Take container cluster management to the next level; learn how to administer and configure Kubernetes on CoreOS; and apply suitable management design patterns such as Configmaps, Autoscaling, elastic resource usage, and high availability. Some of the other features discussed are logging, scheduling, rolling updates, volumes, service types, and multiple cloud provider zones. The atomic unit of modular container service in Kubernetes is a Pod, which is a group of containers with a common filesystem and networking. The Kubernetes Pod abstraction enables design patterns for containerized applications similar to object-oriented design patterns. Containers provide some of the same benefits as software objects such as modularity or packaging, abstraction, and reuse.

CoreOS Linux is used in the majority of the chapters and other platforms discussed are CentOS with OpenShift, Debian 8 (jessie) on AWS, and Debian 7
for Google Container Engine. CoreOS is the main focus because Docker is pre-installed on CoreOS out-of-the-box. CoreOS: Supports most cloud providers (including Amazon AWS EC2 and Google Cloud Platform) and virtualization platforms (such as VMWare and VirtualBox) Provides Cloud-Config for declaratively configuring for OS items such as network configuration (flannel), storage (etcd), and user accounts Provides a production-level infrastructure for containerized applications including automation, security, and scalability Leads the drive for container industry standards and founded appc Provides the most advanced container registry, Quay Docker was made available as open source in March 2013 and has become the most commonly used containerization platform. Kubernetes was open-sourced in June 2014 and has become the most widely used container cluster manager. The first stable version of CoreOS Linux was made available in July 2014 and since has become one of the most commonly used operating system for containers. What You'll Learn Use Kubernetes with Docker Create a Kubernetes cluster on CoreOS on AWS Apply cluster management design patterns Use multiple cloud provider zones Work with Kubernetes and tools like Ansible Discover the Kubernetes-based PaaS platform OpenShift Create a high availability website Build a high availability Kubernetes master cluster Use volumes, configmaps, services, autoscaling, and rolling updates Manage compute resources Configure logging and scheduling

Who This Book Is For Linux admins, CoreOS admins, application developers, and container as a service (CAAS) developers. Some pre-requisite knowledge of Linux and Docker is required. Introductory knowledge of Kubernetes is required such as creating a cluster, creating a Pod, creating a service, and creating and scaling a replication controller. For introductory Docker and Kubernetes information, refer to Pro Docker (Apress) and Kubernetes Microservices with Docker (Apress). Some pre-requisite knowledge about using Amazon Web Services (AWS) EC2, CloudFormation, and VPC is also required.

A picture says more than a thousand words. This is something that we all know to be true. Imaging has been important since the early days of medicine and biology, as seen in the anatomical studies of Leonardo Da Vinci or Andreas Vesalius. More than 100 years ago, the first noninvasive imaging technologies, such as K-rad Roentgen’s X-ray technology, were applied to the medical field—and while still crude—revolutionized medical diagnosis. Today, every patient will be exposed to some kind of advanced imaging technology such as medical resonance imaging, computed tomography or four-dimensional ultrasound during their lifetime. Many diseases, such as brain tumors, are initially diagnosed solely by imaging, and most of the surgical planning relies on the patient imagery. 4D ultrasound is available to expecting parents who wish to create unique early
memories of the new baby, and it may soon be used for the morphometric diagnosis of malformations that may one day be treatable—
inutero! Light and electron microscopy are unequal brethren, which have contributed to most of our knowledge about the existence and organization of cells, tissues and microorganisms. Every student of biology or medicine is introduced to the fascinating images of the microcosm. New advances have converted these imaging technologies, which were considered by many to be antiquated, into powerful tools for research in systems biology and related fields.

Environmental Forensics: A Glossary of Terms contains over 3,500 definitions and 1,500 acronyms. Compiled from common technical terms encountered in millions of pages of environmental reports over the past 15 years, this book contains regulatory phrases and acronyms; geologic, toxicological, laboratory, and chemical terms; as well as words and phrases unique to environmental forensics. The Glossary clarifies terms with multiple meanings, allows you to perform a more expedient and comprehensive review of an environmental report, and helps in deciphering works encountered during expert witness testimony at deposition and trial. Practicing environmental attorneys and environmental consultants/engineers will find this book a useful tool in correspondence, interrogatories, court filings and pleadings, and communication with environmental consultants and regulators.

The book focuses on both theory and applications in the broad areas of communication technology, computer science and information security. This two volume book contains the Proceedings of International Conference on Advanced Computing and Intelligent Engineering. These volumes bring together academic scientists, professors, research scholars and students to share and disseminate information on knowledge and scientific research works related to computing, networking, and informatics to discuss the practical challenges encountered and the solutions adopted. The book also promotes translation of basic research into applied investigation and convert applied investigation into practice.

AWS Certified Security - Specialty is one of the newest certifications launched by AWS and has gained a tremendous amount of popularity in the industry. This exam assesses the ability of experienced cloud security professionals to validate their knowledge on securing the AWS environments. The Security Specialty certification exam covers a wide range of topics which a Security professional would deal with, ranging from Incident response, security logging and monitoring, infrastructure security, identity and access management and data
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This book acts as a detailed, dedicated study guide for those aiming to give the security specialty certification as well as for those who intend to master the security aspect of AWS. The book is based on the popular video course by Zeal Vora for the AWS Certified Security - Specialty certification and this book acts a standalone guide by itself as well as a supplement for those who have studied through the video course. Things you will learn: Understanding Incident Response process in Cloud environments. Implement Vulnerability Assessment & Patch Management activities with tools like Inspect and EC2 Systems Manager. Understanding stateful and stateless packet inspections firewalls. Implementing AWS WAF, Bastion Hosts, IPSec Tunnels, Guard Duty and others. Implement Centralized Control with AWS Organizations, Federations, Delegations. Understanding data-protection mechanisms with various techniques including KMS Envelope encryptions, ACM, and others. Important exam preparation pointers and review questions. Practical knowledge of AWS security services and features to provide a secure production environment.

This effective self-study system delivers complete coverage of every topic on the AWS Certified Developer Associate Exam Take the challenging AWS Certified Developer Associate Exam with confidence using the comprehensive information contained in this effective test preparation guide. Written by an Amazon Web Services certified expert and experienced trainer, AWS Certified Developer Associate All-in-One Exam Guide (Exam DVA-C01) covers every subject on the exam and clearly explains how to create, deploy, migrate, monitor, and debug cloud-native applications. Designed to help you pass the exam with ease, this guide also serves as an ideal on-the-job reference. Covers all topics on the exam, including: Getting started with AWS Journey AWS high availability and fault tolerance Working with cloud storage Authentication and authorization Creating SQL and NoSQL databases in AWS Cloud AWS application integration and management Developing cloud-native applications Electronic content includes: 130 practice questions Test engine containing full-length practice exams and customizable quizzes

The revised edition of A Handbook on Stuttering continues its remarkable role as the authoritative, first-line resource for researchers and clinicians who work in the field of fluency and stuttering. Now in its seventh edition, this unique book goes beyond merely updating the text to include coverage of roughly 1,000 articles related to stuttering research and practice that have been published since 2008. This extended coverage integrates the more traditional body of research.
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with evolving views of stuttering as a multi-factorial, dynamic disorder. Comprehensive, clear, and accurate, this text provides evidence-based, practical information critical to understanding stuttering. By thoroughly examining the intricacies of the disorder, A Handbook on Stuttering, Seventh Edition lays the foundation needed before considering assessment and treatment. New to the Seventh Edition: * A completely reorganized table of contents, including two new chapters. * The deletion of approximately 1,000 non-peer-reviewed references from the previous edition to assure discussion of the highest quality evidence on stuttering. * New content on the development of stuttering across the lifespan and assessment. * Given the Handbook’s historic role as a primary reference for allied professionals, a new chapter that addresses myths and misconceptions about stuttering * Expanded coverage on the role of temperament in childhood stuttering * Expanded coverage of brain-based research, genetics, and treatment findings. * A thoroughly updated chapter on conditions under which stuttering fluctuates * Brief tutorial overviews of critical concepts in genetics, neuroimaging, language analysis and other relevant constructs, to better enable reader appreciation of research findings. * A greater selection of conceptual illustrations of basic concepts and findings than in prior editions * Integrated cross-referencing to content across chapters

Secure your Amazon Web Services (AWS) infrastructure with permission policies, key management, and network security, along with following cloud security best practices Key Features Explore useful recipes for implementing robust cloud security solutions on AWS Monitor your AWS infrastructure and workloads using CloudWatch, CloudTrail, config, GuardDuty, and Macie Prepare for the AWS Certified Security-Specialty exam by exploring various security models and compliance offerings Book Description As a security consultant, securing your infrastructure by implementing policies and following best practices is critical. This cookbook discusses practical solutions to the most common problems related to safeguarding infrastructure, covering services and features within AWS that can help you implement security models such as the CIA triad (confidentiality, integrity, and availability), and the AAA triad (authentication, authorization, and availability), along with non-repudiation. The book begins with IAM and S3 policies and later gets you up to speed with data security, application security, monitoring, and compliance. This includes everything from using firewalls and load balancers to secure endpoints, to leveraging Cognito for managing users and authentication. Over the course of this book, you’ll learn to use AWS security services such as Config for monitoring, as well as maintain compliance with GuardDuty, Macie, and Inspector. Finally, the book covers cloud security best practices and demonstrates how you can integrate additional security services

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such as Glacier Vault Lock and Security Hub to further strengthen your infrastructure. By the end of this book, you'll be well versed in the techniques required for securing AWS deployments, along with having the knowledge to prepare for the AWS Certified Security - Specialty certification. What you will learn:

- Create and manage users, groups, roles, and policies across accounts
- Use AWS Managed Services for logging, monitoring, and auditing
- Check compliance with AWS Managed Services that use machine learning
- Provide security and availability for EC2 instances and applications
- Secure data using symmetric and asymmetric encryption
- Manage user pools and identity pools with federated login

Who this book is for:
If you are an IT security professional, cloud security architect, or a cloud application developer working on security-related roles and are interested in using AWS infrastructure for secure application deployments, then this Amazon Web Services book is for you. You will also find this book useful if you’re looking to achieve AWS certification. Prior knowledge of AWS and cloud computing is required to get the most out of this book.

The "secret garden of politics", where some win and others lose their candidate selection bids, and why some aspirant candidates are successful while others fail have been enduring puzzles within political science. This book solves this puzzle by proposing and applying a universally applicable multistage approach to discover the relationship between selection rules, selectors' biases, aspirants' attributes, and selection outcomes. Rare party and survey data on winning and losing candidates and insider views on what it takes to win a selection contest at multiple selection stages are compared and used to reveal the inner workings of the secret garden. With a primary focus on the British Labour party over several elections, the findings challenge many long-held assumptions about why some aspirant candidate types are successful over others and provides real-world and controversial solutions to addressing women's and other marginalised groups' descriptive underrepresentation. As such, it provides a much-needed fresh look at party selection processes and draws new conclusions as to why political underrepresentation occurs and should inform policies to remedy it. This text will be of key interest to scholars and students of gender and ethnicity in politics, political parties and candidate selection, and more broadly to the study of political elites, comparative politics, sociology, labour studies, gender, race, and disability studies, and to practitioners.

Deploy serverless and scalable cloud-native applications with Jakarta EE.

**KEY FEATURES**
- Example-driven approach crafted specially for developers and architects.
- Covers all core areas for cloud-native development.
- Step-by-step
implementation of core concepts, including application scalability and security, serverless, and containerization. DESCRIPTION The book helps readers to get a basic understanding of features provided by the cloud and core concepts of cloud native development. A hands-on approach makes sure that after reading the book, one can straight away implement the concepts in their daily design and development activities. The book starts with the basics of cloud computing and moves on to understanding the core concepts to create a production-ready cloud-native application. The book helps readers to develop a code that is testable and maintainable to support Agile cloud native development. This book also talks about the security and scalability aspects of applications which are the backbone of any large-scale application. The book covers advanced cloud-native application development approaches using containers and serverless approaches. The book will help readers to get ready for a cloud-native development journey. Whether one is creating a small application or a large-scale application, core concepts explained in this book remain relevant and will work as a guiding light for developers and architects. WHAT Y OU WILL LEARN ? Explains the core features that are part of cloud computing. ? Build applications that are fast to market due to testability and maintainability. ? Build applications that are secured against vulnerabilities. ? Build applications that are easy to scale. WHO THIS BOOK IS FOR The book is meant for software developers, architects, and technical readers who want to learn about Cloud-based application development. Basic knowledge of the Java programming language or Jakarta EE platform is expected to understand code examples used in the book. TABLE OF CONTENTS 1. Introduction to Cloud Computing 2. Design for Cloud 3. Major Players in Cloud Computing 4. Sample Application Using Jakarta EE 5. Testing Cloud-Native Applications 6. Continuous Integration and Continuous Delivery 7. Securing Cloud-Based Applications 8. Scalability 9. Monitoring, Alerting, and Reporting 10. Containers 11. Serverless Computing 12. Best Practices for Developing Cloud-Native Applications

Develop technical skills and expertise to automate AWS networking tasks Key Features A fast paced guide that will help you pass the exam with confidence Learn advanced skill sets to build effective AWS networking solutions Enhance your AWS skills with practice exercises and mock tests Book Description Amazon has recently come up a with specialty certifications which validates a particular user's expertise that he/she would want to build a career in. Since the Cloud market now demands of AWS networking skills this becomes the most wanted certification to uphold ones industry portfolio. This book would be your ideal companion to getting skilled with complex and creative networking solutions. Cloud practitioners or associate-level certified individuals interested in
validating advanced skills in networking can opt for this practical guide. This book will include topics that will help you design and implement AWS and hybrid IT network architectures along with some network automation tasks. You will also delve deep into topics that will help you design and maintain network architecture for all AWS services. Like most of our certification guides this book will also follow a unique approach of testing your learning with chapter-level practice exercises and certification-based mock tests. The exam mock tests will help you gauge whether you are ready to take the certification exam or not. This book will also be an advanced guide for networking professionals to enhance their networking skills and get certified. By the end of this book, you will be all equipped with AWS networking concepts and techniques and will have mastered core architectural best practices. What you will learn Formulate solution plans and provide guidance on AWS architecture best practices Design and deploy scalable, highly available, and fault-tolerant systems on AWS Identify the tools required to replicate an on-premises network in AWS Analyze the access and egress of data to and from AWS Select the appropriate AWS service based on data, compute, database, or security requirements Estimate AWS costs and identify cost control mechanisms.

Who this book is for If you are a system administrator, or a network engineer interested in getting certified with an advanced Cloud networking certification then this book is for you. Prior experience in Cloud administration and networking would be necessary.

Create highly efficient design patterns for scalability, redundancy, and high availability in the AWS Cloud Key Features Build highly robust systems using the cloud infrastructure Make web applications resilient against scheduled and accidental downtime Explore and apply Amazon-provided services in unique ways to solve common design problems Book Description Whether you're just getting your feet wet in cloud infrastructure or already creating complex systems, this book will guide you through using the patterns to fit your system needs. Starting with patterns that cover basic processes such as source control and infrastructure-as-code, the book goes on to introduce cloud security practices. You'll then cover patterns of availability and scalability and get acquainted with the ephemeral nature of cloud environments. You'll also explore advanced DevOps patterns in operations and maintenance, before focusing on virtualization patterns such as containerization and serverless computing. In the final leg of your journey, this book will delve into data persistence and visualization patterns. You'll get to grips with architectures for processing static and dynamic data, as well as practices for managing streaming data. By the end of this book, you will be able to design applications that are tolerant of underlying hardware failures, resilient against an unexpected influx of data, and
easy to manage and replicate. What you will learn Implement scaling policies on schedules, influxes in traffic, and deep health checks Make complete use of highly available and redundant storage Design content delivery networks to improve user experience Optimize databases through caching and sharding Apply patterns to solve common problems Implement repeatable processes for deploying systems Who this book is for If you’re an architect, solution provider, or DevOps community member looking to implement repeatable patterns for deploying and maintaining services in the Amazon cloud infrastructure, this book is for you. You’ll need prior experience of using AWS understand key concepts covered in the book, as it focuses on the patterns rather than the basics of using AWS.

Beginning Amazon Web Services with Node.js teaches any novice Node.js developer to configure, deploy, and maintain scalable small to large scale Node.js applications in Amazon Web Services. Hosting a Node.js application in a production environment usually means turning to PaaS hosting, but this approach brings problems. Deploying Node.js directly to AWS solves the problems you encounter in these situations, enabling you to cut out the middle man. You will begin with a basic RESTful web service in Node.js, using the popular Express.js framework, pre-built and ready to run in your local environment. You will be introduced to the most powerful tools in AWS, and learn how to configure your project to take advantage of them. You will be guided through the steps of getting the various key components to work together on AWS. Through code samples using the AWS JavaScript SDK and tutorials in the AWS console, you will gain the knowledge to incorporate secure user authentication, server auto-scaling, a load balancer, CDN, customized caching behavior, and outage monitoring. Node.js is single-threaded, and designed to run high input / high output applications, making it ideal for the cloud environment. If your main task is handling a high volume of requests over HTTP / the web, it will scale very well in proportion to the computing power you allocate to it. Amazon Web Services offers a broad set of services that help organizations move faster, lower costs, and scale applications. Trusted by the largest enterprises and start-ups alike, AWS powers a wide variety of workloads across a broad spectrum. If leveraged properly, you can build a Node.js app on AWS which can automatically power itself up to handle a massive volume of traffic, and then scale back down to a lighter configuration when user demand has dropped. Amazon Web Services offers a broad set of services that help organizations move faster, lower costs, and scale applications. Get started with Node.js and AWS using this book today.
Over 50 recipes covering all you need to know about AWS networking

About This Book
Master AWS networking concepts with AWS Networking Cookbook. Design and implement highly available connectivity and multi-regioned AWS solutions. A recipe-based guide that will eliminate the complications of AWS networking. A guide to automate networking services and features. Who This Book Is For This book targets administrators, network engineers, and solution architects who are looking at optimizing their cloud platform's connectivity. Some basic understanding of AWS would be beneficial. What You Will Learn Create basic network in AWS Create production grade network in AWS Create global scale network in AWS Security and Compliance with AWS Network Troubleshooting, best practices and limitations of AWS network Pricing model of AWS network components Route 53 and Cloudfront concepts and routing policies VPC Automation using Ansible and CloudFormation In Detail This book starts with practical recipes on the fundamentals of cloud networking and gradually moves on to configuring networks and implementing infrastructure automation. This book then supplies in-depth recipes on networking components like Network Interface, Internet Gateways, DNS, Elastic IP addresses, and VPN CloudHub. Later, this book also delves into designing, implementing, and optimizing static and dynamic routing architectures, multi-region solutions, and highly available connectivity for your enterprise. Finally, this book will teach you to troubleshoot your VPC's network, increasing your VPC's efficiency. By the end of this book, you will have advanced knowledge of AWS networking concepts and technologies and will have mastered implementing infrastructure automation and optimizing your VPC.

Style and approach
A set of exciting recipes on using AWS Networking services more effectively.

Set yourself apart by becoming an AWS Certified Cloud Practitioner Take the next step in your career by expanding and validating your skills on the Amazon Web Services (AWS) Cloud. The AWS Certified Cloud Practitioner Study Guide: Exam CLF-C01 provides a solid introduction to this industry-leading technology, relied upon by thousands of businesses across the globe, as well as the resources you need to prove your knowledge in the AWS Certification Exam. This guide offers complete and thorough treatment of all topics included in the exam, beginning with a discussion of what the AWS cloud is and its basic global infrastructure and architectural principles. Other chapters dive into the technical, exploring core characteristics of deploying and operating in the AWS Cloud Platform, as well as basic security and compliance aspects and the shared security model. In addition, the text identifies sources of documentation or technical assistance, such as white papers or support tickets. To complete their
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coverage, the authors discuss the AWS Cloud value proposition and define billing, account management, and pricing models. This includes describing the key services AWS can provide and their common use cases (e.g., compute, analytics, etc.). Distinguish yourself as an expert by obtaining a highly desirable certification in a widely used platform. Hone your skills and gain new insights on AWS whether you work in a technical, managerial, sales, purchasing, or financial field. Fully prepare for this new exam using expert content and real-world knowledge, key exam essentials, chapter review questions, and other textual resources. Benefit from access to the Sybex online interactive learning environment and test bank, including chapter tests, practice exams, key term glossary, and electronic flashcards. The AWS Certified Cloud Practitioner Study Guide is essential reading for any professional in IT or other fields that work directly with AWS, soon-to-be graduates studying in those areas, or anyone hoping to prove themselves as an AWS Certified Cloud Practitioner.

The official study guide for the AWS certification specialty exam. The AWS Certified Advanced Networking Official Study Guide - Specialty Exam helps to ensure your preparation for the AWS Certified Advanced Networking - Specialty Exam. Expert review of AWS fundamentals align with the exam objectives, and detailed explanations of key exam topics merge with real-world scenarios to help you build the robust knowledge base you need to succeed on the exam— and in the field as an AWS Certified Networking specialist. Coverage includes the design, implementation, and deployment of cloud-based solutions; core AWS services implementation and knowledge of architectural best practices; AWS service architecture design and maintenance; networking automation; and more. You also get one year of free access to Sybex's online interactive learning environment and study tools, which features flashcards, a glossary, chapter tests, practice exams, and a test bank to help you track your progress and gauge your readiness as exam day grows near. The AWS credential validates your skills surrounding AWS and hybrid IT network architectures at scale. The exam assumes existing competency with advanced networking tasks, and assesses your ability to apply deep technical knowledge to the design and implementation of AWS services. This book provides comprehensive review and extensive opportunities for practice, so you can polish your skills and approach exam day with confidence. Study key exam essentials with expert insight. Understand how AWS skills translate to real-world solutions. Test your knowledge with challenging review questions. Access online study tools, chapter tests, practice exams, and more. Technical expertise in cloud computing, using AWS, is in high demand, and the AWS certification shows employers that you have the knowledge.
and skills needed to deliver practical, forward-looking cloud-based solutions. The
AWS Certified Advanced Networking Official Study Guide - Specialty Exam helps
you learn what you need to take this next big step for your career.

Die Zertifizierung zum AWS Certified Solutions Architect Associate verschafft
Ihnen einen klaren Vorteil, wenn Sie als Cloud-Spezialist arbeiten wollen. Für
das neue, überarbeitete Associate-Examen ist dieses umfassende Lehrbuch eine
große Hilfe. Es deckt alle relevanten Aspekte ab. Im ersten Teil lernen Sie die
wichtigsten Services kennen wie Elastic Compute Cloud (EC2), Virtual Private
Cloud (VPC), Route 53 und Simple Storage Service (S3), um nur einige wenige zu
nennen. Manchmal scheint es für einen Anwendungsfall mehrere AWS Services zu
geben. Sie erfahren, wo die feinen Unterschiede sind und wann Sie welchen
Service nutzen. Der zweite Teil des Buchs enthält Best Practices und wichtige
Prinzipien, sodass Sie später Systeme für die Cloud sinnvoll designen, sicher
implementieren und effizient betreiben können. In jedem Kapitel gibt es am Ende
eine Zusammenfassung mit den wichtigsten Inhalten für die Prüfung, außerdem
beispielhafte Übungen, die Ihnen helfen, Ihr Verständnis für das Thema des
Kapitels zu überprüfen, und anhand derer Sie sich ein Bild von den
Prüfungsfragen machen können. Durch das Buch erhalten Sie Zugang zu einer
englischsprachigen Lernumgebung mit Karteikarten, Übungsaufgaben und
eigenen anderen Hilfen.

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.

With this practical book, AI and machine learning practitioners will learn how to successfully build and deploy data science projects on Amazon Web Services. The Amazon AI and machine learning stack unifies data science, data engineering, and application development to help level up your skills. This guide shows you how to build and run pipelines in the cloud, then integrate the results into applications in minutes instead of days. Throughout the book, authors Chris Fregly and Antje Barth demonstrate how to reduce cost and improve performance. Apply the Amazon AI and ML stack to real-world use cases for natural language processing, computer vision, fraud detection, conversational devices, and more. Use automated machine learning to implement a specific subset of use cases with SageMaker Autopilot. Dive deep into the complete model development lifecycle for a BERT-based NLP use case including data ingestion, analysis, model training, and deployment. Tie everything together into a repeatable machine learning operations pipeline. Explore real-time ML, anomaly detection, and streaming analytics on data streams with Amazon Kinesis and Managed Streaming for Apache Kafka. Learn security best practices for data science projects and workflows including identity and access management, authentication, authorization, and more.


Automate release processes, deployment, and continuous integration of your application as well as infrastructure automation with the powerful services offered by AWS. About This Book Accelerate your infrastructure's productivity by...
implementing a continuous delivery pipeline within your environment. Leverage AWS services and Jenkins 2.0 to perform complete application deployments on Linux servers. This recipe-based guide will help you minimize application deployment downtime. Who This Book Is For This book is for developers and system administrators who are responsible for hosting their application and managing instances in AWS. It's also ideal for DevOps engineers looking to provide continuous integration, deployment, and delivery. A basic understanding of AWS, Jenkins, and some scripting knowledge is needed. What You Will Learn Build a sample Maven and NodeJS Application using CodeBuild. Deploy the application in EC2/Auto Scaling and see how CodePipeline helps you integrate AWS services. Build a highly scalable and fault tolerant CI/CD pipeline. Achieve the CI/CD of a microservice architecture application in AWS ECS using CodePipeline, CodeBuild, ECR, and CloudFormation. Automate the provisioning of your infrastructure using CloudFormation and Ansible. Automate daily tasks and audit compliance using AWS Lambda. Deploy microservices applications on Kubernetes using Jenkins Pipeline 2.0. In Detail AWS CodeDeploy, AWS CodeBuild, and CodePipeline are scalable services offered by AWS that automate an application's build and deployment pipeline. In order to deliver tremendous speed and agility, every organization is moving toward automating an entire application pipeline. This book will cover all the AWS services required to automate your deployment to your instances. You'll begin by setting up and using one of the AWS services for automation – CodeCommit. Next, you'll learn how to build a sample Maven and NodeJS Application using CodeBuild. After you've built the application, you'll learn how to use CodeDeploy to deploy the application in EC2/Auto scaling. You'll also build a highly scalable and fault tolerant continuous integration (CI)/continuous deployment (CD) pipeline using some easy-to-follow recipes. Following this, you'll achieve CI/CD for Microservices application and reduce the risk within your software development lifecycle. You'll also learn to set up an infrastructure using CloudFormation Template and Ansible, and see how to automate AWS resources using AWS Lambda. Finally, you'll learn to automate instances in AWS and automate the deployment lifecycle of applications. By the end of this book, you'll be able to minimize application downtime and implement CI/CD, gaining total control over your software development lifecycle. Style and approach This book takes a "How to do it" approach, providing with easy solutions to automate common maintenance and deployment tasks.

Become an AWS SysOps administrator and explore best practices to maintain a well-architected, resilient, and secure AWS environment. Key Features Explore AWS Cloud functionalities through a recipe-based approach. Get to grips with a
variety of techniques for automating your infrastructure. Discover industry-proven best practices for architecting reliable and efficient workloads. Book Description: AWS is an on-demand remote computing service providing cloud infrastructure over the internet with storage, bandwidth, and customized support for APIs. This updated second edition will help you implement these services and efficiently administer your AWS environment. You will start with the AWS fundamentals and then understand how to manage multiple accounts before setting up consolidated billing. The book will assist you in setting up reliable and fast hosting for static websites, sharing data between running instances and backing up data for compliance. By understanding how to use compute service, you will also discover how to achieve quick and consistent instance provisioning. You’ll then learn to provision storage volumes and autoscale an app server. Next, you’ll explore serverless development with AWS Lambda, and gain insights into using networking and database services such as Amazon Neptune. The later chapters will focus on management tools like AWS CloudFormation, and how to secure your cloud resources and estimate costs for your infrastructure. Finally, you’ll use the AWS well-architected framework to conduct a technology baseline review self-assessment and identify critical areas for improvement in the management and operation of your cloud-based workloads. By the end of this book, you’ll have the skills to effectively administer your AWS environment. What you will learn: Secure your account by creating IAM users and avoiding the use of the root login. Simplify the creation of a multi-account landing zone using AWS Control Tower. Master Amazon S3 for unlimited, cost-efficient storage of data. Explore a variety of compute resources on the AWS Cloud, such as EC2 and AWS Lambda. Configure secure networks using Amazon VPC, access control lists, and security groups. Estimate your monthly bill by using cost estimation tools. Learn to host a website with Amazon Route 53, Amazon CloudFront, and S3. Who this book is for: If you are an administrator, DevOps engineer, or an IT professional interested in exploring administrative tasks on the AWS Cloud, then this book is for you. Familiarity with cloud computing platforms and some understanding of virtualization, networking, and other administration-related tasks is assumed.

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.

Papers from a November 2001 conference describe recent developments in the field, related to areas including fusion welding, solid state welding, and brazing as applied to both ceramic and metallic materials. Papers are in sections on laser welding technologies and characterization, brazing and sold.

Mountains have captured the interests and passions of people for thousands of years. Today, millions of people live within mountain regions, and mountain regions are often areas of accelerated environmental change. This edited volume highlights new understanding of mountain environments and mountain peoples around the world. The understanding of mountain environments and peoples has been a focus of individual researchers for centuries; more recently the interest in mountain regions among researchers has been growing rapidly. The articles contained within are from a wide spectrum of researchers from different parts of the world who address physical, political, theoretical, social, empirical, environmental, methodological, and economic issues focused on the geography of mountains and their inhabitants. The articles in this special issue are organized into three themed sections with very loose boundaries between themes: (1) physical dynamics of mountain environments, (2) coupled human-physical...
dynamics, and (3) sociocultural dynamics in mountain regions. This book was first published as a special issue of the Annals of the American Association of Geographers.

Scale gracefully and maintain outstanding performance with your AWS-based infrastructure using DevOps principles. About This Book Implement DevOps principles to take full advantage of the AWS stack and services. Take expert look at solving problems faced by real developers and operation teams and learn to overcome them. Learn from expert insights of the author who has worked with Silicon Valley's most high-profile companies. Who This Book Is For This book is for developers, DevOps engineers and teams who want to build and use AWS for their software infrastructure. Basic computer science knowledge is required for this book.

What You Will Learn Find out what it means to practice DevOps and what its principles are. Build repeatable infrastructures using templates and configuration management. Deploy multiple times a day by implementing continuous integration and continuous deployment pipelines. Use the latest technologies, including containers and serverless computing, to scale your infrastructure. Collect metrics and logs and implement an alerting strategy. Make your system robust and secure.

In Detail The DevOps movement has transformed the way modern tech companies work. AWS which has been on the forefront of the Cloud computing revolution has also been a key contributor of this DevOps movement creating a huge range of managed services that help you implement the DevOps principles. In this book, you'll see how the most successful tech start-ups launch and scale their services on AWS and how you can too. Written by a lead member of Mediums DevOps team, this book explains how to treat infrastructure as code, meaning you can bring resources online and offline as necessary with the code as easily as you control your software. You will also build a continuous integration and continuous deployment pipeline to keep your app up to date. You'll find out how to scale your applications to offer maximum performance to users anywhere in the world, even when traffic spikes with the latest technologies, such as containers and serverless computing. You will also take a deep dive into monitoring and alerting to make sure your users have the best experience when using your service. Finally, you'll get to grips with ensuring the security of your platform and data. Style and approach This is a practical, hands-on, comprehensive guide to AWS, helping readers understand AWS in a step by step manner.

Embracing all aspects of personality study, Advanced Personality addresses major established theories and vital current research topics in the field, from the perspectives of both clinical and scholarly settings. This impressive text-reference
features chapters that cover, among other topics—psychobiological theories of personality—conscious and unconscious functioning—and personality disorders from a trait perspective. Written for entry-level graduate and upper-level undergraduate students, the book includes an introductory chapter with a chronological table listing all major figures in the history of the field, and tables that summarize key aspects of various theories.

6+ Hours of Video Instruction Overview The AWS Certified Solutions Architect—Associate (SAA-C02) Complete Video Course is designed to provide users with more than 6 hours of instruction with the goal of fully preparing them for all aspects of the exam. The course walks through the exam objective coverage in a way that is easy to digest, apply in the workplace, and implement for the exam. The course instructor, Chad Smith, is an experienced and certified architect with a focus on AWS. The course provides walk-throughs of the exam objectives as well as best strategies and demonstrations for optimal application. Each lesson ends with two sample questions, which are explained in detail for both correct and incorrect answers. The four domains of the AWS SAA-C02 exam align with Modules 2 through 5 of this course to provide the best outcome for the learner intending to take and pass the AWS Certified Solutions Architect—Associate (SAA-C02) Exam. Topics include Module 1: AWS Certified Solutions Architect Overview Module 2: Design Resilient Architectures Module 3: Design High-Performing Architectures Module 4: Specify Secure Applications and Architectures Module 5: Design Cost-Optimized Architectures

About the Instructor Chad Smith is the principal cloud architect at Brightkey.cloud. He is a certified architect for both Amazon Web Services and Google Cloud Platform and brings a wealth of relevant experience in cloud adoption, infrastructure design, data security, and cloud operations. Chad holds current AWS certifications in Architecture (Associate and Professional), SysOps, and Security. Skill Level Intermediate to advanced Learn How To Use architectural patterns to design resilient, highly available, and decoupled infrastructures Deploy high-performance compute, network, storage, and database resources Design least-privilege access control and secure application tiers, and deploy data protection mechanisms for encryption in transit and at rest Recognize cost-effective compute, network, storage, and database implementation Pass the AWS Certified Solutions Architect—Associate SAA-C02 exam

Who Should Take This Course AWS architects AWS SysOps professionals AWS security professionals AWS developers and engineers Intermediate to advanced students Course Requirements Strong understanding of the AWS ecosystem and infrastructure architecture Working knowledge of commonly used AWS services such as EC2, S3, IAM, Cloudwatch, et
A two-time AJN Book of the Year Award winner and a 2013 Doody Core Title! This distinguished text provides top-tier guidance for advanced practice nurses on how to perform a comprehensive systematic review of available research to inform scholarly work, particularly in DNP and PhD programs. With a strategic focus on the search process and assessing the quality of the evidence, this text presents, clearly and comprehensively, all of the knowledge and skills necessary to conduct a foundational CSR in eight concrete steps. This text examines how to write a CSR proposal, final report, and a policy brief based on systematic review findings. Two finished proposals and two completed systematic reviews demonstrate each step of the process from start to finish. Additionally, the text covers software used in research queries and provides helpful strategies for effectively using the search function when seeking information. The Third Edition offers four new chapters with incisive recommendations for performing a CSR and addressing new ways CSR is being implemented in today’s healthcare environment. It describes the latest methodological advances, including living systematic reviews and dominance scores for economic review. Two complete CSRs along with new and updated examples throughout the book further aid readers in their pursuit of excellence in scholarly work. New to the Third Edition: New Chapters: How to choose the right critical appraisal tool Writing the final report and disseminating the results of systematic reviews Disseminating results with how to write a policy brief and/or press release on CSR results Example of a meta-analysis using GRADE Offers increased focus on dissemination Includes new and updated examples reflecting latest trends in nursing scholarly work Key Features: Provides the knowledge and skills necessary to conduct a CSR from start to finish Teaches readers how to conduct high-quality systematic reviews Instructs readers on pertinent resources and methods for optimal library-related systematic review research efforts Describes how to best search research databases to facilitate scholarly work Includes objectives, summary points, end-of-chapter exercises, discussion questions, suggested reading, and references to enhance understanding

This e-book is a compilation of papers presented at the Mechanical Engineering Research Day 2017 (MERD’17) - Melaka, Malaysia on 30 March 2017.

Advanced Fracture Mechanics and Structural Integrity is organized to cover quantitative descriptions of crack growth and fracture phenomena. The mechanics of fracture are explained, emphasizing elastic-plastic and time-dependent fracture mechanics. Applications are presented, using examples from power generation, aerospace, marine, and chemical industries, with focus on predicting the remaining life of structural components and advanced testing
Comprehensive, practical and independent guide to all aspects of making weather observations for both amateurs and professionals alike.

A comprehensive guide with basic to advanced SRE practices and hands-on examples. KEY FEATURES ? Demonstrates how to execute site reliability engineering along with fundamental concepts. ? Illustrates real-world examples and successful techniques to put SRE into production. ? Introduces you to DevOps, advanced techniques of SRE, and popular tools in use. DESCRIPTION Hands-on Site Reliability Engineering (SRE) brings you a tailor-made guide to learn and practice the essential activities for the smooth functioning of enterprise systems, right from designing to the deployment of enterprise software programs and extending to scalable use with complete efficiency and reliability. The book explores the fundamentals around SRE and related terms, concepts, and techniques that are used by SRE teams and experts. It discusses the essential elements of an IT system, including microservices, application architectures, types of software deployment, and concepts like load balancing. It explains the best techniques in delivering timely software releases using containerization and CI/CD pipeline. This book covers how to track and monitor application performance using Grafana, Prometheus, and Kibana along with how to extend monitoring more effectively by building full-stack observability into the system. The book also talks about chaos engineering, types of system failures, design for high-availability, DevSecOps and AIOps. WHAT YOU WILL LEARN ? Learn the best techniques and practices for building and running reliable software. ? Explore observability and popular methods for effective monitoring of applications. ? Workaround SLIs, SLOs, Error Budgets, and Error Budget Policies to manage failures. ? Learn to practice continuous software delivery using blue/green and canary deployments. ? Explore chaos engineering, SRE best practices, DevSecOps and AIOps. WHO THIS BOOK IS FOR This book caters to experienced IT professionals, application developers, software engineers, and all those who are looking to develop SRE capabilities at the individual or team level. TABLE OF CONTENTS 1. Understand the World of IT 2. Introduction to DevOps 3. Introduction to SRE 4. Identify and Eliminate Toil 5. Release Engineering 6. Incident Management 7. IT Monitoring 8. Observability 9. Key SRE KPIs: SLAs, SLOs, SLIs, and Error Budgets 10. Chaos Engineering 11. DevSecOps and AIOps
12. Culture of Site Reliability Engineering

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