

Cloud Computing A Practical Approach Author Anthony T Velte

This latest textbook from bestselling author, Douglas E. Comer, is a class-tested book providing a comprehensive introduction to cloud computing. Focusing on concepts and principles, rather than commercial offerings by cloud providers and vendors, *The Cloud Computing Book: The Future of Computing Explained* gives readers a complete picture of the advantages and growth of cloud computing, cloud infrastructure, virtualization, automation and orchestration, and cloud-native software design. The book explains real and virtual data center facilities, including computation (e.g., servers, hypervisors, Virtual Machines, and containers), networks (e.g., leaf-spine architecture, VLANs, and VxLAN), and storage mechanisms (e.g., SAN, NAS, and object storage). Chapters on automation and orchestration cover the conceptual organization of systems that automate software deployment and scaling. Chapters on cloud-native software cover parallelism, microservices, MapReduce, controller-based designs, and serverless computing. Although it focuses on concepts and principles, the book uses popular technologies in examples, including Docker containers and Kubernetes. Final chapters explain security in a cloud environment and the use of models to help control the complexity involved in designing software for the cloud. The text is suitable for a one-semester course for software engineers who want to understand cloud, and for IT managers moving an organization's computing to the cloud.

Maintaining a practical perspective, *Python Programming: A Practical Approach* acquaints you with the wonderful world of programming. The book is a starting point for those who want to learn Python programming. The backbone of any programming, which is the data structure and components such as strings, lists, etc., have been illustrated with many examples and enough practice problems to instill a level of self-confidence in the reader. Drawing on knowledge gained directly from teaching Computer Science as a subject and working on a wide range of projects related to ML, AI, deep learning, and blockchain, the authors have tried their best to present the necessary skills for a Python programmer. Once the foundation of Python programming is built and the readers are aware of the exact structure, dimensions, processing, building blocks, and representation of data, they can readily take up their specific problems from the area of interest and solve them with the help of Python. These include, but are not limited to, operators, control flow, strings, functions, module processing, object-oriented programming, exception and file handling, multithreading, synchronization, regular expressions, and Python database programming. This book on Python programming is specially designed to keep readers busy with learning fundamentals and generates a sense of confidence by attempting the assignment problems. We firmly believe that explaining any particular technology deviates from learning the fundamentals of a programming language. This book is focused on helping readers attempt implementation in their areas of interest through the skills imparted through this book. We have attempted to present the real essence of Python programming, which you can confidently apply in real life by using Python as a tool. **Salient Features** ? Based on real-world requirements and solution. ? Simple presentation without avoiding necessary details of the topic. ? Executable programs on almost every topic. ? Plenty of exercise questions, designed to test readers' skills and understanding. Purposefully designed to be instantly applicable, *Python Programming: A Practical Approach* provides implementation examples so that the described subject matter can be immediately implemented due to the well-known versatility of Python in handling different data types with ease.

This reference text discusses various security techniques and challenges for cloud data protection from both software and hardware aspects. The text provides readers with an overview of cloud computing, beginning with historical perspectives on mainframe computers and early networking protocols, moving to current issues such as security of hardware and networks, performance, evolving IoT areas, edge computing, etc. It also deals with threat detection and incident response in cloud security. It covers important topics including operational security agitations in cloud computing, cyber artificial intelligence (AI) platform for cloud security, and security concerns of virtualization in cloud computing. The book will serve as a useful resource for graduate students and professionals in the fields of electrical engineering, electronics engineering, computer science, and information technology.

Getting familiar with cloud computing features from scratch to advanced. **KEY FEATURES** ? Detailed coverage on Cloud fundamentals, Cloud Service Models, and deployment models. ? Easy, detailed, and practical approach to develop skills on working with Cloud Computing. ? Includes charts, diagrams, and graphical illustrations for better visual learning on complex topics of cloud computing. **DESCRIPTION** Cloud computing is a technology that allows you to store, access data and programs over the internet instead of the hard drive or a server. In this book, you will gain knowledge about the fundamentals of cloud computing. This book includes a detailed description of the features of the cloud, the importance of cloud in today's era, and uses of cloud computing. This book provides you with a deep knowledge of the basics of cloud computing. You will learn about the characteristics, architecture, and uses and importance of cloud computing. This book also explores the concept of scalability and redundancy regarding cloud computing. You will learn about the various cloud deployment and service models. You will also gain knowledge of virtualization technology. You will also have a guided tour of concepts related to cloud management, data storage and security, and cloud operations and technologies. At the end of the book, you will learn about the advanced concepts of cloud computing and also learn about mobile cloud computing. **WHAT YOU WILL LEARN** ? In-depth understanding on the fundamentals of cloud computing. ? Explore the role and importance of cloud computing across businesses and enterprises. ? Learn about cloud deployment models and service models. ? Gain knowledge on cloud storage, cloud security, administration of cloud and mobile cloud computing. **WHO THIS BOOK IS FOR** This book is open to all graduates, beginners and working professionals to help them understand everything about cloud computing and how to operate in a cloud environment. **TABLE OF CONTENTS** 1. Introduction 2. Architecture and Applications 3. Scalability and Redundancy 4. Cloud Services 5. Cloud Deployment Models 6. Virtualization 7. Management 8. Data Storage and Security 9. Operations and Challenges 10. Technologies and Service Providers 11. Cloud Cube

Model 12. Mobile Cloud Computing

Theory and Practice

A Practical Approach to Compiler Construction

Applications of Cloud Computing

A Hands-on Approach to Virtualization and Implementation of a Private Cloud Using Real-time Use-cases (English Edition)

Amazon Web Services in Action

Doing data science is difficult. Projects are typically very dynamic with requirements that change as data understanding grows. The data itself arrives piecemeal, is added to, replaced, contains undiscovered flaws and comes from a variety of sources. Teams also have mixed skill sets and tooling is often limited. Despite these disruptions, a data science team must get off the ground fast and begin demonstrating value with traceable, tested work products. This is when you need Guerrilla Analytics. In this book, you will learn about: The Guerrilla Analytics Principles: simple rules of thumb for maintaining data provenance across the entire analytics life cycle from data extraction, through analysis to reporting. Reproducible, traceable analytics: how to design and implement work products that are reproducible, testable and stand up to external scrutiny. Practice tips and war stories: 90 practice tips and 16 war stories based on real-world project challenges encountered in consulting, pre-sales and research. Preparing for battle: how to set up your team's analytics environment in terms of tooling, skill sets, workflows and conventions. Data gymnastics: over a dozen analytics patterns that your team will encounter again and again in projects The Guerrilla Analytics Principles: simple rules of thumb for maintaining data provenance across the entire analytics life cycle from data extraction, through analysis to reporting Reproducible, traceable analytics: how to design and implement work products that are reproducible, testable and stand up to external scrutiny Practice tips and war stories: 90 practice tips and 16 war stories based on real-world project challenges encountered in consulting, pre-sales and research Preparing for battle: how to set up your team's analytics environment in terms of tooling, skill sets, workflows and conventions Data gymnastics: over a dozen analytics patterns that your team will encounter again and again in projects

Cloud Data Centers and Cost Modeling establishes a framework for strategic decision-makers to facilitate the development of cloud data centers. Just as building a house requires a clear understanding of the blueprints, architecture, and costs of the project; building a cloud-based data center requires similar knowledge. The authors take a theoretical and practical approach, starting with the key questions to help uncover needs and clarify project scope. They then demonstrate probability tools to test and support decisions, and provide processes that resolve key issues. After laying a foundation of cloud concepts and definitions, the book addresses data center creation, infrastructure development, cost modeling, and simulations in decision-making, each part building on the previous. In this way the authors bridge technology, management, and infrastructure as a service, in one complete guide to data centers that facilitates educated decision making. Explains how to balance cloud computing functionality with data center efficiency Covers key requirements for power management, cooling, server planning, virtualization, and storage management Describes advanced methods for modeling cloud computing cost including Real Option Theory and Monte Carlo Simulations Blends theoretical and practical discussions with insights for developers, consultants, and analysts considering data center development

This IBM® Redbooks® publication is based on the Presentations Guide of the course A Practical Approach to Cloud IaaS with IBM SoftLayer, which was developed by the IBM Redbooks team in partnership with IBM Middle East and Africa University Program. This course is designed to teach university students how to build a simple infrastructure as a service (IaaS) cloud environment based on IBM SoftLayer®. It provides students with the fundamental skills to design, implement, and manage an IaaS cloud environment using the IBM SoftLayer platform as an example. The primary target audience for this course is university students in undergraduate computer science and computer engineer programs with no previous experience working in cloud environments. However, anyone new to cloud computing can benefit from this course. The workshop materials were created in July 2015. Thus, all IBM SoftLayer features discussed in this Presentations Guide are current as of July 2015.

Learn the fundamental aspects of the business statistics, data mining, and machine learning techniques required to understand the huge amount of data generated by your organization. This book explains practical business analytics through examples, covers the steps involved in using it correctly, and shows you the context in which a particular technique does not make sense. Further, Practical Business Analytics using R helps you understand specific issues faced by organizations and how the solutions to these issues can be facilitated by business analytics. This book will discuss and explore the following through examples and case studies: An introduction to R: data management and R functions The architecture, framework, and life cycle of a business analytics project Descriptive analytics using R: descriptive statistics and data cleaning Data mining: classification, association rules, and clustering Predictive analytics: simple regression, multiple regression, and logistic regression This book includes case studies on important business analytic techniques, such as classification, association, clustering, and regression. The R language is the statistical tool used to demonstrate the concepts throughout the book. What You Will Learn • Write R programs to handle data • Build analytical models and draw useful inferences from them • Discover the basic concepts of data mining and machine learning • Carry out predictive modeling • Define a business issue as an analytical problem Who This Book Is For Beginners who want to understand and learn the fundamentals of analytics using R. Students, managers, executives, strategy and planning professionals, software professionals, and BI/DW professionals.

Data Structures using C

A Step-by-Step Guide

Oracle Blockchain Quick Start Guide

A Practical Approach to Cloud IaaS with IBM SoftLayer: Presentations Guide

Cloud Computing in Ocean and Atmospheric Sciences

Handbook of Cloud Computing

A Practical Approach to Corporate Networks Engineering is dedicated to corporate network design and engineering, covering the different levels of network design and engineering. The main theoretical concepts are explained and the different functioning mechanisms are illustrated with practical experiments. Using an open source network simulator to emulate real network equipment and run concrete network scenarios (Graphical Network Simulator), the authors present several realistic network scenarios that illustrate network protocols and mechanisms and can be easily replicated by readers at home. Readers will be able to configure the different network equipments, run the scenarios, and generate traffic at the different network links on their own, ordinary PC, acquiring a deep knowledge of the underlying network protocols and mechanisms. This interactive and practical teaching approach is very motivating and effective, since students can easily follow the explanations that are given throughout the book, making this work a valuable addition to the existing literature.

Designing Software Architectures will teach you how to design any software architecture in a systematic, predictable, repeatable, and cost-effective way. This book introduces a practical methodology for architecture design that any professional software engineer can use, provides structured methods supported by reusable chunks of design knowledge, and includes rich case studies that demonstrate how to use the methods. Using realistic examples, you'll master the powerful new version of the proven Attribute-Driven Design (ADD) method and will learn how to use it to address key drivers, including quality attributes, such as modifiability, usability, and availability, along with functional requirements and architectural concerns. Drawing on their extensive experience, Humberto Cervantes and Rick Kazman guide you through crafting practical designs that support the full software development life cycle, from requirements to maintenance and evolution. You'll learn how to successfully integrate design in your organizational context, and how to design systems that conform to agile methods. Comprehensive coverage includes Understanding what architecture design involves, and where it fits in the full software development life cycle Mastering design concepts, principles, and processes Understanding how to perform the steps of the ADD method Scaling design and analysis up or down, including design for product evolution or lightweight architecture reviews Recognizing and optimizing critical relationships between analysis and design Utilizing proven, reusable design primitives and adapting them to specific problems and contexts Solving design problems in new domains, such as cloud, mobile, or big data

Unleash the power of cloud computing using Azure, AWS and Apache HadoopKey features Provides a sound understanding of the Cloud computing concepts, architecture, and applications Explores the practical benefits of Cloud computing services and deployment models in details Cloud Computing Architecture, Cloud Computing Life Cycle (Cloud Computing) - A balancing approach, Mobile Cloud Computing (MCC), Google App Engine (GAE) Virtualization and Service-Oriented Architecture (SOA) Cloud Computing applications - Google Apps, Dropbox Cloud and Apple iCloud and its uses in various sectors - Education, Healthcare, Politics, Business, and Agriculture Cloud Computing platforms - Microsoft Azure, Amazon Web Services (AWS), Open Nebula, Eucalyptus, Open Stack, Nimbus and The Apache Hadoop Architecture Adoption of Cloud Computing technology and strategies for migration to the cloud Cloud computing adoption case studies - Sub-Saharan Africa and India Chapter-wise Questions with Summary and Examination Model Question Paper Description With the advent of internet, there is a complete paradigm shift in the manner we comprehend computing. Need to enable ubiquity, convenient and on-demand access to resources in highly scalable and resilient environments that can be remotely accessed, gave birth to the concept of Cloud computing. The acceptance is so rapid that it has influenced sophisticated innovations in academia, industry and research world-wide and hereby change the landscape of information technology as we thought of. Through this book, the authors tried to incorporate core principles and basic notion of cloud computing in a step-by-step manner and tried to emphasize on key concepts for clear and thorough understanding of the subject. This book begins with the fundamentals of cloud computing, its service and deployment models, architecture, as well as applications and platforms. It presents various enterprise strategies and models for the adoption of and migration to cloud. Privacy and security issues and challenges also form a major part of our discussion in the book. It includes case studies of cloud computing adoption in Sub-Saharan Africa and India. The book concludes with a discussion of several advanced topics, such as Amazon Web Services, Open Nebula, Microsoft Azure, Apache Hadoop and Google App Engine (GAE). What will you learn Learn about the Importance of Cloud Computing in Current Digital Era Understand the Core concepts and Principles of Cloud Computing with practical benefits Learn about the Cloud Deployment models and Services Discover how Cloud Computing Architecture works Learn about the Load balancing approach and Mobile Cloud Computing (MCC) Learn about the Virtualization and Service-Oriented Architecture (SOA) Learn about the various Cloud Computing applications, Platforms and Security concepts Understand the adoption Cloud Computing technology and strategies for migration to the cloud Case Studies for Cloud computing adoption - Sub-Saharan Africa and India Who this book is for This book is intended for students of B.E., B.Tech., B.Sc., M.Sc., M.Tech., M.Tech. as a text book. The content is designed keeping in mind the bench marked curriculum of various universities (both National and International). The book covers not only the technical details of how cloud works but also exhibits the strategy, technical design, and in-depth knowledge required to migrate existing applications to the cloud. The

relevant for the beginners who wants to learn cloud computing right from the foundation. Aspiring Cloud Computing Researchers Instructors, Academicians and Profes are familiar with cloud, can use this book to learn various open source cloud computing tools, applications, technologies. They will also get a flavor of various internati exams available. Table of contents1. Foundation of Cloud Computing 2. Cloud Services and Deployment Models3. Cloud Computing Architecture4. Virtualization Technolo Oriented Architecture6. Cloud Security and Privacy7. Cloud Computing Applications8. Cloud Computing Technologies, Platform and Services9. Adoption of Cloud Comput Model Paper 111. Model Paper 212. Model Paper 313. Model Paper 4 About the authorKamal Kant Hiran is working as Associate Professor & Head IT in the BlueCrest I College, Liberia, West Africa as well as Research Fellow, Aalborg University, Copenhagen, Denmark. He has rich experience of 14+ years as an academician and research Africa and Europe. His research interests include Cloud Computing adoption theories and framework, Internet of Things (IoT) and Digital Image and Video Processing. He awards on his credit such as International travel grant for Germany from ITS Europe, Gold Medal Award in M. Tech (ICT), IEEE Ghana Section Award, IEEE Senior Member Recognition, IEEE Student branch award and Best Research paper award from the University of Gondar, Ethiopia. He has published research papers in peer-reviewed int journals and conferences. He is Reviewer and Editorial board member of various reputed International Journals in Elsevier, Springer, IEEE, Bentham Science, IGI Global, IJ IJTEE, IJSTR and IJERT. He is the active member in organizing many international seminars, workshops and conferences in India, Ghana, Liberia, Denmark, Jordan and Ethiopia.His website: <http://www.kamalahiran.in/>His LinkedIn profile: <https://www.linkedin.com/in/kamal-kant-hiran-4553b643>Ruchi Doshi is having more than 10 years research and software development experience in Asia and Africa. She is working as Registrar in the BlueCrest University College, Liberia, West Africa an also worked v University College, Ghana; Amity University, India & Trimax IT Infrastructure & Services as software engineer. She is interested in the field of Cloud computing, Comput Artificial Intelligence and latest technology used in the higher education. She has published research papers in peer-reviewed international journals and conferences. She Advisor, Ambassador & Editorial board member of various reputed International Journals and Conferences such as MIR Labs, USA, IEEE W4S, IJCS and IJERT. She is the a member in organizing manyinternational events in India, Ghana, and Liberia. Her LinkedIn profile: <https://www.linkedin.com/in/ruchi-doshi-96bb63b4> Dr. Fagbola Temita currently a Post-Doctoral Fellow (PDF) at Durban University of Technology, South Africa and an Assistant Professor in the Department of Computer Science, Federal Un Ekiti, Nigeria with over 10 years of proven teaching and research experience. He bagged a Ph.D., M.Sc and B.Tech degrees in Computer Science with strong research in computing ecosystem, deep learning, computational intelligence, social media big-data analytics, information security, decision support system and video processing. Dr member of the South African Institute of Computer Scientists and Information Technologists (SAICSIT), Asian Council of Science Editors (ACSE), Machine Intelligence In Africa (MIIA), Computer Professionals (Registration Council) of Nigeria (CPN), the International Association of Engineers (IAENG) and DataHack4FI in Africa. He has over refereed publications in referred international journals and conference proceedings to his credit and currently serves as a reviewer for over 15 reputable international also a recipient of the ACM FAT's grant in November 2018.His LinkedIn profile: <https://www.linkedin.com/in/temitayo-fagbola-5941a2169>Mehul Mahrishi is currently v Associate Professor in the Faculty of Computer Science & Engineering at the Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur, India. He member of International Association of Engineers and has published several research articles in National/International Journals, Conferences including Global Journals, I Dubai, ICMLC-Singapore, IACC and chapters in books. He is also an active technical reviewer of Journal of Parallel and Distributed Computing (SCI & Scopus-Elsevier). His activities are currently twofold: while the first research activity is set to explore the developmental enhancements video processing and analysis; the second major res focused on the emerging capabilities of cloud computing. Mr. Mahrishi is rewarded at number of occasions in various domains including Recognition as an active review of Parallel and Distributed Computing (JPDC, Elsevier, SCI & Scopus Indexed), IEEE continuing education certification for "e;Cloud Computing Enable Technologies and Recognition for outstanding performance in Campus Connect Program by Infosys, India.His LinkedIn profile: <https://www.linkedin.com/in/mehuk-mahrishi-30979026> Transform the way you deliver IT resources digitally to connect to people and businesses. KEY FEATURES ? Extensive demonstration of service and deployment models use-cases. ? Includes wide and deep practical scenarios to explore the real cloud platform. ? Broad perspective to manage resources and disaster recovery. ? Infers va standards and IAM with numerous examples. DESCRIPTION The book 'Building Cloud and Virtualization Infrastructure' covers the designing of a private cloud using vario components and tools on various platforms such as AWS and OpenNebula. This book includes network virtualization and integrated technologies such as the Internet o how to create web servers/instances on Amazon Web Services and OpenNebula. The readers will gain a better understanding of the concept of resource management, benefits such as cost savings and improved manageability after reading this book. They will also learn disaster recovery, techniques, and tools to support virtualization security challenges inherent in cloud platforms, the various IAM roles and their associated security, and various security standards. WHAT YOU WILL LEARN ? Understar fundamentals of cloud concepts. ? Explore the knowledge of virtualization through different virtualization tools. ? Understand economic considerations to launch busine Create your private cloud as per business needs. ? Learn to choose the right services to grow rapidly in the market. WHO THIS BOOK IS FOR This book is intended for researchers, and anyone interested in learning about designing, configuring, and deploying cloud-based applications. The readers should have a basic understanding of n concepts, but not necessarily of the cloud. TABLE OF CONTENTS 1. Introduction to Cloud 2. Cloud Service Models 3. Cloud Deployment Models 4. Introduction to Hyper Introduction to Virtualization 6. Virtualization on IT Assets 7. Experimental Part: Installation and Configuration 8. Practical Approach and Experiments 9. Resource Mana

Cloud 10. Security in Cloud

The Future of Computing Explained

Compact Data Structures

A Complete Guide To Planning, Designing and Building a Cloud Data Center

Cloud Data Centers and Cost Modeling

Network Security

Explore Application of Cloud, Cloud Deployment Models, Service Models and Mobile Cloud Computing (English Edition)

Economic pressures have forced companies to look to a new model of providing IT services. Cloud Computing: A Practical Approach offers a comprehensive review of this new paradigm of Internet-based enterprise applications and services. This approachable guide begins with a broad introduction to cloud computing, and then covers currently available solutions and how organizations can benefit from their use. The book includes details on essential topics such as infrastructure platforms, services standards, and storage.

The definitive guide to successfully integrating social, mobile, Big-Data analytics, cloud and IoT principles and technologies The main goal of this book is to spur the development of effective big-data computing operations on smart clouds that are fully supported by IoT sensing, machine learning and analytics systems. To that end, the authors draw upon their original research and proven track record in the field to describe a practical approach integrating big-data theories, cloud design principles, Internet of Things (IoT) sensing, machine learning, data analytics and Hadoop and Spark programming. Part 1 focuses on data science, the roles of clouds and IoT devices and frameworks for big-data computing.

Big data analytics and cognitive machine learning, as well as cloud architecture, IoT and cognitive systems are explored, and mobile cloud-IoT-interaction frameworks are illustrated with concrete system design examples. Part 2 is devoted to the principles of and algorithms for machine learning, data analytics and deep learning in big data applications. Part 3 concentrates on cloud programming software libraries from MapReduce to Hadoop, Spark and TensorFlow and describes business, educational, healthcare and social media applications for those tools. The first book describing a practical approach to integrating social, mobile, analytics, cloud and IoT (SMACT) principles and technologies Covers theory and computing techniques and technologies, making it suitable for use in both computer science and electrical engineering programs Offers an extremely well-informed vision of future intelligent and cognitive computing environments integrating SMACT technologies Fully illustrated throughout with examples, figures and approximately 150 problems to support and reinforce learning Features a companion website with an instructor manual and PowerPoint slides www.wiley.com/go/hwangIOT Big-Data Analytics for Cloud, IoT and Cognitive Computing satisfies the demand among university faculty and students for cutting-edge information on emerging intelligent and cognitive computing systems and technologies. Professionals working in data science, cloud computing and IoT applications will also find this book to be an extremely useful working resource.

Distributed and Cloud Computing: From Parallel Processing to the Internet of Things offers complete coverage of modern distributed computing technology including clusters, the grid, service-oriented architecture, massively parallel processors, peer-to-peer networking, and cloud computing. It is the first modern, up-to-date distributed systems textbook; it explains how to create high-performance, scalable, reliable systems, exposing the design principles, architecture, and innovative applications of parallel, distributed, and cloud computing systems. Topics covered by this book include: facilitating management, debugging, migration, and disaster recovery through virtualization; clustered systems for research or ecommerce applications; designing systems as web services; and social networking systems using peer-to-peer computing. The principles of cloud computing are discussed using examples from open-source and commercial applications, along with case studies from the leading distributed computing vendors such as Amazon, Microsoft, and Google. Each chapter includes exercises and further reading, with lecture slides and more available online. This book will be ideal for students taking a distributed systems or distributed computing class, as well as for professional system designers and engineers looking for a reference to the latest distributed technologies including cloud, P2P and grid computing. Complete coverage of modern distributed computing technology including clusters, the grid, service-oriented architecture, massively parallel processors, peer-to-peer networking, and cloud computing Includes case studies from the leading distributed computing vendors: Amazon, Microsoft, Google, and more Explains how to use virtualization to facilitate management, debugging, migration, and disaster recovery Designed for undergraduate or graduate students taking a distributed systems course—each chapter includes exercises and further reading, with lecture slides and more available online

Cloud Computing: Theory and Practice provides students and IT professionals with an in-depth analysis of the cloud from the ground up. Beginning with a discussion of parallel computing and architectures and distributed systems, the book turns to contemporary cloud infrastructures, how they are being deployed at leading companies such as Amazon, Google and Apple, and how they can be applied in fields such as healthcare, banking and science. The volume also examines how to successfully deploy a cloud application across the enterprise using virtualization, resource management and the right amount of networking support, including content delivery networks and storage area networks. Developers will find a complete introduction to application development provided on a variety of platforms. Learn about recent trends in cloud computing in critical areas such as: resource management, security, energy consumption, ethics, and complex systems Get a detailed hands-on set of practical recipes that help simplify the deployment of a cloud based system for practical use of computing clouds along with an in-depth discussion of several projects Understand the evolution of cloud computing and why the cloud computing paradigm has a better chance to succeed than previous efforts in large-scale distributed computing

Cyber Security Engineering

Designing Software Architectures

Cloud Computing: A Practical Approach

Cloud Computing Simplified

A Practical Approach for Learning and Implementation

Spatial Cloud Computing

This IBM® Redpaper™ publication provides information about how to build, deploy, and use IBM MQ as a service. The information in this paper includes the key factors that must be considered while planning the use of IBM MQ as a service. Through descriptions and examples, this paper explains how to apply as a service methodologies to an IBM MQ environment, and describes techniques and preferred practices for integrating IBM MQ into a self-service portal. This paper explains how to create and use an IBM MQ as a service self-service menu for a portal. It includes examples that show how to use an IBM MQ as a service catalog. This paper describes options and techniques for deploying IBM MQ as a service that is tailored to the specific enterprise messaging needs of an organization. Although these techniques can be employed in a cloud environment, they are equally applicable in an on-premises enterprise data center. This paper includes information about the various infrastructure options that can be selected when implementing IBM MQ as a service. The information in this paper helps infrastructure administrators to define services so that you can provision IBM MQ resources quickly. The target audiences of this paper are developers, infrastructure administrators, and line-of-business (LOB) professionals who want to provision IBM MQ resources to be accessed as services in small, medium, large, and complex implementations.

Summary Amazon Web Services in Action, Second Edition is a comprehensive introduction to computing, storing, and networking in the AWS cloud. You'll find clear, relevant coverage of all the essential AWS services you to know, emphasizing best practices for security, high availability and scalability. Foreword by Ben Whaley, AWS community hero and author. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology The largest and most mature of the cloud platforms, AWS offers over 100 prebuilt services, practically limitless compute resources, bottomless secure storage, as well as top-notch automation capabilities. This book shows you how to develop, host, and manage applications on AWS. About the Book Amazon Web Services in Action, Second Edition is a comprehensive introduction to deploying web applications in the AWS cloud. You'll find clear, relevant coverage of all essential AWS services, with a focus on automation, security, high availability, and scalability. This thoroughly revised edition covers the latest additions to AWS, including serverless infrastructure with AWS Lambda, sharing data with EFS, and in-memory storage with ElastiCache. What's inside Completely revised bestseller Secure and scale distributed applications Deploy applications on AWS Design for failure to achieve high availability Automate your infrastructure About the Reader Written for mid-level developers and DevOps engineers. About the Author Andreas Wittig and Michael Wittig are software engineers and DevOps consultants focused on AWS. Together, they migrated the first bank in Germany to AWS in 2013. Table of Contents PART 1 - GETTING STARTED What is Amazon Web Services? A simple example: WordPress in five minutes PART 2 - BUILDING VIRTUAL INFRASTRUCTURE CONSISTING OF COMPUTERS AND NETWORKING Using virtual machines: EC2 Programming your infrastructure: The command-line, SDKs, and CloudFormation Automating deployment: CloudFormation, Elastic Beanstalk, and OpsWorks Securing your system: IAM, security groups, and VPC Automating operational tasks with Lambda PART 3 - STORING DATA IN THE CLOUD Storing your objects: S3 and Glacier Storing data on hard drives: EBS and instance store Sharing data volumes between machines: EFS Using a relational database service: RDS Caching data in memory: Amazon ElastiCache Programming for the NoSQL database service: DynamoDB PART 4 - ARCHITECTING ON AWS Achieving high availability: availability zones, auto-scaling, and CloudWatch Decoupling your infrastructure: Elastic Load Balancing and Simple Queue Service Designing for fault tolerance Scaling up and down: auto-scaling and CloudWatch Get up and running with Oracle 's premium cloud blockchain services and build distributed blockchain apps with ease Key Features Discover Hyperledger Fabric and its components, features, qualifiers, and architecture Get familiar with the Oracle Blockchain Platform and its unique features Build Hyperledger Fabric-based business networks with Oracle 's premium blockchain cloud service Book Description Hyperledger Fabric empowers enterprises to scale out in an unprecedented way, allowing organizations to build and manage blockchain business networks. This quick start guide systematically takes you through distributed ledger technology, blockchain, and Hyperledger Fabric while also helping you understand the significance of Blockchain-as-a-Service (BaaS). The book starts by explaining the blockchain and Hyperledger Fabric architectures. You'll then get to grips with the comprehensive five-step design strategy - explore, engage, experiment, experience, and influence. Next, you'll cover permissioned distributed autonomous organizations (pDAOs), along with the equation to quantify a blockchain solution for a given use case. As you progress, you'll learn how to model your blockchain business network by defining its assets, participants, transactions, and permissions with the help of examples. In the concluding chapters, you'll build on your knowledge as you explore Oracle Blockchain Platform (OBP) in depth and learn how to translate network topology on OBP. By the end of this book, you will be well-versed with OBP and have developed the skills required for infrastructure setup, access control, adding chaincode to a business network, and exposing chaincode to a DApp using REST configuration. What you will learn Model your blockchain-based business network by defining its components, transactions, integrations, and infrastructure through use cases Develop, deploy, and test chaincode using shim and REST, and integrate it with client apps using SDK, REST, and events Explore accounting, blockchain, hyperledger fabric, and its components, features, qualifiers, architecture and structure Understand the importance of Blockchain-as-a-Service (BaaS) Experiment Hyperledger Fabric and delve into the underlying technology Set up a consortium network, nodes, channels, and privacy, and learn how to translate network topology on OBP Who this book is for If you are a blockchain developer, blockchain architect or just a cloud developer looking to get hands-on with Oracle Blockchain Cloud Service, then this book is for you. Some familiarity with the basic concepts of blockchain will be helpful to get the most out of this book

The data structure is a set of specially organized data elements and functions, which are defined to store, retrieve, remove and search for individual data elements. Data Structures using C: A Practical Approach for Beginners covers all issues related to the amount of storage needed, the amount of time required to process the data, data representation of the primary memory and operations carried out with such data. Data Structures using C: A Practical Approach for Beginners book will help students learn data structure and algorithms in a focused way. Resolves linear and nonlinear data structures in C language using the algorithm, diagrammatically and its time and space complexity analysis Covers interview questions and MCQs on all topics of campus readiness Identifies possible solutions to each problem Includes real-life and computational applications of linear and nonlinear data structures This book is primarily aimed at undergraduates and graduates of computer science and information technology. Students of all engineering disciplines will also find this book useful.

Practical Cloud Security

A practical approach to implementing blockchain in your enterprise

Privacy and Security Challenges in Cloud Computing

A Practical Approach to Working with Data

Distributed and Cloud Computing

A Practical Approach to Fixed Income

Cloud Computing in Ocean and Atmospheric Sciences provides the latest information on this relatively new platform for scientific computing, which has great possibilities and challenges, including pricing and deployments costs and

applications that are often presented as primarily business oriented. In addition, scientific users may be very familiar with these types of models and applications, but relatively unfamiliar with the intricacies of the hardware platforms they use. The book provides a range of practical examples of cloud applications that are written to be accessible to practitioners, researchers, and students in affiliated fields. By providing general information on the use of the cloud for oceanographic and atmospheric computing, as well as examples of specific applications, this book encourages and educates potential users of the cloud. The chapters provide an introduction to the practical aspects of deploying in the cloud, also providing examples of workflows and techniques that can be reused in new projects. Provides real examples that help new users quickly understand the cloud and provide guidance for new projects Presents proof of the usability of the techniques and a clear path to adoption of the techniques by other researchers Includes real research and development examples that are ideal for cloud computing adopters in ocean and atmospheric domains

An exploration of the benefits of cloud computing in geoscience research and applications as well as future research directions, Spatial Cloud Computing: A Practical Approach discusses the essential elements of cloud computing and their advantages for geoscience. Using practical examples, it details the geoscience requirements of cloud computing, covers general procedures and considerations when migrating geoscience applications onto cloud services, and demonstrates how to deploy different applications. The book discusses how to choose cloud services based on the general cloud computing measurement criteria and cloud computing cost models. The authors examine the readiness of cloud computing to support geoscience applications using open source cloud software solutions and commercial cloud services. They then review future research and developments in data, computation, concurrency, and spatiotemporal intensities of geosciences and how cloud service can be leveraged to meet the challenges. They also introduce research directions from the aspects of technology, vision, and social dimensions. Spatial Cloud Computing: A Practical Approach a common workflow for deploying geoscience applications and provides references to the concepts, technical details, and operational guidelines of cloud computing. These features and more give developers, geoscientists, and IT professionals the information required to make decisions about how to select and deploy cloud services.

About the Book Recent industry surveys expect the cloud computing services market to be in excess of \$20 billion and cloud computing jobs to be in excess of 10 million worldwide in 2014 alone. In addition, since a majority of existing information technology (IT) jobs is focused on maintaining legacy in-house systems, the demand for these kinds of jobs is likely to drop rapidly if cloud computing continues to take hold of the industry. However, there are very few educational options available in the area of cloud computing beyond vendor-specific training by cloud providers themselves. Cloud computing courses have not found their way (yet) into mainstream college curricula. This book is written as a textbook on cloud computing for educational programs at colleges. It can also be used by cloud service providers who may be interested in offering a broader perspective of cloud computing to accompany their own customer and employee training programs. The typical reader is expected to have completed a couple of courses in programming using traditional high-level languages at the college-level, and is either a senior or a beginning graduate student in one of the science, technology, engineering or mathematics (STEM) fields. We have tried to write a comprehensive book that transfers knowledge through an immersive "hands-on approach", where the reader is provided the necessary guidance and knowledge to develop working code for real-world cloud applications. Additional support is available at the book's website: www.cloudcomputingbook.info Organization The book is organized into three main parts. Part I covers technologies that form the foundations of cloud computing. These include topics such as virtualization, load balancing, scalability & elasticity, deployment, and replication. Part II introduces the reader to the design & programming aspects of cloud computing. Case studies on design and implementation of several cloud applications in the areas such as image processing, live streaming and social networks analytics are provided. Part III introduces the reader to specialized aspects of cloud computing including cloud application benchmarking, cloud security, multimedia applications and big data analytics. Case studies in areas such as IT, healthcare, transportation, networking and education are provided.

Explores cloud computing, breaking down the concepts, models, mechanisms, and architectures of this technology while allowing for the financial assessment of resources and how they compare to traditional storage systems.

Architecture, Protocols, and Tools

Cloud Computing and SOA Convergence in Your Enterprise

A Holistic Approach

Approaches and Practices

A Practical Approach

Big-Data Analytics for Cloud, IoT and Cognitive Computing

How to build a framework for forecasting interest rate market movements With trillions of dollars worth of trades conducted every year in everything from U.S. Treasury bonds to mortgage-backed securities, the interest rate market is one of the largest fixed income markets in the world. Interest Rate Markets: A Practical Approach to Fixed Income details the typical quantitative tools used to analyze interest rate products on the cash side; interest rate movements; and, the derivatives side of the business. Emphasizes the importance of hedging and quantitatively managing risks inherent in interest rate markets. Provides common trades which can be used by investors to take views on interest rates in an efficient manner, the methods used to accurately set up these trades, as well as common pitfalls and risk management strategies. Includes previous market stress events such as 2008 Includes exclusive access to the Interest Rate Markets Web site which includes commonly used calculations and trade construction methods. Includes case studies to help you understand the structural nature of the rates markets and to develop a framework for thinking about these markets intuitively, rather than focusing on mathematical models.

Cyber Security Engineering is the definitive modern reference and tutorial on the full range of capabilities associated with modern cyber security engineering. Pioneering software assurance expert Dr. Carol C. Woody bring together comprehensive best practices for building software systems that exhibit superior operational security, and for considering security throughout your full system development and acquisition lifecycles. Drawing on their pioneering work at the Software Engineering Institute (SEI) and Carnegie Mellon University, Mead and Woody introduce seven core principles of software engineering to apply them coherently and systematically. Using these principles, they help you prioritize the wide range of possible security actions available to you, and justify the required investments. CySec guides you through risk analysis, planning to manage secure software development, building organizational models, identifying required and missing competencies, and defining and structuring network security. It addresses important topics, including the use of standards, engineering security requirements for acquiring COTS software, applying DevOps, analyzing malware to anticipate future vulnerabilities, and security improvements. This book will be valuable to wide audiences of practitioners and managers with responsibility for systems, software, or quality engineering, reliability, security, acquisition, or operations. It can help you reduce operational problems, eliminate excessive patching, and deliver software that is more resilient and secure.

If you want to study, build, or simply validate your thinking about modern cloud native data center networks, this is your book. Whether you're pursuing a multitenant private cloud, a network virtualized data center, or an enterprise data center, author Dinesh Dutt takes you through the steps necessary to design a data center that's affordable, high capacity, easy to manage, agile, and reliable. Ideal for data center operators, and network and containerized application developers, this book mixes theory with practice to guide you through the architecture and protocols you need to create and operate a modern data center infrastructure. The book offers a vendor-neutral way to look at network design. For those interested in open networking, this book is chock-full of examples using open source software, from OpenFlow to Open vSwitch. If you're building a cloud native data center, you'll examine: Clos topology Network disaggregation Network operating system choices Routing protocol choices Container networking Network virtualization and network automation

Cloud computing has become a significant technology trend. Experts believe cloud computing is currently reshaping information technology and the IT marketplace. The advantages of using cloud computing include cost savings, speed to market, access to greater computing resources, high availability, and scalability. Handbook of Cloud Computing includes contributions from world experts in the field of cloud computing from research laboratories and private industry. This book presents the systems, tools, and services of the leading providers of cloud computing; including Google, Yahoo, Amazon, IBM, and Microsoft. New cloud computing and cloud computing applications are also introduced. Current and future technologies applied in cloud computing are also discussed. Case studies, examples, and exercises are included. Handbook of Cloud Computing is intended for advanced-level students and researchers in computer science and electrical engineering as a reference book. This handbook is also beneficial to cloud computing infrastructure designers, developers, business managers, entrepreneurs and investors within the cloud computing related industry.

Cloud Computing

Python Programming

Guerrilla Analytics

Business Analytics Using R - A Practical Approach

Concepts, Technology & Architecture

A Practical Introduction to Computer Networking and Cybersecurity 2nd Edition

Massive, disruptive change is coming to IT as software as a service (SaaS), SOA, mashups, Web 2.0, and cloud computing truly come of age. Now, one of the world's leading IT innovators explains what it all means—coherently, thoroughly, and authoritatively. Writing for IT executives, architects, and developers alike, world-renowned expert David S. Linthicum explains why the days of managing IT organizations as private fortresses will rapidly disappear as IT inevitably becomes a global community. He demonstrates how to run IT when critical elements of customer, product, and business data and processes extend far beyond the firewall—and how to use all that information to deliver real-time answers about everything from an individual customer's credit to the location of a specific cargo container. Cloud Computing and SOA Convergence in Your Enterprise offers a clear-eyed assessment of the challenges associated with this new world—and offers a step-by-step program for getting there with maximum return on investment and minimum risk. Using multiple examples, Linthicum Reviews the powerful cost, value, and risk-related drivers behind the move to cloud computing—and explains why the shift will accelerate Explains the technical underpinnings, supporting technologies, and best-practice methods you'll need to make the transition Helps you objectively assess the promise of cloud computing and SOA for your organization, quantify value, and make the business case Walks you through evaluating your existing IT infrastructure and finding your most cost-effective, safest path to the "cloud" Shows how to choose the right candidate data, services, and processes for your cloud computing initiatives Guides you through building disruptive infrastructure and next-generation process platforms Helps you bring effective, high-value governance to the clouds If you're ready to begin driving real competitive advantage from cloud computing, this book is the start-to-finish roadmap you need to make it happen.

This book lays a good foundation to the core concepts and principles of cloud computing, walking the reader through the fundamental ideas with expert ease. The book advances on the topics in a step-by-step manner and reinforces theory with a full-fledged pedagogy designed to enhance students' understanding and offer them a practical insight into the subject. With their rapidly changing architecture and API-driven automation, cloud platforms come with unique security challenges and opportunities. This hands-on book guides you through security best practices for multivendor cloud environments, whether your company plans to move legacy on-premises projects to the cloud or build a new infrastructure from the ground up. Developers, IT architects, and security professionals will learn cloud-specific techniques for securing popular cloud platforms such as Amazon Web Services, Microsoft Azure, and IBM Cloud. Chris Dotson—an IBM senior technical staff member—shows you how to establish data asset management, identity and access management, vulnerability management, network security, and incident response in your cloud environment.

In the era of the Internet of Things and with the explosive worldwide growth of electronic data volume, and associated need of processing, analysis, and storage of such a humongous amount of data, it has now become mandatory to exploit the power of massively parallel architecture for fast computation. Cloud computing provides a cheap source of such a computing framework for a large volume of data for real-time applications. It is, therefore, not surprising to see that cloud computing has become a buzzword in the computing fraternity over the last decade. Applications of Cloud Computing: Approaches and Practices lays a good foundation for the core concepts and principles of cloud computing applications, walking the reader through the fundamental ideas with expert ease. The book progresses on the topics in a step-by-step manner. It reinforces theory with a full-fledged pedagogy designed to enhance students' understanding and offer them a practical insight into the applications of it. It is a valuable source of knowledge for researchers, engineers, practitioners, and graduate and doctoral students working in the field of cloud computing. It will also be useful for faculty members of graduate schools and universities.

A Practical Approach for Systems and Software Assurance

From Parallel Processing to the Internet of Things

A Practical Approach to Corporate Networks Engineering

Cloud Native Data Center Networking

The Cloud Computing Book

A Practical Approach for Beginners

This book provides a practically-oriented introduction to high-level programming language implementation. It demystifies what goes on within a compiler and stimulates the reader's interest in compiler design, an essential aspect of computer science. Programming language analysis and translation techniques are used in many software application areas. A Practical Approach to Compiler Construction covers the fundamental principles of the subject in

an accessible way. It presents the necessary background theory and shows how it can be applied to implement complete compilers. A step-by-step approach, based on a standard compiler structure is adopted, presenting up-to-date techniques and examples. Strategies and designs are described in detail to guide the reader in implementing a translator for a programming language. A simple high-level language, loosely based on C, is used to illustrate aspects of the compilation process. Code examples in C are included, together with discussion and illustration of how this code can be extended to cover the compilation of more complex languages. Examples are also given of the use of the flex and bison compiler construction tools. Lexical and syntax analysis is covered in detail together with a comprehensive coverage of semantic analysis, intermediate representations, optimisation and code generation. Introductory material on parallelisation is also included. Designed for personal study as well as for use in introductory undergraduate and postgraduate courses in compiler design, the author assumes that readers have a reasonable competence in programming in any high-level language.

"The promise of cloud computing is here. These pages provide the 'eyes wide open' insights you need to transform your business." --Christopher Crowhurst, Vice President, Strategic Technology, Thomson Reuters

A Down-to-Earth Guide to Cloud Computing

Cloud Computing: A Practical Approach provides a comprehensive look at the emerging paradigm of Internet-based enterprise applications and services. This accessible book offers a broad introduction to cloud computing, reviews a wide variety of currently available solutions, and discusses the cost savings and organizational and operational benefits. You'll find details on essential topics, such as hardware, platforms, standards, migration, security, and storage. You'll also learn what other organizations are doing and where they're headed with cloud computing. If your company is considering the move from a traditional network infrastructure to a cutting-edge cloud solution, you need this strategic guide.

Cloud Computing: A Practical Approach covers:

- Costs, benefits, security issues, regulatory concerns, and limitations
- Service providers, including Google, Microsoft, Amazon, Yahoo, IBM, EMC/VMware, Salesforce.com, and others
- Hardware, infrastructure, clients, platforms, applications, services, and storage
- Standards, including HTTP, HTML, DHTML, XMPP, SSL, and OpenID
- Web services, such as REST, SOAP, and JSON
- Platform as a Service (PaaS), Software as a Service (SaaS), and Software plus Services (S+S)
- Custom application development environments, frameworks, strategies, and solutions
- Local clouds, thin clients, and virtualization
- Migration, best practices, and emerging standards

Filling the need for a single source that introduces all the important network security areas from a practical perspective, this volume covers technical issues, such as defenses against software attacks by system crackers, as well as administrative topics, such as formulating a security policy. The bestselling author's writing style is highly accessible and takes a vendor-neutral approach.

This practical, applications-oriented book describes essential tools for efficiently handling massive amounts of data.

IBM MQ as a Service: A Practical Approach

Building Cloud and Virtualization Infrastructure

Cloud Computing: A Hands-On Approach

Interest Rate Markets

A Guide for Secure Design and Deployment

Explains what cloud computing is and how this new technology is being used to make lives easier.