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Google Cloud Platform for Developers Sep 02 2020 Develop, deploy, and scale your applications with Google Cloud Platform Key Features Create and deploy your applications on Google Cloud Platform Store and manage source code and debug Cloud-hosted apps with plugins and IDEs Streamline developer workflows with tools for alerting and managing deployments Book Description Google Cloud Platform (GCP) provides autoscaling compute power and distributed in-memory cache, task queues, and datastores to write, build, and deploy Cloud-hosted applications. With Google Cloud Platform for Developers, you will be able to develop and deploy scalable applications from scratch and make them globally available in almost any language. This book will guide you in designing, deploying, and managing applications running on Google Cloud. You'll start with App Engine and move on to work with Container Engine, compute engine, and cloud functions. You'll learn how to integrate your new applications with the various data solutions on GCP, including Cloud SQL, Bigtable, and Cloud Storage. This book will teach you how to streamline your workflow with tools such as Source Repositories, Container Builder, and StackDriver. Along the way, you'll see how to deploy and debug services with IntelliJ, implement continuous delivery pipelines, and configure robust monitoring and alerting for your production systems. By the end of this book, you'll be well-versed with all the development tools of Google Cloud Platform, and you'll develop, deploy, and manage highly scalable and reliable applications. What you will learn Understand the various service offerings on GCP Deploy and run services on managed platforms such as App Engine and Container Engine Securely maintain application states with Cloud Storage, Datastore, and Bigtable Leverage StackDriver monitoring and debugging to minimize downtime and mitigate issues without impacting users Design and implement complex software solutions utilizing Google Cloud Integrate with best-in-class big data solutions such as Bigquery, Dataflow, and Pub/Sub Who this book is for Google Cloud Platform for Developers is for application developers. This book will enable you to fully leverage the power of Google Cloud Platform to build resilient and intelligent software solutions.

[The Cloud-Based Demand-Driven Supply Chain](#) Jan 06 2021 It's time to get your head in the cloud! In today's business environment, more and more people are requesting cloud-based solutions to help solve their business challenges. So how can you not only anticipate your clients' needs but also keep ahead of the curve to ensure their goals stay on track? With the help of this accessible book, you'll get a clear sense of cloud computing and understand how to communicate the benefits, drawbacks, and options to your clients so they can make the best choices for their unique needs. Plus, case studies give you the opportunity to relate real-life examples of how the latest technologies are giving organizations worldwide the opportunity to thrive as supply chain solutions in the cloud. Demonstrates how improvements in forecasting, collaboration, and inventory optimization can lead to cost savings Explores why cloud computing is becoming increasingly important Takes a close look at the types of cloud computing Makes sense of demand-driven forecasting using Amazon's cloud Whether you work in management, business, or IT, this is the dog-eared reference you'll want to keep close by as you continue making sense of the cloud.

Handbook of Research on Security Considerations in Cloud Computing Oct 23 2019 Cloud computing has quickly become the next big step in security development for companies and institutions all over the world. With the technology changing so rapidly, it is important that businesses carefully consider the available advancements and opportunities before implementing cloud computing in their organizations. The Handbook of Research on Security Considerations in Cloud Computing brings together discussion on current approaches to cloud-based technologies and assesses the possibilities for future advancements in this field. Highlighting the need for consumers to understand the unique nature of cloud-delivered security and to evaluate the different aspects of this service to verify if it will meet their needs, this book is an essential reference source for researchers, scholars, postgraduate students, and developers of cloud security systems.

Cloud Technologies Jul 12 2021 CLOUD TECHNOLOGIES Contains a variety of cloud computing technologies and explores how the cloud can enhance business operations Cloud Technologies offers an accessible guide to cloud-based systems and clearly explains how these technologies have changed the way organizations approach and implement their computing infrastructure. The author includes an overview of cloud computing and addresses business-related considerations such as service level agreements, elasticity, security, audits, and practical implementation issues. In addition, the book covers important topics such as automation, infrastructure as code, DevOps, orchestration, and edge computing. Cloud computing fundamentally changes the way organizations think about and implement IT infrastructure. Any manager without a firm grasp of basic cloud concepts is at a huge disadvantage in the modern world. Written for all levels of managers working in IT and other areas, the book explores cost savings and enhanced capabilities, as well as identifies different models for implementing cloud technologies and tackling cloud business concerns. This important book: Demonstrates a variety of cloud computing technologies and ways the cloud can enhance business operations Addresses data security concerns in cloud computing relevant to corporate data owners Shows ways the cloud can save money for a business Offers a companion website hosting PowerPoint slides Written for managers in the fields of business, IT and cloud computing, Cloud Technologies describes cloud computing concepts and related strategies and operations in accessible language.

[Architecting Google Cloud Solutions](#) Feb 07 2021 Achieve your infrastructure goals and optimize business processes by designing robust, highly available, and dynamic solutions Key Features: Gain hands-on experience in designing and managing high-performance cloud solutions Leverage Google Cloud Platform to optimize technical and business processes using cutting-edge technologies and services Use Google Cloud Big Data, AI, and ML services to design scalable and intelligent data solutions Book Description: Google has been one of the top players in the public cloud domain thanks to its agility and performance capabilities. This book will help you design, develop, and manage robust, secure, and dynamic solutions to successfully meet your business needs. You'll learn how to plan and design network, compute, storage, and big data systems that incorporate security and compliance from the ground up. The chapters will cover simple to complex use cases for devising solutions to business problems, before focusing on how to leverage Google Cloud's Platform-as-a-Service (PaaS) and Software-as-a-Service (SaaS) capabilities for designing modern no-operations platforms. Throughout this book, you'll discover how to design for scalability, resiliency, and high availability. Later, you'll find out how to use Google Cloud to design modern applications using

microservices architecture, automation, and Infrastructure-as-Code (IaC) practices. The concluding chapters then demonstrate how to apply machine learning and artificial intelligence (AI) to derive insights from your data. Finally, you will discover best practices for operating and monitoring your cloud solutions, as well as performing troubleshooting and quality assurance. By the end of this Google Cloud book, you'll be able to design robust enterprise-grade solutions using Google Cloud Platform. What You Will Learn: Get to grips with compute, storage, networking, data analytics, and pricing Discover delivery models such as IaaS, PaaS, and SaaS Explore the underlying technologies and economics of cloud computing Design for scalability, business continuity, observability, and resiliency Secure Google Cloud solutions and ensure compliance Understand operational best practices and learn how to architect a monitoring solution Gain insights into modern application design with Google Cloud Leverage big data, machine learning, and AI with Google Cloud Who this book is for: This book is for cloud architects who are responsible for designing and managing cloud solutions with GCP. You'll also find the book useful if you're a system engineer or enterprise architect looking to learn how to design solutions with Google Cloud. Moreover, cloud architects who already have experience with other cloud providers and are now beginning to work with Google Cloud will benefit from the book. Although an intermediate-level understanding of cloud computing and distributed apps is required, prior experience of working in the public and hybrid cloud domain is not mandatory.

Cloud Computing Technologies for Green Enterprises May 10 2021 Emerging developments in cloud computing have created novel opportunities and applications for businesses. These innovations not only have organizational benefits, but can be advantageous for green enterprises as well. Cloud Computing Technologies for Green Enterprises is a pivotal reference source for the latest scholarly research on the advancements, benefits, and challenges of cloud computing for green enterprise endeavors. Highlighting pertinent topics such as resource allocation, energy efficiency, and mobile computing, this book is a premier resource for academics, researchers, students, professionals, and managers interested in novel trends in cloud computing applications.

Software Engineering in IoT, Big Data, Cloud and Mobile Computing May 22 2022 This edited book presents scientific results of the International Semi-Virtual Workshop on Software Engineering in IoT, Big data, Cloud and Mobile Computing (SE-ICBM 2020) which was held on October 15, 2020, at Soongsil University, Seoul, Korea. The aim of this workshop was to bring together researchers and scientists, businessmen and entrepreneurs, teachers, engineers, computer users, and students to discuss the numerous fields of computer science and to share their experiences and exchange new ideas and information in a meaningful way. Research results about all aspects (theory, applications and tools) of computer and information science, and to discuss the practical challenges encountered along the way and the solutions adopted to solve them. The workshop organizers selected the best papers from those papers accepted for presentation at the workshop. The papers were chosen based on review scores submitted by members of the program committee and underwent further rigorous rounds of review. From this second round of review, 17 of the conference's most promising papers are then published in this Springer (SCI) book and not the conference proceedings. We impatiently await the important contributions that we know these authors will bring to the field of computer and information science.

Software Architecture for Big Data and the Cloud Aug 01 2020 Software Architecture for Big Data and the Cloud is designed to be a single resource that brings together research on how software architectures can solve the challenges imposed by building big data software systems. The challenges of big data on the software architecture can relate to scale, security, integrity, performance, concurrency, parallelism, and dependability, amongst others. Big data handling requires rethinking architectural solutions to meet functional and non-functional requirements related to volume, variety and velocity. The book's editors have varied and complementary backgrounds in requirements and architecture, specifically in software architectures for cloud and big data, as well as expertise in software engineering for cloud and big data. This book brings together work across different disciplines in software engineering, including work expanded from conference tracks and workshops led by the editors. Discusses systematic and disciplined approaches to building software architectures for cloud and big data with state-of-the-art methods and techniques Presents case studies involving enterprise, business, and government service deployment of big data applications Shares guidance on theory, frameworks, methodologies, and architecture for cloud and big data **Systems Simulation and Modeling for Cloud Computing and Big Data Applications** Jan 26 2020 Systems Simulation and Modelling for Cloud Computing and Big Data Applications provides readers with the most current approaches to solving problems through the use of models and simulations, presenting SSM based approaches to performance testing and benchmarking that offer significant advantages. For example, multiple big data and cloud application developers and researchers can perform tests in a controllable and repeatable manner. Inspired by the need to analyze the performance of different big data processing and cloud frameworks, researchers have introduced several benchmarks, including BigDataBench, BigBench, HiBench, PigMix, CloudSuite and GridMix, which are all covered in this book. Despite the substantial progress, the research community still needs a holistic, comprehensive big data SSM to use in almost every scientific and engineering discipline involving multidisciplinary research. SSM develops frameworks that are applicable across disciplines to develop benchmarking tools that are useful in solutions development. Examines the methodology and requirements of benchmarking big data and cloud computing tools, advances in big data frameworks and benchmarks for large-scale data analytics, and frameworks for benchmarking and predictive analytics in big data deployment Discusses applications using big data benchmarks, such as BigDataBench, BigBench, HiBench, MapReduce, HPCC, ECL, HOBBIT, GridMix and PigMix, and applications using big data frameworks, such as Hadoop, Spark, Samza, Flink and SQL frameworks Covers development of big data benchmarks to evaluate workloads in state-of-the-practice heterogeneous hardware platforms, advances in modeling and simulation tools for performance evaluation, security problems and scalable cloud computing environments

Google Cloud Platform for Architects Jun 30 2020 Get acquainted with GCP and manage robust, highly available, and dynamic solutions to drive business objective Key Features Identify the strengths, weaknesses and ideal use-cases for individual services offered on the Google Cloud Platform Make intelligent choices about which cloud technology works best for your use-case Leverage Google Cloud Platform to analyze and optimize technical and business processes Book Description Using a public cloud platform was considered risky a decade ago, and unconventional even just a few years ago. Today, however, use of the public cloud is completely mainstream - the norm, rather than the exception. Several leading technology firms, including Google, have built sophisticated cloud platforms, and are locked in a fierce competition for market share. The main goal of this book is to enable you to get the best out of the GCP, and to use it with confidence and competence. You will learn why cloud architectures take the forms that they do, and this will help you become a skilled high-level cloud architect. You will also learn how individual cloud services are configured and used, so that you are never intimidated at having to build it yourself. You will also learn the right way and the right situation in which to use the important GCP services. By the end of this book, you will be able to make the most out of Google Cloud Platform design. What you will learn Set up GCP account and utilize GCP services using the cloud shell, web console, and client APIs Harness the power of App Engine, Compute Engine, Containers on the Kubernetes Engine, and Cloud Functions Pick the right managed service for your data needs, choosing intelligently between Datastore, BigTable, and BigQuery Migrate existing Hadoop, Spark, and Pig workloads with minimal disruption to your existing data infrastructure, by using Dataproc intelligently Derive insights about the health, performance, and availability of cloud-powered applications with the help of monitoring, logging, and diagnostic tools in Stackdriver Who this book is for If you are a Cloud architect who is responsible to design and manage robust cloud solutions with Google Cloud Platform, then this book is for you. System engineers and Enterprise architects will also find this book useful. A basic understanding of distributed applications would be helpful, although not strictly necessary. Some working experience on other public cloud platforms would help too.

Data Privacy and Trust in Cloud Computing Oct 27 2022 This open access book brings together perspectives from multiple disciplines including psychology, law, IS, and computer science on data privacy and trust in the cloud. Cloud technology has fueled rapid, dramatic technological change, enabling a level of connectivity that has never been seen before in human history. However, this brave new world comes with problems. Several high-profile cases over the last few years have demonstrated cloud computing's uneasy relationship with data security and trust. This volume explores the numerous technological, process and regulatory solutions presented in academic literature as mechanisms for building trust in the cloud, including GDPR in Europe. The massive acceleration of digital adoption resulting from the COVID-19 pandemic is introducing new and significant security and privacy threats and concerns. Against this backdrop, this book provides a timely reference and organising framework for considering how we will assure privacy and build trust in such a hyper-connected digitally dependent world. This book presents a framework for assurance and accountability in the cloud and reviews the literature on trust, data privacy and protection, and ethics in cloud computing.

Cloud Computing Solutions Nov 16 2021 CLOUD COMPUTING SOLUTIONS The main purpose of this book is to include all the cloud-related technologies in a single platform, so that researchers, academicians, postgraduate

students, and those in the industry can easily understand the cloud-based ecosystems. This book discusses the evolution of cloud computing through grid computing and cluster computing. It will help researchers and practitioners to understand grid and distributed computing cloud infrastructure, virtual machines, virtualization, live migration, scheduling techniques, auditing concept, security and privacy, business models, and case studies through the state-of-the-art cloud computing countermeasures. This book covers the spectrum of cloud computing-related technologies and the wide-ranging contents will differentiate this book from others. The topics treated in the book include: The evolution of cloud computing from grid computing, cluster computing, and distributed systems; Covers cloud computing and virtualization environments; Discusses live migration, database, auditing, and applications as part of the materials related to cloud computing; Provides concepts of cloud storage, cloud strategy planning, and management, cloud security, and privacy issues; Explains complex concepts clearly and covers information for advanced users and beginners. Audience The primary audience for the book includes IT, computer science specialists, researchers, graduate students, designers, experts, and engineers who are occupied with research.

Building Big Data and Analytics Solutions in the Cloud Dec 17 2021 Big data is currently one of the most critical emerging technologies. Organizations around the world are looking to exploit the explosive growth of data to unlock previously hidden insights in the hope of creating new revenue streams, gaining operational efficiencies, and obtaining greater understanding of customer needs. It is important to think of big data and analytics together. Big data is the term used to describe the recent explosion of different types of data from disparate sources. Analytics is about examining data to derive interesting and relevant trends and patterns, which can be used to inform decisions, optimize processes, and even drive new business models. With today's deluge of data comes the problems of processing that data, obtaining the correct skills to manage and analyze that data, and establishing rules to govern the data's use and distribution. The big data technology stack is ever growing and sometimes confusing, even more so when we add the complexities of setting up big data environments with large up-front investments. Cloud computing seems to be a perfect vehicle for hosting big data workloads. However, working on big data in the cloud brings its own challenge of reconciling two contradictory design principles. Cloud computing is based on the concepts of consolidation and resource pooling, but big data systems (such as Hadoop) are built on the shared nothing principle, where each node is independent and self-sufficient. A solution architecture that can allow these mutually exclusive principles to coexist is required to truly exploit the elasticity and ease-of-use of cloud computing for big data environments. This IBM® Redpaper™ publication is aimed at chief architects, line-of-business executives, and CIOs to provide an understanding of the cloud-related challenges they face and give prescriptive guidance for how to realize the benefits of big data solutions quickly and cost-effectively.

Handbook of Research on Cloud Computing and Big Data Applications in IoT Feb 25 2020 Today, cloud computing, big data, and the internet of things (IoT) are becoming indubitable parts of modern information and communication systems. They cover not only information and communication technology but also all types of systems in society including within the realms of business, finance, industry, manufacturing, and management. Therefore, it is critical to remain up-to-date on the latest advancements and applications, as well as current issues and challenges. The Handbook of Research on Cloud Computing and Big Data Applications in IoT is a pivotal reference source that provides relevant theoretical frameworks and the latest empirical research findings on principles, challenges, and applications of cloud computing, big data, and IoT. While highlighting topics such as fog computing, language interaction, and scheduling algorithms, this publication is ideally designed for software developers, computer engineers, scientists, professionals, academicians, researchers, and students.

The Great Cloud Migration May 30 2020 - Learn how to migrate your applications to the cloud! - Learn how to overcome your senior management's concerns about Cloud Security and Interoperability! - Learn how to explain cloud computing, big data and linked data to your organization! - Learn how to develop a robust Cloud Implementation Strategy! - Learn how a Technical Cloud Broker can ease your migration to the cloud! This book will answer the key questions that every organization is asking about emerging technologies like Cloud Computing, Big Data and Linked Data. Written by a seasoned expert and author/co-author of 11 other technical books, this book deftly guides you with real-world experience, case studies, illustrative diagrams and in-depth analysis. * How do you migrate your software applications to the cloud? This book is your definitive guide to migrating applications to the cloud! It explains all the options, tradeoffs, challenges and obstacles to the migration. It provides a migration lifecycle and process you can follow to migrate each application. It provides in-depth case studies: an Infrastructure-as-a-Service case study and a Platform-as-a-Service case study. It covers the difference between application migration and data migration to the cloud and walks you through how to do both well. It covers migration to all the major cloud providers to include Amazon Web Services (AWS), Google AppEngine and Microsoft Azure. * How do you develop a sound implementation strategy for the migration to the cloud? This book leverages Mr. Daconta's 25 years of leadership experience, from the Military to Corporate Executive teams to the Office of the CIO in the Department of Homeland Security, to guide you through the development of a practical and sound implementation strategy. The book's "Triple-A" Strategy: Assessment, Architecture then Action is must reading for every project lead and IT manager! * This book covers twenty migration scenarios! Application and data migration to the cloud

Synergistic Interaction of Big Data with Cloud Computing for Industry 4.0 Mar 28 2020 The idea behind this book is to simplify the journey of aspiring readers and researchers to understand the convergence of Big Data with the Cloud. This book presents the latest information on the adaptation and implementation of Big Data technologies in various cloud domains and Industry 4.0. Synergistic Interaction of Big Data with Cloud Computing for Industry 4.0 discusses how to develop adaptive, robust, scalable, and reliable applications that can be used in solutions for day-to-day problems. It focuses on the two frontiers — Big Data and Cloud Computing – and reviews the advantages and consequences of utilizing Cloud Computing to tackle Big Data issues within the manufacturing and production sector as part of Industry 4.0. The book unites some of the top Big Data experts throughout the world who contribute their knowledge and expertise on the different aspects, approaches, and concepts related to new technologies and novel findings. Based on the latest technologies, the book offers case studies and covers the major challenges, issues, and advances in Big Data and Cloud Computing for Industry 4.0. By exploring the basic and high-level concepts, this book serves as a guide for those in the industry, while also helping beginners and more advanced learners understand both basic and more complex aspects of the synergy between Big Data and Cloud Computing.

Rise of the Data Cloud Jul 24 2022 The rise of the Data Cloud is ushering in a new era of computing. The world's digital data is mass migrating to the cloud, where it can be more effectively integrated, managed, and mobilized. The data cloud eliminates data siloes and enables data sharing with business partners, capitalizing on data network effects. It democratizes data analytics, making the most sophisticated data science tools accessible to organizations of all sizes. Data exchanges enable businesses to discover, explore, and easily purchase or sell data—opening up new revenue streams. Business leaders have long dreamed of data driving their organizations. Now, thanks to the Data Cloud, nothing stands in their way.

Security and Privacy Trends in Cloud Computing and Big Data Sep 14 2021 This book explores the security and privacy issues of Cloud Computing and Big Data, providing essential insights into cloud computing and big data integration.

Cloud Computing Systems and Applications in Healthcare Aug 13 2021 The implementation of cloud technologies in healthcare is paving the way to more effective patient care and management for medical professionals around the world. As more facilities start to integrate cloud computing into their healthcare systems, it is imperative to examine the emergent trends and innovations in the field. Cloud Computing Systems and Applications in Healthcare features innovative research on the impact that cloud technology has on patient care, disease management, and the efficiency of various medical systems. Highlighting the challenges and difficulties in implementing cloud technology into the healthcare field, this publication is a critical reference source for academicians, technology designers, engineers, professionals, analysts, and graduate students.

Enterprise Management Strategies in the Era of Cloud Computing Jun 11 2021 Recent advances in internet architecture have led to the advent and subsequent explosion of cloud computing technologies, providing businesses with a powerful toolbox of collaborative digital resources. These technologies have fostered a more flexible, decentralized approach to IT infrastructure, enabling businesses to operate in a more agile fashion and on a globalized scale.

Enterprise Management Strategies in the Era of Cloud Computing seeks to explore the possibilities of business in the cloud. Targeting an audience of research scholars, students, software developers, and business professionals, this premier reference source provides a cutting-edge look at the exciting and multifaceted relationships between cloud computing, software virtualization, collaborative technology, and business infrastructure in the 21st Century.

Cloud Computing and Electronic Discovery Nov 23 2019 Explore the frontier of electronic discovery in the cloud Cloud Computing and Electronic Discovery comprehensively covers the quickly-evolving realm of eDiscovery in cloud computing environments, a computing and legal frontier in which the rules and legal precedents are being developed anew seemingly by the day. The book delves into this fascinating and rapidly-developing topic to prepare

fraud investigators, legal professionals, forensic accountants, and executives understand the ramifications of storing data with third party providers and how such storage mechanisms relate to the limits of discovery practices. This up-to-date resource also includes a complete discussion of the few existing legal precedents and current cases that are shaping interpretation of discovery laws in the cloud space, a perfect overview for executives storing their companies' data in the cloud and the legal professionals tasked with understanding and interpreting the discovery rules surrounding that data. The book is comprehensive in scope and includes: An overview of current trends in cloud computing, including potential information that should be considered in an investigation that involves data held by a cloud service provider Updates on current and proposed laws governing discovery of information held by a third party cloud service provider Updates on legal cases that address the issues of the Electronic Communication Privacy Act, the Federal law prohibiting release of information by a third party provider Practical guidance on how to consider the availability of cloud data relevant to an investigation, and how to include this data in discovery plans For business, accounting, and legal professionals, Cloud Computing and Electronic Discovery is an invaluable resource for understanding the nuanced development of cloud eDiscovery policies, practices, and law as they continue to unfold and develop.

Cloud Computing Mar 08 2021 Modern computing is no longer about devices but is all about providing services, a natural progression that both consumers and enterprises are eager to embrace. As it can deliver those services, efficiently and with quality, at compelling price levels, cloud computing is with us to stay. Ubiquitously and quite definitively, cloud computing is answering the demand for sophisticated, flexible services Cloud Computing: Technologies and Strategies of the Ubiquitous Data Center looks at cloud computing from an IT manager's perspective. It answers basic as well as strategic questions from both a business and a technical perspective so that you can confidently engage both IT and financial assets in making your organization techno- savvy, efficient, and competitive. Any answers about the future of computing are definitely in the cloud The first section of the book offers up a history of the computing roots that have evolved into cloud computing. It looks at how IT has been traditionally serving needs and how cloud computing improves and expands on these services, so you can strategize about how a cloud might provide solutions to specific IT questions or answer business needs. Next, the book shows how to begin the process of determining which organizational needs would best be served and improved by cloud computing. Presenting specific cases as examples, the book walks you through issues that your organization might likely encounter. Written clearly and succinctly, it -- Introduces you to the concepts behind different types of clouds, including those used for storage, those that improve processor and application delivery, and those that mix any and all of these services Covers typical concerns you will hear with regard to such issues as security, application integration, and structural limitations Looks at the future of the cloud, from developments on the horizon to those still in the planning stage By the book's conclusion, you will have a solid basis on which to initiate strategic discussions about deploying clouds in your organization. You will understand how cloud computing can affordably solve real problems. You will know which strategies to use and you will learn of the pitfalls to avoid when taking your data center to the clouds. Throughout this book are the answers you need to the many questions from the most basic to the more advanced surrounding cloud computing and its place in your enterprise. What exactly is cloud computing? How are clouds different than virtualization? Should my organization use a cloud (or multiple clouds)? Can clouds and virtualization play significant roles in my organization at the same time? Covering the basics of virtualization and clusters and the more advanced strategic considerations of security and return on investment, this book will be your guide to IT's present and future in the cloud, a resource that you will continually turn to. Coming soon! For more information, Professional Cloud Computing, at www.professionalcloudcomputing.com, will help you find information to delve more deeply into the discussion in any of a number of directions.

Managing and Processing Big Data in Cloud Computing Jan 18 2022 Big data has presented a number of opportunities across industries. With these opportunities come a number of challenges associated with handling, analyzing, and storing large data sets. One solution to this challenge is cloud computing, which supports a massive storage and computation facility in order to accommodate big data processing. Managing and Processing Big Data in Cloud Computing explores the challenges of supporting big data processing and cloud-based platforms as a proposed solution. Emphasizing a number of crucial topics such as data analytics, wireless networks, mobile clouds, and machine learning, this publication meets the research needs of data analysts, IT professionals, researchers, graduate students, and educators in the areas of data science, computer programming, and IT development.

Guide to Cloud Computing for Business and Technology Managers Sep 21 2019 Guide to Cloud Computing for Business and Technology Managers: From Distributed Computing to Cloudware Applications unravels the mystery of cloud computing and explains how it can transform the operating contexts of business enterprises. It provides a clear understanding of what cloud computing really means, what it can do, and when it is practical to use. Addressing the primary management and operation concerns of cloudware, including performance, measurement, monitoring, and security, this pragmatic book: Introduces the enterprise applications integration (EAI) solutions that were a first step toward enabling an integrated enterprise Details service-oriented architecture (SOA) and related technologies that paved the road for cloudware applications Covers delivery models like IaaS, PaaS, and SaaS, and deployment models like public, private, and hybrid clouds Describes Amazon, Google, and Microsoft cloudware solutions and services, as well as those of several other players Demonstrates how cloud computing can reduce costs, achieve business flexibility, and sharpen strategic focus Unlike customary discussions of cloud computing, Guide to Cloud Computing for Business and Technology Managers: From Distributed Computing to Cloudware Applications emphasizes the key differentiator—that cloud computing is able to treat enterprise-level services not merely as discrete stand-alone services, but as Internet-locatable, composable, and repackable building blocks for generating dynamic real-world enterprise business processes.

Data Security in Cloud Computing Oct 03 2020 This book covers not only information protection in cloud computing, architecture and fundamentals, but also the plan design and in-depth implementation details needed to migrate existing applications to the cloud. Cloud computing has already been adopted by many organizations and people because of its advantages of economy, reliability, scalability and guaranteed quality of service amongst others. Readers will learn specifics about software as a service (SaaS), platform as a service (PaaS), infrastructure as a service (IaaS), server and desktop virtualization, and much more. Readers will have a greater comprehension of cloud engineering and the actions required to rapidly reap its benefits while at the same time lowering IT implementation risk. The book's content is ideal for users wanting to migrate to the cloud, IT professionals seeking an overview on cloud fundamentals, and computer science students who will build cloud solutions for testing purposes.

Cloud Computing Jun 18 2019 This book reviews the challenging issues that present barriers to greater implementation of the cloud computing paradigm, together with the latest research into developing potential solutions. Topics and features: presents a focus on the most important issues and limitations of cloud computing, covering cloud security and architecture, QoS and SLAs; discusses a methodology for cloud security management, and proposes a framework for secure data storage and identity management in the cloud; introduces a simulation tool for energy-aware cloud environments, and an efficient congestion control system for data center networks; examines the issues of energy-aware VM consolidation in the IaaS provision, and software-defined networking for cloud related applications; reviews current trends and suggests future developments in virtualization, cloud security, QoS data warehouses, cloud federation approaches, and DBaaS provision; predicts how the next generation of utility computing infrastructures will be designed.

Cloud Computing Mar 20 2022 The complete guide to provisioning and managing cloud-based Infrastructure as a Service (IaaS) data center solutions Cloud computing will revolutionize the way IT resources are deployed, configured, and managed for years to come. Service providers and customers each stand to realize tremendous value from this paradigm shift--if they can take advantage of it. Cloud Computing brings together the realistic, start-to-finish guidance they need to plan, implement, and manage cloud solution architectures for tomorrow's virtualized data centers. It introduces cloud "newcomers" to essential concepts, and offers experienced operations professionals detailed guidance on delivering Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). This book's replicable solutions and fully-tested best practices will help enterprises, service providers, consultants, and Cisco partners meet the challenge of provisioning end-to-end cloud infrastructures. Drawing on extensive experience working with leading cloud vendors and integrators, the authors present detailed operations workflow examples, proven techniques for operating cloud-based network, compute, and storage infrastructure; a comprehensive management reference architecture; and a complete case study demonstrating rapid, lower-cost solutions design. Cloud Computing will be an indispensable resource for all network/IT professionals and managers involved with planning, implementing, or managing the next generation of cloud computing services. Venkata (Josh) Josyula, Ph.D., CCIE® No. 13518 is a Distinguished Services Engineer in Cisco Services Technology Group (CSTG) and advises Cisco customers on OSS/BSS architecture and solutions. Malcolm Orr, Solutions Architect for Cisco's Services Technology Solutions, advises telecoms and enterprise clients on architecting, building, and operating OSS/BSS and cloud management stacks. He is Cisco's lead architect for several Tier 1 public cloud projects. Greg Page has spent the last

eleven years with Cisco in technical consulting roles relating to data center architecture/technology and service provider security. He is now exclusively focused on developing cloud/IaaS solutions with service providers and systems integrator partners. · Review the key concepts needed to successfully deploy clouds and cloud-based services · Transition common enterprise design patterns and use cases to the cloud · Master architectural principles and infrastructure designs for "real-time" managed IT services · Understand the Cisco approach to cloud-related technologies, systems, and services · Develop a cloud management architecture using ITIL, TMF, and ITU-TMN standards · Implement best practices for cloud service provisioning, activation, and management · Automate cloud infrastructure to simplify service delivery, monitoring, and assurance · Choose and implement the right billing/chargeback approaches for your business · Design and build IaaS services, from start to finish · Manage the unique capacity challenges associated with sporadic, real-time demand · Provide a consistent and optimal cloud user experience This book is part of the Networking Technology Series from Cisco Press®, which offers networking professionals valuable information for constructing efficient networks, understanding new technologies, and building successful careers. Category: Cloud Computing Covers: Virtualized Data Centers

Big Data, Cloud Computing, Data Science & Engineering Sep 26 2022 This book presents the outcomes of the 3rd IEEE/ACIS International Conference on Big Data, Cloud Computing, Data Science & Engineering (BCD 2018), which was held on July 10–12, 2018 in Kanazawa. The aim of the conference was to bring together researchers and scientists, businesspeople and entrepreneurs, teachers, engineers, computer users, and students to discuss the various fields of computer science, to share their experiences, and to exchange new ideas and information in a meaningful way. All aspects (theory, applications and tools) of computer and information science, the practical challenges encountered along the way, and the solutions adopted to solve them are all explored here. The conference organizers selected the best papers from among those accepted for presentation. The papers were chosen on the basis of review scores submitted by members of the program committee and subsequently underwent further rigorous review. Following this second round of review, 13 of the conference's most promising papers were selected for this Springer (SCI) book. We eagerly await the important contributions that we know these authors will make to the field of computer and information science.

Cloud Computing Dec 25 2019 As more and more data is generated at a faster-than-ever rate, processing large volumes of data is becoming a challenge for data analysis software. Addressing performance issues, Cloud Computing: Data-Intensive Computing and Scheduling explores the evolution of classical techniques and describes completely new methods and innovative algorithms. The

Security and Privacy for Big Data, Cloud Computing and Applications Aug 25 2022 This book examines various topics and approaches related to the security and privacy in big data and cloud computing, where authors share their expertise in their respective chapters on a broad range of security and privacy challenges and state of the art solutions.

Architecting Big Data Solutions Integrated with IoT & Cloud Apr 09 2021 IoT, Big Data, and Cloud Computing are three distinct technology domains with overlapping use cases. Each technology has its own merits; however, the combination of three creates a synergy and the golden opportunity for businesses to reap the exponential benefits. This combination can create technological magic for innovation when adequately architected, designed, implemented, and operated. Integrating Big Data with IoT and Cloud architectures provide substantial business benefits. It is like a perfect match. IoT collects real-time data. Big Data optimises data management solutions. Cloud collects, hosts, computes, stores, and disseminates data rapidly. Based on these compelling business propositions, the primary purpose of this book is to provide practical guidance on creating Big Data solutions integrated with IoT and Cloud architectures. To this end, the book offers an architectural overview, solution practice, governance, and underlying technical approach for creating integrated Big Data, Cloud, and IoT solutions. The book offers an introduction to solution architecture, three distinct chapters comprising Big Data, Cloud, and the IoT with the final chapter, including conclusive remarks to consider for Big Data solutions. These chapters include essential architectural points, solution practice, methodical rigour, techniques, technologies, and tools. Creating Big Data solutions are complex and complicated from multiple angles. However, with the awareness and guidance provided in this book, the Big Data solutions architects can be empowered to provide useful and productive solutions with growing confidence.

Security and Privacy Trends in Cloud Computing and Big Data Jul 20 2019 It is essential for an organization to know before involving themselves in cloud computing and big data, what are the key security requirements for applications and data processing. Big data and cloud computing are integrated together in practice. Cloud computing offers massive storage, high computation power, and distributed capability to support processing of big data. In such an integrated environment the security and privacy concerns involved in both technologies become combined. This book discusses these security and privacy issues in detail and provides necessary insights into cloud computing and big data integration. It will be useful in enhancing the body of knowledge concerning innovative technologies offered by the research community in the area of cloud computing and big data. Readers can get a better understanding of the basics of cloud computing, big data, and security mitigation techniques to deal with current challenges as well as future research opportunities.

Big Data, Cloud Computing, and Data Science Engineering Feb 19 2022 This edited book presents the scientific outcomes of the 4th IEEE/ACIS International Conference on Big Data, Cloud Computing, Data Science & Engineering (BCD 2019) which was held on May 29–31, 2019 in Honolulu, Hawaii. The aim of the conference was to bring together researchers and scientists, businessmen and entrepreneurs, teachers, engineers, computer users and students to discuss the numerous fields of computer science and to share their experiences and exchange new ideas and information in a meaningful way. Presenting 15 of the conference's most promising papers, the book discusses all aspects (theory, applications and tools) of computer and information science, the practical challenges encountered along the way, and the solutions adopted to solve them.

Cloud Computing Oct 15 2021 Cloud Computing, Second Edition accounts for the many changes to the then-emerging business model and technology paradigm.

Creating Smart Enterprises Aug 21 2019 "Vivek Kale's *Creating Smart Enterprises* goes smack-dab at the heart of harnessing technology for competing in today's chaotic digital era. Actually, for him, it's SMACT-dab: SMACT (Social media, Mobile, Analytics and big data, Cloud computing, and internet of Things) technologies. This book is required reading for those that want to stay relevant and win, and optional for those that don't." —Peter Fingar, Author of *Cognitive Computing* and business technology consultant *Creating Smart Enterprises* unravels the mystery of social media, mobile, analytics and big data, cloud, and Internet of Things (SMACT) computing and explains how it can transform the operating context of business enterprises. It provides a clear understanding of what SMACT really means, what it can do for smart enterprises, and application areas where it is practical to use them. All IT professionals who are involved with any aspect of a SMACT computing project will profit by using this book as a roadmap to make a more meaningful contribution to the success of their computing initiatives. This pragmatic book: Introduces the VUCA (volatility, uncertainty, complexity, and ambiguity) business ecosystem confronted by the businesses today. Describes the challenges of defining business and IT strategies and of aligning them as well as their impact on enterprise governance. Provides a very wide treatment of the various components of SMACT computing, including the Internet of Things (IoT) and its constituting technologies like RFID, wireless networks, sensors, and wireless sensor networks (WSNs). This book addresses the key differentiator of SMACT computing environments and solutions that combine the power of an elastic infrastructure with analytics. The SMACT environment is cloud-based and inherently mobile. Information management processes can analyze and discern recurring patterns in colossal pools of operational and transactional data. Analytics, big data, and IoT computing leverage and transform these data patterns to help create successful, smart enterprises.

Cloud Computing For Dummies Dec 05 2020 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 storage 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.

Microsoft Azure Infrastructure Services for Architects Nov 04 2020 An expert guide for IT administrators needing to create and manage a public cloud and virtual network using Microsoft Azure With Microsoft Azure challenging Amazon Web Services (AWS) for market share, there has been no better time for IT professionals to broaden and expand their knowledge of Microsoft's flagship virtualization and cloud computing service. Microsoft Azure Infrastructure Services for Architects: Designing Cloud Solutions helps readers develop the skills required to understand the capabilities of Microsoft Azure for Infrastructure Services and implement a public cloud to achieve full virtualization of data, both on and off premise. Microsoft Azure provides granular control in choosing core infrastructure components, enabling IT administrators to deploy new Windows Server and Linux virtual machines, adjust usage as requirements change, and scale to meet the infrastructure needs of their entire organization. This accurate, authoritative book covers topics including IaaS cost and options, customizing VM storage, enabling external connectivity to Azure virtual machines, extending Azure Active Directory, replicating and backing up to Azure, disaster recovery, and much more. New users and experienced professionals alike will: Get expert guidance on understanding, evaluating, deploying, and maintaining Microsoft Azure environments from Microsoft MVP and technical specialist John Savill Develop the skills to set up cloud-based virtual machines, deploy web servers, configure hosted data stores, and use other key Azure technologies Understand how to design and implement serverless and hybrid solutions Learn to use enterprise security guidelines for Azure deployment Offering the most up to date information and practical advice, Microsoft Azure Infrastructure Services for Architects: Designing Cloud Solutions is an essential resource for IT administrators, consultants and engineers responsible for learning, designing, implementing, managing, and maintaining Microsoft virtualization and cloud technologies.

Architecting Cloud Computing Solutions Jun 23 2022 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 the design 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.

Cloud Computing Apr 28 2020 Cloud computing continues to emerge as a subject of substantial industrial and academic interest. Although the meaning and scope of "cloud computing" continues to be debated, the current notion of clouds blurs the distinctions between grid services, web services, and data centers, among other areas. Clouds also bring considerations of lowering the cost for relatively bursty applications to the fore. Cloud Computing: Principles, Systems and Applications is an essential reference/guide that provides thorough and timely examination of the services, interfaces and types of applications that can be executed on cloud-based systems. The book identifies and highlights state-of-the-art techniques and methods for designing cloud systems, presents mechanisms and schemes for linking clouds to economic activities, and offers balanced coverage of all related technologies that collectively contribute towards the realization of cloud computing. With an emphasis on the conceptual and systemic links between cloud computing and other distributed computing approaches, this text also addresses the practical importance of efficiency, scalability, robustness and security as the four cornerstones of quality of service. Topics and features: explores the relationship of cloud computing to other distributed computing paradigms, namely peer-to-peer, grids, high performance computing and web services; presents the principles, techniques, protocols and algorithms that can be adapted from other distributed computing paradigms to the development of successful clouds; includes a Foreword by Professor Mark Baker of the University of Reading, UK; examines current cloud-practical applications and highlights early deployment experiences; elaborates the economic schemes needed for clouds to become viable business models. This book will serve as a comprehensive reference for researchers and students engaged in cloud computing. Professional system architects, technical managers, and IT consultants will also find this unique text a practical guide to the application and delivery of commercial cloud services. Prof. Nick Antonopoulos is Head of the School of Computing, University of Derby, UK. Dr. Lee Gillam is a Lecturer in the Department of Computing at the University of Surrey, UK.

Architecting Google Cloud Solutions Apr 21 2022 Achieve your business goals and build highly available, scalable, and secure cloud infrastructure by designing robust and cost-effective solutions as a Google Cloud Architect. Key Features Gain hands-on experience in designing and managing high-performance cloud solutions Leverage Google Cloud Platform to optimize technical and business processes using cutting-edge technologies and services Use Google Cloud Big Data, AI, and ML services to design scalable and intelligent data solutions Book Description Google has been one of the top players in the public cloud domain thanks to its agility and performance capabilities. This book will help you design, develop, and manage robust, secure, and dynamic solutions to successfully meet your business needs. You'll learn how to plan and design network, compute, storage, and big data systems that incorporate security and compliance from the ground up. The chapters will cover simple to complex use cases for devising solutions to business problems, before focusing on how to leverage Google Cloud's Platform-as-a-Service (PaaS) and Software-as-a-Service (SaaS) capabilities for designing modern no-operations platforms. Throughout this book, you'll discover how to design for scalability, resiliency, and high availability. Later, you'll find out how to use Google Cloud to design modern applications using microservices architecture, automation, and Infrastructure-as-Code (IaC) practices. The concluding chapters then demonstrate how to apply machine learning and artificial intelligence (AI) to derive insights from your data. Finally, you will discover best practices for operating and monitoring your cloud solutions, as well as performing troubleshooting and quality assurance. By the end of this Google Cloud book, you'll be able to design robust enterprise-grade solutions using Google Cloud Platform. What you will learn Get to grips with compute, storage, networking, data analytics, and pricing Discover delivery models such as IaaS, PaaS, and SaaS Explore the underlying technologies and economics of cloud computing Design for scalability, business continuity, observability, and resiliency Secure Google Cloud solutions and ensure compliance Understand operational best practices and learn how to architect a monitoring solution Gain insights into modern application design with Google Cloud Leverage big data, machine learning, and AI with Google Cloud Who this book is for This book is for cloud architects who are responsible for designing and managing cloud solutions with GCP. You'll also find the book useful if you're a system engineer or enterprise architect looking to learn how to design solutions with Google Cloud. Moreover, cloud architects who already have experience with other cloud providers and are now beginning to work with Google Cloud will benefit from the book. Although an intermediate-level understanding of cloud computing and distributed apps is required, prior experience of working in the public and hybrid cloud domain is not mandatory.