

# MATERIALIZED VIEWS

TECHNIQUES, IMPLEMENTATIONS, AND APPLICATIONS

EDITED BY

ASHISH GUPTA AND IDERPAL SINGH MUMICK

# Materialized Views Techniques Implementations And Applications

**Jiawei Han,Jian Pei,Micheline Kamber**



## **Materialized Views Techniques Implementations And Applications:**

**Materialized Views** Ashish Gupta, Inderpal Singh Mumick, 1999 When an application is built an underlying data model is chosen to make that application effective Frequently other applications need the same data only modeled differently The naive solution of copying the underlying data and modeling is costly in terms of storage and makes data maintenance and evolution impossible View mechanisms are a technique to model data differently for various applications without affecting the underlying format and structure of the data The technique enables applications to customize shared data objects without affecting other applications that use the same objects The growing data manipulation needs of companies cannot be met by existing legacy systems that contain valuable data Thus view mechanisms are becoming increasingly important as a way to model and use legacy data in new applications Materialized views are views that have been computed and stored in databases Because they reduce the need to recompute the view and or data being queried they speed up the querying of large amounts of data Further because they provide a systematic way to describe how to recompute the data maintenance and evolution can be automated Materialized views are especially useful in data warehousing query optimization integrity constraint maintenance online analytical processing and applications such as billing banking and retailing This comprehensive volume with a foreword by Jeff Ullman of Stanford University will serve as a reference for students and commercial users and encourage further use and development of materialized views

**Principles of Distributed Database Systems** M. Tamer Özsu, Patrick Valduriez, 2011-02-24 This third edition of a classic textbook can be used to teach at the senior undergraduate and graduate levels The material concentrates on fundamental theories as well as techniques and algorithms The advent of the Internet and the World Wide Web and more recently the emergence of cloud computing and streaming data applications has forced a renewal of interest in distributed and parallel data management while at the same time requiring a rethinking of some of the traditional techniques This book covers the breadth and depth of this re-emerging field The coverage consists of two parts The first part discusses the fundamental principles of distributed data management and includes distribution design data integration distributed query processing and optimization distributed transaction management and replication The second part focuses on more advanced topics and includes discussion of parallel database systems distributed object management peer to peer data management web data management data stream systems and cloud computing New in this Edition New chapters covering database replication database integration multidatabase query processing peer to peer data management and web data management Coverage of emerging topics such as data streams and cloud computing Extensive revisions and updates based on years of class testing and feedback Ancillary teaching materials are available

**Database Theory and Application** Dominik Slezak, Yanchun Zhang, 2009-11-24 As future generation information technology FGIT becomes specialized and fragmented it is easy to lose sight that many topics in FGIT have common threads and because of this advances in one discipline may be transmitted to others Presentation of recent

results obtained in different disciplines encourages this interchange for the advancement of FGIT as a whole. Of particular interest are hybrid solutions that combine ideas taken from multiple disciplines in order to achieve something more significant than the sum of the individual parts. Through such hybrid philosophy a new principle can be discovered which has the propensity to propagate throughout multifaceted disciplines. FGIT 2009 was the first mega conference that attempted to follow the above idea of hybridization in FGIT in a form of multiple events related to particular disciplines of IT conducted by separate scientific committees but coordinated in order to expose the most important contributions. It included the following international conferences: Advanced Software Engineering and Its Applications, ASEA Bio Science and Bio Technology, BSBT Control and Automation, CA Database Theory and Application, DTA Disaster Recovery and Business Continuity, DRBC published independently, Future Generation Communication and Networking, FGCN that was combined with Advanced Communication and Networking, ACN Grid and Distributed Computing, GDC Multimedia, Computer Graphics and Broadcasting, MulGraB Security Technology, SecTech, Signal Processing, Image Processing and Pattern Recognition, SIP and e Service Science and Technology, UNESST.

**Advances in Information Systems** Tatyana Yakhno, 2004-10-12. This book constitutes the refereed proceedings of the Third International Conference on Advances in Information Systems, ADVIS 2004, held in Izmir, Turkey, in October 2004. The 61 revised full papers presented were carefully reviewed and selected from 203 submissions. The papers are organized in topical sections on: databases and datawarehouses, data mining and knowledge discovery, Web information systems, development information systems, development and management, information retrieval, parallel and distributed data processing, multimedia information systems, information privacy and security, evolutionary and knowledge based systems, software engineering and business process modeling and network management.

*Advances in Object-oriented Data Modeling* M. Papazoglou, S. Spaccapietra, Zahir Tari, 2000. This book focuses on recent developments in representational and processing aspects of complex data intensive applications. Until recently, information systems have been designed around different business functions such as accounts payable and inventory control. Object oriented modeling, in contrast, structures systems around the data, the objects that make up the various business functions. Because information about a particular function is limited to one place, to the object, the system is shielded from the effects of change. Object oriented modeling also promotes better understanding of requirements, clear designs and more easily maintainable systems. This book focuses on recent developments in representational and processing aspects of complex data intensive applications. The chapters cover hot topics such as application behavior and consistency, reverse engineering, interoperability and collaboration between objects and workflow modeling. Each chapter contains a review of its subject followed by object oriented modeling techniques and methodologies that can be applied to real life applications.

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Snodgrass S Spaccapietra M Stumptner M Teisseire W J van den Heuevel S N Woodfield      **Data Mining: Concepts and Techniques** Jiawei Han, Micheline Kamber, Jian Pei, 2011-06-09 Data Mining Concepts and Techniques provides the concepts and techniques in processing gathered data or information which will be used in various applications Specifically it explains data mining and the tools used in discovering knowledge from the collected data This book is referred as the knowledge discovery from data KDD It focuses on the feasibility usefulness effectiveness and scalability of techniques of large data sets After describing data mining this edition explains the methods of knowing preprocessing processing and warehousing data It then presents information about data warehouses online analytical processing OLAP and data cube technology Then the methods involved in mining frequent patterns associations and correlations for large data sets are described The book details the methods for data classification and introduces the concepts and methods for data clustering The remaining chapters discuss the outlier detection and the trends applications and research frontiers in data mining This book is intended for Computer Science students application developers business professionals and researchers who seek information on data mining Presents dozens of algorithms and implementation examples all in pseudo code and suitable for use in real world large scale data mining projects Addresses advanced topics such as mining object relational databases spatial databases multimedia databases time series databases text databases the World Wide Web and applications in several fields Provides a comprehensive practical look at the concepts and techniques you need to get the most out of your data      **Proceedings 2003 VLDB Conference** VLDB, 2003-12-02 Proceedings of the 29th Annual International Conference on Very Large Data Bases held in Berlin Germany on September 9 12 2003 Organized by the VLDB Endowment VLDB is the premier international conference on database technology      Data Mining, Southeast Asia Edition Jiawei Han, Jian Pei, Micheline Kamber, 2006-04-06 Our ability to generate and collect data has been increasing rapidly Not only are all of our business scientific and government transactions now computerized but the widespread use of digital cameras publication tools and bar codes also generate data On the collection side scanned text and image platforms satellite remote sensing systems and the World Wide Web have flooded us with a tremendous amount of data This explosive growth has generated an even more urgent need for new techniques and automated tools that can help us transform this data into useful information and knowledge Like the first edition voted the most popular data mining book by KD Nuggets readers this book explores concepts and techniques for the discovery of patterns hidden in large data sets focusing on issues relating to their feasibility usefulness effectiveness and scalability However since the publication of the first edition great progress has been made in the development of new data mining methods systems and applications This new edition substantially enhances the first edition and new chapters have been added to address recent developments on mining complex types of data including stream data sequence data graph structured data social network data and multi relational data A comprehensive practical look at the concepts and techniques you need to know to get the most out of real business data Updates that incorporate input from

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**Database Design and Implementation** Edward Sciore, 2009 This title takes software developers through database systems while covering the traditional database system concepts from a systems perspective The chapters are organized according to the components of a database starting from low level disk access and ending at the query planner

Proceedings of the 2000 ACM SIGMOD International Conference on Management of Data Weidong Chen, Jeffrey F. Naughton, Philip A. Bernstein, 2000 Journal of Research and Practice in Information Technology, 2004 ACM SIGPLAN notices, 1991 Advances in Information Systems, 2004

**Techniques for Operational Data Warehousing** Gang Luo, 2004 **Handbook of Research on Innovations in Database Technologies and Applications** Viviana E. Ferragine, Jorge H. Doorn, Laura C. Rivero, 2009-01-01 This book provides a wide compendium of references to topics in the field of the databases systems and applications Provided by publisher

VLDB 2006, 2006 **Data Warehousing and Knowledge Discovery**, 2005

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**Advanced Information Systems Engineering**, 2005 **Intelligence and Security Informatics** Hsinchun Chen, 2003-05-20 This book constitutes the refereed proceedings of the First NSF NIJ Symposium on Intelligence and Security Informatics ISI 2003 held in Tucson AZ USA in June 2003 The 24 revised full papers and 16 revised short papers presented were carefully reviewed and selected for inclusion in the book The papers are organized in topical sections on data management and data mining deception detection analytical techniques for crime detection visualization knowledge management and adoption collaborative systems and methodologies and monitoring and surveillance

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