

Apache Karaf Cookbook

A practical guide to building programmable networks using OpenDaylight About This Book Learn and understand how SDN controllers operate and integrate with networks; this book's step-by-step tutorials will give you a strong foundation in SDN, NVF, and OpenDayLight. Learn how to map legacy Layer 2/3 networking technologies in the SDN world Add new services and capabilities to your infrastructure and quickly adopt SDN and NFV within your organization with OpenDayLight. Integrate and manage software-defined networks efficiently in your organization. Build innovative network applications with OpenDayLight and save time and resources. Who This Book Is For This book targets network engineers, network programmers and developers, administrators, and anyone with some level of networking experience who'd like to deploy OpenDayLight effectively. Familiarity with the day-to-day operations of computer networks is expected What You Will Learn Transition from legacy networking to software-defined networking Learn how SDN controllers work and manage a network using southbound and northbound APIs Learn how to deploy the OpenDayLight SDN controller and integrate it with virtual switches Understand the basic design and operation of the OpenDaylight platform Build simple MD-SAL OpenDaylight

applications Build applications on top of OpenDayLight to trigger network changes based on different events Integrate OpenStack with OpenDayLight to build a fully managed network Learn how to build a software-defined datacenter using NFV and service-chaining technologies In Detail OpenDaylight is an open source, software-defined network controller based on standard protocols. It aims to accelerate the adoption of Software-Defined Networking (SDN) and create a solid foundation for Network Functions Virtualization (NFV). SDN is a vast subject; many network engineers find it difficult to get started with using and operating different SDN platforms. This book will give you a practical bridge from SDN theory to the practical, real-world use of SDN in datacenters and by cloud providers. The book will help you understand the features and use cases for SDN, NFV, and OpenDaylight. NFV uses virtualization concepts and techniques to create virtual classes for node functions. Used together, SDN and NFV can elevate the standards of your network architecture; generic hardware-saving costs and the advanced and abstracted software will give you the freedom to evolve your network in the future without having to invest more in costly equipment. By the end of this book, you will have learned how to design and deploy OpenDaylight networks and integrate them with physical network switches. You will also have mastered basic network programming over the SDN

fabric. Style and approach This is a step-by-step tutorial aimed at getting you up-to-speed with OpenDayLight and ready to adopt it for your SDN (Software-Defined Networking) and NFV (Network Functions Virtualization) ecosystem. As systems continue to evolve they rely less on human decision-making and more on computational intelligence. This trend in conjunction with the available technologies for providing advanced sensing, measurement, process control, and communication lead towards the new field of the CyberPhysical System (CPS). CyberPhysical systems are expected to play a major role in the design and development of future engineering platforms with new capabilities that far exceed today's levels of autonomy, functionality and usability. Although these systems exhibit remarkable characteristics, their design and implementation is a challenging issue, as numerous (heterogeneous) components and services have to be appropriately modeled and simulated together. The problem of designing efficient CPS becomes far more challenging in case the target system has to meet also real-time constraints. CyberPhysical Systems: Decision Making Mechanisms and Applications describes essential theory, recent research and large-scale user cases that addresses urgent challenges in CPS architectures. In particular, it includes chapters on: Decision making for large scale CPS Modeling of CPS with emphasis at the control mechanisms Hardware/software

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implementation of the control mechanisms
Fault-tolerant and reliability issues for the control mechanisms
CyberPhysical user-cases that incorporate challenging decision making

This book is written in a Cookbook style with short recipes showing developers how to effectively implement EIP without breaking everything in the process. It is concise and to the point, and it helps developers get their data flowing between different components without the need to read through page upon page of theory, while also enabling the reader to learn how to create exciting new projects.

Camel Enterprise Integration Cookbook is intended for developers who have some familiarity with Apache Camel and who want a quick lookup reference to practical, proven tips on how to perform common tasks. Every recipe also includes a summary and reference pointers for more details that make it easy for you to get a deeper understanding of the Apache Camel capabilities that you will use day to day.

Over 90 recipes to gain the critical skills needed to deploy and manage OpenDaylight-based solutions
About This Book This book will help you to build intelligent SDN networks that save your company time, money, and resources
From eminent authors, learn to address real-world challenges and troubleshoot day-to-day scalability and performance problems faced in OpenDayLight

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deployments This is the only book that offers you quick fixes to create your own branded OpenDaylight Who This Book Is For This book is for experienced network administrators and IT professionals who are using or deploying SDN/OpenDaylight and are looking to gain expertise in building SDN solutions for organizations. What You Will Learn Grasp the fundamentals of OpenDaylight Customize, authenticate, & authorize in OpenDaylight Analyse network access control and policy Manage datacenter optimization Integrate OpenDaylight with third-party frameworks Deploy, configure, and tune OpenDaylight-based solutions In Detail OpenDaylight is an open source platform to program and build Software-Defined Networks (SDN). Its aim is to accelerate the adoption of SDN and NFV. With above 90 practical recipes, this book will help you to solve day-to-day problems and maintenance tasks surrounding OpenDaylight's implementation. This book starts with the OpenDaylight fundamentals. In this book, you will gain a sound understanding of the methods and techniques when deploying OpenDaylight in production environment. Later on, you will learn to create a Service Chain using SFC. This book will address common problems and day-to-day maintenance tasks with OpenDaylight. We'll also will teach you how to interact with OpenDaylight APIs and use the necessary tools to simulate networks. You will also explore how to create your own branded OpenDaylight

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along with authorising and authenticating users using OpenDaylight Identity Manager. By the end of this book, you will have the necessary skills to operate an OpenDaylight SDN environment. Style and approach With a diverse range of topics, this will be a guide which will help the readers gain the necessary skills needed to deploy and operate OpenDaylight in your organisation through practical recipes.

This book will provide you with the skills you need to efficiently create routes using Apache Camel. After briefly introducing the key features and core concepts of Camel, the book will take you through all the important features and components, starting with routing and processors. You will learn how to use beans in Camel routes, covering everything from supported registries and annotations, to the creation of an OSGi bundle and writing route definitions with Blueprint DSL. Leverage the Enterprise Integration Patterns (EIPs) supported by Camel and implement them in your routes. You will then see how components and endpoints handle exchanges in Camel, and how you can use them to create a complete and powerful mediation framework. You will finally learn how to tackle errors and perform testing to ensure that your integration projects are working successfully.

For too long, developers have worked on disorganized application projects,

where every part seemed to have its own build system, and no common repository existed for information about the state of the project. Now there's help. The long-awaited official documentation to Maven is here. Written by Maven creator Jason Van Zyl and his team at Sonatype, *Maven: The Definitive Guide* clearly explains how this tool can bring order to your software development projects. Maven is largely replacing Ant as the build tool of choice for large open source Java projects because, unlike Ant, Maven is also a project management tool that can run reports, generate a project website, and facilitate communication among members of a working team. To use Maven, everything you need to know is in this guide. The first part demonstrates the tool's capabilities through the development, from ideation to deployment, of several sample applications -- a simple software development project, a simple web application, a multi-module project, and a multi-module enterprise project. The second part offers a complete reference guide that includes: The POM and Project Relationships The Build Lifecycle Plugins Project website generation Advanced site generation Reporting Properties Build Profiles The Maven Repository Team Collaboration Writing Plugins IDEs such as Eclipse, IntelliJ, and NetBeans Using and creating assemblies Developing with Maven Archetypes Several sources for Maven have appeared online for some time, but nothing served as an introduction and

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comprehensive reference guide to this tool -- until now. Maven: The Definitive Guide is the ideal book to help you manage development projects for software, web applications, and enterprise applications. And it comes straight from the source.

Process large volumes of data in real-time while building high performance and robust data stream processing pipeline using the latest Apache Kafka 2.0 Key Features Solve practical large data and processing challenges with Kafka Tackle data processing challenges like late events, windowing, and watermarking Understand real-time streaming applications processing using Schema registry, Kafka connect, Kafka streams, and KSQL Book Description Apache Kafka is a great open source platform for handling your real-time data pipeline to ensure high-speed filtering and pattern matching on the fly. In this book, you will learn how to use Apache Kafka for efficient processing of distributed applications and will get familiar with solving everyday problems in fast data and processing pipelines. This book focuses on programming rather than the configuration management of Kafka clusters or DevOps. It starts off with the installation and setting up the development environment, before quickly moving on to performing fundamental messaging operations such as validation and enrichment. Here you will learn about message composition with pure Kafka API and Kafka Streams.

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You will look into the transformation of messages in different formats, such as avro, binary, XML, JSON, and AVRO. Next, you will learn how to expose the schemas contained in Kafka with the Schema Registry. You will then learn how to work with all relevant connectors with Kafka Connect. While working with Kafka Streams, you will perform various interesting operations on streams, such as windowing, joins, and aggregations. Finally, through KSQL, you will learn how to retrieve, insert, modify, and delete data streams, and how to manipulate watermarks and windows. What you will learn

- How to validate data with Kafka
- Add information to existing data flows
- Generate new information through message composition
- Perform data validation and versioning with the Schema Registry
- How to perform message Serialization and Deserialization
- How to perform message Serialization and Deserialization
- Process data streams with Kafka Streams
- Understand the duality between tables and streams with KSQL

Who this book is for This book is for developers who want to quickly master the practical concepts behind Apache Kafka. The audience need not have come across Apache Kafka previously; however, a familiarity of Java or any JVM language will be helpful in understanding the code in this book.

This book is written in a Cookbook style with short recipes showing developers how to effectively implement EIP without breaking everything in the process. It is

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concise and to the point, and it helps developers get their data flowing between different components without the need to read through page upon page of theory, while also enabling the reader to learn how to create exciting new projects. Camel Enterprise Integration Cookbook is intended for developers who have some familiarity with Apache Camel and who want a quick lookup reference to practical, proven tips on how to perform common tasks. Every recipe also includes a summary and reference pointers for more details that make it easy for you to get a deeper understanding of the Apache Camel capabilities that you will use day to day.

This book is a thorough introduction to Java Message Service (JMS), the standard Java application program interface (API) from Sun Microsystems that supports the formal communication known as "messaging" between computers in a network. JMS provides a common interface to standard messaging protocols and to special messaging services in support of Java programs. The messages exchange crucial data between computers, rather than between users--information such as event notification and service requests. Messaging is often used to coordinate programs in dissimilar systems or written in different programming languages. Using the JMS interface, a programmer can invoke the messaging services of IBM's MQSeries, Progress Software's SonicMQ, and other popular messaging product vendors. In addition, JMS supports messages that contain serialized Java objects and messages that contain Extensible Markup Language (XML) pages. Messaging is a powerful new paradigm that

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makes it easier to uncouple different parts of an enterprise application. Messaging clients work by sending messages to a message server, which is responsible for delivering the messages to their destination. Message delivery is asynchronous, meaning that the client can continue working without waiting for the message to be delivered. The contents of the message can be anything from a simple text string to a serialized Java object or an XML document. Java Message Service shows how to build applications using the point-to-point and publish-and-subscribe models; how to use features like transactions and durable subscriptions to make an application reliable; and how to use messaging within Enterprise JavaBeans. It also introduces a new EJB type, the MessageDrivenBean, that is part of EJB 2.0, and discusses integration of messaging into J2EE.

This book showcases new and innovative approaches to biometric data capture and analysis, focusing especially on those that are characterized by non-intrusiveness, reliable prediction algorithms, and high user acceptance. It comprises the peer-reviewed papers from the international workshop on the subject that was held in Ancona, Italy, in October 2014 and featured sessions on ICT for health care, biometric data in automotive and home applications, embedded systems for biometric data analysis, biometric data analysis: EMG and ECG, and ICT for gait analysis. The background to the book is the challenge posed by the prevention and treatment of common, widespread chronic diseases in modern, aging societies. Capture of biometric data is a cornerstone for any analysis and treatment strategy. The latest advances in sensor technology allow accurate data measurement in a non-intrusive way, and in many cases it is necessary to provide online monitoring and real-time data capturing to support a patient's prevention plans or to allow medical professionals to access the patient's current

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status. This book will be of value to all with an interest in this expanding field.

The essential guide to modular development with OSGi for the serious application developer
Learn something new in an Instant! A short, fast, focused guide delivering immediate results.
Learn what can be done with OSGi and what it can bring to your development structure
Build your first application and deploy to an OSGi runtime that simplifies your experience
Discover an uncomplicated, conversational approach to learning OSGi for building and deploying modular applications
In Detail OSGi is a tried and true modularity standard for Java. It has in recent years gained a lot of traction and tooling; becoming frequently used in Enterprise containers and distributed software systems. "Instant OSGi Starter" is where you should start before beginning your first OSGi based project. You'll be exposed to the core concepts, gain practical experience with the most important features, and learn about the basic tenets of modular code practices. This book begins with the fundamental tools needed for building modular applications, top features with basic tenets of modular core practices and provides useful insights into resources and the community. As this book progresses you will be able to get started programming in OSGi whilst looking at the default three layer design so the application will be architected towards modularity and simplicity. Through exploring several tools and technologies and browsing the communities you will be able to work towards modular programming in OSGi.

"The complete guide to securing your Apache web server"--Cover.

Being a Packt Beginner's Guide, each chapter follows an easy to understand approach with plenty of screenshots and clear and concise steps to guide you throughout. This book is primarily intended for Business Analysts (BAs) who need to develop a process model for

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implementation in a Business Process Management system. The book assumes that you have basic knowledge of business analysis; however, no Activiti or Java knowledge is required. If you're a programmer new to regular expressions, this easy-to-follow guide is a great place to start. You'll learn the fundamentals step-by-step with the help of numerous examples, discovering first-hand how to match, extract, and transform text by matching specific words, characters, and patterns. Regular expressions are an essential part of a programmer's toolkit, available in various Unix utilities as well as programming languages such as Perl, Java, JavaScript, and C#. When you've finished this book, you'll be familiar with the most commonly used syntax in regular expressions, and you'll understand how using them will save you considerable time. Discover what regular expressions are and how they work Learn many of the differences between regular expressions used with command-line tools and in various programming languages Apply simple methods for finding patterns in text, including digits, letters, Unicode characters, and string literals Learn how to use zero-width assertions and lookarounds Work with groups, backreferences, character classes, and quantifiers Use regular expressions to mark up plain text with HTML5

Enterprise developers face several challenges when it comes to building serverless applications, such as integrating applications and building container images from source. With more than 60 practical recipes, this cookbook helps you solve these issues with Knative—the first serverless platform natively designed for Kubernetes. Each recipe contains detailed examples and exercises, along with a discussion of how and why it works. If you have a good understanding of serverless computing and Kubernetes core resources such as deployment, services, routes, and replicas, the recipes in this cookbook show you how to apply Knative in

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real enterprise application development. Authors Kamesh Sampath and Burr Sutter include chapters on autoscaling, build and eventing, observability, Knative on OpenShift, and more. With this cookbook, you'll learn how to: Efficiently build, deploy, and manage modern serverless workloads Apply Knative in real enterprise scenarios, including advanced eventing Monitor your Knative serverless applications effectively Integrate Knative with CI/CD principles, such as using pipelines for faster, more successful production deployments Deploy a rich ecosystem of enterprise integration patterns and connectors in Apache Camel K as Kubernetes and Knative components

If you are a web developer, this handy guide will empower you to quickly learn the fundamentals of AngularJS development and deployment.

This book is intended for developers who have some familiarity with Apache Karaf and who want a quick reference for practical, proven tips on how to perform common tasks such as configuring Pax modules deployed in Apache Karaf, Extending HttpService with Apache Karaf. You should have working knowledge of Apache karaf, as the book provides a deeper understanding of the capabilities of Apache Karaf.

Simplify real-time data processing by leveraging the power of Apache Kafka 1.0 Key Features Use Kafka 1.0 features such as Confluent platforms and Kafka streams to build efficient streaming data applications to handle and process your data Integrate Kafka with other Big Data tools such as Apache Hadoop, Apache Spark, and more Hands-on recipes to help you design, operate, maintain, and secure your Apache Kafka cluster with ease Book Description Apache Kafka provides a unified, high-throughput, low-latency platform to handle real-time data feeds. This book will show you how to use Kafka efficiently, and contains practical

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solutions to the common problems that developers and administrators usually face while working with it. This practical guide contains easy-to-follow recipes to help you set up, configure, and use Apache Kafka in the best possible manner. You will use Apache Kafka Consumers and Producers to build effective real-time streaming applications. The book covers the recently released Kafka version 1.0, the Confluent Platform and Kafka Streams. The programming aspect covered in the book will teach you how to perform important tasks such as message validation, enrichment and composition. Recipes focusing on optimizing the performance of your Kafka cluster, and integrate Kafka with a variety of third-party tools such as Apache Hadoop, Apache Spark, and Elasticsearch will help ease your day to day collaboration with Kafka greatly. Finally, we cover tasks related to monitoring and securing your Apache Kafka cluster using tools such as Ganglia and Graphite. If you're looking to become the go-to person in your organization when it comes to working with Apache Kafka, this book is the only resource you need to have. What you will learn

- Install and configure Apache Kafka 1.0 to get optimal performance
- Create and configure Kafka Producers and Consumers
- Operate your Kafka clusters efficiently by implementing the mirroring technique
- Work with the new Confluent platform and Kafka streams, and achieve high availability with Kafka
- Monitor Kafka using tools such as Graphite and Ganglia
- Integrate Kafka with third-party tools such as Elasticsearch, Logstash, Apache Hadoop, Apache Spark, and more

Who this book is for This book is for developers and Kafka administrators who are looking for quick, practical solutions to problems encountered while operating, managing or monitoring Apache Kafka. If you are a developer, some knowledge of Scala or Java will help, while for administrators, some working knowledge of Kafka will be useful.

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Filled with practical, step-by-step instructions and clear explanations for the most important and useful tasks. This short, instruction-based guide shows you how to perform application integration using the industry standard Enterprise Integration Patterns. This book is intended for Java developers who are new to Apache Camel and message-oriented applications.

Beginning Cryptography with Java While cryptography can still be a controversial topic in the programming community, Java has weathered that storm and provides a rich set of APIs that allow you, the developer, to effectively include cryptography in applications-if you know how. This book teaches you how. Chapters one through five cover the architecture of the JCE and JCA, symmetric and asymmetric key encryption in Java, message authentication codes, and how to create Java implementations with the API provided by the Bouncy Castle ASN.1 packages, all with plenty of examples. Building on that foundation, the second half of the book takes you into higher-level topics, enabling you to create and implement secure Java applications and make use of standard protocols such as CMS, SSL, and S/MIME. What you will learn from this book How to understand and use JCE, JCA, and the JSSE for encryption and authentication The ways in which padding mechanisms work in ciphers and how to spot and fix typical errors An understanding of how authentication mechanisms are implemented in Java and why they are used Methods for describing cryptographic objects with ASN.1 How to create certificate revocation lists and use the Online Certificate Status Protocol (OCSP) Real-world Web solutions using Bouncy Castle APIs Who this book is for This book is for Java developers who want to use cryptography in their applications or to understand how cryptography is being used in Java applications. Knowledge of the Java language is necessary, but you need not be familiar with any of the APIs discussed. Wrox

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Beginning guides are crafted to make learning programming languages and technologies easier than you think, providing a structured, tutorial format that will guide you through all the techniques involved.

Save time and trouble building object-oriented, functional, and concurrent applications with Scala. The latest edition of this comprehensive cookbook is packed with more than 250 ready-to-use recipes and 1,000 code examples to help you solve the most common problems when working with Scala 3 and its popular libraries. Scala changes the way you think about programming--and that's a good thing. Whether you're working on web, big data, or distributed applications, this cookbook provides recipes based on real-world scenarios for both experienced Scala developers and programmers just learning to use this JVM language.

Author Alvin Alexander includes practical solutions from his experience using Scala for component-based, highly scalable applications that support concurrency and distribution.

Recipes cover: Strings, numbers, and control structures
Classes, methods, objects, traits, packaging, and imports
Functional programming techniques
Scala's wealth of collections

classes and methods
Building and publishing Scala applications with sbt
Actors and concurrency with Scala Future and Akka

Typed Popular libraries, including Spark, Scala.js, Play Framework, and GraalVM

Types, such as variance, givens, intersections, and unions

Best practices, including pattern matching, modules, and functional error handling

Apache Karaf Cookbook
Packt Publishing Ltd

This book is intended for all Camel users who want to get the best out of Camel, and who want to implement the most efficient integration logic using best practices.

Learn how to build, test, secure, deploy, and efficiently consume services across distributed

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systems. Key Features - Explore the wealth of options provided by Spring Cloud for wiring service dependencies in microservice systems. - Create microservices utilizing Spring Cloud's Netflix OSS - Architect your cloud-native data using Spring Cloud. Book Description Developing, deploying, and operating cloud applications should be as easy as local applications. This should be the governing principle behind any cloud platform, library, or tool. Spring Cloud—an open-source library—makes it easy to develop JVM applications for the cloud. In this book, you will be introduced to Spring Cloud and will master its features from the application developer's point of view. This book begins by introducing you to microservices for Spring and the available feature set in Spring Cloud. You will learn to configure the Spring Cloud server and run the Eureka server to enable service registration and discovery. Then you will learn about techniques related to load balancing and circuit breaking and utilize all features of the Feign client. The book now delves into advanced topics where you will learn to implement distributed tracing solutions for Spring Cloud and build message-driven microservice architectures. Before running an application on Docker containers, you will master testing and securing techniques with Spring Cloud. What you will learn - Abstract Spring Cloud's feature set - Create microservices utilizing Spring Cloud's Netflix OSS - Create synchronous API microservices based on a message-driven architecture. - Explore advanced topics such as distributed tracing, security, and contract testing. - Manage and deploy applications on the production environment Who this book is for This book appeals to developers keen to take advantage of Spring cloud, an open source library which helps developers quickly build distributed systems. Knowledge of Java and Spring Framework will be helpful, but no prior exposure to Spring Cloud is required.

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Summary A developer-focused guide to writing applications using Spring Boot. You'll learn how to bypass the tedious configuration steps so that you can concentrate on your application's behavior. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology The Spring Framework simplifies enterprise Java development, but it does require lots of tedious configuration work. Spring Boot radically streamlines spinning up a Spring application. You get automatic configuration and a model with established conventions for build-time and runtime dependencies. You also get a handy command-line interface you can use to write scripts in Groovy. Developers who use Spring Boot often say that they can't imagine going back to hand configuring their applications. About the Book Spring Boot in Action is a developer-focused guide to writing applications using Spring Boot. In it, you'll learn how to bypass configuration steps so you can focus on your application's behavior. Spring expert Craig Walls uses interesting and practical examples to teach you both how to use the default settings effectively and how to override and customize Spring Boot for your unique environment. Along the way, you'll pick up insights from Craig's years of Spring development experience. What's Inside Develop Spring apps more efficiently Minimal to no configuration Runtime metrics with the Actuator Covers Spring Boot 1.3 About the Reader Written for readers familiar with the Spring Framework. About the Author Craig Walls is a software developer, author of the popular book Spring in Action, Fourth Edition, and a frequent speaker at conferences. Table of

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Contents Bootstarting Spring Developing your first Spring Boot application Customizing configuration Testing with Spring Boot Getting Groovy with the Spring Boot CLI Applying Grails in Spring Boot Taking a peek inside with the Actuator Deploying Spring Boot applications APPENDIXES Spring Boot developer tools Spring Boot starters Configuration properties Spring Boot dependencies

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

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handled in Kubernetes. Advanced patterns covers more advanced topics such as extending the platform with operators.

This book is a tutorial written with a step-by-step approach to help you implement an optimum clustering solution in Apache Karaf Cellar quickly and efficiently. If you are new to Karaf and want to install and manage multiple Karaf instances by farming or clustering, then this book is for you. If you are a Java developer or a system administrator with basic knowledge of Karaf, you can use this book as a guide. Some background knowledge of OSGi and/or Karaf would be preferred but is not mandatory. What is this book about? PHP, Apache, and MySQL are the three key open source technologies that form the basis for most active Web servers. This book takes you step-by-step through understanding each — using it and combining it with the other two on both Linux and Windows servers. This book guides you through creating your own sites using the open source AMP model. You discover how to install PHP, Apache, and MySQL. Then you create PHP Web pages, including database management and security. Finally, you discover how to integrate your work with e-commerce and other technologies. By building different types of Web sites, you progress from setting up simple database tables to tapping the full potential of PHP, Apache, and MySQL. When you're finished, you will be able to create well-designed, dynamic Web sites using open source tools. What does this book cover? Here's what you will learn from this book: How PHP server-side scripting language works for connecting HTML-based Web pages

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to a backend database Syntax, functions, and commands for PHP, Apache, and MySQL Methods and techniques for building user-friendly forms How to easily store, update, and access information using MySQL Ways to allow the user to edit a database E-commerce applications using these three technologies How to set up user logins, profiles, and personalizations Proper protocols for error handling Who is this book for? This book is for beginners who are new to PHP and who need to learn quickly how to create Web sites using open source tools. Some basic HTML knowledge is helpful but not essential.

Learn how to integrate full-stack open source big data architecture and to choose the correct technology—Scala/Spark, Mesos, Akka, Cassandra, and Kafka—in every layer. Big data architecture is becoming a requirement for many different enterprises. So far, however, the focus has largely been on collecting, aggregating, and crunching large data sets in a timely manner. In many cases now, organizations need more than one paradigm to perform efficient analyses. Big Data SMACK explains each of the full-stack technologies and, more importantly, how to best integrate them. It provides detailed coverage of the practical benefits of these technologies and incorporates real-world examples in every situation. This book focuses on the problems and scenarios solved by the architecture, as well as the solutions provided by every technology. It covers the six main concepts of big data architecture and how integrate, replace, and reinforce every layer: The language: Scala The engine: Spark (SQL, MLib, Streaming, GraphX)

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The container: Mesos, Docker The view: Akka The storage: Cassandra The message broker: Kafka What You Will Learn: Make big data architecture without using complex Greek letter architectures Build a cheap but effective cluster infrastructure Make queries, reports, and graphs that business demands Manage and exploit unstructured and No-SQL data sources Use tools to monitor the performance of your architecture Integrate all technologies and decide which ones replace and which ones reinforce Who This Book Is For: Developers, data architects, and data scientists looking to integrate the most successful big data open stack architecture and to choose the correct technology in every layer

Harness the power of Apex design patterns to build robust and scalable code architectures on the Force.com platform About This Book Apply Creational, Structural and behavioural patterns in Apex to fix governor limit issues. Have a grasp of the anti patterns to be taken care in Apex which could have adverse effect on the application. The authors, Jitendra Zaa is a salesforce MVP and Anshul Verma has 12+ years of experience in the area of application development. Who This Book Is For If you are a competent developer with working knowledge of Apex, and now want to deep dive into the world of Apex design patterns to optimize the application performance, then this book is for you. Prior knowledge of Salesforce and Force.com platform is recommended. What You Will Learn Apply OOPs principal in Apex to design a robust and efficient solution to address various facets to a business problem Get to grips with

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the benefits and applicability of using different design patterns in Apex Solve problems while instantiating, structuring and giving dynamic behavior to Apex classes Understand the implementation of creational, structural, behavioral, concurrency and anti-patterns in your application Follow the Apex best practices to resolve governor limit issues Get clued up about the Inheritance, abstract classes, polymorphism in Apex to deal with the object mechanism Master various design patterns and determine the best out of them Explore the anti patterns that could not be applied to Apex and their appropriate solutions In Detail Apex is an on-demand programming language providing a complete set of features for building business applications – including data models and objects to manage data. Apex being a proprietor programming language from Salesforce to be worked with multi tenant environment is a lot different than traditional OOPs languages like Java and C#. It acts as a workflow engine for managing collaboration of the data between users, a user interface model to handle forms and other interactions, and a SOAP API for programmatic access and integration. Apex Design Patterns gives you an insight to several problematic situations that can arise while developing on Force.com platform and the usage of Design patterns to solve them. Packed with real life examples, it gives you a walkthrough from learning design patterns that Apex can offer us, to implementing the appropriate ones in your own application. Furthermore, we learn about the creational patterns that deal with object creation mechanism and structural patterns that helps to identify the relationship between entities. Also, the

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behavioural and concurrency patterns are put forward explaining the communication between objects and multi-threaded programming paradigm respectively. We later on, deal with the issues regarding structuring of classes, instantiating or how to give a dynamic behaviour at a runtime, with the help of anti-patterns. We learn the basic OOPs principal in polymorphic and modular way to enhance its capability. Also, best practices of writing Apex code are explained to differentiate between the implementation of appropriate patterns. This book will also explain some unique patterns that could be applied to get around governor limits. By the end of this book, you will be a maestro in developing your applications on Force.com for Salesforce Style and approach This book is a step-by-step guide, complete with well-tested programs and real world situations to solve your common occurring problems in Apex design by using the anti-patterns. It gets crackling from exploring every appropriate solution to comparing the best one as per OOps principal.

From lambda expressions and JavaFX 8 to new support for network programming and mobile development, Java 8 brings a wealth of changes. This cookbook helps you get up to speed right away with hundreds of hands-on recipes across a broad range of Java topics. You'll learn useful techniques for everything from debugging and data structures to GUI development and functional programming. Each recipe includes self-contained code solutions that you can freely use, along with a discussion of how and why they work. If you are familiar with Java basics, this cookbook will bolster your

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knowledge of the language in general and Java 8's main APIs in particular. Recipes include: Methods for compiling, running, and debugging Manipulating, comparing, and rearranging text Regular expressions for string- and pattern-matching Handling numbers, dates, and times Structuring data with collections, arrays, and other types Object-oriented and functional programming techniques Directory and filesystem operations Working with graphics, audio, and video GUI development, including JavaFX and handlers Network programming on both client and server Database access, using JPA, Hibernate, and JDBC Processing JSON and XML for data storage Multithreading and concurrency

Build, process and analyze large-scale graph data effectively with Spark About This Book Find solutions for every stage of data processing from loading and transforming graph data to Improve the scalability of your graphs with a variety of real-world applications with complete Scala code. A concise guide to processing large-scale networks with Apache Spark. Who This Book Is For This book is for data scientists and big data developers who want to learn the processing and analyzing graph datasets at scale. Basic programming experience with Scala is assumed. Basic knowledge of Spark is assumed. What You Will Learn Write, build and deploy Spark applications with the Scala Build Tool. Build and analyze large-scale network datasets Analyze and transform graphs using RDD and graph-specific operations Implement new custom graph operations tailored to specific needs. Develop iterative and efficient graph

algorithms using message aggregation and Pregel abstraction Extract subgraphs and use it to discover common clusters Analyze graph data and solve various data science problems using real-world datasets. In Detail Apache Spark is the next standard of open-source cluster-computing engine for processing big data. Many practical computing problems concern large graphs, like the Web graph and various social networks. The scale of these graphs - in some cases billions of vertices, trillions of edges - poses challenges to their efficient processing. Apache Spark GraphX API combines the advantages of both data-parallel and graph-parallel systems by efficiently expressing graph computation within the Spark data-parallel framework. This book will teach the user to do graphical programming in Apache Spark, apart from an explanation of the entire process of graphical data analysis. You will journey through the creation of graphs, its uses, its exploration and analysis and finally will also cover the conversion of graph elements into graph structures. This book begins with an introduction of the Spark system, its libraries and the Scala Build Tool. Using a hands-on approach, this book will quickly teach you how to install and leverage Spark interactively on the command line and in a standalone Scala program. Then, it presents all the methods for building Spark graphs using illustrative network datasets. Next, it will walk you through the process of exploring, visualizing and analyzing different network characteristics. This book will also teach you how to transform raw datasets into a usable form. In addition, you will learn powerful operations that can be used to

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transform graph elements and graph structures. Furthermore, this book also teaches how to create custom graph operations that are tailored for specific needs with efficiency in mind. The later chapters of this book cover more advanced topics such as clustering graphs, implementing graph-parallel iterative algorithms and learning methods from graph data. Style and approach A step-by-step guide that will walk you through the key ideas and techniques for processing big graph data at scale, with practical examples that will ensure an overall understanding of the concepts of Spark. Discover practical solutions for a wide range of real-world network programming tasks About This Book Solve real-world tasks in the area of network programming, system/networking administration, network monitoring, and more. Familiarize yourself with the fundamentals and functionalities of SDN Improve your skills to become the next-gen network engineer by learning the various facets of Python programming Who This Book Is For This book is for network engineers, system/network administrators, network programmers, and even web application developers who want to solve everyday network-related problems. If you are a novice, you will develop an understanding of the concepts as you progress with this book. What You Will Learn Develop TCP/IP networking client/server applications Administer local machines' IPv4/IPv6 network interfaces Write multi-purpose efficient web clients for HTTP and HTTPS protocols Perform

remote system administration tasks over Telnet and SSH connections Interact with popular websites via web services such as XML-RPC, SOAP, and REST APIs Monitor and analyze major common network security vulnerabilities Develop Software-Defined Networks with Ryu, OpenDaylight, Floodlight, ONOS, and POX Controllers Emulate simple and complex networks with Mininet and its extensions for network and systems emulations Learn to configure and build network systems and Virtual Network Functions (VNF) in heterogeneous deployment environments Explore various Python modules to program the Internet In Detail Python Network Programming Cookbook - Second Edition highlights the major aspects of network programming in Python, starting from writing simple networking clients to developing and deploying complex Software-Defined Networking (SDN) and Network Functions Virtualization (NFV) systems. It creates the building blocks for many practical web and networking applications that rely on various networking protocols. It presents the power and beauty of Python to solve numerous real-world tasks in the area of network programming, network and system administration, network monitoring, and web-application development. In this edition, you will also be introduced to network modelling to build your own cloud network. You will learn about the concepts and fundamentals of SDN and then extend your network with Mininet. Next, you'll find

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recipes on Authentication, Authorization, and Accounting (AAA) and open and proprietary SDN approaches and frameworks. You will also learn to configure the Linux Foundation networking ecosystem and deploy and automate your networks with Python in the cloud and the Internet scale. By the end of this book, you will be able to analyze your network security vulnerabilities using advanced network packet capture and analysis techniques. Style and approach This book follows a practical approach and covers major aspects of network programming in Python. It provides hands-on recipes combined with short and concise explanations on code snippets. This book will serve as a supplementary material to develop hands-on skills in any academic course on network programming. This book further elaborates network softwarization, including Software-Defined Networking (SDN), Network Functions Virtualization (NFV), and orchestration. We learn to configure and deploy enterprise network platforms, develop applications on top of them with Python.

Summary Camel in Action, Second Edition is the most complete Camel book on the market. Written by core developers of Camel and the authors of the highly acclaimed first edition, this book distills their experience and practical insights so that you can tackle integration tasks like a pro. Forewords by James Strachan and Dr. Mark Little Purchase of the print book includes a free eBook in PDF,

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Kindle, and ePub formats from Manning Publications. About the Technology Apache Camel is a Java framework that implements enterprise integration patterns (EIPs) and comes with over 200 adapters to third-party systems. A concise DSL lets you build integration logic into your app with just a few lines of Java or XML. By using Camel, you benefit from the testing and experience of a large and vibrant open source community. About the Book Camel in Action, Second Edition is the definitive guide to the Camel framework. It starts with core concepts like sending, receiving, routing, and transforming data. It then goes in depth on many topics such as how to develop, debug, test, deal with errors, secure, scale, cluster, deploy, and monitor your Camel applications. The book also discusses how to run Camel with microservices, reactive systems, containers, and in the cloud. What's Inside Coverage of all relevant EIPs Camel microservices with Spring Boot Camel on Docker and Kubernetes Error handling, testing, security, clustering, monitoring, and deployment Hundreds of examples in Java and XML About the Reader Readers should be familiar with Java. This book is accessible to beginners and invaluable to experts. About the Author Claus Ibsen is a senior principal engineer working for Red Hat specializing in cloud and integration. He has worked on Apache Camel for the last nine years where he heads the project. Claus lives in Denmark. Jonathan Anstey is an engineering

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manager at Red Hat and a core Camel contributor. He lives in Newfoundland, Canada. Table of Contents Part 1 - First steps Meeting Camel Routing with Camel Part 2 - Core Camel Transforming data with Camel Using beans with Camel Enterprise integration patterns Using components Part 3 - Developing and testing Microservices Developing Camel projects Testing RESTful web services Part 4 - Going further with Camel Error handling Transactions and idempotency Parallel processing Securing Camel Part 5 - Running and managing Camel Running and deploying Camel Management and monitoring Part 6 - Out in the wild Clustering Microservices with Docker and Kubernetes Camel tooling Bonus online chapters Available at <https://www.manning.com/books/camel-in-?action=second-edition> and in electronic versions of this book: Reactive Camel Camel and the IoT by Henryk Konsek

React is an open-source JavaScript library that is used for building user interfaces or UI components. This React book is designed to take you through the most valuable design patterns in React, helping you learn how to apply design patterns and best practices in real-world scenarios.

If you are a data analyst, developer, or simply someone who wants to use Hive to explore and analyze data in Hadoop, this is the book for you. Whether you are new to big data or an expert, with this book, you will be able to master both the

basic and the advanced features of Hive. Since Hive is an SQL-like language, some previous experience with the SQL language and databases is useful to have a better understanding of this book.

Enterprise Integration Patterns provides an invaluable catalog of sixty-five patterns, with real-world solutions that demonstrate the formidable of messaging and help you to design effective messaging solutions for your enterprise. The authors also include examples covering a variety of different integration technologies, such as JMS, MSMQ, TIBCO ActiveEnterprise, Microsoft BizTalk, SOAP, and XSL. A case study describing a bond trading system illustrates the patterns in practice, and the book offers a look at emerging standards, as well as insights into what the future of enterprise integration might hold. This book provides a consistent vocabulary and visual notation framework to describe large-scale integration solutions across many technologies. It also explores in detail the advantages and limitations of asynchronous messaging architectures. The authors present practical advice on designing code that connects an application to a messaging system, and provide extensive information to help you determine when to send a message, how to route it to the proper destination, and how to monitor the health of a messaging system. If you want to know how to manage, monitor, and maintain a messaging system once it is in use, get this book.

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A brand-new edition of the popular introductory textbook that explores how computer hardware, software, and networks work. Computers are everywhere. Some are highly visible, in laptops, tablets, cell phones, and smart watches. But most are invisible, like those in appliances, cars, medical equipment, transportation systems, power grids, and weapons. We never see the myriad computers that quietly collect, share, and sometimes leak personal data about us. Governments and companies increasingly use computers to monitor what we do. Social networks and advertisers know more about us than we should be comfortable with. Criminals have all-too-easy access to our data. Do we truly understand the power of computers in our world? In this updated edition of *Understanding the Digital World*, Brian Kernighan explains how computer hardware, software, and networks work. Topics include how computers are built and how they compute; what programming is; how the Internet and web operate; and how all of these affect security, privacy, property, and other important social, political, and economic issues. Kernighan touches on fundamental ideas from computer science and some of the inherent limitations of computers, and new sections in the book explore Python programming, big data, machine learning, and much more. Numerous color illustrations, notes on sources for further exploration, and a glossary explaining technical terms and buzzwords are

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included. Understanding the Digital World is a must-read for readers of all backgrounds who want to know more about computers and communications.

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