should have some experience working on web applications as this is not a course on the basics of web hosting Prerequisites include a computer with Docker installed and some capability to run a Kubernetes cluster This could be on physical machines virtual machines using Vagrant or an account even a trial period account with a cloud provider like Google or Amazon Discover what Kubernetes is and how to get started using it Understand what Docker is and how to make an application with it Master the meaning of microservices and when and how to write them Understand database set ups request routing and load balancing Explore API server choices Flask Gunicorn and front end tech choices Ember js Nginx Follow the creation of an email sending microservice from development through production Understand cross cutting concerns like caching scaling logging metrics security and multi tenancy Resource description page Cloud Native Development Thompson Carter,2024-11-29 Cloud Native Development Leveraging Kubernetes Docker and Microservices is your essential guide to mastering the modern approach to application development and deployment As cloud computing and containerization technologies continue to revolutionize the way software is built and managed this book provides developers with the tools strategies and practical knowledge they need to embrace the power of Kubernetes Docker and microservices Inside this book you ll learn How to containerize applications using Docker and deploy them in Kubernetes environments Key microservices architecture principles and how to design scalable maintainable and fault tolerant applications Advanced Kubernetes features like orchestration scaling and load balancing for managing large complex systems How to automate CI CD pipelines and streamline your development workflows using Kubernetes and Docker Strategies for building resilient and cost effective cloud native applications that can run on any cloud platform Whether you are looking to shift from monolithic to microservices based architecture or want to leverage cloud infrastructure for scalability and efficiency this book is the perfect starting point With hands on examples best practices and deep insights Cloud Native Development equips you with everything you need to thrive in the cloud native world *The Complete Handbook of Golang Microservices: Best Practices and Techniques* Peter Jones,2025-01-11 Immerse yourself in the world of Go microservices with The Complete Handbook of Golang Microservices Best Practices and Techniques the essential resource for developers aspiring to master this modern software architecture Whether you re new to Go or aiming to refine your skills this book provides an exhaustive exploration of microservices from the ground up specifically tailored to the Go programming language Explore the core principles of microservices and the Go language establishing a robust foundation before progressing to advanced topics like RESTful API development gRPC communication database integration testing strategies and containerization with Docker and Kubernetes Each chapter is thoughtfully structured to build on previous

concepts ensuring a cohesive and comprehensive mastery of building deploying and managing scalable and efficient microservices Authored by experts in Golang and microservices this handbook is packed with real world examples best practices and practical techniques Whether your goal is to transition to a microservices architecture or enhance your existing Golang projects this book offers the insights and tools necessary to navigate challenges and seize the opportunities of microservices Unlock the full potential of Golang microservices and elevate your development skills with The Complete Handbook of Golang Microservices Best Practices and Techniques Getting Started with Kubernetes and Docker BOOKER. BLUNT,2025-05-22 Dive into the world of containerization and microservices with this practical introduction to Kubernetes and Docker Perfect for beginners this book guides you through setting up managing and deploying containerized applications enabling you to build scalable and efficient software systems Learn how to use these powerful tools to streamline your development and deployment workflows manage clusters and orchestrate containers for maximum performance What you ll learn Understanding the fundamentals of containerization Setting up and using Docker for building and managing containers Introduction to Kubernetes for container orchestration Deploying and scaling applications using Kubernetes clusters Managing pods services and deployments in Kubernetes Creating and managing Docker images and registries Implementing microservices architecture with containers Automating deployment pipelines with Docker and Kubernetes Monitoring and troubleshooting containerized applications Best practices for secure and efficient container management By the end of this book you ll be equipped to deploy and manage containerized applications confidently leveraging Kubernetes and Docker to build modern microservices architectures Perfect for developers DevOps engineers and IT professionals new to container orchestration and microservices *Docker and Kubernetes for Java Developers* Jaroslaw Krochmalski,2017-08-30 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 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 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 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 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 Docker and Kubernetes Style and approach An easy to follow practical guide that will help Java developers develop deploy and manage Java applications efficiently *Kubernetes Microservices* Richard Chesterwood,2019 Microservices designs require you to change how you build and deploy applications Instead of creating a tightly integrated collection of related components microservices employ a system of single purpose mini applications that cooperate as a system This can get tricky quickly when you re in a distributed cloud based environment with lots of moving parts Kubernetes a component management system developed by Google provides a configurable layer for deploying managing and scaling the parts of a microservices application Combined with the Docker container system Kubernetes makes deploying and monitoring microservices on a cloud system like AWS much safer and more stable than using home brewed processes In the comprehensive Kubernetes Microservices video course expert instructor Richard Chesterwood teaches you to deploy and monitor microservice systems on AWS using Kubernetes Docker and other industry standard tools Resource description page

Cloud Native Microservices with Spring and Kubernetes Rajiv Srivastava,2021-07-03 Build and deploy scalable cloud native microservices using the Spring framework and Kubernetes KEY FEATURES Complete coverage on how to design build run and deploy modern cloud native microservices Includes numerous sample code exercises on microservices Spring and Kubernetes Develop a stronghold on Kubernetes Spring and the microservices architecture Complete guide of application containerization on Kubernetes containers Coverage on managing modern applications and infrastructure using observability tools DESCRIPTION The main objective of this book is to give an overview of cloud native microservices their architecture design patterns best practices real use cases and practical coverage of modern applications This book covers a strong understanding of the fundamentals of microservices API first approach Testing observability API Gateway Service Mesh and Kubernetes alternatives of Spring Cloud This book covers the implementation of various design patterns of developing cloud native microservices using Spring framework docker and Kubernetes libraries It covers containerization concepts and hands on lab exercises like how to build run and manage microservices applications using Kubernetes After reading this book the readers will have a holistic understanding of building running and managing cloud native microservices applications on Kubernetes containers WHAT YOU WILL LEARN Learn fundamentals of microservice and design patterns Learn microservices development using Spring Boot and Kubernetes Learn to develop reactive event driven and batch microservices Perform end to end microservices testing using Cucumber Implement API gateway authentication authorization load balancing caching rate limiting Learn observability and monitoring techniques of microservices WHO

THIS BOOK IS FOR This book is for the Spring Developers Microservice Developers Cloud Engineers DevOps Consultants Technical Architect and Solution Architects who have some familiarity with application development Docker and Kubernetes containers TABLE OF CONTENTS 1 Overview of Cloud Native microservices 2 Microservice design patterns 3 API first approach 4 Build microservices using the Spring Framework 5 Batch microservices 6 Build reactive and event driven microservices 7 The API gateway security and distributed caching with Redis 8 Microservices testing and API mocking 9 Microservices observability 10 Containers and Kubernetes overview and architecture 11 Run microservices on Kubernetes 12 Service Mesh and Kubernetes alternatives of Spring Cloud

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Kubernetes Microservices With Docker Introduction

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