Cloud Foundry The Definitive By Duncan C E Winn

The organization pursuing digital transformation must embrace new ways to use and deploy integration technologies, so they can move quickly in a manner appropriate to the goals of multicloud, decentralization, and microservices. The integration layer must transform to allow organizations to move boldly in building new customer experiences, rather than forcing models for architecture and development that pull away from maximizing the organization's productivity. Many organizations have started embracing agile application techniques, such as microservice architecture, and are now seeing the benefits of that shift. This approach complements and accelerates an enterprise's API strategy. Businesses should also seek to use this approach to modernize their existing integration and messaging infrastructure to achieve more effective ways to manage and operate their integration services in their private or public cloud. This IBM® Redbooks® publication explores the merits of what we refer to as agile integration; a container-based, decentralized, and microservice-aligned approach for integration solutions that meets the demands of agility, scalability, and resilience required by digital transformation. It also discusses how the IBM Cloud Pak for Integration marks a significant leap forward in integration technology by embracing both a cloud-native approach and container technology to achieve the goals of agile integration. The target audiences for this book are cloud integration architects, IT specialists, and application developers.

This book describes the landscape of cloud computing from first principles, leading the reader step-by-step through the process of building and configuring a cloud environment. The book not only considers the technologies for designing and creating cloud computing platforms, but also the business models and frameworks in real-world implementation of cloud platforms. Emphasis is placed on "learning by doing," and readers are encouraged to experiment with a range of different tools and approaches. Topics and features: includes review questions, hands-on exercises, study activities and discussion topics throughout the text; demonstrates the approaches used to build cloud computing infrastructures; reviews the social, economic, and political aspects of the on-going growth in cloud computing use; discusses legal and security concerns in cloud computing; examines techniques for the appraisal of financial investment into cloud computing; identifies areas for further research within this rapidly-moving field.

Deploy and scale applications on Cloud Foundry About This Book Gain hands-on experience using Cloud Foundry Implement deployment, management and scaling of applications on Cloud Foundry Learn best practices and troubleshooting tips for running applications on Cloud Foundry Who This Book Is For This book is aimed at developers, engineers and architects who want to learn key aspects of developing and running applications on the Cloud Foundry Platform. Prior knowledge Cloud Foundry is not necessary. What You Will Learn Understand Cloud Foundry (CF) tools and concepts. Understand the breadth of possibilities unleashed through a lightweight agile approach to building and deploying applications. Design and deploy cloud native applications that run well on Cloud Foundry. Learn Microservice design concepts and worker applications. Customize service brokers to publish your services in the Cloud Foundry marketplace. Using, managing and creating buildpacks for the Cloud Foundry Platform. Troubleshoot applications on Cloud Foundry Perform zero-downtime deployments using blue/green routes, A/B testing, and painless rollbacks to earlier versions of the application. In Detail Cloud Foundry is the open source platform to deploy, run, and scale applications. Cloud Foundry is growing rapidly and a leading product that provides PaaS (Platform as a Service) capabilities to enterprise, government, and organizations around the globe. Giants like Dell Technologies, GE, IBM, HP and the US government are using Cloud Foundry innovate faster in a rapidly changing world. Cloud Foundry is a developer's dream. Enabling them to create modern applications that can leverage the latest thinking, techniques and capabilities of the cloud, including: DevOps Application Virtualization Infrastructure agnosticism Orchestrated containers Automation Zero downtime upgrades A/B deployment Quickly scaling applications out or in This book takes readers on a journey where they will first learn the Cloud Foundry basics, including how to deploy and scale a simple application in seconds. Readers will build their knowledge of how to create highly scalable and resilient cloud-native applications and microservices running on Cloud Foundry. Readers will learn how to integrate their application with services provided by Cloud Foundry and with those external to Cloud Foundry. Readers will learn how to structure their Cloud Foundry environment with orgs and spaces. After that, we'll discuss aspects of continuous integration/continuous delivery (CI/CD), monitoring and logging. Readers will also learn how to enable health checks, troubleshoot and debug applications. By the end of this book, readers will have hands-on experience in performing various deployment and scaling tasks. Additionally, they will have an understanding of what it takes to migrate and develop applications for Cloud Foundry. Style and Approach A practitioner's guide to Cloud Foundry that covers the areas of application development, deployment and services.

Big data is currently one of the most critical emerging technologies. Organizations around the world are looking to exploit the explosive growth of data to unlock previously hidden insights in the hope of creating new revenue streams, gaining operational efficiencies, and obtaining greater understanding of customer needs. It is important to think of big data and analytics together. Big data is the term used to describe the recent explosion of different types of data from disparate sources. Analytics is about examining data to derive interesting and relevant trends and patterns, which can be used to inform decisions, optimize processes, and even drive new business models. With today's deluge of data comes the problems of processing that data, obtaining the correct skills to manage and analyze that data, and establishing rules to govern the data's use and distribution. The big data technology stack is ever growing and sometimes confusing, even more so when we add the complexities of setting up big data environments with large up-front investments. Cloud computing seems to be a perfect vehicle for hosting big data workloads. However, working on big data in the cloud brings its own challenge of reconciling two contradictory design principles. Cloud computing is based on the concepts of consolidation and resource pooling, but big data systems (such as Hadoop) are built on the shared nothing principle, where each node is independent and self-sufficient. A solution architecture that can allow these mutually exclusive principles to coexist is required to truly exploit the elasticity and ease-of-use of cloud computing for big data environments. This IBM® RedpaperTM publication is aimed at chief architects, line-of-business executives, and CIOs to provide an understanding of the cloud-related challenges they face and give prescriptive guidance for how to realize the benefits of big data solutions quickly and cost-effectively.

The definitive guide to private equity for investors and finance professionals Mastering Private Equity was written with a professional audience in mind and provides a valuable and unique reference for investors, finance professionals, students and business owners looking to engage with private equity firms or invest in private equity funds. From deal sourcing to exit, LBOs to

responsible investing, operational value creation to risk management, the book systematically distils the essence of private equity into core concepts and explains in detail the dynamics of venture capital, growth equity and buyout transactions. With a foreword by Henry Kravis, Co-Chairman and Co-CEO of KKR, and special guest comments by senior PE professionals. This book combines insights from leading academics and practitioners and was carefully structured to offer: A clear and concise reference for the industry expert A step-by-step guide for students and casual observers of the industry A theoretical companion to the INSEAD case book Private Equity in Action: Case Studies from Developed and Emerging Markets Features guest comments by senior PE professionals from the firms listed below: Abraaj • Adams Street Partners • Apax Partners • Baring PE Asia • Bridgepoint • The Carlyle Group • Coller Capital • Debevoise & Plimpton LLP • FMO • Foundry Group • Freshfields Bruckhaus Deringer • General Atlantic • ILPA • Intermediate Capital Group • KKR Capstone • LPEQ • Maxeda • Navis Capital • Northleaf Capital • Oaktree Capital • Partners Group • Permira • Terra Firma

Microservices is an architectural style in which large, complex software applications are composed of one or more smaller services. Each of these microservices focuses on completing one task that represents a small business capability. These microservices can be developed in any programming language. They communicate with each other using language-neutral protocols, such as Representational State Transfer (REST), or messaging applications, such as IBM® MQ Light. This IBM Redbooks® publication gives a broad understanding of this increasingly popular architectural style, and provides some real-life examples of how you can develop applications using the microservices approach with IBM BluemixTM. The source code for all of these sample scenarios can be found on GitHub (https://github.com/). The book also presents some case studies from IBM products. We explain the architectural decisions made, our experiences, and lessons learned when redesigning these products using the microservices approach. Information technology (IT) professionals interested in learning about microservices and how to develop or redesign an application in Bluemix using microservices can benefit from this book.

The Encyclopedia of Cloud Computing provides IT professionals, educators, researchers and students with a compendium of cloud computing knowledge. Authored by a spectrum of subject matter experts in industry and academia, this unique publication, in a single volume, covers a wide range of cloud computing topics, including technological trends and developments, research opportunities, best practices, standards, and cloud adoption. Providing multiple perspectives, it also addresses questions that stakeholders might have in the context of development, operation, management, and use of clouds. Furthermore, it examines cloud computing's impact now and in the future. The encyclopedia presents 56 chapters logically organized into 10 sections. Each chapter covers a major topic/area with cross-references to other chapters and contains tables, illustrations, side-bars as appropriate. Furthermore, each chapter presents its summary at the beginning and backend material, references and additional resources for further information.

One of the most important industrial landmarks in the nation lies in the heart of historic Richmond. The Tredegar Iron Works was the most prodigious ordnance supplier to the Confederacy during the Civil War, as well as an industrial behemoth in its own right. Named for the hometown of the Welsh engineers who built it, Tredegar remained one of Richmond's chief industrial entities for over a century. It produced ordnance during five wars and helped build the railroads that rapidly spread across the nation during the Gilded Age. Author Nathan Vernon Madison, utilizing a wealth of primary sources and firsthand accounts, chronicles the full history of a Richmond industrial icon.

The Definitive Guide to SUSE Linux Enterprise Server 12 is a task-oriented book designed for self-study as well as classroom environments, which will also serve you as a reference guide. The book covers all skills that system administrators typically need to posses to administer SUSE Linux Enterprise Server in corporate environments. It starts at the beginning, which makes The Definitive Guide to SUSE Linux Enterprise Server 12 suitable for people without any preliminary Linux knowledge, and yet works up to advanced SUSE Linux administration tasks, such as building a cluster, optimizing performance or managing SUSE Linux Enterprise Server with SUSE Manager. The Definitive Guide to SUSE Linux Enterprise Server 12 is an ideal reference guide for system administrators, but is also perfect as a study book to prepare for the CLA, CLP as well as the CLE exams. This book contains step-by-step exercises, and scenario based exercises at the end of each chapter to help readers getting familiar with the subjects that are required to pass these three exams. The Definitive Guide to SUSE Linux Enterprise Server 12also contains test exams, so you can use it as a study guide in a formal learning environment or as a book that you can learn and test your own progress as you master SUSE Linux Enterprise Server. You'll learn everything you need to know and the skills you need to manage SUSE Linux Enterprise Servers, from installing a secure server, to performing the day-to-day management tasks on SUSE Linux Enterprise Server. Along the way you'll encounter and master SUSE Linux Enterprise Server in a data center environment, how to manage your SUSE Enterprise Server for High Availability, and you'll see how to manage your SUSE Linux Enterprise Server with SUSE Manager. From installation to expert management, The Definitive Guide to SUSE Linux Enterprise Server 12 will show you the ways to succeed with Linux Enterprise Server 12.

What separates the traditional enterprise from the likes of Amazon, Netflix, and Etsy? Those companies have refined the art of cloud native development to maintain their competitive edge and stay well ahead of the competition. This practical guide shows Java/JVM developers how to build better software, faster, using Spring Boot, Spring Cloud, and Cloud Foundry. Many organizations have already waded into cloud computing, test-driven development, microservices, and continuous integration and delivery. Authors Josh Long and Kenny Bastani fully immerse you in the tools and methodologies that will help you transform your legacy application into one that is genuinely cloud native. In four sections, this book takes you through: The Basics: learn the motivations behind cloud native thinking; configure and test a Spring Boot application; and move your legacy application to the cloud Web Services: build HTTP and RESTful services with Spring; route requests in your distributed system; and build edge services closer to the data Data Integration: manage your data with Spring Data, and integrate distributed services with Spring's support for event-driven, messaging-centric architectures Production: make your system observable; use service brokers to connect stateful services; and understand the big ideas behind continuous delivery

Software development today is embracing events and streaming data, which optimizes not only how technology interacts but also how businesses integrate with one another to meet customer needs. This phenomenon, called flow, consists of patterns and standards that determine which activity and related data is communicated between parties over the internet. This book explores critical implications of that evolution: What happens when events and data streams help you discover new activity sources to enhance existing businesses or drive new markets? What technologies and architectural patterns can position your company for opportunities enabled by flow? James Urquhart, global field CTO at VMware, guides enterprise architects, software developers,

and product managers through the process. Learn the benefits of flow dynamics when businesses, governments, and other institutions integrate via events and data streams Understand the value chain for flow integration through Wardley mapping visualization and promise theory modeling Walk through basic concepts behind today's event-driven systems marketplace Learn how today's integration patterns will influence the real-time events flow in the future Explore why companies should architect and build software today to take advantage of flow in coming years

4+ Hours of Video Instruction Learn now to develop, deploy, and manage applications on Cloud Foundry. Overview Cloud Foundry LiveLessons provides an introduction to the Cloud Foundry platform. The 11 lessons introduce fundamentals concepts, principles and best practices in Cloud Foundry and cloud-native architecture. You use Cloud Foundry to develop on a public-cloud, deploy and manage applications, integrate with back-services, interact with the Cloud Foundry API, extend the platform with service-brokers, and extend the platform with route-services. About the Instructors Josh Long, Spring Developer Advocate at Pivotal and Java Champion, is a lead author, or co-author, on five books on Spring for Apress and O'Reilly, a frequent speaker at conferences worldwide, a JavaOne rockstar, and also the instructor on three Spring LiveLessons videos. He is a contributor to various Spring projects (including Spring Boot) and an all-around Spring fan. When he's not hacking on code for SpringSource, he can be found at the local Java User Group or at the local coffee shop. Josh likes solutions that push the boundaries of the technologies that enable them. His interests include scalability, BPM, grid.processing, mobile computing, and so-called "smart" systems. He blogs at spring.io/blog or joshlong.com. You can follow Josh on Twitter starbuxman. Josh McKenty , VP Global Ecosystem Engineering at Pivota is an entrepreneur and technologist who works with Fortune 100 customers that seek to transition to a cloud native architecture and, with Pivotal's Cloud Foundry team, to bring new features and functionality to Cloud Foundry-based products, the industry-standard enterprise platform for the cloud era. A San Francisco Business Times 40-Under-40 Leader and NASA Ames Honor Award recipient, McKenty has been instrumental in defining and bringing cloud solutions to market. He co-founded OpenStack, the definitive open cloud solution for Infrastructure-as-a-Service, and Piston (acquired by Cisco), which provides OpenStack-based private cloud solutions for marquee enterprises across industries. As the founding Chief Architect, McKenty led the development of NASA Nebula, the federal government's first cloud computing platform. Skill Level Intermediate to advanced developer Learn How To Orchestrate VMs and containers Get Cloud Foundry Use multi-tenancy Install Cloud Foundry on Google Cloud Platform, Microsoft Azure, or Amazon Web Services (AWS) Using Cloud Foundry Contro...

The world's weaponry is showcased inside this spectacular visual guide. From the spears and swords of ancient times to the guns and grenades of modern warfare, 5,000 years of weaponry are explored and explained in unprecedented detail. Military History profiles key arms and armaments and conveys technologies and tactics across hundreds of pages of dramatic photography and accessible text. Find out how war is waged between battleships at sea, tanks on the battlefield, and fighter planes in the skies. Climb siege towers, drive chariots, enter medieval fortresses, fly unmanned drones, and detect stealth bombers. You will also experience virtual tours of iconic vehicles, including the T-34 Tank, the Lockheed F-117 Stealth Bomber, and the AH-64 Apache helicopter. And discover the leaders, battles, and weapons of war that have changed the course of history, and understand the lasting impact of global conflicts. This complete history of weaponry is essential reading for military enthusiasts of all ages.

In Pro Spring XD, you'll develop a foundation for creating applications that use real-time data streaming starting with your first Spring XD application. Then, you'll examine the Spring XD internals such as XD components such as jobs, taps and even more on streams. Additionally, you'll understand the Spring XD architecture, messaging, and DSLs. Furthermore, while building up your case study application, you'll learn and examine Spring XD's administration and monitoring tools, development and deployment tools, the Spring XD Rest APIs. Finally, you'll learn how to extend and use the available Spring XD modules and extensions and integrate with the Spring Integration framework for a most robust Spring XD application. Pro Spring XD is your authoritative guide to using the Spring XD platform. This integral Spring set of tools lets you build applications or application aspects that take advantage of big data. Spring XD is essentially a unified, distributed, and extensible system for data ingestion, real time analytics, batch processing, and data export. It also lets you work with third party big data processing engines like the very popular Hadoop and more. What you'll learn How to use Spring XD and integrate it with the Spring platform to build complex data-rich enterprise cloud applications How to use Spring XD with the popular Hadoop and other big data processing engines and frameworks How to use Spring XD components: Streams, Jobs, Taps How to use other Spring XD internals like XD architecture, XD messaging and XD DSL How to use advanced techniques like Spring XD administration and monitoring, development and deployment, the Spring XD REST APIs How to extend Spring XD using its modules and extensions How to use Spring Integration with Spring XD and more Who this book is for This book is for experienced Java and enterprise Java programmers/developers who have at least some prior experience with using the popular Spring Framework and platform.

Write and run Swift language programs in the Cloud Written by the team of developers that has helped bring the Swift language to Cloud computing, this is the definitive guide to writing and running Swift language programs for cloud environment. In Swift in the Cloud, you'll find full coverage of all aspects of creating and running Swift language applications in Cloud computing environments, complete with examples of real code that you can start running and experimenting with today. Since Apple introduced the Swift language in 2014, it has become one of the most rapidly adopted computer programming languages in history—and now you too can start benefitting from using the same programming language for all components of a scalable, robust business software solution. Create server applications using Swift and run them on pay-as-you-go cloud infrastructure Quickly write and test Swift code snippets in your own cloud sandbox Use Docker containers to deploy Swift applications into multiple cloud environments without having to change code Grasp the elements and structure of the Swift.org open technology project Find out how to avoid the complexities of runtime configuration by using Cloud Foundry buildpacks for Swift Build high performing web applications and REST APIs with an open source Swift based web server framework Scale up your cloud services by running Swift modules in an asynchronous, open source, 'serverless' cloud environment Whether you are already using Swift to build mobile applications or a seasoned web developer, Swift in the Cloud will help you leverage server-side Swift to power your next generation of applications.

The Practical, Foundational Technical Introduction to the World's #1 Cloud Platform Includes access to several hours of online training video: Mark Wilkins' expert training video library guides you through setting up core services and prepares you to deploy your own apps and resources. Learning Amazon Web Services (AWS) is the perfect foundational resource for all administrators, developers, project managers, and other IT professionals who want to plan and deploy AWS services and/or earn AWS certification. Top cloud trainer and evangelist Mark Wilkins teaches best practices that align with Amazon's Well-Architected Framework, introduces key concepts in the context of a running case study, carefully explains how core AWS services operate

and integrate, and offers extensively tested tips for maximizing flexibility, security, and value. Companion online videos guide you step-by-step through setting AWS compute, storage, networking, scale, security, automation, and more. Balance cost, compliance, and latency in your service designs Choose the right networking options for your virtual private cloud (VPC) Build, host, launch, manage, and budget for EC2 compute services Plan for scale and resiliency, and make informed decisions about AWS storage Enforce strict security, and automate to improve operational efficiency This book with companion training videos is a valuable learning tool for anyone seeking to demonstrate expertise through formal certification. WEB EDITION: All buyers of the book or ebook can register your book for access to a free online Web Edition of this title, which included videos embedded within the text, plus updates as they become available.

44 reusable patterns to develop and deploy reliable production-quality microservices-based applications, with worked examples in Java Key Features 44 design patterns for building and deploying microservices applications Drawing on decades of unique experience from author and microservice architecture pioneer Chris Richardson A pragmatic approach to the benefits and the drawbacks of microservices architecture Solve service decomposition, transaction management, and inter-service communication Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Microservices Patterns teaches you 44 reusable patterns to reliably develop and deploy production-quality microservices-based applications. This invaluable set of design patterns builds on decades of distributed system experience, adding new patterns for composing services into systems that scale and perform under real-world conditions. More than just a patterns catalog, this practical guide with worked examples offers industry-tested advice to help you design, implement, test, and deploy your microservices-based application. What You Will Learn How (and why!) to use microservices architecture Service decomposition strategies Transaction management and querying patterns Effective testing strategies Deployment patterns This Book Is Written For Written for enterprise developers familiar with standard enterprise application architecture. Examples are in Java. About The Author Chris Richardson is a Java Champion, a JavaOne rock star, author of Manning's POJOs in Action, and creator of the original CloudFoundry.com. Table of Contents Escaping monolithic hell Decomposition strategies Interprocess communication in a microservice architecture Managing transactions with sagas Designing business logic in a microservice architecture Developing business logic with event sourcing Implementing queries in a microservice architecture External API patterns Testing microservices: part 1 Testing microservices: part 2 Developing production-ready services Deploying microservices Refactoring to microservices

From an industry insider--a close look at high-performance,end-to-end switching solutions Load balancers are fast becoming an indispensable solution forhandling the huge traffic demands of the Web. Their ability tosolve a multitude of network and server bottlenecks in the Internetage ranges from dramatic improvements in server farm scalability toremoving the firewall as a network bottleneck. This book provides adetailed, up-to-date, technical discussion of this fast-growing,multibillion dollar market, covering the full spectrum oftopics--from server and firewall load balancing to transparentcache switching to global server load balancing. In the process,the author delivers insight into the way new technologies aredeployed in network infrastructure and how they work. Written by anindustry expert who hails from a leading Web switch vendor, thisbook will help network and server administrators improve thescalability, availability, manageability, and security of theirservers, firewalls, caches, and Web sites.

What exactly is a cloud-native platform? It's certainly a hot topic in IT, as enterprises today assess this option for developing and delivering software quickly and repeatedly. This O'Reilly report explains the capabilities of cloud-native platforms and examines the fundamental changes enterprises need to make in process, organization, and culture if they're to take real advantage of this approach. Author Duncan Winn focuses on the open source platform Cloud Foundry, one of the more prominent cloud-native providers. You'll learn how cloud-native applications are designed to be "infrastructure unaware" so they can thrive and move at will in the highly distributed and constantly evolving cloud environment. With this report, you'll explore: Technical driving forces that are rapidly changing the way organizations develop and deliver software today How key concepts underpinning the Cloud Foundry platform leverage each of the technical forces discussed How cloud-native platforms remove the requirement to perform undifferentiated heavy lifting, such as provisioning VMs, middleware, and databases Why cloud-native platforms enable fast feedback loops as you move from agile development to agile deployment Recommended changes and practical considerations for organizations that want to build cloud-native applications

A practical book filled with advanced recipes as well as plenty of code and real-life examples which will make your learning curve quick and easy. If you are a software developer who wants to develop distributed applications based on messaging [BISAC]; then this book is for you. It's assumed that you have some experience with multithreading applications and distributed applications. You are also expected to know the basic concepts of Web and cloud applications in order to follow the recipes effectively.

Quickly and productively develop complex Spring applications and microservices out of the box, with minimal concern over things like configurations. This revised book will show you how to fully leverage the Spring Boot 2 technology and how to apply it to create enterprise ready applications that just work. It will also cover what's been added to the new Spring Boot 2 release, including Spring Framework 5 features like WebFlux, Security, Actuator and the new way to expose Metrics through Micrometer framework, and more. This book is your authoritative hands-on practical guide for increasing your enterprise Java and cloud application productivity while decreasing development time. It's a no nonsense guide with case studies of increasing complexity throughout the book. The author, a senior solutions architect and Principal Technical instructor with Pivotal, the company behind the Spring Framework, shares his experience, insights and first-hand knowledge about how Spring Boot technology works and best practices. Pro Spring Boot 2 is an essential book for your Spring learning and reference library. What You Will Learn Configure and use Spring Boot Use non-functional requirements with Spring Boot Actuator Carry out web development with Spring Boot Persistence with JDBC, JPA and NoSQL Databases Messaging with JMS, RabbitMQ and WebSockets Test and deploy with Spring Boot A quick look at the Spring Cloud projects Microservices and deployment to the Cloud Extend Spring Boot by creating your own Spring Boot Starter and @Enable feature Who This Book Is For Experienced Spring and Java developers seeking increased productivity gains and decreased complexity and development time in their applications and software services.

You can choose several data access frameworks when building Java enterprise applications that work with relational databases. But what about big data? This hands-on introduction shows you how Spring Data makes it relatively easy to build applications across a wide range of new data access technologies such as NoSQL and Hadoop. Through several sample projects, you'll learn how Spring Data provides a consistent programming model that retains NoSQL-specific features and capabilities, and helps you develop Hadoop applications across a wide range of use-cases such as data analysis, event stream processing, and workflow.

You'll also discover the features Spring Data adds to Spring's existing JPA and JDBC support for writing RDBMS-based data access layers. Learn about Spring's template helper classes to simplify the use of database-specific functionality Explore Spring Data's repository abstraction and advanced query functionality Use Spring Data with Redis (key/value store), HBase (column-family), MongoDB (document database), and Neo4j (graph database) Discover the GemFire distributed data grid solution Export Spring Data JPA-managed entities to the Web as RESTful web services Simplify the development of HBase applications, using a lightweight object-mapping framework Build example big-data pipelines with Spring Batch and Spring Integration

This Manual is intended primarily for use by foundry personnel aboard repair ships and tenders. The recommended practices are based on procedures proved workable under Navy conditions and are supplemented by information from industrial sources. The Manual is divided into two general sections. The first section, chapters 1 through 13, contains information of a general nature, such as "How Metals Solidify," "Designing a Casting," "Sands for Molds and Cores," "Gates, Risers, and Chills," and "Description and Operation of Melting Furnaces." Subjects covered in these chapters are generally applicable to all of the metals that may be cast aboard ship. The second section, chapters 14 through 21, contains information on specific types of alloys, such as "Copper-Base Alloys," "Aluminum-Base Alloys," "Cast Iron," and "Steel." Specific melting practices, suggestions for sand mixes, molding practices, gating, and risering are covered in these chapters. This manual has been written with the "how-to-do-it" idea as the principal aim. Discussions as to the "why" of certain procedures have been kept to a minimum. This manual contains information that should result in the production of consistently better castings by repair ship personnel.

The things you need to do to set up a new software project can be daunting. First, you have to select the back-end framework to create your API, choose your database, set up security, and choose your build tool. Then you have to choose the tools to create your front end: select a UI framework, configure a build tool, set up Sass processing, configure your browser to auto-refresh when you make changes, and configure the client and server so they work in unison. If you're building a new application using Spring Boot and Angular, you can save days by using JHipster. JHipster generates a complete and modern web app, unifying: - A high-performance and robust Java stack on the server side with Spring Boot - A sleek, modern, mobile-first front-end with Angular and Bootstrap - A robust microservice architecture with the JHipster Registry, Netflix OSS, the ELK stack, and Docker - A powerful workflow to build your application with Yeoman, Webpack, and Maven/Gradle

Work with all aspects of batch processing in a modern Java environment using a selection of Spring frameworks. This book provides up-to-date examples using the latest configuration techniques based on Java configuration and Spring Boot. The Definitive Guide to Spring Batch takes you from the "Hello, World!" of batch processing to complex scenarios demonstrating cloud native techniques for developing batch applications to be run on modern platforms. Finally this book demonstrates how you can use areas of the Spring portfolio beyond just Spring Batch 4 to collaboratively develop mission-critical batch processes. You'll see how a new class of use cases and platforms has evolved to have an impact on batch-processing. Data science and big data have become prominent in modern IT and the use of batch processing to orchestrate workloads has become commonplace. The Definitive Guide to Spring Batch covers how running finite tasks on cloud infrastructure in a standardized way has changed where batch applications are run. Additionally, you'll discover how Spring Batch 4 takes advantage of Java 9, Spring Framework 5, and the new Spring Boot 2 micro-framework. After reading this book, you'll be able to use Spring Boot to simplify the development of your own Spring projects, as well as take advantage of Spring Cloud Task and Spring Cloud Data Flow for added cloud native functionality. Includes a foreword by Dave Syer, Spring Batch project founder. What You'll Learn Discover what is new in Spring Batch 4 Carry out finite batch processing in the cloud using the Spring Batch project Understand the newest configuration techniques based on Java configuration and Spring Boot using practical examples Master batch processing in complex scenarios including in the cloud Develop batch applications to be run on modern platforms Use areas of the Spring portfolio beyond Spring Batch to develop mission-critical batch processes Who This Book Is For Experienced Java and Spring coders new to the Spring Batch platform. This definitive book will be useful in allowing even experienced Spring Batch users and developers to maximize the Spring Batch tool.

Virtualization, cloud, containers, server automation, and software-defined networking are meant to simplify IT operations. But many organizations adopting these technologies have found that it only leads to a faster-growing sprawl of unmanageable systems. This is where infrastructure as code can help. With this practical guide, author Kief Morris of ThoughtWorks shows you how to effectively use principles, practices, and patterns pioneered through the DevOps movement to manage cloud age infrastructure. Ideal for system administrators, infrastructure engineers, team leads, and architects, this book demonstrates various tools, techniques, and patterns you can use to implement infrastructure as code. In three parts, you'll learn about the platforms and tooling involved in creating and configuring infrastructure elements, patterns for using these tools, and practices for making infrastructure as code work in your environment. Examine the pitfalls that organizations fall into when adopting the new generation of infrastructure technologies Understand the capabilities and service models of dynamic infrastructure platforms Learn about tools that provide, provision, and configure core infrastructure resources Explore services and tools for managing a dynamic infrastructure Learn specific patterns and practices for provisioning servers, building server templates, and updating running servers

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 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

Build enhanced visual experiences and design and deploy modern, easy-to-maintain, client applications across a variety of platforms. This book will show you how these applications can take advantage of the latest user interface components, 3D technology, and cloud services to create immersive visualizations and allow high-value data manipulation. The Definitive Guide to Modern Java Clients with JavaFX is a professional reference for building Java applications for desktop, mobile, and embedded in the Cloud age. It offers end-to-end coverage of the latest features in JavaFX and Java 13. After reading this book, you will be equipped to upgrade legacy client applications, develop cross-platform applications in Java, and build enhanced desktop and mobile native clients. What You Will Learn Create modern client applications in Java using the latest JavaFX and Java 13 Build enterprise clients that will enable integration with existing cloud services Use advanced visualization and 3D features Deploy on desktop, mobile, and embedded devices Who This Book Is For Professional Java developers who are interested in learning the latest client Java development techniques to fill out their skillset.

Federal Cloud Computing: The Definitive Guide for Cloud Service Providers, Second Edition offers an in-depth look at topics surrounding federal cloud computing within the federal government, including the Federal Cloud Computing Strategy, Cloud Computing Standards, Security and Privacy, and Security Automation. You will learn the basics of the NIST risk management framework (RMF) with a specific focus on cloud computing environments, all aspects of the Federal Risk and Authorization Management Program (FedRAMP) process, and steps for cost-effectively implementing the Assessment and Authorization (A&A) process, as well as strategies for implementing Continuous Monitoring, enabling the Cloud Service Provider to address the FedRAMP requirement on an ongoing basis. This updated edition will cover the latest changes to FedRAMP program, including clarifying guidance on the paths for Cloud Service Providers to achieve FedRAMP compliance, an expanded discussion of the new FedRAMP Security Control, which is based on the NIST SP 800-53 Revision 4, and maintaining FedRAMP compliance through Continuous Monitoring. Further, a new chapter has been added on the FedRAMP requirements for Vulnerability Scanning and Penetration Testing. Provides a common understanding of the federal requirements as they apply to cloud computing Offers a targeted and cost-effective approach for applying the National Institute of Standards and Technology (NIST) Risk Management Framework (RMF) Features both technical and non-technical perspectives of the Federal Assessment and Authorization (A&A) process that speaks across the organization

Internet-of-Things (IoT) Analytics are an integral element of most IoT applications, as it provides the means to extract knowledge, drive actuation services and optimize decision making. IoT analytics will be a major contributor to IoT business value in the coming years, as it will enable organizations to process and fully leverage large amounts of IoT data, which are nowadays largely underutilized. The Building Blocks of IoT Analytics is devoted to the presentation the main technology building blocks that comprise advanced IoT analytics systems. It introduces IoT analytics as a special case of BigData analytics and accordingly presents leading edge technologies that can be deployed in order to successfully confront the main challenges of IoT analytics applications. Special emphasis is paid in the presentation of technologies for IoT streaming and semantic interoperability across diverse IoT streams. Furthermore, the role of cloud computing and BigData technologies in IoT analytics are presented, along with practical tools for implementing, deploying and operating non-trivial IoT applications. Along with the main building blocks of IoT analytics systems and applications, the book presents a series of practical applications, which illustrate the use of these technologies in the scope of pragmatic applications. Technical topics discussed in the book include: Cloud Computing and BigData for IoT analyticsSearching the Internet of ThingsDevelopment Tools for IoT Analytics ApplicationsIoT Analytics-as-a-ServiceSemantic Modelling and Reasoning for IoT AnalyticsIoT analytics for Smart BuildingsIoT analytics for Smart CitiesOperationalization of IoT analyticsEthical aspects of IoT analytics This book contains both research oriented and applied articles on IoT analytics, including several articles reflecting work undertaken in the scope of recent European Commission funded projects in the scope of the FP7 and H2020 programmes. These articles present results of these projects on IoT analytics platforms and applications. Even though several articles have been contributed by different authors, they are structured in a well thought order that facilitates the reader either to follow the evolution of the book or to focus on specific topics depending on his/her background and interest in IoT and IoT analytics technologies. The compilation of these articles in this edited volume has been largely motivated by the close collaboration of the co-authors in the scope of working groups and IoT events organized by the Internet-of-Things Research Cluster (IERC), which is currently a part of EU's Alliance for Internet of Things Innovation (AIOTI).

Continuous Delivery Blueprint is a comprehensive guide to building a robust and efficient change management process at scale. It focuses on improving organizational structure, architecture, process, and technology to achieve a fast, high-quality delivery without sacrificing control and transparency. The book describes the executable policy approach to continuous delivery. It shows how new technology advancements in microservices architecture, cloud infrastructure, and intelligent automation can be used to redesign legacy processes and implement change management and security policies in a DevOps way.

How can Cloud Foundry help you develop and deploy business-critical applications and tasks with velocity? This practical guide demonstrates how this open source, cloud-native application platform not only significantly reduces the develop-to-deploy cycle time, but also raises the value line for application operators by changing the way applications and supporting services are deployed and run. Learn how Cloud Foundry can help you improve your product velocity by handling many of essential tasks required to run applications in production. Author Duncan Winn shows DevOps and operations teams how to configure and run Cloud Foundry at scale. You'll examine Cloud Foundry's technical concepts—including how various platform components interrelate—and learn how to choose your underlying infrastructure, define the networking architecture, and establish resiliency requirements. This book covers: Cloud-native concepts that make the app build, test, deploy, and scale faster How to deploy Cloud Foundry and the BOSH release engineering toolchain Concepts and components of Cloud Foundry's runtime architecture Cloud Foundry's routing mechanisms and capabilities The platform's approach to container tooling and orchestration BOSH concepts, deployments, components, and commands Basic tools and techniques for debugging the platform Recent and soon-to-emerge features of Cloud Foundry

This book combines the three dimensions of technology, society and economy to explore the advent of today's cloud ecosystems as successors to older service ecosystems based on networks. Further, it describes the shifting of services to the cloud as a long-term trend that is still progressing rapidly.The book adopts a comprehensive perspective on the key success factors for the

technology – compelling business models and ecosystems including private, public and national organizations. The authors explore the evolution of service ecosystems, describe the similarities and differences, and analyze the way they have created and changed industries. Lastly, based on the current status of cloud computing and related technologies like virtualization, the internet of things, fog computing, big data and analytics, cognitive computing and blockchain, the authors provide a revealing outlook on the possibilities of future technologies, the future of the internet, and the potential impacts on business and society.

Summary Google Cloud Platform in Action teaches you to build and launch applications that scale, leveraging the many services on GCP to move faster than ever. You'll learn how to choose exactly the services that best suit your needs, and you'll be able to build applications that run on Google Cloud Platform and start more quickly, suffer fewer disasters, and require less maintenance. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Thousands of developers worldwide trust Google Cloud Platform, and for good reason. With GCP, you can host your applications on the same infrastructure that powers Search, Maps, and the other Google tools you use daily. You get rock-solid reliability, an incredible array of prebuilt services, and a cost-effective, pay-only-for-what-you-use model. This book gets you started. About the Book Google Cloud Platform in Action teaches you how to deploy scalable cloud applications on GCP. Author and Google software engineer JJ Geewax is your guide as you try everything from hosting a simple WordPress web app to commanding cloud-based AI services for computer vision and natural language processing. Along the way, you'll discover how to maximize cloud-based data storage, roll out serverless applications with Cloud Functions, and manage containers with Kubernetes. Broad, deep, and complete, this authoritative book has everything you need. What's inside The many varieties of cloud storage and computing How to make cost-effective choices Hands-on code examples Cloud-based machine learning About the Reader Written for intermediate developers. No prior cloud or GCP experience required. About the Author JJ Geewax is a software engineer at Google, focusing on Google Cloud Platform and API design. Table of Contents PART 1 - GETTING STARTED What is "cloud"? Trying it out: deploying WordPress on Google Cloud The cloud data center PART 2 - STORAGE Cloud SQL: managed relational storage Cloud Datastore: document storage Cloud Spanner: large-scale SQL Cloud Bigtable: large-scale structured data Cloud Storage: object storage PART 3 - COMPUTING Compute Engine: virtual machines Kubernetes Engine: managed Kubernetes clusters App Engine: fully managed applications Cloud Functions: serverless applications Cloud DNS: managed DNS hosting PART 4 - MACHINE LEARNING Cloud Vision: image recognition Cloud Natural Language: text analysis Cloud Speech: audio-to-text conversion Cloud Translation: multilanguage machine translation Cloud Machine Learning Engine: managed machine learning PART 5 - DATA PROCESSING AND ANALYTICS BigQuery: highly scalable data warehouse Cloud Dataflow: large-scale data processing Cloud Pub/Sub: managed event publishing

The upcoming Java 9 module system will affect existing applications and offer new ways of creating modular and maintainable applications. With this hands-on book, Java developers will learn not only about the joys of modularity, but also about the patterns needed to create truly modular and reliable applications. Authors Sander Mak and Paul Bakker teach you the concepts behind the Java 9 module system, along with the new tools it offers. You'll also gain learn how to modularize existing code and how to build new Java applications in a modular way. Understand Java 9 module system concepts Master the patterns and practices for building truly modular applications Migrate existing applications and libraries to Java 9 modules Use JDK 9 tools for modular development and migration

Graphic design guru Tim Leong presents Star Wars trivia in an all-new way—through playful pie charts, bar graphs, and other data-driven infographics. From a Venn diagram of Yoda's idiosyncrasies to an organizational chart of the Empire to a line graph of Grand Moff Tarkin's management decisions, Star Wars Super Graphic shines a new light on the much-adored universe. Equal parts playful and informative, this visual love letter to the vast Star Wars universe will enchant fans of all ages. © and TM Lucasfilm Ltd. Used Under Authorization

Offers information on cloud theory and strategies and includes information on how to build and deliver a private cloud using VMware vCloud Director 5.1.

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