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In depth informative guide to implement and use AWS security services effectively. About This Book* Learn to secure your network, infrastructure, data and applications in AWS cloud* Log, monitor and audit your AWS resources for continuous security and continuous compliance in AWS cloud* Use AWS managed security services to automate security. Focus on increasing your business rather than being diverged onto security risks and issues with AWS security.* Delve deep into various aspects such as the security model, compliance, access management and much more to build and maintain a secure environment. Who This Book Is For- This book is for all IT professionals, system administrators and security analysts, solution architects and Chief Information Security Officers who are responsible for securing workloads in AWS for

their organizations. It is helpful for all Solutions Architects who want to design and implement secure architecture on AWS by the following security by design principle. This book is helpful for personnel in Auditors and Project Management role to understand how they can audit AWS workloads and how they can manage security in AWS respectively. If you are learning AWS or championing AWS adoption in your organization, you should read this book to build security in all your workloads. You will benefit from knowing about security footprint of all major AWS services for multiple domains, use cases, and scenarios. What You Will Learn* Learn about AWS Identity Management and Access control* Gain knowledge to create and secure your private network in AWS* Understand and secure your infrastructure in AWS* Understand monitoring, logging and auditing in AWS* Ensure Data Securi-

ty in AWS* Learn to secure your applications in AWS* Explore AWS Security best practices In Detail Mastering AWS Security starts with a deep dive into the fundamentals of the shared security responsibility model. This book tells you how you can enable continuous security, continuous auditing, and continuous compliance by automating your security in AWS with the tools, services, and features it provides. Moving on, you will learn about access control in AWS for all resources. You will also learn about the security of your network, servers, data and applications in the AWS cloud using native AWS security services. By the end of this book, you will understand the complete AWS Security landscape, covering all aspects of end-to-end software and hardware security along with logging, auditing, and compliance of your entire IT environment in the AWS cloud. Lastly, the book will wrap up with AWS best practices for security. Style and approach The book will take a practical approach delving into different aspects of AWS security to help you become a master of it. It will focus on using native AWS security features and managed AWS services to help you achieve continuous security and continuous compliance.

Master the robust features of R parallel programming to accelerate your data science computations About This Book Create R programs that exploit the computational capability of your cloud platforms and computers to the fullest Become an expert in writing the most efficient and highest performance parallel algorithms in R Get to grips with the concept of parallelism to accelerate your existing R programs Who This Book Is For This book is for R programmers who want to step beyond its inherent single-threaded and restricted memory limitations and learn how to implement highly accelerated

and scalable algorithms that are a necessity for the performant processing of Big Data. No previous knowledge of parallelism is required. This book also provides for the more advanced technical programmer seeking to go beyond high level parallel frameworks. What You Will Learn Create and structure efficient load-balanced parallel computation in R, using R's built-in parallel package Deploy and utilize cloud-based parallel infrastructure from R, including launching a distributed computation on Hadoop running on Amazon Web Services (AWS) Get accustomed to parallel efficiency, and apply simple techniques to benchmark, measure speed and target improvement in your own code Develop complex parallel processing algorithms with the standard Message Passing Interface (MPI) using RMPI, pbdMPI, and SPRINT packages Build and extend a parallel R package (SPRINT) with your own MPI-based routines Implement accelerated numerical functions in R utilizing the vector processing capability of your Graphics Processing Unit (GPU) with OpenCL Understand parallel programming pitfalls, such as deadlock and numerical instability, and the approaches to handle and avoid them Build a task farm master-worker, spatial grid, and hybrid parallel R programs In Detail R is one of the most popular programming languages used in data science. Applying R to big data and complex analytic tasks requires the harnessing of scalable compute resources. Mastering Parallel Programming with R presents a comprehensive and practical treatise on how to build highly scalable and efficient algorithms in R. It will teach you a variety of parallelization techniques, from simple use of R's built-in parallel package versions of `lapply()`, to high-level AWS cloud-based Hadoop and Apache Spark frameworks. It will also

teach you low level scalable parallel programming using RMPI and pbdMPI for message passing, applicable to clusters and supercomputers, and how to exploit thousand-fold simple processor GPUs through ROpenCL. By the end of the book, you will understand the factors that influence parallel efficiency, including assessing code performance and implementing load balancing; pitfalls to avoid, including deadlock and numerical instability issues; how to structure your code and data for the most appropriate type of parallelism for your problem domain; and how to extract the maximum performance from your R code running on a variety of computer systems. Style and approach This book leads you chapter by chapter from the easy to more complex forms of parallelism. The author's insights are presented through clear practical examples applied to a range of different problems, with comprehensive reference information for each of the R packages employed. The book can be read from start to finish, or by dipping in chapter by chapter, as each chapter describes a specific parallel approach and technology, so can be read as a standalone.

This book constitutes the refereed proceedings of the 11th International Conference on Security, Privacy, and Anonymity in Computation, Communication, and Storage. The 45 revised full papers were carefully reviewed and selected from 120 submissions. The papers cover many dimensions including security algorithms and architectures, privacy-aware policies, regulations and techniques, anonymous computation and communication, encompassing fundamental theoretical approaches, practical experimental projects, and commercial application systems for computation, communication and storage.

Pass the AWS Certified Database- Specialty Certification exam with the help of practice tests Key Features • Understand different AWS database technologies and when to use them • Master the management and administration of AWS databases using both the console and command line • Complete, up-to-date coverage of DBS-C01 exam objectives to pass it on the first attempt Book Description The AWS Certified Database - Specialty certification is one of the most challenging AWS certifications. It validates your comprehensive understanding of databases, including the concepts of design, migration, deployment, access, maintenance, automation, monitoring, security, and troubleshooting. With this guide, you'll understand how to use various AWS databases, such as Aurora Serverless and Global Database, and even services such as Redshift and Neptune. You'll start with an introduction to the AWS databases, and then delve into workload-specific database design. As you advance through the chapters, you'll learn about migrating and deploying the databases, along with database security techniques such as encryption, auditing, and access controls. This AWS book will also cover monitoring, troubleshooting, and disaster recovery techniques, before testing all the knowledge you've gained throughout the book with the help of mock tests. By the end of this book, you'll have covered everything you need to pass the DBS-C01 AWS certification exam and have a handy, on-the-job desk reference guide. What you will learn • Become familiar with the AWS Certified Database - Specialty exam format • Explore AWS database services and key terminology • Work with the AWS console and command line used for managing the databases • Test and refine performance metrics to make key decisions

and reduce cost • Understand how to handle security risks and make decisions about database infrastructure and deployment • Enhance your understanding of the topics you've learned using real-world hands-on examples • Identify and resolve common RDS, Aurora, and DynamoDB issues Who this book is for This AWS certification book is for database administrators and IT professionals who perform complex big data analysis as well as students looking to get AWS Database Specialty certified. A solid understanding of cloud computing, specifically AWS services, is a must. Knowledge of basic administration tasks such as logging in and running SQL queries will be helpful.

Secure public and private cloud workloads with this comprehensive learning guide. Key Features Take your cloud security functions to the next level by automation Learn to automate your security functions on AWS and OpenStack Practical approach towards securing your workloads efficiently Book Description Security issues are still a major concern for all IT organizations. For many enterprises, the move to cloud computing has raised concerns for security, but when applications are architected with focus on security, cloud platforms can be made just as secure as on-premises platforms. Cloud instances can be kept secure by employing security automation that helps make your data meet your organization's security policy. This book starts with the basics of why cloud security is important and how automation can be the most effective way of controlling cloud security. You will then delve deeper into the AWS cloud environment and its security services by dealing with security functions such as Identity and Access Management and will also learn how these services can be automated. Moving for-

ward, you will come across aspects such as cloud storage and data security, automating cloud deployments, and so on. Then, you'll work with OpenStack security modules and learn how private cloud security functions can be automated for better time- and cost-effectiveness. Toward the end of the book, you will gain an understanding of the security compliance requirements for your Cloud. By the end of this book, you will have hands-on experience of automating your cloud security and governance. What you will learn Define security for public and private cloud services Address the security concerns of your cloud Understand Identity and Access Management Get acquainted with cloud storage and network security Improve and optimize public and private cloud security Automate cloud security Understand the security compliance requirements of your cloud Who this book is for This book is targeted at DevOps Engineers, Security professionals, or any stakeholders responsible for securing cloud workloads. Prior experience with AWS or OpenStack will be an advantage.

Technological advancement saves time, ease of mobility, providing better communication means, cost efficiency, improved banking, better learning techniques, though safety and security are still questionable in aspects mentioned above. Cyber-attacks, crime, fraudulent are still increasing in recent years. Today, cyber security is widely viewed as a matter of pressing national importance. Many elements of cyberspace are notoriously vulnerable to an expanding range of attacks by a spectrum of hackers, criminals and terrorists. This book aims to collect the information both thematic as well as research-oriented from various personnel working in the various fields having different experiences to pro-

vide the essentials regarding what Cyber security is really about and not the perception of it being related purely to hacking activity. It will provide the fundamental considerations for those who are interested in or thinking of changing career into the field of Cyber Security. It will also improve a reader's understanding of key terminology commonly used, nowadays, surrounding internet issues as they arise. The focus of the authors of various chapters in this book is on cyber security, cyber attacks, cyber crime, cloud security, cyber law, protection of women and children in cyber world & cyber space, analysis of cyber feminist campaign, data privacy and security issues in cloud computing, Mobile or Media addiction, Ransomwares, social networking, threats and impacts of cyber security.

Learn Chef Provisioning like a boss and finally own your infrastructure About This Book This is the first Chef book focused on provisioning infrastructure as its sole task. The book offers a clear solution to a specific pain point: learn to make your system work faster. Learning better approaches to load balancing and parallelization with this book will save you time By mastering the techniques in this book, you will know how to run an entire fleet of machines without breaking a sweat This book is more helpful than the documentation (<https://docs.chef.io/provisioning.html>), with a stronger guiding voice and clearer explanations and use cases Who This Book Is For This book is for Software Engineers, System Administrators, or DevOps Engineers who need to quickly deliver reliably consistent infrastructure at scale. You are expected to have intermediate experience with Chef and Ruby and will be reading this book to advance your knowledge and take your skillset to the

next level. What You Will Learn Use best practices to describe your entire infrastructure as code Automate and document every aspect of your network, from the hardware of individual nodes to software, middleware, and all containers and clouds Create a perfect model system Make the best possible use of your resources and avoid redundancy Deliver on the promise of Infrastructure as Code Scale with ease by properly provisioning their infrastructure Use the best Test Driven Development methodologies In Detail This book will show you the best practices to describe your entire infrastructure as code. With the help of this book you can expand your knowledge of Chef because and implement robust and scalable automation solutions. You can automate and document every aspect of your network, from the hardware to software, middleware, and all your containers. You will become familiar with the Chef's Chef Provisioning tool. You will be able to make a perfect model system where everything is represented as code beneath your fingertips. Make the best possible use of your resources, and deliver infrastructure as code, making it as versionable, testable and repeatable as application software Style and approach By dedicating a whole book solely to the question of provisioning, this book will teach administrators to use Chef as a birds-eye lens for their entire system. It will moves you away from the specifics of each machine and its automations and instead will teach you them how to approach the entire cluster as something different than the sum of its parts. By focusing on infrastructure as code as its own project, the book offers elegant, time-saving solutions for a perfectly described and automated network.

The ultimate guide to managing, building, and deploying large-scale clusters

with Apache Mesos About This Book Master the architecture of Mesos and intelligently distribute your task across clusters of machines Explore a wide range of tools and platforms that Mesos works with This real-world comprehensive and robust tutorial will help you become an expert Who This Book Is For The book aims to serve DevOps engineers and system administrators who are familiar with the basics of managing a Linux system and its tools What You Will Learn Understand the Mesos architecture Manually spin up a Mesos cluster on a distributed infrastructure Deploy a multi-node Mesos cluster using your favorite DevOps See the nuts and bolts of scheduling, service discovery, failure handling, security, monitoring, and debugging in an enterprise-grade, production cluster deployment Use Mesos to deploy big data frameworks, containerized applications, or even custom build your own applications effortlessly In Detail Apache Mesos is open source cluster management software that provides efficient resource isolations and resource sharing distributed applications or frameworks. This book will take you on a journey to enhance your knowledge from amateur to master level, showing you how to improve the efficiency, management, and development of Mesos clusters. The architecture is quite complex and this book will explore the difficulties and complexities of working with Mesos. We begin by introducing Mesos, explaining its architecture and functionality. Next, we provide a comprehensive overview of Mesos features and advanced topics such as high availability, fault tolerance, scaling, and efficiency. Furthermore, you will learn to set up multi-node Mesos clusters on private and public clouds. We will also introduce several Mesos-based scheduling and management frameworks or applica-

tions to enable the easy deployment, discovery, load balancing, and failure handling of long-running services. Next, you will find out how a Mesos cluster can be easily set up and monitored using the standard deployment and configuration management tools. This advanced guide will show you how to deploy important big data processing frameworks such as Hadoop, Spark, and Storm on Mesos and big data storage frameworks such as Cassandra, Elasticsearch, and Kafka. Style and approach This advanced guide provides a detailed step-by-step account of deploying a Mesos cluster. It will demystify the concepts behind Mesos.

Master machine learning techniques with R to deliver insights in complex projects About This Book Understand and apply machine learning methods using an extensive set of R packages such as XGBOOST Understand the benefits and potential pitfalls of using machine learning methods such as Multi-Class Classification and Unsupervised Learning Implement advanced concepts in machine learning with this example-rich guide Who This Book Is For This book is for data science professionals, data analysts, or anyone with a working knowledge of machine learning, with R who now want to take their skills to the next level and become an expert in the field. What You Will Learn Gain deep insights into the application of machine learning tools in the industry Manipulate data in R efficiently to prepare it for analysis Master the skill of recognizing techniques for effective visualization of data Understand why and how to create test and training data sets for analysis Master fundamental learning methods such as linear and logistic regression Comprehend advanced learning methods such as support vector machines Learn how to use R in a cloud

service such as Amazon In Detail This book will teach you advanced techniques in machine learning with the latest code in R 3.3.2. You will delve into statistical learning theory and supervised learning; design efficient algorithms; learn about creating Recommendation Engines; use multi-class classification and deep learning; and more. You will explore, in depth, topics such as data mining, classification, clustering, regression, predictive modeling, anomaly detection, boosted trees with XGBOOST, and more. More than just knowing the outcome, you'll understand how these concepts work and what they do. With a slow learning curve on topics such as neural networks, you will explore deep learning, and more. By the end of this book, you will be able to perform machine learning with R in the cloud using AWS in various scenarios with different datasets. Style and approach The book delivers practical and real-world solutions to problems and a variety of tasks such as complex recommendation systems. By the end of this book, you will have gained expertise in performing R machine learning and will be able to build complex machine learning projects using R and its packages. Master the TypeScript language and its latest features. Explore modern application frameworks and utilize industry best practices in TDD, OOP and UI Design. Key Features Learn the key features of TypeScript 3 and explore advanced language features through in-depth discussions. Use TypeScript with modern frameworks including Backbone, Angular, Aurelia, React, and Node. Explore TDD practices, OOP techniques, and industry best practices to create high-quality, modular, and adaptable applications. Book Description TypeScript is both a language and a set of tools to generate JavaScript. It was designed by Anders Hejlsberg at

Microsoft to help developers write enterprise-scale JavaScript. Starting with an introduction to the TypeScript language, before moving on to basic concepts, each section builds on previous knowledge in an incremental and easy-to-understand way. Advanced and powerful language features are all covered, including asynchronous programming techniques, decorators, and generics. This book explores many modern JavaScript and TypeScript frameworks side by side in order for the reader to learn their respective strengths and weaknesses. It will also thoroughly explore unit and integration testing for each framework. Best-of-breed applications utilize well-known design patterns in order to be scalable, maintainable, and testable. This book explores some of these object-oriented techniques and patterns, and shows real-world implementations. By the end of the book, you will have built a comprehensive, end-to-end web application to show how TypeScript language features, design patterns, and industry best practices can be brought together in a real-world scenario. What you will learn Gain insights into core and advanced TypeScript language features Integrate existing JavaScript libraries and third-party frameworks using declaration files Target popular JavaScript frameworks, such as Angular, React, and more Create test suites for your application with Jasmine and Selenium Organize your application code using modules, AMD loaders, and SystemJS Explore advanced object-oriented design principles Compare the various MVC implementations in Aurelia, Angular, React, and more Who this book is for This guide to the TypeScript that starts with basic concepts, and then builds on this knowledge to introduce more advanced language features and frameworks. No prior knowledge of JavaScript

is required, although some prior programming experience is assumed. If you are keen to learn TypeScript, this book will give you all of the necessary knowledge and skills to tackle any TypeScript project. If you are already an experienced JavaScript or TypeScript developer, then this book will take your skills to the next level. Learn how to use TypeScript with a multitude of modern frameworks, and choose the best framework for your project requirements. Investigate techniques for Test Driven Development, explore industry-standard design patterns, and learn how to put together a full production-ready TypeScript application.

Gain proficiency in monitoring infrastructure along with focusing on cloud backup and recovery

Key Features Explore the 3-2-1 rule of backups in Veeam to keep your data safe Gain in-depth knowledge of NAS backups and Scale-Out Repositories to use in your virtual environment Discover Veeam's monitoring and reporting utility - Veeam ONE - along with Linux and Windows proxy

Book Description Veeam is one of the leading modern data protection solutions, and mastering this technology can help you to protect your virtual environments effectively. This book guides you through implementing modern data protection solutions for your cloud and virtual infrastructure with Veeam. You will even gain in-depth knowledge of advanced concepts such as DataLabs, cloud backup and recovery, Instant VM Recovery, and Veeam ONE. This book starts by taking you through Veeam essentials, including installation, best practices, and optimizations for Veeam Backup & Replication. You'll get to grips with the 3-2-1 rule to safeguard data along with understanding how to set up a backup server, proxies, repositories, and more. Later chapters go on to cover a powerful feature of Veeam 10 -

NAS backup. As you progress, you'll learn about scale-out Repositories and best practices for creating them. In the concluding chapters, you'll explore the new proxy option available in both Linux and Windows. Finally, you'll discover advanced topics such as DataLabs, cloud backup and recovery, Instant VM Recovery, and Veeam ONE. By the end of this book, you will be equipped with the skills you need to implement Veeam Backup & Replication for your environment and disaster recovery. What you will learn

Discover the advanced concepts of Veeam Backup & Replication 10 Master application optimizations based on Veeam best practices Understand how to configure NAS backups and work with repositories and proxies Explore different ways to protect your backups, including object immutability and cloud backup and recovery Discover how DataLabs works Understand how Instant VM Recovery allows you to restore virtual machines Become well versed in Veeam ONE for monitoring and reporting on your environment Who this book is for This Veeam backup book is for IT professionals who have intermediate to advanced-level knowledge of virtualization as well as backups and backup applications. Anyone who needs a reference guide for learning the advanced features of Veeam Backup & Replication and how they are used, including best practices and optimizations, will also find this book useful.

Gain expertise in ML techniques with AWS to create interactive apps using SageMaker, Apache Spark, and TensorFlow.

Key Features Build machine learning apps on Amazon Web Services (AWS) using SageMaker, Apache Spark and TensorFlow Learn model optimization, and understand how to scale your models using simple and secure APIs Develop, train, tune and deploy neural network models

to accelerate model performance in the cloud. Book Description AWS is constantly driving new innovations that empower data scientists to explore a variety of machine learning (ML) cloud services. This book is your comprehensive reference for learning and implementing advanced ML algorithms in AWS cloud. As you go through the chapters, you'll gain insights into how these algorithms can be trained, tuned and deployed in AWS using Apache Spark on Elastic Map Reduce (EMR), SageMaker, and TensorFlow. While you focus on algorithms such as XGBoost, linear models, factorization machines, and deep nets, the book will also provide you with an overview of AWS as well as detailed practical applications that will help you solve real-world problems. Every practical application includes a series of companion notebooks with all the necessary code to run on AWS. In the next few chapters, you will learn to use SageMaker and EMR Notebooks to perform a range of tasks, right from smart analytics, and predictive modeling, through to sentiment analysis. By the end of this book, you will be equipped with the skills you need to effectively handle machine learning projects and implement and evaluate algorithms on AWS. What you will learn

Manage AI workflows by using AWS cloud to deploy services that feed smart data products

Use SageMaker services to create recommendation models

Scale model training and deployment using Apache Spark on EMR

Understand how to cluster big data through EMR and seamlessly integrate it with SageMaker

Build deep learning models on AWS using TensorFlow and deploy them as services

Enhance your apps by combining Apache Spark and Amazon SageMaker

Who this book is for This book is for data scientists, machine learning developers, deep

learning enthusiasts and AWS users who want to build advanced models and smart applications on the cloud using AWS and its integration services. Some understanding of machine learning concepts, Python programming and AWS will be beneficial.

Get to grips with the latest container examples, Python 3 features, GitLab DevOps, network data analysis, and cloud networking to get the most out of Python for network engineering with the latest edition of this bestselling guide

Purchase of the print or Kindle book includes a free eBook in PDF format.

Key Features

Explore the power of the latest Python libraries and frameworks to tackle common and complex network problems efficiently and effectively

Use Python and other open source tools for Network DevOps, automation, management, and monitoring

Use Python 3 to implement advanced network-related features

Book Description

Networks in your infrastructure set the foundation for how your application can be deployed, maintained, and serviced. Python is the ideal language for network engineers to explore tools that were previously available to systems engineers and application developers. In *Mastering Python Networking, Fourth edition*, you'll embark on a Python-based journey to transition from a traditional network engineer to a network developer ready for the next generation of networks. This new edition is completely revised and updated to work with the latest Python features and DevOps frameworks. In addition to new chapters on introducing Docker containers and Python 3 Async IO for network engineers, each chapter is updated with the latest libraries with working examples to ensure compatibility and understanding of the concepts. Starting with a

basic overview of Python, the book teaches you how it can interact with both legacy and API-enabled network devices. You will learn to leverage high-level Python packages and frameworks to perform network automation tasks, monitoring, management, and enhanced network security, followed by AWS and Azure cloud networking. You will use Git for code management, GitLab for continuous integration, and Python-based testing tools to verify your network. What you will learn

Use Python to interact with network devices

Understand Docker as a tool that you can use for the development and deployment

Use Python and various other tools to obtain information from the network

Learn how to use ELK for network data analysis

Utilize Flask and construct high-level API to interact with in-house applications

Discover the new AsyncIO feature and its concepts in Python 3

Explore test-driven development concepts and use PyTest to drive code test coverage

Understand how GitLab can be used with DevOps practices in networking

Who this book is for

Mastering Python Networking, Fourth edition is for network engineers, developers, and SREs who want to learn Python for network automation, programmability, monitoring, cloud, and data analysis. Network engineers who want to transition from manual to automation-based networks using the latest DevOps tools will also get a lot of useful information from this book. Basic familiarity with Python programming and networking-related concepts such as Transmission Control Protocol/Internet Protocol (TCP/IP) will be helpful in getting the most out of this book.

Key concepts, sample applications, best practices, and troubleshooting tips to build highly scalable applications in AWS. Key Features

Design highly available, cost efficient, fault tolerant, and

scalable distributed systems

A practical guide that will help you build, deploy, and manage applications with ease. Develop effective solutions with AWS SDK and Lambda

Book Description

Continuous deployment and Agile methodology have enabled huge advances in modern applications. This book will enable the reader to make use of this rapidly evolving technology to build highly scalable applications within AWS using different architectures. You will begin with installation of AWS SDK and you will get hands-on experience on creating an application using AWS Management Console and AWS Command Line Interface (CLI). Next you will be integrating Applications with AWS services such as DynamoDB, Amazon Kinesis, AWS Lambda, Amazon SQS and Amazon SWF

Following this you will get well versed with CI/CD workflow and work with four major phases in Release processes - Source, Build, Test and Production. Next you will learn to apply AWS developer tools in your Continuous Integration (CI) and Continuous Deployment (CD) Workflow. Later you will learn about User Authentication using Amazon Cognito and also how you can evaluate the best architecture as per your infrastructure costs. You will learn about Amazon EC2 service and deploy an app using Amazon EC2. You will also get well versed with container service which is Amazon EC2 Container Service (Amazon ECS) and you will learn to deploy an app using Amazon ECS. Along with EC2 and ECS, you will also deploying a practical real-world example of a CI/CD application with the Serverless Application Framework which is known as AWS Lambda. Finally you will learn how to build, develop and deploy the Application using AWS Developer tools like AWS CodeCommit, AWS CodeBuild, AWS CodeDeploy and AWS CodePipeline as per project

needs. Also you can develop and deploy applications within minutes using AWS CodeStar from wizard. By the end of this book, the reader will effectively build, deploy, and manage applications on AWS along with scaling and securing applications with best practices and troubleshooting tips. What you will learn Learn how to get up and running with AWS Developer Tools. Integrate the four major phases in the Release Processes. Source, Build, Test and Production. Learn how to integrate Continuous Integration, Continuous Delivery, and Continuous Deployment in AWS. Make secure, scalable and fault tolerant applications. Understand different architectures and deploy complex architectures within minutes Who this book is for This book targets developers who would like to build and manage web and mobile applications and services on the AWS platform. If you are an architect you will be able to take a deep dive and use examples that can be readily applied to real world scenarios. Some prior programming experience is assumed along with familiarity of cloud computing.

Master key approaches used by real attackers to perform advanced pentesting in tightly secured infrastructure, cloud and virtualized environments, and devices, and learn the latest phishing and hacking techniques Key Features Explore red teaming and play the hackers game to proactively defend your infrastructure Use OSINT, Google dorks, Nmap, recon-nag, and other tools for passive and active reconnaissance Learn about the latest email, Wi-Fi, and mobile-based phishing techniques Book Description Remote working has given hackers plenty of opportunities as more confidential information is shared over the internet than ever before. In this new edition of Mastering Kali Linux for Advanced Penetration Test-

ing, you'll learn an offensive approach to enhance your penetration testing skills by testing the sophisticated tactics employed by real hackers. You'll go through laboratory integration to cloud services so that you learn another dimension of exploitation that is typically forgotten during a penetration test. You'll explore different ways of installing and running Kali Linux in a VM and containerized environment and deploying vulnerable cloud services on AWS using containers, exploiting misconfigured S3 buckets to gain access to EC2 instances. This book delves into passive and active reconnaissance, from obtaining user information to large-scale port scanning. Building on this, different vulnerability assessments are explored, including threat modeling. See how hackers use lateral movement, privilege escalation, and command and control (C2) on compromised systems. By the end of this book, you'll have explored many advanced pentesting approaches and hacking techniques employed on networks, IoT, embedded peripheral devices, and radio frequencies. What you will learn Exploit networks using wired/wireless networks, cloud infrastructure, and web services Learn embedded peripheral device, Bluetooth, RFID, and IoT hacking techniques Master the art of bypassing traditional antivirus and endpoint detection and response (EDR) tools Test for data system exploits using Metasploit, PowerShell Empire, and CrackMapExec Perform cloud security vulnerability assessment and exploitation of security misconfigurations Use bettercap and Wireshark for network sniffing Implement complex attacks with Metasploit, Burp Suite, and OWASP ZAP Who this book is for This fourth edition is for security analysts, pentesters, ethical hackers, red team operators, and security consultants wanting to learn and optimize in-

frastructure/application/cloud security using advanced Kali Linux features. Prior penetration testing experience and basic knowledge of ethical hacking will help you make the most of this book.

Enable data and AI workloads with absolute security and scalability
KEY FEATURES ● Detailed, step-by-step instructions for every data professional starting a career with data engineering. ● Access to DevOps, Machine Learning, and Analytics within a single unified platform. ● Includes design considerations and security best practices for efficient utilization of Databricks platform. **DESCRIPTION** Starting with the fundamentals of the databricks lakehouse platform, the book teaches readers on administering various data operations, including Machine Learning, DevOps, Data Warehousing, and BI on the single platform. The subsequent chapters discuss working around data pipelines utilizing the databricks lakehouse platform with data processing and audit quality framework. The book teaches to leverage the Databricks Lakehouse platform to develop delta live tables, streamline ETL/ELT operations, and administer data sharing and orchestration. The book explores how to schedule and manage jobs through the Databricks notebook UI and the Jobs API. The book discusses how to implement DevOps methods on the Databricks Lakehouse platform for data and AI workloads. The book helps readers prepare and process data and standardizes the entire ML lifecycle, right from experimentation to production. The book doesn't just stop here; instead, it teaches how to directly query data lake with your favourite BI tools like Power BI, Tableau, or Qlik. Some of the best industry practices on building data engineering solutions are also demonstrated towards the end of the book. **WHAT YOU WILL LEARN** ● Acquire capa-

bilities to administer end-to-end Databricks Lakehouse Platform. ● Utilize Flow to deploy and monitor machine learning solutions. ● Gain practical experience with SQL Analytics and connect Tableau, Power BI, and Qlik. ● Configure clusters and automate CI/CD deployment. ● Learn how to use Airflow, Data Factory, Delta Live Tables, Databricks notebook UI, and the Jobs API. **WHO THIS BOOK IS FOR** This book is for every data professional, including data engineers, ETL developers, DB administrators, Data Scientists, SQL Developers, and BI specialists. You don't need any prior expertise with this platform because the book covers all the basics. **TABLE OF CONTENTS** 1. Getting started with Databricks Platform 2. Management of Databricks Platform 3. Spark, Databricks, and Building a Data Quality Framework 4. Data Sharing and Orchestration with Databricks 5. Simplified ETL with Delta Live Tables 6. SCD Type 2 Implementation with Delta Lake 7. Machine Learning Model Management with Databricks 8. Continuous Integration and Delivery with Databricks 9. Visualization with Databricks 10. Best Security and Compliance Practices of Databricks

The future of computing technology lies in the cloud. This means that if you're not adapting your company to suit the cloud model, your company will be left behind in this world of modern technology. Are you scared about it? Well, you can do something! Cloud computing is when organizations share a network of freely accessible servers. Servers are stored on the Internet, allowing companies to handle data "in the cloud" instead of on a local server. It is a virtual space in which devices on the network can access data from anywhere. Amazon Web Services (AWS) Introduction to Fa-

amous Amazon Web Services is a robust cloud platform developed by Amazon's e-commerce giant. It offers software-as-a-Service (SaaS), platform-as-a-Service (PaaS), and infrastructure-as-a-Service (IaaS) services. Think about the history of the electricity supply to grasp the logic of AWS. Initially, factories will build their plants to fuel their facilities. Over time, governments and private investors have developed large power plants that supply electricity to numerous towns, factories, and homes. Under this new model, the factories will pay even less per unit of power due to the economies of scale enjoyed by the massive power plants. AWS was designed and built based on similar logic. This book covers the following topics: - Cloud Concepts; - Security; - Technology; - Billing and pricing; - AWS Services. And Much More! By 2006, Amazon had established itself as the world's largest online retailer, a role it still holds. Seamlessly running such a vast operation required a large and sophisticated infrastructure. It imbued Amazon with deep expertise in the management of large-scale network and server networks. As a result, AWS was launched in 2006 as Amazon tried to make accessible to companies and individuals the technology infrastructure it had developed and the expertise it had gained. AWS was one of the first pay-as-you-go (PAYG) computing models that could scale performance, storage, and computing based on the evolving needs of the user. If you are interested in mastering AWS services and Cloud concepts, this book is perfect for you! Ready to get started? Click "Buy Now"!

Become an expert in AWS Outposts and Hybrid architectures with in-depth explanations of the product and order processes while exploring the capabilities for creating next-generation edge solutions Key

Features Learn AWS Outposts from the ground up guided by an AWS hybrid edge solutions architect Master hybrid edge concepts, use cases, and architectures and discover how AWS Outposts fits into this space Become the go-to professional for designing, deploying, operating, and maintaining AWS Outposts Book Description The hybrid edge specialty is often misunderstood because it began with an on-premises-focused view encompassing everything not running inside the traditional data center. If you too have workloads that need to live on premises and need a solution to bridge the gap between both worlds, this book will show you how AWS Outposts allows workloads to leverage the benefits of the cloud running on top of AWS technology. In this book, you'll learn what the Edge space is, the capabilities to look for when selecting a solution to operate in this realm, and how AWS Outposts delivers. The use cases for Outposts are thoroughly explained and the physical characteristics are detailed alongside the service logical constructs and facility requirements. You'll gain a comprehensive understanding of the sales process—from order placement to rack delivery to your location. As you advance, you'll explore how AWS Outposts works in real life with step-by-step examples using AWS CLI and AWS Console before concluding your journey with an extensive overview of security and business continuity for maximizing the value delivered by the product. By the end of this book, you'll be able to create compelling hybrid architectures, solve complex use cases for hybrid scenarios, and get ready for your way forward with the help of expert guidance. What you will learn Discover the role of AWS Outposts in the hybrid edge space Understand rack components with typical use cases for AWS Outposts Ex-

explore AWS services running on Outposts and its capabilities
 Select, order, and successfully deploy your Outposts Work with Outposts resources for hands-on operations
 Assess logical and physical security aspects and considerations Monitor and log configuration and usage to improve your architecture
 Maintain and troubleshoot hardware and software that run AWS services Who this book is for If you are a seasoned data center professional, this book will empower you to support businesses to build hybrid edge solutions with AWS technology. It will also help AWS Cloud professionals to master a unique offering in the AWS portfolio that takes Amazon web services beyond the regions. Familiarity with AWS services and traditional data center concepts is assumed.

Master the art of using Python for a diverse range of network engineering tasks
 Key Features Explore the power of Python libraries to tackle difficult network problems efficiently and effectively
 Use Python for network device automation, DevOps, and software-defined networking Become an expert in implementing advanced network-related tasks with Python
 Book Description Networks in your infrastructure set the foundation for how your application can be deployed, maintained, and serviced. Python is the ideal language for network engineers to explore tools that were previously available to systems engineers and application developers. In this second edition of *Mastering Python Networking*, you'll embark on a Python-based journey to transition from traditional network engineers to network developers ready for the next-generation of networks. This book begins by reviewing the basics of Python and teaches you how Python can interact with both legacy and API-enabled network devices. As you make your way

through the chapters, you will then learn to leverage high-level Python packages and frameworks to perform network engineering tasks for automation, monitoring, management, and enhanced security. In the concluding chapters, you will use Jenkins for continuous network integration as well as testing tools to verify your network. By the end of this book, you will be able to perform all networking tasks with ease using Python. What you will learn Use Python libraries to interact with your network Integrate Ansible 2.5 using Python to control Cisco, Juniper, and Arista eAPI network devices Leverage existing frameworks to construct high-level APIs Learn how to build virtual networks in the AWS Cloud Understand how Jenkins can be used to automatically deploy changes in your network Use PyTest and Unittest for Test-Driven Network Development Who this book is for *Mastering Python Networking* is for network engineers and programmers who want to use Python for networking. Basic familiarity with Python programming and networking-related concepts such as Transmission Control Protocol/Internet Protocol (TCP/IP) will be useful.

Orchestrate the designing, development, testing, and deployment of web applications with Symfony About This Book Create a robust and reliable Symfony development pipeline using Amazon's cloud platform Cut development and maintenance costs by defining crystal clear features and possible scenarios for each feature before implementation Follow detailed examples provided in each chapter to create a task management application Who This Book Is For If you are a PHP developer with some experience in Symfony and are looking to master the framework and use it to its full potential, then this book is for you. Though ex-

perience with PHP, object-oriented techniques, and Symfony basics is assumed, this book will give you a crash course on the basics and then proceed to more advanced topics. What You Will Learn Install and configure Symfony and required third-party bundles to develop a task management application Set up a continuous integration server to orchestrate automatic builds every time you add a new feature to your project Reduce maintenance costs dramatically using Behaviour Driven Development (BDD) Create a slick user interface using the Bootstrap framework Design robust business logic using Doctrine Build a comprehensive dashboard and secure your project using the Sonata project Improve performance using Redis, Memcache, and Varnish Create customized Symfony commands and add them to your console In Detail In this book, you will learn some lesser known aspects of development with Symfony, and you will see how to use Symfony as a framework to create reliable and effective applications. You might have developed some impressive PHP libraries in other projects, but what is the point when your library is tied to one particular project? With Symfony, you can turn your code into a service and reuse it in other projects. This book starts with Symfony concepts such as bundles, routing, twig, doctrine, and more, taking you through the request/response life cycle. You will then proceed to set up development, test, and deployment environments in AWS. Then you will create reliable projects using Behat and Mink, and design business logic, cover authentication, and authorization steps in a security checking process. You will be walked through concepts such as DependencyInjection, service containers, and services, and go through steps to create customized commands for Sym-

fony's console. Finally, the book covers performance optimization and the use of Varnish and Memcached in our project, and you are treated with the creation of database agnostic bundles and best practices. Style and approach A step-by-step guide to mastering Symfony while developing a task management application. Each chapter comes with detailed examples.

Build cost-effective and highly scalable Serverless applications using AWS Lambda. About This Book Leverage AWS Lambda to significantly lower your infrastructure costs and deploy out massively scalable, event-driven systems and applications Learn how to design and build Lambda functions using real-world examples and implementation scenarios Explore the Serverless ecosystem with a variety of toolsets and AWS services including DynamoDB, API Gateway, and much more! Who This Book Is For If you are a Cloud administrator and/or developer who wishes to explore, learn, and leverage AWS Lambda to design, build, and deploy Serverless applications in the cloud, then this is the book for you! The book assumes you have some prior knowledge and hands-on experience with AWS core services such as EC2, IAM, S3, along with the knowledge to work with any popular programming language such as Node.js, Java, C#, and so on. What You Will Learn Understand the hype, significance, and business benefits of Serverless computing and applications Plunge into the Serverless world of AWS Lambda and master its core components and how it works Find out how to effectively and efficiently design, develop, and test Lambda functions using Node.js, along with some keen coding insights and best practices Explore best practices to effectively monitor and trou-

bleshoot Serverless applications using AWS CloudWatch and other third-party services in the form of Datadog and Loggly Quickly design and develop Serverless applications by leveraging AWS Lambda, DynamoDB, and API Gateway using the Serverless Application Framework (SAF) and other AWS services such as Step Functions Explore a rich variety of real-world Serverless use cases with Lambda and see how you can apply it to your environments In Detail AWS is recognized as one of the biggest market leaders for cloud computing and why not? It has evolved a lot since the time it started out by providing just basic services such as EC2 and S3 and today; they go all the way from IoT to Machine Learning, Image recognition, Chatbot Frameworks, and much more! One of those recent services that is also gaining a lot of traction is AWS Lambda! Although seemingly simple and easy to use, Lambda is a highly effective and scalable compute service that provides developers with a powerful platform to design and develop Serverless event-driven systems and applications. The book begins with a high-level introduction into the world of Serverless computing and its advantages and use cases, followed by a deep dive into AWS Lambda! You'll learn what services AWS Lambda provides to developers; how to design, write, and test Lambda functions; as well as monitor and troubleshoot them. The book is designed and accompanied with a vast variety of real-world examples, use cases, and code samples that will enable you to get started on your Serverless applications quickly. By the end of the book, you will have gained all the skills required to work with AWS Lambda services! Style and approach This step-by-step guide will help you build Serverless applications and run Serverless work-

loads using the AWS Lambda service. You'll be able to get started with it in a matter of minutes with easy-to-follow code snippets and examples.

Would you like to uncover a new world of possibilities with the Amazon Web Services (AWS)? Are you interested in knowing exactly just how the Amazon Web Services function? Do you want to know whether you should align your next web service securely with AWS to take your business to another level? If you want to uncover the most complete and used cloud platform in the world, then keep reading! If you have the above concerns as you dabble with the concept of taking on AWS for your business, this book is all you need. By the end of this book, you will certainly have all the answers you require to make an informed decision on whether it is time to take on Amazon Web Services (AWS) for your business. The book, AWS: Amazon Web Services gives a detailed introduction to Amazon Web Services (AWS), highlights of what you can do with AWS and other amazing information required to know exactly how you can get started. While AWS is not Amazon's primary business, this service segment is much ahead of the other business segments in providing efficient, adaptable, safe, dependable, user friendly, and cost effective cloud computing options! The book provides an overview to AWS for both beginners and advanced users. If you intend to lower your business running prices, and also regulate the security of your information, use this detailed guide for computing and networking in the AWS cloud platform. Indeed, high performing, efficient and profitable companies around the world have realized that cloud computing is the secret to massive growth and efficiency in service delivery on a global scale especially because it allows data

access from anywhere in the world. You don't need to be an IT expert to use AWS. You merely need this extensive and easy to understand bestselling companion. This book covers everything about AWS that will certainly leave you feeling confident about your understanding of AWS so as to make an educated choice. A few of the topics in this book include: Introduction to Amazon Web Services Types of Cloud Cloud Service Model AWS Basic Architecture AWS Management Console Platform Services Business Application Other AWS Services AWS Billing and Support Services Why You Should Consider AWS ..And Much More ! If you think cloud computing is something that will certainly sustain your business as it grows to an international scale, make AWS your best option; you will never ever regret it! The very best part about AWS is that it deals with any scale. It doesn't really matter if you are a large or small scale business owner, the AWS can be implemented in your operations. Even if you are already familiar with the AWS cloud, this guide will help you increase your understanding on the subject. You'll find out whatever there is on AWS methods, cloud selection, and also exactly how to generate income with a wise AWS implementation in your company. Don't wait any longer! Click the "BUY NOW" button now and begin immediately!

Delve deep into various security aspects of AWS to build and maintain a secured environment

Key Features

- Learn to secure your network, infrastructure, data, and applications in AWS cloud
- Use AWS managed security services to automate security
- Dive deep into various aspects such as the security model, compliance, access management and much more to build and maintain a secured environment
- Explore Cloud Adoption

Framework (CAF) and its components

- Embedded with assessments that will help you revise the concepts you have learned in this book

Book Description

With organizations moving their workloads, applications, and infrastructure to the cloud at an unprecedented pace, security of all these resources has been a paradigm shift for all those who are responsible for security; experts, novices, and apprentices alike. This book focuses on using native AWS security features and managed AWS services to help you achieve continuous security. Starting with an introduction to Virtual Private Cloud (VPC) to secure your AWS VPC, you will quickly explore various components that make up VPC such as subnets, security groups, various gateways, and many more. You will also learn to protect data in the AWS platform for various AWS services by encrypting and decrypting data in AWS. You will also learn to secure web and mobile applications in AWS cloud. This book is ideal for all IT professionals, system administrators, security analysts, solution architects, and chief information security officers who are responsible for securing workloads in AWS for their organizations. This book is embedded with useful assessments that will help you revise the concepts you have learned in this book. What you will learn

- Get familiar with VPC components, features, and benefits
- Learn to create and secure your private network in AWS
- Explore encryption and decryption fundamentals
- Understand monitoring, logging, and auditing in AWS
- Ensure data security in AWS
- Secure your web and mobile applications in AWS
- Learn security best practices for IAM, VPC, shared security responsibility model, and so on

Who this book is for This book is for all IT professionals, system administrators, security analysts, solution

architects, and chief information security officers who are responsible for securing workloads in AWS for their organizations. This is the third edition of the bestselling one-stop resource for sysadmins and DevOps professionals to learn, configure and use Ubuntu 20.04 for their day-to-day operations and deployments. Key Features

- A hands-on book that will teach you how to deploy, maintain and troubleshoot Ubuntu Server
- Learn to leverage the improved performance and security-related aspects of Ubuntu Server 20.04 LTS
- New chapters dedicated to exploring Ubuntu for cloud

Book Description

Ubuntu Server has taken data centers around the world by storm. Whether you're deploying Ubuntu for a large-scale project or for a small office, it is a stable, customizable, and powerful Linux distribution with innovative and cutting-edge features. For both simple and complex server deployments, Ubuntu's flexible nature can be easily adapted to meet to the needs of your organization. This third edition is updated to cover the advancements of Ubuntu 20.04 LTS and further train you to understand how to use Ubuntu Server, from initial deployment to creating production-ready resources for your network. The book begins with the concepts of user management, group management, and file system permissions. Continuing into managing storage volumes, you will learn how to format storage devices, utilize logical volume management, and monitor disk usage. Later, you will learn how to virtualize hosts and applications, which will include setting up QEMU & KVM, as well as containerization with both Docker and LXDM. As the book continues, you will learn how to automate configuration with Ansible, as well as take a look at writing scripts. Lastly, you will explore best practices and troubleshooting tech-

niques when working with Ubuntu Server that are applicable to real-world scenarios. By the end of this Ubuntu Server book, you will be well-versed in Ubuntu server's advanced concepts and attain the required proficiency needed for Ubuntu Server administration. What you will learn

- Manage users, groups, and permissions
- Optimize the performance of system resources
- Perform disk encryption and decryption with Linux Unified Key Setup (LUKS)
- Set up Secure Shell (SSH) for remote access, and connect it to other nodes
- Share directories using Samba and Network File System (NFS)
- Get familiar with scripting to improve command-line efficiency
- Configure VMs, containers, and orchestrate with MicroK8s and Kubernetes
- Automate server deployments with Ansible and cloud server deployments with Terraform

Who this book is for

The book is written to cater to sysadmins and DevOps professionals whose teams are planning to employ an Ubuntu/Linux environment for their development needs. Prior knowledge of Ubuntu is not required. However, it is assumed that you possess some IT admin, Linux, and shell scripting experience.

Your one step guide to learn all about AWS networking. Key Features

- Master your networking skills on Public Cloud
- Gain hands-on experience of using Amazon VPC, Elastic Load Balancing, Direct Connect and other AWS products
- Implement troubleshooting skills and best practices for security on AWS network

Book Description

Amazon Web Services (AWS) dominates the public cloud market by a huge margin and continues to be the first choice for many organizations. Networking has been an area of focus for all the leading cloud service providers. AWS has a suite of network-related products which help in performing

network related task on AWS. This book initially covers the basics of networking in AWS. Then we use AWS VPC to create an isolated virtual cloud for performing network-related tasks. We then provide an overview of AWS Direct Connect after taking a deep dive into scalability and load balancing using the auto scaling feature, Elastic Load Balancing, and Amazon Route 53. Toward the end of the book, we cover troubleshooting tips and security best practices for your network. By the end of this book, you will have hands-on experience of working with network tasks on AWS. What you will learn

Overview of all networking services available in AWS
Gain work with load balance applications across different regions
Learn auto scale instances based on increases and decreases in traffic
Deploy applications in a highly available and fault tolerant manner
Configure Route 53 for a web application
Troubleshooting tips and best practices

Who this book is for
This book is for cloud architects, cloud solution providers, or any stakeholders dealing with networking on AWS Cloud. A prior idea of Amazon Web Services will be an added advantage.

This is the eBook version of the print title. Note that the eBook does not provide access to the practice test software that accompanies the print book. Learn, prepare, and practice for AWS Certified SysOps Administrator Associate (SOA-C01) exam success with this Cert Guide from Pearson IT Certification, a leader in IT Certification learning. Master AWS Certified SysOps Administrator Associate (SOA-C01) exam topics

Assess your knowledge with chapter-ending quizzes
Review key concepts with exam preparation tasks

AWS Certified SysOps Administrator Associate (SOA-C01) Cert Guide is a best-of-breed exam study guide. Best-selling author and expert instructor An-

thony Sequeira shares preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. Material is presented in a concise manner, focusing on increasing your understanding and retention of exam topics. The book presents you with an organized test preparation routine through the use of proven series elements and techniques. Exam topic lists make referencing easy. Chapter-ending Exam Preparation Tasks help you drill on key concepts you must know thoroughly. Review questions help you assess your knowledge, and a final preparation chapter guides you through tools and resources to help you craft your final study plan. Well-regarded for its level of detail, assessment features, and challenging review questions and exercises, this study guide helps you master the concepts and techniques that will enable you to succeed on the exam the first time. The study guide helps you master all the topics on the AWS Certified SysOps Administrator Associate exam, including:

- Monitoring and reporting: create and maintain metrics and alarms; recognize, differentiate, and remediate based on metrics
- High availability: implement scalability and elasticity; recognize and differentiate highly available and resilient AWS environments
- Deployment and provisioning: provision cloud resources, and identify and remediate deployment issues
- Storage and data management: create and manage data retention; identify and implement data protection, encryption, and capacity planning
- Security and compliance: implement and manage security policies; implement access controls; understand the shared responsibility model
- Networking: use AWS networking features and connectivity services; gather and interpret relevant data for network

troubleshooting Automation and optimization: manage and assess resource utilization, use cost-optimization strategies, and automate processes

Explore GIS processing and learn to work with various tools and libraries in Python. Key Features Analyze and process geospatial data using Python libraries such as; Anaconda, GeoPandas Leverage new ArcGIS API to process geospatial data for the cloud. Explore various Python geospatial web and machine learning frameworks. Book Description Python comes with a host of open source libraries and tools that help you work on professional geoprocessing tasks without investing in expensive tools. This book will introduce Python developers, both new and experienced, to a variety of new code libraries that have been developed to perform geospatial analysis, statistical analysis, and data management. This book will use examples and code snippets that will help explain how Python 3 differs from Python 2, and how these new code libraries can be used to solve age-old problems in geospatial analysis. You will begin by understanding what geoprocessing is and explore the tools and libraries that Python 3 offers. You will then learn to use Python code libraries to read and write geospatial data. You will then learn to perform geospatial queries within databases and learn PyQGIS to automate analysis within the QGIS mapping suite. Moving forward, you will explore the newly released ArcGIS API for Python and ArcGIS Online to perform geospatial analysis and create ArcGIS Online web maps. Further, you will deep dive into Python Geospatial web frameworks and learn to create a geospatial REST API. What you will learn Manage code libraries and abstract geospatial analysis techniques using Python 3. Explore popular code libraries that perform specific tasks for

geospatial analysis. Utilize code libraries for data conversion, data management, web maps, and REST API creation. Learn techniques related to processing geospatial data in the cloud. Leverage features of Python 3 with geospatial databases such as PostGIS, SQL Server, and Spatialite. Who this book is for The audience for this book includes students, developers, and geospatial professionals who need a reference book that covers GIS data management, analysis, and automation techniques with code libraries built in Python 3.

New edition of the bestselling guide to mastering Python Networking, updated to Python 3 and including the latest on network data analysis, Cloud Networking, Ansible 2.8, and new libraries Key Features Explore the power of Python libraries to tackle difficult network problems efficiently and effectively, including pyATS, Nornir, and Ansible 2.8 Use Python and Ansible for DevOps, network device automation, DevOps, and software-defined networking Become an expert in implementing advanced network-related tasks with Python 3 Book Description Networks in your infrastructure set the foundation for how your application can be deployed, maintained, and serviced. Python is the ideal language for network engineers to explore tools that were previously available to systems engineers and application developers. In Mastering Python Networking, Third edition, you'll embark on a Python-based journey to transition from traditional network engineers to network developers ready for the next-generation of networks. This new edition is completely revised and updated to work with Python 3. In addition to new chapters on network data analysis with ELK stack (Elasticsearch, Logstash, Kibana, and Beats) and Azure Cloud Networking, it includes

updates on using newer libraries such as pyATS and Nornir, as well as Ansible 2.8. Each chapter is updated with the latest libraries with working examples to ensure compatibility and understanding of the concepts. Starting with a basic overview of Python, the book teaches you how it can interact with both legacy and API-enabled network devices. You will learn to leverage high-level Python packages and frameworks to perform network automation tasks, monitoring, management, and enhanced network security followed by Azure and AWS Cloud networking. Finally, you will use Jenkins for continuous integration as well as testing tools to verify your network. What you will learn

Use Python libraries to interact with your network
Integrate Ansible 2.8 using Python to control Cisco, Juniper, and Arista network devices
Leverage existing Flask web frameworks to construct high-level APIs
Learn how to build virtual networks in the AWS & Azure Cloud
Learn how to use Elastic Stack for network data analysis
Understand how Jenkins can be used to automatically deploy changes in your network
Use PyTest and Unittest for Test-Driven Network Development in networking engineering with Python
Who this book is for Mastering Python Networking, Third edition is for network engineers, developers, and SREs who want to use Python for network automation, programmability, and data analysis. Basic familiarity with Python programming and networking-related concepts such as Transmission Control Protocol/Internet Protocol (TCP/IP) will be useful.

Effective, readable, and robust codes in PHP

About This Book Leverage the newest tools available in PHP 7 to build scalable applications Embrace serverless architecture and the reactive programming paradigm, which are the latest addi-

tions to the PHP ecosystem Explore dependency injection and implement design patterns to write elegant code

Who This Book Is For This book is for intermediate level developers who want to become a master of PHP. Basic knowledge of PHP is required across areas such as basic syntax, types, variables, constants, expressions, operators, control structures, and functions.

What You Will Learn

Grasp the current state of PHP language and the PHP standards
Effectively implement logging and error handling during development
Build services through SOAP and REST and Apache Trift
Get to know the benefits of serverless architecture
Understand the basic principles of reactive programming to write asynchronous code
Practically implement several important design patterns
Write efficient code by executing dependency injection
See the working of all magic methods
Handle the command-line area tools and processes
Control the development process with proper debugging and profiling

In Detail PHP is a server-side scripting language that is widely used for web development. With this book, you will get a deep understanding of the advanced programming concepts in PHP and how to apply it practically The book starts by unveiling the new features of PHP 7 and walks you through several important standards set by PHP Framework Interop Group (PHP-FIG). You'll see, in detail, the working of all magic methods, and the importance of effective PHP OOP concepts, which will enable you to write effective PHP code. You will find out how to implement design patterns and resolve dependencies to make your code base more elegant and readable. You will also build web services alongside microservices architecture, interact with databases, and work around third-party packages to enrich applications. This

book delves into the details of PHP performance optimization. You will learn about serverless architecture and the reactive programming paradigm that found its way in the PHP ecosystem. The book also explores the best ways of testing your code, debugging, tracing, profiling, and deploying your PHP application. By the end of the book, you will be able to create readable, reliable, and robust applications in PHP to meet modern day requirements in the software industry. Style and approach This is a comprehensive, step-by-step practical guide to developing scalable applications using PHP 7.1

Learn to build modern, secure, highly available web MVC applications and APIs using Python's Flask framework. Key Features Create production-ready MVC and REST API with the dynamic features of Flask Utilize the various extensions like Flask-JWT and Flask-SQLAlchemy to develop powerful applications Deploy your flask application on real-world platforms like AWS and Heroku on VM's or Docker containers Book Description Flask is a popular Python framework known for its lightweight and modular design. Mastering Flask Web Development will take you on a complete tour of the Flask environment and teach you how to build a production-ready application. You'll begin by learning about the installation of Flask and basic concepts such as MVC and accessing a database using an ORM. You will learn how to structure your application so that it can scale to any size with the help of Flask Blueprints. You'll then learn how to use Jinja2 templates with a high level of expertise. You will also learn how to develop with SQL or NoSQL databases, and how to develop REST APIs and JWT authentication. Next, you'll move on to build role-based access security and authentication using LDAP, OAuth, OpenID, and database. Also learn

how to create asynchronous tasks that can scale to any load using Celery and RabbitMQ or Redis. You will also be introduced to a wide range of Flask extensions to leverage technologies such as cache, localization, and debugging. You will learn how to build your own Flask extensions, how to write tests, and how to get test coverage reports. Finally, you will learn how to deploy your application on Heroku and AWS using various technologies, such as Docker, CloudFormation, and Elastic Beanstalk, and will also learn how to develop Jenkins pipelines to build, test, and deploy applications. What you will learn Develop a Flask extension using best practices Implement various authentication methods: LDAP, JWT, Database, OAuth, and OpenID Learn how to develop role-based access security and become an expert on Jinja2 templates Build tests for your applications and APIs Install and configure a distributed task queue using Celery and RabbitMQ Develop RESTful APIs and secure REST API's Deploy highly available applications that scale on Heroku and AWS using Docker or VMs Who this book is for The ideal target audience for this book would be Python developers who want to use Flask and its advanced features to create Enterprise grade and lightweight applications. The book is for those who have some exposure of Flask and want to take it from introductory to master level.

An expert guide to helping you use DevOps techniques with the latest GitLab version to optimize and manage your software workflow Key Features Delve into GitLab's architecture, and install and configure it to fit your environment Learn about the underlying principles of Agile software development and DevOps Explore Gitlab's features to manage enterprise cloud-native applications and ser-

Book Description GitLab is an open source repository management and version control toolkit with functions for enterprises and personal software projects. It offers configurability options, extensions, and APIs that make it an ideal tool for enterprises to manage the software development life cycle. This book begins by explaining GitLab options and the components of the GitLab architecture. You will learn how to install and set up GitLab on-premises and in the cloud, along with understanding how to migrate code bases from different systems, such as GitHub, Concurrent Versions System, Team Foundation Version Control, and Subversion. Later chapters will help you implement DevOps culture by introducing the workflow management tools in GitLab and continuous integration/continuous deployment (CI/CD). In addition to this, the book will guide you through installing GitLab on a range of cloud platforms, monitoring with Prometheus, and deploying an environment with GitLab. You'll also focus on the GitLab CI component to assist you with creating development pipelines and jobs, along with helping you set up GitLab runners for your own project. Finally, you will be able to choose a high availability setup that fits your needs and helps you monitor and act on results obtained after testing. By the end of this book, you will have gained the expertise you need to use GitLab features effectively, and be able to integrate all phases in the development process. What you will learn

Install GitLab on premises and in the cloud using a variety of configurations

Conduct data migration from the SVN, TFS, CVS, and GitHub platforms to GitLab

Use GitLab runners to develop different types of configurations in software development

Plan and perform CI/CD by using GitLab features

Monitor and secure your software architec-

ture using Prometheus and Grafana

Implement DevOps culture by introducing workflow management tools in GitLab

Who this book is for If you are a software developer, DevOps professional, or any developer who wants to master GitLab for productive repository management in your day-to-day tasks, this book is for you. Basic understanding of the software development workflow is assumed.

In depth informative guide to implement and use AWS security services effectively.

About This Book Learn to secure your network, infrastructure, data and applications in AWS cloud Log, monitor and audit your AWS resources for continuous security and continuous compliance in AWS cloud Use AWS managed security services to automate security. Focus on increasing your business rather than being diverged onto security risks and issues with AWS security. Delve deep into various aspects such as the security model, compliance, access management and much more to build and maintain a secure environment.

Who This Book Is For This book is for all IT professionals, system administrators and security analysts, solution architects and Chief Information Security Officers who are responsible for securing workloads in AWS for their organizations. It is helpful for all Solutions Architects who want to design and implement secure architecture on AWS by the following security by design principle. This book is helpful for personnel in Auditors and Project Management role to understand how they can audit AWS workloads and how they can manage security in AWS respectively. If you are learning AWS or championing AWS adoption in your organization, you should read this book to build security in all your workloads. You will benefit from knowing about security footprint of all major AWS services for multiple do-

mains, use cases, and scenarios. What You Will Learn Learn about AWS Identity Management and Access control Gain knowledge to create and secure your private network in AWS Understand and secure your infrastructure in AWS Understand monitoring, logging and auditing in AWS Ensure Data Security in AWS Learn to secure your applications in AWS Explore AWS Security best practices In Detail Mastering AWS Security starts with a deep dive into the fundamentals of the shared security responsibility model. This book tells you how you can enable continuous security, continuous auditing, and continuous compliance by automating your security in AWS with the tools, services, and features it provides. Moving on, you will learn about access control in AWS for all resources. You will also learn about the security of your network, servers, data and applications in the AWS cloud using native AWS security services. By the end of this book, you will understand the complete AWS Security landscape, covering all aspects of end-to-end software and hardware security along with logging, auditing, and compliance of your entire IT environment in the AWS cloud. Lastly, the book will wrap up with AWS best practices for security. Style and approach The book will take a practical approach delving into different aspects of AWS security to help you become a master of it. It will focus on using native AWS security features and managed AWS services to help you achieve continuous security and continuous compliance.

Build scalable and production-ready infrastructure in Amazon Web Services with CloudFormation Key Features Leverage AWS CloudFormation templates to manage your entire infrastructure Get up and running with writing your infrastruc-

ture as code and automating your environment Simplify infrastructure management and increase productivity with AWS CloudFormation Book Description DevOps and the cloud revolution have forced software engineers and operations teams to rethink how to manage infrastructures. With this AWS book, you'll understand how you can use Infrastructure as Code (IaC) to simplify IT operations and manage the modern cloud infrastructure effectively with AWS CloudFormation. This comprehensive guide will help you explore AWS CloudFormation from template structures through to developing complex and reusable infrastructure stacks. You'll then delve into validating templates, deploying stacks, and handling deployment failures. The book will also show you how to leverage AWS CodeBuild and CodePipeline to automate resource delivery and apply continuous integration and continuous delivery (CI/CD) practices to the stack. As you advance, you'll learn how to generate templates on the fly using macros and create resources outside AWS with custom resources. Finally, you'll improve the way you manage the modern cloud in AWS by extending CloudFormation using AWS serverless application model (SAM) and AWS cloud development kit (CDK). By the end of this book, you'll have mastered all the major AWS CloudFormation concepts and be able to simplify infrastructure management. What you will learn Understand modern approaches to IaC Develop universal and reusable CloudFormation templates Discover ways to apply continuous delivery with CloudFormation Implement IaC best practices for the AWS Cloud Provision massive applications across multiple regions and accounts Automate template generation and software provisioning for AWS Extend CloudFormation with custom re-

sources and template macrosWho this book is for If you are a developer who wants to learn how to write templates, a DevOps engineer interested in deployment and orchestration, or a solutions architect looking to understand the benefits of managing infrastructure with ease, this book is for you. Prior understanding of the AWS Cloud is necessary. Summary Modern data science solutions need to be clean, easy to read, and scalable. In *Mastering Large Datasets with Python*, author J.T. Wolohan teaches you how to take a small project and scale it up using a functionally influenced approach to Python coding. You'll explore methods and built-in Python tools that lend themselves to clarity and scalability, like the high-performing parallelism method, as well as distributed technologies that allow for high data throughput. The abundant hands-on exercises in this practical tutorial will lock in these essential skills for any large-scale data science project. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Programming techniques that work well on laptop-sized data can slow to a crawl—or fail altogether—when applied to massive files or distributed datasets. By mastering the powerful map and reduce paradigm, along with the Python-based tools that support it, you can write data-centric applications that scale efficiently without requiring codebase rewrites as your requirements change. About the book *Mastering Large Datasets with Python* teaches you to write code that can handle datasets of any size. You'll start with laptop-sized datasets that teach you to parallelize data analysis by breaking large tasks into smaller ones that can run simultaneously. You'll then scale those same programs to industrial-sized da-

tasets on a cluster of cloud servers. With the map and reduce paradigm firmly in place, you'll explore tools like Hadoop and PySpark to efficiently process massive distributed datasets, speed up decision-making with machine learning, and simplify your data storage with AWS S3. What's inside An introduction to the map and reduce paradigm Parallelization with the multiprocessing module and pathos framework Hadoop and Spark for distributed computing Running AWS jobs to process large datasets About the reader For Python programmers who need to work faster with more data. About the author J. T. Wolohan is a lead data scientist at Booz Allen Hamilton, and a PhD researcher at Indiana University, Bloomington. Table of Contents: PART 1 1 | Introduction 2 | Accelerating large dataset work: Map and parallel computing 3 | Function pipelines for mapping complex transformations 4 | Processing large datasets with lazy workflows 5 | Accumulation operations with reduce 6 | Speeding up map and reduce with advanced parallelization PART 2 7 | Processing truly big datasets with Hadoop and Spark 8 | Best practices for large data with Apache Streaming and mrjob 9 | PageRank with map and reduce in PySpark 10 | Faster decision-making with machine learning and PySpark PART 3 11 | Large datasets in the cloud with Amazon Web Services and S3 12 | MapReduce in the cloud with Amazon's Elastic MapReduce matplotlib is a Python plotting library that provides a large feature set for a multitude of platforms. Given the depth of the library's legacy and the variety of related open source projects, gaining expert knowledge can be a time-consuming and often confusing process. You'll begin your exciting journey learning about the skills that are necessary in leading technical teams for a visualiza-

tion project or to become a matplotlib contributor. Supported by highly-detailed IPython Notebooks, this book takes you through the conceptual components underlying the library and then provides a detailed overview of its APIs. From there, you will learn about event handling and how to code for interactive plots. Next you will move on to customization techniques, local configuration of matplotlib, and then deployments in Cloud environments. The adventure culminates in an exploration of big data visualization and matplotlib clustering.

Mastering Cloud Computing is designed for undergraduate students learning to develop cloud computing applications. Tomorrow's applications won't live on a single computer but will be deployed from and reside on a virtual server, accessible anywhere, any time. Tomorrow's application developers need to understand the requirements of building apps for these virtual systems, including concurrent programming, high-performance computing, and data-intensive systems. The book introduces the principles of distributed and parallel computing underlying cloud architectures and specifically focuses on virtualization, thread programming, task programming, and map-reduce programming. There are examples demonstrating all of these and more, with exercises and labs throughout. Explains how to make design choices and tradeoffs to consider when building applications to run in a virtual cloud environment Real-world case studies include scientific, business, and energy-efficiency considerations

This fast-paced guide will quickly enhance your skills to develop a highly scalable Cloud environment Key Features Efficiently build a highly scalable and reliable cloud environment for your applica-

tions with AWS Leverage the various AWS components and services to build a secure, reliable, and robust environment to host your applications on This quick-start guide will quickly enhance your skills to develop highly scalable services Book Description AWS is at the forefront of Cloud Computing today. Businesses are adopting AWS Cloud because of its reliability, versatility, and flexible design. The main focus of this book is teaching you how to build and manage highly reliable and scalable applications and services on AWS. It will provide you with all the necessary skills to design, deploy, and manage your applications and services on the AWS cloud platform. We'll start by exploring Amazon S3, EC2, and so on to get you well-versed with core Amazon services. Moving on, we'll teach you how to design and deploy highly scalable and optimized workloads. You'll also discover easy-to-follow, hands-on steps, tips, and recommendations throughout the book and get to know essential security and troubleshooting concepts. By the end of the book, you'll be able to create a highly secure, fault tolerant, and scalable environment for your applications to run on. What you will learn Find out about IAM to access AWS services securely Explore EC2 (virtual server) and scale up/down your application based on heavy traffic Learn about unlimited data storage service S3 and host a static website within minutes Get to grips with Relational Databases and NoSQL databases under the AWS ecosystem Understand the caching mechanism Get to know about notifications service and monitor AWS services Secure and troubleshoot your AWS architecture Who this book is for This book is for IT professionals and system administrators looking to design, deploy, and manage your applications and services on the AWS cloud platform. It's

also ideal for developers looking to build highly scalable cloud-based services. A basic understanding of AWS would be beneficial.

Nowadays, many organizations are moving toward desktop virtualization. Citrix® XenDesktop® is the most comprehensive solution to implement a scalable and high performance virtual desktop environment. This book will provide you with the technical skills you need to successfully design, set up, and maintain a

XenDesktop® environment. This book will introduce you to the main components of a XenDesktop® infrastructure and covers how to design and install them. Through each chapter, you will quickly learn how to configure your virtual desktop environment in order to meet specific end user requirements, giving your users the freedom to work from anywhere and from any device while virtual desktops and apps are centrally maintained in your data center.