

Building Serverless Web Applications Develop Scalable Web Apps Using The Serverless Framework On Aws

Jamstack is the new approach to building faster and more secure sites exploring the capabilities of JavaScript. Jumpstart Jamstack Development explores this emerging web development paradigm by building Jamstack websites, from learning Jamstack features to implementing the principles via popular frameworks such as GatsbyJS, Sanity, and Netlify.

Effectively deploy fully managed workloads using Google Cloud's serverless services Key Features Use real-world use cases to understand the core functionalities of Functions as a Service Explore the potential of Cloud Run, Knative, Cloud Build, Google Kubernetes Engine, and Cloud Storage Get to grips with architectural decisions, seamless deployments, containerization, and serverless solutions Book Description Google Cloud's serverless platform allows organizations to scale fully managed solutions without worrying about the underlying infrastructure. With this book, you will learn how to design, develop, and deploy full stack serverless apps on Google Cloud. The book starts with a quick overview of the Google Cloud console, its features, user interface (UI), and capabilities. After getting to grips with the Google Cloud interface and its features, you will explore the core aspects of serverless products such as Cloud Run, Cloud Functions and App Engine. You will also learn essential features such as version control, containerization, and identity and access management with the help of real-world use cases. Later, you will understand how to incorporate continuous integration and continuous deployment (CI/CD) techniques for serverless applications. Toward the concluding chapters, you will get to grips with how key technologies such as Knative enable Cloud Run to be hosted on multiple platforms including Kubernetes and VMware. By the end of this book, you will have become proficient in confidently developing, managing, and deploying containerized applications on Google Cloud. What you will learn Explore the various options for deploying serverless workloads on Google Cloud Determine the appropriate serverless product for your application use case Integrate multiple lightweight functions to build scalable and resilient services Increase productivity through build process automation Understand how to secure serverless workloads using service accounts Build a scalable architecture with Google Cloud Functions and Cloud Run Who this book is for If you are a cloud administrator, architect, or developer who wants to build scalable systems and deploy serverless workloads on Google Cloud, then this book is for you. To get the most out of this book, a basic understanding of the serverless ecosystem and cloud computing will be beneficial.

A practical, real-world introduction to AWS tools and concepts Amazon Web Services for Mobile Developers: Building Apps with AWS presents a professional view of cloud computing and AWS for experienced iOS/Android developers and technical/solution architects. Cloud computing is a rapidly expanding ecosystem, and working professionals need a practical resource to bring them up-to-date on tools that are rapidly becoming indispensable; this book helps expand your skill set by introducing you to AWS offerings that can make your job easier, with a focus on real-world application. Author and mobile applications developer Abhishek Mishra shows you how to create IAM accounts and try out some of the most popular services, including EC2, Lambda, Mobile Analytics, Device Farm, and more. You'll build a chat application in both Swift (iOS) and Java (Android), running completely off AWS Infrastructure to explore SDK installation, Xcode, Cognito authentication, DynamoDB, Amazon SNS Notifications, and other useful tools. By actually using the tools as you learn about them, you develop a more intuitive understanding that feels less like a shift and more like a streamlined integration. If you have prior experience with Swift or Java and a solid knowledge of web services, this book can help you quickly take your skills to the next level with a practical approach to learning that translates easily into real-world use. Understand the key concepts of AWS as applied to both iOS and Android developers Explore major AWS offerings for mobile developers, including DynamoDB, RDS, EC2, SNS, Cognito, and more Learn what people are talking about when they use buzzwords like PaaS, IaaS, SaaS, and APaaS Work through explanations by building apps that tie into the AWS ecosystem Any job is easier with the right tools, and Amazon Web Services for Mobile Developers: Building Apps with AWS gets you acquainted with an ever-expanding toolkit for mobile app development.

Build rich and collaborative applications using client-side code with React, Redux, and Firebase Key Features 1) A practical guide covering the full stack for web development with React 16 and Firebase 2) Leverage the power of Firebase Cloud Storage, messaging, functions, OAuth, and database security to develop serverless web applications. 3) Develop high-performance applications without the hassle of setting up complex web infrastructure. Book Description ReactJS is a wonderful framework for UI development. Firebase as a backend with React is a great choice as it is easy, powerful, and provides great developer experience. It removes a lot of boilerplate code from your app and allows you to focus on your app to get it out quickly to users. Firebase with React is also a good choice for Most Viable Product (MVP) development. This book provides more practical insights rather than just theoretical concepts and includes basic to advanced examples – from hello world to a real-time seat booking app and Helpdesk application This book will cover the essentials of Firebase and React.js and will take you on a fast-paced journey through building real-time applications with Firebase features such as Cloud Storage, Cloud Function, Hosting and the Realtime Database. We will learn how to secure our application by using Firebase authentication and database security rules. We will leverage the power of Redux to organize data in the front-end, since Redux attempts to make state mutations predictable by imposing certain restrictions on how and when updates can happen. Towards the end of the book you will have improved your React skills by realizing the potential of Firebase to create real-time serverless web applications. What you will learn Install powerful React.js and Firebase tools to make development much more efficient Create React components with Firebase to save and retrieve the data in real-time Use Firebase Authentication to make your React user interface secure Develop React and Firebase applications with Redux integration Firebase database security rules Firebase Cloud Storage Integration to upload and store data on the cloud Create a complete real-time application with React and firebase Using Firebase Cloud messaging and Cloud functions with React Firebase Cloud Storage integration with React Who this book is for This book is for JavaScript developers who have some previous knowledge of React and want to develop serverless, full-stack applications but without the hassle of setting up a complex infrastructure.

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 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

Don't waste your time building an application server. See how to build low-cost, low-maintenance, highly available, serverless single page web applications that scale into the millions of users at the click of a button. Quickly build reliable, well-tested single page apps that stay up and running 24/7 using Amazon Web Services. Avoid messing around with middle-tier infrastructure and get right to the web app your customers want. You don't need to manage your own servers to build powerful web applications. This book will show you how to create a single page app that runs entirely on web services, scales to millions of users, and costs less per day than a cup of coffee. Using a web browser, a prepared workspace, and your favorite editor, you'll build a complete single page web application, step by step. Learn the fundamental technologies behind modern single page apps, and use web standards to create lean web applications that can take advantage of the newest technologies. Deploy your application quickly using Amazon S3. Use Amazon Cognito to connect with providers like Google and Facebook to manage user identities. Read and write user data directly from the browser using DynamoDB, and build your own scalable custom microservices with Amazon Lambda. Whether you've never built a web application before or you're a seasoned web developer who's just looking for an alternative to complex server-side web frameworks, this book describes a simple approach to building serverless web applications that you can easily apply or adapt for your own projects. What You Need: To follow the tutorial in this book, you'll need a computer with a web browser. You'll also need a text editor and a git client. Building this web application will require some sort of development web server. You can use your own, or you can also use the one included with the tutorial's prepared workspace. The included web server requires Ruby 2.0, although we also suggest few alternatives. To get started quickly, you need a basic understanding of HTML, CSS, and JavaScript. If you're new to these topics, you can get up to speed using links we'll provide in the Introduction.

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.

Don't waste your time building an application server. See how to build low-cost, low-maintenance, highly available, serverless single page web applications that scale into the millions of users at the click of a button. Build well-tested single page apps that are safe from malicious attacks and adapt to any device or network connected to the web. Avoid messing around with middle-tier infrastructure and get right to the web app your customers want. You don't need to manage your own servers to build powerful web applications--the Internet will do that for you. This book will show you how to create a single page app that runs entirely on web services, scales to millions of users, and costs less per day than a cup of coffee. Using a web browser, a prepared workspace, and your favorite editor, you'll build a complete single page web application, step by step. Deploy your application quickly using Amazon S3. Learn the fundamental technologies behind modern single page apps, and use web standards to create lean web applications that can take advantage of the newest technologies. Connect with providers like Google and Facebook to manage user identities. Read and write user data directly from the browser using a web service database. Learn how to defend your application against common security threats. Whether you've never built a web application before or you're a seasoned web developer who's just looking for an alternative to complex server-side web frameworks, this book describes a simple approach to building serverless web applications that you can easily apply or adapt for your own projects. What You Need: To follow the tutorial in this book, you'll need a computer with a web browser. You'll also need a text editor and a git client. Building this web application will require some sort of development web server. You can use your own, or you can also use the one included with the tutorial's prepared workspace. The included web server requires Ruby 2.0, although we also suggest few alternatives. To get started quickly, you need a basic understanding of HTML, CSS, and JavaScript. If you're new to these topics, you can get up to speed using links we'll provide in the Introduction.

Get to grips with the AWS Amplify framework and use it to build scalable cloud-native progressive web apps with React and cross-platform mobile apps with React Native in TypeScript Key Features Explore the capabilities of AWS Amplify with popular app frameworks for both web and mobile app platforms Build your first cloud-native web and mobile applications using AWS Amplify Leverage AWS Amplify to design GraphQL APIs for your web and mobile applications Book Description AWS Amplify is a modern toolkit that includes a command line interface (CLI); libraries for JS, iOS, and Android programming; UI component libraries for frameworks like React, Angular, and Vue.js for web development, and React Native and Flutter for mobile development. You'll begin by learning how to build AWS Amplify solutions with React and React Native with TypeScript from scratch, along with integrating it with existing solutions. This book will show you the fastest way to build a production-ready minimum viable product (MVP) within days instead of years. You'll also discover how to increase development speed without compromising on quality by adopting behavior-driven development (BDD) and Cypress for end-to-end test automation, as well as the Amplify build pipeline (DevOps or CI/CD pipeline) to ensure optimal quality throughout continuous test automation and continuous delivery. As you advance, you'll work with React to determine how to build progressive web apps (PWAs) with Amplify and React Native for cross-platform mobile apps. In addition to this, you'll find out how to set up a custom domain name for your new

website and set up the AWS Amplify Admin UI for managing the content of your app effectively. By the end of this AWS book, you'll be able to build a full-stack AWS Amplify solution all by yourself. What you will learn Build React and React Native apps with Amplify and TypeScript Explore pre-built Amplify UI components for rapid prototyping Add user management with Amplify authentication to your app Use Amplify GraphQL to create a blog post Discover how to upload photos to Amplify Storage Enable DevOps with the Amplify pipeline for your app Get to grips with BDD and test automation with Cypress and Cucumber Set up a custom domain name for your website and manage app content with the Amplify Admin UI Who this book is for This book is for developers and tech companies looking to develop cloud-native products rapidly with the AWS ecosystem. Web and mobile developers with little-to-no experience in TypeScript programming will also find this book helpful. Although no prior experience with AWS or TypeScript is required, basic familiarity with modern frameworks such as React and React Native is useful.

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

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.

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.

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 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.

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, 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

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 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 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.

Build Azure functions and integrate them with Azure Cosmos DB data models DESCRIPTION This book provides examples to start with Azure functions and Azure Cosmos DB. It demonstrates the features available in both of the mentioned Azure services and discusses them in detail with some real-world examples. Reading a csv file and write to a Cosmos DB table store, Read emails using Microsoft Graph API and save them in a Cosmos DB, Cosmos DB trigger function to send SMS notifications to clients, A queue trigger to create new nodes in the Cosmos DB graph data store are some of them. You will be able to see the above case studies with code samples implemented in C# .NET Core, TypeScript, and Python. It consists of a very basic example, two intermediate samples, then and an advanced level one. You will experience the triggers and input/output bindings available for a function, like queue trigger, blob trigger, and Cosmos DB trigger to name a few. Also, you will be able to see some interesting features available in Azure functions like performance optimizations, scalability of a function app, geographical distribution of the function in different locations, error handling, writing unit tests for the functions to avoid breaking changes, how to ensure a function app is secure, and then how to deploy a function, and monitor and troubleshoot a function app. At the end of this book, you will gain strong experience in using Azure functions and how to manage serverless applications seamlessly without any failure with utmost performance. KEY FEATURES ? Expert-led coverage on integrating Azure functions ? Industry-proven examples and best practices on implementation of Azure Cosmos DB ? Learn to work on performance optimization and error handling ? Integration of Azure function with other Azure services WHAT YOU WILL LEARN ? You will be able to create an Azure function and integrate it with many Azure services including the Azure Cosmos DB ? You will get experience implementing a function using programming languages like C# .NET Core, TypeScript, and Python. ? You will get hands-on experience on the performance optimizing of a function, how to scale them, how to apply security to the function app, error handling and testing in a function. WHO THIS BOOK IS FOR This book is for developers who want to get the knowledge and experience in Azure Functions and Azure Cosmos DB. If you have a programming knowledge of .NET, TypeScript, Python, or any other programming language, it will be enough to understand the concepts and samples in this book. If you have worked with a cloud technology or have experience in any of the Azure cloud services, then it will be a definite advantage. TABLE OF CONTENTS 1. Beginning Azure Function Apps 2. Your First Azure Function App 3. Let's Get Started with Cosmos DB 4. Structure Your Data in Cosmos DB 5. Your First Cosmos DB 6. Serverless Design Patterns 7. Performance and Scalability of a Function App 8. Geo-Distribution in a Function App 9. Error Handling and Testing 10. Secure Your Function App 11. Deployments in a Function App 12. Monitor and Troubleshoot Function Apps 13. Azure Functions with Cosmos DB Table API 14. Azure Functions with Cosmos DB SQL API 15. Cosmos DB Trigger in Azure Function 16. Azure Functions with Cosmos DB Gremlin API

Master serverless architectures in Python and their implementation, with Zappa on three different frameworks. Key Features Scalable serverless Python web services using Django, Flask, and Pyramid. Learn Asynchronous task execution on AWS Lambda and scheduling using Zappa. Implementing Zappa in a Docker container. Book Description Serverless applications are becoming very popular these days, not just because they save developers the trouble of managing the servers, but also because they provide several other benefits such as cutting heavy costs and improving the overall performance of the application. This book will help you build serverless applications in a quick and efficient way. We begin with an introduction to AWS and the API gateway, the environment for serverless development, and Zappa. We then look at building, testing, and deploying apps in AWS with three different frameworks--Flask, Django, and Pyramid. Setting up a custom domain along with SSL certificates and configuring them with Zappa is also covered. A few advanced Zappa settings are also covered along with securing Zappa with AWS VPC. By the end of the book you will have mastered using three frameworks to build robust and cost-efficient serverless apps in Python. What you will learn Build, test, and deploy a simple web service using AWS CLI Integrate Flask-based Python applications, via AWS CLI configuration Design Rest APIs integrated with Zappa for Flask and Django Create a project in the Pyramid framework and configure it with Zappa Generate SSL Certificates using Amazon Certificate Manager Configure custom domains with AWS Route 53 Create a Docker container similar to AWS Lambda Who this book is for Python Developers who are interested in learning how to develop fast and highly scalable serverless applications in Python, will find this book useful

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 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

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 Build scalable, efficient, and highly available web apps using AWS About This Book* Get an in-depth understanding of the Serverless framework* Build a complete serverless web application end to end* Monitor performance, timeouts, efficiency, errors, and costs in your app 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. The book only assumes prior knowledge of Node.js. For other topics, we cover the basics. What you will learn* Get a grasp of the pros and cons of going serverless and how it fits in with microservices architecture* Discover how you can use the building blocks of AWS to your advantage and get a brief comparison with other major players* Set up the environment and create a basic app with the Serverless framework* Build a sample application with a front end using AngularJS as a SPA* Develop the Node.js backend to handle requests and connect to a Firebase database* Implement the publish-subscribe pattern to handle notifications in a serverless application* Secure your applications with authentication and authorization* Define the workflow to test and deploy your app In Detail The growth of serverless computing has been a game changer, with several companies adopting it to reduce management costs and to improve scalability. 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, followed by a brief comparison of the major players and why AWS stands out. From here, we show you how to use the basic services of AWS, run Lambda functions, and estimate costs. Next, you will configure AWS SDK credentials, learn basic commands, and add plugins. We even show you how to build your front end using AngularJS, how to handle requests with development of the backend, and handle live notifications using Amazon Simple Notification Service. We go on to describe how you can secure an application with authentication and authorization. We also show you how to monitor the performance, efficiency, errors, and costs. Finally, we will teach you how to test and deploy your application.

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.

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, 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.

Building Serverless Web ApplicationsPackt Publishing Ltd

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 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. Spring 5.0 brings major advancements in the rich APIs provided by the Spring framework and thus creates a need for developers to master its tools and techniques to achieve high-performing applications. This book will help you improve the speed of your code and optimize the performance of your apps.

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

Serverless computing is radically changing the way we build and deploy applications. With cloud providers running servers and managing machine resources, companies now can focus solely on the application's business logic and functionality. This hands-on book shows experienced programmers how to build and deploy scalable machine learning and deep learning models using serverless architectures with Microsoft Azure. You'll learn step-by-step how to code machine learning into your projects using Python and pre-trained models that include tools such as image recognition, speech recognition, and classification. You'll also examine issues around deployment and continuous delivery including scaling, security, and monitoring. This book is divided into four parts: Cloud-based development: learn the basics of serverless computing with machine learning, functions as a service (FaaS), and the use of APIs Adding intelligence: create serverless applications using Azure Functions; learn how to use pre-built machine-learning and deep-learning models Deployment and continuous delivery: get up to speed with Azure Kubernetes Service, as well as Azure Security Center, and Azure Monitoring Application examples: deliver data at the edge, build conversational interfaces, and use convolutional neural networks for image classification

AI as a Service is a practical handbook to building and implementing serverless AI applications, without bogging you down with a lot of theory. Instead, you'll find easy-to-digest instruction and two complete hands-on serverless AI builds in this must-have guide! Summary Companies everywhere are moving everyday business processes over to the cloud, and AI is increasingly being given the reins in these tasks. As this massive digital transformation continues, the combination of serverless computing and AI promises to become the de facto standard for business-to-consumer platform development—and developers who can design, develop, implement, and maintain these systems will be in high demand! AI as a Service is a practical handbook to building and implementing serverless AI applications, without bogging you down with a lot of theory. Instead, you'll find easy-to-digest instruction and two complete hands-on serverless AI builds in this must-have guide! Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Cloud-based AI services can automate a variety of labor intensive business tasks in areas such as customer service, data analysis, and financial reporting. The secret is taking advantage of pre-built tools like Amazon Rekognition for image analysis or AWS Comprehend for natural language processing. That way, there's no need to build expensive custom software. Artificial Intelligence (AI), a machine's ability to learn and make predictions based on patterns it identifies, is already being leveraged by businesses around the world in areas like targeted product recommendations, financial forecasting and resource planning, customer

service chatbots, healthcare diagnostics, data security, and more. With the exciting combination of serverless computing and AI, software developers now have enormous power to improve their businesses' existing systems and rapidly deploy new AI-enabled platforms. And to get on this fast-moving train, you don't have to invest loads of time and effort in becoming a data scientist or AI expert, thanks to cloud platforms and the readily available off-the-shelf cloud-based AI services! About the book AI as a Service is a fast-paced guide to harnessing the power of cloud-based solutions. You'll learn to build real-world apps—such as chatbots and text-to-speech services—by stitching together cloud components. Work your way from small projects to large data-intensive applications. What's inside - Apply cloud AI services to existing platforms - Design and build scalable data pipelines - Debug and troubleshoot AI services - Start fast with serverless templates About the reader For software developers familiar with cloud basics. About the author Peter Elger and Eóin Shanaghy are founders and CEO/CTO of fourTheorem, a software solutions company providing expertise on architecture, DevOps, and machine learning. Table of Contents PART 1 - FIRST STEPS 1 A tale of two technologies 2 Building a serverless image recognition system, part 1 3 Building a serverless image recognition system, part 2 PART 2 - TOOLS OF THE TRADE 4 Building and securing a web application the serverless way 5 Adding AI interfaces to a web application 6 How to be effective with AI as a Service 7 Applying AI to existing platforms PART 3 - BRINGING IT ALL TOGETHER 8 Gathering data at scale for real-world AI 9 Extracting value from large data sets with AI In the race to compete in today's fast-moving markets, large enterprises are busy adopting new technologies for creating new products, processes, and business models. But one obstacle on the road to digital transformation is placing too much emphasis on technology, and not enough on the types of processes technology enables. What if different lines of business could build their own services and applications—and decision-making was distributed rather than centralized? This report explores the concept of a digital business platform as a way of empowering individual business sectors to act on data in real time. Much innovation in a digital enterprise will increasingly happen at the edge, whether it involves business users (from marketers to data scientists) or IoT devices. To facilitate the process, your core IT team can provide these sectors with the digital tools they need to innovate quickly. This report explores: Key cultural and organizational changes for developing business capabilities through cross-functional product teams A platform for integrating applications, data sources, business partners, clients, mobile apps, social networks, and IoT devices Creating internal API programs for building innovative edge services in low-code or no-code environments Tools including Integration Platform as a Service, Application Platform as a Service, and Integration Software as a Service The challenge of integrating microservices and serverless architectures Event-driven architectures for processing and reacting to events in real time You'll also learn about a complete pervasive integration solution as a core component of a digital business platform to serve every audience in your organization.

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.

Learn how to build a real-world serverless application in the cloud that's reliable, secure, maintainable, and scalable. If you have experience building web applications on traditional infrastructure, this hands-on guide shows you how to get started with Cloud Run, a container-based serverless product on Google Cloud. Through the course of this book, you'll learn how to deploy several example applications that highlight different parts of the serverless stack on Google Cloud. Combining practical examples with fundamentals, this book will appeal to developers who are early in their learning journey as well as experienced practitioners. Build a serverless application with Google Cloud Run Learn approaches for building containers with (and without) Docker Explore Google Cloud's managed relational database: Cloud SQL Use HTTP sessions to make every user's experience unique Explore identity and access management (IAM) on Cloud Run Provision Google Cloud resources using Terraform Learn how to handle background task scheduling on Cloud Run Move your service from Cloud Run to Knative Serving with little effort

Foreword by Werner Vogels, Vice President and Corporate Technology Officer, Amazon The AWS exam has been updated. Your study guide should be, too. The AWS Certified Developer Official Study Guide—Associate Exam is your ultimate preparation resource for the latest exam! Covering all exam objectives, this invaluable resource puts a team of AWS experts at your side with expert guidance, clear explanations, and the wisdom of experience with AWS best practices. You'll master core services and basic architecture,

and equip yourself to develop, deploy, and debug cloud-based applications using AWS. The AWS Developer certification is earned by those who demonstrate the technical knowledge and skill associated with best practices for building secure, reliable cloud-based applications using AWS technology. This book is your official exam prep companion, providing everything you need to know to pass with flying colors. Study the AWS Certified Developer Exam objectives Gain expert insight on core AWS services and best practices Test your understanding of key concepts with challenging chapter questions Access online study tools including electronic flashcards, a searchable glossary, practice exams, and more Cloud computing offers businesses the opportunity to replace up-front capital infrastructure expenses with low, variable costs that scale as they grow. This customized responsiveness has negated the need for far-future infrastructure planning, putting thousands of servers at their disposal as needed—and businesses have responded, propelling AWS to the number-one spot among cloud service providers. Now these businesses need qualified AWS developers, and the AWS certification validates the exact skills and knowledge they're looking for. When you're ready to get serious about your cloud credentials, the AWS Certified Developer Official Study Guide—Associate Exam is the resource you need to pass the exam with flying colors. NOTE: As of October 7, 2019, the accompanying code for hands-on exercises in the book is available for downloading from the secure Resources area in the online test bank. You'll find code for Chapters 1, 2, 11, and 12.

"Serverless applications have been transforming web development for the last few years. They help you manage the complexity of today's applications and tackle the demands of today's users in a way, unlike any other previous serverless framework. This course will take you through serverless applications using AWS Lambda. In this course, you'll build a Slack bot to manage tasks. Slack users will be able to send tasks to the bot, get all pending tasks in the Slack channel from the bot, and complete individual tasks; when a task gets close to the due date the service will send a reminder to Slack. The course will teach you to write your first serverless application with events and triggers. Moving ahead, you will learn to deploy your application to the cloud and study the tools used in creating applications. Use this course to finally get to grips with a serverless application, and become a more confident and smarter developer. The course will help you understand what serverless applications are and how you can use them to build a production-ready application."--Resource description page.

This book features selected research papers presented at the International Conference on Evolutionary Computing and Mobile Sustainable Networks (ICECMSN 2020), held at the Sir M. Visvesvaraya Institute of Technology on 20–21 February 2020. Discussing advances in evolutionary computing technologies, including swarm intelligence algorithms and other evolutionary algorithm paradigms which are emerging as widely accepted descriptors for mobile sustainable networks virtualization, optimization and automation, this book is a valuable resource for researchers in the field of evolutionary computing and mobile sustainable networks.

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 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

Build scalable, reliable, and cost-effective applications with a serverless architecture 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, 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 computing greatly simplifies software development. Your team can focus solely on your application while the cloud provider manages the servers you need. This practical guide shows you step-by-step how to build and deploy complex applications in a flexible multicloud, multilanguage environment using Apache OpenWhisk. You'll learn how this platform enables you to pursue a vendor-independent approach using preconfigured containers, microservices, and Kubernetes as your cloud operating system. Michele Sciabarrà demonstrates how to build a serverless application using classical design patterns and the programming language or languages that best fit your task. You'll start by building a simple serverless application hands-on before diving into the more complex aspects of the OpenWhisk platform. Examine how OpenWhisk's serverless architecture works, including the use of packages, actions, sequences, triggers, rules, and feeds Learn how OpenWhisk compares to existing architectures, such as Java Enterprise Edition Manipulate OpenWhisk features using the command-line interface or a JavaScript API Design applications using common Gang of Four design patterns Use architectural design patterns such as model-view-controller to combine several OpenWhisk actions Learn how to test and debug your code in a serverless environment

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 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 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.

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.

A new generation of serverless tools, including Claudia.js, make it radically easier to set up serverless web applications so users can focus on what their app does instead of meddling with infrastructure configuration and deployment. Serverless Applications with Node.js walks readers through building serverless apps on AWS using JavaScript. They'll learn to simplify the design and development process so they can focus on getting their application deployed as fast as possible without sacrificing quality. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

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