Database In Depth: Relational Theory For Practitioners

C. J. Date

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**Synopsis**

This book sheds light on the principles behind the relational model, which is fundamental to all database-backed applications—-and, consequently, most of the work that goes on in the computing world today. Database in Depth: The Relational Model for Practitioners goes beyond the hype and gets to the heart of how relational databases actually work. Ideal for experienced database developers and designers, this concise guide gives you a clear view of the technology—a view that’s not influenced by any vendor or product. Featuring an extensive set of exercises, it will help you understand why and how the relational model is still directly relevant to modern database technology (and will remain so for the foreseeable future) see why and how the SQL standard is seriously deficient use the best current theoretical knowledge in the design of their databases and database applications make informed decisions in their daily database professional activities.

Database in Depth will appeal not only to database developers and designers, but also to a diverse field of professionals and academics, including database administrators (DBAs), information modelers, database consultants, and more. Virtually everyone who deals with relational databases should have at least a passing understanding of the fundamentals of working with relational models. Author C.J. Date has been involved with the relational model from its earliest days. An exceptionally clear-thinking writer, Date lays out principle and theory in a manner that is easily understood. Few others can speak as authoritatively the topic of relational databases as Date can.

**Book Information**

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**Customer Reviews**
Over the last week or so, I've been reading C. J. Date's book Database In Depth - Relational Theory for Practitioners (O'Reilly). While it's a well-done title, it's the type of book I have a hard time reading...Contents:Introduction; Relations Versus Types; Tuples And Relations; Relation Variables; Relational Algebra; Integrity Constraints; Database Design Theory; What Is The Relational Model?; A Little Bit Of Logic; Suggestions For Further Reading; IndexC. J. Date, along with E. F. Codd (the acknowledged "father" of relational database theory), are probably the two most influential individuals in this field. Much of what we know and practice in today's RDBMS packages all goes back to the work these two have done. Rather than write a textbook style discussion of the finer points of database theory, Date has used this book to update some of his thinking and to consolidate a number of his talks and writings of late. For serious students of relational database concepts, I'd consider this the latest "must read" to keep up with current thinking by one of the masters.Having said that, I had a hard time slogging through the material. I tend to gravitate to technical reading material that is practical and understandable. Debates over finer points of arcane minutia will cause me to zone out quickly. Unfortunately, I felt that way through a lot of this book. There is a lot of solid technical material here, and it's definitely geared towards serious readers. Date doesn't have a lot of kind words to say about how database vendors have implemented the relational model, nor does he feel SQL is a good thing. I, on the other hand, figure the packages are what they are, and you had better learn to use them to create the systems needed by your customers.

When I was early in my Computer Science degree I took a course in which we discussed database fundamentals. In that class we learned about things like tuples, relations, predicates, predicate logic and deductive proofs. All of these were involved with the relational model, but it wasn't until later when I discovered the writings of Fabian Pascal and C. J. Date that I began to really understand how the above concepts tied into the database systems I was using, such as Oracle, MySQL, and Postgresql. One of those aha moments came when I realized that the deductive proofs we had done in that class were essentially queries to a database system. I came to see how each row (tuple) in a database table (relation) represented a set of values for a predicate that the relation represented. Overall, a database, then, was the logical AND of all the facts represented by the tuples of each relation. Queries were simply deductive proofs which allowed one to derive new facts from existing facts in the database. Good stuff all around.If you're lucky, you will have studied Date's venerable Introduction to database systems while taking a college course in databases. If not, then you're still lucky, becuase Date has condensed the fundamentals of the relational model into a very
approachable and very practical book published by O'Reilly, Database In Depth takes you through a tour of the key concepts of the relational model, starting with the very basics (types, tuples, relations and so forth), and takes you step-by-step into more formiddable territory (stuff like normalization, join dependencies, integrity constraints, relational algebra, and the like). Throughout the book, Date explains each concept in his characteristic clarity.

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