



*The Data Warehouse*

# Lifecycle Toolkit

Second Edition

Practical Techniques for  
Building Data Warehouse  
and Business Intelligence  
Systems

**Ralph Kimball**  
Margy Ross  
Warren Thornthwaite  
Joy Mundy  
Bob Becker



# The Data Warehouse Lifecycle Toolkit

**Ralph Kimball, Margy Ross**



## **The Data Warehouse Lifecycle Toolkit:**

**The Data Warehouse Lifecycle Toolkit** Ralph Kimball, Margy Ross, Warren Thornthwaite, Joy Mundy, Bob Becker, 2008-01-10 A thorough update to the industry standard for designing developing and deploying data warehouse and business intelligence systems The world of data warehousing has changed remarkably since the first edition of The Data Warehouse Lifecycle Toolkit was published in 1998 In that time the data warehouse industry has reached full maturity and acceptance hardware and software have made staggering advances and the techniques promoted in the premiere edition of this book have been adopted by nearly all data warehouse vendors and practitioners In addition the term business intelligence emerged to reflect the mission of the data warehouse wrangling the data out of source systems cleaning it and delivering it to add value to the business Ralph Kimball and his colleagues have refined the original set of Lifecycle methods and techniques based on their consulting and training experience The authors understand first hand that a data warehousing business intelligence DW BI system needs to change as fast as its surrounding organization evolves To that end they walk you through the detailed steps of designing developing and deploying a DW BI system You ll learn to create adaptable systems that deliver data and analyses to business users so they can make better business decisions *Kimball's Data Warehouse Toolkit Classics, 3 Volume Set* Ralph Kimball, Margy Ross, Warren Thornthwaite, Joy Mundy, Bob Becker, Joe Caserta, 2014-02-24 Three books by the bestselling authors on Data Warehousing The most authoritative guides from the inventor of the technique all for a value price The Data Warehouse Toolkit 3rd Edition 9781118530801 Ralph Kimball invented a data warehousing technique called dimensional modeling and popularized it in his first Wiley book The Data Warehouse Toolkit Since this book was first published in 1996 dimensional modeling has become the most widely accepted technique for data warehouse design Over the past 10 years Kimball has improved on his earlier techniques and created many new ones In this 3rd edition he will provide a comprehensive collection of all of these techniques from basic to advanced The Data Warehouse Lifecycle Toolkit 2nd Edition 9780470149775 Complete coverage of best practices from data warehouse project inception through on going program management Updates industry best practices to be in sync with current recommendations of Kimball Group Streamlines the lifecycle methodology to be more efficient and user friendly The Data Warehouse ETL Toolkit 9780764567575 shows data warehouse developers how to effectively manage the ETL Extract Transform Load phase of the data warehouse development lifecycle The authors show developers the best methods for extracting data from scattered sources throughout the enterprise removing obsolete redundant and inaccurate data transforming the remaining data into correctly formatted data structures and then physically loading them into the data warehouse This book provides complete coverage of proven time saving ETL techniques It begins with a quick overview of ETL fundamentals and the role of the ETL development team It then quickly moves into an overview of the ETL data structures both relational and dimensional The authors show how to build useful dimensional structures providing practical

examples of beginning through advanced techniques      **The Data Warehouse Toolkit** Ralph Kimball, Margy Ross, 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      **Kimball's Data Warehouse Toolkit Classics** Ralph Kimball, Margy Ross, Bob Becker, Joy Mundy, Warren Thornthwaite, 2009-04-06 Cowritten by Ralph Kimball the world s leading data warehousing authority Delivers real world solutions for the most time and labor intensive portion of data warehousing data staging or the extract transform load ETL process Delineates best practices for extracting data from scattered sources removing redundant and inaccurate data transforming the remaining data into correctly formatted data structures and then loading the end product into the data warehouse Offers proven time saving ETL techniques comprehensive guidance on building dimensional structures and crucial advice on ensuring data quality This book is also available as part of the Kimball s Data Warehouse Toolkit Classics Box Set ISBN 9780470479575 with the following 3 books The Data Warehouse Toolkit 2nd Edition 9780471200246 The Data Warehouse Lifecycle Toolkit 2nd Edition 9780470149775 The Data Warehouse ETL Toolkit 9780764567575      The Data Warehouse Lifecycle Toolkit, 2nd Ed Ralph Kimball, Margy Ross, Warren Thorthwaite, Bob Becker, Joy Mundy, 2008-06 Market\_Desc Data warehouse Designers Data warehouse Architects Data warehouse Developers Data warehouse Managers Special Features The current first edition has sold more than 72 000 copies generating net revenue of more than 2 5 million The methods described in this book have been adopted by almost all leading data warehouse vendors Ralph Kimball and his co authors are recognized as the driving thought leaders in the data warehousing industry there is no direct competition The authors actively promote this methodology in training and consulting worldwide and in their writing in magazines and online About The Book The book covers best practices from data warehouse project inception through on going program management About 30 to 40% of the content in the book is updated and new This revised tutorial covers major lifecycle topics such as dimensional modeling tech architecture ETL BI etc It is targeted at both novice and experienced data warehouse professionals      **The Data Warehouse Lifecycle Toolkit** Ralph Kimball, Margy Ross, Warren Thornthwaite, Joy Mundy, Bob Becker, 2008 The world of

data warehousing has changed remarkably since the first edition of The Data Warehouse Lifecycle Toolkit was published in 1998. With this new edition, Ralph Kimball and his colleagues have refined the original set of Lifecycle methods and techniques based on their consulting and training experience. They walk you through the detailed steps of designing, developing, and deploying a data warehousing business intelligence system. With substantial new and updated content, this second edition again sets the standard in data warehousing for the next decade.

**The Data Warehouse Lifecycle Toolkit**  
Ralph Kimball, 1998-08-27

A comprehensive, thoughtful, and detailed book that will be of inestimable value to anyone struggling with the complex details of designing, building, and maintaining an enterprise-wide decision support system. Highly recommended.

Robert S. Craig, Vice President, Application Architectures, Hurwitz Group Inc.

In his bestselling book, The Data Warehouse Toolkit, Ralph Kimball showed you how to use dimensional modeling to design effective and usable data warehouses. Now he carries these techniques to the larger issues of delivering complete data marts and data warehouses. Drawing upon their experiences with numerous data warehouse implementations, he and his coauthors show you all the practical details involved in planning, designing, developing, deploying, and growing data warehouses. Important topics include:

- The Business Dimensional Lifecycle™ approach to data warehouse project planning and management
- Techniques for gathering requirements more effectively and efficiently
- Advanced dimensional modeling techniques to capture the most complex business rules
- The Data Warehouse Bus Architecture and other approaches for integrating data marts into super flexible data warehouses
- A framework for creating your technical architecture
- Techniques for minimizing the risks involved with data staging
- Aggregations and other effective ways to boost data warehouse performance
- Cutting-edge Internet-based data warehouse security techniques

The CD-ROM supplies you with:

- Complete data warehouse project plan tasks and responsibilities
- A set of sample models that demonstrate the Bus Architecture
- Blank versions of the templates and tools described in the book
- Checklists to use at key points in the project

**The Data Warehouse Toolkit**  
Ralph Kimball, Margy Ross, 2013-07-01

Updated new edition of Ralph Kimball's groundbreaking book on dimensional modeling for data warehousing and business intelligence. The first edition of Ralph Kimball's The Data Warehouse Toolkit introduced the industry to dimensional modeling, and now his books are considered the most authoritative guides in this space. This new third edition is a complete library of updated dimensional modeling techniques, the most comprehensive collection ever. It covers new and enhanced star schema dimensional modeling patterns, adds two new chapters on ETL techniques, includes new and expanded business matrices for 12 case studies, and more.

Authored by Ralph Kimball and Margy Ross, known worldwide as educators, consultants, and influential thought leaders in data warehousing and business intelligence. Begins with fundamental design recommendations and progresses through increasingly complex scenarios. Presents unique modeling techniques for business applications such as inventory management, procurement, invoicing, accounting, customer relationship management, big data analytics, and more. Draws real-world case studies from a variety of industries, including

retail sales financial services telecommunications education health care insurance e commerce and more Design dimensional databases that are easy to understand and provide fast query response with **The Data Warehouse Toolkit The Definitive Guide to Dimensional Modeling 3rd Edition** **CD-ROM to Accompany The Data Warehouse Lifecycle Toolkit** Ralph Kimball,1998 *A Manager's Guide to Data Warehousing* Laura Reeves,2009-05-26 Aimed at helping business and IT managers clearly communicate with each other this helpful book addresses concerns straight on and provides practical methods to building a collaborative data warehouse You ll get clear explanations of the goals and objectives of each stage of the data warehouse lifecycle while learning the roles that both business managers and technicians play at each stage Discussions of the most critical decision points for success at each phase of the data warehouse lifecycle help you understand ways in which both business and IT management can make decisions that best meet unified objectives Three Volume Set of Ralph Kimball's Toolkit Books Ralph Kimball,2000-06-12 Ralph Kimball s three data warehousing books **The Data Warehouse Toolkit The Data Warehouse Lifecycle Toolkit** and **The Data Webhouse Toolkit** provide you with everything you will need to create manage and use your data warehouse His first book **The Data Warehouse Toolkit** is the definitive guide to building a data warehouse Kimball uses actual case studies of existing data warehouses developed for specific types of business applications such as retail manufacturing banking insurance subscriptions and airline reservations Using the techniques learned in Kimball s first book **The Data Warehouse Lifecycle Toolkit** carries them to the larger issues of delivering complete data marts and data warehouses The book shows you all the practical details involved in planning designing developing deploying and growing data warehouses **The Data Webhouse Toolkit** is a groundbreaking guide which introduces the Webhouse a powerful new way of capturing valuable information flowing into a Web site and ordering it in ways that are useful to managers strategic decision makers and customers *The Microsoft Data Warehouse Toolkit* Joy Mundy,Warren Thornthwaite,2007-03-22 This groundbreaking book is the first in the Kimball Toolkit series to be product specific Microsoft s BI toolset has undergone significant changes in the SQL Server 2005 development cycle SQL Server 2005 is the first viable full functioned data warehouse and business intelligence platform to be offered at a price that will make data warehousing and business intelligence available to a broad set of organizations This book is meant to offer practical techniques to guide those organizations through the myriad of challenges to true success as measured by contribution to business value Building a data warehousing and business intelligence system is a complex business and engineering effort While there are significant technical challenges to overcome in successfully deploying a data warehouse the authors find that the most common reason for data warehouse project failure is insufficient focus on the business users and business problems In an effort to help people gain success this book takes the proven Business Dimensional Lifecycle approach first described in best selling **The Data Warehouse Lifecycle Toolkit** and applies it to the Microsoft SQL Server 2005 tool set Beginning with a thorough description of how to gather business requirements the book then works through the

details of creating the target dimensional model setting up the data warehouse infrastructure creating the relational atomic database creating the analysis services databases designing and building the standard report set implementing security dealing with metadata managing ongoing maintenance and growing the DW BI system All of these steps tie back to the business requirements Each chapter describes the practical steps in the context of the SQL Server 2005 platform

**Intended Audience** The target audience for this book is the IT department or service provider consultant who is Planning a small to mid range data warehouse project Evaluating or planning to use Microsoft technologies as the primary or exclusive data warehouse server technology Familiar with the general concepts of data warehousing and business intelligence The book will be directed primarily at the project leader and the warehouse developers although everyone involved with a data warehouse project will find the book useful Some of the book's content will be more technical than the typical project leader will need other chapters and sections will focus on business issues that are interesting to a database administrator or programmer as guiding information The book is focused on the mass market where the volume of data in a single application or data mart is less than 500 GB of raw data While the book does discuss issues around handling larger warehouses in the Microsoft environment it is not exclusively or even primarily concerned with the unusual challenges of extremely large datasets

**About the Authors** JOY MUNDY has focused on data warehousing and business intelligence since the early 1990s specializing in business requirements analysis dimensional modeling and business intelligence systems architecture Joy co founded InfoDynamics LLC a data warehouse consulting firm then joined Microsoft WebTV to develop closed loop analytic applications and a packaged data warehouse Before returning to consulting with the Kimball Group in 2004 Joy worked in Microsoft SQL Server product development managing a team that developed the best practices for building business intelligence systems on the Microsoft platform Joy began her career as a business analyst in banking and finance She graduated from Tufts University with a BA in Economics and from Stanford with an MS in Engineering Economic Systems

WARREN THORNTHWAITE has been building data warehousing and business intelligence systems since 1980 Warren worked at Metaphor for eight years where he managed the consulting organization and implemented many major data warehouse systems After Metaphor Warren managed the enterprise wide data warehouse development at Stanford University He then co founded InfoDynamics LLC a data warehouse consulting firm with his co author Joy Mundy Warren joined up with WebTV to help build a world class multi terabyte customer focused data warehouse before returning to consulting with the Kimball Group In addition to designing data warehouses for a range of industries Warren speaks at major industry conferences and for leading vendors and is a long time instructor for Kimball University Warren holds an MBA in Decision Sciences from the University of Pennsylvania's Wharton School and a BA in Communications Studies from the University of Michigan

RALPH KIMBALL PH D has been a leading visionary in the data warehouse industry since 1982 and is one of today's most internationally well known authors speakers consultants and teachers on data warehousing He writes the

Data Warehouse Architect column for Intelligent Enterprise formerly DBMS magazine      *Outlines and Highlights for the Data Warehouse Lifecycle Toolkit by Ralph Kimball, Isbn* Cram101 Textbook Reviews,2011-04-01 Never HIGHLIGHT a Book Again Virtually all of the testable terms concepts persons places and events from the textbook are included Cram101 Just the FACTS101 studyguides give all of the outlines highlights notes and quizzes for your textbook with optional online comprehensive practice tests Only Cram101 is Textbook Specific Accompanys 9780470149775      *Studyguide for the Data Warehouse Lifecycle Toolkit by Kimball, Ralph* Cram101 Textbook Reviews,2013-05 Never HIGHLIGHT a Book Again Virtually all testable terms concepts persons places and events are included Cram101 Textbook Outlines gives all of the outlines highlights notes for your textbook with optional online practice tests Only Cram101 Outlines are Textbook Specific Cram101 is NOT the Textbook Accompanys 9780521673761      **The Data Warehouse Toolkit** Ralph Kimball,1996-02-16 one of the definitive books of our industry If you take the time to read only one professional book make it this book W H Inmon One of the most dramatic new developments in database design the dimensional data warehouse is a powerful database model that significantly enhances managers ability to quickly analyze large multidimensional data sets Written by the leading proponent of this revolutionary new approach this valuable book CD toolkit outfits you with all the nuts and bolts information you need to design build manage and use dimensional data warehouses for virtually any type of business application as well as software for querying dimensional data warehouses Employing many real life case studies of data warehouses Ralph Kimball provides clear cut guidelines on how to model data and design data warehouses to support advanced multidimensional decision support systems Beginning with the relatively simple example of a data warehouse for a grocery store he progresses step by step through an increasingly complex array of business applications in retail manufacturing banking insurance subscriptions and airline reservations By the end of the book you will have mastered the full range of powerful techniques for creating controlling and navigating dimensional business databases that are easy to understand and navigate On the CD ROM you ll find Software for querying dimensional data warehouses Working models of all the databases described in the book      **THE DATA WAREHOUSE ETL TOOLKIT** Ralph Kimball & Joe Caserta,2004 Market\_Desc Data Warehouse Developers and Administrators Special Features Ralph Kimball the author of this book is far and away the best selling author on data warehousing His new book covers the most difficult time consuming and labor intensive phase of building a data warehouse this is essential information that data warehouse developers and managers need to know Kimball can be expected to actively promote this book through his column in Intelligent Enterprise magazine through classes offered by his training organization Kimball University and online About The Book The Data Warehouse ETL Toolkit shows data warehouse developers how to effectively manage the ETL Extract Transform and Load phase of the data warehouse development lifecycle The authors show developers the best methods for extracting data from scattered sources throughout the enterprise removing obsolete redundant and inaccurate data transforming the remaining data into correctly



formatted data structures and then physically loading them into the data warehouse      *The Data Webhouse Toolkit* Ralph Kimball, Richard Merz, 2000-02-03 Ralph's latest book ushers in the second wave of the Internet Bottom line this book provides the insight to help companies combine Internet based business intelligence with the bounty of customer data generated from the internet William Schmarzo Director World Wide Solutions Sales and Marketing IBM NUMA Q Receiving over 100 million hits a day the most popular commercial Websites have an excellent opportunity to collect valuable customer data that can help create better service and improve sales Companies can use this information to determine buying habits provide customers with recommendations on new products and much more Unfortunately many companies fail to take full advantage of this deluge of information because they lack the necessary resources to effectively analyze it In this groundbreaking guide data warehousing's bestselling author Ralph Kimball introduces readers to the Data Webhouse the marriage of the data warehouse and the Web If designed and deployed correctly the Webhouse can become the linchpin of the modern customer focused company providing competitive information essential to managers and strategic decision makers In this book Dr Kimball explains the key elements of the Webhouse and provides detailed guidelines for designing building and managing the Webhouse The results are a business better positioned to stay healthy and competitive In this book you'll learn methods for Tracking Website user actions Determining whether a customer is about to switch to a competitor Determining whether a particular Web ad is working Capturing data points about customer behavior Designing the Website to support Webhousing Building clickstream datamarts Designing the Webhouse user interface Managing and scaling the Webhouse The companion Website at [www.wiley.com/compbooks/kimball](http://www.wiley.com/compbooks/kimball) provides updates on Webhouse technologies and techniques as well as links to related sites and resources      *The Kimball Group Reader* Ralph Kimball, Margy Ross, 2010-02-02 An unparalleled collection of recommended guidelines for data warehousing and business intelligence pioneered by Ralph Kimball and his team of colleagues from the Kimball Group Recognized and respected throughout the world as the most influential leaders in the data warehousing industry Ralph Kimball and the Kimball Group have written articles covering more than 250 topics that define the field of data warehousing For the first time the Kimball Group's incomparable advice design tips and best practices have been gathered in this remarkable collection of articles which spans a decade of data warehousing innovation Each group of articles is introduced with original commentaries that explain their role in the overall lifecycle methodology developed by the Kimball Group These practical hands on articles are fully updated to reflect current practices and terminology and cover the complete lifecycle including project planning requirements gathering dimensional modeling ETL and business intelligence and analytics This easily referenced collection is nothing less than vital if you are involved with data warehousing or business intelligence in any capacity      **Data Warehouse Design: Modern Principles and Methodologies** Matteo Golfarelli, Stefano Rizzi, 2009-05-26 Foreword by Mark Stephen LaRow Vice President of Products MicroStrategy A unique and authoritative book that blends recent research

developments with industry level practices for researchers students and industry practitioners Il Yeol Song Professor College of Information Science and Technology Drexel University      **Building the Data Warehouse** W. H. Inmon, 2005 The new edition of the classic bestseller that launched the data warehousing industry covers new approaches and technologies many of which have been pioneered by Inmon himself In addition to explaining the fundamentals of data warehouse systems the book covers new topics such as methods for handling unstructured data in a data warehouse and storing data across multiple storage media Discusses the pros and cons of relational versus multidimensional design and how to measure return on investment in planning data warehouse projects Covers advanced topics including data monitoring and testing Although the book includes an extra 100 pages worth of valuable content the price has actually been reduced from 65 to 55

Delve into the emotional tapestry woven by Emotional Journey with in **The Data Warehouse Lifecycle Toolkit** . This ebook, available for download in a PDF format ( \*), is more than just words on a page; it's a journey of connection and profound emotion. Immerse yourself in narratives that tug at your heartstrings. Download now to experience the pulse of each page and let your emotions run wild.

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