Testing Java Microservices

Microservices Best Practices for JavaMicroservices Design Patterns with JavaEnterprise Java MicroservicesTesting Java MicroservicesHands-On Enterprise Java Microservices with Eclipse MicroProfileDas Microservices-PraxisbuchMicroservices with Spring Boot and Spring CloudModularisierung mit Java 9Microservices from Theory to Practice: Creating Applications in IBM Bluemix Using the Microservices ApproachLearn Microservices with Spring BootMicroservices Microservices with Spring Boot 3 and Spring CloudMastering Microservices with Java 9Microservices Deployment CookbookBuilding Modern Web Applications With Jakarta EE, NoSQL Databases and MicroservicesBeginning EJB in Java EE 8MicroservicesBuilding and Delivering Microservices on AWSHands-On Cloud-Native Microservices with Jakarta EEMicroservices Security in ActionMicroservices for the EnterpriseDesign, User Experience, and UsabilityPractical Microservices Architectural PatternsSpring Microservices in Action, Second EditionCloud Native Microservices with Spring and KubernetesSpring MicroservicesCloud Application Architecture PatternsSpring Microservices in ActionSystems BenchmarkingCloud Native Microservices CookbookSupercharge Your Applications with GraalVMMicroservices TestingHands-On Microservices -Monitoring and TestingiX Developer Besserer Code 2021Hands-On Microservices with Spring Boot and Spring Cloud: A Developer's Guide 2025Kubernetes Native Microservices with Quarkus and MicroProfileEnhancing Java EE Applications: Strategies for Performance and ScalabilityService-Oriented ComputingEnabling Microservice SuccessPersistence Best Practices for Java Applications Michael Hofmann Sergey Seroukhov Kenneth Finnigan Jason Porter Cesar Saavedra Eberhard Wolff Magnus Larsson Guido Oelmann Shahir Daya Moises Macero Sam Newman Magnus Larsson Sourabh Sharma Vikram Murugesan Aristides Villarreal Gonzalez Bravo, Geovanny Mendoza Santana Otavio Goncalves de Jonathan Wetherbee Antonio Bucchiarone Amar Deep Singh Luigi Fugaro Wajjakkara Kankanamge Anthony Nuwan Dias Kasun Indrasiri Aaron Marcus Binildas Christudas John Carnell Rajiv Srivastava Rajesh RV Kyle Brown John Carnell Samuel Kounev Varun Yadav A B Vijay Kumar Aditya Pratap Bhuyan Dinesh Rajput iX Redaktion Sasibhushana Matcha, Prof (Dr) Sandeep Kumar John Clingan Peter Jones Walid Gaaloul Sarah Wells Otavio Santana

Microservices Best Practices for Java Microservices Design Patterns with Java Enterprise Java Microservices Testing Java Microservices Hands-On Enterprise Java Microservices with Eclipse MicroProfile Das Microservices-Praxisbuch Microservices with Spring Boot and Spring Cloud Modularisierung mit Java 9 Microservices from Theory to Practice: Creating Applications in IBM Bluemix Using the Microservices Approach Learn Microservices with Spring Boot Microservices Microservices with Spring Boot 3 and Spring Cloud Mastering Microservices with Java 9 Microservices Deployment Cookbook Building Modern Web Applications With Jakarta EE, NoSQL Databases and Microservices Beginning EJB in Java EE 8 Microservices Building and Delivering Microservices on AWS Hands-On Cloud-Native Microservices with Jakarta EE Microservices Security in Action Microservices for the Enterprise Design, User Experience, and Usability Practical Microservices Architectural Patterns Spring Microservices in Action, Second Edition Cloud Native Microservices with Spring and Kubernetes Spring Microservices Cloud Application Architecture Patterns Spring Microservices in Action Systems Benchmarking Cloud Native Microservices Cookbook Supercharge Your Applications with GraalVM Microservices Testing Hands-On Microservices -Monitoring and Testing iX Developer Besserer Code 2021 Hands-On Microservices with Spring Boot and Spring Cloud: A Developer's Guide 2025 Kubernetes Native Microservices with Quarkus and MicroProfile Enhancing Java EE Applications: Strategies for Performance and Scalability Service-Oriented Computing Enabling Microservice Success Persistence Best Practices for Java Applications Michael Hofmann Sergey Seroukhov Kenneth Finnigan Jason Porter Cesar Saavedra Eberhard Wolff Magnus Larsson Guido Oelmann Shahir Daya Moises Macero Sam Newman Magnus Larsson Sourabh Sharma Vikram Murugesan Aristides Villarreal Gonzalez Bravo, Geovanny Mendoza Santana Otavio Goncalves de Jonathan Wetherbee Antonio Bucchiarone Amar Deep Singh Luigi Fugaro Wajjakkara Kankanamge Anthony Nuwan Dias Kasun Indrasiri Aaron Marcus Binildas Christudas John Carnell Rajiv Srivastava Rajesh RV Kyle Brown John Carnell Samuel Kounev Varun Yadav A B Vijay Kumar Aditya Pratap Bhuyan Dinesh Rajput iX Redaktion Sasibhushana Matcha, Prof (Dr) Sandeep Kumar John Clingan Peter Jones Walid Gaaloul Sarah Wells Otavio Santana

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 this ibm redbooks publication covers microservices best practices for java it focuses on creating cloud native applications using the latest version of ibm websphere application server

liberty ibm bluemix and other open source frameworks in the microservices ecosystem to highlight microservices best practices for java

java microservices the ultimate pattern quide key features covers 70 java microservices patterns in detail practical code examples for immediate application strategies from architecture to deployment explained description microservices a popular software architecture style breaks down applications into small independent services built with java a versatile and widely used programming language this book serves as a roadmap for mastering design patterns that solve common problems encountered during microservices development in java start with microservices setup for team success discover various architectural styles and communication approaches for seamless service interaction learn effective data management within microservices acquire skills for handling unforeseen scenarios in transactions and crafting secure apis for user service access lastly grasp crucial monitoring testing and deployment practices to identify and address issues ensuring smooth production deployment microservices design patterns with java positions itself as an indispensable tool in the arsenal of today s software professionals it not only aids in navigating the complexities of microservices architecture but also enhances the reader s ability to deliver robust high quality software solutions efficiently what you will learn architect scalable resilient microservices using java based design patterns implement efficient communication and data management strategies within microservices design secure robust external apis for microservices integration and interaction monitor and maintain microservices with advanced logging tracing and health checks deploy microservices with docker kubernetes and serverless platforms effectively automate ci cd pipelines for microservices for streamlined development and deployment who this book is for this book is for seasoned microservices developers seeking to expand their repertoire of design patterns and practices as well as for newcomers looking for comprehensive guidance on patterns and practices throughout the entire development lifecycle it is tailored for architects developers team leads and devops engineers table of contents 1 defining product vision and organization structure 2 architecting microservices systems 3 organizing and documenting code 4 configuring microservices 5 implementing communication 6 working with data 7 handling complex business transactions 8 exposing external apis 9 monitoring microservices 10 packaging microservices 11 testing microservices 12 scripting environments 13 automating ci cd pipelines 14 assembling and deploying products

summary enterprise java microservices is an example rich tutorial that shows how to design and manage large scale java applications as a collection of microservices purchase of the print book includes a free ebook in pdf kindle and epub formats from manning publications about the technology large applications are easier to develop and maintain when you build them from small simple components java developers now enjoy a wide range of tools that support microservices application development including right sized app servers open source frameworks and well defined patterns best of all you can build microservices applications using your existing java skills about the book enterprise java microservices teaches you to design and build jvm based microservices applications you ll start by learning how microservices designs compare to traditional java ee applications always practical author ken finnigan introduces big picture concepts along with the tools and techniques you ll need to implement them you ll discover ecosystem components like netflix hystrix for fault tolerance and master the just enough application server jeas approach to ensure smooth operations you ll also examine monitoring security testing and deploying to the cloud what s inside the microservices mental model cloud native development strategies for fault tolerance and monitoring securing your finished applications about the reader this book is for java developers familiar with java ee about the author ken finnigan leads the thorntail project at red hat which seeks to make developing microservices for the cloud with java and java ee as easy as possible table of contents part 1 microservices basics enterprise java microservices developing a simple restful microservice just enough application server for microservices microservices testing cloud native development part 2 implementing enterprise java microservices consuming microservices discovering microservices for consumption strategies for fault tolerance and monitoring securing a microservice architecting a microservice hybrid data streaming with apache kafka

summary testing java microservices teaches you to implement unit and integration tests for microservice systems running on the jvm you ll work with a microservice environment built using java ee wildfly swarm and docker you ll learn how to increase your test coverage and productivity and gain confidence that your system will work as you expect purchase of the print book includes a free ebook in pdf kindle and epub formats from manning publications about the technology microservice applications present special testing challenges even simple services need to handle unpredictable loads and distributed message based designs pose unique security and performance concerns these challenges increase when you throw in asynchronous communication and containers

about the book testing java microservices teaches you to implement unit and integration tests for microservice systems running on the jvm you ll work with a microservice environment built using java ee wildfly swarm and docker you ll advance from writing simple unit tests for individual services to more advanced practices like chaos or integration tests as you move towards a continuous delivery pipeline you ll also master live system testing using technologies like the arquillian wiremock and mockito frameworks along with techniques like contract testing and over the wire service virtualization master these microservice specific practices and tools and you ll greatly increase your test coverage and productivity and gain confidence that your system will work as you expect what s inside test automation integration testing microservice systems testing container centric systems service virtualization about the reader written for java developers familiar with java ee ee4j spring or spring boot about the authors alex soto bueno and jason porter are arguillian team members andy gumbrecht is an apache tomee developer and pmc they all have extensive enterprise testing experience table of contents an introduction to microservices application under test unit testing microservices component testing microservices integration testing microservices contract tests end to end testing docker and testing service virtualization continuous delivery in microservices

an effective guide to designing building and deploying enterprise java microservices with eclipse microprofile key featurescreate cloud native microservices with ease using this detailed guideavoid vendor lock in when implementing microservices using eclipse microprofilediscover why microprofile is a great specification for building microservices in multi cloud environmentsbook description eclipse microprofile has gained momentum in the industry as a multi vendor interoperable community driven specification it is a major disruptor that allows organizations with large investments in enterprise java to move to microservices without spending a lot on retraining their workforce this book is based on microprofile 2 2 however it will guide you in running your applications in microprofile 3 0 you 11 start by understanding why microservices are important in the digital economy and how microprofile addresses the need for enterprise java microservices you 11 learn about the subprojects that make up a microprofile its value proposition to organizations and developers and its processes and governance as you advance the book takes you through the capabilities and code examples of microprofile s subprojects config fault tolerance health check jwt propagation metrics and opentracing finally you 11 be guided in developing a conference application using eclipse microprofile and explore possible scenarios of

what s next in microprofile with jakarta ee by the end of this book you ll have gained a clear understanding of eclipse microprofile and its role in enterprise java microservices what you will learnunderstand why microservices are important in the digital economyanalyze how microprofile addresses the need for enterprise java microservicestest and secure your applications with eclipse microprofileget to grips with various microprofile capabilities such as openapi and typesafe rest clientexplore reactive programming with microprofile stream and messaging candidate apisdiscover and implement coding best practices using microprofilewho this book is for if you re a java developer who wants to create enterprise microservices this book is for you familiarity with java ee and the concept of microservices will help you get the most out of this book

microservices haben viele vorteile effizient mehr features umsetzen software schneller in produktion bringen robustheit und einfache skalierbarkeit zählen dazu aber die implementierung einer microservices architektur und die auswahl der notwendigen technologien sind schwierige herausforderungen dieses buch zeigt microservices rezepte die architekten anpassen und zu einem microservices menü kombinieren können so kann die implementierung der microservices individuell auf die anforderungen im projekt angepasst werden eberhard wolff führt zunächst in microservices self contained systems mikro und makro architektur und die migration hin zu microservices ein der zweite teil zeigt die microservices rezepte basis technologien wie docker oder paas frontend integration mit links javascript oder esi edge side includes es schließen sich asynchrone microservices mit apache kafka oder rest atom an bei den synchronen ansätzen bespricht das buch rest mit dem netflix stack consul und kubernetes zu jedem rezept gibt es hinweise zu variations und kombinationsmöglichkeiten der ausblick greift den betrieb von microservices auf und zeigt außerdem wie der leser ganz konkret mit microservices beginnen kann das buch bietet das technische rüstzeug um eine microservices architektur umzusetzen demo projekte und anregungen für die vertiefung im selbststudium runden das buch ab

a step by step guide to creating and deploying production quality microservices based applications key featuresbuild cloud native production ready microservices with this comprehensively updated guideunderstand the challenges of building large scale microservice architectureslearn how to get the best out of spring cloud kubernetes and istio in combinationbook description with this book you ll learn how to efficiently build and deploy microservices this new edition has been updated for the most recent versions of spring java

kubernetes and istio demonstrating faster and simpler handling of spring boot local kubernetes clusters and istio installation the expanded scope includes native compilation of spring based microservices support for mac and windows with wsl2 and an introduction to helm 3 for packaging and deployment a revamped security chapter now follows the oauth 2 1 specification and makes use of the newly launched spring authorization server from the spring team starting with a set of simple cooperating microservices you ll add persistence and resilience make your microservices reactive and document their apis using openapi you ll understand how fundamental design patterns are applied to add important functionality such as service discovery with netflix eureka and edge servers with spring cloud gateway you ll learn how to deploy your microservices using kubernetes and adopt istio you ll explore centralized log management using the elasticsearch fluentd and kibana efk stack and monitor microservices using prometheus and grafana by the end of this book you ll be confident in building microservices that are scalable and robust using spring boot and spring cloud what you will learnbuild reactive microservices using spring bootdevelop resilient and scalable microservices using spring clouduse oauth 2 1 oidc and spring security to protect public apisimplement docker to bridge the gap between development testing and productiondeploy and manage microservices with kubernetesapply istio for improved security observability and traffic managementwrite and run automated microservice tests with junit testcontainers gradle and bashwho this book is for if you are a java or spring boot developer who wants to learn how to build microservice landscapes from scratch this book is for you no familiarity with microservices architecture is required

dieses buch liefert ihnen eine fundierte und kompakte einführung in das thema modularisierung von software und zeigt wie sie modularisierte anwendungen auf basis des java modulsystems erstellen können im ersten teil des buches geht es um die theoretischen grundlagen was ist überhaupt ein modul wie lässt sich ein softwaresystem sinnvoll modularisieren was ist beim entwurf von modulen und dem zusammenspiel der module untereinander zu beachten warum ist modularisierung eigentlich so wichtig hier lernen sie die prinzipien die auch außerhalb der java welt ihre verwendung finden und werden in das denken in modulen und schnittstellen eingeführt der zweite teil stellt das mit java 9 eingeführte java modulsystem in seiner ganzen bandbreite vor und erläutert dieses anhand vieler beispiele dabei geht es u a um arten von java modulen services modulschichten das modularisierte jdk erstellung eigener jres testen und patchen von modulen migration von anwendungen darüber hinaus wird die verwendung der gängigen ides eclipse netbeans intellij idea

und build tools ant maven gradle mit java modulen behandelt die betrachtung weiterer modularisierungsansätze microservices und container schließen das buch ab anhand von beispielen erfahren sie wie sich diese ansätze mit java modulen verbinden lassen

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 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

build a microservices architecture with spring boot by evolving an application from a small monolith to an event driven architecture composed of several services this book follows an incremental approach to teach microservice structure test driven development eureka ribbon zuul and end to end tests with cucumber author moises macero follows a very pragmatic approach to explain the benefits of using this type of software architecture instead of keeping you distracted with theoretical concepts he covers some of the state of the art techniques in computer programming from a practical point of view you ll focus on what s important starting with the minimum viable product but keeping the flexibility to evolve it what you ll learn build microservices with spring boot use event driven architecture and messaging with rabbitmq create restful services with spring master service discovery with eureka and load balancing with ribbon route requests with zuul as your api gateway write end to end rests for an event driven architecture using cucumber carry out continuous integration and deployment who this book is for those with at least some prior experience with java programming some prior exposure to spring boot recommended but not required

create and deploy production grade microservices based applications with this latest edition updated to spring boot 3 java 17 and spring cloud 2022 purchase of the print or kindle book includes a free pdf ebook key features build cloud native production ready microservices and stay ahead of the curve understand the challenges of building large scale microservice architectures learn how to get the best out of the latest updates including spring boot 3 spring cloud kubernetes and istio book descriptionlooking to build and deploy microservices but not sure where to start check out microservices with spring boot 3 and spring cloud third edition with a practical approach you ll begin with simple microservices and progress to complex distributed applications learn essential functionality and deploy microservices using kubernetes and istio this book covers java 17 spring boot 3 and spring cloud 2022 java ee packages are replaced with the latest jakarta ee packages code examples are updated and deprecated apis have been replaced providing the most up to date information gain knowledge of spring s aot module observability distributed tracing and helm 3 for kubernetes packaging start with docker compose to run microservices with databases and messaging services progress to deploying microservices on kubernetes with istio explore persistence resilience reactive microservices and api documentation with openapi learn service discovery with netflix eureka edge servers with spring cloud gateway and monitoring with prometheus grafana and the efk stack by the end you ll build scalable microservices using spring boot and spring cloud what you will learn build reactive microservices using spring boot develop resilient and scalable microservices using spring cloud use oauth 2 1 oidc and spring security to protect public apis implement docker to bridge the gap between development testing and production deploy and manage microservices with kubernetes apply istio for improved security observability and traffic management write and run automated microservice tests with junit test containers gradle and bash use spring aot and graalvm to native compile the microservices use micrometer tracing for distributed tracing who this book is forif you re a java or spring boot developer learning how to build microservice landscapes from scratch then this book is for you to get started you need some prior experience in building apps with java or spring boot

master the art of implementing scalable microservices in your production environment with ease about this book use domain driven design to build microservices use spring cloud to use service discovery and registeration use kafka avro and spring streams for implementing event based microservices who this book is for this book is for java developers who are familiar with the

microservices architecture and now wants to take a deeper dive into effectively implementing microservices at an enterprise level a reasonable knowledge level and understanding of core microservice elements and applications is expected what you will learn use domain driven design to design and implement microservices secure microservices using spring security learn to develop rest service development deploy and test microservices troubleshoot and debug the issues faced during development learning best practices and common principals about microservices in detail microservices are the next big thing in designing scalable easy to maintain applications it not only makes app development easier but also offers great flexibility to utilize various resources optimally if you want to build an enterprise ready implementation of the microservices architecture then this is the book for you starting off by understanding the core concepts and framework you will then focus on the high level design of large software projects you will gradually move on to setting up the development environment and configuring it before implementing continuous integration to deploy your microservice architecture using spring security you will secure microservices and test them effectively using rest java clients and other tools like rxjava 2 0 we 11 show you the best patterns practices and common principals of microservice design and you ll learn to troubleshoot and debug the issues faced during development we ll show you how to design and implement reactive microservices finally we ll show you how to migrate a monolithic application to microservices based application by the end of the book you will know how to build smaller lighter and faster services that can be implemented easily in a production environment style and approach this book starts from the basics including environment setup and provides easy to follow steps to implement the sample project using microservices

master over 60 recipes to help you deliver complete scalable microservice based solutions and see the improved business results immediately about this book adopt microservices based architecture and deploy it at scale build your complete microservice architecture using different recipes for different solutions identify specific tools for specific scenarios and deliver immediate business results correlate use cases and adopt them in your team and organization who this book is for this book is for developers ops and devops professionals who would like to put microservices to work and improve products services and operations those looking to build and deploy microservices will find this book useful as well as managers and people at cxo level looking to adopt microservices in their organization prior knowledge of java is expected no prior knowledge of

microservices is assumed what you will learn build microservices using spring boot wildfly swarm dropwizard and sparkjava containerize your microservice using docker deploy microservices using mesos marathon and kubernetes implement service discovery and load balancing using zookeeper consul and nginx monitor microservices using graphite and grafana write stream programs with kafka streams and spark aggregate and manage logs using kafka get introduced to dc os docker swarm and yarn in detail this book will help any team or organization understand deploy and manage microservices at scale it is driven by a sample application helping you gradually build a complete microservice based ecosystem rather than just focusing on writing a microservice this book addresses various other microservice related solutions deployments clustering load balancing logging streaming and monitoring the initial chapters offer insights into how web and enterprise apps can be migrated to scalable microservices moving on you ll see how to dockerize your application so that it is ready to be shipped and deployed we will look at how to deploy microservices on mesos and marathon and will also deploy microservices on kubernetes next you will implement service discovery and load balancing for your microservices we ll also show you how to build asynchronous streaming systems using kafka streams and apache spark finally we wind up by aggregating your logs in kafka creating your own metrics and monitoring the metrics for the microservice style and approach this book follows a recipe driven approach and shows you how to plug and play with all the various pieces putting them together to build a complete scalable microservice ecosystem you do not need to study the chapters in order as you can directly refer to the content you need for your situation

build modern apps with jakartaee jmoordb and vaadinskey features learn about the java enterprise edition jakarta enterprise edition specifications a learn how to create applications with frameworks such as java server faces eclipse krazo and vaadin a get familiar with nosql databases and learn how to create java applications that interact using jakarta nosql and jmoordb a learn how to test and secure your application a learn about microprofile and how to create microservices with java descriptionfor many years java ee has been an important platform for mission critical enterprise applications to accelerate the development of enterprise applications for a cloud native world leading software vendors collaborated to transfer java ee technologies to the eclipse foundation where they will evolve under the jakarta ee brand this book will be your comprehensive guide to creating jakarta ee applications and microservices with microprofile the book begins with an introduction to jakarta ee and quickly goes on to teach you about the

various databases and their advantages after this you will explore the jnosql and jmoordb frameworks to understand how to build jakarta ee applications with nosql databases moving forward you ll explore eclipse microprofile and see how it helps build microservices with java also you will learn about various development applications such as java server faces eclipse krazos primefaces vaadin and understand how to integrate them with your backend towards the end you will learn about security testing and understanding continuous integration what will you learna learn how to use the impordb framework for jakarta ee applications a optimize enterprise java for microservices architecture using eclipse microprofile a create applications using java server faces a building a modern web application using vaadin a learn how to implement security using identitystore and jwt a create ci cd pipelines for jakarta ee applications who this book is forthis book is for developers with no previous experience in creating business applications with java and for those who want to know about apis and new frameworks for the development of cloud oriented applications table of contents1 jakarta ee platform2 nosql3 jakarta nosql4 understanding jmoordb5 exploring microprofile6 java server faces7 vaadin8 integration vaadin jmoordb and nosq19 eclipse krazos and security of microservices10 testing and continuous integrationabout the authorsaristides villarreal bravo lives in panama is a java developer member of netbeans dream teams since 2007 jug leaders he is currently working on developing java applications and with greater emphasis on technologies such as java enterprise edition jakarta ee microprofile and nosql databases he has developed several plugins for apache netbeans ide and is working on his imoordb project a java api for nosql your linkedin profile linkedin com in aristides villarreal bravo 6258543 geovanny mendoza gonzalez is a senior backend developer in java lives in colombia b s in system engineering from the simon bolivar university of colombia with a specialization in software engineering from the north university of barranguilla colombia certified on vaadin 14 framework professional and developer your linkedin profile linkedin com in gmendozag otavio qoncalves de santana is a passionate software engineer focused on java technology he has experience mainly in persistence polyglot and high performance applications in finances social media and e commerce otavio is a member of both expert groups and expert leader in several jsrs and jcp executive committee your linkedin profile linkedin com in otaviojava

build powerful back end business logic and complex enterprise javabeans ejb based applications using java ee 8 eclipse enterprise for java ee4j tools project wtp and the microprofile platform targeted at java and java ee developers with or without prior ejb experience this book is packed

with practical insights strategy tips and code examples as each chapter unfolds you ll see how you can apply the new ejb spec to your own applications through specific examples beginning ejb in java ee 8 serves not only as a reference but also as a how to guide and repository of practical examples to which you can refer as you build your own applications it will help you harness the power of ejbs and take your java ee 8 development to the next level you ll gain the knowledge and skills you ll need to create the complex enterprise applications that run today s transactions and more what you ll learn build applications with enterprise javabeans ejbs in the new java ee 8 platform discover when to use ejbs over contexts and dependency injection use message driven beans to do tasks asynchronously integrate ejbs with microservices using the new eclipse microprofile project manage complex enterprise transactions and much more who this book is for java programmers new to enterprise development and for those who may have experience with ejbs but are new to java ee 8 ee4j and related eclipse projects

this book describes in contributions by scientists and practitioners the development of scientific concepts technologies engineering techniques and tools for a service based society the focus is on microservices i e cohesive independent processes deployed in isolation and equipped with dedicated memory persistence tools which interact via messages the book is structured in six parts part 1 opening analyzes the new and old challenges including service design and specification data integrity and consistency management and provides the introductory information needed to successfully digest the remaining parts part 2 migration discusses the issue of migration from monoliths to microservices and their loosely coupled architecture part 3 modeling introduces a catalog and a taxonomy of the most common microservices anti patterns and identifies common problems it also explains the concept of restful conversations and presents insights from studying and developing two further modeling approaches next part 4 is dedicated to various aspects of development and deployment part 5 then covers applications of microservices presenting case studies from industry 4 0 netflix and customized saas examples eventually part 6 focuses on education and reports on experiences made in special programs both at academic level as a master program course and for practitioners in an industrial training as only a joint effort between academia and industry can lead to the release of modern paradigm based programming languages and subsequently to the deployment of robust and scalable software systems the book mainly targets researchers in academia and industry who develop tools and applications for microservices

quickly deliver microservices with codecommit codebuild codedeploy and codepipeline using software architecture patterns microservices and release pipelines purchase of the print or kindle book includes a free pdf ebook key features learn software architecture and microservices design patterns from an aws certified professional architect develop microservices using spring boot and automate the release using codepipeline deploy microservices using codedeploy to ec2 instances containers and on premises book descriptionreliable automation is crucial for any code change going into production a release pipeline enables you to deliver features for your users efficiently and promptly aws codepipeline with its powerful integration and automation capabilities of building testing and deployment offers a unique solution to common software delivery issues such as outages during deployment a lack of standard delivery mechanisms and challenges faced in creating sustainable pipelines you ll begin by developing a java microservice and using aws services such as codecommit codeartifact and codeguru to manage and review the source code you ll then learn to use the aws codebuild service to build code and deploy it to aws infrastructure and container services using the codedeploy service as you advance you ll find out how to provision cloud infrastructure using cloudformation templates and terraform the concluding chapters will show you how to combine all these aws services to create a reliable and automated codepipeline for delivering microservices from source code check in to deployment without any downtime finally you ll discover how to integrate aws codepipeline with third party services such as bitbucket blazemeter snyk and jenkins by the end of this microservices book you ll have gained the hands on skills to build release pipelines for your applications what you will learn understand the basics of architecture patterns and microservice development get to grips with the continuous integration and continuous delivery of microservices delve into automated infrastructure provisioning with cloudformation and terraform explore codecommit codebuild codedeploy and codepipeline services get familiarized with automated code reviews and profiling using codeguru grasp aws lambda function basics and automated deployment using codepipeline understand docker basics and automated deployment to ecs and eks explore the codepipeline integration with jenkins pipeline and on premises deployment who this book is for this book is for software architects devops engineers sres and cloud engineers who want to learn more about automating their release pipelines for modifying features and releasing updates prior knowledge of aws cloud java maven and git will help you to get the most out of this book

discover how cloud native microservice architecture helps you to build dynamically scalable

applications by using the most widely used and adopted runtime environments key featuresbuild robust cloud native applications using a variety of toolsunderstand how to configure both amazon services aws and docker clouds for high availability explore common design patterns used in building and deploying microservices architecture book description businesses today are evolving rapidly and developers now face the challenge of building applications that are resilient flexible and native to the cloud to achieve this you ll need to be aware of the environment tools and resources that you re coding against the book will begin by introducing you to cloud native architecture and simplifying the major concepts you ll learn to build microservices in jakarta ee using microprofile with thorntail and narayana lra you ll then delve into cloud native application x rays understanding the microprofile specification and the implementation testing of microservices as you progress further you ll focus on continuous integration and continuous delivery in addition to learning how to dockerize your services you ll also cover concepts and techniques relating to security monitoring and troubleshooting problems that might occur with applications after you we written them by the end of this book you will be equipped with the skills you need to build highly resilient applications using cloud native microservice architecture what you will learnintegrate reactive principles in microprofile microservices architectureexplore the 12 factors app paradigm and its implications get the best out of java versions 8 and 9 to implement a microservice based on thorntailunderstand what openshift is and why it is so important for an elastic architecturebuild a linux container image using docker and scale the application using kubernetesimplement various patterns such as circuit breaker and bulkheadsget to grips with the devops methodology using continuous integration ci and continuous deployment cd who this book is for this book is for developers with basic knowledge of java ee and http based application principles who want to learn how to build test and scale java ee microservices no prior experience of writing microservices in java ee is required

a complete guide to the challenges and solutions in securing microservices architectures massimo siani findynamic key features secure microservices infrastructure and code monitoring access control and microservice to microservice communications deploy securely using kubernetes docker and the istio service mesh hands on examples and exercises using java and spring boot purchase of the print book includes a free ebook in pdf kindle and epub formats from manning publications microservices security in action teaches you how to address microservices specific security challenges throughout the system this practical guide includes plentiful hands on exercises using

industry leading open source tools and examples using java and spring boot about the book design and implement security into your microservices from the start microservices security in action teaches you to assess and address security challenges at every level of a microservices application from apis to infrastructure you ll find effective solutions to common security problems including throttling and monitoring access control at the api gateway and microservice to microservice communication detailed java code samples exercises and real world business use cases ensure you can put what you we learned into action immediately what you will learn microservice security concepts edge services with an api gateway deployments with docker kubernetes and istio security testing at the code level communications with http grpc and kafka this book is written for for experienced microservices developers with intermediate java skills about the author prabath siriwardena is the vice president of security architecture at wso2 nuwan dias is the director of api architecture at wso2 they have designed secure systems for many fortune 500 companies table of contents part 1 overview 1 microservices security landscape 2 first steps in securing microservices part 2 edge security 3 securing north south traffic with an api gateway 4 accessing a secured microservice via a single page application 5 engaging throttling monitoring and access control part 3 service to service communications 6 securing east west traffic with certificates 7 securing east west traffic with jwt 8 securing east west traffic over grpc 9 securing reactive microservices part 4 secure deployment 10 conquering container security with docker 11 securing microservices on kubernetes 12 securing microservices with istio service mesh part 5 secure development 13 secure coding practices and automation

understand the key challenges and solutions around building microservices in the enterprise application environment this book provides a comprehensive understanding of microservices architectural principles and how to use microservices in real world scenarios architectural challenges using microservices with service integration and api management are presented and you learn how to eliminate the use of centralized integration products such as the enterprise service bus esb through the use of composite integration microservices concepts in the book are supported with use cases and emphasis is put on the reality that most of you are implementing in a brownfield environment in which you must implement microservices alongside legacy applications with minimal disruption to your business microservices for the enterprise covers state of the art techniques around microservices messaging service development and description service discovery governance and data management technologies and guides you through the microservices design

process also included is the importance of organizing services as core versus atomic composite versus integration and api versus edge and how such organization helps to eliminate the use of a central esb and expose services through an api gateway what you ll learn design and develop microservices architectures with confidence put into practice the most modern techniques around messaging technologies apply the service mesh pattern to overcome inter service communication challenges apply battle tested microservices security patterns to address real world scenarios handle api management decentralized data management and observability who this book is for developers and devops engineers responsible for implementing applications around a microservices architecture and architects and analysts who are designing such systems

this 5 volume hcii duxu 2023 book set constitutes the refereed proceedings of the 12th international conference on design user experience and usability duxu 2023 held as part of the 24th international conference hci international 2023 which took place in copenhagen denmark in july 2023 a total of 1578 papers and 396 posters have been accepted for publication in the hcii 2023 proceedings from a total of 7472 submissions the papers included in this volume set were organized in topical sections as follows part i design methods tools and practices emotional and persuasive design part ii design case studies and creativity and design education part iii evaluation methods and techniques and usability user experience and technology acceptance studies part iv designing learning experiences and chatbots conversational agents and robots design and user experience part v duxu for cultural heritage and duxu for health and wellbeing

take your distributed applications to the next level and see what the reference architectures associated with microservices can do for you this book begins by showing you the distributed computing architecture landscape and provides an in depth view of microservices architecture following this you will work with cqrs an essential pattern for microservices and get a view of how distributed messaging works moving on you will take a deep dive into spring boot and spring cloud coming back to cqrs you will learn how event driven microservices work with this pattern using the axon 2 framework this takes you on to how transactions work with microservices followed by advanced architectures to address non functional aspects such as high availability and scalability in the concluding part of the book you develop your own enterprise grade microservices application using the axon framework and true base transactions while making it as secure as possible what you will learn shift from monolith architecture to microservices work

with distributed and acid transactions build solid architectures without two phase commit transactions discover the high availability principles in microservices who this book is for java developers with basic knowledge of distributed and multi threaded application architecture and no knowledge of spring boot or spring cloud knowledge of cqrs and event driven architecture is not mandatory as this book will cover these in depth

spring microservices in action second edition teaches you to build microservice based applications using java and spring summary by dividing large applications into separate self contained units microservices are a great step toward reducing complexity and increasing flexibility spring microservices in action second edition teaches you how to build microservice based applications using java and the spring platform this second edition is fully updated for the latest version of spring with expanded coverage of api routing with spring cloud gateway logging with the elk stack metrics with prometheus and grafana security with the hashicorp vault and modern deployment practices with kubernetes and istio purchase of the print book includes a free ebook in pdf kindle and epub formats from manning publications about the technology building and deploying microservices can be easy in spring libraries like spring boot spring cloud and spring cloud gateway reduce the boilerplate code in rest based services they provide an effective toolbox to get your microservices up and running on both public and private clouds about the book spring microservices in action second edition teaches you to build microservice based applications using java and spring you ll start by creating basic services then move to efficient logging and monitoring learn to refactor java applications with spring s intuitive tooling and master api management with spring cloud gateway you ll even deploy spring cloud applications with aws and kubernetes what s inside microservice design principles and best practices configuration with spring cloud config and hashicorp vault client side resiliency with resilience4j and spring cloud load balancer metrics monitoring with prometheus and grafana distributed tracing with spring cloud sleuth zipkin and elk stack about the reader for experienced java and spring developers about the author john carnell is a senior cloud engineer with 20 years of java experience illary huaylupo sánchez is a software engineer with over 13 years of experience table of contents 1 welcome to the cloud spring 2 exploring the microservices world with spring cloud 3 building microservices with spring boot 4 welcome to docker 5 controlling your configuration with the spring cloud configuration server 6 on service discovery 7 when bad things happen resiliency patterns with spring cloud and resilience4j 8 service routing with spring cloud gateway 9

securing your microservices 10 event driven architecture with spring cloud stream 11 distributed tracing with spring cloud sleuth and zipkin 12 deploying your microservices

build and deploy scalable cloud native microservices using the spring framework and kubernetes key features complete coverage on how to design build run and deploy modern cloud native microservices includes numerous sample code exercises on microservices spring and kubernetes develop a stronghold on kubernetes spring and the microservices architecture complete guide of application containerization on kubernetes containers coverage on managing modern applications and infrastructure using observability tools description the main objective of this book is to give an overview of cloud native microservices their architecture design patterns best practices real use cases and practical coverage of modern applications this book covers a strong understanding of the fundamentals of microservices api first approach testing observability api gateway service mesh and kubernetes alternatives of spring cloud this book covers the implementation of various design patterns of developing cloud native microservices using spring framework docker and kubernetes libraries it covers containerization concepts and hands on lab exercises like how to build run and manage microservices applications using kubernetes after reading this book the readers will have a holistic understanding of building running and managing cloud native microservices applications on kubernetes containers what you will learn learn fundamentals of microservice and design patterns learn microservices development using spring boot and kubernetes learn to develop reactive event driven and batch microservices perform end to end microservices testing using cucumber implement api gateway authentication authorization load balancing caching rate limiting learn observability and monitoring techniques of microservices who this book is for this book is for the spring developers microservice developers cloud engineers devops consultants technical architect and solution architects who have some familiarity with application development docker and kubernetes containers table of contents 1 overview of cloud native microservices 2 microservice design patterns 3 api first approach 4 build microservices using the spring framework 5 batch microservices 6 build reactive and event driven microservices 7 the api gateway security and distributed caching with redis 8 microservices testing and api mocking 9 microservices observability 10 containers and kubernetes overview and architecture 11 run microservices on kubernetes 12 service mesh and kubernetes alternatives of spring cloud

build scalable microservices with spring docker and mesos about this book learn how to efficiently build and implement microservices in spring and how to use docker and mesos to push the boundaries of what you thought possible examine a number of real world use cases and hands on code examples distribute your microservices in a completely new way who this book is for if you are a spring developers and want to build cloud ready internet scale applications to meet modern business demands then this book is for you developers will understand how to build simple restful services and organically grow them to truly enterprise grade microservices ecosystems what you will learn get to know the microservices development lifecycle process see how to implement microservices governance familiarize yourself with the microservices architecture and its benefits use spring boot to develop microservices find out how to avoid common pitfalls when developing microservices be introduced to end to end microservices written in spring framework and spring boot in detail the spring framework is an application framework and inversion of the control container for the java platform the framework s core features can be used by any java application but there are extensions to build web applications on top of the java ee platform this book will help you implement the microservice architecture in spring framework spring boot and spring cloud written to the latest specifications of spring you ll be able to build modern internet scale java applications in no time we would start off with the quidelines to implement responsive microservices at scale we will then deep dive into spring boot spring cloud docker mesos and marathon next you will understand how spring boot is used to deploy autonomous services server less by removing the need to have a heavy weight application server later you will learn how to go further by deploying your microservices to docker and manage it with mesos by the end of the book you ll will gain more clarity on how to implement microservices using spring framework and use them in internet scale deployments through real world examples style and approach the book follows a step by step approach on how to develop microservices using spring framework spring boot and a set of spring cloud components that will help you scale your applications

there are more applications running in the cloud than there are ones that run well there if you re considering taking advantage of cloud technology for your company s projects this practical guide is an ideal way to understand the best practices that will help you architect applications that work well in the cloud no matter which vendors products or languages you use architects and lead developers will learn how cloud applications should be designed how they fit into a larger

architectural picture and how to make them operate efficiently authors kyle brown bobby woolf and joseph yoder take you through the process step by step explore proven architectural practices for developing applications for the cloud understand why some architectural choices are better suited than others for applications intended to run on the cloud learn design and implementation techniques for developing cloud applications select the most appropriate cloud adoption patterns for your organization see how all potential choices in application design relate to each other through the connections of the patterns chart your own course in adopting the right strategies for developing application architectures for the cloud

summary spring microservices in action teaches you how to build microservice based applications using java and the spring platform purchase of the print book includes a free ebook in pdf kindle and epub formats from manning publications about the technology microservices break up your code into small distributed and independent services that require careful forethought and design fortunately spring boot and spring cloud simplify your microservice applications just as the spring framework simplifies enterprise java development spring boot removes the boilerplate code involved with writing a rest based service spring cloud provides a suite of tools for the discovery routing and deployment of microservices to the enterprise and the cloud about the book spring microservices in action teaches you how to build microservice based applications using java and the spring platform you ll learn to do microservice design as you build and deploy your first spring cloud application throughout the book carefully selected real life examples expose microservice based patterns for configuring routing scaling and deploying your services you ll see how spring s intuitive tooling can help augment and refactor existing applications with micro services what s inside core microservice design principles managing configuration with spring cloud config client side resiliency with spring hystrix and ribbon intelligent routing using netflix zuul deploying spring cloud applications about the reader this book is written for developers with java and spring experience about the author john carnell is a senior cloud engineer with twenty years of experience in java table of contents welcome to the cloud spring building microservices with spring boot controlling your configuration with spring cloud configuration server on service discovery when bad things happen client resiliency patterns with spring cloud and netflix hystrix service routing with spring cloud and zuul securing your microservices event driven architecture with spring cloud stream distributed tracing with spring cloud sleuth and zipkin deploying your microservices

this book serves as both a textbook and handbook on the benchmarking of systems and components used as building blocks of modern information and communication technology applications it provides theoretical and practical foundations as well as an in depth exploration of modern benchmarks and benchmark development the book is divided into two parts foundations and applications the first part introduces the foundations of benchmarking as a discipline covering the three fundamental elements of each benchmarking approach metrics workloads and measurement methodology the second part focuses on different application areas presenting contributions in specific fields of benchmark development these contributions address the unique challenges that arise in the conception and development of benchmarks for specific systems or subsystems and they demonstrate how the foundations and concepts in the first part of the book are being used in existing benchmarks further the book presents a number of concrete applications and case studies based on input from leading benchmark developers from consortia such as the standard performance evaluation corporation spec and the transaction processing performance council tpc besides a number of updates in almost all chapters for this new edition three chapters are added in part ii of the book 1 machine learning and artificial intelligence to cater the growing need to evaluate and benchmark ml and ai systems 2 scalability of networks and systems focusing on novel metrics and techniques to evaluate scalability and 3 pc workstation graphics and network benchmarks covering popular benchmarks like sysmark pcmark phoronix test suite 3dmark the blender benchmark and end to end network performance tools providing both practical and theoretical foundations as well as a detailed discussion of modern benchmarks and their development the book is intended as a handbook for professionals and researchers working in areas related to benchmarking it offers an up to date point of reference for existing work as well as latest results research challenges and future research directions it also can be used as a textbook for graduate and postgraduate students studying any of the many subjects related to benchmarking while readers are assumed to be familiar with the principles and practices of computer science as well as software and systems engineering no specific expertise in any subfield of these disciplines is required

unlock the secrets of cloud native success with step by step recipes for conquering every stage of microservice deployment key features develop test build and deploy with cloud native microservices orchestrate microservices with containerization in the cloud ensure cloud observability and security in implementation description the convergence of microservices and cloud technology represents a significant paradigm shift in software development to fully

leverage the potential of both integration from the outset of application development is crucial cloud native microservices cookbook serve as a conduit harmonizing disparate elements of microservice construction by establishing a cohesive framework from inception to deployment this book meticulously outlines the various stages involved in launching an application utilizing cloud native microservices it commences with the foundational aspects of application development emphasizing microservice architecture principles such as configuration and service discovery considering cloud infrastructure progressing through containerization continuous integration ci and continuous deployment cd pipelines the book explores the intricacies of orchestration high availability ha auto scalability and cloud security subsequently it elucidates the significance of observability in monitoring microservices post deployment concluding with a comprehensive exploration of infrastructure as code iac for cloud infrastructure provisioning explore cloud native microservices basics using real world examples from the finance sector follow curated recipes from concept to cloud deployment for a clear understanding and smooth application development what you will learn learn the fundamental principles of data architecture practical methodology encompassing the development testing building containerization and orchestration of microservices software development spanning from initial design to cloud hosting achieve microservice auto scalability and high availability utilizing cloud services and experimenting with newfound services confidently meticulously track cloud expenditures alleviating any apprehension surrounding cost management who this book is for the book is ideal for software developers solution designers and devops engineers with a foundational understanding of programming concepts and professionals seeking to deepen their expertise in system architecture and full stack development within cloud environments table of contents 1 microservices and cloud 2 developing microservices and test cases 3 externalize application configurations 4 implementing dynamic services 5 containerization using docker 6 pipeline automation for ci cd 7 microservices orchestration 8 auto scalability high availability and disaster recovery 9 cloud security 10 observability 11 infrastructure automation with iac

understand the internals and architecture of graalvm with the help of hands on experiments and gain deep knowledge that you can apply to improve your application s performance interoperability and throughput key featuresgenerate faster and leaner code with minimum computing resources for high performancecompile java applications faster than ever to a standalone executable called native imagescreate high performance polyglot applications that are compatible across various jym

and non jvm languagesbook description graalvm is a universal virtual machine that allows programmers to compile and run applications written in both jvm and non jvm languages it improves the performance and efficiency of applications making it an ideal companion for cloud native or microservices based applications this book is a hands on quide with step by step instructions on how to work with graalvm starting with a quick introduction to the graalvm architecture and how things work under the hood you ll discover the performance benefits of running your java applications on graalvm you ll then learn how to create native images and understand how aot ahead of time can improve application performance significantly the book covers examples of building polyglot applications that will help you explore the interoperability between languages running on the same vm you ll also see how you can use the truffle framework to implement any language of your choice to run optimally on graalvm by the end of this book you ll not only have learned how graalvm is beneficial in cloud native and microservices development but also how to leverage its capabilities to create high performing polyglot applications what you will learngain a solid understanding of graalvm and how it works under the hoodwork with graalvm s high performance optimizing compiler and see how it can be used in both jit just in time and aot ahead of time modesque to grips with the various optimizations that graalvm performs at runtimeuse advanced tools to analyze and diagnose performance issues in the codecompile embed run and interoperate between languages using truffle on graalvmbuild optimum microservices using popular frameworks such as micronaut and quarkus to create cloud native applications who this book is for this book is for jvm developers looking to optimize their application s performance you ll also find this book useful if you re a jvm developer looking to explore options to develop polyglot applications using tools from the python r ruby or node js ecosystem a solid understanding of software development concepts and prior experience working with programming languages is necessary to get started

in the rapidly evolving world of software development microservices architecture has emerged as a transformative approach offering unparalleled scalability flexibility and resilience however with these advantages come significant challenges particularly in ensuring that complex distributed systems function seamlessly and reliably microservices testing ensuring robust and fault tolerant architectures is your comprehensive guide to mastering the art and science of testing in a microservices environment this book dives deep into the intricacies of microservices testing providing a detailed roadmap for developers testers and architects aiming to build robust fault

tolerant systems it starts with the fundamentals explaining what microservices are and why they matter the book then progresses to advanced testing strategies covering every aspect of the testing lifecycle from unit testing to end to end testing performance testing and security testing readers will gain insights into the unique challenges of testing microservices such as handling service dependencies ensuring reliable communication between services and maintaining system integrity under load the book emphasizes the importance of automation continuous integration and continuous delivery showing how these practices can be effectively integrated into your testing strategy to enhance efficiency and reliability each chapter is filled with practical examples real world case studies and actionable advice learn how industry leaders like netflix and amazon have successfully implemented microservices testing to maintain their competitive edge explore tools and frameworks such as junit mockito and service meshes that can help you streamline your testing processes in addition to technical guidance microservices testing ensuring robust and fault tolerant architectures also addresses the human and organizational aspects of testing discover how to foster a culture of collaboration and shared responsibility between development testing and operations teams understand the importance of monitoring and observability in maintaining a healthy microservices ecosystem whether you are transitioning from a monolithic architecture or refining your existing microservices framework this book provides the knowledge and tools you need to succeed by the end of this comprehensive guide you will be equipped to design and implement effective testing strategies that ensure your microservices are robust fault tolerant and ready to meet the demands of today s dynamic digital landscape embark on your journey to mastering microservices testing with microservices testing ensuring robust and fault tolerant architectures and build systems that stand the test of time

learn and implement various techniques related to testing monitoring and optimization for microservices architecture key featureslearn different approaches for testing microservices to design and implement robust and secure applications become more efficient while working with microservices explore testing and monitoring tools such as jmeter ready api and appdynamics book description microservices are the latest right way of developing web applications microservices architecture has been gaining momentum over the past few years but once you ve started down the microservices path you need to test and optimize the services this book focuses on exploring various testing monitoring and optimization techniques for microservices the book starts with the evolution of software architecture style from monolithic to virtualized to microservices

architecture then you will explore methods to deploy microservices and various implementation patterns with the help of a real world example you will understand how external apis help product developers to focus on core competencies after that you will learn testing techniques such as unit testing integration testing functional testing and load testing next you will explore performance testing tools such as jmeter and gatling then we deep dive into monitoring techniques and learn performance benchmarking of the various architectural components for this you will explore monitoring tools such as appdynamics dynatrace aws cloudwatch and nagios finally you will learn to identify address and report various performance issues related to microservices what you will learnunderstand the architecture of microservices and how to build servicesestablish how external apis help to accelerate the development processunderstand testing techniques such as unit testing integration testing end to end testing and ui functional testingexplore various tools related to the performance testing monitoring and optimization of microservicesdesign strategies for performance testing identify performance issues and fine tune performancewho this book is for this book is for developers who are involved with microservices architecture to develop robust and secure applications basic knowledge of microservices is essential in order to get the most out of this book

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lutionized the way modern applications are designed developed and deployed traditional monolithic applications while simple to build initially often become difficult to scale and maintain as business needs evolve microservices provide a solution by breaking down applications into smaller independent and loosely coupled services enabling agility scalability and faster development cycles this book hands on microservices with spring boot and spring cloud a developer s guide is

designed to help developers architects and technology enthusiasts understand design and build microservices using the robust ecosystem of spring boot and spring cloud by combining theoretical concepts with hands on practical examples this book provides a step by step approach to mastering microservices throughout this book you will learn how to understand the fundamental principles of microservices architecture use spring boot to build resilient and scalable microservices leverage spring cloud components such as service discovery api gateways and distributed tracing implement security monitoring and logging in a microservices environment deploy microservices using docker and kubernetes for real world scalability each chapter is carefully structured to build upon previous concepts ensuring a progressive learning experience whether you are a beginner exploring microservices for the first time or an experienced developer looking to deepen your expertise this book will provide you with the necessary knowledge and tools to design and implement high quality microservices based applications by the end of this book you will have a solid understanding of how to develop and manage microservices using spring boot and spring cloud empowering you to build scalable and robust distributed systems happy coding authors

build fast efficient kubernetes based java applications using the quarkus framework microprofile and java standards in kubernetes native microservices with quarkus and microprofile you ll learn how to deploy enterprise java applications on kubernetes develop applications using the quarkus runtime compile natively using graalvm for blazing speed create efficient microservices applications take advantage of microprofile specifications popular java frameworks like spring were designed long before kubernetes and the microservices revolution kubernetes native microservices with quarkus and microprofile introduces next generation tools that have been cloud native and kubernetes aware right from the beginning written by veteran java developers john clingan and ken finnigan this book shares expert insight into quarkus and microprofile directly from contributors at red hat you ll learn how to utilize these modern tools to create efficient enterprise java applications that are easy to deploy maintain and expand about the technology build microservices efficiently with modern kubernetes first tools quarkus works naturally with containers and kubernetes radically simplifying the development and deployment of microservices this powerful framework minimizes startup time and memory use accelerating performance and reducing hosting cost and because it s java from the ground up it integrates seamlessly with your existing jvm codebase about the book kubernetes native microservices with quarkus and microprofile teaches you to build microservices using containers kubernetes and the quarkus

framework you ll immediately start developing a deployable application using quarkus and the microprofile apis then you ll explore the startup and runtime gains guarkus delivers out of the box and also learn how to supercharge performance by compiling natively using graalvm along the way you ll see how to integrate a quarkus application with spring and pick up pro tips for monitoring and managing your microservices what s inside deploy enterprise java applications on kubernetes develop applications using the quarkus runtime framework compile natively using graalvm for blazing speed take advantage of microprofile specifications about the reader for intermediate java developers comfortable with java ee jakarta ee or spring some experience with docker and kubernetes required about the author john clingan is a senior principal product manager at red hat where he works on enterprise java standards and guarkus ken finnigan is a senior principal software engineer at workday previously at red hat working on quarkus table of contents part 1 introduction 1 introduction to quarkus microprofile and kubernetes 2 your first quarkus application part 2 developing microservices 3 configuring microservices 4 database access with panache 5 clients for consuming other microservices 6 application health 7 resilience strategies 8 reactive in an imperative world 9 developing spring microservices with quarkus part 3 observability api definition and security of microservices 10 capturing metrics 11 tracing microservices 12 api visualization 13 securing a microservice

unlock the full potential of your java ee applications with enhancing java ee applications strategies for performance and scalability this essential guide provides comprehensive coverage of techniques and strategies to boost the performance and scalability of your java ee applications from architectural insights to advanced coding practices each chapter brims with expert advice and practical solutions to help you overcome performance and scalability challenges learn how to profile and monitor applications to pinpoint bottlenecks optimize java ee servers effectively interact with databases and implement robust concurrency and multithreading explore caching strategies fine tune application code and master network communications within a java ee context additionally discover how to manage memory efficiently and deploy resources wisely to ensure maximum stability and performance whether you re a software developer it architect or system administrator this book empowers you to make performance driven decisions that can significantly impact the success of your enterprise applications dive into enhancing java ee applications strategies for performance and scalability and elevate your java ee skills ensuring your applications are efficient scalable and poised to meet the demands of your business

the two volume set lncs 15404 and 15405 constitutes the refereed proceedings of the 22nd international conference on service oriented computing icsoc 2024 held in tunis tunisia during december 3 6 2024 the 38 full papers and 19 short papers presented in these proceedings were carefully reviewed and selected from 255 submissions the papers are organized in the following topical sections part i edge and iot generative ai service security and privacy and processes and workflows part ii cloud computing qos and sla microservice service recommendation emerging technologies and approaches service composition blockchain and industry papers

microservices can be a very effective approach for delivering value to your organization and to your customers if you get them right microservices help you to move fast by making changes to small parts of your system hundreds of times a day but if you get them wrong microservices will just make everything more complicated in this book technical engineering leader sarah wells provides practical in depth advice for moving to microservices having built her first microservice architecture in 2013 for the financial times sarah discusses the approaches you need to take from the start and explains the potential problems most likely to trip you up you ll also learn how to maintain the architecture as your systems mature while minimizing the time you spend on support and maintenance with this book you will learn the impact of microservices on software development patterns and practices identify the organizational changes you need to make to successfully build and operate this architecture determine the steps you must take before you move to microservices understand the traps to avoid when you create a microservices architecture and learn how to recover if you fall into one

the definitive guide for designing and delivering reliable and high performing persistence layers using java in the cloud native age purchase of the print or kindle book includes a free pdf ebook key features uncover database patterns for designing readable and maintainable architectures and java applications master various techniques to overcome application and architecture persistence challenges discover painless application modernization with change data capture powered by cloud native technologies book description having a solid software architecture breathes life into tech solutions in the early stages of an application s development critical decisions need to be made such as whether to go for microservices a monolithic architecture the event driven approach or containerization in java contexts frameworks and runtimes also need to be defi ned but one aspect is often overlooked the persistence layer which plays a vital role similar to that of data stores

in modern cloud native solutions to optimize applications and data stores a holistic understanding of best practices technologies and existing approaches is crucial this book presents well established patterns and standards that can be used in java solutions with valuable insights into the pros and cons of trending technologies and frameworks used in cloud native microservices alongside good java coding practices as you progress you ll confront the challenges of cloud adoption head on particularly those tied to the growing need for cost reduction through stack modernization within these pages you ll discover application modernization strategies and learn how enterprise data integration patterns and event driven architectures enable smooth modernization processes with low to zero impact on the existing legacy stack what you will learn gain insights into data integration in java services and the inner workings of frameworks apply data design patterns to create a more readable and maintainable design system understand the impact of design patterns on program performance explore the role of cloud native technologies in modern application persistence optimize database schema designs and leverage indexing strategies for improved performance implement proven strategies to handle data storage retrieval and management efficiently who this book is for if you re a developer engineer or software architect working in the field of software development particularly with a focus on java solutions this book is for you

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Decoding the Conversion: 5.6 lbs in kg

Understanding unit conversions is crucial in many aspects of life, from cooking and baking to international trade and scientific research. This article aims to provide a thorough understanding of how to convert 5.6 pounds (lbs) to kilograms (kg), explaining the process step-by-step and providing practical applications. We'll explore the underlying conversion factor, demonstrate the calculation, and offer examples to solidify your understanding.

Understanding the Units: lbs and kg

Before diving into the conversion, let's briefly define the units involved. The pound (lbs) is a unit of mass in the imperial system, commonly used in the United States and a few other countries. The kilogram (kg), on the other hand, is the standard unit of mass in the International System of Units (SI), which is the globally accepted system of measurement. The difference lies in their origins and the scales they represent. Understanding this foundational difference is key to grasping the conversion process.

The Conversion Factor: Bridging the Units

The key to converting between pounds and kilograms lies in the conversion factor. One pound is approximately equal to 0.453592 kilograms. This factor is a constant and is used consistently across all pound-to-kilogram conversions. This means that to convert any number of pounds to kilograms, we simply multiply the number of pounds by this conversion factor.

Calculating 5.6 lbs in kg

Now, let's apply this knowledge to our specific problem: converting 5.6 lbs to kg. The calculation is straightforward: 5.6 lbs $0.453592 \text{ kg/lbs} \approx 2.54 \text{ kg}$ Therefore, 5.6 pounds is approximately equal to 2.54 kilograms. The slight discrepancy from a perfectly rounded number comes from the inherent imprecision in using an approximate conversion factor. For most practical purposes, this level of accuracy is sufficient.

Practical Applications: Where This Conversion Matters

Understanding this conversion is essential in various everyday situations and professional fields. Here are a few examples: International Shipping: When shipping packages internationally, understanding weight conversions is critical. Many shipping companies require weight specifications in kilograms, making this conversion necessary. Cooking and Baking: International recipes often use metric measurements (kg, g). Converting pounds to kilograms allows you to accurately follow these recipes. Medical and Healthcare: Body weight is often recorded in both lbs and kg, depending on the country and healthcare system. Converting between these units ensures accurate record-keeping and medical assessments. Scientific Research: In scientific fields, accurate unit conversions are paramount for reproducibility and consistency in experimental data. Travel: When traveling internationally, understanding weight limitations for luggage often requires converting pounds to kilograms to avoid extra fees.

Beyond the Calculation: Mastering Unit Conversion

While we've focused on the specific conversion of 5.6 lbs to kg, the principles discussed apply to any pound-to-kilogram conversion. The key takeaway is understanding the conversion factor and applying it correctly through multiplication. Familiarity with these principles empowers you to perform such conversions confidently and accurately in various contexts. This extends to other unit conversions as well - always identify the conversion factor and apply the appropriate

mathematical operation (multiplication or division) based on the desired unit conversion.

Conclusion: A Solid Grasp of Unit Conversion

Converting 5.6 lbs to kg is a simple yet illustrative example of a crucial skill in various aspects of life. Understanding the underlying principles, the conversion factor, and the practical applications of this conversion allows you to navigate a world where different unit systems coexist. The ability to perform such conversions accurately ensures precision and clarity in communication and various professional fields.

FAQs: Addressing Common Concerns

1. Is 2.54 kg the exact equivalent of 5.6 lbs? No, 2.54 kg is an approximation. The exact conversion uses the full conversion factor (0.453592) resulting in a more precise, though rarely necessary, figure. 2. Can I use an online converter instead of performing the calculation manually? Yes, numerous online converters are available for quick conversions between pounds and kilograms. However, understanding the underlying process is beneficial for broader applications. 3. What if I need to convert kilograms to pounds? To convert kilograms to pounds, you would divide the number of kilograms by the conversion factor (0.453592 kg/lbs). 4. Are there other common weight unit conversions? Yes, other common conversions include ounces to grams, tons to kilograms, etc. Each requires a different conversion factor. 5. What is the significance of the conversion factor 0.453592 kg/lbs? This factor represents the ratio between the mass of one pound and the mass of one kilogram, defining the relationship between the imperial and metric systems for weight.

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