

Cloud Computing Concepts Technology Architecture Ebook

Despite the buzz surrounding the cloud computing, only a small percentage of organizations have actually deployed this new style of IT—so far. If you're planning your long-term cloud strategy, this practical book provides insider knowledge and actionable real-world lessons regarding planning, design, operations, security, and application transformation. This book teaches business and technology managers how to transition their organization's traditional IT to cloud computing. Rather than yet another book trying to sell or convince readers on the benefits of clouds, this book provides guidance, lessons learned, and best practices on how to design, deploy, operate, and secure an enterprise cloud based on real-world experience. Author James Bond provides useful guidance and best-practice checklists based on his field experience with real customers and cloud providers. You'll view cloud services from the perspective of a consumer and as an owner/operator of an enterprise private or hybrid cloud, and learn valuable lessons from successful and less-than-successful organization use-case scenarios. This is the information every CIO needs in order to make the business and technical decisions to finally execute on their journey to cloud computing. Get updated trends and definitions in cloud computing, deployment models, and for building or buying cloud services Discover challenges in cloud operations and management not foreseen by early adopters Use real-world lessons to plan and build an enterprise private or hybrid cloud and migrate legacy applications to the cloud Identify security threats and vulnerabilities unique to the cloud Employ a cloud management system for your enterprise (private or multi-provider hybrid) cloud ecosystem Understand the challenges for becoming an IT service broker leveraging the power of the cloud

This important text provides a single point of reference for state-of-the-art cloud computing design and implementation techniques. The book examines cloud computing from the perspective of enterprise architecture, asking the question: how do we realize new business potential with our existing enterprises? Topics and features: with a Foreword by Thomas Erl; contains contributions from an international selection of preminent experts; presents the state-of-the-art in enterprise architecture approaches with respect to cloud computing models, frameworks, technologies, and applications; discusses potential research directions, and technologies to facilitate the realization of emerging business models through enterprise architecture approaches; provides relevant theoretical frameworks, and the latest empirical research findings. The Definitive Guide to Building Web-Centric SOA with REST The World Wide Web is based on the most successful technology architecture in history. It has changed how we view, access, and exchange information and, with the advent of REST, it has also provided us with compelling ways to build and improve automation solutions. REST provides a great deal of guidance to ensure that an architecture and its automation logic are technically sound, though it is still your responsibility to build services that actually add value to your business. SOA with REST is the first comprehensive tutorial and reference for designing and building RESTful services as part of service-oriented solutions and in conjunction with service-oriented architecture (SOA). This book demonstrates that REST is not only a suitable medium for building truly service-oriented solutions, but also that the service-oriented architectural model is a necessary foundation for REST technology architectures to realize their full business potential. The authors provide thorough mapping of REST constraints and architectural goals with service-orientation principles and SOA characteristics. Using real-world examples, they show how to leverage REST 's simplicity, flexibility, and low overhead without compromising the power or manageability of service-oriented solutions and architectures. This ebook will be valuable to IT architects, developers, and any practitioner seeking to use SOA and REST together.

As the Web grows and expands into ever more remote parts of the world, the availability of resources over the Internet increases exponentially. Making use of this widely prevalent tool, organizations and individuals can share and store knowledge like never before. Cloud Technology: Concepts, Methodologies, Tools, and Applications investigates the latest research in the ubiquitous Web, exploring the use of applications and software that make use of the Internet 's anytime, anywhere availability. By bringing

together research and ideas from across the globe, this publication will be of use to computer engineers, software developers, and end users in business, education, medicine, and more. Foundations and Applications Programming Cloud Computing The Business Value of Cloud Computing Cloud Computing for Enterprise Architectures Service-Oriented Architecture (paperback) 97 Things Every Cloud Engineer Should Know Accelerating Business and Mission Success with Cloud Computing. Key Features A step-by-step guide that will practically guide you through implementing Cloud computing services effectively and efficiently. Learn to choose the most ideal Cloud service model, and adopt appropriate Cloud design considerations for your organization. Leverage Cloud computing methodologies to successfully develop a cost-effective Cloud environment successfully. Book Description Cloud adoption is a core component of digital transformation. Scaling the IT environment, making it resilient, and reducing costs are what organizations want. Architecting Cloud Computing Solutions presents and explains critical Cloud solution design considerations and technology decisions required to choose and deploy the right Cloud service and deployment models, based on your business and technology service requirements. This book starts with the fundamentals of cloud computing and its architectural concepts. It then walks you through Cloud service models (IaaS, PaaS, and SaaS), deployment models (public, private, community, and hybrid) and implementation options (Enterprise, MSP, and CSP) to explain and describe the key considerations and challenges organizations face during cloud migration. Later, this book delves into how to leverage DevOps, Cloud-Native, and Serverless architectures in your Cloud environment and presents industry best practices for scaling your Cloud environment. Finally, this book addresses (in depth) managing essential cloud technology service components such as data storage, security controls, and disaster recovery. By the end of this book, you will have mastered all of the technical considerations and operational trades required to adopt Cloud services, no matter which cloud service provider you choose. What you will learn Manage changes in the digital transformation and cloud transition process Design and build architectures that support specific business cases Design, modify, and aggregate baseline cloud architectures Familiarize yourself with cloud application security and cloud computing security threats Design and architect small, medium, and large cloud computing solutions Who this book is for If you are an IT Administrator, Cloud Architect, or a Solution Architect keen to benefit from cloud adoption for your organization, then this book is for you. Small business owners, managers, or consultants will also find this book useful. No prior knowledge of Cloud computing is needed.

"Service Oriented Architecture is a hot, but often misunderstood topic in IT today. Thomas articulately describes the concepts, specifications, and standards behind service orientation and Web Services. For enterprises adopting SOA, there is detailed advice for service-oriented analysis, planning, and design. This book is a must read!" –Alex Lynch, Principal Consultant, Microsoft Enterprise Services "One primary objective of applying SOA in design is to provide business value to the solutions we build. Understanding the right approach to analyzing, designing, and developing service-oriented solutions is critical. Thomas has done a great job of demystifying SOA in practical terms with his book." –Rick Weaver, IBM Senior Consulting Certified SW I/T Specialist "A pragmatic guide to SOA principles, strategy, and best practices that distills the hype into a general framework for approaching SOA adoption in complex enterprise environments." –Sameer Tyagi, Senior Staff Engineer, Sun Microsystems "A very timely and much needed contribution to a rapidly emerging field. Through clarifying the principles and nuances of this space, the author provides a comprehensive treatment of critical key aspects of SOA from analysis and planning to standards ranging from WS-specifications to BPEL. I'll be recommending this book to both clients and peers who are planning on embracing SOA principles." –Ravi Palepu, Senior Field Architect, Rogue Wave Software "Finally, an SOA book based on real implementation experience in production environments. Too many SOA books get lost in the technical details of Web Services standards, or simply repeat vendor hype. This book covers the really hard parts: the complex process of planning, designing and implementing service-oriented architectures that meet organizational goals. It is an essential companion to any software developer, architect, or project manager implementing—or thinking about implementing—a service-oriented architecture." –Priscilla Walmsey, Managing Director of Datypic "Thomas Erl's Service-Oriented Architecture: Concepts, Technology, and Design is as good an introduction to service-oriented architectures as one could wish for. In a single volume, it covers the entire topic, from theory to real-world use to technical details. The examples are superb and the writing is wonderfully clear." –Ronald Bourret, Author, "XML and Databases" "Finally an SOA book which gets to the point with real world answers and examples. Erl guides you on a real world SOA journey. From architecture design to industry standards, this book is well written and can be easily referenced for everyday use. When embarking on your own service oriented adventures, this is the book you want in your bag." –Clark Sell, Vice President, CSeal Incorporated "Organizations struggling to evolve existing service-oriented solutions beyond simple Web Services now have an expert resource available. Leading the way to the true service-oriented enterprise, Thomas Erl demystifies the complexities of the open WS-I standards with detailed practical discussions and case studies. Erl's depth and clarity makes this work a superb complement to his Field Guide." –Kevin P. Davis, PhD., Software Architect "This book is an excellent guide for architects, developers, and managers who are already working with or are considering developing Web Services or Service-Oriented Architecture solutions. The book is divided into four sections. In the first section the fundamental technologies of XML, Web Services and Service-Oriented Architectures are described in detail with attention given to emerging standards. The book is well written and very thorough in its coverage of the subject. I recommend this book highly to anyone interested in enterprise level service architectures." –Adam Hocke, President and CTO, Broadstrokes, Inc. Additional praise quotes are published at: www.soabooks.com/reviews.asp The foremost "how-to" guide to SOA Service-Oriented Architecture (SOA) is at the heart of a revolutionary computing platform that is being adopted world-wide and has earned the support of every major software provider. In Service-Oriented Architecture: Concepts, Technology, and Design, Thomas Erl presents the first end-to-end tutorial that provides step-by-step instructions for modeling and designing service-oriented solutions from the ground up. Erl uses more than 125 case study examples and over 300 diagrams to illuminate the most important facets of building SOA platforms: goals, obstacles, concepts, technologies, standards, delivery strategies, and processes for analysis and design. His book's broad coverage includes Detailed step-by-step processes for service-oriented analysis and service-oriented design An in-depth exploration of service-orientation as a distinct design paradigm, including a comparison to object-orientation A comprehensive study of SOA support in .NET and J2EE development and runtime platforms Descriptions of over a dozen key Web services technologies and WS-" specifications, including explanations of how they interrelate and how they are positioned within SOA The use of "In Plain English" sections, which describe complex concepts through non-technical analogies Guidelines for service-oriented business modeling and the creation of specialized service abstraction layers A study contrasting past architectures with SOA and reviewing current industry influences Project planning and the comparison of different SOA delivery strategies The goal of this book is to help you attain a solid understanding of what constitutes contemporary SOA along with step-by-step guidance for realizing its successful implementation. About the Web Sites Erl's Service-Oriented Architecture books are supported by two Web sites. http://www.soabooks.com provides a variety of content resources and http://www.soaspeeps.com supplies a descriptive portal to referenced specifications. Copyright Pearson Education. All rights reserved.

Learn Big Data from the ground up with this complete and up-to-date resource from leaders in the field Big Data: Concepts, Technology, and Architecture delivers a comprehensive treatment of Big Data tools, terminology, and technology perfectly suited to a wide range of business professionals, academic researchers, and students. Beginning with a fulsome overview of what we mean when we say, "Big Data," the book moves on to discuss every stage of the lifecycle of Big Data. You'll learn about the creation of structured, unstructured, and semi-structured data, data storage solutions, traditional database solutions like SQL, data processing, data analytics, machine learning, and data mining. You'll also discover how specific technologies like Apache Hadoop, SOOOP, and Flume work. Big Data also covers the central topic of big data visualization with Tableau, and you'll learn how to create scatter plots, histograms, bar, line, and pie charts with that software. Accessibly organized, Big Data includes illuminating case studies throughout the manual, showing you how the included concepts have been applied in real-world settings. Some of those concepts include: The common challenges facing big data technology and technologists, like data heterogeneity and incompleteness, data volume and velocity, storage limitations, and privacy concerns Relational and non-relational databases, like RDBMS, NoSQL, and NewSQL databases Virtualizing Big Data through encapsulation, partitioning, and isolating, as well as big data server virtualization Apache software, including Hadoop, Cassandra, Avro, Pig, Mahout, Oozie, and Hive The Big Data analytics lifecycle, including business case evaluation, data preparation, extraction, transformation, analysis, and visualization Perfect for data scientists, data engineers, and database managers. Big Data also belongs on the bookshelves of business intelligence analysts who are required to make decisions based on large volumes of information. Executives and managers who lead teams responsible for keeping or understanding large datasets will also benefit from this book.

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 vLAN), 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.

The Cloud Computing Book

Essentials of Cloud Computing

SOA with REST

Architecting the Cloud

Basic to Advance research on the concepts and design of Cloud Computing

If you create, manage, operate, or configure systems running in the cloud, you're a cloud engineer—even if you work as a system administrator, software developer, data scientist, or site reliability engineer. With this book, professionals from around the world provide valuable insight into today's cloud engineering role. These concise articles explore the entire cloud computing experience, including fundamentals, architecture, and migration. You'll delve into security and compliance, operations and reliability, and software development. And examine networking, organizational culture, and more. You're sure to find 1, 2, or 97 things that inspire you to dig deeper and expand your own career. "Three Keys to Making the Right Multicloud Decisions," Brendan O'Leary "Serverless Bad Practices," Manases Jesus Galindo Bello "Failing a Cloud Migration," Lee Atchison "Treat Your Cloud Environment as If It Were On Premises," Iyana Garry "What Is Toil, and Why Are SREs Obsessed with It?," Zachary Nickens "Lean QA: The QA Evolving in the DevOps World," Theresa Neate "How Economies of Scale Work in the Cloud," Jon Moore "The Cloud Is Not About the Cloud," Ken Corless "Data Gravity: The Importance of Data Management in the Cloud," Geoff Hughes "Even in the Cloud, the Network Is the Foundation," David Murray "Cloud Engineering Is About Culture, Not Containers," Holly Cummins

This authoritative text/reference describes the state of the art of fog computing, presenting insights from an international selection of renowned experts. A particular focus is provided on development approaches, architectural mechanisms, and measurement metrics for building smart adaptable environments. The coverage also includes important related topics such as device connectivity, security and interoperability, and communication methods. Topics and features: introduces the core concepts and principles of fog computing, and reviews the latest research and best practice relating to fog/edge environments: discusses the vision for an Internet of Things (IoT) in terms of fog computing and other related distributed computing paradigms, such as cloud computing: presents a survey of the key issues and broader aspects of the fog paradigm, as well as the factors that affect adoption of fog computing: examines frameworks and methodologies for fog-based architecture design, improving performance, and measuring quality of experience: proposes tools and methodologies for analyzing large amounts of sensor data from smart city initiatives: describes approaches for designing robust services, management of data-intensive applications, context-aware data analysis, and vehicular networking: identifies potential future research directions and technological innovations in relation to distributed computing environments such as the IoT. This enlightening volume offers essential perspectives for researchers of distributed computing and computer networking, as well as for advanced undergraduate and graduate students pursuing interests in this area. Professional engineers seeking to enhance security and connectivity in their IoT systems will also find this work to be a valuable reference.

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 academia, 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. The basic concepts of 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 provided throughout. 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 computer and system infrastructure designers, developers, business managers, entrepreneurs and investors within the cloud computing related industry.

The easy way to understand and implement cloud computing technology written by a team of experts Cloud computing can be difficult to understand at first, but the cost-saving possibilities are great and many companies are getting on board. If you've been put in charge of implementing cloud computing, this straightforward, plain-English guide clears up the confusion and helps you get your plan in place. You'll learn how cloud computing enables you to run a more green IT infrastructure, and access technology-enabled services from the Internet ("in the cloud") without having to understand, manage, or invest in the technology infrastructure that supports them. You'll also find out what you need to consider when implementing a plan, how to handle security issues, and more.

Cloud computing is a way for businesses to take advantage of scale and virtual services through the Internet, saving money on infrastructure and support This book provides a clear definition of cloud computing from the utility computing standpoint and also addresses security concerns Offers practical guidance on delivering and managing cloud computing services effectively and efficiently Presents a proactive and pragmatic approach to implementing cloud computing in any organization Helps IT managers and staff understand the benefits and challenges of cloud computing, how to select a service, and what's involved in getting it up and running Highly experienced author team consults and gives presentations on emerging technologies Cloud Computing For Dummies gets straight to the point, providing the practical information you need to know.

Leverage Azure, AWS, GCP, and VMware vSphere to build effective multi-cloud solutions

Concepts, Technologies, and Considerations

Cloud Application Architectures

Principles, Patterns & Constraints for Building Enterprise Solutions with REST

AWS Certified Cloud Practitioner (CLF-C01) Cert Guide

Enterprise Cloud Computing

If you're involved in planning IT infrastructure as a network or system architect, system administrator, or developer, this book will help you adapt your skills to work with these highly scalable, highly redundant infrastructure services. While analysts hotly debate the advantages and risks of cloud computing, IT staff and programmers are left to determine whether and how to put their applications into these virtualized services. Cloud Application Architectures provides answers – and critical guidance – on issues of cost, availability, performance, scaling, privacy, and security. With Cloud Application Architectures, you will understand the differences between traditional deployment and cloud computing Determine whether moving existing applications to the cloud makes technical and business sense Analyze and compare the long-term costs of cloud services, traditional hosting, and owning dedicated servers Learn how to build a transactional web application for the cloud or migrate one to it Understand how the cloud helps you better prepare for disaster recovery Change your perspective on application scaling To provide realistic examples of the book's principles in action, the author delves into some of the choices and operations available on Amazon Web Services, and includes high-level summaries of several of the other services available on the market today. Cloud Application Architectures provides best practices that apply to every available cloud service. Learn how to make the transition to the cloud and prepare your web applications to succeed.

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

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. Developing 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

The ultimate guide to assessing and exploiting the customervalue and revenue potential of the Cloud A new business model is sweeping the world—the Cloud. And, as with any new technology, there is a great deal of fear, uncertainty, and doubt surrounding cloud computing.Cloudonomics radically opens the conventional wisdom, clearly explains the underlying principles and illustrates throughunderstandable examples how Cloud computing can create compellingvalue—whether you are a customer, a provider, a strategist,or an investor. Cloudonomics covers everything you need toconsider for the delivery of business solutions, opportunities, andcustomer satisfaction through the Cloud, so you can understand—and put it to work for your business. Cloudonomicsalso delivers insight into when to avoid the cloud, and why. Quantifies how customers, users, and cloud providers cancollaborate to create win-wins Reveals how to use the Laws of Cloudonomics to define strategyand guide implementation Explains the probable evolution of cloud businesses andecosystems Demolishes the conventional wisdom on cloud usage, IT spend,community clouds, and the enterprise-provider cloud balance Whether you're ready for it or not, Cloud computing is here today. Cloudonomics provides deep insights into the businessvalue of the Cloud for executives, practitioners, and strategists virtually any industry—not just technology executives butalso those in the marketing, operations, economics, venturecapital, and financial fields.

The when, how, and why of enterprise cloud computing

Build cloud strategies that align technology and economics while effectively managing risk

Concepts, Technology, and Architecture

The Enterprise Cloud

Cloud Technology: Concepts, Methodologies, Tools, and Applications

Master the Concepts, Architecture and Applications with Real-world examples and Case studies

An expert guide to selecting the right cloud service model for your business Cloud computing is all the rage, allowing for the delivery of computing and storage capacity to a diverse community of end-recipients. However, before you can decide on a cloud model, you need to determine what the ideal cloud service model is for your business. Helping you cut through all the haze, Architecting the Cloud is vendor neutral and guides you in making one of the most critical technology decisions that you will face: selecting the right cloud service model(s) based on a combination of both business and technology requirements. Guides corporations through key cloud design considerations Discusses the pros and cons of each cloud service model Highlights major design considerations in areas such as security, data privacy, logging, data storage, SLA monitoring, and more Clearly defines the services cloud providers offer for each service model and the cloud services IT must provide Arming you with the information you need to choose the right cloud service provider, Architecting the Cloud is a comprehensive guide covering everything you need to be aware of in selecting the right cloud service model for you.

Cloud computing-accessing computing resources over the Internet-is rapidly changing the landscape of information technology. Its primary benefits compared to on-premise computing models are reduced costs and increased agility and scalability. Hence, cloud computing is receiving considerable interest among several stakeholders-businesses, the IT ind

A comprehensive review of the key emerging technologies that will directly impact areas of computer technology over the next five years Infrastructure edge computing is the model of data center and network infrastructure deployment which distributes a large number of physically small data centers around an area to deliver better performance and to enable new economical applications. It is vital for those operating at business or technical levels to be positioned to capture the changes that will occur as a result of infrastructure edge computing. Understanding Infrastructure Edge Computing provides a thorough understanding of the growth of internet infrastructure from its inception to the emergence of infrastructure edge computing. Author Alex Marcham, an acknowledged leader in the field who coined the term infrastructure edge computing, presents an accessible, accurate, and expansive view of the next generation of internet infrastructure. The book features illustrative examples of 5G mobile cellular networks, self-driving cars, drones, industrial robots, and more technologies that increase efficiency, save time and money, and improve safety. Covering state-of-the-art topics, this timely and authoritative book: Presents a clear and accurate survey of the key emerging technologies that will impact data centers, 5G networks, artificial intelligence and cyber-physical systems, and other areas of computer technology Explores how and why Internet infrastructure has evolved to where it stands today and where it needs to be in the near future Covers a wide range of topics including distributed application workload operation, infrastructure and application security, and related technologies such as multi-access edge computing (MEC) and fog computing Provides numerous use cases and examples of real-world applications which depend upon underlying edge infrastructure Written for information technology practitioners, computer technology practitioners, and students, Understanding Infrastructure Edge Computing is essential reading for those looking to benefit from the coming changes in computer technology in the near future.

Cloud computing has brought great benefits in cost and flexibility for provisioning services. The greatest challenge of cloud computing remains however the question of security. The current standard tools in access control mechanisms and cryptography can only partly solve the security challenges of cloud infrastructures. In the recent years of research in security and cryptography, novel mechanisms, protocols and algorithms have emerged that offer new ways to create secure services atop cloud infrastructures. This report provides introductions to a selection of security mechanisms that were part of the "Cloud Security Mechanisms" seminar in summer term 2013 at HPI.

Cloudonomics

Cloud Computing with Security

The Cloud at Your Service

Handbook of Cloud Computing

Concepts, Technology & Architecture

Building Applications and Infrastructure in the Cloud

Unleash the power of cloud computing using Azure, AWS and Apache Hadoop 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 the notion influences 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 insight into the subject. Audience This book is intended for students of B.E., B.Tech., B.Sc., M.Sc., M.E., and 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. Therefore, it makes it relevant for the beginners who wants to learn cloud computing right from the foundation. Aspiring Cloud Computing Researchers, Instructors, Academicians and Professionals, if they 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 international certification exams available. 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) concepts • Learn about the various Cloud Computing applications, Platforms and Security concerns • Understand the Adoption Cloud Computing technology and strategies for migration to the cloud • Case Studies for Cloud computing adoption - Sub-Saharan Africa and India Key Features • Provides a sound understanding of the Cloud computing concepts, architecture and its applications • Explores the practical benefits of Cloud computing services and deployment models in details • Cloud Computing Architecture, Cloud Computing Life Cycle (CCLC), Load 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 papers Table of Contents 1. Foundation of Cloud Computing 2. Cloud Services and Deployment Models 3. Cloud Computing Architecture 4. Virtualization 5. Service Oriented Architecture 5. Cloud Security and Privacy 6. Cloud Computing Applications 7. Cloud Computing Technologies, Platform and Services 8. Adoption of Cloud Computing 9. Model Paper 1 10. Model Paper 2 11. Model Paper 3 12. Model Paper 4

Cloud ComputingConcepts, Technology & ArchitectureCloud ComputingConcepts, Technology & ArchitecturePearson Education

A comprehensive guide to architecting, managing, implementing, and controlling multi-cloud environments Key FeaturesDeliver robust multi-cloud environments and improve your business productivityStay in control of the cost, governance, development, security, and continuous improvement of your multi-cloud solutionIntegrate different solutions, principles, and practices into one multi-cloud foundationBook Description Multi-cloud has emerged as one of the top cloud computing trends, with businesses wanting to reduce their reliance on only one vendor. But when organizations shift to multiple cloud services without a clear strategy, they may face certain difficulties, in terms of how to stay in control, how to keep all the different components secure, and how to execute the cross-cloud development of applications. This book combines best practices from different cloud adoption frameworks to help you find solutions to these problems. With step-by-step explanations of essential concepts and practical examples, you'll begin by planning the foundation, creating the architecture, designing the governance model, and implementing tools, processes, and technologies to manage multi-cloud environments. You'll then discover how to design workload environments using different cloud propositions, understand how to optimize the use of these cloud technologies, and automate and monitor the environments. As you advance, you'll delve into multi-cloud governance, defining clear demarcation models and management processes. Finally, you'll learn about managing identities in multi-cloud: who's doing what, why, when, and where By the end of this book, you'll be able to create, implement, and manage multi-cloud architectures with confidence What you will learnGet to grips with the core functions of multiple cloud platformsDeploy, automate, and secure different cloud solutionsDesign network strategy and get to grips with identity and access management for multi-cloudDesign a landing zone spanning multiple cloud platformsUse automation, monitoring, and management tools for multi-cloudUnderstand multi-cloud management with the principles of BaseOps, FinOps, SecOps, and DevOpsDefine multi-cloud security policies and use cloud security toolsTest, integrate, deploy, and release using multi-cloud CI/CD pipelinesWho this book is for This book is for architects and lead engineers involved in architecting multi-cloud environments, with a focus on getting governance right to stay in control of developments in multi-cloud. Basic knowledge of different cloud platforms (Azure, AWS, GCP, VMWare, and OpenStack) and understanding of IT governance is necessary.

Unleash the power of cloud computing using Azure, AWS and Apache HadoopKey features Provides a sound understanding of the Cloud computing concepts, architecture and its applications Explores the practical benefits of Cloud computing Architecture, Cloud Computing Life Cycle (CCLC), Load 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 papers 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 the notion influences 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 insight into 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 some key 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 as well as 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 (AWS), 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 various Cloud Computing applications, Platforms and Security concerns 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 forThis book is intended for students of B.E., B.Tech., B.Sc., M.Sc., M.E., and 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. Therefore, it makes it relevant for the beginners who wants to learn cloud computing right from the foundation. Aspiring Cloud Computing Researchers, Instructors, Academicians and Professionals, if they 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 international certification exams available. Table of contents1. Foundation of Cloud Computing 2. Cloud Services and Deployment Models3. Cloud Computing Architecture4. Virtualization and Service-Oriented Architecture5. Cloud Security and Privacy7. Cloud Computing Applications8. Adoption of Cloud Computing 9. Model Paper 1 10. Model Paper 2 11. Model Paper 3 12. Model Paper 4 About the authorKamal Kant Hiran is working as Associate Professor & Head IT in the BlueCrest University College, Liberia, West Africa as well as Research Fellow, Aalborg University, Copenhagen, Denmark. He has rich experience of 14+ years as an academician and researcher in Asia, Africa and Europe. His research interests include Cloud Computing adoption theories and framework, Internet of Things (IoT) and Digital Image and Video Processing. He has several 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 international journals and conferences. He is Reviewer and Editorial board member of various reputed International Journals in Elsevier, Springer, IEEE, Ventham Science, IGI Global, USEET, 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: https://www.linkedin.com/in/kamal-kant-hiran-4553b643Ruchi Doshi is having more than 10 years of academic, 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 with BlueCrest University College, Ghana; Amity University, India & Trimax IT Infrastructure & Services as software engineer. She is interested in the field of Cloud computing, Computer vision, Artificial Intelligence and latest technology used in the higher education. She has published research papers in peer-reviewed international journals and conferences. She is Reviewer, 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 active member in organizing many international events in India, Ghana, and Liberia. Her LinkedIn profile: https://www.linkedin.com/in/ruchi-doshi-96bb63b4 Dr. Fagbola Temitayo is currently a Post-Doctoral Fellow (PDF) at Durban University of Technology, South Africa and an Assistant Professor in the Department of Computer Science, Federal University, Oye-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 interests in cloud computing ecosystem, deep learning, computational intelligence, social media big-data analytics, information security, decision support system and video processing. Dr Fagbola is a member of the South African Institute of Computer Scientists and Information Technologists (SAICSIT), Asian Council of Science Editors (ACSE), Machine Intelligence Institute of Africa (MIIA), Computer Professionals (Registration Council) of Nigeria (CPN), the International Association of Engineers (IAENG) and DataHack4I in Africa. He has over 50 refereed publications in referred international journals and conference proceedings to his credit and currently serves as a reviewer for over 15 reputable international journals. He is 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 working as an Associate Professor in the Faculty of Computer Science & Engineering at the Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur, India. He is a life member of International Association of Engineers and has published several research articles in National/International Journals, Conferences including Global Journals, ICCCTAM-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 research activities are currently twofold: while the first research activity is set to explore the developmental enhancements video processing and analysis; the second major research theme is focused on the emerging capabilities of cloud computing. Mr. Mahrishi is rewarded at number of occasions in various domains including Recognition as an active reviewer by Journal 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>

7th IFIP WG 5.5/SOCOLNET Advanced Doctoral Conference on Computing, Electrical and Industrial Systems, DoCEIS 2016, Costa de Caparica, Portugal, April 11-13, 2016, Proceedings

Theory and Practice

Concepts and Practices

Architecture and Applications

Design Decisions for Cloud Computing Service Models (SaaS, PaaS, and IaaS)

Multi-Cloud Architecture and Governance

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 Cloud Practitioner (CLF-C01) exam success with this Cert Guide from Pearson IT Certification, a leader in IT Certification learning. Master AWS Certified Cloud Practitioner (CLF-C01) exam topics Assess your knowledge with chapter-ending quizzes Review key concepts with exam preparation tasks AWS Certified Cloud Practitioner (CLF-C01) Cert Guide is a best-of-breed exam study guide. Best-selling author and expert instructor Anthony 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 Cloud Practitioner exam, including how to: Define the AWS Cloud and its value proposition, and discuss its economics Define the AWS Shared Responsibility model, and key AWS security and compliance concepts Identify AWS access management capabilities Define methods of deploying the AWS Cloud and operating within Define the AWS global infrastructure and identify core AWS services Recognize and compare AWS pricing models and account structures Identify support resources for security, AWS cloud technology, and billing

"This book continues the very high standard we have come to expect from ServiceTech Press. The book provides well-explained vendor-agnostic patterns to the challenges of providing or using cloud solutions from PaaS to SaaS. The book is not only a great patterns reference, but also worth reading from cover to cover as the patterns are thought-provoking, drawing out points that you should consider and ask of a potential vendor if you're adopting a cloud solution." --Phil Wilkins, Enterprise Integration Architect, Specsavers "Thomas Erl's text provides a unique and comprehensive perspective on cloud design patterns that is clearly and concisely explained for the technical professional and layman alike. It is an informative, knowledgeable, and powerful insight that may guide cloud experts in achieving extraordinary results based on extraordinary expertise identified in this text. I will use this text as a resource in future cloud designs and architectural considerations." --Dr. Nancy M. Landreville, CEO/CISO, NML Computer Consulting The Definitive Guide to Cloud Architecture and Design Best-selling service technology author Thomas Erl has brought together the de facto catalog of design patterns for modern cloud-based architecture and solution design. More than two years in development, this book's 100+ patterns illustrate proven solutions to common cloud challenges and requirements. Its patterns are supported by rich, visual documentation, including 300+ diagrams. The authors address topics covering scalability, elasticity, reliability, resiliency, recovery, data management, storage, virtualization, monitoring, provisioning, administration, and much more. Readers will further find detailed coverage of cloud security, from networking and storage safeguards to identity systems, trust assurance, and auditing. This book's unprecedented technical depth makes it a must-have resource for every cloud technology architect, solution designer, developer, administrator, and manager. Topic Areas Enabling ubiquitous, on-demand, scalable network access to shared pools of configurable IT resources Optimizing multitenant environments to efficiently serve multiple unpredictable consumers Using elasticity best practices to scale IT resources transparently and automatically Ensuring runtime reliability, operational resiliency, and automated recovery from any failure Establishing resilient cloud architectures that act as pillars for enterprise cloud solutions Rapidly provisioning cloud storage devices, resources, and data with minimal management effort Enabling customers to configure and operate custom virtual networks in SaaS, PaaS, or IaaS environments Efficiently provisioning resources, monitoring runtimes, and handling day-to-day administration Implementing best-practice security controls for cloud service architectures and cloud storage Securing on-premise Internet access, external cloud connections, and scaled VMs Protecting cloud services against denial-of-service attacks and traffic hijacking Establishing cloud authentication gateways, federated cloud authentication, and cloud key management Providing trust attestation services to customers Monitoring and independently auditing cloud security Solving complex cloud design problems with compound super-patterns

In the era of the Internet of Things and Big Data, Cloud Computing has recently emerged as one of the latest buzzwords in the computing industry. It is the latest evolution of computing, where IT recourses are offered as services. Cloud computing provides on-demand, scalable, device-independent, and reliable services to its users. The exponential growth of digital data bundled with the needs of analysis, processing and storage, and cloud computing has paved the way for a cheap, secure, and omnipresent computing framework allowing for the delivery of enormous computing and storage capacity to a diverse community of end-recipients. Clouds are distributed technology platforms that leverage sophisticated technology innovations to provide highly scalable and resilient environments that can be remotely utilized by organizations in a multitude of powerful ways. The term cloud is often used as a metaphor for the Internet and can be defined as a new type of utility computing that basically uses servers that have been made available to third parties via the Internet.

This book constitutes the refereed proceedings of the 7th IFIP WG 5.5/SOCOLNET Advanced Doctoral Conference on Computing, Electrical and Industrial Systems, DoCEIS 2016, held in Costa de Caparica, Portugal, in April 2016. The 53 revised full papers were carefully reviewed and selected from 112 submissions. The papers present selected results produced in engineering doctoral programs and focus on research, development, and application of cyber-physical systems. Research results and ongoing work are presented, illustrated and discussed in the following areas: enterprise collaborative networks; ontologies; Petri nets; manufacturing systems; biomedical applications; intelligent environments; control and fault tolerance; optimization and decision support; wireless technologies; energy: smart grids, renewables, management, and optimization; bio-energy; and electronics.

Architecting Cloud Computing Solutions

The Future of Computing Explained

Technology and Practices

Concepts and Technologies

Big Data

Cloud security mechanisms

This book provides readers with an overview of Cloud Computing, starting with historical background on mainframe computers and early networking protocols, leading to current concerns such as hardware and systems security, performance, emerging areas of IoT, Edge Computing etc. Readers will benefit from the in-depth discussion of cloud computing usage and the underlying architecture, with focus on best practices for using a dynamic cloud infrastructure, cloud operations management and cloud security.

The authors explain carefully the " why " s and how " s " of Cloud Computing, so engineers will find this book an invaluable introduction to the topic.

Cloud Computing is here to stay. As an economically viable way for businesses of all sizes to distribute computing, this technology shows tremendous promise. But the intense hype surrounding the Cloud is making it next to impossible for responsible IT managers and businessdecision-makers to get a clear understanding of what the Cloud really means, what it might do for them, when it is practical, and what their future with the Cloud looks like. The Cloud at Your Service helps cut through all this fog to help enterprises make these critical decisions based on facts and the authors' informed unbiased recommendations and predictions. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book.

Cloud computing promises to revolutionize IT and business by making computing available as a utility over the internet. This book is intended primarily for practising software architects who need to assess the impact of such a transformation. It explains the evolution of the internet into a cloud computing platform, describes emerging development paradigms and technologies, and discusses how these will change the way enterprise applications should be architected for cloud deployment. Gautam Shroff provides a technical description of cloud computing technologies, covering cloud cloud infrastructure and platform services, programming paradigms such as MapReduce, as well as 'do-it-yourself' hosted development tools. He also describes emerging technologies critical to cloud computing. The book also covers the fundamentals of enterprise computing, including a technical introduction to enterprise architecture, so it will interest programmers aspiring to become software architects and serve as a reference for a graduate-level course in software architecture or software engineering.

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

Concepts, Technology, and Design

Technology, Architecture, Applications

Mastering Cloud Computing

Fog Computing

Cloud Computing For Dummies

Concepts, Frameworks and Technologies

This book presents both state-of-the-art research developments and practical guidance on approaches, technologies and frameworks for the emerging cloud paradigm. Topics and features: presents the state of the art in cloud technologies, infrastructures, and service delivery and deployment models; discusses relevant theoretical frameworks, practical approaches and suggested methodologies; offers guidance and best practices for the development of cloud-based services and infrastructures, and examines management aspects of cloud computing; reviews consumer perspectives on mobile cloud computing and cloud-based enterprise resource planning; explores software performance testing, open-source cloudware support, and assessment methodologies for modernization, migration and pre-migration; describes emerging new methodologies relevant to the cloud paradigm, and provides suggestions for future developments and research directions.

Comprehensive and timely, Cloud Computing: Concepts and Technologies offers a thorough and detailed description of cloud computing concepts, architectures, and technologies, along with guidance on the best ways to understand and implement them. It covers the multi-core architectures, distributed and parallel computing models, virtualization, cloud developments, workload and Service-Level-Agreements (SLA) in cloud, workload management. Further, resource management issues in cloud with regard to resource provisioning, resource allocation, resource mapping and resource adaptation, ethical, non-ethical and security issues in cloud are followed by discussion of open challenges and future directions. This book gives students a comprehensive overview of the latest technologies and guidance on cloud computing, and is ideal for those studying the subject in specific modules or advanced courses. It is designed in twelve chapters followed by laboratory setups and experiments. Each chapter has multiple choice questions with answers, as well as review questions and critical thinking questions. The chapters are practically-focused, meaning that the information will also be relevant and useful for professionals wanting an overview of the topic.

This book provides readers with an overview of Cloud Computing, starting with historical background on mainframe computers and early networking protocols, leading to current concerns such as hardware and systems security, performance, emerging areas of IoT, Edge Computing etc. Readers will benefit from the in-depth discussion of cloud computing usage and the underlying architectures. The authors explain carefully the "why's and how's" of Cloud Computing, so engineers will find this book an invaluable source of information to the topic. This second edition includes new material on Cloud Computing Security, Threat Vectors and Trust Models, as well as best practices for a using dynamic cloud infrastructure, and cloud operations management. Several new examples and analysis of cloud security have been added, including edge computing with IoT devices.

In the era of Internet of Things and with the explosive worldwide growth of electronic data volume, and associated need of processing, analysis, and storage of such humongous volume 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 computing framework for 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. This book presents some critical applications in cloud frameworks along with some innovation design of algorithms and architecture for deployment in cloud environment. 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.

Technological Innovation for Cyber-Physical Systems

Methods and Practical Approaches

Concepts, Methodologies, Tools, and Applications

Cloud Computing Design Patterns (paperback)

Best Practices for Transforming Legacy IT

Understanding Infrastructure Edge Computing

Great POSSIBILITIES and high future prospects to become ten times folds in the near FUTURE DESCRIPTION The book " Handbook of Cloud Computing " provides the latest and in-depth information of this relatively new and another platform for scientific computing which has great possibilities and high future prospects to become ten folds in near future. The book covers in comprehensive manner all aspects and terminologies associated with cloud computing like SaaS, PaaS and IaaS and also elaborates almost every cloud computing service model. The book highlights several other aspects of cloud computing like Security, Resource allocation, Simulation Platforms and futuristic trend i.e. Mobile cloud computing. The book will benefit all the readers with all in-depth technical information which is required to understand current and futuristic concepts of cloud computing. No prior Knowledge of cloud computing or any of its related technology is required in reading this book. KEY FEATURES Comprehensively gives clear picture of current state-of-the-art aspect of cloud computing by elaborating terminologies, models and other related terms. Enlightens all major players in Cloud Computing industry providing services in terms of SaaS, PaaS and IaaS. Highlights Cloud Computing Simulators, Security Aspect and Resource Allocation. In-depth presentation with well-illustrated diagrams and simple to understand technical concepts of cloud. WHAT WILL YOU LEARN Cloud Computing. Virtualisation Software as a Service, Platform as a Service, Infrastructure as a Service Data in Cloud and its Security Cloud Computing – Simulation, Mobile Cloud Computing Specific Cloud Service Models Resource Allocation in Cloud Computing WHO THIS BOOK IS FOR Students of Polytechnic Diploma Classes/ Computer Science/ Information Technology Graduate Students/ Computer Science/ CSE /IT/ Computer Applications Master Class Students—Msc (CS/IT) MCA/ M.Phil. M.Tech, M.S. Researcher " —Ph.D Research Scholars doing work in Virtualization, Cloud Computing and Cloud Security Industry Professionals- Preparing for Certifications, Implementing Cloud Computing and even working on Cloud Security Table of Contents 1. Introduction to Cloud Computing 2. Virtualisation 3. Software as a Service 4. Platform as a Service 5. Infrastructure as a Service 6. Data in Cloud 7. Cloud Security 8. Cloud Computing – Simulation 9. Specific Cloud Service Models 10. Resource Allocation in Cloud Computing 11. Mobile Cloud Computing

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. Clouds are distributed technology platforms that leverage sophisticated technology innovations to provide highly scalable and resilient environments that can be remotely utilized by organizations in a multitude of powerful ways. To successfully build upon, integrate with, or even create a cloud environment requires an understanding of its common inner mechanics, architectural layers, and models, as well as an understanding of the business and economic factors that result from the adoption and real-world use of cloud-based services. In Cloud Computing: Concepts, Technology & Architecture, Thomas Erl, one of the world ' s top-selling IT authors, teams up with cloud computing experts and researchers to break down proven and mature cloud computing technologies and practices into a series of well-defined concepts, models, technology mechanisms, and technology architectures, all from an industry-centric and vendor-neutral point of view. In doing so, the book establishes concrete, academic coverage with a focus on structure, clarity, and well-defined building blocks for mainstream cloud computing platforms and solutions. Subsequent to technology-centric coverage, the book proceeds to establish business-centric models and metrics that allow for the financial assessment of cloud-based IT resources and their comparison to those hosted on traditional IT enterprise premises. Also provided are templates and formulas for calculating SLA-related quality-of-service values and numerous explorations of the SaaS, PaaS, and IaaS delivery models. With more than 260 figures, 29 architectural models, and 20 mechanisms, this indispensable guide provides a comprehensive education of cloud computing essentials that will never leave your side.