

## Database Design For Mere Mortals A Hands On Guide To Relational Database Design 2nd Edition By Michael J Hernandez Mar 3 2003

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.

Data is getting bigger and more complex by the day, and so are your choices in handling it. Explore some of the most cutting-edge databases available - from a traditional relational database to newer NoSQL approaches - and make informed decisions about challenging data storage problems. This is the only comprehensive guide to the world of NoSQL databases, with in-depth practical and conceptual introductions to seven different technologies: Redis, Neo4J, CouchDB, MongoDB, HBase, Postgres, and DynamoDB. This second edition includes a new chapter on DynamoDB and updated content for each chapter. While relational databases such as MySQL remain as relevant as ever, the alternative, NoSQL paradigm has opened up new horizons in performance and scalability and changed the way we approach data-centric problems. This book presents the essential concepts behind each database alongside hands-on examples that make each technology come alive. With each database, tackle a real-world problem that highlights the concepts and features that make it shine. Along the way, explore five database models - relational, key/value, columnar, document, and graph - from the perspective of challenges faced by real applications. Learn how MongoDB and CouchDB are strikingly different, make your applications faster with Redis and more connected with Neo4J, build a cluster of HBase servers using cloud services such as Amazon's Elastic MapReduce, and more. This new edition brings a brand new chapter on DynamoDB, updated code samples and exercises, and a more up-to-date account of each database's feature set. Whether you're a programmer building the next big thing, a data scientist seeking solutions to thorny problems, or a technology enthusiast venturing into new territory, you will find something to inspire you in this book. What You Need: You'll need a \*nix shell (Mac OS or Linux preferred, Windows users will need Cygwin), Java 6 (or greater), and Ruby 1.8.7 (or greater). Each chapter will list the downloads required for that database.

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.

The aim of this work is to provide a correct and up-to-date understanding of the practical aspects of crucial, yet little-understood core database issues. The author identifies fundamental concepts, principles, and techniques and assesses the treatment of those issues in SQL (both the standard and commercial implementations) and gives advice on how to deal with them.

Topics covered include complex data types, missing information, data hierarchies, and quota queries. Annotation copyrighted by Book News, Inc., Portland, OR

"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.

A guide to relational database design covers such topics as setting objectives, establishing table structures, and identifying and establishing business rules.

In just 24 lessons of one hour or less, you will learn professional techniques to design and build efficient databases and query them to extract useful information. Using a straightforward, step-by-step approach, each lesson builds on the previous one, allowing you to learn the essentials of ANSI SQL from the ground up. Example code demonstrates the authors' professional techniques, while exercises written for MySQL offer the reader hands-on learning with an open-source database. Included are advanced techniques for using views, managing transactions, database administration, and extending SQL. Step-by-step instructions carefully walk you through the most common SQL tasks. Q&As, Quizzes, and Exercises at the end of each chapter help you test your knowledge. Notes and Tips point out shortcuts and solutions. New terms are clearly defined and explained. Learn how to... Use SQL-2003, the latest standard for the Structured Query Language Design and deploy efficient, secure databases Build advanced queries for information retrieval Sort, group, and summarize information for best presentation Tune databases and queries for maximum performance Understand database administration and security techniques For more than ten years the authors have studied, applied, and documented the SQL standard and its application to critical database systems. Ryan Stephens and Ron Plew are entrepreneurs, speakers, and cofounders of Perpetual Technologies, Inc. (PTI), a fast-growing IT management and consulting firm which specializes in database technologies. They taught database courses for Indiana University-Purdue University in Indianapolis for five years and have authored more than a dozen books on Oracle, SQL, database design, and the high availability of critical systems. Arie D. Jones is Senior SQL Server database administrator and analyst for PTI. He is a regular speaker at technical events and has authored several books and articles. Category: Database Covers: ANSI SQL User Level: Beginning-Intermediate Register your book at [informit.com/title/9780672330186](http://informit.com/title/9780672330186) for convenient access to updates and corrections as they become available.

SQL for Data Analytics teaches everything you need to know to progress from basic SQL to identifying trends and creating compelling narratives with data. With this book, you will be able to look at data with the critical eye of an analytics professional and extract meaningful insights that will improve your business.

Learn effective and scalable database design techniques in SQL Server 2019 and other recent SQL Server versions. This book is revised to cover additions to SQL Server that include SQL graph enhancements, in-memory online transaction processing, temporal data storage, row-level security, and other design-related features. This book will help you design OLTP databases that are high-quality, protect the integrity of your data, and perform fast on-premises, in the cloud, or in hybrid configurations. Designing an effective and scalable database using SQL Server is a task requiring skills that have been around for well over 30 years, using technology that is constantly changing. This book covers everything from design logic that business users will understand to the physical implementation of design in a SQL Server database. Grounded in best practices and a solid understanding of the underlying theory, author Louis Davidson shows you how to "get it right" in SQL Server database design and lay a solid groundwork for the future use of

valuable business data. What You Will Learn Develop conceptual models of client data using interviews and client documentation Implement designs that work on premises, in the cloud, or in a hybrid approach Recognize and apply common database design patterns Normalize data models to enhance integrity and scalability of your databases for the long-term use of valuable data Translate conceptual models into high-performing SQL Server databases Secure and protect data integrity as part of meeting regulatory requirements Create effective indexing to speed query performance Understand the concepts of concurrency Who This Book Is For Programmers and database administrators of all types who want to use SQL Server to store transactional data. The book is especially useful to those wanting to learn the latest database design features in SQL Server 2019 (features that include graph objects, in-memory OLTP, temporal data support, and more). Chapters on fundamental concepts, the language of database modeling, SQL implementation, and the normalization process lay a solid groundwork for readers who are just entering the field of database design. More advanced chapters serve the seasoned veteran by tackling the latest in physical implementation features that SQL Server has to offer. The book has been carefully revised to cover all the design-related features that are new in SQL Server 2019.

Database Design for Mere Mortals A Hands-On Guide to Relational Database Design Addison-Wesley

The #1 Easy, Commonsense Guide to Database Design Now Updated Foreword by Michelle Poolet, Mount Vernon Data Systems LLC Michael J. Hernandez's best-selling Database Design for Mere Mortals has earned worldwide respect as the simplest way to learn relational database design. Now, he's made this hands-on, software independent tutorial even clearer and easier to use. Step by step, this new 25th Anniversary Edition shows you how to design modern databases that are soundly structured, reliable, and flexible, even in the latest online applications. Hernandez guides you through everything from planning to defining tables, fields, keys, table relationships, business rules, and views. You'll learn practical ways to improve data integrity, how to avoid common mistakes, and when to break the rules. Updated review questions and figures help you learn these techniques more easily and effectively. Understand database types, models, and design terminology Perform interviews to efficiently capture requirements even if everyone's working remotely Set clear design objectives and transform them into effective designs Analyze a current database so you can identify ways to improve it Establish table structures and relationships, assign primary keys, set field specifications, and set up views Ensure the correct level of data integrity for each database Identify and establish business rules Preview and prepare for the future of relational databases Whatever relational database systems you use, Hernandez will help you design databases that are robust and trustworthy. Never designed a database before? Settling for inadequate generic designs? Running existing databases that need improvement? Start here.

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.

Database design expert Michael J. Hernandez introduces the core concepts of design theory and method without the technical jargon. With its hands-on approach and a wealth of practical examples, Database Design for Mere Mortals will provide any developer with a common-sense design methodology for developing databases that work.

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, C.J. Date, a leading exponent of relational databases, lays out the principles of good database design.

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.

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 MicrosoftAccess 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.

The #1 Easy, Commonsense Guide to Database Design! Michael J. Hernandez's best-selling Database Design for Mere Mortals® has earned worldwide respect as the clearest, simplest way to learn relational database design. Now, he's made this hands-on, software-independent tutorial even easier, while ensuring that his design methodology is still relevant to the latest databases, applications, and best practices. Step by step, Database Design for Mere Mortals®, Third Edition, shows you how to design databases that are soundly structured, reliable, and flexible, even in modern web applications. Hernandez guides you through everything from database planning to defining tables, fields, keys, table relationships, business rules, and views. You'll learn practical ways to improve data integrity, how to avoid common mistakes, and when to break the rules. Coverage includes Understanding database types, models, and design terminology Discovering what good database design can do for you—and why bad design can make your life miserable Setting objectives for your database, and transforming those objectives into real designs Analyzing a current database so you can identify ways to improve it Establishing table structures and relationships, assigning primary keys, setting field specifications, and setting up views Ensuring the appropriate level of data integrity for each application Identifying and establishing business rules Whatever relational database systems you use, Hernandez will help you design databases that are robust and trustworthy. Never designed a database before? Settling for inadequate generic designs? Running existing databases that need improvement? Start here.

Not a reference book, and not a tutorial either, the new second edition of the highly regarded Access Cookbook is an uncommonly useful collection of solutions to problems that Access users and developers are likely to face as they attempt to build increasingly complex applications. Although using any single "recipe" in the book will more than pay back the cost of the book in terms of both hours saved and frustration thwarted, Access Cookbook, Second Edition is much more than a handy assortment of cut-and-paste code. Each of the "recipes" examine a particular problem--problems that commonly occur when you push the upper limits of Access, or ones that are likely to trip up a developer attempting to design a more elegant Access application--even some things you never knew Access could do. The authors then, in a clear, accessible, step-by-step style, present the problems' solution. Following each "recipe" are insights on how Access works, potential pitfalls, interesting programming techniques that are used in the solution, and how and why the solution works, so you can adapt the problem-solving techniques to other similar situations. Fully updated for Access 2003, Access Cookbook, Second Edition is also one of the first books to thoroughly explore new support for .NET managed code and XML. All of the practical, real-world examples have been tested for compatibility with Access 2003, Windows XP, and Windows Server 2003. This updated new edition also covers Access and SharePoint, Access and SmartTags, Access and .NET; and Access and XML. Access power users and programmers at all levels, from the relatively inexperienced to the most sophisticated, will rely on the Access Cookbook for quick solutions to gnarly problems. With a dog-eared copy of Access Cookbook at your side, you can spend your time and energy where it matters most: working on the interesting facets of your Access application, not just the time-consuming ones.

From ATMs to the personal finance, online shopping to networked information management, databases permeate every nook and cranny of our highly-connected, information-intensive world. Databases have become so integral to the business environment that, nowadays, it's next to impossible to stay competitive without the assistance of some sort of database technology—no matter what type or size of business you run. But developing your own database can be very tricky. In fact, whether you want to keep records for a small business or run a large e-commerce website, developing the right database system can be a major challenge. Which is where this friendly guide comes in. From data modeling methods and development tools to Internet accessibility and security, Database Development For Dummies shows you, step-by-step, everything you need to know about building a custom system from the ground up. You'll discover how to: Model data accurately Design a reliable functional database Deliver robust relational databases on time and on budget Build a user-friendly database application Put your database on the Web In plain English, author Allen Taylor acquaints you with the most popular data modeling methods, and he shows you how to systematically design and develop a system incorporating a database and one or more applications that operate on it. Important topics he explores include: Understanding database architecture and how it has evolved Recognizing how database technology affects everyday life Using a structured approach to database development Creating an appropriate data model

Developing a reliable relational design Understanding the complexities you're likely to encounter in designing a database and how to simplify them Implementing your design using Microsoft Access 2000, SQL Server and other powerful database development tools Keeping your database secure Putting your database on the Internet Today's powerful, low-cost database development tools make it possible for virtually anybody to create their own database. Get Database Development For Dummies and discover what it takes to design, develop and implement a sophisticated database system tailored to you and your company's current and future data storage and management needs.

The need to handle increasingly larger data volumes is one factor driving the adoption of a new class of nonrelational "NoSQL" databases. Advocates of NoSQL databases claim they can be used to build systems that are more performant, scale better, and are easier to program. NoSQL Distilled is a concise but thorough introduction to this rapidly emerging technology. Pramod J. Sadalage and Martin Fowler explain how NoSQL databases work and the ways that they may be a superior alternative to a traditional RDBMS. The authors provide a fast-paced guide to the concepts you need to know in order to evaluate whether NoSQL databases are right for your needs and, if so, which technologies you should explore further. The first part of the book concentrates on core concepts, including schemaless data models, aggregates, new distribution models, the CAP theorem, and map-reduce. In the second part, the authors explore architectural and design issues associated with implementing NoSQL. They also present realistic use cases that demonstrate NoSQL databases at work and feature representative examples using Riak, MongoDB, Cassandra, and Neo4j. In addition, by drawing on Pramod Sadalage's pioneering work, NoSQL Distilled shows how to implement evolutionary design with schema migration: an essential technique for applying NoSQL databases. The book concludes by describing how NoSQL is ushering in a new age of Polyglot Persistence, where multiple data-storage worlds coexist, and architects can choose the technology best optimized for each type of data access.

Jump-start your career as a data scientist—learn to develop datasets for exploration, analysis, and machine learning SQL for Data Scientists: A Beginner's Guide for Building Datasets for Analysis is a resource that's dedicated to the Structured Query Language (SQL) and dataset design skills that data scientists use most. Aspiring data scientists will learn how to construct datasets for exploration, analysis, and machine learning. You can also discover how to approach query design and develop SQL code to extract data insights while avoiding common pitfalls. You may be one of many people who are entering the field of Data Science from a range of professions and educational backgrounds, such as business analytics, social science, physics, economics, and computer science. Like many of them, you may have conducted analyses using spreadsheets as data sources, but never retrieved and engineered datasets from a relational database using SQL, which is a programming language designed for managing databases and extracting data. This guide for data scientists differs from other instructional guides on the subject. It doesn't cover SQL broadly. Instead, you'll learn the subset of SQL skills that data analysts and data scientists use frequently. You'll also gain practical advice and direction on "how to think about constructing your dataset." Gain an understanding of relational database structure, query design, and SQL syntax Develop queries to construct datasets for use in applications like interactive reports and machine learning algorithms Review strategies and approaches so you can design analytical datasets Practice your techniques with the provided database and SQL code In this book, author Renee Teate shares knowledge gained during a 15-year career working with data, in roles ranging from database developer to data analyst to data scientist. She guides you through SQL code and dataset design concepts from an industry practitioner's perspective, moving your data scientist career forward! &a>Database Design for Mere Mortals™, 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 book will give you the knowledge and tools you need to create efficient and effective relational databases.

Beginning Queries with SQL is a friendly and easily read guide to writing queries with the all-important — in the database world — SQL language. Anyone who does any work at all with databases needs to know something of SQL, and that is evidenced by the strong sales of such books as Learning SQL (O'Reilly) and SQL Queries for Mere Mortals (Pearson). Beginning Queries with SQL is written by the author of Beginning Database Design, an author who is garnering great reviews on Amazon due to the clarity and succinctness of her writing.

The #1 Easy, Common-Sense Guide to SQL Queries—Updated for Today's Databases, Standards, and Challenges SQL Queries for Mere Mortals ® has earned worldwide praise as the clearest, simplest tutorial on writing effective SQL queries. The authors have updated this hands-on classic to reflect new SQL standards and database applications and teach valuable new techniques. Step by step, John L. Viescas and Michael J. Hernandez guide you through creating reliable queries for virtually any modern SQL-based database. They demystify all aspects of SQL query writing, from simple data selection and filtering to joining multiple tables and modifying sets of data. Three brand-new chapters teach you how to solve a wide range of challenging SQL problems. You'll learn how to write queries that apply multiple complex conditions on one table, perform sophisticated logical evaluations, and think "outside the box" using unlinked tables. Coverage includes -- Getting started: understanding what relational databases are, and ensuring that your database structures are sound -- SQL basics: using SELECT statements, creating expressions, sorting information with ORDER BY, and filtering data using WHERE -- Summarizing and grouping data with GROUP BY and HAVING clauses -- Drawing data from multiple tables: using INNER JOIN, OUTER JOIN, and UNION operators, and working with subqueries -- Modifying data sets with UPDATE, INSERT, and DELETE statements Advanced queries: complex NOT and AND, conditions, if-then-else using CASE, unlinked tables, driver tables, and more Practice all you want with downloadable sample databases for today's versions of Microsoft Office Access, Microsoft SQL Server, and the open source MySQL database. Whether you're a DBA, developer, user, or student, there's no better way to master SQL. [informit.com/aw](http://informit.com/aw) forMereMortals.com

Updated for the latest database management systems -- including MySQL 6.0, Oracle 11g, and Microsoft's SQL Server 2008 -- this introductory guide will get you up and running with SQL quickly. Whether you need to write database applications, perform administrative tasks, or generate reports, Learning SQL, Second Edition, will help you easily master all the SQL fundamentals. Each chapter presents a self-contained lesson on a key SQL concept or technique, with numerous illustrations and annotated examples. Exercises at the end of each chapter let you practice the skills you learn. With this book, you will: Move quickly through SQL basics and learn several advanced features Use SQL data statements to generate, manipulate, and retrieve data Create database objects, such as tables, indexes, and constraints, using SQL schema statements Learn how data sets interact with queries, and understand the importance of subqueries Convert and manipulate data with SQL's built-in functions, and use conditional logic in data statements Knowledge of SQL is a must for interacting with data. With Learning SQL, you'll quickly learn how to put the power and flexibility of this language to work.

Salary surveys worldwide regularly place software architect in the top 10 best jobs, yet no real guide exists to help developers become architects. Until now. This book provides the first comprehensive overview of software architecture's many aspects. Aspiring and existing architects alike will examine architectural characteristics, architectural patterns, component determination, diagramming and presenting architecture, evolutionary architecture, and many other topics. Mark Richards and Neal Ford—hands-on practitioners who

have taught software architecture classes professionally for years—focus on architecture principles that apply across all technology stacks. You'll explore software architecture in a modern light, taking into account all the innovations of the past decade. This book examines: Architecture patterns: The technical basis for many architectural decisions Components: Identification, coupling, cohesion, partitioning, and granularity Soft skills: Effective team management, meetings, negotiation, presentations, and more Modernity: Engineering practices and operational approaches that have changed radically in the past few years Architecture as an engineering discipline: Repeatable results, metrics, and concrete valuations that add rigor to software architecture

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Hands-On Database uses a scenario-based approach that shows readers how to build a database by providing them with the context of a running case throughout each step of the process. The vast majority of software applications use relational databases that virtually every application developer must work with. This book introduces you to database design, whether you're a DBA or database developer. You'll discover what databases are, their goals, and why proper design is necessary to achieve those goals. Additionally, you'll master how to structure the database so it gives good performance while minimizing the chance for error. You will learn how to decide what should be in a database to meet the application's requirements.

Fully updated and expanded from the previous edition, *A Practical Guide to Database Design, Second Edition*, is intended for those involved in the design or development of a database system or application. It begins by focusing on how to create a logical data model where data is stored "where it belongs." Next, data usage is reviewed to transform the logical model into a physical data model that will satisfy user performance requirements. Finally, it describes how to use various software tools to create user interfaces to review and update data in a database. Organized into 11 chapters, the book begins with an overview of the functionality of database management systems and how they guarantee the accuracy and availability of data. It then describes how to define and normalize data requirements to create a logical data model, then map them into an initial solution for a physical database. The book next presents how to use an industry-leading data modeling tool to define and manage logical and physical data models. After that, it describes how to implement a physical database using either Microsoft Access or SQL Server and how to use Microsoft Access to create windows interfaces to query or update data in tables. The last part of the book reviews software tools and explores the design and implementation of a database using as an example a much more complex data environment for a University. The book ends with a description of how to use PHP to build a web-based interface to review and update data in a database.

A guide to SQL covers such topics as retrieving records, metadata queries, working with strings, data arithmetic, date manipulation, reporting and warehousing, and hierarchical queries.

Through clear language, step-by-step discussions, and quizzes at the end of each chapter, the author makes databases easy. Quickly learn the core skills needed to design, configure, manage, and manipulate databases, whether at work or at home. Topics such as exploring different database models, planning their design, minimizing redundant data, designing tables, applying database design concepts, and implementing database security are covered. This is that fast, easy-to-understand tutorial that you've been looking for.

Congratulations! You completed the MongoDB application within the given tight timeframe and there is a party to celebrate your application's release into production. Although people are congratulating you at the celebration, you are feeling some uneasiness inside. To complete the project on time required making a lot of assumptions about the data, such as what terms meant and how calculations are derived. In addition, the poor documentation about the application will be of limited use to the support team, and not investigating all of the inherent rules in the data may eventually lead to poorly-performing structures in the not-so-distant future. Now, what if you had a time machine and could go back and read this book. You would learn that even NoSQL databases like MongoDB require some level of data modeling. Data modeling is the process of learning about the data, and regardless of technology, this process must be performed for a successful application. You would learn the value of conceptual, logical, and physical data modeling and how each stage increases our knowledge of the data and reduces assumptions and poor design decisions. Read this book to learn how to do data modeling for MongoDB applications, and accomplish these five objectives: Understand how data modeling contributes to the process of learning about the data, and is, therefore, a required technique, even when the resulting database is not relational. That is, NoSQL does not mean NoDataModeling! Know how NoSQL databases differ from traditional relational databases, and where MongoDB fits. Explore each MongoDB object and comprehend how each compares to their data modeling and traditional relational database counterparts, and learn the basics of adding, querying, updating, and deleting data in MongoDB. Practice a streamlined, template-driven approach to performing conceptual, logical, and physical data modeling. Recognize that data modeling does not always have to lead to traditional data models! Distinguish top-down from bottom-up development approaches and complete a top-down case study which ties all of the modeling techniques together. This book is written for anyone who is working with, or will be working with MongoDB, including business analysts, data modelers, database administrators, developers, project managers, and data scientists. There are three sections: In Section I, Getting Started, we will reveal the power of data modeling and the tight connections to data models that exist when designing any type of database (Chapter 1), compare NoSQL with traditional relational databases and where MongoDB fits (Chapter 2), explore each MongoDB object and comprehend how each compares to their data modeling and traditional relational database counterparts (Chapter 3), and explain the basics of adding, querying, updating, and deleting data in MongoDB (Chapter 4). In Section II, Levels of Granularity, we cover

Conceptual Data Modeling (Chapter 5), Logical Data Modeling (Chapter 6), and Physical Data Modeling (Chapter 7). Notice the “ing” at the end of each of these chapters. We focus on the process of building each of these models, which is where we gain essential business knowledge. In Section III, Case Study, we will explain both top down and bottom up development approaches and go through a top down case study where we start with business requirements and end with the MongoDB database. This case study will tie together all of the techniques in the previous seven chapters. Nike Senior Data Architect Ryan Smith wrote the foreword. Key points are included at the end of each chapter as a way to reinforce concepts. In addition, this book is loaded with hands-on exercises, along with their answers provided in Appendix A. Appendix B contains all of the book’s references and Appendix C contains a glossary of the terms used throughout the text.

Sams Teach Yourself SQL in 10 Minutes, Fourth Edition New full-color code examples help you see how SQL statements are structured Whether you're an application developer, database administrator, web application designer, mobile app developer, or Microsoft Office users, a good working knowledge of SQL is an important part of interacting with databases. And Sams Teach Yourself SQL in 10 Minutes offers the straightforward, practical answers you need to help you do your job. Expert trainer and popular author Ben Forta teaches you just the parts of SQL you need to know—starting with simple data retrieval and quickly going on to more complex topics including the use of joins, subqueries, stored procedures, cursors, triggers, and table constraints. You'll learn methodically, systematically, and simply—in 22 short, quick lessons that will each take only 10 minutes or less to complete. With the Fourth Edition of this worldwide bestseller, the book has been thoroughly updated, expanded, and improved. Lessons now cover the latest versions of IBM DB2, Microsoft Access, Microsoft SQL Server, MySQL, Oracle, PostgreSQL, SQLite, MariaDB, and Apache Open Office Base. And new full-color SQL code listings help the beginner clearly see the elements and structure of the language. 10 minutes is all you need to learn how to... Use the major SQL statements Construct complex SQL statements using multiple clauses and operators Retrieve, sort, and format database contents Pinpoint the data you need using a variety of filtering techniques Use aggregate functions to summarize data Join two or more related tables Insert, update, and delete data Create and alter database tables Work with views, stored procedures, and more Table of Contents 1 Understanding SQL 2 Retrieving Data 3 Sorting Retrieved Data 4 Filtering Data 5 Advanced Data Filtering 6 Using Wildcard Filtering 7 Creating Calculated Fields 8 Using Data Manipulation Functions 9 Summarizing Data 10 Grouping Data 11 Working with Subqueries 12 Joining Tables 13 Creating Advanced Joins 14 Combining Queries 15 Inserting Data 16 Updating and Deleting Data 17 Creating and Manipulating Tables 18 Using Views 19 Working with Stored Procedures 20 Managing Transaction Processing 21 Using Cursors 22 Understanding Advanced SQL Features Appendix A: Sample Table Scripts Appendix B: Working in Popular Applications Appendix C : SQL Statement Syntax Appendix D: Using SQL Datatypes Appendix E: SQL Reserved Words

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.

\*The fastest, easiest way to master SQL-no experience required \*Master every business SQL skill you need Grouping, totaling, summaries, modifying databases, integrating data from multiple tables, and much more \*Includes video introduction, 2+ hours of expert audio commentary, 200+ animated figures, 100+ self-review questions, 100+ exercises, searching, hyperlinking, and more. Now you can learn SQL hands on--and get the business information you need, faster than you ever imagined This package brings together the industry's #1 interactive SQL training CD-ROM, the SQL Queries Multimedia Cyber Classroom, with the world's best SQL book for business professionals, SQL Queries for Mere Mortals No matter what database you use, you'll master SQL by practicing with hundreds of live queries and exercises--and learning from hours of animations and audio commentary by two world-renowned database consultants \*Over 200 animated figures, with expert audio commentary, illustrate key concepts \*Learning SQL is just one click away searchable version of SQL Queries for Mere Morals \*Test your knowledge with 100+ self-review questions and 100+ practice exercises \*INCLUDES THE #1 BUSINESS GUIDE TO SQL \*BONUS: SECOND CD-ROM contains five real-world sample databases designed to support virtually any practice query. \*Starts from scratch No unnecessary jargon: just plain-English help and useful examples \*Real-world focus: Solutions for the problems businesspeople really encounter. \*Up to date Covers the latest ANSI standard SQL--skills apply to virtually any current desktop or enterprise database \*Includes advanced, high-performance techniques for solving even complex SQL problems. Queries Training Course covers everything you need to know to succeed with SQL, including concepts, syntax, troubleshooting techniques, performance optimization, and more: \*Basic relational database concepts \*Fundamental SQL concepts \*SELECT statements \*Creating expressions \*Applying filters \*Working with joins \*Integrating data from multiple tables \*Grouping data \*Totaling data \*Summarizing data \*Updating data \*Inserting data \*Deleting data \*And much more -- including advanced techniques Requirements Windows(r) 95/98/2000/NT(r) 4.0 Internet Explorer (included) 20 MB disk space 32 MB RAM CD-ROM drive Sound card support

"Master every business SQL skill you need! Grouping, totaling, summaries, modifying databases, integrating data from multiple tables, and much more! Includes video introduction, 2+ hours of expert audio commentary, 200+ animated figures, 100+ self review questions, 100+ exercises, searching, hyperlinking, and more."--Container.

The purpose of ASP.NET JumpStart is to show readers the practical applications of .NET and ASP.NET by illustrating how to build Web-based applications using Web Forms and Web

Services. Emphasis will be on good programming standards and practices. The reader will be taken from an introduction of the VB .NET language to intermediate topics through a step-by-step approach, which gives the reader the opportunity to try out the practices presented in each chapter.

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

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