

Relational Database Design Clearly Explained Second Edition The Morgan Kaufmann Series In Data Management Systems By Harrington Jan L 2002 Paperback

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Database Design and Relational Theory - C. J. Date 2019-12-12

Create database designs that scale, meet business requirements, and inherently work toward keeping your data structured and usable in the face of changing business models and software systems. This book is about database design theory. Design theory is the scientific foundation for database design, just as the relational model is the scientific foundation for database technology in general. Databases lie at the heart of so much of what we do in the computing world that negative impacts of poor design can be extraordinarily widespread. This second edition includes greatly expanded coverage of exotic and little understood normal forms such as: essential tuple normal form (ETNF), redundancy free normal form (RFNF), superkey normal form (SKNF), sixth normal form (6NF), and domain key normal form (DKNF). Also included are new appendixes, including one that provides an in-depth look into the crucial notion of data consistency. Sequencing of topics has been improved, and many explanations and examples have been rewritten and clarified based upon the author's teaching of the content in instructor-led courses. This book aims to be different from other books on design by bridging the gap between the theory of design and the practice of design. The book explains theory in a way that practitioners should be able to understand, and it explains why that theory is of considerable practical importance. Reading this book provides you with an important theoretical grounding on which to do the practical work of database design. Reading the book also helps you in going to and understanding the more academic texts as you build your base of knowledge and expertise. Anyone with a professional interest in database design can benefit from using this book as a stepping-stone toward a more rigorous design approach and more lasting database models. What You Will Learn Understand what design theory is and is not Be aware of the two different goals of normalization Know which normal forms are truly significant Apply design theory in practice Be familiar with techniques for dealing with redundancy Understand what consistency is and why it is crucially important Who This Book Is For Those having a professional interest in database design, including data and database administrators; educators and students specializing in database matters; information modelers and database designers; DBMS designers, implementers, and other database vendor personnel; and database consultants. The book is product independent.

Handbook of Relational Database Design - Candace C. Fleming 1989

This book provides a practical and proven approach to designing relational databases. It contains two complementary design methodologies: logical data modeling and relational database design. The design methodologies are independent of product-specific implementations and have been applied to numerous relational product environments. 0201114348B04062001

Six-Step Relational Database Design - Fidel A. Captain 2013-05-11

Six-Step Relational Database Design™ bridges the gaps between database theory, database modeling, and database implementation by outlining a simple but reliable six-step process for accurately modeling user data on a Crow's Foot Relational Model Diagram, and then demonstrating how to implement this model on any relational database management system. The second edition contains a new chapter on implementation that goes through the steps necessary to implement each of the case studies on a relational database management system, clearly

relating the design to implementation and database theory. In addition, questions are also included at the end of each of the six steps and one of the previous case studies has been replaced, making the case study selection more diverse. Six-Step Relational Database Design™ uses three case studies and starts with a statement of the problem by the client and then goes through the six steps necessary to create a reliable and accurate data model of the client's business requirements. This model can then be used to implement the database on any relational database management system. Six-Step Relational Database Design™ should be used as a handbook for students and professionals in the software-development field. The technique described in this book can be used by students for quickly developing relational databases for their applications, and by professionals for developing sturdy, reliable, and accurate relational database models for their software applications.

Database Design and Relational Theory - Chris Date 2012-04-17

Because databases often stay in production for decades, careful design is critical to making the database serve the needs of your users over years, and to avoid subtle errors or performance problems. In this book, CJ Date, a leading exponent of relational databases, lays out the principles of good database design.

Introduction to Database Management Systems - Satinder Bal Gupta

Fundamentals of Relational Database Management Systems - S. Sumathi 2007-03-20

This book provides comprehensive coverage of fundamentals of database management system. It contains a detailed description on Relational Database Management System Concepts. There are a variety of solved examples and review questions with solutions. This book is for those who require a better understanding of relational data modeling, its purpose, its nature, and the standards used in creating relational data model.

Database Internal - Alex Petrov 2019-09-13

When it comes to choosing, using, and maintaining a database, understanding its internals is essential. But with so many distributed databases and tools available today, it's often difficult to understand what each one offers and how they differ. With this practical guide, Alex Petrov guides developers through the concepts behind modern database and storage engine internals. Throughout the book, you'll explore relevant material gleaned from numerous books, papers, blog posts, and the source code of several open source databases. These resources are listed at the end of parts one and two. You'll discover that the most significant distinctions among many modern databases reside in subsystems that determine how storage is organized and how data is distributed. This book examines: Storage engines: Explore storage classification and taxonomy, and dive into B-Tree-based and immutable Log Structured storage engines, with differences and use-cases for each Storage building blocks: Learn how database files are organized to build efficient storage, using auxiliary data structures such as Page Cache, Buffer Pool and Write-Ahead Log Distributed systems: Learn step-by-step how nodes and processes connect and build complex communication patterns Database clusters: Which consistency models are commonly used by modern databases and how distributed storage systems achieve consistency

Database Modeling and Design - Toby J. Teorey 2011-02-10

Database Modeling and Design, Fifth Edition, focuses on techniques for

database design in relational database systems. This extensively revised fifth edition features clear explanations, lots of terrific examples and an illustrative case, and practical advice, with design rules that are applicable to any SQL-based system. The common examples are based on real-life experiences and have been thoroughly class-tested. This book is immediately useful to anyone tasked with the creation of data models for the integration of large-scale enterprise data. It is ideal for a stand-alone data management course focused on logical database design, or a supplement to an introductory text for introductory database management. In-depth detail and plenty of real-world, practical examples throughout Loaded with design rules and illustrative case studies that are applicable to any SQL, UML, or XML-based system Immediately useful to anyone tasked with the creation of data models for the integration of large-scale enterprise data.

Learning Spark - Jules S. Damji 2020-07-16

Data is bigger, arrives faster, and comes in a variety of formats—and it all needs to be processed at scale for analytics or machine learning. But how can you process such varied workloads efficiently? Enter Apache Spark. Updated to include Spark 3.0, this second edition shows data engineers and data scientists why structure and unification in Spark matters. Specifically, this book explains how to perform simple and complex data analytics and employ machine learning algorithms. Through step-by-step walk-throughs, code snippets, and notebooks, you'll be able to: Learn Python, SQL, Scala, or Java high-level Structured APIs Understand Spark operations and SQL Engine Inspect, tune, and debug Spark operations with Spark configurations and Spark UI Connect to data sources: JSON, Parquet, CSV, Avro, ORC, Hive, S3, or Kafka Perform analytics on batch and streaming data using Structured Streaming Build reliable data pipelines with open source Delta Lake and Spark Develop machine learning pipelines with MLlib and productionize models using MLflow

SQL and Relational Theory - C. Date 2011-12-16

SQL is full of difficulties and traps for the unwary. You can avoid them if you understand relational theory, but only if you know how to put the theory into practice. In this insightful book, author C.J. Date explains relational theory in depth, and demonstrates through numerous examples and exercises how you can apply it directly to your use of SQL. This second edition includes new material on recursive queries, "missing information" without nulls, new update operators, and topics such as aggregate operators, grouping and ungrouping, and view updating. If you have a modest-to-advanced background in SQL, you'll learn how to deal with a host of common SQL dilemmas. Why is proper column naming so important? Nulls in your database are causing you to get wrong answers. Why? What can you do about it? Is it possible to write an SQL query to find employees who have never been in the same department for more than six months at a time? SQL supports "quantified comparisons," but they're better avoided. Why? How do you avoid them? Constraints are crucially important, but most SQL products don't support them properly. What can you do to resolve this situation? Database theory and practice have evolved since the relational model was developed more than 40 years ago. SQL and Relational Theory draws on decades of research to present the most up-to-date treatment of SQL available. C.J. Date has a stature that is unique within the database industry. A prolific writer well known for the bestselling textbook *An Introduction to Database Systems* (Addison-Wesley), he has an exceptionally clear style when writing about complex principles and theory.

Database Design and Implementation - Edward Sciore 2020-02-27

This textbook examines database systems from the viewpoint of a software developer. This perspective makes it possible to investigate why database systems are the way they are. It is of course important to be able to write queries, but it is equally important to know how they are processed. We e.g. don't want to just use JDBC; we also want to know why the API contains the classes and methods that it does. We need a sense of how hard is it to write a disk cache or logging facility. And what exactly is a database driver, anyway? The first two chapters provide a brief overview of database systems and their use. Chapter 1 discusses the purpose and features of a database system and introduces the Derby and SimpleDB systems. Chapter 2 explains how to write a database application using Java. It presents the basics of JDBC, which is the fundamental API for Java programs that interact with a database. In turn, Chapters 3-11 examine the internals of a typical database engine. Each chapter covers a different database component, starting with the lowest level of abstraction (the disk and file manager) and ending with the highest (the JDBC client interface); further, the respective chapter

explains the main issues concerning the component, and considers possible design decisions. As a result, the reader can see exactly what services each component provides and how it interacts with the other components in the system. By the end of this part, s/he will have witnessed the gradual development of a simple but completely functional system. The remaining four chapters then focus on efficient query processing, and focus on the sophisticated techniques and algorithms that can replace the simple design choices described earlier. Topics include indexing, sorting, intelligent buffer usage, and query optimization. This text is intended for upper-level undergraduate or beginning graduate courses in Computer Science. It assumes that the reader is comfortable with basic Java programming; advanced Java concepts (such as RMI and JDBC) are fully explained in the text. The respective chapters are complemented by "end-of-chapter readings" that discuss interesting ideas and research directions that went unmentioned in the text, and provide references to relevant web pages, research articles, reference manuals, and books. Conceptual and programming exercises are also included at the end of each chapter. Students can apply their conceptual knowledge by examining the SimpleDB (a simple but fully functional database system created by the author and provided online) code and modifying it.

Relational Theory for Computer Professionals - C.J. Date 2013-05-21

All of today's mainstream database products support the SQL language, and relational theory is what SQL is supposed to be based on. But are those products truly relational? Sadly, the answer is no. This book shows you what a real relational product would be like, and how and why it would be so much better than what's currently available. With this unique book, you will: Learn how to see database systems as programming systems Get a careful, precise, and detailed definition of the relational model Explore a detailed analysis of SQL from a relational point of view There are literally hundreds of books on relational theory or the SQL language or both. But this one is different. First, nobody is more qualified than Chris Date to write such a book. He and Ted Codd, inventor of the relational model, were colleagues for many years, and Chris's involvement with the technology goes back to the time of Codd's first papers in 1969 and 1970. Second, most books try to use SQL as a vehicle for teaching relational theory, but this book deliberately takes the opposite approach. Its primary aim is to teach relational theory as such. Then it uses that theory as a vehicle for teaching SQL, showing in particular how that theory can help with the practical problem of using SQL correctly and productively. Any computer professional who wants to understand what relational systems are all about can benefit from this book. No prior knowledge of databases is assumed.

Designing Relational Database Systems - Rebecca Riordan 1999

Plan And Design Commercial Database Systems Using Microsoft® Technologies. Step Up To Professional-Quality Relational Database Development With Designing Relational Database Systems. This Book Is An Ideal Introduction To The Core Precepts And Fundamentals

The Art of SQL - Stephane Faroult 2006-03-10

For all the buzz about trendy IT techniques, data processing is still at the core of our systems, especially now that enterprises all over the world are confronted with exploding volumes of data. Database performance has become a major headache, and most IT departments believe that developers should provide simple SQL code to solve immediate problems and let DBAs tune any bad SQL later. In *The Art of SQL*, author and SQL expert Stephane Faroult argues that this safe approach only leads to disaster. His insightful book, named after *Art of War* by Sun Tzu, contends that writing quick inefficient code is sweeping the dirt under the rug. SQL code may run for 5 to 10 years, surviving several major releases of the database management system and on several generations of hardware. The code must be fast and sound from the start, and that requires a firm understanding of SQL and relational theory. *The Art of SQL* offers best practices that teach experienced SQL users to focus on strategy rather than specifics. Faroult's approach takes a page from Sun Tzu's classic treatise by viewing database design as a military campaign. You need knowledge, skills, and talent. Talent can't be taught, but every strategist from Sun Tzu to modern-day generals believed that it can be nurtured through the experience of others. They passed on their experience acquired in the field through basic principles that served as guiding stars amid the sound and fury of battle. This is what Faroult does with SQL. Like a successful battle plan, good architectural choices are based on contingencies. What if the volume of this or that table increases unexpectedly? What if, following a merger, the number of users doubles? What if you want to keep several years of data online? Faroult's way of looking at SQL performance may be unconventional and unique, but he's

deadly serious about writing good SQL and using SQL well. The Art of SQL is not a cookbook, listing problems and giving recipes. The aim is to get you-and your manager-to raise good questions.

Relational Database Design and Implementation - Jan L. Harrington 2016-04-15

Relational Database Design and Implementation: Clearly Explained, Fourth Edition, provides the conceptual and practical information necessary to develop a database design and management scheme that ensures data accuracy and user satisfaction while optimizing performance. Database systems underlie the large majority of business information systems. Most of those in use today are based on the relational data model, a way of representing data and data relationships using only two-dimensional tables. This book covers relational database theory as well as providing a solid introduction to SQL, the international standard for the relational database data manipulation language. The book begins by reviewing basic concepts of databases and database design, then turns to creating, populating, and retrieving data using SQL. Topics such as the relational data model, normalization, data entities, and Codd's Rules (and why they are important) are covered clearly and concisely. In addition, the book looks at the impact of big data on relational databases and the option of using NoSQL databases for that purpose. Features updated and expanded coverage of SQL and new material on big data, cloud computing, and object-relational databases. Presents design approaches that ensure data accuracy and consistency and help boost performance. Includes three case studies, each illustrating a different database design challenge. Reviews the basic concepts of databases and database design, then turns to creating, populating, and retrieving data using SQL.

Relational Database Practices - Malcolm Hamer 2017-04-25

Introductory Relational Database Design for Business, with Microsoft Access - Jonathan Eckstein 2018-01-16

A hands-on beginner's guide to designing relational databases and managing data using Microsoft Access. Relational databases represent one of the most enduring and pervasive forms of information technology. Yet most texts covering relational database design assume an extensive, sophisticated computer science background. There are texts on relational database software tools like Microsoft Access that assume less background, but they focus primarily on details of the user interface, with inadequate coverage of the underlying design issues of how to structure databases. Growing out of Professor Jonathan Eckstein's twenty years' experience teaching courses on management information systems (MIS) at Rutgers Business School, this book fills this gap in the literature by providing a rigorous introduction to relational databases for readers without prior computer science or programming experience. Relational Database Design for Business, with Microsoft Access helps readers to quickly develop a thorough, practical understanding of relational database design. It takes a step-by-step, real-world approach, using application examples from business and finance every step the way. As a result, readers learn to think concretely about database design and how to address issues that commonly arise when developing and manipulating relational databases. By the time they finish the final chapter, students will have the knowledge and skills needed to build relational databases with dozens of tables. They will also be able to build complete Microsoft Access applications around such databases. This text: Takes a hands-on approach using numerous real-world examples drawn from the worlds of business, finance, and more. Gets readers up and running, fast, with the skills they need to use and develop relational databases with Microsoft Access. Moves swiftly from conceptual fundamentals to advanced design techniques. Leads readers step-by-step through data management and design, relational database theory, multiple tables and the possible relationships between them, Microsoft Access features such as forms and navigation, formulating queries in SQL, and normalization. Introductory Relational Database Design for Business, with Microsoft Access is the definitive guide for undergraduate and graduate students in business, finance, and data analysis without prior experience in database design. While Microsoft Access is its primary "hands-on" learning vehicle, most of the skills in this text are transferrable to other relational database software such as MySQL.

Information Modeling and Relational Databases - Terry Halpin 2001-04-17

Information Modeling and Relational Databases provides an introduction to ORM (Object Role Modeling)-and much more. In fact, it's the only book to go beyond introductory coverage and provide all of the in-depth instruction you need to transform knowledge from domain experts into a

sound database design. Inside, ORM authority Terry Halpin blends conceptual information with practical instruction that will let you begin using ORM effectively as soon as possible. Supported by examples, exercises, and useful background information, his step-by-step approach teaches you to develop a natural-language-based ORM model and then, where needed, abstract ER and UML models from it. This book will quickly make you proficient in the modeling technique that is proving vital to the development of accurate and efficient databases that best meet real business objectives. The most in-depth coverage of Object Role Modeling available anywhere-written by a pioneer in the development of ORM. Provides additional coverage of Entity Relationship (ER) modeling and the Unified Modeling Language-all from an ORM perspective.

Intended for anyone with a stake in the accuracy and efficacy of databases: systems analysts, information modelers, database designers and administrators, instructors, managers, and programmers. Explains and illustrates required concepts from mathematics and set theory.

SQL Clearly Explained Jan L. Harrington 2003-04-11

This is the second edition of the popular practitioner's guide to SQL, the industry standard database query language. Revised to enhance practical usage. Also includes two new chapters on unimplemented SQL2 features and SQL3, to educate readers as to what is coming.

Data-Driven Security Jay Jacobs 2014-01-24

Uncover hidden patterns of data and respond with countermeasures. Security professionals need all the tools at their disposal to increase their visibility in order to prevent security breaches and attacks. This careful guide explores two of the most powerful data analysis and visualization. You'll soon understand how to harness and wield data, from collection and storage to management and analysis as well as visualization and presentation. Using a hands-on approach with real-world examples, this book shows you how to gather feedback, measure the effectiveness of your security methods, and make better decisions. Everything in this book will have practical application for information security professionals. Helps IT and security professionals understand and use data, so they can thwart attacks and understand and visualize vulnerabilities in their networks. Includes more than a dozen real-world examples and hands-on exercises that demonstrate how to analyze security data and intelligence and translate that information into visualizations that make plain how to prevent attacks. Covers topics such as how to acquire and prepare security data, use simple statistical methods to detect malware, predict rogue behavior, correlate security events, and more. Written by a team of well-known experts in the field of security and data analysis. Lock down your networks, prevent hacks, and thwart malware by improving visibility into the environment, all through the power of data and Security Using Data Analysis, Visualization, and Dashboards.

Access Database Design & Programming Steven Roman 2002-01-07

For programmers who prefer content to frills, this guide has succinct and straightforward information for putting Access to its full, individually tailored use.

Web Database Applications with PHP and MySQL - Hugh E. Williams 2002

Combines language tutorials with application design advice to cover the PHP server-side scripting language and the MySQL database engine.

Business Database Technology (2nd Edition) - Shouhong Wang 2022

Business Database Technology provides essential knowledge of database technology for four-year college/university business students who study information technology and data resource management. Students will learn basic data structure techniques in databases, relational database model, design and implementation of relational databases, normalization, SQL, physical relational database design techniques, database administration, relational databases in computer networks, data warehouses, overview of OLAP (online analytical processing), and introduction to NoSQL databases.

An Introduction to Relational Database Theory - Hugh Darwen 2009

Readings in Database Systems Joseph M. Hellerstein 2005

The latest edition of a popular text and reference on database research, with substantial new material and revision; covers classical literature and recent hot topics. Lessons from database research have been applied in academic fields ranging from bioinformatics to next-generation Internet architecture and in industrial uses including Web-based e-commerce and search engines. The core ideas in the field have become increasingly influential. This text provides both students and professionals with a grounding in database research and a technical context for understanding recent innovations in the field. The readings included treat the most important issues in the database area--the basic

material for any DBMS professional. This fourth edition has been substantially updated and revised, with 21 of the 48 papers new to the edition, four of them published for the first time. Many of the sections have been newly organized, and each section includes a new or substantially revised introduction that discusses the context, motivation, and controversies in a particular area, placing it in the broader perspective of database research. Two introductory articles, never before published, provide an organized, current introduction to basic knowledge of the field; one discusses the history of data models and query languages and the other offers an architectural overview of a database system. The remaining articles range from the classical literature on database research to treatments of current hot topics, including a paper on search engine architecture and a paper on application servers, both written expressly for this edition. The result is a collection of papers that are seminal and also accessible to a reader who has a basic familiarity with database systems.

Database in Depth - C.J. Date 2005-05-05

This concise guide sheds light on the principles behind the relational model, which underlies all database products in wide use today. It goes beyond the hype to give you a clear view of the technology -- a view that's not influenced by any vendor or product. Suitable for experienced database developers and designers.

Database Design: Know It All - Toby J. Teorey 2008-10-23

This book brings all of the elements of database design together in a single volume, saving the reader the time and expense of making multiple purchases. It consolidates both introductory and advanced topics, thereby covering the gamut of database design methodology? from ER and UML techniques, to conceptual data modeling and table transformation, to storing XML and querying moving objects databases. The proposed book expertly combines the finest database design material from the Morgan Kaufmann portfolio. Individual chapters are derived from a select group of MK books authored by the best and brightest in the field. These chapters are combined into one comprehensive volume in a way that allows it to be used as a reference work for those interested in new and developing aspects of database design. This book represents a quick and efficient way to unite valuable content from leading database design experts, thereby creating a definitive, one-stop-shopping opportunity for customers to receive the information they would otherwise need to round up from separate sources. Chapters contributed by various recognized experts in the field let the reader remain up to date and fully informed from multiple viewpoints. Details multiple relational models and modeling languages, enhancing the reader's technical expertise and familiarity with design-related requirements specification. Coverage of both theory and practice brings all of the elements of database design together in a single volume, saving the reader the time and expense of making multiple purchases.

Object-oriented Database Design Clearly Explained - Jan L. Harrington 2000

Object-oriented database management systems are growing in popularity, thanks to changing corporate needs and the emergence of several viable products. However, while most database professionals have had at least some exposure to the basic concepts of object-oriented programming, information relating specifically to object-oriented databases has remained hard to come by. Object-Oriented Database Design Clearly Explained remedies this, providing developers and administrators with a ground-up understanding of the logical design of object-oriented databases. Focusing on the principles of the object paradigm while noting the particularities of specific products, this book will give readers the know-how required to produce effective designs in any environment. Key Features * Equips the reader with a sound understanding of the object paradigm and all key concepts, illustrating its points with three in-depth case * Presents product- and platform-neutral guidelines and advice, teaching readers the underlying object-oriented design principles they will need to apply regardless of the specific technology adopted * Details today's OODBMS standards and the variety of approaches taken by current products * Serves as a companion volume to Relational Database Design Clearly Explained, providing parallel examples that help to clarify relational and object-oriented data models

PROC SQL - Kirk Paul Lafler 2019-03-20

PROC SQL: Beyond the Basics Using SAS®, Third Edition, is a step-by-step, example-driven guide that helps readers master the language of PROC SQL. Packed with analysis and examples illustrating an assortment of PROC SQL options, statements, and clauses, this book not only covers all the basics, but it also offers extensive guidance on complex topics

such as set operators and correlated subqueries. Programmers at all levels will appreciate Kirk Lafler's easy-to-follow examples, clear explanations, and handy tips to extend their knowledge of PROC SQL. This third edition explores new and powerful features in SAS® 9.4, including topics such as: IFC and IFN functions nearest neighbor processing the HAVING clause indexes It also features two completely new chapters on fuzzy matching and data-driven programming. Delving into the workings of PROC SQL with greater analysis and discussion, PROC SQL: Beyond the Basics Using SAS®, Third Edition, explores this powerful database language using discussion and numerous real-world examples.

Database Systems: The Complete Book - Hector Garcia-Molina 2008

Foundations of Software Engineering - Ashfaq Ahmed 2016-08-25

The best way to learn software engineering is by understanding its core and peripheral areas. Foundations of Software Engineering provides in-depth coverage of the areas of software engineering that are essential for becoming proficient in the field. The book devotes a complete chapter to each of the core areas. Several peripheral areas are also explained by assigning a separate chapter to each of them. Rather than using UML or other formal notations, the content in this book is explained in easy-to-understand language. Basic programming knowledge using an object-oriented language is helpful to understand the material in this book. The knowledge gained from this book can be readily used in other relevant courses or in real-world software development environments. This textbook educates students in software engineering principles. It covers almost all facets of software engineering, including requirement engineering, system specifications, system modeling, system architecture, system implementation, and system testing. Emphasizing practical issues, such as feasibility studies, this book explains how to add and develop software requirements to evolve software systems. This book was written after receiving feedback from several professors and software engineers. What resulted is a textbook on software engineering that not only covers the theory of software engineering but also presents real-world insights to aid students in proper implementation. Students learn key concepts through carefully explained and illustrated theories, as well as concrete examples and a complete case study using Java. Source code is also available on the book's website. The examples and case studies increase in complexity as the book progresses to help students build a practical understanding of the required theories and applications.

Time and Relational Theory - C.J. Date 2014-08-13

Time and Relational Theory provides an in-depth description of temporal database systems, which provide special facilities for storing, querying, and updating historical and future data. Traditionally, database management systems provide little or no special support for temporal data at all. This situation is changing because: Cheap storage enables retention of large volumes of historical data in data warehouses Users are now faced with temporal data problems, and need solutions Temporal features have recently been incorporated into the SQL standard, and vendors have begun to add temporal support to their DBMS products Based on the groundbreaking text Temporal Data & the Relational Model (Morgan Kaufmann, 2002) and new research led by the authors, Time and Relational Theory is the only book to offer a complete overview of the functionality of a temporal DBMS. Expert authors Nikos Lorentzos, Hugh Darwen, and Chris Date describe an approach to temporal database management that is firmly rooted in classical relational theory and will stand the test of time. This book covers the SQL:2011 temporal extensions in depth and identifies and discusses the temporal functionality still missing from SQL. Understand how the relational model provides an ideal basis for taming the complexities of temporal databases Learn how to analyze and evaluate commercial temporal products with this timely and important information Be able to use sound principles in designing and using temporal databases Understand the temporal support recently added to SQL with coverage of the new SQL features in this unique, accurate, and authoritative reference Appreciate the benefits of a truly relational approach to the problem with this clear, user friendly presentation

View Updating and Relational Theory - C.J. Date 2012-12-20

Views are virtual tables. That means they should be updatable, just as "real" or base tables are. In fact, view updatability isn't just desirable, it's crucial, for practical reasons as well as theoretical ones. But view updating has always been a controversial topic. Ever since the relational model first appeared, there has been widespread skepticism as to whether (in general) view updating is even possible. In stark contrast to

this conventional wisdom, this book shows how views, just like base tables, can always be updated (so long as the updates don't violate any integrity constraints). More generally, it shows how updating always ought to work, regardless of whether the target is a base table or a view. The proposed scheme is 100% consistent with the relational model, but rather different from the way updating works in SQL products today. This book can: Help database products improve in the future Help with a "roll your own" implementation, absent such product improvements Make you aware of the crucial role of predicates and constraints Show you how relational products are really supposed to behave Anyone with a professional interest in the relational model, relational technology, or database systems in general can benefit from this book.

The Data Warehouse Toolkit - Ralph Kimball 2011-08-08

This old edition was published in 2002. The current and final edition of this book is *The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling*, 3rd Edition which was published in 2013 under ISBN: 9781118530801. The authors begin with fundamental design recommendations and gradually progress step-by-step through increasingly complex scenarios. Clear-cut guidelines for designing dimensional models are illustrated using real-world data warehouse case studies drawn from a variety of business application areas and industries, including: Retail sales and e-commerce Inventory management Procurement Order management Customer relationship management (CRM) Human resources management Accounting Financial services Telecommunications and utilities Education Transportation Health care and insurance By the end of the book, you will have mastered the full range of powerful techniques for designing dimensional databases that are easy to understand and provide fast query response. You will also learn how to create an architected framework that integrates the distributed data warehouse using standardized dimensions and facts.

Database Administration - Craig S. Mullins 2012-10-11

Database Administration, Second Edition, is the definitive, technology-independent guide to the modern discipline of database administration. Packed with best practices and proven solutions for any database platform or environment, this text fully reflects the field's latest realities and challenges. Drawing on more than thirty years of database experience, Mullins focuses on problems that today's DBAs actually face, and skills and knowledge they simply must have. Mullins presents realistic, thorough, and up-to-date coverage of every DBA task, including creating database environments, data modeling, normalization, design, performance, data integrity, compliance, governance, security, backup/recovery, disaster planning, data and storage management, data movement/distribution, data warehousing, connectivity, metadata, tools, and more. This edition adds new coverage of "Big Data," database appliances, cloud computing, and NoSQL. Mullins includes an entirely new chapter on the DBA's role in regulatory compliance, with substantial new material on data breaches, auditing, encryption, retention, and metadata management. You'll also find an all-new glossary, plus up-to-the-minute DBA rules of thumb.

Database Design for Mere Mortals Michael James Hernandez 2003

"This book takes the somewhat daunting process of database design and breaks it into completely manageable and understandable components. Mike's approach whilst simple is completely professional, and I can recommend this book to any novice database designer." --Sandra Barker, Lecturer, University of South Australia, Australia "Databases are a critical infrastructure technology for information systems and today's business. Mike Hernandez has written a literate explanation of database technology--a topic that is intricate and often obscure. If you design databases yourself, this book will educate you about pitfalls and show you what to do. If you purchase products that use a database, the book explains the technology so that you can understand what the vendor is doing and assess their products better." --Michael Blaha, consultant and trainer, author of *A Manager's Guide to Database Technology* "If you told me that Mike Hernandez could improve on the first edition of *Database Design for Mere Mortals* I wouldn't have believed you, but he did! The second edition is packed with more real-world examples, detailed explanations, and even includes database-design tools on the CD-ROM! This is a must-read for anyone who is even remotely interested in relational database design, from the individual who is called upon occasionally to create a useful tool at work, to the seasoned professional who wants to brush up on the fundamentals. Simply put, if you want to do it right, read this book!" --Matt Greer, Process Control Development, The Dow Chemical Company "Mike's approach to database design is totally common-sense based, yet he's adhered to all the rules of good

relational database design. I use Mike's books in my starter database-design class, and I recommend his books to anyone who's interested in learning how to design databases or how to write SQL queries." --Michelle Poolet, President, MVDS, Inc. "Slapping together sophisticated applications with poorly designed data will hurt you just as much now as when Mike wrote his first edition, perhaps even more. Whether you're just getting started developing with data or are a seasoned pro; whether you've read Mike's previous book or this is your first; whether you're happier letting someone else design your data or you love doing it yourself--this is the book for you. Mike's ability to explain these concepts in a way that's not only clear, but fun, continues to amaze me." --From the Foreword by Ken Getz, MCW Technologies, coauthor *ASP.NET Developer's JumpStart* "The first edition of Mike Hernandez's book *Database Design for Mere Mortals* was one of the few books that survived the cut when I moved my office to smaller quarters. The second edition expands and improves on the original in so many ways. It is not only a good, clear read, but contains a remarkable quantity of clear, concise thinking on a very complex subject. It's a must for anyone interested in the subject of database design." --Malcolm C. Rubel, Performance Dynamics Associates "Mike's excellent guide to relational database design deserves a second edition. His book is an essential tool for fledgling Microsoft Access and other desktop database developers, as well as for client/server pros. I recommend it highly to all my readers." --Roger Jennings, author of *Special Edition Using Access 2002* "There are no silver bullets! Database technology has advanced dramatically, the newest crop of database servers perform operations faster than anyone could have imagined six years ago, but none of these technological advances will help fix a bad database design, or capture data that you forgot to include! *Database Design for Mere Mortals(TM)*, Second Edition, helps you design your database right in the first place!" --Matt Nunn, Product Manager, SQL Server, Microsoft Corporation "When my brother started his professional career as a developer, I gave him Mike's book to help him understand database concepts and make real-world application of database technology. When I need a refresher on the finer points of database design, this is the book I pick up. I do not think that there is a better testimony to the value of a book than that it gets used. For this reason I have wholeheartedly recommended to my peers and students that they utilize this book in their day-to-day development tasks." --Chris Kunicki, Senior Consultant, OfficeZealot.com "Mike has always had an incredible knack for taking the most complex topics, breaking them down, and explaining them so that anyone can 'get it.' He has honed and polished his first very, very good edition and made it even better. If you're just starting out building database applications, this book is a must-read cover to cover. Expert designers will find Mike's approach fresh and enlightening and a source of great material for training others." --John Viescas, President, Viescas Consulting, Inc., author of *Running Microsoft Access 2000* and coauthor of *SQL Queries for Mere Mortals* "Whether you need to learn about relational database design in general, design a relational database, understand relational database terminology, or learn best practices for implementing a relational database, *Database Design for Mere Mortals(TM)*, Second Edition, is an indispensable book that you'll refer to often. With his many years of real-world experience designing relational databases, Michael shows you how to analyze and improve existing databases, implement keys, define table relationships and business rules, and create data views, resulting in data integrity, uniform access to data, and reduced data-entry errors." --Paul Cornell, Site Editor, MSDN Office Developer Center Sound database design can save hours of development time and ensure functionality and reliability. *Database Design for Mere Mortals(TM)*, Second Edition, is a straightforward, platform-independent tutorial on the basic principles of relational database design. It provides a commonsense design methodology for developing databases that work. Database design expert Michael J. Hernandez has expanded his best-selling first edition, maintaining its hands-on approach and accessibility while updating its coverage and including even more examples and illustrations. This edition features a CD-ROM that includes diagrams of sample databases, as well as design guidelines, documentation forms, and examples of the database design process. This book will give you the knowledge and tools you need to create efficient and effective relational databases.

Relational Database Design and Implementation - Jan L. Harrington 2009-09-02

Fully revised, updated, and expanded, *Relational Database Design and Implementation, Third Edition* is the most lucid and effective introduction to the subject available for IT/IS professionals interested in

honing their skills in database design, implementation, and administration. This book provides the conceptual and practical information necessary to develop a design and management scheme that ensures data accuracy and user satisfaction while optimizing performance, regardless of experience level or choice of DBMS. The book begins by reviewing basic concepts of databases and database design, then briefly reviews the SQL one would use to create databases. Topics such as the relational data model, normalization, data entities and Codd's Rules (and why they are important) are covered clearly and concisely but without resorting to "Dummies"-style talking down to the reader. Supporting the book's step-by-step instruction are three NEW case studies illustrating database planning, analysis, design, and management practices. In addition to these real-world examples, which include object-relational design techniques, an entirely NEW section consisting of three chapters is devoted to database implementation and management issues. * Principles needed to understand the basis of good relational database design and implementation practices. * Examples to illustrate core concepts for enhanced comprehension and to put the book's practical instruction to work. * Methods for tailoring DB design to the environment in which the database will run and the uses to which it will be put. * Design approaches that ensure data accuracy and consistency. * Examples of how design can inhibit or boost database application performance. * Object-relational design techniques, benefits, and examples. * Instructions on how to choose and use a normalization technique. * Guidelines for understanding and applying Codd's rules. * Tools to implement a relational design using SQL. * Techniques for using CASE tools for database design.

Relational Database Design Clearly Explained - Jan L. Harrington
2002

Fully revised and updated, Relational Database Design, Second Edition is the most lucid and effective introduction to relational database design available. Here, you'll find the conceptual and practical information you need to develop a design that ensures data accuracy and user

satisfaction while optimizing performance, regardless of your experience level or choice of DBMS. Supporting the book's step-by-step instruction are three case studies illustrating the planning, analysis, and design steps involved in arriving at a sound design. These real-world examples include object-relational design techniques, which are addressed in greater detail in a new chapter devoted entirely to this timely subject. * Concepts you need to master to put the book's practical instruction to work. * Methods for tailoring your design to the environment in which the database will run and the uses to which it will be put. * Design approaches that ensure data accuracy and consistency. * Examples of how design can inhibit or boost database application performance. * Object-relational design techniques, benefits, and examples. * Instructions on how to choose and use a normalization technique. * Guidelines for understanding and applying Codd's rules. * Tools to implement a relational design using SQL. * Techniques for using CASE tools for database design.

Enterprise Operations Management Handbook, Second Edition - Steven F. Blanding 2020-10-14

The Enterprise Operations Management Handbook provides the expert advice and guidance of hundreds of leading computing practitioners and consultants. Covering all major areas of enterprise operations management, this edition provides essential information for managing a modern, evolving data center. Topics include business issues, technology issues, and operational issues. This current, practical reference also reviews such critical areas as strategic planning, data center management, data center controls, systems planning, network technology, contingency planning, human resource planning, desktop computing, and future directions. The Enterprise Operations Management Handbook serves as an invaluable tool for designing, building, and maintaining a high-performance, service-oriented data center.

A Practical Guide to Relational Database Design - Peter Domanski
2000-04