Linux Containers Overview Docker Kubernetes And Atomic

Including Container-Based Deployment with Docker and Kubernetes
Docker Containers LiveLessons (Video Training)
Introduction to DevOps with Kubernetes
Second International Conference on Computer Networks and Communication Technologies
Kubernetes Patterns
Learn Kubernetes in a Month of Lunches
Effectively Containerize Applications, Integrate Enterprise Systems, and Scale Applications in Your Enterprise
Containerization Is the New Virtualization
Build scalable cloud-native applications using DevOps patterns created with Kubernetes
Designing Distributed Systems
Cracking Containers with Docker and Kubernetes
Getting Started with Containerization
Develop and run your application with Docker containers using DevOps tools for continuous delivery
From Containers to Kubernetes with Node.js
The definitive guide to Docker, Kubernetes, and the Container Ecosystem across Cloud and on-premises (English Edition)
Docker Deep Dive
Docker Cookbook
DevOps and Containers Security
From Docker to Kubernetes
Kubernetes Cookbook
Over 100 practical and insightful recipes to build distributed applications with Docker , 2nd Edition
ICCNCT 2019
Automating the Container Orchestration Platform
Hybrid Cloud Apps with OpenShift and Kubernetes
Docker Containers
Microservices and Containers
DevOps and Containers Security
Docker: Up & Running
Industry 4.1
A Deep Dive, Step - By - Step Guide for Beginners to Learn and Master Docker
Docker Containers (includes Content Update Program)
Kubernetes: Up and Running
Implementing DevSecOps with Docker and Kubernetes
Leverage OpenStack services to make the most of Docker, Kubernetes and Mesos
The Docker Book
A Practical Guide to Container Orchestration
Harness the full potential of your applications with Docker
Reduce the operational burden on your system by automating and managing your containers

YARELI JAX

Including Container-Based Deployment with Docker and Kubernetes Prentice Hall
This book presents new communication and networking technologies, an area that has gained significant research attention from both academia and industry in recent years. It also discusses the development of more intelligent and efficient communication technologies, which are an essential part of current day-to-day life, and reports on recent innovations in technologies, architectures, and standards relating to these technologies. The book includes research that spans a wide range of communication and networking technologies, including wireless sensor networks, big data, Internet of Things, optical and telecommunication networks, artificial intelligence, cryptography, next-generation networks, cloud computing, and natural language processing. Moreover, it focuses on novel solutions in the context of communication and networking challenges, such as optimization algorithms, network interoperability, scalable network clustering, multicasting and fault-tolerant techniques, network authentication mechanisms, and predictive analytics.
Docker Containers LiveLessons (Video Training) James Turnbull
Discover the future of manufacturing with this comprehensive introduction to Industry 4.0 technologies from a celebrated expert in the field Industry 4.1: Intelligent Manufacturing with Zero Defects delivers an in-depth exploration of the functions of intelligent manufacturing and its applications and implementations through the Intelligent Factory Automation (iFA) System Platform. The book’s distinguished editor offers readers a broad range of resources that educate and enlighten on topics as diverse as the Internet of Things, edge computing, cloud computing, and cyber-physical systems. You’ll learn about three different advanced prediction technologies: Automatic Virtual Metrology (AVM), Intelligent Yield Management (IYM), and Intelligent Predictive Maintenance (IPM). Different use cases in a variety of manufacturing industries are covered, including both high-tech and traditional areas. In addition to providing a broad view of intelligent manufacturing and covering fundamental technologies like sensors, microcontrollers, and communication standards, the book offers access to experimental data through the IEEE DataPort. Finally, it shows readers how to build an intelligent manufacturing platform called an Advanced Manufacturing Cloud of Things (AMCoT). Readers will also learn from: An introduction to the evolution of automation and development strategy of intelligent manufacturing A comprehensive discussion of foundational concepts in sensors, microcontrollers, and communication standards An exploration of the applications of the Internet of Things, edge computing, and cloud computing The Intelligent Factory Automation System Platform and its applications and implementations A variety of use cases of intelligent manufacturing, from industries like flat-panels, semiconductors, solar cells, automotive, aerospace, chemical, and blow molding machine Perfect for researchers, engineers, scientists, professionals, and students who are interested in the ongoing evolution of Industry 4.0 and beyond, Industry 4.1: Intelligent Manufacturing with Zero Defects will also win a place in the library of laypersons interested in intelligent manufacturing applications and concepts. Completely unique, this book shows readers how Industry 4.0 technologies can be applied to achieve the goal of Zero Defects for all products.
Introduction to DevOps with Kubernetes O'Reilly Media
This book is designed to introduce you to using containers and Kubernetes for full-stack development. You'll learn how to develop a full-stack application using Node.js and MongoDB and how to and manage them using Docker, then Docker Compose, and finally Kubernetes.
Second International Conference on Computer Networks and Communication Technologies BPB Publications
Get hands-on recipes to automate and manage Linux containers with the Docker 1.6 environment and jump-start your Puppet development About This Book Successfully deploy DevOps with proven solutions and recipes Automate your infrastructure with Puppet and combine powerful DevOps methods Deploy and manage highly scalable applications using Kubernetes streamline the way you manage your applications Who This Book Is For This Learning Path is for developers, system administrators, and DevOps engineers who want to use Puppet, Docker, and Kubernetes in their development, QA, or production environments. This Learning Path assumes experience with Linux administration and requires some experience with command-line usage and basic text file editing. What You Will Learn Discover how to build high availability Kubernetes clusters Deal with inherent issues with container virtualization and container concepts Create services with Docker to enable the swift development and deployment of applications Make optimum use of Docker in a testing environment Create efficient manifests to streamline your deployments Automate Puppet master deployment using Git hooks, r10k, and PuppetDB In Detail With so many IT management and DevOps tools on the market, both open source and commercial, it's difficult to know where to start. DevOps is incredibly powerful when implemented correctly, and here's how to get it done.This Learning Path covers three broad areas: Puppet, Docker, and Kubernetes. This Learning Path is a large resource of recipes to ease your daily DevOps tasks. We begin with recipes that help you develop a complete and expert understanding of Puppet's latest and most advanced features. Then we provide recipes that help you efficiently work with the Docker environment. Finally, we show you how to better manage containers in different scenarios in production using Kubernetes. This course is based on these books: Puppet Cookbook, Third Edition Docker Cookbook Kubernetes Cookbook Style and approach This easy-to-follow tutorial-style guide teaches you precisely how to configure complex systems in Puppet and manage your containers using Kubernetes.
Kubernetes Patterns Addison-Wesley Professional
The Practical Guide to Running Docker on Linux Systems or Cloud Environments Whether on your laptop or a remote cloud, Docker can transform how you create, test, deploy, and manage your most critical applications. In Doc ker Containers , Christopher Negus helps you master Docker containerization from the ground up. You'll start out running a few Docker container images in Ubuntu, Fedora, RHEL, CoreOS, or Project Atomic. By the time you've finished, you'll be deploying enterprise-quality, multi-container Kubernetes setups in modern Linux and cloud

environments. Writing for system administrators, software developers, and technology enthusiasts, Negus touches on every aspect of working with Docker: setting up containerized applications, working with both individual and multiple containers, running containers in cloud environments, and developing containers. Teaching through realistic examples of desktop applications, system services, and games, Negus guides you through building and deploying your own Dockerized applications. As you build your expertise, you'll also learn indispensable Docker best practices for building and integrating containers, managing Docker on a day-to-day basis, and much more: * Understanding what Docker is and what you can do with it * Installing Docker on standard Linux or specialized container operating systems such as Atomic Host and CoreOS * Setting up a container runtime environment and private Docker Registry * Creating, running, and investigating Docker images and containers * Finding, pulling, saving, loading, and tagging container images * Pulling and pushing containers between local systems and Docker Registries * Integrating Docker containers with host networking and storage * Building containers with the docker build command and Dockerfile files * Minimizing space consumption and erasing unneeded containers * Accessing special host privileges from within a container * Orchestrating multiple containers into complex applications with Kubernetes * Using super privileged containers in cloud environments * Managing containers in the cloud with Cockpit * Getting started with Docker container development * Learning container build techniques from shared Dockerfiles This book is part of the Pearson Content Update Program. As the technology changes, sections of this book will be updated or new sections will be added. The updates will be delivered to you via a free Web Edition of this book, which can be accessed with any Internet connection.

Learn Kubernetes in a Month of Lunches Packt Publishing

Secure your applications and development environments with Docker and Kubernetes Key Featuresa- Introducing Container platforms (Docker, Kubernetes, Swarm, OpenShift)a- Discover how to manage high availability with Docker Swarm and Kubernetesa- Learn how Docker can manage the security in images and containersa- Discover how Docker can be integrated into development workflows in applicationsa- Discover vulnerabilities in the Docker containers and images with practical examples to secure your container-based applicationsa- Discover tools for monitoring and administration Docker and Kubernetes applicationsDescriptionThrough this book, we will introduce the DevOps tools ecosystem and the main containers orchestration tools through an introduction to some platforms such as Kubernetes, Docker Swarm, and OpenShift.Among other topics, both good practices will be addressed when constructing the Docker images as well as best security practices to be applied at the level of the host in which those containers are executed, from Docker's own daemon to the rest of the components that make up its technological stack.We will review the topics such as static analysis of vulnerabilities on Docker images, the signing of images with Docker Content Trust and their subsequent publication in a Docker Registry will be addressed. Also, we will review the security state in Kubernetes.In the last section, we will review container management and administration open source tools for IT organizations that need to manage and monitor container-based applications, reviewing topics such as monitoring, administration, and networking in Docker.What will you learna- Learn fundamental DevOps skills and tools, starting with the basic components and concepts of Docker.a- Learn about Docker as a platform for the deployment of containers and Docker images taking into account the security of applications.a- Learn about tools that allow us to audit the security of the machine where we execute Docker images, finding out how to secure your Docker host.a- Learn how to secure your Docker environment and discover vulnerabilities and threats in Docker images.a- Learn about creating and deploying containers in a security way with Docker and Kubernetes.a- Learn about monitoring and administration in Docker with tools such as cadvisor, sysdig, portainer, and Rancher.Who this book is forThis book covers different techniques to help developers improve DevOps and container security skills and can be useful for people who are involved in software development and want to learn how Docker works from a security point of view. It is recommended that readers have the knowledge about UNIX commands and they work with commands terminal. Table of Contents1. Getting started with DevOps2. Container platforms3. Managing Containers and Docker images4. Getting started with Docker security5. Docker host security6. Docker images security7. Auditing and analyzing vulnerabilities in Docker containers8. Kubernetes security9. Docker container networking10. Docker container monitoring11. Docker container administrationAbout the AuthorJose Manuel Ortega is a software engineer and security researcher with a special focus on new technologies, open source, security and testing. In recent years, he is interested in security development, especially with Python and security best practices with Docker and Kubernetes. Conferences and talks related with python, security and docker are available on his personal website http://jmortega.github.io.Your Blog links: http://jmortega.github.io/Your LinkedIn Profile:https://www.linkedin.com/in/jmortega1/

"O'Reilly Media, Inc."

Kubernetes has become an essential part of the daily work for most system, network, and cluster administrators today. But to work effectively together on a production-scale Kubernetes system, they must be able to speak the same language. This book provides a clear guide to the layers of complexity and abstraction that come with running a Kubernetes network. Authors James Strong and Vallery Lancey bring you up to speed on the intricacies that Kubernetes has to offer for large container deployments. If you're to be effective in troubleshooting and maintaining a production cluster, you need to be well versed in the abstraction provided at each layer. This practical book shows you how. Learn the Kubernetes networking model Choose the best interface for your clusters from the CNCF Container Network Interface project Explore the networking and Linux primitives that power Kubernetes Quickly troubleshoot networking issues and prevent downtime Examine cloud networking and Kubernetes using the three major providers: Amazon Web Services, Google Cloud, and Microsoft Azure Learn the pros and cons of various network tools--and how to select the best ones for your stack

Effectively Containerize Applications, Integrate Enterprise Systems, and Scale Applications in Your Enterprise BPB Publications

Become familiar with Kubernetes and explore techniques to manage your containerized workloads and services Key Features Learn everything from creating a cluster to monitoring applications in Kubernetes Understand and develop DevOps primitives using Kubernetes Use Kubernetes to solve challenging real-life DevOps problems Book Description Kubernetes and DevOps are the two pillars that can keep your business at the top

by ensuring high performance of your IT infrastructure. Introduction to DevOps with Kubernetes will help you develop the skills you need to improve your DevOps with the power of Kubernetes. The book begins with an overview of Kubernetes primitives and DevOps concepts. You'll understand how Kubernetes can assist you with overcoming a wide range of real-world operation challenges. You will get to grips with creating and upgrading a cluster, and then learn how to deploy, update, and scale an application on Kubernetes. As you advance through the chapters, you'll be able to monitor an application by setting up a pod failure alert on Prometheus. The book will also guide you in configuring Alertmanager to send alerts to the Slack channel and trace down a problem on the application using kubectl commands. By the end of this book, you'll be able to manage the lifecycle of simple to complex applications on Kubernetes with confidence. What you will learn Create and manage Kubernetes clusters in on-premise systems and cloud Exercise various DevOps practices using Kubernetes Explore configuration, secret, and storage management, and exercise these on Kubernetes Perform different update techniques and apply them on Kubernetes Use the built-in scaling feature in Kubernetes to scale your applications up and down Use various troubleshooting techniques and have a monitoring system installed on Kubernetes Who this book is for If you are a developer who wants to learn how to apply DevOps patterns using Kubernetes, then this book is for you. Familiarity with Kubernetes will be useful, but not essential.

Containerization Is the New Virtualization DigitalOcean
Leverage Docker to deploying software at scale Key Features Leverage practical examples to manage containers efficiently Integrate with orchestration tools such as Kubernetes for controlled deployments Learn to implement best practices on improving efficiency and security of containers Book Description Docker is an open source platform for building, shipping, managing, and securing containers. Docker has become the tool of choice for people willing to work with containers. Since the market is moving toward containerization, Docker will definitely have a big role to play in the future tech market. This book starts with setting up Docker in different environment, and helps you learn how to work with Docker images. Then, you will take a deep dive into network and data management for containers. The book explores the RESTful APIs provided by Docker to perform different actions, such as image/container operations. The book then explores logs and troubleshooting Docker to solve issues and bottlenecks. You will gain an understanding of Docker use cases, orchestration, security, ecosystems, and hosting platforms to make your applications easy to deploy, build, and collaborate on. The book covers the new features of Docker 18.xx (or later), such as working with AWS and Azure, Docker Engine, Docker Swarm, Docker Compose, and so on. By the end of this book, you will have gained hands-on experience of finding quick solutions to different problems encountered while working with Docker. What you will learn Install Docker on various platforms Work with Docker images and containers Container networking and data sharing Docker APIs and language bindings Various PaaS solutions for Docker Implement container orchestration using Docker Swarm and Kubernetes Container security Docker on various clouds Who this book is for Book is targeted towards developers, system administrators, and DevOps engineers who want to use Docker in his/her development, QA, or production environments. It is expected that the reader has basic Linux/Unix skills such as installing packages, editing files, managing services, and so on. Any experience in virtualization technologies such as KVM, XEN, and VMware will be an added advantage

Build scalable cloud-native applications using DevOps patterns created with Kubernetes DigitalOcean
Build robust and secure applications using the building blocks of DockerKey Featuresa- Understand the fundamentals of Containers.a- Understand the working of the entire Docker ecosystem.a- Learn how to utilize Docker Networking capabilities to its fullest.a- Learn how to secure Docker Containers.a- Get familiar and work with Docker Enterprise Edition.DescriptionThe book starts by introducing Containers and explains how they are different from virtual machines, and why they are the preferred tool for developing applications. You will understand the working of Images, Containers, and their associated Storage and will see how all the moving parts bind together to work synchronously.The book will then focus on Docker Swarm, the mechanism for orchestrating several running Docker containers. It then delves deeper into Docker Networking. Towards the end, you will learn how to secure your applications, especially by leveraging the native features of Docker Enterprise Edition.What will you learna- Learn how to use Docker Images.a- Get to know more about Docker Storage.a- Learn how to use Volume plugins in Docker services.a- Learn how to deploy a service to the Swarm.a- Learn how to manage, scale, and maintain containerized applications.Who this book is forThis book is for anyone who is looking to learn Docker. It is also useful for professionals who are looking to build and deploy web apps using Docker.Table of Contents1. Introduction to Containerization and Docker2. Containers and Images3. Storage Drivers and Volumes4. The Container Network Model and the Docker Bridge5. Docker Swarm6. Docker Networking7. Docker Security-18. Docker Security-IIAbout the AuthorsSaibal Ghosh has spent a substantial part of his career working with databases. However, in the last few years, he gravitated towards the cloud, cloud security, and newer technologies like Docker and Kubernetes. He has developed a deep understanding of these concepts and technologies bolstered by the insight gained from many years of experience working with applications, databases, storage and infrastructure, and the understanding of how data is stored, moved, and secured.He currently works as a Principal Architect in Ericsson India Ltd. and spends a substantial amount of time playing around with Docker and Kubernetes. He holds numerous certifications around applications, databases, cloud, and cloud security and is also a member of Leader's Excellence, Harvard Square.Your LinkedIn Profile:https://www.linkedin.com/in/saibal-ghosh-mIe%E2%84%A0-ccsk-prince2-%C2%AE-469b0a7/

Designing Distributed Systems Packt Publishing Ltd
Take container cluster management to the next level; learn how to administer and configure Kubernetes on CoreOS; and apply suitable management design patterns such as Configmaps, Autoscaling, elastic resource usage, and high availability. Some of the other features discussed are logging, scheduling, rolling updates, volumes, service types, and multiple cloud provider zones. The atomic unit of modular container service in Kubernetes is a Pod, which is a group of containers with a common filesystem and networking. The Kubernetes Pod abstraction enables design patterns for containerized applications similar to object-oriented design patterns. Containers provide some of the same benefits as software objects such as modularity or packaging, abstraction, and reuse. CoreOS Linux is used in the majority of the chapters

and other platforms discussed are CentOS with OpenShift, Debian 8 (jessie) on AWS, and Debian 7 for Google Container Engine. CoreOS is the main focus becayse Docker is pre-installed on CoreOS out-of-the-box. CoreOS: Supports most cloud providers (including Amazon AWS EC2 and Google Cloud Platform) and virtualization platforms (such as VMWare and VirtualBox) Provides Cloud-Config for declaratively configuring for OS items such as network configuration (flannel), storage (etcd), and user accounts Provides a production-level infrastructure for containerized applications including automation, security, and scalability Leads the drive for container industry standards and founded appc Provides the most advanced container registry, Quay Docker was made available as open source in March 2013 and has become the most commonly used containerization platform. Kubernetes was open-sourced in June 2014 and has become the most widely used container cluster manager. The first stable version of CoreOS Linux was made available in July 2014 and since has become one of the most commonly used operating system for containers. What You'll Learn Use Kubernetes with Docker Create a Kubernetes cluster on CoreOS on AWS Apply cluster management design patterns Use multiple cloud provider zones Work with Kubernetes and tools like Ansible Discover the Kubernetes-based PaaS platform OpenShift Create a high availability website Build a high availability Kubernetes master cluster Use volumes, configmaps, services, autoscaling, and rolling updates Manage compute resources Configure logging and scheduling Who This Book Is For Linux admins, CoreOS admins, application developers, and container as a service (CAAS) developers. Some pre-requisite knowledge of Linux and Docker is required. Introductory knowledge of Kubernetes is required such as creating a cluster, creating a Pod, creating a service, and creating and scaling a replication controller. For introductory Docker and Kubernetes information, refer to Pro Docker (Apress) and Kubernetes Microservices with Docker (Apress). Some pre-requisite knowledge about using Amazon Web Services (AWS) EC2, CloudFormation, and VPC is also required.

Cracking Containers with Docker and Kubernetes Simon and Schuster

Building and securely deploying container-based applications with Docker and Kubernetes using open source tools. KEY FEATURES ● Real-world examples of vulnerability analysis in Docker containers. ● Includes recommended practices for Kubernetes and Docker with real execution of commands. ● Includes essential monitoring tools for Docker containers and Kubernetes configuration. DESCRIPTION This book discusses many strategies that can be used by developers to improve their DevSecOps and container security skills. It is intended for those who are active in software development. After reading this book, readers will discover how Docker and Kubernetes work from a security perspective. The book begins with a discussion of the DevSecOps tools ecosystem, the primary container platforms and orchestration tools that you can use to manage the lifespan and security of your apps. Among other things, this book discusses best practices for constructing Docker images, discovering vulnerabilities, and better security. The book addresses how to examine container secrets and networking. Backed with examples, the book demonstrates how to manage and monitor container-based systems, including monitoring and administration in Docker. In the final section, the book explains Kubernetes' architecture and the critical security threats inherent in its components. Towards the end, it demonstrates how to utilize Prometheus and Grafana to oversee observability and monitoring in Kubernetes management. WHAT YOU WILL LEARN ● Familiarize yourself with Docker as a platform for container deployment. ● Learn how Docker can control the security of images and containers. ● Discover how to safeguard and monitor your Docker environment for vulnerabilities. ● Explore the Kubernetes architecture and best practices for securing your Kubernetes environment. ● Learn and explore tools for monitoring and administering Docker containers. ● Learn and explore tools for observing and monitoring Kubernetes environments. WHO THIS BOOK IS FOR This book is intended for DevOps teams, cloud engineers, and cloud developers who wish to obtain practical knowledge of DevSecOps, containerization, and orchestration systems like Docker and Kubernetes. Knowing the fundamentals of Docker and Kubernetes would be beneficial but not required. TABLE OF CONTENTS 1. Getting Started with DevSecOps 2. Container Platforms 3. Managing Containers and Docker Images 4. Getting Started with Docker Security 5. Docker Host Security 6. Docker Images Security 7. Auditing and Analyzing Vulnerabilities in Docker Containers 8. Managing Docker Secrets and Networking 9. Docker Container Monitoring 10. Docker Container Administration 11. Kubernetes Architecture 12. Kubernetes Security 13. Auditing and Analyzing Vulnerabilities in Kubernetes 14. Observability and Monitoring in Kubernetes

Getting Started with Containerization "O'Reilly Media, Inc."

Legend has it that Google deploys over two billion application containers a week. How’s that possible? Google revealed the secret through a project called Kubernetes, an open source cluster orchestrator (based on its internal Borg system) that radically simplifies the task of building, deploying, and maintaining scalable distributed systems in the cloud. This practical guide shows you how Kubernetes and container technology can help you achieve new levels of velocity, agility, reliability, and efficiency. Authors Kelsey Hightower, Brendan Burns, and Joe Beda—who’ve worked on Kubernetes at Google and other organizatons—explain how this system fits into the lifecycle of a distributed application. You will learn how to use tools and APIs to automate scalable distributed systems, whether it is for online services, machine-learning applications, or a cluster of Raspberry Pi computers. Explore the distributed system challenges that Kubernetes addresses Dive into containerized application development, using containers such as Docker Create and run containers on Kubernetes, using the docker image format and container runtime Explore specialized objects essential for running applications in production Reliably roll out new software versions without downtime or errors Get examples of how to develop and deploy real-world applications in Kubernetes

Develop and run your application with Docker containers using DevOps tools for continuous delivery "O'Reilly Media, Inc."

Docker is rapidly changing the way organizations deploy software at scale. However, understanding how Linux containers fit into your workflow—and getting the integration details right—is not a trivial task. With the updated edition of this practical guide, you’ll learn how to use Docker to package your applications with all of their dependencies and then test, ship, scale, and support your containers in production. This edition includes significant updates to the examples and explanations that reflect the substantial changes that have occurred over the past couple of years. Sean Kane and Karl Matthias have added a complete chapter on Docker Compose, deeper coverage of Docker Swarm mode, introductions to both Kubernetes and AWS Fargate, examples on how to

optimize your Docker images, and much more. Learn how Docker simplifies dependency management and deployment workflow for your applications Start working with Docker images, containers, and command line tools Use practical techniques to deploy and test Docker containers in production Debug containers by understanding their composition and internal processes Deploy production containers at scale inside your data center or cloud environment Explore advanced Docker topics, including deployment tools, networking, orchestration, security, and configuration

From Containers to Kubernetes with Node.js Docker Containers (includes Content Update Program)Build and Deploy with Kubernetes, Flannel, Cockpit, and Atomic

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.

The definitive guide to Docker, Kubernetes, and the Container Ecosystem across Cloud and on-premises (English Edition) Springer Nature

Summary Go from zero to production readiness with Docker in 22 bite-sized lessons! Learn Docker in a Month of Lunches is an accessible task-focused guide to Docker on Linux, Windows, or Mac systems. In it, you'll learn practical Docker skills to help you tackle the challenges of modern IT, from cloud migration and microservices to handling legacy systems. There's no excessive theory or niche-use cases—just a quick-and-easy guide to the essentials of Docker you'll use every day. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology The idea behind Docker is simple: package applications in lightweight virtual containers that can be easily installed. The results of this simple idea are huge! Docker makes it possible to manage applications without creating custom infrastructures. Free, open source, and battle-tested, Docker has quickly become must-know technology for developers and administrators. About the book Learn Docker in a Month of Lunches introduces Docker concepts through a series of brief hands-on lessons. Following a learning path perfected by author Elton Stoneman, you'll run containers by chapter 2 and package applications by chapter 3. Each lesson teaches a practical skill you can practice on Windows, macOS, and Linux systems. By the end of the month you'll know how to containerize and run any kind of application with Docker. What's inside Package applications to run in containers Put containers into production Build optimized Docker images Run containerized apps at scale About the reader For IT professionals. No previous Docker experience required. About the author Elton Stoneman is a consultant, a former architect at Docker, a Microsoft MVP, and a Pluralsight author. Table of Contents PART 1 - UNDERSTANDING DOCKER CONTAINERS AND IMAGES 1. Before you begin 2. Understanding Docker and running Hello World 3. Building your own Docker images 4. Packaging applications from source code into Docker Images 5. Sharing images with Docker Hub and other registries 6. Using Docker volumes for persistent storage PART 2 - RUNNING DISTRIBUTED APPLICATIONS IN CONTAINERS 7. Running multi-container apps with Docker Compose 8. Supporting reliability with health checks and dependency checks 9. Adding observability with containerized monitoring 10. Running multiple environments with Docker Compose 11. Building and testing applications with Docker and Docker Compose PART 3 - RUNNING AT SCALE WITH A CONTAINER ORCHESTRATOR 12. Understanding orchestration: Docker Swarm and Kubernetes 13. Deploying distributed applications as stacks in Docker Swarm 14. Automating releases with upgrades and rollbacks 15. Configuring Docker for secure remote access and CI/CD 16. Building Docker images that run anywhere: Linux, Windows, Intel, and Arm PART 4 - GETTING YOUR CONTAINERS READY FOR PRODUCTION 17. Optimizing your Docker images for size, speed, and security 18. Application configuration management in containers 19. Writing and managing application logs with Docker 20. Controlling HTTP traffic to containers with a reverse proxy 21. Asynchronous communication with a message queue 22. Never the end

Docker Deep Dive BPB Publications

This book is designed to help newcomers and experienced users alike learn about Kubernetes. Its chapters are designed to introduce core Kubernetes concepts and to build on them to a level where running an application on a production cluster is a familiar, repeatable, and automated process. From there, more advanced topics are introduced, like how to manage a Kubernetes cluster itself.

Docker Cookbook Simon and Schuster

Docker Containers (includes Content Update Program)Build and Deploy with Kubernetes, Flannel, Cockpit, and AtomicPrentice Hall

DevOps and Containers Security Packt Publishing Ltd

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

From Docker to Kubernetes Addison-Wesley Professional Summary Kubernetes in Action is a comprehensive guide to effectively developing and running applications in a Kubernetes environment. Before diving into Kubernetes, the book gives an overview of container technologies like Docker, including how to build containers, so that even readers who haven't used these technologies before can get up and running. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Kubernetes is Greek for "helmsman," your guide through unknown waters. The Kubernetes container orchestration system safely manages the structure and flow of a distributed application, organizing containers and services for maximum efficiency. Kubernetes serves as an operating system for your clusters, eliminating the need to factor the underlying network and server infrastructure into your designs. About the Book Kubernetes in Action teaches you to use Kubernetes to deploy container-based distributed applications. You'll start with an overview of Docker and Kubernetes before building your first Kubernetes cluster. You'll gradually expand your initial application, adding features and deepening your knowledge of Kubernetes architecture and operation. As you navigate this comprehensive guide, you'll explore high-value topics like monitoring, tuning, and scaling. What's Inside Kubernetes' internals Deploying containers across a cluster Securing clusters Updating applications with zero downtime About the Reader Written for intermediate software developers with little or no familiarity with Docker or container orchestration systems. About the Author Marko Luksa is an engineer at Red Hat working on Kubernetes and OpenShift. Table of Contents PART 1 - OVERVIEW Introducing Kubernetes First steps with Docker and Kubernetes PART 2 - CORE CONCEPTS Pods: running containers in Kubernetes Replication and other controllers: deploying managed pods Services: enabling clients to discover and talk to pods Volumes: attaching disk storage to containers ConfigMaps and Secrets: configuring applications Accessing pod metadata and other resources from applications Deployments: updating applications declaratively StatefulSets: deploying replicated stateful applications PART 3 - BEYOND THE BASICS Understanding Kubernetes internals Securing the Kubernetes API server Securing cluster nodes and the network Managing pods' computational resources Automatic scaling of pods and cluster nodes Advanced scheduling Best practices for developing apps Extending Kubernetes