Docker Up Running

Learn the key differences between containers and virtual machines. Adopting a project based approach, this book introduces you to a simple Python application to be developed and containerized with Docker. After an introduction to Containers and Docker you'll be guided through Docker installation and configuration. You'll also learn basic functions and commands used in Docker by running a simple container using Docker commands. The book then

moves on to developing a Python based Messaging Bot using required libraries and virtual environment where you'll add Docker Volumes to your project, ensuring your container data is safe. You'll create a database container and link your project to it and finally, bring up the Bot-associated database all at once with Docker Compose. What You'll Learn Build, run, and distribute Docker containers Develop a Python App and containerize it Use Dockerfile to run the Python App Define and run

multi-container applications with Docker Compose Work with persisting data generated by and used by Docker containers Who This Book Is For Intermediate developers/DevOps practitioners who are looking to improve their build and release workflow by containerizing applications
Explore the core functionality of containerizing your applications and making them production-ready Key FeaturesGrasp basic to advanced Docker concepts

with this comprehensive guideGet acquainted with Docker containers, Docker images, orchestrators, cloud integration, and networkingLearn to simplify dependencies and deploy and test containers in productionBook Description Containers enable you to package an application with all the components it needs, such as libraries and other dependencies, and ship it as one package. Docker containers have revolutionized the software supply chain in both small and large enterprises. Starting with an

introduction to Docker fundamentals and setting up an environment to work with it, you'll delve into concepts such as Docker containers, Docker images, and Docker Compose. As you progress, the book will help you explore deployment, orchestration, networking, and security. Finally, you'll get to grips with Docker functionalities on public clouds such as Amazon Web Services (AWS), Azure, and Google Cloud Platform (GCP), and learn about Docker Enterprise Edition features. Additionally, you'll also

discover the benefits of increased security with the use of containers. By the end of this Docker book, you'll be able to build, ship, and run a containerized, highly distributed application on Docker Swarm or Kubernetes, running on-premises or in the cloud. What you will learnContainerize your traditional or microservice-based applicationsDevelop, modify, debug, and test an application running inside a containerShare or ship your application as an immutable container imageBuild a Docker

Swarm and a Kubernetes cluster in the cloudRun a highly distributed application using Docker Swarm or KubernetesUpdate or rollback a distributed application with zero downtimeSecure your applications with encapsulation, networks, and secretsTroubleshoot a containerized, highly distributed application in the cloudWho this book is for This book is for Linux professionals, system administrators, operations engineers, DevOps engineers, and developers

or stakeholders who are interested in getting started with Docker from scratch. No prior experience with Docker containers is required. Users with a Linux system would be able to take full advantage of this book. Docker containers offer simpler, faster, and more robust methods for developing, distributing, and running software than previously available. With this hands-on guide, you'll learn why containers are so important, what you'll gain by adopting Docker, and how to make it part of your

development process. Ideal for developers, operations engineers, and system administrators—especially those keen to embrace a DevOps approach—Using Docker will take you from Docker and container basics to running dozens of containers on a multi-host system with networking and scheduling. The core of the book walks you through the steps needed to develop, test, and deploy a web application with Docker. Get started with Docker by building and deploying a simple web application Use Continuous Deployment

techniques to push your application to production multiple times a day Learn various options and techniques for logging and monitoring multiple containers Examine networking and service discovery: how do containers find each other and how do you connect them? Orchestrate and cluster containers to address load-balancing, scaling, failover, and scheduling Secure your system by following the principles of defense-in-depth and least privilege 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

Docker

Infrastructure as Python

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

Learn Docker - Fundamentals of Docker 18.x

Docker on Amazon Web Services

Docker Cookbook - Second Edition

Get up to speed with Prometheus,

the metrics-based monitoring system used by tens of thousands of organizations in production. This practical guide provides application developers, sysadmins, and DevOps practitioners with a hands-on introduction to the most important aspects of Prometheus, including dashboarding and alerting, direct code instrumentation, and metric collection from third-party systems with exporters. This open source system has gained popularity over the past few years for good reason. With its simple yet powerful data model and query language, Prometheus does one thing, and it does it well. Author and Prometheus developer Brian Brazil

guides you through Prometheus setup, the Node exporter, and the Alertmanager, then demonstrates how to use them for application and infrastructure monitoring. Know where and how much to apply instrumentation to your application code Identify metrics with labels using unique key-value pairs Get an introduction to Grafana, a popular tool for building dashboards Learn how to use the Node Exporter to monitor your infrastructure Use service discovery to provide different views of your machines and services Use Prometheus with Kubernetes and examine exporters you can use with containers Convert data from other monitoring systems into the

Prometheus format
Enhance your software deployment workflow using containers About This Book Get up-and-running with basic to advanced concepts of Docker Get acquainted with concepts such as Docker containers, Docker images, orchestrators and so on. Practical test-based approach to learning a prominent containerization tool Who This Book Is For This book is targeted at system administrators, operations engineers, DevOps engineers, and developers or stakeholders who are interested in getting started with Docker from scratch. No prior experience with Docker Containers is required. What You Will Learn Containerize

your traditional or microservice-based application Share or ship your application as an immutable container image Build a Docker swarm and a Kubernetes cluster in the cloud Run a highly distributed application using Docker Swarm or Kubernetes Update or rollback a distributed application with zero downtime Secure your applications via encapsulation, networks, and secrets Know your options when deploying your containerized app into the cloud In Detail Docker containers have revolutionized the software supply chain in small and big enterprises. Never before has a new technology so rapidly penetrated the top 500 enterprises worldwide. Companies that

embrace containers and containerize their traditional mission-critical applications have reported savings of at least 50% in total maintenance cost and a reduction of 90% (or more) of the time required to deploy new versions of those applications. Furthermore they are benefitting from increased security just by using containers as opposed to running applications outside containers. This book starts from scratch, introducing you to Docker fundamentals and setting up an environment to work with it. Then we delve into concepts such as Docker containers, Docker images, Docker Compose, and so on. We will also cover the concepts of deployment, orchestration,

networking, and security. Furthermore, we explain Docker functionalities on public clouds such as AWS. By the end of this book, you will have hands-on experience working with Docker containers and orchestrators such as SwarmKit and Kubernetes. Style and approach The simple end-to-end guide will help you learn everything about how to containerize, ship, and run both a traditional application and a modern microservice-based application on-premise or in the cloud. Downloading the example code for this book You can download the example code files for all Packt books yo ...

Updated to cover Docker version

1.10 Docker is quickly changing the way that organizations are deploying software at scale. But understanding how Linux containers fit into your workflow—and getting the integration details right—are not trivial tasks. With 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. Two Lead Site Reliability Engineers at New Relic share much of what they have learned from using Docker in production since shortly after its initial release. Their goal is to help you reap the benefits of this technology while avoiding the many

setbacks they experienced. 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-based Linux 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

Terraform has become a key player in the DevOps world for defining,

launching, and managing infrastructure as code (IaC) across a variety of cloud and virtualization platforms, including AWS, Google Cloud, Azure, and more. This hands-on second edition, expanded and thoroughly updated for Terraform version 0.12 and beyond, shows you the fastest way to get up and running. Gruntwork cofounder Yevgeniy (Jim) Brikman walks you through code examples that demonstrate Terraform's simple, declarative programming language for deploying and managing infrastructure with a few commands. Veteran sysadmins, DevOps engineers, and novice developers will quickly go from Terraform basics to running a full

stack that can support a massive amount of traffic and a large team of developers. Explore changes from Terraform 0.9 through 0.12, including backends, workspaces, and first-class expressions Learn how to write production-grade Terraform modules Dive into manual and automated testing for Terraform code Compare Terraform to Chef, Puppet, Ansible, CloudFormation, and Salt Stack Deploy server clusters, load balancers, and databases Use Terraform to manage the state of your infrastructure Create reusable infrastructure with Terraform modules Use advanced Terraform syntax to achieve zero-downtime deployment

Build, Release and Distribute your Python App with Docker
Get Up to Speed With PHP the Easy Way
Django for Professionals
Learn Docker like a boss, and finally own your applications
Practical Docker with Python
DevOps in Python

Even small applications have dozens of components. Large applications may have thousands, which makes them challenging to install, maintain, and remove. Docker bundles all application components into a package called a container that keeps things tidy and helps manage any dependencies on other applications or infrastructure.

Docker in Action, Second Edition teaches you the skills and knowledge you need to create, deploy, and manage applications hosted in Docker containers. This bestseller has been fully updated with new examples, best practices, and entirely new chapters. You'll start with a clear explanation of the Docker model and learn how to package applications in containers, including techniques for testing and distributing applications. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. 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.

Start from scratch and develop the essential skills needed to create, deploy, and manage cloud-native applications using Docker Key FeaturesGet a solid understanding of Docker and containersOvercome common problems while containerizing an applicationMaster Docker commands needed for creating, deploying, and running applicationsBook Description Most applications, even the funky cloud-native microservices ones, need high-performance, production-grade infrastructure to run on. Having impeccable knowledge of Docker will help you to thrive in the modern cloud-first world. With this book, you'll gain the skills you need to

work with Docker and its containers. The book begins with an introduction to containers and explains its functionality and application in the real world. You'll then get an overview of VMware, Kubernetes, and Docker and learn to install Docker on Windows, Mac, and Linux. Once you've understood the Ops and Dev perspective of Docker, you'll be able to see the big picture and understand what Docker exactly does. The book then turns its attention to the more technical aspects, guiding your through practical exercises covering Docker engine, Docker images, and Docker containers. You'll learn techniques for containerizing an app, deploying

apps with Docker Compose, and managing cloud-native applications with Swarm. You'll also build Docker networks and Docker overlay networks and handle applications that write persistent data. Finally, you'll deploy apps with Docker stacks and secure your Docker environment. By the end of this book, you'll be well-versed in Docker and containers and have developed the skills to create, deploy, and run applications on the cloud. What you will learnBecome familiar with the applications of Docker and containersDiscover how to pull images into Docker host's local registryFind out how to containerize an appBuild and test a

Docker overlay network in the swarm modeUse Docker compose to deploy and manage multi-container applicationsSecurely share sensitive data with containers and Swarm servicesWho this book is for Whether you are a beginner or an experienced developer looking to utilize Docker to develop and operate cloud-native microservices apps, this book is for you. Anyone who wants to learn Docker orchestration, networking, imaging, and security will also find it useful. No prior knowledge of Docker is necessary.

Quickly learn how to use Docker and containers in general to create packaged images for easy

management, testing, and deployment of software. This practical guide lets you hit the ground running by demonstrating how Docker allows developers to package their application with all of its dependencies and to test and then ship the exact same bundle to production. You'll also learn how Docker enables operations engineers to help the development team quickly iterate on their software. Learn Docker's philosophy, design, and intent Use your own custom software to build Docker images Launch Docker images as running containers Explore advanced Docker concepts and topics Get valuable references to related tools in the

Docker ecosystem
Build, test, ship, and run containers with Docker and Kubernetes, 2nd Edition
Everything you need to know about containerizing your applications and running them in production
A companion guide for agile container adoption
Docker Deep Dive
Kubernetes in Action
Docker: Up & Running

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.

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

Run Docker on AWS and build real-world, secure, and scalable container platforms on cloud Key Features Configure Docker for the ECS environment Integrate Docker with different AWS tools Implement container networking and deployment at scale Book Description Over the last few years, Docker has been the gold standard for building and distributing container applications. Amazon Web Services (AWS) is a leader in public cloud computing, and was the first to offer a managed container platform in the form of the Elastic Container Service (ECS). Docker on Amazon Web Services starts with the basics of containers, Docker, and AWS, before teaching you how to install

Docker on your local machine and establish access to your AWS account. You'll then dig deeper into the ECS, a native container management platform provided by AWS that simplifies management and operation of your Docker clusters and applications for no additional cost. Once you have got to grips with the basics, you'll solve key operational challenges, including secrets management and auto-scaling your infrastructure and applications. You'll explore alternative strategies for deploying and running your Docker applications on AWS, including Fargate and ECS Service Discovery, Elastic Beanstalk, Docker Swarm and Elastic Kubernetes Service (EKS). In addition to this, there will be a strong focus on adopting an Infrastructure as Code (IaC) approach using AWS CloudFormation. By the end of this book, you'll not only understand how to run

Docker on AWS, but also be able to build real-world, secure, and scalable container platforms in the cloud. What you will learn Build, deploy, and operate Docker applications using AWS Solve key operational challenges, such as secrets management Exploit the powerful capabilities and tight integration of other AWS services Design and operate Docker applications running on ECS Deploy Docker applications quickly, consistently, and reliably using IaC Manage and operate Docker clusters and applications for no additional cost Who this book is for Docker on Amazon Web Services is for you if you want to build, deploy, and operate applications using the power of containers, Docker, and Amazon Web Services. Basic understanding of containers and Amazon Web Services or any other cloud provider will be helpful, although no previous experience of

working with these is required.
Docker does for DevOps what Rails did for web development--it gives you a new set of superpowers. Gone are "works on my machine" woes and lengthy setup tasks, replaced instead by a simple, consistent, Docker-based development environment that will have your team up and running in seconds. Gain hands-on, real-world experience with a tool that's rapidly becoming fundamental to software development. Go from zero all the way to production as Docker transforms the massive leap of deploying your app in the cloud into a baby step. Docker makes life as a Ruby and Rails developer easier. It helps build, ship, and run your applications, solving major problems you face every day. It allows you to run applications at scale, adding new resources as needed. Docker provides a reliable, consistent environment that's guaranteed

to work the same everywhere. Docker lets you do all things DevOps without needing a PhD in infrastructure and operations. Want to spin up a cluster to run your app? No problem. Scale it up or down at will? You bet. Start by running a Ruby script without having Ruby installed on the local machine. Then Dockerize a Rails application and run it using containers, including creating your own custom Docker images tailored for running Rails apps. Describe your app declaratively using Docker Compose, specifying the software dependencies along with everything needed to run the application. Then set up continuous integration, as well as your deployment pipeline and infrastructure. Along the way, find out the best practices for using Docker in development and production environments. This book gives you a solid foundation on using Docker and fitting it

into your development workflow and deployment process. What You Need: All you need is a Windows, Mac OS X or Linux machine to do development on. This book guides you through the process of installing Docker. Some basic familiarity with Linux/Unix is recommended even if you're using a Windows machine.

Get Up and Running with the Concepts of Docker

Up & Running : Shipping Reliable Containers in Production

PHP & MySQL: Novice to Ninja

Build, deploy, and manage your container applications at scale

Dive into the Future of Infrastructure

Terraform: Up & Running

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
Containers are a new way to run software. They're efficient, secure and portable. You can run apps in Docker with no code changes. Docker helps to meet the biggest challenges in IT: modernizing legacy apps, building new apps, moving to the cloud, adopting DevOps and

staying innovative. This book teaches all you need to know about Docker on Windows. 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

Giving you the confidence you need to take on Docker in the real world, this guide is the ultimate book for learning Docker, brought to you by Docker Captain and leading educator in

the container ecosystem. --

Docker on Windows

Using Docker

Kubernetes: Up and Running

Learn Docker in a Month of Lunches

gRPC: Up and Running

Docker Tutorial for Beginners Build Ship and Run

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. Follow-ing 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

Explore and apply best practices for efficient application deployment. This book draws upon author Moshe Zadka's years of Dev Ops experience and focuses on the parts of Python, and the Python ecosystem, that are relevant for DevOps engineers. You'll start by writing command-line

scripts and automating simple DevOps-style tasks. You'll then move on to more advanced cases, like using Jupyter as an auditable remote-control panel, and writing Ansible and Salt extensions. This work also covers how to use the AWS API to manage cloud infrastructure, and how to manage Python programs and environments on remote machines. Python was invented as a systems management language for distributed operating systems, which makes it an ideal tool for DevOps.

Assuming a basic understanding of Python concepts, this book is perfect for engineers who want to move from operations/system administration into coding. What You'll LearnUse third party packages and create new packages Create operating system management and automation code in Python Write testable code, and testing best practices Work with REST APIs for web clients Who This Book Is For Junior or intermediate sysadmin who has picked up some bash and Python

basics.
A journey toward containerized applications in production with a cloud-portable, secure, robust and highly available Docker Enterprise platform. Key Features Get an insider's view into the container movement and Docker Enterprise Manage the transformation associated with enterprise container adoption Walk through the enterprise container adoption journey Book Description While known mostly as the open source engine behind tens of millions of server nodes,

Docker also offers commercially supported enterprise tooling known as the Docker Enterprise. This platform leverages the deep roots from Docker Engine - Community (formerly Docker CE) and Kubernetes, but adds support and tooling to efficiently operate a secure container platform at scale. With hundreds of enterprises on board, best practices and adoption patterns are emerging rapidly. These learning points can be used to inform adopters and help manage the enterprise

transformation associated with enterprise container adoption. This book starts by explaining the case for Docker Enterprise, as well as its structure and reference architecture. From there, we progress through the PoC,pilot and production stages as a working model for adoption, evolving the platform's design and configuration for each stage and using detailed application examples along the way to clarify and demonstrate important concepts.The book concludes with Docker's

impact on other emerging software technologies, such as Blockchain and Serverless computing. By the end of this book, you'll have a better understanding of what it takes to get your enterprise up and running with Docker Enterprise and beyond. What you will learn Understand why containers are important to an enterprise Understand the features and components of Docker Enterprise 2 Find out about the PoC, pilot, and production adoption phases Get to know the best practices for installing

and operating Docker Enterprise Understand what is important for a Docker Enterprise in production Run Kubernetes on Docker Enterprise Who this book is for This book is for Software Architects, DevOps Engineers, Tech Ops, Docker professionals, or any IT professional working with Docker and containers who wants to move containerized workloads to production. This book discusses the enterprise adoption of Docker and Kubernetes,therefore a basic understanding of

Docker concepts will be helpful.
Docker lets you create, deploy, and manage your applications anywhere at anytime – flexibility is key so you can deploy stable, secure, and scalable app containers across a wide variety of platforms and delve into microservices architecture About This Book This up-to-date edition shows how to leverage Docker's features to deploy your existing applications Learn how to package your applications with Docker and build, ship, and scale your containers

Explore real-world examples of securing and managing Docker containers Who This Book Is For This book is ideal for developers, operations managers, and IT professionals who would like to learn about Docker and use it to build and deploy container-based apps. No prior knowledge of Docker is expected. What You Will Learn Develop containerized applications using the Docker version 17.03 Build Docker images from containers and launch them Develop Docker images and

containers leveraging Dockerfiles Use Docker volumes to share data Get to know how data is shared between containers Understand Docker Jenkins integration Gain the power of container orchestration Familiarize yourself with the frequently used commands such as docker exec, docker ps, docker top, and docker stats In Detail Docker is an open source containerization engine that offers a simple and faster way for developing and running software. Docker containers wrap software in

a complete filesystem that contains everything it needs to run, enabling any application to be run anywhere – this flexibily and portabily means that you can run apps in the cloud, on virtual machines, or on dedicated servers. This book will give you a tour of the new features of Docker and help you get started with Docker by building and deploying a simple application. It will walk you through the commands required to manage Docker images and containers. You'll be shown how to download new

images, run containers, list the containers running on the Docker host, and kill them. You'll learn how to leverage Docker's volumes feature to share data between the Docker host and its containers – this data management feature is also useful for persistent data. This book also covers how to orchestrate containers using Docker compose, debug containers, and secure containers using the AppArmor and SELinux security modules. Style and approach This step-by-step guide will walk you through

the features and use of Docker, from Docker software installation to the impenetrable security of containers.
Continuous Delivery with Docker and Jenkins
Containerization Is the New Virtualization
Docker in Practice
Mastering Docker Enterprise
Docker in Action
Develop and run your application with Docker containers using DevOps tools for continuous delivery
Summary Docker in Practice, Second Edition presents over

100 practical techniques, hand-picked to help you get the most out of Docker. Following a Problem/Solution/Discussion format, you'll walk through specific examples that you can use immediately, and you'll get expert guidance on techniques that you can apply to a whole range of scenarios. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Docker's simple idea-wrapping an application and its dependencies into a single deployable container-created a buzz in the software industry. Now, containers are

essential to enterprise infrastructure, and Docker is the undisputed industry standard. So what do you do after you've mastered the basics? To really streamline your applications and transform your dev process, you need relevant examples and experts who can walk you through them. You need this book. About the Book Docker in Practice, Second Edition teaches you rock-solid, tested Docker techniques, such as replacing VMs, enabling microservices architecture, efficient network modeling, offline productivity, and establishing a container-driven continuous delivery process. Following a cookbook-

style problem/solution format, you'll explore real-world use cases and learn how to apply the lessons to your own dev projects. What's inside Continuous integration and delivery The Kubernetes orchestration tool Streamlining your cloud workflow Docker in swarm mode Emerging best practices and techniques About the Reader Written for developers and engineers using Docker in production. About the Author Ian Miell and Aidan Hobson Sayers are seasoned infrastructure architects working in the UK. Together, they used Docker to transform DevOps at one of the UK's largest gaming

companies. Table of Contents PART 1 - DOCKER FUNDAMENTALS Discovering Docker Understanding Docker: Inside the engine room PART 2 - DOCKER AND DEVELOPMENT Using Docker as a lightweight virtual machine Building images Running containers Day-to-day Docker Configuration management: Getting your house in order PART 3 - DOCKER AND DEVOPS Continuous integration: Speeding up your development pipeline Continuous delivery: A perfect fit for Docker principles Network simulation: Realistic environment testing without the pain PART 4 - ORCHESTRATION

FROM A SINGLE MACHINE TO THE CLOUD A primer on container orchestration The data center as an OS with Docker Docker platforms PART 5 - DOCKER IN PRODUCTION Docker and security Plain sailing: Running Docker in production Docker in production: Dealing with challenges

Enhance your software deployment workflow using containers Key Features ?Get up-and-running with basic to advanced concepts of Docker ?Get acquainted with concepts such as Docker containers, Docker images, orchestrators and so on. ?Practical test-based

approach to learning a prominent containerization tool Book Description Docker containers have revolutionized the software supply chain in small and big enterprises. Never before has a new technology so rapidly penetrated the top 500 enterprises worldwide. Companies that embrace containers and containerize their traditional mission-critical applications have reported savings of at least 50% in total maintenance cost and a reduction of 90% (or more) of the time required to deploy new versions of those applications. Furthermore they are benefitting from increased security just by

using containers as opposed to running applications outside containers. This book starts from scratch, introducing you to Docker fundamentals and setting up an environment to work with it. Then we delve into concepts such as Docker containers, Docker images, Docker Compose, and so on. We will also cover the concepts of deployment, orchestration, networking, and security. Furthermore, we explain Docker functionalities on public clouds such as AWS. By the end of this book, you will have hands-on experience working with Docker containers and orchestrators such as SwarmKit and

Kubernetes. What you will learn ?Containerize your traditional or microservice-based application ?Share or ship your application as an immutable container image ?Build a Docker swarm and a Kubernetes cluster in the cloud ?Run a highly distributed application using Docker Swarm or Kubernetes ?Update or rollback a distributed application with zero downtime ?Secure your applications via encapsulation, networks, and secrets ?Know your options when deploying your containerized app into the cloud Who this book is for This book is targeted at system administrators, operations

engineers, DevOps engineers, and developers or stakeholders who are interested in getting started with Docker from scratch. No prior experience with Docker Containers is required.

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

Learn how to run new and old Windows applications in Docker containers. About This Book Package traditional .NET Frameworks apps and new .NET Core apps as Docker images,

and run them in containers for increased efficiency, portability, and security Design and implement distributed applications that run across connected containers, using enterprise-grade open source software from public Docker images Build a full Continuous Deployment pipeline for a .NET Framework application, and deploy it to a highly-available Docker swarm running in the cloud Who This Book Is For If you want to modernize an old monolithic application without rewriting it, smooth the deployment to production, or move to DevOps or the cloud, then Docker is the enabler for

you. This book gives you a solid grounding in Docker so you can confidently approach all of these scenarios. What You Will Learn Comprehend key Docker concepts: images, containers, registries, and swarms Run Docker on Windows 10, Windows Server 2016, and in the cloud Deploy and monitor distributed solutions across multiple Docker containers Run containers with high availability and fail-over with Docker Swarm Master security in-depth with the Docker platform, making your apps more secure Build a Continuous Deployment pipeline by running Jenkins in Docker Debug applications running in

Docker containers using Visual Studio Plan the adoption of Docker in your own organization In Detail Docker is a platform for running server applications in lightweight units called containers. You can run Docker on Windows Server 2016 and Windows 10, and run your existing apps in containers to get significant improvements in efficiency, security, and portability. This book teaches you all you need to know about Docker on Windows, from 101 to deploying highly-available workloads in production. This book takes you on a Docker journey, starting with the key concepts and simple examples

of how to run .NET Framework and .NET Core apps in Windows Docker containers. Then it moves on to more complex examples—using Docker to modernize the architecture and development of traditional ASP.NET and SQL Server apps. The examples show you how to break up monoliths into distributed apps and deploy them to a clustered environment in the cloud, using the exact same artifacts you use to run them locally. To help you move confidently to production, it then explains Docker security, and the management and support options. The book finishes with guidance on getting started with

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

Docker Up and Running
Infrastructure and Application Performance Monitoring
Docker for Rails Developers
A Deep Dive, Step - By - Step Guide for Beginners to Learn and Master Docker

Learning Docker

Develop and build your Docker images and deploy your Docker containers securely. Key FeaturesLearn Docker installation on different types of OSGet started with developing Docker imagesUse Docker with your Jenkins CI/CD systemBook Description Docker is an open source software platform that helps you with creating, deploying, and running your applications using containers. This book is your ideal introduction to Docker and

containerization. You will learn how to set up a Docker development environment on a Linux, Mac, or Windows workstation, and learn your way around all the commands to run and manage your Docker images and containers. You will explore the Dockerfile and learn how to build your own enterprise-grade Docker images. Then you will learn about Docker networks, Docker swarm, and Docker volumes, and how to use these features with Docker stacks in order to define, deploy, and maintain highly-scalable, fault-tolerant multi-container applications. Finally, you will learn how to leverage Docker with Jenkins to automate the building of Docker images and the deployment of Docker containers. By the end of this book, you will be well prepared when it comes to using Docker for your next

project. What you will learnSet up your Docker workstation on various platformsUtilize a number of Docker commands with parametersCreate Docker images using DockerfilesLearn how to create and use Docker volumesDeploy multi-node Docker swarm infrastructureCreate and use Docker local and remote networksDeploy multi-container applications that are HA and FTUse Jenkins to build and deploy Docker imagesWho this book is for This guide is for anyone who needs to make a quick decision about using Docker for their next project. It is for developers who want to get started using Docker right away.

Docker Up & Running, Due to increased demand, we temporarily have reduced product selection available for delivery to your region.

We are working to improve selection availability as soon as possible.*100 pages*6*9 sizes

Whether you're deploying applications on-premise or in the cloud, this cookbook is for developers, operators, and IT professionals who need practical solutions for using Docker. The recipes in this book will help developers go from zero knowledge to distributed applications packaged and deployed within a couple of chapters. IT professionals will be able to use this cookbook to solve everyday problems, as well as create, run, share, and deploy Docker images quickly. Operators will learn and understand what developers are excited about and start to adopt the tools that will change the way they work.--

This tutorial explains the various aspects of the Docker Container

service. Starting with the basics of Docker which focuses on the installation and configuration of Docker, it gradually moves on to advanced topics such as Networking and Registries. The last few chapters of this tutorial cover the development aspects of Docker and how you can get up and running on the development environments using Docker Containers. This tutorial is meant for those who are interested in learning Docker as a container service. This product has spread like wildfire across the industry and is really making an impact on the development of new generation applications. So anyone who is interested in learning all the aspects of Docker should go through this tutorial. The prerequisite is that the readers should be familiar with the basic

concepts of Windows and the various programs that are already available on the Windows operating system. In addition, it would help if the readers have some exposure to Linux.
Harness the full potential of your applications with Docker
Shipping Reliable Containers in Production
Zero to Docker in a Single Book!
Docker Quick Start Guide
Writing Infrastructure as Code
Developing and Deploying Software with Containers
PHP & MySQL: Novice to Ninja, 6th Edition is a hands-on guide to learning all the tools, principles, and techniques needed to build a fully functional application using PHP & MySQL. Comprehensively updated to cover PHP 7 and modern best practice, this

practical and fun book covers everything from installing PHP and MySQL through to creating a complete online content management system. You'll learn how to: Install PHP & MySQL on Windows, Mac OS X, or Linux Gain a thorough understanding of PHP syntax Use object oriented programming techniques Master database design principles and SQL Develop robust websites that can handle high levels of traffic Build a working content management system (CMS) And much more!

If you're reading this then you're interested in learning about Docker and how it works!Operators use Docker to run and manage apps side by side in isolated containers to get

better compute density. Enterprises use Docker to build agile software delivery pipelines to ship new features faster, more securely and of confidence for both Linux and Windows software.Instances of images are called containers; they are the objects you'll deal with most. Containers are completely isolated environments; they can have their own processes for services, their own network interfaces, their own mounts just like washing machines except they all share the same OS kernel.An image is a package or a template just like a VM template that you might have worked with in the virtualization world. It is used to create one or more containers. Containers are

running instances of images that are isolated and have their own environments and set of processes. In this book, we are coming up with an introduction and technical information about Docker. Everything is well explained in layman terms to help beginners learn, understand and master Docker very fast. This is a preview of what you will learn: - What containers are - What Docker is - Why you might need it - What it can do for you - How to run a Docker container - How to build your own Docker image - Networking in Docker - How to use Docker compose - What Docker registry is -How to deploy your own private registry - Docker for Windows and Mac - Introduction to container

orchestration tools like Docker swarm and Kubernetes - And much more! Scroll up and click the BUY NOW button to get started.

Docker: Up & RunningShipping Reliable Containers in ProductionO'Reilly Media

Unleash the combination of Docker and Jenkins in order to enhance the DevOps workflow About This Book Build reliable and secure applications using Docker containers. Create a complete Continuous Delivery pipeline using Docker, Jenkins, and Ansible. Deliver your applications directly on the Docker Swarm cluster. Create more complex solutions using multi-containers and database migrations. Who This Book Is For This book is

indented to provide a full overview of deep learning. From the beginner in deep learning and artificial intelligence to the data scientist who wants to become familiar with Theano and its supporting libraries, or have an extended understanding of deep neural nets. Some basic skills in Python programming and computer science will help, as well as skills in elementary algebra and calculus. What You Will Learn Get to grips with docker fundamentals and how to dockerize an application for the Continuous Delivery process Configure Jenkins and scale it using Docker-based agents Understand the principles and the technical aspects of a successful Continuous Delivery pipeline

Create a complete Continuous Delivery process using modern tools: Docker, Jenkins, and Ansible Write acceptance tests using Cucumber and run them in the Docker ecosystem using Jenkins Create multi-container applications using Docker Compose Managing database changes inside the Continuous Delivery process and understand effective frameworks such as Cucumber and Flyweight Build clustering applications with Jenkins using Docker Swarm Publish a built Docker image to a Docker Registry and deploy cycles of Jenkins pipelines using community best practices In Detail The combination of Docker and Jenkins improves your Continuous Delivery pipeline

using fewer resources. It also helps you scale up your builds, automate tasks and speed up Jenkins performance with the benefits of Docker containerization. This book will explain the advantages of combining Jenkins and Docker to improve the continuous integration and delivery process of app development. It will start with setting up a Docker server and configuring Jenkins on it. It will then provide steps to build applications on Docker files and integrate them with Jenkins using continuous delivery processes such as continuous integration, automated acceptance testing, and configuration management. Moving on you will learn how to ensure quick application

deployment with Docker containers along with scaling Jenkins using Docker Swarm. Next, you will get to know how to deploy applications using Docker images and testing them with Jenkins. By the end of the book, you will be enhancing the DevOps workflow by integrating the functionalities of Docker and Jenkins. Style and approach The book is aimed at DevOps Engineers, developers and IT Operations who want to enhance the DevOps culture using Docker and Jenkins.

Docker Orchestration

Docker for Developers

Grpc: Up and Running

Solutions and Examples for Building Distributed Applications

Prometheus: Up & Running

Docker Cookbook

A concise, fast-paced guide to orchestrating and deploying scalable services with Docker About This Book Explore the new features added to the core Docker Engine to make multi-container orchestration easy Leverage tools such as Docker Machine, Swarm, Compose, and third-party tools such as Kubernetes, Mesosphere, and CoreOS to orchestrate containers Use Docker Compose with Swarm and apply rolling updates for zero downtime deployments Who This Book Is For This book is aimed at Sysadmins and DevOps engineers who know what Docker does and are now looking to manage multiple containers on multiple hosts using the orchestration feature. What You Will Learn Build scalable, reliable services

with Docker See how to manage a service in Docker using Docker Swarm, Kubernetes, and Mesosphere Discover simpler orchestration tools such as CoreOS/Fleet and Rancher Cattle Understand cluster-wide logging, system monitoring, and troubleshooting Build, test, and deploy containers using Continuous Integration Deploy cluster hosts on cloud services and automate your infrastructure In Detail Docker orchestration is what you need when transitioning from deploying containers individually on a single host to deploying complex multi-container apps on many machines. This book covers the new orchestration features of Docker 1.12 and helps you efficiently build, test, and deploy your application using Docker. You will be shown how to

build multi-container applications using Docker Compose. You will also be introduced to the building blocks for multi-host Docker clusters such as registry, overlay networks, and shared storage using practical examples. This book gives an overview of core tools such as Docker Machine, Swarm, and Compose which will enhance your orchestration skills. You'll learn how to set up a swarm using the decentralized building block. Next, you'll be shown how to make the most out of the in-built orchestration feature of Docker engine and you'll use third-party tools such as Kubernetes, Mesosphere, and CoreOS to orchestrate your existing process. Finally, you will learn to deploy cluster hosts on cloud services and automate your infrastructure. Style and approach This

comprehensive guide will take you through the orchestration feature of Docker. Using practical examples, you will discover various tools that can be used to manage multiple containers with ease.

Updated for Docker Community Edition v18.09! Docker book designed for SysAdmins, SREs, Operations staff, Developers and DevOps who are interested in deploying the open source container service Docker. In this book, we'll walk you through installing, deploying, managing, and extending Docker. We're going to do that by first introducing you to the basics of Docker and its components. Then we'll start to use Docker to build containers and services to perform a variety of tasks. We're going to take you through the development lifecycle, from testing to production,

and see where Docker fits in and how it can make your life easier. We'll make use of Docker to build test environments for new projects, demonstrate how to integrate Docker with continuous integration workflow, and then how to build application services and platforms. Finally, we'll show you how to use Docker's API and how to extend Docker yourself. We'll teach you how to: * Install Docker. * Take your first steps with a Docker container. * Build Docker images. * Manage and share Docker images. * Run and manage more complex Docker containers. * Deploy Docker containers as part of your testing pipeline. * Build multi-container applications and environments. * Learn about orchestration using Compose and Swarm for the orchestration of

Docker containers and Consul for service discovery. * Explore the Docker API. * Getting Help and Extending Docker.

Learn how to deploy and test Linux-based Docker containers with the help of real-world use cases Key FeaturesUnderstand how to make a deployment workflow run smoothly with Docker containersLearn Docker and DevOps concepts such as continuous integration and continuous deployment (CI/CD)Gain insights into using various Docker tools and librariesBook Description Docker is the de facto standard for containerizing apps, and with an increasing number of software projects migrating to containers, it is crucial for engineers and DevOps teams to understand how to build, deploy, and secure Docker

environments effectively. Docker for Developers will help you understand Docker containers from scratch while taking you through best practices and showing you how to address security concerns. Starting with an introduction to Docker, you'll learn how to use containers and VirtualBox for development. You'll explore how containers work and develop projects within them after you've explored different ways to deploy and run containers. The book will also show you how to use Docker containers in production in both single-host set-ups and in clusters and deploy them using Jenkins, Kubernetes, and Spinnaker. As you advance, you'll get to grips with monitoring, securing, and scaling Docker using tools such as Prometheus and Grafana. Later, you'll be able to deploy Docker

containers to a variety of environments, including the cloud-native Amazon Elastic Kubernetes Service (Amazon EKS), before finally delving into Docker security concepts and best practices. By the end of the Docker book, you'll be able to not only work in a container-driven environment confidently but also use Docker for both new and existing projects. What you will learnGet up to speed with creating containers and understand how they workPackage and deploy your containers to a variety of platformsWork with containers in the cloud and on the Kubernetes platformDeploy and then monitor the health and logs of running containersExplore best practices for working with containers from a security perspectiveBecome familiar with scanning containers and

using third-party security tools and librariesWho this book is for If you're a software engineer new to containerization or a DevOps engineer responsible for deploying Docker containers in the cloud and building DevOps pipelines for container-based projects, you'll find this book useful. This Docker containers book is also a handy reference guide for anyone working with a Docker-based DevOps ecosystem or interested in understanding the security implications and best practices for working in container-driven environments.

Completely updated for Django 4.0! Django for Professionals takes your web development skills to the next level, teaching you how to build production-ready websites with

Python and Django. Once you have learned the basics of Django there is a massive gap between building simple "toy apps" and what it takes to build a "production-ready" web application suitable for deployment to thousands or even millions of users. In the book you ' ll learn how to: * Build a Bookstore website from scratch * Use Docker and PostgreSQL locally to mimic production settings * Implement advanced user registration with email * Customize permissions to control user access * Write comprehensive tests * Adopt advanced security and performance improvements * Add search and file/image uploads * Deploy with confidence If you want to take advantage of all that Django has to offer, Django for Professionals is a comprehensive best practices guide

to building and deploying modern websites.
The Docker Book
Build, Ship, and Run Your Applications Everywhere
Docker: Up and Running
Learn Docker – Fundamentals of Docker 19.x
From 101 to production with Docker on Windows, 2nd Edition