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NoSQL For Dummies Adam Fowler 2015-02-24 Get up to speed on the nuances of NoSQL databases and what they mean for your organization This easy to read guide to NoSQL databases provides the type of no-nonsense overview and analysis that you need to learn, including what NoSQL is and which database is right for you. Featuring specific evaluation criteria for NoSQL databases, along with a look into the pros and cons of the most popular options, NoSQL For Dummies provides the fastest and easiest way to dive into the details of this incredible technology. You'll gain an understanding of how to use NoSQL databases for mission-critical enterprise architectures and projects, and real-world examples reinforce the primary points to create an action-oriented resource for IT pros. If you're planning a big data project or platform, you probably already know you need to select a NoSQL database to complete your architecture. But with options flooding the market and updates and add-ons coming at a rapid pace, determining what you require now, and in the future, can be a tall task. This is where NoSQL For Dummies comes in! Learn the basic tenets of NoSQL databases and why they have come to the forefront as data has outpaced the capabilities of relational databases Discover major players among NoSQL databases, including Cassandra, MongoDB, MarkLogic, Neo4J, and others Get an in-depth look at the benefits and disadvantages of the wide variety of NoSQL database options Explore the needs of your organization as they relate to the capabilities of specific NoSQL databases Big data and Hadoop get all the attention, but when it comes down to it, NoSQL databases are the engines that power many big data analytics initiatives. With NoSQL For Dummies, you'll go beyond relational databases to ramp up your enterprise's data architecture in no time.

Big Data Imperatives Soumendra Mohanty 2013-08-23 Big Data Imperatives, focuses on resolving the key questions on everyone's mind: Which data matters? Do you have enough data volume to justify the usage? How you want to process this amount of data? How long do you really need to keep it active for your analysis, marketing, and BI applications? Big data is emerging from the realm of one-off projects to mainstream business adoption; however, the real value of big data is not in the overwhelming size of it, but more in its effective use. This book addresses the following big data characteristics: Very large, distributed aggregations of loosely structured data – often incomplete and inaccessible Petabytes/Exabytes of data Millions/billions of people providing/contributing to the context behind the data Flat schema's with few complex interrelationships Involves time-stamped events Made up of incomplete data Includes connections between data elements that must be probabilistically inferred Big Data Imperatives explains 'what big data can do'. It can batch process millions and billions of records both unstructured and structured much faster and cheaper. Big data analytics provide a platform to merge all analysis which enables data analysis to be more accurate, well-rounded, reliable and focused on a specific business capability. Big Data Imperatives describes the complementary nature of traditional data warehouses and big-data analytics platforms and how they feed each other. This book aims to bring the big data and analytics realms together with a greater focus on architectures that leverage the scale and power of big data and the ability to integrate and apply analytics principles to data which earlier was not accessible. This book can also be used as a handbook for practitioners; helping them on methodology, technical architecture, analytics techniques and best practices. At the same time, this book intends to hold the interest of those new to big data and analytics by giving them a deep insight into the realm of big data.

Introduction to Environmental Data Analysis and Modeling Moses Eterigho Emetere 2020-01-03 This book introduces numerical methods for processing datasets which may be of any form, illustrating adequately computational resolution of environmental alongside the use of open source libraries. This book solves the challenges of misrepresentation of datasets that are relevant directly or indirectly to the research. It illustrates new ways of screening datasets or images for maximum utilization. The adoption of various numerical methods in dataset treatment would certainly create a new scientific approach. The book enlightens researchers on how to analyse measurements to ensure 100% utilization. It introduces new ways of data treatment that are based on a sound mathematical and computational approach.

Information Granularity, Big Data, and Computational Intelligence Witold Pedrycz 2014-07-14 The recent pursuits emerging in the realm of big data processing, interpretation, collection and organization have emerged in numerous sectors including business, industry and government organizations. Data sets such as customer transactions for a mega-retailer, weather monitoring, intelligence gathering, quickly outpace the capacities of traditional techniques and tools of data analysis. The 3V (volume, variability and velocity) challenges led to the emergence of new techniques and tools in data visualization, acquisition, and serialization. Soft Computing being regarded as a plethora of technologies of fuzzy sets (or Granular Computing), neurocomputing and evolutionary optimization brings forward a number of unique features that might be instrumental to the development of concepts and algorithms to deal with big data. This carefully edited volume provides the reader with an updated, in-depth material on the emerging principles, conceptual underpinnings, algorithms and practice of Computational Intelligence in the realization of concepts and implementation of big data architectures, analysis, and interpretation as well as data analytics. The book is aimed at a broad audience of researchers and practitioners including those active in various disciplines in which big data, their analysis and optimization are of genuine relevance. One focal point is the systematic exposure of the concepts, design methodology, and detailed algorithms. In general, the volume adheres to the top-down strategy starting with the concepts and motivation and then proceeding with the detailed design that materializes in specific algorithms and representative applications. The material is self-contained and provides the reader with all necessary prerequisites and augments some parts with a step-by-step explanation of more advanced concepts supported by a significant amount of illustrative numeric material and some application scenarios to motivate the reader and make some abstract concepts more tangible.

Programming Hive Edward Capriolo 2012-09-26 Describes the features and functions of Apache Hive, the data infrastructure for Hadoop.

Developing Time-oriented Database Applications in SQL Richard T. Snodgrass 2000 Whether you're a database designer, programmer, analyst, or manager, you've probably encountered some of the challenges-and experienced some of the frustrations-associated with time-varying data. Where do you turn to fix the problem and see that it doesn't happen again? In *Developing Time-Oriented Database Applications in SQL*, a leading SQL researcher teaches you effective techniques for designing and building database applications that must integrate past and current data. Written to meet a pervasive, enduring need, this book will be indispensable if you happen to be part of the flurry of activity leading up to Y2K. The enclosed CD-ROM contains all of the code fragments-implemented for Oracle8 Server, IBM DB2 Universal Database, Microsoft SQL Server, and other systems-and evaluation copies of the programs discussed in the book. * Offers incisive advice on recording temporal data using SQL data types, defining appropriate integrity constraints, updating temporal tables, and querying temporal tables with interactive and embedded SQL. * Provides case studies detailing real-world problems and solutions in areas such as event data, state-based data, partitioned data, and audit logs. * Contains over 400 code fragments with detailed explanations.

Java Servlet Programming Jason Hunter 2001-04-03 Servlets are an exciting and important technology that ties Java to the Web, allowing programmers to write Java programs that create dynamic web content. Java Servlet Programming covers everything Java developers need to know to write effective servlets. It explains the servlet lifecycle, showing how to use servlets to maintain state information effortlessly. It also describes how to serve dynamic web content, including both HTML pages and multimedia data, and explores more advanced topics like integrated session tracking, efficient database connectivity using JDBC, applet-servlet communication, interservlet communication, and internationalization. Readers can use the book's numerous real-world examples as the basis for their own servlets. The second edition has been completely updated to cover the new features of Version 2.2 of the Java Servlet API. It introduces chapters on servlet security and advanced communication, and also introduces several popular tools for easier integration of servlet technology with dynamic web pages. These tools include JavaServer Pages (JSP), Tea, XMLC, and the Element Construction Set. In addition to complete coverage of 2.2 specification, Java Servlet programming, 2nd Edition, also contains coverage of the new 2.3 final draft specification.

Big Data Optimization: Recent Developments and Challenges Ali Emrouznejad 2016-05-26 The main objective of this book is to provide the necessary background to work with big data by introducing some novel optimization algorithms and codes capable of working in the big data setting as well as introducing some applications in big data optimization for both academics and practitioners interested, and to benefit society, industry, academia, and government. Presenting applications in a variety of industries, this book will be useful for the researchers aiming to analyse large scale data. Several optimization algorithms for big data including convergent parallel algorithms, limited memory bundle algorithm, diagonal bundle method, convergent parallel algorithms, network analytics, and many more have been explored in this book.

Learning Neo4j 3.x Jerome Baton 2017-10-20 Run blazingly fast queries on complex graph datasets with the power of the Neo4j graph database About This Book Get acquainted with graph database systems and apply them in real-world use cases Use Cypher query language, APOC and other Neo4j extensions to derive meaningful analysis from complex data sets. A practical guide filled with ready to use examples on querying, graph processing and visualizing information to build smarter spatial applications. Who This Book Is For This book is for developers who want an alternative way to store and process data within their applications. No previous graph database experience is required; however, some basic database knowledge will help you understand the concepts more easily. What You Will Learn Understand the science of graph theory, databases and its advantages over traditional databases. Install Neo4j, model data and learn the most common practices of traversing data Learn the Cypher query language

and tailor-made procedures to analyze and derive meaningful representations of data Improve graph techniques with the help of precise procedures in the APOC library Use Neo4j advanced extensions and plugins for performance optimization. Understand how Neo4j's new security features and clustering architecture are used for large scale deployments. In Detail Neo4j is a graph database that allows traversing huge amounts of data with ease. This book aims at quickly getting you started with the popular graph database Neo4j. Starting with a brief introduction to graph theory, this book will show you the advantages of using graph databases along with data modeling techniques for graph databases. You'll gain practical hands-on experience with commonly used and lesser known features for updating graph store with Neo4j's Cypher query language. Furthermore, you'll also learn to create awesome procedures using APOC and extend Neo4j's functionality, enabling integration, algorithmic analysis, and other advanced spatial operation capabilities on data. Through the course of the book you will come across implementation examples on the latest updates in Neo4j, such as in-graph indexes, scaling, performance improvements, visualization, data refactoring techniques, security enhancements, and much more. By the end of the book, you'll have gained the skills to design and implement modern spatial applications, from graphing data to unraveling business capabilities with the help of real-world use cases. Style and approach A step-by-step approach of adopting Neo4j, the world's leading graph database. This book includes a lot of background information, helps you grasp the fundamental concepts behind this radical new way of dealing with connected data, and will give you lots of examples of use cases and environments where a graph database would be a great fit

Clinical Research Computing Prakash Nadkarni 2016-04-29 Clinical Research Computing: A Practitioner's Handbook deals with the nuts-and-bolts of providing informatics and computing support for clinical research. The subjects that the practitioner must be aware of are not only technological and scientific, but also organizational and managerial. Therefore, the author offers case studies based on real life experiences in order to prepare the readers for the challenges they may face during their experiences either supporting clinical research or supporting electronic record systems. Clinical research computing is the application of computational methods to the broad field of clinical research. With the advent of modern digital computing, and the powerful data collection, storage, and analysis that is possible with it, it becomes more relevant to understand the technical details in order to fully seize its opportunities. Offers case studies, based on real-life examples where possible, to engage the readers with more complex examples Provides studies backed by technical details, e.g., schema diagrams, code snippets or algorithms illustrating particular techniques, to give the readers confidence to employ the techniques described in their own settings Offers didactic content organization and an increasing complexity through the chapters

Big Data Analytics: Systems, Algorithms, Applications C.S.R. Prabhu 2019-10-14 This book provides a comprehensive survey of techniques, technologies and applications of Big Data and its analysis. The Big Data phenomenon is increasingly impacting all sectors of business and industry, producing an emerging new information ecosystem. On the applications front, the book offers detailed descriptions of various application areas for Big Data Analytics in the important domains of Social Semantic Web Mining, Banking and Financial Services, Capital Markets, Insurance, Advertisement, Recommendation Systems, Bio-Informatics, the IoT and Fog Computing, before delving into issues of security and privacy. With regard to machine learning techniques, the book presents all the standard algorithms for learning – including supervised, semi-supervised and unsupervised techniques such as clustering and reinforcement learning techniques to perform collective Deep Learning. Multi-layered and nonlinear learning for Big Data are also covered. In turn, the book highlights real-life case studies on successful implementations of Big Data Analytics at large IT companies such as Google, Facebook, LinkedIn and Microsoft. Multi-sectorial case studies on domain-based companies such as Deutsche Bank, the power provider Opower, Delta Airlines and a Chinese City Transportation application represent a valuable addition. Given its comprehensive coverage of Big Data Analytics, the book offers a unique resource for undergraduate and graduate students, researchers, educators and IT professionals alike.

Making Sense of NoSQL Ann Kelly 2013-09-02 Summary Making Sense of NoSQL clearly and concisely explains the concepts, features, benefits, potential, and limitations of NoSQL technologies. Using examples and use cases, illustrations, and plain, jargon-free writing, this guide shows how you can effectively assemble a NoSQL solution to replace or augment the traditional RDBMS you have now. About this Book If you want to understand and perhaps start using the new data storage and analysis technologies that go beyond the SQL database model, this book is for you. Written in plain language suitable for technical managers and developers, and using many examples, use cases, and illustrations, this book explains the concepts, features, benefits, potential, and limitations of NoSQL. Making Sense of NoSQL starts by comparing familiar database concepts to the new NoSQL patterns that augment or replace them. Then, you'll explore case studies on big data, search, reliability, and business agility that apply these new patterns to today's business problems. You'll see how NoSQL systems can leverage the resources of modern cloud computing and multiple-CPU data centers. The final chapters show you how to choose the right NoSQL technologies for your own needs.

Managers and developers will welcome this lucid overview of the potential and capabilities of NoSQL technologies. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. What's Inside NoSQL data architecture patterns NoSQL for big data Search, high availability, and security Choosing an architecture About the Authors Dan McCreary and Ann Kelly lead an independent training and consultancy firm focused on NoSQL solutions and are cofounders of the NoSQL Now! Conference. Table of Contents PART 1 INTRODUCTION NoSQL: It's about making intelligent choices NoSQL concepts PART 2 DATABASE PATTERNS Foundational data architecture patterns NoSQL data architecture patterns Native XML databases PART 3 NOSQL SOLUTIONS Using NoSQL to manage big data Finding information with NoSQL search Building high-availability solutions with NoSQL Increasing agility with NoSQL PART 4 ADVANCED TOPICS NoSQL and functional programming Security: protecting data in your NoSQL systems Selecting the right NoSQL solution

Next Generation Databases Guy Harrison 2015-12-30 "It's not easy to find such a generous book on big data and databases. Fortunately, this book is the one." Feng Yu. Computing Reviews. June 28, 2016. This is a book for enterprise architects, database administrators, and developers who need to understand the latest developments in database technologies. It is the book to help you choose the correct database technology at a time when concepts such as Big Data, NoSQL and NewSQL are making what used to be an easy choice into a complex decision with significant implications. The relational database (RDBMS) model completely dominated database technology for over 20 years. Today this "one size fits all" stability has been disrupted by a relatively recent explosion of new database technologies. These paradigm-busting technologies are powering the "Big Data" and "NoSQL" revolutions, as well as forcing fundamental changes in databases across the board. Deciding to use a relational database was once truly a no-brainer, and the various commercial relational databases competed on price, performance, reliability, and ease of use rather than on fundamental architectures. Today we are faced with choices between radically different database technologies. Choosing the right database today is a complex undertaking, with serious economic and technological consequences. Next Generation Databases demystifies today's new database technologies. The book describes what each technology was designed to solve. It shows how each technology can be used to solve real word application and business problems. Most importantly, this book highlights the architectural differences between technologies that are the critical factors to consider when choosing a database platform for new and upcoming projects. Introduces the new technologies that have revolutionized the database landscape Describes how each technology can be used to solve specific application or business challenges Reviews the most popular new wave databases and how they use these new database technologies

Jumpstart Snowflake Dmitry Anoshin 2019-12-20 Explore the modern market of data analytics platforms and the benefits of using Snowflake computing, the data warehouse built for the cloud. With the rise of cloud technologies, organizations prefer to deploy their analytics using cloud providers such as Amazon Web Services (AWS), Microsoft Azure, or Google Cloud Platform. Cloud vendors are offering modern data platforms for building cloud analytics solutions to collect data and consolidate into single storage solutions that provide insights for business users. The core of any analytics framework is the data warehouse, and previously customers did not have many choices of platform to use. Snowflake was built specifically for the cloud and it is a true game changer for the analytics market. This book will help onboard you to Snowflake, present best practices to deploy, and use the Snowflake data warehouse. In addition, it covers modern analytics architecture and use cases. It provides use cases of integration with leading analytics software such as Matillion ETL, Tableau, and Databricks. Finally, it covers migration scenarios for on-premise legacy data warehouses. What You Will Learn Know the key functionalities of Snowflake Set up security and access with cluster Bulk load data into Snowflake using the COPY command Migrate from a legacy data warehouse to Snowflake integrate the Snowflake data platform with modern business intelligence (BI) and data integration tools Who This Book Is For Those working with data warehouse and business intelligence (BI) technologies, and existing and potential Snowflake users

Managing Data in Motion April Reeve 2013-02-26 Managing Data in Motion describes techniques that have been developed for significantly reducing the complexity of managing system interfaces and enabling scalable architectures. Author April Reeve brings over two decades of experience to present a vendor-neutral approach to moving data between computing environments and systems. Readers will learn the techniques, technologies, and best practices for managing the passage of data between computer systems and integrating disparate data together in an enterprise environment. The average enterprise's computing environment is comprised of hundreds to thousands computer systems that have been built, purchased, and acquired over time. The data from these various systems needs to be integrated for reporting and analysis, shared for business transaction processing, and converted from one format to another when old systems are replaced and new systems are acquired. The management of the "data in motion" in organizations is rapidly becoming one of the biggest concerns for business and IT management. Data warehousing and conversion, real-time data integration, and cloud and "big data" applications are just a few of the challenges facing organizations and businesses today. Managing Data in Motion tackles these and other topics in a style easily understood by business and IT managers as well as programmers and architects. Presents a vendor-neutral overview of the different technologies and techniques for moving data between computer systems including the emerging solutions for unstructured as well as structured data types Explains, in non-technical terms, the architecture and components required to perform data integration Describes how to reduce the complexity of managing system interfaces and enable a scalable data architecture that can handle the dimensions of "Big Data"

Cloud Computing Dan C. Marinescu 2013-05-30 Cloud Computing: Theory and Practice provides students and IT professionals with an in-depth analysis of the cloud from the ground up. Beginning with a discussion of parallel computing and architectures and distributed systems, the book turns to contemporary cloud infrastructures, how they are being deployed at leading companies such as Amazon, Google and Apple, and how they can be applied in fields such as healthcare, banking and science. The volume also examines how to successfully deploy a cloud application across the enterprise using virtualization, resource management and the right amount of networking support, including content delivery networks and storage area networks. Developers will find a complete introduction to application development provided on a variety of platforms. Learn about recent trends in cloud computing in critical areas such as: resource management, security, energy consumption, ethics, and complex systems Get a detailed hands-on set of practical recipes that help simplify the deployment of a cloud based system for practical use of computing clouds along with an in-depth discussion of several projects Understand the evolution of cloud computing and why the cloud computing paradigm has a better chance to succeed than previous efforts in large-scale distributed computing

The Dublin Core Metadata Element Set National Information Standards Organization (U.S.) 2001 This document defines fifteen metadata elements for resource description in a cross-disciplinary information environment.

AWS Certified Developer - Associate Guide Vipul Tankariya 2017-09-27 An effective guide to becoming an AWS Certified Developer About This Book This fast-paced guide will help you clear the exam with confidence Learn to design, develop, and deploy cloud-based solutions using AWS Enhance your AWS skills with practice questions and mock tests Who This Book Is For This book is for IT professionals and developers looking to clear the AWS Certified Developer – Associate 2017 exam. Developers

looking to develop and manage their applications on the AWS platform will also find this book useful. No prior AWS experience is needed. What You Will Learn Create and manage users, groups, and permissions using AWS Identity and Access Management services Create a secured Virtual Private Cloud (VPC) with Public and Private Subnets, Network Access Control, and Security groups Get started with Elastic Compute Cloud (EC2), launching your first EC2 instance, and working with it Handle application traffic with Elastic Load Balancing (ELB) and monitor AWS resources with CloudWatch Work with AWS storage services such as Simple Storage Service (S3), Glacier, and CloudFront Get acquainted with AWS DynamoDB – a NoSQL database service Coordinate work across distributed application components using Simple Workflow Service (SWF) In Detail AWS Certified Developer - Associate Guide starts with a quick introduction to AWS and the prerequisites to get you started. Then, this book gives you a fair understanding of core AWS services and basic architecture. Next, this book will describe about getting familiar with Identity and Access Management (IAM) along with Virtual private cloud (VPC). Moving ahead you will learn about Elastic Compute cloud (EC2) and handling application traffic with Elastic Load Balancing (ELB). Going ahead you we will talk about Monitoring with CloudWatch, Simple storage service (S3) and Glacier and CloudFront along with other AWS storage options. Next we will take you through AWS DynamoDB – A NoSQL Database Service, Amazon Simple Queue Service (SQS) and CloudFormation Overview. Finally, this book covers understanding Elastic Beanstalk and overview of AWS lambda. At the end of this book, we will cover enough topics, tips and tricks along with mock tests for you to be able to pass the AWS Certified Developer - Associate exam and develop as well as manage your applications on the AWS platform. Style and approach This step-by-step guide includes exercises and mock tests to clear the AWS certification exam and become a successful AWS developer.

IBM Open Platform for DBaaS on IBM Power Systems Dino Quintero 2018-03-26 This IBM Redbooks publication describes how to implement an Open Platform for Database as a Service (DBaaS) on IBM Power Systems environment for Linux, and demonstrate the open source tools, optimization and best practices guidelines for it. Open Platform for DBaaS on Power Systems is an on-demand, secure, and scalable self-service database platform that automates provisioning and administration of databases to support new business applications and information insights. This publication addresses topics to help sellers, architects, brand specialists, distributors, resellers and anyone offering secure and scalable Open Platform for DBaaS on Power Systems solution with APIs that are consistent across heterogeneous open database types. An Open Platform for DBaaS on Power Systems solution has the capability to accelerate business success by providing an infrastructure, and tools leveraging Open Source and OpenStack software engineered to optimize hardware and software between workloads and resources so you have a responsive, and an adaptive environment. Moreover, this publication provides documentation to transfer the how-to-skills for cloud oriented operational management of Open Platform for DBaaS on Power Systems service and underlying infrastructure to the technical teams. Open Platform for DBaaS on Power Systems mission is to provide scalable and reliable cloud database as a service provisioning functionality for both relational and non-relational database engines, and to continue to improve its fully-featured and extensible open source framework. For example, Trove is a database as a service for OpenStack. It is designed to run entirely on OpenStack, with the goal of allowing users to quickly and easily utilize the features of a relational or non-relational database without the burden of handling complex administrative tasks. Cloud users and database administrators can provision and manage multiple database instances as needed. Initially, the service focuses on providing resource isolation at high performance while automating complex administrative tasks including deployment, configuration, patching, backups, restores, and monitoring. In the context of this publication, the monitoring tool implemented is Nagios Core which is an open source monitoring tool. Hence, when you see a reference of Nagios in this book, Nagios Core is the open source monitoring solution implemented. Also note that the implementation of Open Platform for DBaaS on IBM Power Systems is based on open source solutions. This book is targeted toward sellers, architects, brand specialists, distributors, resellers and anyone developing and implementing Open Platform for DBaaS on Power Systems solutions.

DAMA-DMBOK Dama International 2017 Defining a set of guiding principles for data management and describing how these principles can be applied within data management functional areas; Providing a functional framework for the implementation of enterprise data management practices; including widely adopted practices, methods and techniques, functions, roles, deliverables and metrics; Establishing a common vocabulary for data management concepts and serving as the basis for best practices for data management professionals. DAMA-DMBOK2 provides data management and IT professionals, executives, knowledge workers, educators, and researchers with a framework to manage their data and mature their information infrastructure, based on these principles: Data is an asset with unique properties; The value of data can be and should be expressed in economic terms; Managing data means managing the quality of data; It takes metadata to manage data; It takes planning to manage data; Data management is cross-functional and requires a range of skills and expertise; Data management requires an enterprise perspective; Data management must account for a range of perspectives; Data management is data lifecycle management; Different types of data have different lifecycle requirements; Managing data includes managing risks associated with data; Data management requirements must drive information technology decisions; Effective data management requires leadership commitment.

Learning Neo4j Rik Van Bruggen 2014-08-25 This book is for developers who want an alternative way to store and process data within their applications. No previous graph database experience is required; however, some basic database knowledge will help you understand the concepts more easily.

Academic E-Books Suzanne M. Ward 2015-11-15 E-Books in Academic Libraries: Stepping Up to the Challenge provides readers with a view of the changing and emerging roles of electronic books in higher education. The three main sections contain contributions by experts in the publisher/vendor arena, as well as by librarians who report on both the challenges of offering and managing e-books and on the issues surrounding patron use of e-books. The case study section offers perspectives from seven different sizes and types of libraries whose librarians describe innovative and thought-provoking projects involving e-books. Read about perspectives on e-books from organizations as diverse as a commercial publisher and an association press. Learn about the viewpoint of a jobber. Find out about the e-book challenges facing librarians, such as the quest to control costs in the patron-driven acquisitions (PDA) model, how to solve the dilemma of resource sharing with e-books, and how to manage PDA in the consortial environment. See what patron use of e-books reveals about reading habits and disciplinary differences. Finally, in the case study section, discover how to promote scholarly e-books, how to manage an e-reader checkout program, and how one library replaced most of its print collection with e-books. These and other examples illustrate how innovative librarians use e-books to enhance users' experiences with scholarly works.

Querying Graphs Angela Bonifati 2018-10-01 Graph data modeling and querying arises in many practical application domains such as social and biological networks where the primary focus is on concepts and their relationships and the rich patterns in these complex webs of interconnectivity. In this book, we present a concise unified view on the basic challenges which arise over the complete life cycle of formulating and processing queries on graph databases. To that purpose, we present all major concepts relevant to this life cycle, formulated in terms of a common and unifying ground: the property graph data model—the pre-dominant data model adopted by modern graph database systems. We aim especially to give a coherent and in-depth perspective on current graph querying and an outlook for future developments. Our presentation is self-contained, covering the relevant topics from: graph data models, graph query languages and graph query specification, graph constraints, and graph query processing. We conclude by indicating major open research challenges towards the next generation of graph data management systems.

Principles of Database Management Wilfried Lemahieu 2018-07-12 Introductory, theory-practice balanced text teaching the fundamentals of databases to advanced undergraduates or graduate students in information systems or computer science.

Graph Data Management Sherif Sakr 2012 "This book is a central reference source for different data management techniques for graph data structures and their applications, discussing graphs for modeling complex structured and schemaless data from the Semantic Web, social networks, protein networks, chemical compounds, and multimedia databases"--Provided by publisher.

Team of Teams Gen. Stanley McChrystal 2015-05-12 From the New York Times bestselling author of My Share of the Task and Leaders, a manual for leaders looking to make their teams more adaptable, agile, and unified in the midst of change. When General Stanley McChrystal took command of the Joint Special Operations Task Force in 2004, he quickly realized that conventional military tactics were failing. Al Qaeda in Iraq was a decentralized network that could move quickly, strike ruthlessly, then seemingly vanish into the local population. The allied forces had a huge advantage in numbers, equipment, and training—but none of that seemed to matter. To defeat Al Qaeda, they would have to combine the power of the world's mightiest military with the agility of the world's most fearsome terrorist network. They would have to become a "team of teams"—faster, flatter, and more flexible than ever. In Team of Teams, McChrystal and his colleagues show how the challenges they faced in Iraq can be relevant to countless businesses, nonprofits, and organizations today. In periods of unprecedented crisis, leaders need practical management practices that can scale to thousands of people—and fast. By giving small groups the freedom to experiment and share what they learn across the entire organization, teams can respond more quickly, communicate more freely, and make better and faster decisions. Drawing on compelling examples—from NASA to hospital emergency rooms—Team of Teams makes the case for merging the power of a large corporation with the agility of a small team to transform any organization.

Cassandra: The Definitive Guide Jeff Carpenter 2016-06-29 Imagine what you could do if scalability wasn't a problem. With this hands-on guide, you'll learn how the Cassandra database management system handles hundreds of terabytes of data while remaining highly available across multiple data centers. This expanded second edition—updated for Cassandra 3.0—provides the technical details and practical examples you need to put this database to work in a production environment. Authors Jeff Carpenter and Eben Hewitt demonstrate the advantages of Cassandra's non-relational design, with special attention to data modeling. If you're a developer, DBA, or application architect looking to solve a database scaling issue or future-proof your application, this guide helps you harness Cassandra's speed and flexibility. Understand Cassandra's distributed and decentralized structure Use the Cassandra Query Language (CQL) and cqlsh—the CQL shell Create a working data model and compare it with an equivalent relational model Develop sample applications using client drivers for languages including Java, Python, and Node.js Explore cluster topology and learn how nodes exchange data Maintain a high level of performance in your cluster Deploy Cassandra on site, in the Cloud, or with Docker Integrate Cassandra with Spark, Hadoop, Elasticsearch, Solr, and Lucene

NoSQL for Mere Mortals Dan Sullivan 2015-04-06 The Easy, Common-Sense Guide to Solving Real Problems with NoSQL The Mere Mortals @ tutorials have earned worldwide praise as the clearest, simplest way to master essential database technologies. Now, there's one for today's exciting new NoSQL databases. NoSQL for Mere Mortals guides you through solving real problems with NoSQL and achieving unprecedented scalability, cost efficiency, flexibility, and availability. Drawing on 20+ years of cutting-edge database experience, Dan Sullivan explains the advantages, use cases, and terminology associated with all four main categories of NoSQL databases: key-value, document, column family, and graph databases. For each, he introduces pragmatic best practices for building high-value applications. Through step-by-step examples, you'll discover how to choose the right database for each task, and use it the right way. Coverage includes --Getting started: What NoSQL databases are, how they differ from relational databases, when to use them, and when not to Data management principles and design criteria: Essential knowledge for creating any database solution, NoSQL or relational --Key-value databases: Gaining more utility from data structures --Document databases: Schemaless databases, normalization and denormalization, mutable documents, indexing, and design patterns --Column family databases: Google's BigTable design, table design, indexing, partitioning, and Big Data Graph databases: Graph/network modeling, design tips, query methods, and traps to avoid Whether you're a database developer, data modeler, database user, or student, learning NoSQL can open up immense new opportunities. As thousands of database professionals

already know, For Mere Mortals is the fastest, easiest route to mastery.

Learning SPARQL Bob DuCharme 2013-07-03 Gain hands-on experience with SPARQL, the RDF query language that's bringing new possibilities to semantic web, linked data, and big data projects. This updated and expanded edition shows you how to use SPARQL 1.1 with a variety of tools to retrieve, manipulate, and federate data from the public web as well as from private sources. Author Bob DuCharme has you writing simple queries right away before providing background on how SPARQL fits into RDF technologies. Using short examples that you can run yourself with open source software, you'll learn how to update, add to, and delete data in RDF datasets. Get the big picture on RDF, linked data, and the semantic web Use SPARQL to find bad data and create new data from existing data Use datatype metadata and functions in your queries Learn techniques and tools to help your queries run more efficiently Use RDF Schemas and OWL ontologies to extend the power of your queries Discover the roles that SPARQL can play in your applications

Querying XML Jim Melton 2011-04-08 XML has become the lingua franca for representing business data, for exchanging information between business partners and applications, and for adding structure—and sometimes meaning—to text-based documents. XML offers some special challenges and opportunities in the area of search: querying XML can produce very precise, fine-grained results, if you know how to express and execute those queries. For software developers and systems architects: this book teaches the most useful approaches to querying XML documents and repositories. This book will also help managers and project leaders grasp how “querying XML fits into the larger context of querying and XML. Querying XML provides a comprehensive background from fundamental concepts (What is XML?) to data models (the Infoset, PSVI, XQuery Data Model), to APIs (querying XML from SQL or Java) and more. * Presents the concepts clearly, and demonstrates them with illustrations and examples; offers a thorough mastery of the subject area in a single book. * Provides comprehensive coverage of XML query languages, and the concepts needed to understand them completely (such as the XQuery Data Model). * Shows how to query XML documents and data using: XPath (the XML Path Language); XQuery, soon to be the new W3C Recommendation for querying XML; XQuery's companion XQueryX; and SQL, featuring the SQL/XML * Includes an extensive set of XQuery, XPath, SQL, Java, and other examples, with links to downloadable code and data samples.

Big Data Beyond the Hype Zikopoulos 2014-11-10 Big Data in a nutshell: It is the ability to retain, process, and understand data like never before. It can mean more data than what you are using today; but it can also mean different kinds of data, a venture into the unstructured world where most of today's data resides. In this book you will learn how cognitive computing systems, like IBM Watson, fit into the Big Data world. Learn about the concept of data-in-motion and InfoSphere Streams, the world's fastest and most flexible platform for streaming data. Capturing, storing, refining, transforming, governing, securing, and analyzing data are important topics also covered in this book.

eXist Erik Siegel 2014-12-11 Get a head start with eXist, the open source NoSQL database and application development platform built entirely around XML technologies. With this hands-on guide, you'll learn eXist from the ground up, from using this feature-rich database to work with millions of documents to building complex web applications that take advantage of eXist's many extensions. If you're familiar with XML—as a student, professor, publisher, or developer—you'll find that eXist is ideal for all kinds of documents. This book shows you how to store, query, and search documents with XQuery and other XML technologies, and how to construct applications on top of the database with tools such as eXide and eXist's built-in development environment. Manage both data-oriented and text-oriented markup documents securely Build a sample application that analyzes and searches Shakespeare's plays Go inside the architecture and learn how eXist processes documents Learn how to work with eXist's internal development environment Choose among various indexes, including a full-text index based on Apache Lucene Dive into eXist's APIs for integrating or interacting with the database Extend eXist by building your own Triggers, Scheduled Tasks, and XQuery extension modules

Driving Digital Transformation through Data and AI Alexander Borek 2020-11-03 Leading tech companies such as Netflix, Amazon and Uber use data science and machine learning at scale in their core business processes, whereas most traditional companies struggle to expand their machine learning projects beyond a small pilot scope. This book enables organizations to truly embrace the benefits of digital transformation by anchoring data and AI products at the core of their business. It provides executives with the essential tools and concepts to establish a data and AI portfolio strategy as well as the organizational setup and agile processes that are required to deliver machine learning products at scale. Key consideration is given to advancing the data architecture and governance, balancing stakeholder needs and breaking organizational silos through new ways of working. Each chapter includes templates, common pitfalls and global case studies covering industries such as insurance, fashion, consumer goods, finance, manufacturing and automotive. Covering a holistic perspective on strategy, technology, product and company culture, Driving Digital Transformation through Data and AI guides the organizational transformation required to get ahead in the age of AI.

Database Modeling and Design Toby J. Teorey 1999 This work has been revised and updated to provide a comprehensive treatment of database design for commercial database products and their applications. The book covers the basic foundation of design as well as more advanced techniques, and also incorporates coverage of data warehousing and OLAP (On-Line Analytical Processing), data mining, object-relational, multimedia, and temporal/spatial design.

Microsoft Power BI Quick Start Guide Devin Knight 2020-10-30 An accessible fast paced introduction to all aspects of Power BI for new or aspiring BI professionals, data analysts, and data visualizers Key Features Updated with the latest features in Power BI including Dataflow, AI insights, visuals and row level security Get faster and more intuitive data insights using Microsoft Power BI and its business intelligence capabilities Build accurate analytical models, reports, and dashboards Book Description This revised edition has been fully updated to reflect the latest enhancements to Power BI. It includes a new chapter dedicated to dataflow, and covers all the essential concepts such as installation, designing effective data models, as well as building basic dashboards and visualizations to help you and your organization make better business decisions. You'll learn how to obtain data from a variety of sources and clean it using Power BI Query Editor. You'll then find out how you can design your data model to navigate and explore relationships within it and build DAX formulas to make your data easier to work with. Visualizing your data is a key element in this book, and you'll get to grips rapidly with data visualization styles and enhanced digital storytelling techniques. In addition, you will acquire the skills to build your own dataflows, understand the Common Data Model, and automate data flow refreshes to eradicate data cleansing inefficiency. This guide will help you understand how to administer your organization's Power BI environment so that deployment can be made seamless, data refreshes can run properly, and security can be fully implemented. By the end of this Power BI book, you'll have a better understanding of how to get the most out of Power BI to perform effective business intelligence. What you will learn Connect to data sources using import and DirectQuery options Use Query Editor for data transformation and data cleansing processes, including writing M and R scripts and dataflows to do the same in the cloud Design optimized data models by designing relationships and DAX calculations Design effective reports with built-in and custom visuals Adopt Power BI Desktop and Service to implement row-level security Administer a Power BI cloud tenant for your organization Use built-in AI capabilities to enhance Power BI data transformation techniques Deploy your Power BI desktop files into the Power BI Report Server Who this book is for Aspiring business intelligence professionals who want to learn Power BI will find this book useful. If you have a basic understanding of BI concepts and want to learn how to apply them using Microsoft Power BI, this book is for you.

Handbook of Big Data Technologies Albert Y. Zomaya 2017-02-25 This handbook offers comprehensive coverage of recent advancements in Big Data technologies and related paradigms. Chapters are authored by international leading experts in the field, and have been reviewed and revised for maximum reader value. The volume consists of twenty-five chapters organized into four main parts. Part one covers the fundamental concepts of Big Data technologies including data curation mechanisms, data models, storage models, programming models and programming platforms. It also dives into the details of implementing Big SQL query engines and big stream processing systems. Part Two focuses on the semantic aspects of Big Data management including data integration and exploratory ad hoc analysis in addition to structured querying and pattern matching techniques. Part Three presents a comprehensive overview of large scale graph processing. It covers the most recent research in large scale graph processing platforms, introducing several scalable graph querying and mining mechanisms in domains such as social networks. Part Four details novel applications that have been made possible by the rapid emergence of Big Data technologies such as Internet-of-Things (IoT), Cognitive Computing and SCADA Systems. All parts of the book discuss open research problems, including potential opportunities, that have arisen from the rapid progress of Big Data technologies and the associated increasing requirements of application domains. Designed for researchers, IT professionals and graduate students, this book is a timely contribution to the growing Big Data field. Big Data has been recognized as one of leading emerging technologies that will have a major contribution and impact on the various fields of science and varies aspect of the human society over the coming decades. Therefore, the content in this book will be an essential tool to help readers understand the development and future of the field.

Database Administration Craig Mullins 2002 A thorough reference on database administration outlines a variety of DBA roles and responsibilities and discusses such topics as data modeling and normalization, database/application design, change management, database security and data integrity, performance issues, disaster planning, and other essentials. Original. (Advanced)

Performance Evaluation and Benchmarking for the Era of Artificial Intelligence Raghunath Nambiar 2019-01-29 This book constitutes the thoroughly refereed post-conference proceedings of the 10th TPC Technology Conference on Performance Evaluation and Benchmarking, TPCTC 2018, held in conjunction with the 44th International Conference on Very Large Databases (VLDB 2018) in August 2018. The 10 papers presented were carefully reviewed and selected from numerous submissions. The TPC encourages researchers and industry experts to present and debate novel ideas and methodologies in performance evaluation, measurement, and characterization.

Learn Power BI Greg Deckler 2019-09-13 Solve business challenges with Microsoft Power BI's advanced visualization and data analysis techniques Key Features Create effective storytelling reports by implementing simple-to-intermediate Power BI features Develop powerful analytical models to extract key insights for changing business needs Build, publish, and share impressive dashboards for your organization Book Description To succeed in today's transforming business world, organizations need business intelligence capabilities to make smarter decisions faster than ever before. This Power BI book is an entry-level guide that will get you up and running with data modeling, visualization, and analytical techniques from scratch. You'll find this book handy if you want to get well-versed with the extensive Power BI ecosystem. You'll start by covering the basics of business intelligence and installing Power BI. You'll then learn the wide range of Power BI features to unlock business insights. As you progress, the book will take you through how to use Power Query to ingest, cleanse, and shape your data, and use Power BI DAX to create simple to complex calculations. You'll also be able to add a variety of interactive visualizations to your reports to bring your data to life. Finally, you'll gain hands-on experience in creating visually stunning reports that speak to business decision makers, and see how you can securely share these reports and collaborate with others. By the end of this book, you'll be ready to create simple, yet effective, BI reports and dashboards using the latest features of Power BI. What you will learn Explore the different features of Power BI to create interactive dashboards Use the Query Editor to import and transform data Perform simple and complex DAX calculations to enhance analysis Discover business insights and tell a story with your data using Power BI Explore data and learn to manage datasets, dataflows, and data gateways Use workspaces to collaborate with others and publish your reports Who this book is for If you're an IT manager, data analyst, or BI user new to using Power BI for solving business intelligence problems, this book is for you. You'll also find this book useful if you want to migrate from other BI tools to create powerful and interactive dashboards. No experience of working with Power BI is expected.

NoSQL Distilled Pramod J. Sadalage 2013 'NoSQL Distilled' is designed to provide you with enough background on how NoSQL databases work, so that you can choose the right data store without having to trawl the whole web to do it. It won't answer your

questions definitively, but it should narrow down the range of options you have to consider.