

## Serverless Architectures With Aws Lambda

Use the serverless computing approach to save time and money Key Features Save your time by deploying deep learning models with ease using the AWS serverless infrastructure Get a solid grip on AWS services and use them with TensorFlow for efficient deep learning Includes tips, tricks and best practices on serverless deep learning that you can use in a production environment Book Description One of the main problems with deep learning models is finding the right way to deploy them within the company's IT infrastructure. Serverless architecture changes the rules of the game--instead of thinking about cluster management, scalability, and query processing, it allows us to focus specifically on training the model. This book prepares you to use your own custom-trained models with AWS Lambda to achieve a simplified serverless computing approach without spending much time and money. You will use AWS Services to deploy TensorFlow models without spending hours training and deploying them. You'll learn to deploy with serverless infrastructures, create APIs, process pipelines, and more with the tips included in this book. By the end of the book, you will have implemented your own project that demonstrates how to use AWS Lambda effectively so as to serve your TensorFlow models in the best possible way. What

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you will learn Gain practical experience by working hands-on with serverless infrastructures (AWS Lambda) Export and deploy deep learning models using Tensorflow Build a solid base in AWS and its various functions Create a deep learning API using AWS Lambda Look at the AWS API gateway Create deep learning processing pipelines using AWS functions Create deep learning production pipelines using AWS Lambda and AWS Step Function Who this book is for This book will benefit data scientists who want to learn how to deploy models easily and beginners who want to learn about deploying into the cloud. No prior knowledge of TensorFlow or AWS is required.

Summary Amazon Web Services in Action, Second Edition is a comprehensive introduction to computing, storing, and networking in the AWS cloud. You'll find clear, relevant coverage of all the essential AWS services you to know, emphasizing best practices for security, high availability and scalability. Foreword by Ben Whaley, AWS community hero and author. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology The largest and most mature of the cloud platforms, AWS offers over 100 prebuilt services, practically limitless compute resources, bottomless secure storage, as well as top-notch automation capabilities. This book shows you how to develop, host, and manage applications

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on AWS. About the Book Amazon Web Services in Action, Second Edition is a comprehensive introduction to deploying web applications in the AWS cloud. You'll find clear, relevant coverage of all essential AWS services, with a focus on automation, security, high availability, and scalability. This thoroughly revised edition covers the latest additions to AWS, including serverless infrastructure with AWS Lambda, sharing data with EFS, and in-memory storage with ElastiCache. What's inside Completely revised bestseller Secure and scale distributed applications Deploy applications on AWS Design for failure to achieve high availability Automate your infrastructure About the Reader Written for mid-level developers and DevOps engineers. About the Author Andreas Wittig and Michael Wittig are software engineers and DevOps consultants focused on AWS. Together, they migrated the first bank in Germany to AWS in 2013. Table of Contents PART 1 - GETTING STARTED What is Amazon Web Services? A simple example: WordPress in five minutes PART 2 - BUILDING VIRTUAL INFRASTRUCTURE CONSISTING OF COMPUTERS AND NETWORKING Using virtual machines: EC2 Programming your infrastructure: The command-line, SDKs, and CloudFormation Automating deployment: CloudFormation, Elastic Beanstalk, and OpsWorks Securing your system: IAM, security groups, and VPC Automating operational tasks with Lambda PART 3 - STORING DATA

IN THE CLOUD Storing your objects: S3 and Glacier Storing data on hard drives: EBS and instance store Sharing data volumes between machines: EFS Using a relational database service: RDS Caching data in memory: Amazon ElastiCache Programming for the NoSQL database service: DynamoDB PART 4 - ARCHITECTING ON AWS Achieving high availability: availability zones, auto-scaling, and CloudWatch Decoupling your infrastructure: Elastic Load Balancing and Simple Queue Service Designing for fault tolerance Scaling up and down: auto-scaling and CloudWatch

Build, secure, and deploy real-world serverless applications in AWS and peek into the serverless cloud offerings from Azure, Google Cloud, and IBM Cloud Key Features Build serverless applications with AWS Lambda, AWS CloudFormation and AWS CloudWatch Perform data analytics and natural language processing(NLP)on the AWS serverless platform Explore various design patterns and best practices involved in serverless computing Book Description Managing physical servers will be a thing of the past once you're able to harness the power of serverless computing. If you're already prepped with the basics of serverless computing, Serverless Programming Cookbook will help you take the next step ahead. This recipe-based guide provides solutions to problems you might face while building serverless applications. You'll begin by setting up Amazon Web

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Services (AWS), the primary cloud provider used for most recipes. The next set of recipes will cover various components to build a Serverless application including REST APIs, database, user management, authentication, web hosting, domain registration, DNS management, CDN, messaging, notifications and monitoring. The book also introduces you to the latest technology trends such as Data Streams, Machine Learning and NLP. You will also see patterns and practices for using various services in a real world application. Finally, to broaden your understanding of Serverless computing, you'll also cover getting started guides for other cloud providers such as Azure, Google Cloud Platform and IBM cloud. By the end of this book, you'll have acquired the skills you need to build serverless applications efficiently using various cloud offerings. What you will learn Serverless computing in AWS and explore services with other clouds Develop full-stack apps with API Gateway, Cognito, Lambda and DynamoDB Web hosting with S3, CloudFront, Route 53 and AWS Certificate Manager SQS and SNS for effective communication between microservices Monitoring and troubleshooting with CloudWatch logs and metrics Explore Kinesis Streams, Amazon ML models and Alexa Skills Kit Who this book is for For developers looking for practical solutions to common problems while building a serverless application, this book provides helpful recipes. To get started with this

intermediate-level book, knowledge of basic programming is a must. Summary Docker in Practice, Second Edition presents over 100 practical techniques, hand-picked to help you get the most out of Docker. Following a Problem/Solution/Discussion format, you'll walk through specific examples that you can use immediately, and you'll get expert guidance on techniques that you can apply to a whole range of scenarios. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Docker's simple idea-wrapping an application and its dependencies into a single deployable container-created a buzz in the software industry. Now, containers are essential to enterprise infrastructure, and Docker is the undisputed industry standard. So what do you do after you've mastered the basics? To really streamline your applications and transform your dev process, you need relevant examples and experts who can walk you through them. You need this book. About the Book Docker in Practice, Second Edition teaches you rock-solid, tested Docker techniques, such as replacing VMs, enabling microservices architecture, efficient network modeling, offline productivity, and establishing a container-driven continuous delivery process. Following a cookbook-style problem/solution format, you'll explore real-world use cases and learn how to apply the lessons to your own dev projects. What's inside

Continuous integration and delivery The Kubernetes orchestration tool  
Streamlining your cloud workflow Docker in swarm mode Emerging best  
practices and techniques About the Reader Written for developers and engineers  
using Docker in production. About the Author Ian Miell and Aidan Hobson Sayers  
are seasoned infrastructure architects working in the UK. Together, they used  
Docker to transform DevOps at one of the UK's largest gaming companies. Table  
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challenges  
Build complex, observable, and fault-tolerant serverless systems easily on

Microsoft Azure. Key Features Use serverless systems to help you fulfill complex requirements Develop your knowledge of Azure Microsoft Serverless Understand concepts with a hands-on approach and helpful examples Book Description Advanced Serverless Architectures with Microsoft Azure redefines your experience of designing serverless systems. It shows you how to tackle challenges of varying levels, not just the straightforward ones. You'll be learning how to deliver features quickly by building systems, which retain the scalability and benefits of serverless. You'll begin your journey by learning how to build a simple, completely serverless application. Then, you'll build a highly scalable solution using a queue, load messages onto the queue, and read them asynchronously. To boost your knowledge further, the book also features durable functions and ways to use them to solve errors in a complex system. You'll then learn about security by building a security solution from serverless components. Next, you'll gain an understanding of observability and ways to leverage application insights to bring you performance benefits. As you approach the concluding chapters, you'll explore chaos engineering and the benefits of resilience, by actively switching off a few of the functions within a complex system, submitting a request, and observing the resulting behavior. By the end of this book, you will have developed the skills you need to build and maintain

increasingly complex systems that match evolving platform requirements. What you will learn Understand what true serverless architecture is Study how to extend and scale architectures until they become 'complex' Implement durable functions in your design Improve the observability of your serverless architecture Implement security solutions using serverless services Learn how to 'practise' chaos engineering in production Who this book is for Advanced Serverless Architectures with Microsoft Azure is ideal if you want to build serverless systems with fewer outages and high performance using Azure. Familiarity with the C# syntax and Azure Functions and ARM templates will help you to benefit more from this book. Prior knowledge of basic front-end development, HTML JS, and CSS is beneficial but not essential. Some DevOps knowledge is also beneficial but not essential.

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

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

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

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Developing production-ready services Deploying microservices Refactoring to microservices

"Amazon Web Services continues its domination as the leading cloud service provider on the market. Since serverless applications are gaining a lot of traction, it is extremely important to understand the serverless architecture, to help you build, manage, and secure serverless applications. This video covers all aspects of serverless architectures in Amazon Web Services, which is necessary for working with serverless applications. This course starts with introduction to serverless architectures and then you'll delve into design considerations, followed by building a serverless application and deploying it on your serverless architecture. This video covers practical example of deploying and orchestrating a serverless application using DynamoDB, AWS Lambda, and API Gateway. Towards the end of the video, we will learn about some security considerations in protecting your serverless application. By the end of this course, you will have mastered working with serverless architectures on AWS Cloud."--Resource description page.

Learn how to build a wide range of scalable real-world web applications using a professional development toolkit. If you already know the basics of Node.js, now is the time to discover how to bring it to production level by leveraging its vast

ecosystem of packages. With this book, you'll work with a varied collection of standards and frameworks and see how all those pieces fit together. Practical Node.js takes you from installing all the necessary modules to writing full-stack web applications. You'll harness the power of the Express.js and Hapi frameworks, the MongoDB database with Mongoskin and Mongoose. You'll also work with Pug and Handlebars template engines, Stylus and LESS CSS languages, OAuth and Everyauth libraries, and the Socket.IO and Derby libraries, and everything in between. This exciting second edition is fully updated for ES6/ES2015 and also covers how to deploy to Heroku and AWS, daemonize apps, and write REST APIs. You'll build full-stack real-world Node.js apps from scratch, and also discover how to write your own Node.js modules and publish them on NPM. Fully supported by a continuously updated source code repository on GitHub and with full-color code examples, learn what you can do with Node.js and how far you can take it!

**What You'll Learn**

- Manipulate data from the mongo console
- Use the Mongoskin and Mongoose MongoDB libraries
- Build REST API servers with Express and Hapi
- Deploy apps to Heroku and AWS
- Test services with Mocha, Expect and TravisCI
- Implement a third-party OAuth strategy with Everyauth

Web developers who have some familiarity with the basics of Node.js and want to learn how to use it to build apps in a professional environment.

Practical tutorial for software developers and architects building applications for the modern cloud, using AWS Lambda and AWS SAM.

Would you like to use a consistent visual notation for drawing integration solutions? "Look inside the front cover." Do you want to harness the power of asynchronous systems without getting caught in the pitfalls? "See "Thinking Asynchronously" in the Introduction." Do you want to know which style of application integration is best for your purposes? "See Chapter 2, Integration Styles." Do you want to learn techniques for processing messages concurrently? "See Chapter 10, Competing Consumers and Message Dispatcher." Do you want to learn how you can track asynchronous messages as they flow across distributed systems? "See Chapter 11, Message History and Message Store." Do you want to understand how a system designed using integration patterns can be implemented using Java Web services, .NET message queuing, and a TIBCO-based publish-subscribe architecture? "See Chapter 9, Interlude: Composed Messaging." Utilizing years of practical experience, seasoned experts Gregor Hohpe and Bobby Woolf show how asynchronous messaging has proven to be the best strategy for enterprise integration success. However, building and deploying messaging solutions presents a number of problems for developers. "Enterprise Integration Patterns " provides an invaluable catalog of sixty-five

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

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Learn to build, secure, deploy, and manage your serverless application in Golang with AWS Lambda Key Features Implement AWS lambda to build scalable and cost-efficient applications in Go Design and set the data flow between cloud

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services and custom business logic Learn to design Lambda functions using real-world examples and implementation scenarios Book Description Serverless architecture is popular in the tech community due to AWS Lambda. Go is simple to learn, straightforward to work with, and easy to read for other developers; and now it's been heralded as a supported language for AWS Lambda. This book is your optimal guide to designing a Go serverless application and deploying it to Lambda. This book starts with a quick introduction to the world of serverless architecture and its benefits, and then delves into AWS Lambda using practical examples. You'll then learn how to design and build a production-ready application in Go using AWS serverless services with zero upfront infrastructure investment. The book will help you learn how to scale up serverless applications and handle distributed serverless systems in production. You will also learn how to log and test your application. Along the way, you'll also discover how to set up a CI/CD pipeline to automate the deployment process of your Lambda functions. Moreover, you'll learn how to troubleshoot and monitor your apps in near real-time with services such as AWS CloudWatch and X-ray. This book will also teach you how to secure the access with AWS Cognito. By the end of this book, you will have mastered designing, building, and deploying a Go serverless application. What you will learn Understand how AWS Lambda works and use it

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to create an application Understand how to scaleup serverless applications Design a cost-effective serverless application in AWS Build a highly scalable and fault-tolerant CI/CD pipeline Understand how to troubleshoot and monitor serverless apps in AWS Discover the working of APIs and single page applications Build a production-ready serverless application in Go Who this book is for This book is for Go developers who would like to learn about serverless architecture. Go programming knowledge is assumed. DevOps and Solution Architects who are interested in building serverless applications in Go can also choose this book.

Deploy functions efficiently using different cloud-based serverless offerings Key Features Understand the concept of Function-as-a-Service Implement Serverless solutions using AWS Lambda, Azure Functions and Google Cloud Functions Practical approach towards choosing the best tool for your serverless environment Book Description Serverless applications and architectures are gaining momentum and are increasingly being used by companies of all sizes. Serverless software takes care of many problems that developers face when running systems and servers, such as fault tolerance, centralized logging, horizontal scalability, and deployments. You will learn how to harness serverless technology to rapidly reduce production time and minimize your costs, while still

having the freedom to customize your code, without hindering functionality. Upon finishing the book, you will have the knowledge and resources to build your own serverless application hosted in AWS, Microsoft Azure, or Google Cloud Platform, and will have experienced the benefits of event-driven technology for yourself. This hands-on guide dives into the basis of serverless architectures and how to build them using Node.js as a programming language, Visual Studio Code for code editing, and Postman for quickly and securely developing applications without the hassle of configuring and maintaining infrastructure on three public cloud platforms. What you will learn

- Understand the benefits of serverless computing and know when to use it
- Develop serverless applications on AWS, Azure, and Google Cloud
- Get to grips with Function as a Service (FaaS)
- Apply triggers to serverless functions
- Build event-driven apps using serverless frameworks
- Use the Node.js programming language to build serverless apps
- Use code editors, such as Visual Studio Code, as development environments
- Master the best development practices for creating scalable and practical solutions

Who this book is for This book is targeted towards developers, system administrators or any stakeholder working in the Serverless environment and want to understand how functions work. Basic idea of serverless architecture can be an added advantage

Summary OAuth 2 in Action teaches you the practical use and deployment of this HTTP-based protocol from the perspectives of a client, authorization server, and resource server. You'll learn how to confidently and securely build and deploy OAuth on both the client and server sides. Foreword by Ian Glazer. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Think of OAuth 2 as the web version of a valet key. It is an HTTP-based security protocol that allows users of a service to enable applications to use that service on their behalf without handing over full control. And OAuth is used everywhere, from Facebook and Google, to startups and cloud services. About the Book OAuth 2 in Action teaches you practical use and deployment of OAuth 2 from the perspectives of a client, an authorization server, and a resource server. You'll begin with an overview of OAuth and its components and interactions. Next, you'll get hands-on and build an OAuth client, an authorization server, and a protected resource. Then you'll dig into tokens, dynamic client registration, and more advanced topics. By the end, you'll be able to confidently and securely build and deploy OAuth on both the client and server sides. What's Inside Covers OAuth 2 protocol and design Authorization with OAuth 2 OpenID Connect and User-Managed Access Implementation risks JOSE, introspection, revocation, and

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registration Protecting and accessing REST APIs About the Reader Readers need basic programming skills and knowledge of HTTP and JSON. About the Author Justin Richer is a systems architect and software engineer. Antonio Sanso is a security software engineer and a security researcher. Both authors contribute to open standards and open source. Table of Contents Part 1 - First steps What is OAuth 2.0 and why should you care? The OAuth dance Part 2 - Building an OAuth 2 environment Building a simple OAuth client Building a simple OAuth protected resource Building a simple OAuth authorization server OAuth 2.0 in the real world Part 3 - OAuth 2 implementation and vulnerabilities Common client vulnerabilities Common protected resources vulnerabilities Common authorization server vulnerabilities Common OAuth token vulnerabilities Part 4 - Taking OAuth further OAuth tokens Dynamic client registration User authentication with OAuth 2.0 Protocols and profiles using OAuth 2.0 Beyond bearer tokens Summary and conclusions Don't waste your energy thinking about servers; use AWS to build enterprise-grade serverless applications. Key Features Learn how to quickly and easily go serverless Explore AWS and Lambda: the first building blocks of serverless applications on AWS Study different approaches to deploy and maintain serverless applications Book Description Serverless Architecture with AWS

begins with an introduction to the serverless model and helps you get started with AWS and Lambda. You'll also get to grips with other capabilities of the AWS Serverless Platform and see how AWS supports enterprise-grade serverless applications with and without Lambda. This book will guide you in deploying your first serverless project and exploring the capabilities of serverless Amazon Athena, an interactive query service that makes it easy to analyze data in Amazon Simple Storage Service (S3 Amazon) using standard SQL. You'll also learn about AWS Glue, a fully managed ETL service that makes categorizing data easy and cost-effective. You'll study how Amazon Kinesis makes it possible to unleash the potential of real-time data insights and analytics with capabilities such as video streams, data streams, data firehose, and data analytics. Last but not least, you'll be equipped to combine Amazon Kinesis capabilities with AWS Lambda to create lightweight serverless architectures. By the end of the book, you will be ready to create and run your first serverless application that takes advantage of the high availability, security, performance, and scalability of AWS. What you will learn Explore AWS services for supporting a serverless environment Set up AWS services to make applications scalable and highly available Deploy a static website with a serverless architecture Build your first serverless web application Study the changes in a deployed serverless web

application Apply best practices to ensure overall security, availability, and reliability Who this book is for This book is for you if you want to develop serverless applications and have some prior coding experience. Though no prior experience of AWS is needed, basic knowledge of Java or Node.js will be an added advantage.

Building and hosting microservices without servers using AWS Lambda KEY FEATURES ? Learn end-to-end development of microservices using .NET Core and AWS Lambda. ? Learn a new way of hosting the .NET Core Web API on the AWS Lambda serverless platform. ? Mastering microservices using .NET Core and AWS Lambda. DESCRIPTION Building Modern Serverless Web APIs introduces you to the serverless paradigm of the Web API application, its advantages, and presents you the modern approach of developing the Web API. The book makes efficient use of AWS Lambda services to develop efficient, scalable, and cost-effective API solutions. The book begins with a quick introduction to microservices, its characteristics, and current challenges faced in developing and implementing them. The book explores core concepts of ASP.NET Core and some important AWS services that are commonly used to build microservices using AWS. It explores and provides real hands-on microservice patterns and some of the best practices used in designing the

serverless architecture. Furthermore, the book covers end-to-end demonstration of an application where you will learn to develop, build, deploy, and monitor microservices on AWS Lambda using .NET Core 3.1. By the end of this book, you will be proficient in developing microservices with AWS Lambda and become a self-starter to build your own secure microservices. WHAT YOU WILL LEARN ? Learn about microservices, their characteristics, patterns, and where to use them. ? Understand popular microservice design patterns being used with the serverless architecture. ? Learn about the ASP.NET Core Web API and its hosting strategies for building serverless microservices. ? Learn about Amazon Web Services and the services commonly used to build microservices. ? Discover how to configure authorization and authentication to secure microservices in AWS. ? Learn about AWS services available for Continuous Deployment and Integration to deploy microservices. WHO THIS BOOK IS FOR This book is for a seasoned .NET developer or AWS practitioner who wants to learn about the microservices architecture, patterns, and how to deploy using AWS Lambda. TABLE OF CONTENTS 1. Microservices: Its Characteristics and Challenges 2. Introduction to the ASP.NET Core Web API 3. Introduction to AWS Services 4. Microservices Patterns 5. The Serverless Paradigm 6. Communication Patterns and Service Discovery 7. Collaborating between

Microservices 8. Distributed Monitoring 9. Security 10. Continuous Integration and Deployment 11. AWS Best Practices

Summary Securing DevOps explores how the techniques of DevOps and security should be applied together to make cloud services safer. This introductory book reviews the latest practices used in securing web applications and their infrastructure and teaches you techniques to integrate security directly into your product. You'll also learn the core concepts of DevOps, such as continuous integration, continuous delivery, and infrastructure as a service. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology An application running in the cloud can benefit from incredible efficiencies, but they come with unique security threats too. A DevOps team's highest priority is understanding those risks and hardening the system against them. About the Book Securing DevOps teaches you the essential techniques to secure your cloud services. Using compelling case studies, it shows you how to build security into automated testing, continuous delivery, and other core DevOps processes. This experience-rich book is filled with mission-critical strategies to protect web applications against attacks, deter fraud attempts, and make your services safer when operating at scale. You'll also learn to identify, assess, and secure the unique vulnerabilities posed by cloud deployments and automation tools commonly used in modern infrastructures. What's inside An approach to continuous security Implementing test-driven security in DevOps Security techniques

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for cloud services Watching for fraud and responding to incidents Security testing and risk assessment About the Reader Readers should be comfortable with Linux and standard DevOps practices like CI, CD, and unit testing. About the Author Julien Vehent is a security architect and DevOps advocate. He leads the Firefox Operations Security team at Mozilla, and is responsible for the security of Firefox's high-traffic cloud services and public websites. Table of Contents Securing DevOps PART 1 - Case study: applying layers of security to a simple DevOps pipeline Building a barebones DevOps pipeline Security layer 1: protecting web applications Security layer 2: protecting cloud infrastructures Security layer 3: securing communications Security layer 4: securing the delivery pipeline PART 2 - Watching for anomalies and protecting services against attacks Collecting and storing logs Analyzing logs for fraud and attacks Detecting intrusions The Caribbean breach: a case study in incident response PART 3 - Maturing DevOps security Assessing risks Testing security Continuous security Choose the right architecture and design it using design patterns to create a serverless application that cuts costs and is easily scalable Key Features Design enterprise ready serverless applications that effortlessly meet your customers' requirements Effectively deploy, manage, monitor, and orchestrate serverless applications using AWS Use Cloud9 to provision a secured development environment in the cloud Book Description Serverless is a cloud computing execution model where the cloud provider dynamically manages the allocation and provisioning of servers. Many companies have started

using serverless architectures to cut costs and improve scalability. Hands-On Serverless Applications with Kotlin is your one-stop guide to designing serverless architectures for your applications with AWS and Kotlin. To start with, you'll explore the fundamentals of serverless architecture and how AWS Lambda functions work. You will then learn to design, build, secure, and deploy your application to production. In addition to these activities, you'll understand how to implement non-functional requirements such as auditing and logging. Moving on, you'll discover how to scale up and orchestrate serverless applications using an open source framework and handle distributed serverless systems in production. By the end of the book, you'll have gained the knowledge needed to build scalable and cost-efficient Kotlin applications with a serverless framework. What you will learn

- Design a serverless architecture
- Use AWS Lambda to contain your serverless API
- Explore the various ways to keep serverless apps safe and secure
- Understand how a serverless API allows you to use huge infrastructure and cut costs
- Discover how to handle distributed systems in Kotlin
- Design the data flow between cloud services and custom business logic
- Secure your Kotlin AWS serverless application
- Master Kotlin design patterns for serverless applications

Who this book is for Hands-On Serverless Applications with Kotlin is for you if you are a Kotlin developer who wants to learn about serverless architectures. It is assumed that you have some knowledge of Kotlin programming and AWS.

Build scalable, reliable, and cost-effective applications with a serverless architecture

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About This Book Design a real-world serverless application from scratch Learn about AWS Lambda function and how to use Lambda functions to glue other AWS Services Use the Java programming language and well-known design patterns. Although Java is used for the examples in this book, the concept is applicable across all languages Learn to migrate your JAX-RS application to AWS Lambda and API Gateway Who This Book Is For This book is for developers and software architects who are interested in designing on the back end. Since the book uses Java to teach concepts, knowledge of Java is required. What You Will Learn Learn to form microservices from bigger Softwares Orchestrate and scale microservices Design and set up the data flow between cloud services and custom business logic Get to grips with cloud provider's APIs, limitations, and known issues Migrate existing Java applications to a serverless architecture Acquire deployment strategies Build a highly available and scalable data persistence layer Unravel cost optimization techniques In Detail Over the past years, all kind of companies from start-ups to giant enterprises started their move to public cloud providers in order to save their costs and reduce the operation effort needed to keep their shops open. Now it is even possible to craft a complex software system consisting of many independent micro-functions that will run only when they are needed without needing to maintain individual servers. The focus of this book is to design serverless architectures, and weigh the advantages and disadvantages of this approach, along with decision factors to consider. You will learn how to design a serverless application,

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get to know that key points of services that serverless applications are based on, and known issues and solutions. The book addresses key challenges such as how to slice out the core functionality of the software to be distributed in different cloud services and cloud functions. It covers basic and advanced usage of these services, testing and securing the serverless software, automating deployment, and more. By the end of the book, you will be equipped with knowledge of new tools and techniques to keep up with this evolution in the IT industry. Style and approach The book takes a pragmatic approach, showing you all the examples you need to build efficient serverless applications.

"Serverless architecture is a way to build and run applications and services without having to manage infrastructure. Lambda eliminates the problem of dealing with cloud-based servers at all levels of technology stack, and offers a pay-per-request billing model where you don't have to pay for idle computing time. Thus it becomes extremely important to understand the serverless architecture, which will help you build, manage, and secure serverless applications with AWS Lambda. In this course, you'll learn to build code and deploy it without ever needing to configure or manage underlying servers. You'll build, secure, and manage serverless architectures that can power the most demanding web and mobile apps. You won't have to provision infrastructures or worry about scale. By the end of this course, you will know how to design and implement production-ready AWS serverless solutions. You'll be able to architect and

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build your own serverless applications on AWS."--Resource description page.

"Serverless Architectures with AWS begins by talking about the serverless model and getting started with AWS and Lambda. You'll also discover the main advantages and disadvantages of the serverless model through various use cases. You'll also explore other capabilities of the AWS Serverless Platform and see how AWS supports enterprise-grade serverless applications, with and without Lambda. From Compute to API Gateway, from storage to database, the fully managed services for building and running serverless applications on AWS are discussed in detail. Then, you'll use your learnings to deploy your first serverless project. You'll also explore the capabilities of serverless Amazon Athena, an interactive query service that makes it easy to analyze data directly in Amazon Simple Storage Service (Amazon S3) using standard SQL. Then, you'll learn about AWS Glue, a fully managed ETL service that makes it simple and cost-effective to categorize your data. You'll study how Amazon Kinesis makes it possible to unleash the potential of real-time data insights and analytics by offering capabilities, such as Kinesis Video Streams, Kinesis Data Streams, Kinesis Data Firehose and Kinesis Data Analytics. Last but not least, you'll learn to combine Amazon Kinesis capabilities with AWS Lambda to create lightweight serverless architectures."--Resource description page.

Annotation Over the past 10 years, distributed systems have become more fine-grained. From the large multi-million line long monolithic applications, we are now

seeing the benefits of smaller self-contained services. Rather than heavy-weight, hard to change Service Oriented Architectures, we are now seeing systems consisting of collaborating microservices. Easier to change, deploy, and if required retire, organizations which are in the right position to take advantage of them are yielding significant benefits. This book takes an holistic view of the things you need to be cognizant of in order to pull this off. It covers just enough understanding of technology, architecture, operations and organization to show you how to move towards finer-grained systems.

Learn the business and technical importance of API design and architecture using the available cloud services from Azure and AWS. This book starts off with an introduction to APIs and the concept of API Economy from a business and organizational perspective. You'll decide on a sustainable API strategy and API architecture based on different case scenarios. You'll then look at actual examples on API development guidelines, providing a practical view and approach towards the API development and aligning teams in API development. This book walks you through the API gateway services available in Azure and AWS and reviews different approaches to API Security. This will prepare you for understanding the trade-off between security and the frictionless API experience. What You'll Learn Implement API Gateways to streamline API Development Examine Security Mapping with API gateways from Azure and AWS Apply API implementation using Serverless architecture Review evolving APIs for

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monitoring and changing business requirements Use code samples in API security implementations Who This Book Is For Developers and architects with .NET and web development experience who want to learn about API design.

Get started with designing your serverless application using optimum design patterns and industry standard practices Key Features Learn the details of popular software patterns and how they are applied to serverless applications Understand key concepts and components in serverless designs Walk away with a thorough understanding of architecting serverless applications Book Description Serverless applications handle many problems that developers face when running systems and servers. The serverless pay-per-invocation model can also result in drastic cost savings, contributing to its popularity. While it's simple to create a basic serverless application, it's critical to structure your software correctly to ensure it continues to succeed as it grows.

Serverless Design Patterns and Best Practices presents patterns that can be adapted to run in a serverless environment. You will learn how to develop applications that are scalable, fault tolerant, and well-tested. The book begins with an introduction to the different design pattern categories available for serverless applications. You will learn the trade-offs between GraphQL and REST and how they fare regarding overall application design in a serverless ecosystem. The book will also show you how to migrate an existing API to a serverless backend using AWS API Gateway. You will learn how to build event-driven applications using queuing and streaming systems,

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such as AWS Simple Queuing Service (SQS) and AWS Kinesis. Patterns for data-intensive serverless application are also explained, including the lambda architecture and MapReduce. This book will equip you with the knowledge and skills you need to develop scalable and resilient serverless applications confidently. What you will learn

- Comprehend the popular design patterns currently being used with serverless architectures
- Understand the various design options and corresponding implementations for serverless web application APIs
- Learn multiple patterns for data-intensive serverless systems and pipelines, including MapReduce and Lambda Architecture
- Learn how to leverage hosted databases, queues, streams, storage services, and notification services
- Understand error handling and system monitoring in a serverless architecture

a serverless architecture Learn how to set up a serverless application for continuous integration, continuous delivery, and continuous deployment

Who this book is for If you're a software architect, engineer, or someone who wants to build serverless applications, which are non-trivial in complexity and scope, then this book is for you. Basic knowledge of programming and serverless computing concepts are assumed.

Build, deploy, test, and run cloud-native serverless applications using AWS Lambda and other popular AWS services

Key Features

- Learn how to write, run, and deploy serverless applications in Amazon Web Services
- Make the most of AWS Lambda functions to build scalable and cost-efficient systems

Build and

deploy serverless applications with Amazon API Gateway and AWS Lambda functions Book Description Serverless computing is a way to run your code without having to provision or manage servers. Amazon Web Services provides serverless services that you can use to build and deploy cloud-native applications. Starting with the basics of AWS Lambda, this book takes you through combining Lambda with other services from AWS, such as Amazon API Gateway, Amazon DynamoDB, and Amazon Step Functions. You'll learn how to write, run, and test Lambda functions using examples in Node.js, Java, Python, and C# before you move on to developing and deploying serverless APIs efficiently using the Serverless Framework. In the concluding chapters, you'll discover tips and best practices for leveraging Serverless Framework to increase your development productivity. By the end of this book, you'll have become well-versed in building, securing, and running serverless applications using Amazon API Gateway and AWS Lambda without having to manage any servers. What you will learn Understand the core concepts of serverless computing in AWS Create your own AWS Lambda functions and build serverless APIs using Amazon API Gateway Explore best practices for developing serverless applications at scale using Serverless Framework Discover the DevOps patterns in a modern CI/CD pipeline with AWS CodePipeline Build serverless data

processing jobs to extract, transform, and load data Enforce resource tagging policies with continuous compliance and AWS Config Create chatbots with natural language understanding to perform automated tasks Who this book is for This AWS book is for cloud architects and developers who want to build and deploy serverless applications using AWS Lambda. A basic understanding of AWS is required to get the most out of this book.

Set up complete CI and CD pipelines for your serverless applications using DevOps principles Key Features Understand various services for designing serverless architecture Build CD pipelines using various cloud providers for your serverless applications Implement DevOps best practices when building serverless applications Book Description Serverless applications are becoming very popular among developers and are generating a buzz in the tech market. Many organizations struggle with the effective implementation of DevOps with serverless applications. DevOps for Serverless Applications takes you through different DevOps-related scenarios to give you a solid foundation in serverless deployment. You will start by understanding the concepts of serverless architecture and development, and why they are important. Then, you will get to grips with the DevOps ideology and gain an understanding of how it fits into the Serverless Framework. You'll cover deployment framework building and

deployment with CI and CD pipelines for serverless applications. You will also explore log management and issue reporting in the serverless environment. In the concluding chapters, you will learn important security tips and best practices for secure pipeline management. By the end of this book, you will be in a position to effectively build a complete CI and CD delivery pipeline with log management for serverless applications. What you will learn

- Explore serverless fundamentals and effectively combine them with DevOps
- Set up CI and CD with AWS Lambda and other popular Serverless service providers with the help of the Serverless Framework
- Perform monitoring and logging with serverless applications
- Set up a dynamic dashboard for different service providers
- Discover best practices for applying DevOps to serverless architecture
- Understand use cases for different serverless architectures

Who this book is for DevOps for Serverless Applications is for DevOps engineers, architects, or anyone interested in understanding the DevOps ideology in the serverless world. You will learn to use DevOps with serverless and apply continuous integration, continuous delivery, testing, logging, and monitoring with serverless.

Co located and co budgeted with ICSE 2019

Serverless Architectures on AWS, Second Edition teaches you how to design, secure, and manage serverless backend APIs for web and mobile applications

on the AWS platform. You'll get going quickly with this book's relevant real-world examples, code listings, diagrams, and clearly-described architectures that you can readily apply to your own work. You'll master serverless systems using AWS Lambda and the myriad other services on the AWS platform. This new edition has been fully updated to reflect the newest serverless design best practices and changes to AWS. It features two entirely new chapters dedicated to DevOps, monitoring, and microservices, as well as working with DynamoDB, GraphQL and Kinesis. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

To facilitate scalability and resilience, many organizations now run applications in cloud native environments using containers and orchestration. But how do you know if the deployment is secure? This practical book examines key underlying technologies to help developers, operators, and security professionals assess security risks and determine appropriate solutions. Author Liz Rice, Chief Open Source Officer at Isovalent, looks at how the building blocks commonly used in container-based systems are constructed in Linux. You'll understand what's happening when you deploy containers and learn how to assess potential security risks that could affect your deployments. If you run container applications with kubectl or docker and use Linux command-line tools such as ps and grep,

you're ready to get started. Explore attack vectors that affect container deployments Dive into the Linux constructs that underpin containers Examine measures for hardening containers Understand how misconfigurations can compromise container isolation Learn best practices for building container images Identify container images that have known software vulnerabilities Leverage secure connections between containers Use security tooling to prevent attacks on your deployment

Deploy, orchestrate, and monitor serverless applications using Kubernetes Key Features Get hands-on experience with frameworks, such as Kubeless, Apache OpenWhisk, and Funktion Master the basics of Kubernetes and prepare yourself for challenging technical assessments Learn how to launch Kubernetes both locally and in a public cloud Book Description Kubernetes has established itself as the standard platform for container management, orchestration, and deployment. By learning Kubernetes, you'll be able to design your own serverless architecture by implementing the function-as-a-service (FaaS) model. After an accelerated, hands-on overview of the serverless architecture and various Kubernetes concepts, you'll cover a wide range of real-world development challenges faced by real-world developers, and explore various techniques to overcome them. You'll learn how to create production-ready

Kubernetes clusters and run serverless applications on them. You'll see how Kubernetes platforms and serverless frameworks such as Kubeless, Apache OpenWhisk and OpenFaaS provide the tooling to help you develop serverless applications on Kubernetes. You'll also learn ways to select the appropriate framework for your upcoming project. By the end of this book, you'll have the skills and confidence to design your own serverless applications using the power and flexibility of Kubernetes. What you will learn

- Deploy a Kubernetes cluster locally with Minikube
- Get familiar with AWS Lambda and Google Cloud Functions
- Create, build, and deploy a webpage generated by the serverless functions in the cloud
- Create a Kubernetes cluster running on the virtual kubelet hardware abstraction
- Create, test, troubleshoot, and delete an OpenFaaS function
- Create a sample Slackbot with Apache OpenWhisk actions

Who this book is for This book is for software developers and DevOps engineers who have basic or intermediate knowledge about Kubernetes and want to learn how to create serverless applications that run on Kubernetes. Those who want to design and create serverless applications running on the cloud, or on-premise Kubernetes clusters will also find this book useful.

Build scalable, efficient, and highly available web apps using AWS About This Book Get an in-depth understanding of the serverless model Build a complete

serverless web application end to end Learn how to use the Serverless Framework to improve your productivity Who This Book Is For If you're looking to learn more about scalable and cost-efficient architectures, this book is for you. Basic knowledge of Node.js skills or familiarity with cloud services is required. For other topics, we cover the basics. What You Will Learn Get a grasp of the pros and cons of going serverless and its use cases Discover how you can use the building blocks of AWS to your advantage Set up the environment and create a basic app with the Serverless Framework Host static files on S3 and CloudFront with HTTPS support Build a sample application with a frontend using React as an SPA Develop the Node.js backend to handle requests and connect to a SimpleDB database Secure your applications with authentication and authorization Implement the publish-subscribe pattern to handle notifications in a serverless application Create tests, define the workflow for deployment, and monitor your app In Detail This book will equip you with the knowledge needed to build your own serverless apps by showing you how to set up different services while making your application scalable, highly available, and efficient. We begin by giving you an idea of what it means to go serverless, exploring the pros and cons of the serverless model and its use cases. Next, you will be introduced to the AWS services that will be used throughout the book, how to estimate costs,

and how to set up and use the Serverless Framework. From here, you will start to build an entire serverless project of an online store, beginning with a React SPA frontend hosted on AWS followed by a serverless backend with API Gateway and Lambda functions. You will also learn to access data from a SimpleDB database, secure the application with authentication and authorization, and implement serverless notifications for browsers using AWS IoT. This book will describe how to monitor the performance, efficiency, and errors of your apps and conclude by teaching you how to test and deploy your applications. Style and approach This book takes a step-by-step approach on how to use the Serverless Framework and AWS services to build Serverless Applications. It will give you a hands-on feeling, allowing you to practice while reading. It provides a brief introduction of concepts while keeping the focus on the practical skills required to develop applications.

Serverless Architectures on AWS With examples using AWS Lambda Simon and Schuster

With a new generation of services and frameworks, frontend and mobile developers can use their existing skill set to build full stack applications by leveraging the cloud. Developers can build robust applications with production-ready features such as authentication, APIs, data layers, machine learning, chatbots, and AR scenes more easily than ever by taking advantage

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of these new serverless and cloud technologies. This practical guide explains how. Nader Dabit, developer advocate at Amazon Web Services, shows developers how to build full stack applications using React, AWS, GraphQL, and the Amplify Framework. You'll learn how to create and incorporate services into your client applications while exploring general best practices, deployment strategies, continuous integration and delivery, and rich media management along the way. Learn how to build applications that solve real problems Understand what is (and is not) possible when using these technologies Examine how authentication works—and learn the difference between authentication and authorization Discover how serverless functions work and why they're important Use GraphQL in your application—and learn why it's important Learn how to build full stack applications on AWS Summary Serverless Architectures on AWS teaches you how to build, secure and manage serverless architectures that can power the most demanding web and mobile apps. Forewords by Patrick Debois (Founder of devopsdays) and Dr. Donald F. Ferguson (Columbia University). Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology There's a shift underway toward serverless cloud architectures. With the release of serverless computer technologies such as AWS Lambda, developers are now building entirely serverless platforms at scale. In these new architectures, traditional back-end servers are replaced with cloud functions acting as discrete single-purpose services. By composing and combining these serverless cloud functions together in a loose orchestration and adopting useful third-party services, developers can create powerful yet easy-to-understand applications. About the Book Serverless Architectures on AWS teaches you how to build, secure, and manage serverless architectures that can power the most demanding web

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and mobile apps. You'll get going quickly with this book's ready-made real-world examples, code snippets, diagrams, and descriptions of architectures that can be readily applied. By the end, you'll be able to architect and build your own serverless applications on AWS. What's Inside First steps with serverless computing Important patterns and architectures Writing AWS Lambda functions and using the API Gateway Composing serverless applications using key services like Auth0 and Firebase Securing, deploying, and managing serverless architectures About the Reader This book is for software developers interested in back end technologies. Experience with JavaScript (node.js) and AWS is useful but not required. About the Author Dr. Peter Sbarski is a well-known AWS expert, VP of engineering at A Cloud Guru, and head of Serverlessconf. Table of Contents PART 1 - FIRST STEPS Going serverless Architectures and patterns Building a serverless application Setting up your cloud PART 2 - CORE IDEAS Authentication and authorization Lambda the orchestrator API Gateway PART 3 - GROWING YOUR ARCHITECTURE Storage Database Going the last mile APPENDIXES Services for your serverless architecture Installation and setup More about authentication and authorization Lambda insider Models and mapping

Serverless architectures allow you to build and run applications and services without having to manage the infrastructure. Many companies have adopted this architecture to save cost and improve scalability. This book will help you design serverless architectures for your applications with AWS and Python.

A practical guide for developing end-to-end serverless microservices in Python for developers, DevOps, and architects. Key Features Create a secure, cost-effective, and scalable serverless data API Use identity management and authentication for a user-specific and secure web

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application Go beyond traditional web hosting to explore the full range of cloud hosting options  
Book Description Over the last few years, there has been a massive shift from monolithic architecture to microservices, thanks to their small and independent deployments that allow increased flexibility and agile delivery. Traditionally, virtual machines and containers were the principal mediums for deploying microservices, but they involved a lot of operational effort, configuration, and maintenance. More recently, serverless computing has gained popularity due to its built-in autoscaling abilities, reduced operational costs, and increased productivity. Building Serverless Microservices in Python begins by introducing you to serverless microservice structures. You will then learn how to create your first serverless data API and test your microservice. Moving on, you'll delve into data management and work with serverless patterns. Finally, the book introduces you to the importance of securing microservices. By the end of the book, you will have gained the skills you need to combine microservices with serverless computing, making their deployment much easier thanks to the cloud provider managing the servers and capacity planning. What you will learn Discover what microservices offer above and beyond other architectures Create a serverless application with AWS Gain secure access to data and resources Run tests on your configuration and code Create a highly available serverless microservice data API Build, deploy, and run your serverless configuration and code Who this book is for If you are a developer with basic knowledge of Python and want to learn how to build, test, deploy, and secure microservices, then this book is for you. No prior knowledge of building microservices is required.

Build cost-effective and highly scalable Serverless applications using AWS Lambda. About This Book Leverage AWS Lambda to significantly lower your infrastructure costs and deploy

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out massively scalable, event-driven systems and applications Learn how to design and build Lambda functions using real-world examples and implementation scenarios Explore the Serverless ecosystem with a variety of toolsets and AWS services including DynamoDB, API Gateway, and much more! Who This Book Is For If you are a Cloud administrator and/or developer who wishes to explore, learn, and leverage AWS Lambda to design, build, and deploy Serverless applications in the cloud, then this is the book for you! The book assumes you have some prior knowledge and hands-on experience with AWS core services such as EC2, IAM, S3, along with the knowledge to work with any popular programming language such as Node.js, Java, C#, and so on. What You Will Learn Understand the hype, significance, and business benefits of Serverless computing and applications Plunge into the Serverless world of AWS Lambda and master its core components and how it works Find out how to effectively and efficiently design, develop, and test Lambda functions using Node.js, along with some keen coding insights and best practices Explore best practices to effectively monitor and troubleshoot Serverless applications using AWS CloudWatch and other third-party services in the form of Datadog and Loggly Quickly design and develop Serverless applications by leveraging AWS Lambda, DynamoDB, and API Gateway using the Serverless Application Framework (SAF) and other AWS services such as Step Functions Explore a rich variety of real-world Serverless use cases with Lambda and see how you can apply it to your environments In Detail AWS is recognized as one of the biggest market leaders for cloud computing and why not? It has evolved a lot since the time it started out by providing just basic services such as EC2 and S3 and today; they go all the way from IoT to Machine Learning, Image recognition, Chatbot Frameworks, and much more! One of those recent services that is

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also gaining a lot of traction is AWS Lambda! Although seemingly simple and easy to use, Lambda is a highly effective and scalable compute service that provides developers with a powerful platform to design and develop Serverless event-driven systems and applications. The book begins with a high-level introduction into the world of Serverless computing and its advantages and use cases, followed by a deep dive into AWS Lambda! You'll learn what services AWS Lambda provides to developers; how to design, write, and test Lambda functions; as well as monitor and troubleshoot them. The book is designed and accompanied with a vast variety of real-world examples, use cases, and code samples that will enable you to get started on your Serverless applications quickly. By the end of the book, you will have gained all the skills required to work with AWS Lambda services! Style and approach This step-by-step guide will help you build Serverless applications and run Serverless workloads using the AWS Lambda service. You'll be able to get started with it in a matter of minutes with easy-to-follow code snippets and examples.

Serverless revolutionizes the way organizations build and deploy software. With this hands-on guide, Java engineers will learn how to use their experience in the new world of serverless computing. You'll discover how this cloud computing execution model can drastically decrease the complexity in developing and operating applications while reducing costs and time to market. Engineering leaders John Chapin and Mike Roberts guide you through the process of developing these applications using AWS Lambda, Amazon's event-driven, serverless computing platform. You'll learn how to prepare the development environment, program Lambda functions, and deploy and operate your serverless software. The chapters include exercises to help you through each aspect of the process. Get an introduction to serverless,

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functions as a service, and AWS Lambda Learn how to deploy working Lambda functions to the cloud Program Lambda functions and learn how the Lambda platform integrates with other AWS services Build and package Java-based Lambda code and dependencies Create serverless applications by building a serverless API and data pipeline Test your serverless applications using automated techniques Apply advanced techniques to build production-ready applications Understand both the gotchas and new opportunities of serverless architecture Summary The Tao of Microservices guides you on the path to understanding how to apply microservice architectures to your own real-world projects. This high-level book offers a conceptual view of microservice design, along with core concepts and their application. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology An application, even a complex one, can be designed as a system of independent components, each of which handles a single responsibility. Individual microservices are easy for small teams without extensive knowledge of the entire system design to build and maintain. Microservice applications rely on modern patterns like asynchronous, message-based communication, and they can be optimized to work well in cloud and container-centric environments. About the Book The Tao of Microservices guides you on the path to understanding and building microservices. Based on the invaluable experience of microservices guru Richard Rodger, this book exposes the thinking behind microservice designs. You'll master individual concepts like asynchronous messaging, service APIs, and encapsulation as you learn to apply microservices architecture to real-world projects. Along the way, you'll dig deep into detailed case studies with source code and documentation and explore best practices for team development, planning for

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change, and tool choice. What's Inside Principles of the microservice architecture Breaking down real-world case studies Implementing large-scale systems When not to use microservices About the Reader This book is for developers and architects. Examples use JavaScript and Node.js. About the Author Richard Rodger, CEO of voxgig, a social network for the events industry, has many years of experience building microservice-based systems for major global companies. Table of Contents PART 1 - BUILDING MICROSERVICES Brave new world Services Messages Data Deployment PART 2 - RUNNING MICROSERVICES Measurement Migration People Case study: Nodezoo.com Summary Serverless Applications with Node.js walks you through building serverless apps on AWS using JavaScript. Inside, you'll discover what Claudia.js brings to the table as you build and deploy a scalable event-based serverless application, based around a pizzeria that's fully integrated with AWS services, including Lambda and API Gateway. Each chapter is filled with exercises, examples, tips, and more to make sure you're ready to bring what you've learned into your own work. Foreword by Gojko Adzic. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology The benefits of cloud-hosted serverless web apps are undeniable: lower complexity, quicker time to market, and easier scalability than traditional, server-dependent designs. And thanks to JavaScript support in AWS Lambda and powerful new serverless API tools like the Claudia.js library, you can build and deploy serverless apps end to end without learning a new language. About the Book Serverless Applications with Node.js teaches you to design and build serverless web apps on AWS using JavaScript, Node, and Claudia.js. You'll master the basics of writing AWS Lambda functions, along with core serverless patterns like API Gateway. Along

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the way, you'll practice your new skills by building a working chatbot and a voice assistant with Amazon Alexa. You'll also discover techniques for migrating existing apps to a serverless platform. What's inside Authentication and database storage Asynchronous functions Interesting real-world examples Developing serverless microservices About the Reader For web developers comfortable with JavaScript and Node.js. About the Author Slobodan Stojanovi? and Aleksandar Simovi? are AWS Serverless Heroes and core contributors to the Claudia.js project. They are also coauthors of Desole, an open source serverless errortracking tool, and the lead developers of Claudia Bot Builder. Table of Contents PART 1 - Serverless pizzeria Introduction to serverless with Claudia Building your first serverless API Asynchronous work is easy, we Promise() Pizza delivery: Connecting an external service Houston, we have a problem! Level up your API Working with files PART 2 - Let's talk When pizza is one message away: Chatbots Typing... Async and delayed responses Jarvis, I mean Alexa, order me a pizza Paying for pizza Migrating to serverless Real-world case studies appendix A - Installation and configuration appendix B - Facebook Messenger, Twilio, and Alexa configuration appendix C - Stripe and MongoDB setup appendix D - The pizza recipe

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