Reading free Building data streaming applications with apache kafka design develop and streamline applications using apache kafka storm heron and spark (Read Only)

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2021: Parallel Processing Big Data Computing Big Data Analytics Techniques for Market Intelligence Flow Architectures Cloud Computing – CLOUD 2018 High-Performance Big Data Computing Data Analytics for Intelligent Transportation Systems Intelligent Computing and Block Chain Hadoop□□□□□□□□□ The Rotarian

Building Data Streaming Applications with Apache Kafka 2017-08-18

design and administer fast reliable enterprise messaging systems with apache kafka about this book build efficient real time streaming applications in apache kafka to process data streams of data master the core kafka apis to set up apache kafka clusters and start writing message producers and consumers a comprehensive guide to help you get a solid grasp of the apache kafka concepts in apache kafka with pracitcalpractical examples who this book is for if you want to learn how to use apache kafka and the different tools in the kafka ecosystem in the easiest possible manner this book is for you some programming experience with java is required to get the most out of this book what you will learn learn the basics of apache kafka from scratch use the basic building blocks of a streaming application design effective streaming applications with kafka using spark storm and heron understand the importance of a low latency high throughput and fault tolerant messaging system make effective capacity planning while deploying your kafka application understand and implement the best security practices in detail apache kafka is a popular distributed streaming platform that acts as a messaging queue or an enterprise messaging system it lets you publish and subscribe to a stream of records and process them in a fault tolerant way as they occur this book is a comprehensive guide to designing and architecting enterprise grade streaming applications using apache kafka and other big data tools it includes best practices for building such applications and tackles some common challenges such as how to use kafka efficiently and handle high data volumes with ease this book first takes you through understanding the type messaging system and then provides a thorough introduction to apache kafka and its internal details the second part of the book takes you through designing streaming application

using various frameworks and tools such as apache spark apache storm and more once you grasp the basics we will take you through more advanced concepts in apache kafka such as capacity planning and security by the end of this book you will have all the information you need to be comfortable with using apache kafka and to design efficient streaming data applications with it style and approach a step by step comprehensive guide filled with practical and real world examples

Cloud Computing for Science and Engineering *2017-09-29*

a guide to cloud computing for students scientists and engineers with advice and many hands on examples the emergence of powerful always on cloud utilities has transformed how consumers interact with information technology enabling video streaming intelligent personal assistants and the sharing of content businesses too have benefited from the cloud outsourcing much of their information technology to cloud services science however has not fully exploited the advantages of the cloud could scientific discovery be accelerated if mundane chores were automated and outsourced to the cloud leading computer scientists ian foster and dennis gannon argue that it can and in this book offer a guide to cloud computing for students scientists and engineers with advice and many hands on examples the book surveys the technology that underpins the cloud new approaches to technical problems enabled by the cloud and the concepts required to integrate cloud services into scientific work it covers managing data in the cloud and how to program these services computing in the cloud from deploying single virtual machines or containers to supporting basic interactive science experiments to gathering clusters of machines to do data analytics using the cloud as a platform for automating analysis procedures machine learning and analyzing streaming data building your own cloud with open source software and cloud security the book is

accompanied by a website cloud4scieng org that provides a variety of supplementary material including exercises lecture slides and other resources helpful to readers and instructors

Anomaly Detection and Complex Event Processing Over IoT Data Streams *2022-01-07*

anomaly detection and complex event processing over iot data streams with application to ehealth and patient data monitoring presents advanced processing techniques for iot data streams and the anomaly detection algorithms over them the book brings new advances and generalized techniques for processing iot data streams semantic data enrichment with contextual information at edge fog and cloud as well as complex event processing in iot applications the book comprises fundamental models concepts and algorithms architectures and technological solutions as well as their application to ehealth case studies such as the bio metric signals stream processing are presented the massive amount of raw ecg signals from the sensors are processed dynamically across the data pipeline and classified with modern machine learning approaches including the hierarchical temporal memory and deep learning algorithms the book discusses adaptive solutions to iot stream processing that can be extended to different use cases from different fields of ehealth to enable a complex analysis of patient data in a historical predictive and even prescriptive application scenarios the book ends with a discussion on ethics emerging research trends issues and challenges of iot data stream processing provides the state of the art in iot data stream processing semantic data enrichment reasoning and knowledge covers extraction anomaly detection illustrates new scalable and reliable processing techniques based on iot stream technologies offers applications to new real time anomaly detection scenarios in the health domain

Encyclopedia of Information Science and Technology, Fifth Edition *2020-07-24*

the rise of intelligence and computation within technology has created an eruption of potential applications in numerous professional industries techniques such as data analysis cloud computing machine learning and others have altered the traditional processes of various disciplines including healthcare economics transportation and politics information technology in today s world is beginning to uncover opportunities for experts in these fields that they are not yet aware of the exposure of specific instances in which these devices are being implemented will assist other specialists in how to successfully utilize these transformative tools with the appropriate amount of discretion safety and awareness considering the level of diverse uses and practices throughout the globe the fifth edition of the encyclopedia of information science and technology series continues the enduring legacy set forth by its predecessors as a premier reference that contributes the most cutting edge concepts and methodologies to the research community the encyclopedia of information science and technology fifth edition is a three volume set that includes 136 original and previously unpublished research chapters that present multidisciplinary research and expert insights into new methods and processes for understanding modern technological tools and their applications as well as emerging theories and ethical controversies surrounding the field of information science highlighting a wide range of topics such as natural language processing decision support systems and electronic government this book offers strategies for implementing smart devices and analytics into various professional disciplines the techniques discussed in this publication are ideal for it professionals developers computer scientists practitioners managers policymakers engineers data analysts and programmers seeking to understand the latest

developments within this field and who are looking to apply new tools and policies in their practice additionally academicians researchers and students in fields that include but are not limited to software engineering cybersecurity information technology media and communications urban planning computer science healthcare economics environmental science data management and political science will benefit from the extensive knowledge compiled within this publication

Heron Streaming 2021-04-20

this book provides both a basic understanding of stream processing in general and practical guidance for development and research with apache heron in particular it delivers to developers of streaming applications basic and systematic knowledge about heron which is today only scattered across project documents technique blogs and code snippets on the the book is organized in four parts part i describes basic knowledge about stream processing apache storm and apache heron incubating and also introduces the heron source repository part ii then goes into details and describes two data models to write heron topologies and often used topology features including stateful processing this part is especially targeted at software developers who write topologies using heron apis next part iii describes heron tools including the command line interface and the user interface needed to manage a single topology or multiple topologies in a data center this part is particularly aimed at operators who deploy and manage running jobs eventually part iv describes the heron source code and how to customize or extend heron this part is especially suggested for software engineers who would like to contribute code to the heron repository and who are curious about heron insights overall this book aims at professionals who want to process streaming data based on apache heron a basic knowledge of java and bash commands for linux is assumed

What Every Engineer Should Know About Data-Driven Analytics *2023-04-13*

what every engineer should know about data driven analytics provides a comprehensive introduction to the theoretical concepts and approaches of machine learning that are used in predictive data analytics by introducing the theory and by providing practical applications this text can be understood by every engineering discipline it offers a detailed and focused treatment of the important machine learning approaches and concepts that can be exploited to build models to enable decision making in different domains utilizes practical examples from different disciplines and sectors within engineering and other related technical areas to demonstrate how to go from data to insight and to decision making introduces various approaches to build models that exploits different algorithms discusses predictive models that can be built through machine learning and used to mine patterns from large datasets explores the augmentation of technical and mathematical materials with explanatory worked examples includes a glossary self assessments and worked out practice exercises written to be accessible to non experts in the subject this comprehensive introductory text is suitable for students professionals and researchers in engineering and data science

Apache Kafka Quick Start Guide *2018-12-27*

process large volumes of data in real time while building high performance and robust data stream processing pipeline using the latest apache kafka 2 0 key featuressolve practical large data and processing challenges with kafkatackle data processing challenges like late events windowing and

watermarkingunderstand real time streaming applications processing using schema registry kafka connect kafka streams and ksqlbook description apache kafka is a great open source platform for handling your real time data pipeline to ensure high speed filtering and pattern matching on the fly in this book you will learn how to use apache kafka for efficient processing of distributed applications and will get familiar with solving everyday problems in fast data and processing pipelines this book focuses on programming rather than the configuration management of kafka clusters or devops it starts off with the installation and setting up the development environment before quickly moving on to performing fundamental messaging operations such as validation and enrichment here you will learn about message composition with pure kafka api and kafka streams you will look into the transformation of messages in different formats such asext binary xml json and avro next you will learn how to expose the schemas contained in kafka with the schema registry you will then learn how to work with all relevant connectors with kafka connect while working with kafka streams you will perform various interesting operations on streams such as windowing joins and aggregations finally through ksql you will learn how to retrieve insert modify and delete data streams and how to manipulate watermarks and windows what you will learnhow to validate data with kafkaadd information to existing data flowsgenerate new information through message compositionperform data validation and versioning with the schema registryhow to perform message serialization and deserializationhow to perform message serialization and deserializationprocess data streams with kafka streamsunderstand the duality between tables and streams with ksqlwho this book is for this book is for developers who want to quickly master the practical concepts behind apache kafka the audience need not have come across apache kafka previously however a familiarity of java or any jvm language will be helpful in understanding the code in this book

Designing Big Data Platforms *2021-07-08*

designing big data platforms provides expert guidance and valuable insights on getting the most out of big data systems an array of tools are currently available for managing and processing data some are ready to go solutions that can be immediately deployed while others require complex and time intensive setups with such a vast range of options choosing the right tool to build a solution can be complicated as can determining which tools work well with each other designing big data platforms provides clear and authoritative guidance on the critical decisions necessary for successfully deploying operating and maintaining big data systems this highly practical guide helps readers understand how to process large amounts of data with well known linux tools and database solutions use effective techniques to collect and manage data from multiple sources transform data into meaningful business insights and much more author yusuf aytas a software engineer with a vast amount of big data experience discusses the design of the ideal big data platform one that meets the needs of data analysts data engineers data scientists software engineers and a spectrum of other stakeholders across an organization detailed yet accessible chapters cover key topics such as stream data processing data analytics data science data discovery and data security this real world manual for big data technologies provides up to date coverage of the tools currently used in big data processing and management offers step by step guidance on building a data pipeline from basic scripting to distributed systems highlights and explains how data is processed at scale includes an introduction to the foundation of a modern data platform designing big data platforms how to use deploy and maintain big data systems is a must have for all professionals working with big data as well researchers and students in computer science and related fields

The Artificial Intelligence Imperative *2018-04-12*

this practical guide to artificial intelligence and its impact on industry dispels common myths and calls for cross sector collaborative leadership for the responsible design and embedding of ai in the daily work of businesses and oversight by boards artificial intelligence has arrived and it s coming to a business near you the disruptive impact of ai on the global economy from health care to energy financial services to agriculture and defense to media is enormous technology literacy is a must for traditional businesses their boards policy makers and governance professionals this is the first book to explain where ai comes from why it has emerged as one of the most powerful forces in mergers and acquisitions and research and development and what companies need to do to implement it successfully it equips business leaders with a practical roadmap for competing and even thriving in the face of the coming ai revolution the authors analyze competitive trends provide industry and governance examples and explain interactions between ai and other digital technologies such as blockchain cybersecurity and the internet of things at the same time ai experts will learn how their research and products can increase the competitiveness of their businesses and corporate boards will come away with a thorough knowledge of the ai governance ethics and risk questions to ask

Foundations for Architecting Data Solutions *2018-08-29*

while many companies ponder implementation details such as distributed processing engines and algorithms for data analysis this practical book takes a much wider view of big data development starting with initial planning and moving diligently toward execution authors ted malaska and jonathan seidman guide you through the major components necessary to start architect and develop successful big data projects everyone from cios and coos to lead architects and developers

will explore a variety of big data architectures and applications from massive data pipelines to web scale applications each chapter addresses a piece of the software development life cycle and identifies patterns to maximize long term success throughout the life of your project start the planning process by considering the key data project types use guidelines to evaluate and select data management solutions reduce risk related to technology your team and vague requirements explore system interface design using apis rest and pub sub systems choose the right distributed storage system for your big data system plan and implement metadata collections for your data architecture use data pipelines to ensure data integrity from source to final storage evaluate the attributes of various engines for processing the data you collect

Emerging Information Security and Applications *2023-01-03*

this volume constitutes selected papers presented at the third international symposium on emerging information security and applications eisa 2022 held in wuhan china in october 2022 due to covid 19 eisa 2022 was held fully online the 13 full papers presented in this volume were thoroughly reviewed and selected from the 35 submissions they present a discussion on the emerging techniques theories and applications to enhance information and application security in practice

Apache Hive Essentials *2018-06-30*

this book takes you on a fantastic journey to discover the attributes of big data using apache hive

key features grasp the skills needed to write efficient hive queries to analyze the big data discover how hive can coexist and work with other tools within the hadoop ecosystem uses practical example oriented scenarios to cover all the newly released features of apache hive 2 3 3 book description in this book we prepare you for your journey into big data by frstly introducing you to backgrounds in the big data domain alongwith the process of setting up and getting familiar with your hive working environment next the book guides you through discovering and transforming the values of big data with the help of examples it also hones your skills in using the hive language in an effcient manner toward the end the book focuses on advanced topics such as performance security and extensions in hive which will guide you on exciting adventures on this worthwhile big data journey by the end of the book you will be familiar with hive and able to work effeciently to find solutions to big data problems what you will learn create and set up the hive environment discover how to use hive s definition language to describe data discover interesting data by joining and filtering datasets in hive transform data by using hive sorting ordering and functions aggregate and sample data in different ways boost hive query performance and enhance data security in hive customize hive to your needs by using user defined functions and integrate it with other tools who this book is for if you are a data analyst developer or simply someone who wants to quickly get started with hive to explore and analyze big data in hadoop this is the book for you since hive is an sql like language some previous experience with sql will be useful to get the most out of this book

Big Data 2.0 Processing Systems *2020-07-09*

this book provides readers the big picture and a comprehensive survey of the domain of big data processing systems for the past decade the hadoop framework has dominated the world of big data processing yet recently academia and industry have started to recognize its limitations in several

application domains and thus it is now gradually being replaced by a collection of engines that are dedicated to specific verticals e g structured data graph data and streaming data the book explores this new wave of systems which it refers to as big data 2 0 processing systems after chapter 1 presents the general background of the big data phenomena chapter 2 provides an overview of various general purpose big data processing systems that allow their users to develop various big data processing jobs for different application domains in turn chapter 3 examines various systems that have been introduced to support the sql flavor on top of the hadoop infrastructure and provide competing and scalable performance in the processing of large scale structured data chapter 4 discusses several systems that have been designed to tackle the problem of large scale graph processing while the main focus of chapter 5 is on several systems that have been designed to provide scalable solutions for processing big data streams and on other sets of systems that have been introduced to support the development of data pipelines between various types of big data processing jobs and systems next chapter 6 focuses on covering the emerging frameworks and systems in the domain of scalable machine learning and deep learning processing lastly chapter 7 shares conclusions and an outlook on future research challenges this new and considerably enlarged second edition not only contains the completely new chapter 6 but also offers a refreshed content for the state of the art in all domains of big data processing over the last years overall the book offers a valuable reference guide for professional students and researchers in the domain of big data processing systems further its comprehensive content will hopefully encourage readers to pursue further research on the subject

Future Trends of HPC in a Disruptive Scenario *2019-09-27*

the realization that the use of components off the shelf cots could reduce costs sparked the

evolution of the massive parallel computing systems available today the main problem with such systems is the development of suitable operating systems algorithms and application software that can utilise the potential processing power of large numbers of processors as a result systems comprising millions of processors are still limited in the applications they can efficiently solve two alternative paradigms that may offer a solution to this problem are quantum computers qc and brain inspired computers bic this book presents papers from the 14th edition of the biennial international conference on high performance computing from clouds and big data to exascale and beyond held in cetraro italy from 2 6 july 2018 it is divided into 4 sections covering data science quantum computing high performance computing and applications the papers presented during the workshop covered a wide spectrum of topics on new developments in the rapidly evolving supercomputing field including qc and bic and a selection of contributions presented at the workshop are included in this volume in addition two papers presented at a workshop on brain inspired computing in 2017 and an overview of work related to data science executed by a number of universities in the usa parts of which were presented at the 2018 and previous workshops are also included the book will be of interest to all those whose work involves high performance computing

Event Streams in Action *2019-05-10*

summary event streams in action is a foundational book introducing the ulp paradigm and presenting techniques to use it effectively in data rich environments purchase of the print book includes a free ebook in pdf kindle and epub formats from manning publications about the technology many high profile applications like linkedin and netflix deliver nimble responsive performance by reacting to user and system events as they occur in large scale systems this

requires efficiently monitoring managing and reacting to multiple event streams tools like kafka along with innovative patterns like unified log processing help create a coherent data processing architecture for event based applications about the book event streams in action teaches you techniques for aggregating storing and processing event streams using the unified log processing pattern in this hands on guide you ll discover important application designs like the lambda architecture stream aggregation and event reprocessing you ll also explore scaling resiliency advanced stream patterns and much more by the time you re finished you ll be designing large scale data driven applications that are easier to build deploy and maintain what s inside validating and monitoring event streams event analytics methods for event modeling examples using apache kafka and amazon kinesis about the reader for readers with experience coding in java scala or python about the author alexander dean developed snowplow an open source event processing and analytics platform valentin crettaz is an independent it consultant with 25 years of experience table of contents part 1 event streams and unified logs introducing event streams the unified log 24 event stream processing with apache kafka event stream processing with amazon kinesis stateful stream processing part 2 data engineering with streams schemas archiving events railway oriented processing commands part 3 event analytics analytics on read analytics on write

大数据基础与应用 ***2019-10-01***

大数据基础与应用 共分为12章 第1章介绍了大数据产生的背景 大数据的结构与特征 大数据相关概念 大数据可视化 大数据相关工具与发展前景 第2 9章为基础知识部分 介绍了大数据的生态系统全貌 重点对计算平台hadoop 分布式文件系统hdfs 计算框架mapreduce 开源数据库hbase 典型工具nosql 集群计算spark 流计算storm和分布式协调系统zookeeper等相关技术进行了详细介绍 通过实例使读者具备解决实际问题的能力 第10 12章为典型应用案例部分 介绍了大数据分析应用系统的开发过程 涵盖了数据采集 数据分析 数据转换和结果显示的整个交互式大数据处理和分析流程 大数据基础与应用 内容丰富 条理清晰 示例指导性强 读者可以通过章后的习题对所学内容作进一步巩固 熟练掌握大数据基本原理 工程应用场景及实验分析技巧 大数据基础与应用 适合作为大中专院校数据科学与大数据专业 计算机类专业的教材 也可以作为读者自学或者科研技术人员的参考书

Foundations of Data Intensive Applications *2021-08-11*

peek under the hood of big data analytics the world of big data analytics grows ever more complex and while many people can work superficially with specific frameworks far fewer understand the fundamental principles of large scale distributed data processing systems and how they operate in foundations of data intensive applications large scale data analytics under the hood renowned big data experts and computer scientists drs supun kamburugamuve and saliya ekanayake deliver a practical guide to applying the principles of big data to software development for optimal performance the authors discuss foundational components of large scale data systems and walk readers through the major software design decisions that define performance application type and usability you ll learn how to recognize problems in your applications resulting in performance and distributed operation issues diagnose them and effectively eliminate them by relying on the bedrock big data principles explained within moving beyond individual frameworks and apis for data processing this book unlocks the theoretical ideas that operate under the hood of every big data processing system ideal for data scientists data architects dev ops engineers and developers foundations of data intensive applications large scale data analytics under the hood shows readers how to identify the foundations of large scale distributed data processing systems make major software design decisions that optimize performance diagnose performance problems and distributed operation issues understand state of the art research in big data explain and use the major big data frameworks and understand what underpins them use big data analytics in the real world to solve practical problems

Robotics and AI for Cybersecurity and Critical Infrastructure in Smart Cities *2022-03-28*

this book bridges principles and real world applications while also providing thorough theory and technology for the development of artificial intelligence and robots a lack of cross pollination between ai and robotics research has led to a lack of progress in both fields now that both technologies have made significant strides there is increased interest in combining the two domains in order to create a new integrated ai and robotics trend in order to achieve wiser urbanization and more sustainable development ai in smart cities will play a significant part in equipping the cities with advanced features that will allow residents to safely move about stroll shop and enjoy a more comfortable way of life if you are a student researcher engineer or professional working in this field or if you are just curious in the newest advancements in robotics and artificial intelligence for cybersecurity this book is for you

Business in Real-Time Using Azure IoT and Cortana Intelligence Suite *2017-06-05*

learn how today s businesses can transform themselves by leveraging real time data and advanced machine learning analytics this book provides prescriptive guidance for architects and developers on the design and development of modern internet of things iot and advanced analytics solutions in addition business in real time using azure iot and cortana intelligence suite offers patterns and practices for those looking to engage their customers and partners through software as a service solutions that work on any device whether you re working in health life sciences manufacturing

retail smart cities and buildings or process control there exists a common platform from which you can create your targeted vertical solutions business in real time using azure iot and cortana intelligence suite uses a reference architecture as a road map building on azure s paas services you ll see how a solution architecture unfolds that demonstrates a complete end to end iot and advanced analytics scenario what you ll learn automate your software product life cycle using powershell azure resource manager templates and visual studio team services implement smart devices using node js and c use azure streaming analytics to ingest millions of events provide both hot and cold path outputs for real time alerts data transformations and aggregation analytics implement batch processing using azure data factory create a new form of actionable intelligence ai to drive mission critical business processes provide rich data visualizations across a wide variety of mobile and web devices who this book is for solution architects software developers data architects data scientists and cio cta technical leadership professionals

Software Engineering in the Era of Cloud Computing *2020-01-01*

this book focuses on the development and implementation of cloud based complex software that allows parallelism fast processing and real time connectivity software engineering se is the design development testing and implementation of software applications and this discipline is as well developed as the practice is well established whereas the cloud software engineering cse is the design development testing and continuous delivery of service oriented software systems and applications software as a service paradigm however with the emergence of the highly attractive cloud computing cc paradigm the tools and techniques for se are changing cc provides the latest software development environments and the necessary platforms relatively easily and inexpensively

it also allows the provision of software applications equally easily and on a pay as you go basis business requirements for the use of software are also changing and there is a need for applications in big data analytics parallel computing ai natural language processing and biometrics etc these require huge amounts of computing power and sophisticated data management mechanisms as well as device connectivity for internet of things iot environments in terms of hardware software communication and storage cc is highly attractive for developing complex software that is rapidly becoming essential for all sectors of life including commerce health education and transportation the book fills a gap in the se literature by providing scientific contributions from researchers and practitioners focusing on frameworks methodologies applications benefits and inherent challenges barriers to engineering software using the cc paradigm

Knowledge Discovery in Big Data from Astronomy and Earth Observation *2020-04-10*

knowledge discovery in big data from astronomy and earth observation astrogeoinformatics bridges the gap between astronomy and geoscience in the context of applications techniques and key principles of big data machine learning and parallel computing are increasingly becoming cross disciplinary as the phenomena of big data is becoming common place this book provides insight into the common workflows and data science tools used for big data in astronomy and geoscience after establishing similarity in data gathering pre processing and handling the data science aspects are illustrated in the context of both fields software hardware and algorithms of big data are addressed finally the book offers insight into the emerging science which combines data and expertise from both fields in studying the effect of cosmos on the earth and its inhabitants addresses both astronomy and geosciences in parallel from a big data perspective includes

introductory information key principles applications and the latest techniques well supported by computing and information science oriented chapters to introduce the necessary knowledge in these fields

Storage Systems *2021-10-13*

storage systems organization performance coding reliability and their data processing was motivated by the 1988 redundant array of inexpensive independent disks proposal to replace large form factor mainframe disks with an array of commodity disks disk loads are balanced by striping data into strips with one strip per disk and storage reliability is enhanced via replication or erasure coding which at best dedicates k strips per stripe to tolerate k disk failures flash memories have resulted in a paradigm shift with solid state drives ssds replacing hard disk drives hdds for high performance applications raid and flash have resulted in the emergence of new storage companies namely emc netapp sandisk and purestorage and a multibillion dollar storage market key new conferences and publications are reviewed in this book the goal of the book is to expose students researchers and it professionals to the more important developments in storage systems while covering the evolution of storage technologies traditional and novel databases and novel sources of data we describe several prototypes fawn at cmu ramcloud at stanford and lightstore at mit oracle s exadata aws aurora alibaba s polardb fungible data center and author s paper designs for cloud storage namely heterogeneous disk arrays and hierarchical raid surveys storage technologies and lists sources of data measurements text audio images and video familiarizes with paradigms to improve performance caching prefetching log structured file systems and merge trees lsms describes raid organizations and analyzes their performance and reliability conserves storage via data compression deduplication compaction and secures data via encryption specifies implications

of storage technologies on performance and power consumption exemplifies database parallelism for big data analytics deep learning via multicore cpus gpus fpgas and asics e g google s tensor processing units

Mastering Hadoop 3 2019-02-28

a comprehensive guide to mastering the most advanced hadoop 3 concepts key featuresget to grips with the newly introduced features and capabilities of hadoop 3crunch and process data using mapreduce yarn and a host of tools within the hadoop ecosystemsharpen your hadoop skills with real world case studies and codebook description apache hadoop is one of the most popular big data solutions for distributed storage and for processing large chunks of data with hadoop 3 apache promises to provide a high performance more fault tolerant and highly efficient big data processing platform with a focus on improved scalability and increased efficiency with this guide you ll understand advanced concepts of the hadoop ecosystem tool you ll learn how hadoop works internally study advanced concepts of different ecosystem tools discover solutions to real world use cases and understand how to secure your cluster it will then walk you through hdfs yarn mapreduce and hadoop 3 concepts you ll be able to address common challenges like using kafka efficiently designing low latency reliable message delivery kafka systems and handling high data volumes as you advance you ll discover how to address major challenges when building an enterprise grade messaging system and how to use different stream processing systems along with kafka to fulfil your enterprise goals by the end of this book you ll have a complete understanding of how components in the hadoop ecosystem are effectively integrated to implement a fast and reliable data pipeline and you ll be equipped to tackle a range of real world problems in data pipelines what you will learngain an in depth understanding of distributed computing using hadoop 3develop

enterprise grade applications using apache spark flink and morebuild scalable and high performance hadoop data pipelines with security monitoring and data governanceexplore batch data processing patterns and how to model data in hadoopmaster best practices for enterprises using or planning to use hadoop 3 as a data platformunderstand security aspects of hadoop including authorization and authenticationwho this book is for if you want to become a big data professional by mastering the advanced concepts of hadoop this book is for you you ll also find this book useful if you re a hadoop professional looking to strengthen your knowledge of the hadoop ecosystem fundamental knowledge of the java programming language and basics of hadoop is necessary to get started with this book

Artificial Intelligence with Python *2020-01-31*

new edition of the bestselling guide to artificial intelligence with python updated to python 3 x with seven new chapters that cover rnns ai and big data fundamental use cases chatbots and more key featurescompletely updated and revised to python 3 xnew chapters for ai on the cloud recurrent neural networks deep learning models and feature selection and engineeringlearn more about deep learning algorithms machine learning data pipelines and chatbotsbook description artificial intelligence with python second edition is an updated and expanded version of the bestselling guide to artificial intelligence using the latest version of python 3 x not only does it provide you an introduction to artificial intelligence this new edition goes further by giving you the tools you need to explore the amazing world of intelligent apps and create your own applications this edition also includes seven new chapters on more advanced concepts of artificial intelligence including fundamental use cases of ai machine learning data pipelines feature selection and feature engineering ai on the cloud the basics of chatbots rnns and dl models and ai and big data finally

this new edition explores various real world scenarios and teaches you how to apply relevant ai algorithms to a wide swath of problems starting with the most basic ai concepts and progressively building from there to solve more difficult challenges so that by the end you will have gained a solid understanding of and when best to use these many artificial intelligence techniques what you will learnunderstand what artificial intelligence machine learning and data science areexplore the most common artificial intelligence use caseslearn how to build a machine learning pipelineassimilate the basics of feature selection and feature engineeringidentify the differences between supervised and unsupervised learningdiscover the most recent advances and tools offered for ai development in the clouddevelop automatic speech recognition systems and chatbotsapply ai algorithms to time series datawho this book is for the intended audience for this book is python developers who want to build real world artificial intelligence applications basic python programming experience and awareness of machine learning concepts and techniques is mandatory

Data Analytics and Machine Learning 2022-08-27

this two volume proceedings lncs 13445 and 13446 constitutes the refereed proceedings of the 9th international conference on augmented reality virtual reality and computer graphics xr salento 2022 held in lecce italy july 6 8 2022 due to covid 19 pandemic the conference was held as a hybrid conference the 42 full and 16 short papers were carefully reviewed and selected from 84 submissions the papers discuss key issues approaches ideas open problems innovative applications and trends in virtual reality augmented reality mixed reality applications in cultural heritage in medicine in education and in industry

Extended Reality 2022-09-26

this book provides a concise but comprehensive guide to the disciplines of database design construction implementation and management based on the authors professional experience in the software engineering and it industries before making a career switch to academia the text stresses sound database design as a necessary precursor to successful development and administration of database systems the discipline of database systems design and management is discussed within the context of the bigger picture of software engineering students are led to understand from the outset of the text that a database is a critical component of a software infrastructure and that proper database design and management is integral to the success of a software system additionally students are led to appreciate the huge value of a properly designed database to the success of a business enterprise the text was written for three target audiences it is suited for undergraduate students of computer science and related disciplines who are pursuing a course in database systems graduate students who are pursuing an introductory course to database and practicing software engineers and information technology it professionals who need a quick reference on database design database systems a pragmatic approach 3rd edition discusses concepts principles design implementation and management issues related to database systems each chapter is organized into brief reader friendly conversational sections with itemization of salient points to be remembered this pragmatic approach includes adequate treatment of database theory and practice based on strategies that have been tested proven and refined over several years features of the third edition include short paragraphs that express the salient aspects of each subject bullet points itemizing important points for easy memorization fully revised and updated diagrams and figures to illustrate concepts to enhance the student s understanding real world examples original methodologies applicable to database design step by step student friendly

guidelines for solving generic database systems problems opening chapter overviews and concluding chapter summaries discussion of dbms alternatives such as the entity attributes value model nosql databases database supporting frameworks and other burgeoning database technologies a chapter with sample assignment questions and case studies this textbook may be used as a one semester or two semester course in database systems augmented by a dbms preferably oracle after its usage students will come away with a firm grasp of the design development implementation and management of a database system

Database Systems *2016-07-18*

lots of hbase books online hbase guides and hbase mailing lists forums are available if you need to know how hbase works but if you want to take a deep dive into use cases features and troubleshooting architecting hbase applications is the right source for you with this book you ll learn a controlled set of apis that coincide with use case examples and easily deployed use case models as well as sizing best practices to help jump start your enterprise application development and deployment

Architecting HBase Applications *2020-07-01*

the proliferation of internet of things iot has enabled rapid enhancements for applications not only in home and environment scenarios but also in factory automation now industrial internet of things iiot offers all the advantages of iot to industry with applications ranging from remote sensing and actuating to de centralization and autonomy in this book the editor presents the iiot and its place during the new industrial revolution industry 4 0 as it takes us to a better sustainable automated

and safer world the book covers the cross relations and implications of iiot with existing wired wireless communication networking and safety technologies of the industrial networks moreover the book includes practical use case scenarios from the industry for the application of iiot on smart factories smart cities and smart grids iot driven advances in commercial and industrial building lighting and in street lighting are presented as an example to shed light on the application domain of iiot the state of the art in industrial automation is also presented to give a better understanding of the enabling technologies potential advantages and challenges of the industry 4 0 and iiot finally yet importantly the security section of the book covers the cyber security related needs of the iiot users and the services that might address these needs user privacy data ownership and proprietary information handling related to iiot networks are all investigated intrusion prevention detection and mitigation are all covered at the conclusion of the book

Industrial IoT *2020-06-10*

this book explores three interwoven and challenging areas of research and development for future ict enabled applications software intensive systems complex systems and intelligent systems software intensive systems are systems that extensively interact with other systems sensors actuators devices and users more and more domains are now employing software intensive systems e g the automotive sector telecommunication systems embedded systems in general industrial automation systems and business applications moreover the outcome of web services offers a new platform for enabling software intensive systems complex systems research is focused on the overall understanding of systems rather than their components complex systems are very much characterized by the changing environments in which they operate through their multiple internal and external interactions they evolve and adapt through internal and external dynamic interactions

the development of intelligent systems and agents which is increasingly characterized by the use of ontologies can be beneficial for software intensive systems and complex systems alike accordingly recent research in the areas of intelligent systems robotics neuroscience artificial intelligence and the cognitive sciences is essential to the future development of software intensive and complex systems

Complex, Intelligent and Software Intensive Systems *2021-08-28*

this book constitutes the proceedings of the 27th international conference on parallel and distributed computing euro par 2021 held in lisbon portugal in august 2021 the conference was held virtually due to the covid 19 pandemic the 38 full papers presented in this volume were carefully reviewed and selected from 136 submissions they deal with parallel and distributed computing in general focusing on compilers tools and environments performance and power modeling prediction and evaluation scheduling and load balancing data management analytics and machine learning cluster cloud and edge computing theory and algorithms for parallel and distributed processing parallel and distributed programming interfaces and languages parallel numerical methods and applications and high performance architecture and accelerators

Euro-Par 2021: Parallel Processing 2024-02-27

this book primarily aims to provide an in depth understanding of recent advances in big data computing technologies methodologies and applications along with introductory details of big data

computing models such as apache hadoop mapreduce hive pig mahout in memory storage systems nosql databases and big data streaming services such as apache spark kafka and so forth it also covers developments in big data computing applications such as machine learning deep learning graph processing and many others features provides comprehensive analysis of advanced aspects of big data challenges and enabling technologies explains computing models using real world examples and dataset based experiments includes case studies quality diagrams and demonstrations in each chapter describes modifications and optimization of existing technologies along with the novel big data computing models explores references to machine learning deep learning and graph processing this book is aimed at graduate students and researchers in high performance computing data mining knowledge discovery and distributed computing

Big Data Computing *2024-01-04*

the ever expanding realm of big data poses a formidable challenge for academic scholars and professionals due to the sheer magnitude and diversity of data types along with the continuous influx of information from various sources extracting valuable insights from this vast and complex dataset is crucial for organizations to uncover market intelligence and make informed decisions however without the proper guidance and understanding of big data analytics techniques and methodologies scholars may struggle to navigate this landscape and maximize the potential benefits of their research in response to this pressing need professor dina darwish presents big data analytics techniques for market intelligence a groundbreaking book that addresses the specific challenges faced by scholars and professionals in the field through a comprehensive exploration of various techniques and methodologies this book offers a solution to the hurdles encountered in extracting meaningful information from big data covering the entire lifecycle of big data analytics

including preprocessing analysis visualization and utilization of results the book equips readers with the knowledge and tools necessary to unlock the power of big data and generate valuable market intelligence with real world case studies and a focus on practical guidance scholars and professionals can effectively leverage big data analytics to drive strategic decision making and stay at the forefront of this rapidly evolving field

Big Data Analytics Techniques for Market Intelligence *2021-01-06*

software development today is embracing events and streaming data which optimizes not only how technology interacts but also how businesses integrate with one another to meet customer needs this phenomenon called flow consists of patterns and standards that determine which activity and related data is communicated between parties over the internet this book explores critical implications of that evolution what happens when events and data streams help you discover new activity sources to enhance existing businesses or drive new markets what technologies and architectural patterns can position your company for opportunities enabled by flow james urquhart global field cto at vmware guides enterprise architects software developers and product managers through the process learn the benefits of flow dynamics when businesses governments and other institutions integrate via events and data streams understand the value chain for flow integration through wardley mapping visualization and promise theory modeling walk through basic concepts behind today s event driven systems marketplace learn how today s integration patterns will influence the real time events flow in the future explore why companies should architect and build software today to take advantage of flow in coming years

Flow Architectures *2018-06-19*

this volume constitutes the proceedings of the 11th international conference on cloud computing cloud 2018 held as part of the services conference federation scf 2018 in seattle wa usa in june 2018 the 26 full papers presented together with 3 short papers were carefully reviewed and selected from 108 submissions they are organized in topical sections such as cloud computing client server architectures distributed systems organizing principles storage virtualization virtual machines cloud based storage distributed architectures network services and computing platforms

Cloud Computing – CLOUD 2018 *2022-08-02*

an in depth overview of an emerging field that brings together high performance computing big data processing and deep llearning over the last decade the exponential explosion of data known as big data has changed the way we understand and harness the power of data the emerging field of high performance big data computing which brings together high performance computing hpc big data processing and deep learning aims to meet the challenges posed by large scale data processing this book offers an in depth overview of high performance big data computing and the associated technical issues approaches and solutions the book covers basic concepts and necessary background knowledge including data processing frameworks storage systems and hardware capabilities offers a detailed discussion of technical issues in accelerating big data computing in terms of computation communication memory and storage codesign workload characterization and benchmarking and system deployment and management and surveys benchmarks and workloads for evaluating big data middleware systems it presents a detailed discussion of big data computing systems and applications with high performance networking computing and storage technologies

including state of the art designs for data processing and storage systems finally the book considers some advanced research topics in high performance big data computing including designing high performance deep learning over big data dlobd stacks and hpc cloud technologies

High-Performance Big Data Computing *2017-04-05*

data analytics for intelligent transportation systems provides in depth coverage of data enabled methods for analyzing intelligent transportation systems that includes detailed coverage of the tools needed to implement these methods using big data analytics and other computing techniques the book examines the major characteristics of connected transportation systems along with the fundamental concepts of how to analyze the data they produce it explores collecting archiving processing and distributing the data designing data infrastructures data management and delivery systems and the required hardware and software technologies users will learn how to design effective data visualizations tactics on the planning process and how to evaluate alternative data analytics for different connected transportation applications along with key safety and environmental applications for both commercial and passenger vehicles data privacy and security issues and the role of social media data in traffic planning includes case studies in each chapter that illustrate the application of concepts covered presents extensive coverage of existing and forthcoming intelligent transportation systems and data analytics technologies contains contributors from both leading academic and commercial researchers explains how to design effective data visualizations tactics on the planning process and how to evaluate alternative data analytics for different connected transportation applications

Data Analytics for Intelligent Transportation Systems *2021-03-10*

this book constitutes the refereed post conference proceedings of the second benchcouncil international federated intelligent computing and block chain conferences ficc 2020 held in qingdao china in october november 2020 the 32 full papers and 6 short papers presented were carefully reviewed and selected from 103 submissions the papers of this volume are organized in topical sections on ai and medical technology ai and big data ai and block chain ai and education technology and ai and financial technology

Intelligent Computing and Block Chain *2019-08-01*

大数据贵在落实 本书是一本讲解大数据实战的图书 按照 深入分析组件原理 充分展示搭建过程 详细指导应用开发 的指导思想编写 全书分为三篇 第一篇为大数据的基本概念和技术 主要介绍大数据的背景 概念 特性及关键技术 第二篇为hadoop大数据平台搭建与基本应用 内容涉及linux hdfs mapreduce yarn hive hbase sqoop kafka spark等 第三篇为大数据处理与项目开发 包括交互式数据处理 协同过滤推荐系统 销售数据分析系统 并就京东的部分销售数据使用大数据进行处理分析

Hadoop大数据实战权威指南 *1948-08*

established in 1911 the rotarian is the official magazine of rotary international and is circulated worldwide each issue contains feature articles columns and departments about or of interest to rotarians seventeen nobel prize winners and 19 pulitzer prize winners from mahatma ghandi to kurt vonnegut jr have written for the magazine

The Rotarian

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