

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

Building Serverless Web Applications Packt Publishing Ltd

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.

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.

3.5 Hours of Video Instruction on AWS Lambda and Serverless Applications Overview More than 3.5 hours of practical video instruction on AWS Lambda--Amazon's Functions-as-a-Service technology--and how to build Serverless applications. The aim throughout this course is not to give you just cookie cutter examples but instead to give you a thorough understanding of the Lambda platform and programming model, so you'll have confidence building your own Serverless applications. **Description** Serverless is a new cloud computing approach to architecting and building applications. It enables faster delivery of business value and reduced operational cost and complexity, together with virtually limitless and effortless scaling. The core technology class of a Serverless architecture is Functions-as-a-Service, and the most mature Functions-as-a-Service product is Lambda, from Amazon Web Services. AWS Lambda LiveLessons is designed to give you a thorough understanding of the Lambda platform and programming model, so you'll have confidence building your own Serverless applications. Although AWS Lambda natively supports several languages, including Javascript, Python and C#, this video tutorial uses Java and its Java Virtual Machine as the development language and runtime for all examples. The video starts off by introducing Serverless and answering the question, "What is Lambda?" It explains Serverless fundamentals and compares the different Serverless technology classes of Backend-as-a-Service and Functions-as-a-Service, as well as the benefits and limitations of Serverless. Next, Roberts and Chapin review the necessary environment prerequisites before showing you how to code and execute your first Lambda function. They then drill down into some details of the Lambda model and show you how to build a Lambda-backed web application using API Gateway. Finally, the course covers some additional theory to give you a more advanced understanding of AWS Lambda. Roberts and Chapin close by looking more holistically at Serverless architectures and providing a detailed overview of Serverless technology beyond AWS Lambda, including a range of examples of how Serverless architectures are built in the real world. **AWS Lambda LiveLessons** consists of seven lessons totaling more than 4 hours of instruction. The videos feature easy-to-understand explanations of key concepts, realistic examples, and demonstrations of industrial-grade deployments. View the link resources...

AWS Certified Developer Official Study Guide, Associate Exam

Serverless Web Applications with React and Firebase

Build and deploy modern websites and web apps using Gatsby, Netlify, and Sanity

Jumpstart Jamstack Development

Build and deploy serverless applications on AWS using Zappa

Design scalable applications and microservices that effortlessly adapt to the requirements of your customers

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

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.

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.

Many organizations today have begun to modernize their Windows workloads to take full advantage of cloud economics. If you're a C# developer at one of these companies, you need options for rehosting, replatforming, and refactoring your existing .NET Framework applications. This practical book guides you through the process of converting your monolithic application to microservices on AWS. Authors Noah Gift, founder of Pragmatic AI Labs, and James Charlesworth, engineering manager at Pendo, take you through the depth and breadth of .NET tools on AWS. You'll examine modernization techniques and pathways for incorporating Linux and Windows containers and serverless architecture to build, maintain, and scale modern .NET apps on AWS. With this book, you'll learn how to make your applications more modern, resilient, and cost-effective. Get started building solutions with C# on AWS Learn DevOps best practices for AWS Explore the development tools and services that AWS provides Successfully migrate a legacy .NET application to AWS Develop serverless .NET microservices on AWS Containerize your .NET applications and move into the cloud Monitor and test your AWS .NET applications Build cloud native solutions that combine the best of the .NET platform and AWS

Develop Microservices and Implement Serverless Applications with .NET Core 3.1 and AWS Lambda (English Edition)

With examples using AWS Lambda

Building Serverless Web Applications

Using AWS Lambda and Claudia.js

Building Serverless Python Web Services with Zappa

Build cloud-native mobile and web apps from scratch through continuous delivery and test automation

Develop Scalable Models Using Serverless Architectures with Azure

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

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.

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 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

This book constitutes the refereed proceedings of the 19th International Conference on Product-Focused Software Process Improvement, PROFES 2018, held in Wolfsburg, Germany, in November 2018. The 16 revised full papers and 8 short papers presented together with 10 workshop papers and 2 industry talks were carefully reviewed and selected from 65 submissions. The papers are organized in the following topical sections: processes and methods; empirical studies in industry; testing; measurement and monitoring; and global software engineering and scaling. Further relevant topics were added by the events co-located with PROFES 2018, the Second International Workshop on Managing Quality in Agile and Rapid Software Development Processes (QUASD) and the Third Workshop on Hybrid Software and System Development Approaches (HELENA).

Building Serverless Applications with Python

Developing on AWS with C#

19th International Conference, PROFES 2018, Wolfsburg, Germany, November 28–30, 2018, Proceedings

Leverage Azure functions and Cosmos DB for building serverless applications (English Edition)

Learning Apache OpenWhisk

Building Modern Serverless Web APIs

Hands-On High Performance with Spring 5

Migrating your application to a cloud-based serverless architecture doesn't have to be difficult. Reduce complexity and minimize the time you spend administering servers or worrying about availability with this comprehensive guide to serverless applications on Azure. Key Features Provides information on integration of Azure products **Plan and implement your own serverless backend to meet tried-and-true development standards** Includes step-by-step instructions to help you navigate advanced concepts and application integrations **Book Description** Many businesses are rapidly adopting a microservices-first approach to development, driven by the availability of new commercial services like Azure Functions and AWS Lambda. In this book, we'll show you how to quickly get up and running with your own serverless development on Microsoft Azure. We start by working through a single function, and work towards integration with other Azure services like App Insights and Cosmos DB to handle common user requirements like analytics and highly performant distributed storage. We finish up by providing you with the context you need to get started on a larger project of your own choosing, leaving you equipped with everything you need to migrate to a cloud-first serverless solution. What you will learn **Identify the key advantages and disadvantages of serverless development** **Build a fully-functioning serverless application and utilize a wide variety of Azure services** **Create, deploy, and manage your own Azure Functions in the cloud** **Implement core design principles for writing effective serverless code** **Who this book is for** This book is ideal for back-end developers or engineers who want a quick hands-on introduction to developing serverless applications within the Microsoft ecosystem.

Building efficient Python applications at minimal cost by adopting serverless architectures **Key Features** Design and set up a data flow between cloud services and custom business logic **Make your applications efficient and reliable using serverless architecture** **Build and deploy scalable serverless Python APIs** **Book Description** 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. The book is divided into three modules. The first module explains the fundamentals of serverless architecture and how AWS lambda functions work. In the next module, you will learn to build, release, and deploy your application to production. You will also learn to log and test your application. In the third module, we will take you through advanced topics such as building a serverless API for your application. You will also learn to troubleshoot and monitor your app and master AWS lambda programming concepts with API references. Moving on, you will also learn how to scale up serverless applications and handle distributed serverless systems in production. By the end of the book, you will be equipped with the knowledge required to build scalable and cost-efficient Python applications with a serverless framework. What you will learn **Understand how AWS Lambda and Microsoft Azure Functions work and use them to create an application** **Explore various triggers and how to select them, based on the problem statement** **Build deployment packages for Lambda functions** **Master the finer details about building Lambda functions and versioning** **Log and monitor serverless applications** **Learn about security in AWS and Lambda functions** **Scale up serverless applications to handle huge workloads and serverless distributed systems in production** **Understand SAM model deployment in AWS Lambda** **Who this book is for** This book is for Python developers who would like to learn about serverless architecture. Python programming knowledge is assumed.

Leverage Jamstack principles, techniques, and best practices to build dynamic websites and web apps focused on speed, security, and accessibility **Key Features** **Understand how JavaScript integrates with reusable application program**

interfaces (APIs) and browser markup to build a serverless web applicationGain a solid understanding of static site development with Gatsby and its importance in JamstackFind out how to deploy a Jamstack event website directly from GitHub using NetlifyBook Description Jamstack (JavaScript, API, and Markup) enables web developers to create and publish modern and maintainable websites and web apps focused on speed, security, and accessibility by using tools such as Gatsby, Sanity, and Netlify. Developers working with Jamstack will be able to put their knowledge to good use with this practical guide to static site generation and content management. This Jamstack book takes a hands-on approach to implementation and related methodologies that will have you up and running with modern web development in no time. Complete with step-by-step explanations of essential concepts, practical examples, and self-assessment questions, you'll begin by building an event and venue schema structure, and then expand the functionality, exploring all that the Jamstack has to offer. You'll learn how an example Jamstack is built, build structured content using Sanity to create a schema, use GraphQL to expose the content, and employ Gatsby to build an event website using page and template components and Tailwind CSS Framework. Lastly, you'll deploy the website to both, a Netlify server and the Microsoft Static Web Apps Service, and interact with it using Amazon Alexa. By the end of this book, you'll have gained the knowledge and skills you need to install, configure, build, extend, and deploy a simple events website using Jamstack. What you will learnDiscover the Jamstack approach and build speedy, secure, and accessible websites and web apps with its component technologiesBuild an events website by using the Jamstack and the Gatsby static site generatorCreate and modify your templates and pages to build creative web appsBuild, modify, and extend structured content schemas in SanityUnderstand Gatsby plugins, project structure, and files, and how it can be used to build Jamstack appsFind out how GatsbyJS uses GraphQL to source contentWho this book is for This book is for web developers looking to implement Jamstack practically. JavaScript developers who want to build modern speedy and secure web apps will also find this book useful. Familiarity with JavaScript and Database programming is assumed.

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

AWS Lambda in Action

Advanced Serverless Architectures with Microsoft Azure

Developing Open Serverless Solutions

Proceedings of ICECMSN 2020

Build, deploy, and containerize apps using Cloud Functions, Cloud Run, and cloud-native technologies

Associate (DVA-C01) Exam

Developing with Amazon Web Services, Microsoft Azure, and Google Cloud

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 platformsBuild your first cloud-native web and mobile applications using AWS AmplifyLeverage AWS Amplify to design GraphQL APIs for your web and mobile applicationsBook 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 learnBuild React and React Native apps with Amplify and TypeScriptExplore pre-built Amplify UI components for rapid prototypingAdd user management with Amplify authentication to your appUse Amplify GraphQL to create a blog postDiscover how to upload photos to Amplify StorageEnable DevOps with the Amplify pipeline for your appGet to grips with BDD and test automation with Cypress and CucumberSet up a custom domain name for your website and manage app content with the Amplify Admin UIWho 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.

Cloud computing is typically associated with backend development and DevOps. But with the rise of serverless technologies and a new generation of services and frameworks, frontend and mobile developers can build robust applications with production-ready features such as authentication and authorization, API gateways, chatbots, augmented reality scenes, and more. This hands-on guide shows you how. Nader Dabit, developer advocate at Amazon Web Services, guides you through the process of building full stack applications using React, AWS, GraphQL, and AWS Amplify. You'll learn how to create and incorporate services into your client applications while learning general best practices, deployment strategies, rich media management, and continuous integration and delivery along the way. Learn how to build serverless applications that solve real problems Understand what is (and isn't) possible when using these technologies Create a GraphQL API that interacts with DynamoDB and a NoSQL database Examine how authentication works—and learn the difference between authentication and authorization Get an in-depth view of how serverless functions work and why they're important Build full stack applications on AWS and create offline apps with Amplify DataStore

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.

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

Serverless Architectures on AWS

Serverless Programming Cookbook

Techniques for scaling and optimizing Spring and Spring Boot applications

Serverless Design Patterns and Best Practices

Serverless machine learning with AWS

Introduction to AWS Lambda and the Serverless Application Model

Learn AWS Serverless Computing

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 scale up 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.**

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

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 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.

Full Stack Serverless

Develop real-time applications for web and mobile platforms

Serverless Architectures with AWS

Building Effective Serverless Applications with Kubernetes and OpenShift

AI as a Service

Build real-world, production-ready applications with AWS Lambda

Rapid Application Development with AWS Amplify

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 CloudWatchPerform data analytics processing(NLP)on the AWS serverless platformExplore various design patterns and best practices involved in serverless computingBook 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 familiar with 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. 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 new 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 like 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 learnServerless computing in AWS and explore services with other cloudsDevelop full-stack applications using AWS Cognito, Lambda and DynamoDBWeb hosting with S3, CloudFront, Route 53 and AWS Certificate ManagerSOS and SNS for effective communication between microservices Monitoring and troubleshooting with CloudWatch logs and metrics Explore Kinesis Streams, Amazon ML and Amazon SageMakerKitWho 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 AWS Lambda in Action is an example-driven tutorial that teaches you how to build applications that use an event-driven approach on the back end. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the book Lambda, you write your code and upload it to the AWS cloud. AWS Lambda responds to the events triggered by your application or your users, and automatically manages the underlying computer resources for you. Back-end tasks like analyzing a new document or processing real-time data are easy to implement. Your application is divided into small functions, leading naturally to a reactive architecture and the adoption of microservices. About the Book AWS Lambda in Action is an example-driven tutorial that teaches you how to build applications that use an event-driven approach. Starting with an overview of AWS Lambda, the book moves on to show you common examples and patterns that you can use to call Lambda functions from a web page or a mobile app. The second part of the book puts these smaller examples together to build larger applications that create applications that take advantage of the high availability, security, performance, and scalability of AWS. What's Inside Create a simple API Create an event-driven media-sharing application Secure access to your application in the cloud Use functions from different clients like Alexa Connect your application with external services About the Reader Requires basic knowledge of JavaScript. Some examples are also provided in Python. No AWS experience is assumed. About the Author Danilo Poccia is a technical evangelist at Amazon Web Services and a frequent speaker at AWS events. Table of Contents PART 1 - FIRST STEPS Running functions in the cloud Your first Lambda function Your function as a web API PART 2 - BUILDING EVENT-DRIVEN APPLICATIONS Managing security Using standalone functions Managing identities Calling functions from a Lambda function Designing an authentication service Implementing an authentication service Adding more features to the authentication service Building a media-sharing application Why event-driven? PART 3 - FROM DEVELOPMENT TO PRODUCTION Improving development and testing Automating infrastructure management PART 4 - USING EXTERNAL SERVICES Calling external services Receiving events from other services

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 Developers who want 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 benefits Learn how to 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

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 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 service 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, 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 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 allow you to practice while reading. It provides a brief introduction of concepts while keeping the focus on the practical skills required to develop applications.

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! Our 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 applications. 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 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 search engine, 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 jobs 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 your 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 Reso

bank. You'll find code for Chapters 1, 2, 11, and 12.

Serverless Single Page Apps

Hands-On Serverless Applications with Go

Build, secure, and deploy enterprise ready serverless applications with AWS to improve developer productivity

Practical solutions to building serverless applications using Java and AWS

Product-Focused Software Process Improvement

Serverless Applications with Node. Js

Fast, Scalable, and Available

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.

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

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

A hands-on guide to creating, monitoring, and tuning a high performance Spring web application Key Features Understand common performance pitfalls and improve your application's performance Build and deploy strategies for complex applications using the microservice architecture Understand internals of JVM - the core of all Java Runtime Environments Book Description While writing an application, performance is paramount. Performance tuning for real-world applications often involves activities geared toward detecting bottlenecks. The recent release of Spring 5.0 brings major advancements in the rich API provided by the Spring framework, which means developers need to master its tools and techniques to achieve high performance applications. Hands-On High Performance with Spring 5 begins with the Spring framework's core features, exploring the integration of different Spring projects. It proceeds to evaluate various Spring specifications to identify those adversely affecting performance. You will learn about bean wiring configurations, aspect-oriented programming, database interaction, and Hibernate to focus on the metrics that help identify performance bottlenecks. You will also look at application monitoring, performance optimization, JVM internals, and garbage collection optimization. Lastly, the book will show you how to leverage the microservice architecture to build a high performance and resilient application. By the end of the book, you will have gained an insight into various techniques and solutions to build and troubleshoot high performance Spring-based applications. What you will learn Master programming best practices and performance improvement with bean wiring Analyze the performance of various AOP implementations Explore database interactions with Spring to optimize design and configuration Solve Hibernate performance issues and traps Leverage multithreading and concurrent programming to improve application performance Gain a solid foundation in JVM performance tuning using various tools Learn the key concepts of the microservice architecture and how to monitor them Perform Spring Boot performance tuning, monitoring, and health checks Who this book is for If you're a Spring developer who'd like to build high performance applications and have more control over your application's performance in production and development, this book is for you. Some familiarity with Java, Maven, and Eclipse is necessary.

Building Serverless Apps with Azure Functions and Cosmos DB

Building Serverless Applications

Running Serverless

Event-driven serverless applications

Using AWS Lambda and Claudia. Js

Knative Cookbook

Beginning Serverless Architectures with Microsoft Azure

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.

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

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.

Learn the basics of serverless computing and how to develop event-driven architectures with the three major cloud platforms: Amazon Web Services, Microsoft Azure, and Google Cloud. This hands-on guide dives into the foundations of serverless computing, its use cases, and how to apply it using developer tools such as Node.js, Visual Studio Code, Postman, and Serverless Framework. You will apply the fundamentals of serverless technology from the ground up, and come away with a greater understanding of its power and how to make it work for you. This book teaches you how to quickly and securely develop applications without the hassle of configuring and maintaining infrastructure. 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 completion, you will have the knowledge and resources to build your own serverless application hosted in AWS, Azure, or Google Cloud and will have experienced the benefits of event-driven technology for yourself. What You'll Learn Gain a deeper understanding of serverless computing and when to use it Use development tools such as Node.js, Postman, and VS code to quickly set up your serverless development environment and produce applications Apply triggers to your serverless functions that best suit the architecture for the problem the functions are solving Begin building applications across cloud providers that utilize the power of serverless technology Understand best development practices with serverless computing to maintain scalable and practical solutions Code with an agnostic approach to cloud providers to minimize provider dependency Who This Book Is For Any developer looking to expand current knowledge of serverless computing, its applications, and how to architect serverless solutions, or someone just beginning in these areas

Serverless Applications with Node.js

Developing Serverless Applications with Java

Design complex serverless systems quickly with the scalability and benefits of Azure

Programming AWS Lambda

Discover how you can migrate from traditional deployments to serverless architectures with AWS

A beginner's guide to using AWS Lambda, Amazon API Gateway, and services from Amazon Web Services

Building Serverless Applications with Google Cloud Run

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 Stojanović and Aleksandar Simović 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

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

"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.

Build and Deploy Serverless Applications with Java

Hands-On Serverless Computing with Google Cloud

Building Intelligent Cloud Applications

Develop fast, scalable, and cost-effective web applications that are always available

AWS Lambda

Evolutionary Computing and Mobile Sustainable Networks

Beginning Serverless Computing