# agile data warehousing for the enterprise a guide for solution architects and project leaders

#agile data warehousing #enterprise data solutions #solution architecture guide #data warehouse project management #business intelligence strategy

This essential guide offers comprehensive insights into implementing agile data warehousing practices for the enterprise, providing solution architects and project leaders with the necessary strategies and frameworks to build scalable, responsive, and effective data environments.

These textbooks cover a wide range of subjects and are updated regularly to ensure accuracy and relevance.

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## Agile Data Warehousing for the Enterprise

Building upon his earlier book that detailed agile data warehousing programming techniques for the Scrum master, Ralph's latest work illustrates the agile interpretations of the remaining software engineering disciplines: Requirements management benefits from streamlined templates that not only define projects quickly, but ensure nothing essential is overlooked. Data engineering receives two new "hyper modeling" techniques, yielding data warehouses that can be easily adapted when requirements change without having to invest in ruinously expensive data-conversion programs. Quality assurance advances with not only a stereoscopic top-down and bottom-up planning method, but also the incorporation of the latest in automated test engines. Use this step-by-step guide to deepen your own application development skills through self-study, show your teammates the world's fastest and most reliable techniques for creating business intelligence systems, or ensure that the IT department working for you is building your next decision support system the right way. Learn how to quickly define scope and architecture before programming starts Includes techniques of process and data engineering that enable iterative and incremental delivery Demonstrates how to plan and execute quality assurance plans and includes a guide to continuous integration and automated regression testing Presents program management strategies for coordinating multiple agile data mart projects so that over time an enterprise data warehouse emerges Use the provided 120-day road map to establish a robust, agile data warehousing program

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## Agile Data Warehousing Project Management

You have to make sense of enormous amounts of data, and while the notion of "agile data warehousing might sound tricky, it can yield as much as a 3-to-1 speed advantage while cutting project costs in half. Bring this highly effective technique to your organization with the wisdom of agile data warehousing expert Ralph Hughes. Agile Data Warehousing Project Management will give you a thorough introduction to the method as you would practice it in the project room to build a serious "data mart. Regardless of where you are today, this step-by-step implementation guide will prepare you to join or even lead a team in visualizing, building, and validating a single component to an enterprise data warehouse. Provides a thorough grounding on the mechanics of Scrum as well as practical advice on keeping your team on track Includes strategies for getting accurate and actionable requirements from a team's business partner Revolutionary estimating techniques that make forecasting labor far more understandable and accurate Demonstrates a blends of Agile methods to simplify team management and synchronize inputs across IT specialties Enables you and your teams to start simple and progress steadily to world-class performance levels

# Agile Data Warehousing

Contains a six-stage plan for starting new warehouse projects and guiding programmers step-by-step until they become a world-class, Agile development team. It describes also how to avoid or contain the fierce opposition that radically new methods can encounter from the traditionally-minded IS departments found in many large companies.

## Information and Software Technologies

This book constitutes the refereed proceedings of the 22nd International Conference on Information and Software Technologies, ICIST 2016, held in Druskininkai, Lithuania, in October 2016. The 61 papers presented were carefully reviewed and selected from 158 submissions. The papers are organized in topical sections on information systems; business intelligence for information and software systems; software engineering; information technology applications.

## The Data Warehouse Mentor: Practical Data Warehouse and Business Intelligence Insights

Develop a custom, agile data warehousing and business intelligence architecture Empower your users and drive better decision making across your enterprise with detailed instructions and best practices from an expert developer and trainer. The Data Warehouse Mentor: Practical Data Warehouse and Business Intelligence Insights shows how to plan, design, construct, and administer an integrated end-to-end DW/BI solution. Learn how to choose appropriate components, build an enterprise data model, configure data marts and data warehouses, establish data flow, and mitigate risk. Change management, data governance, and security are also covered in this comprehensive guide. Understand the components of BI and data warehouse systems Establish project goals and implement an effective deployment plan Build accurate logical and physical enterprise data models Gain insight into your company's transactions with data mining Input, cleanse, and normalize data using ETL (Extract, Transform, and Load) techniques Use structured input files to define data requirements Employ top-down, bottom-up, and hybrid design methodologies Handle security and optimize performance using data governance tools Robert Laberge is the founder of several Internet ventures and a principle

consultant for the IBM Industry Models and Assets Lab, which has a focus on data warehousing and business intelligence solutions.

# A Manager's Guide to Data Warehousing

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.

## Agile Analytics

Using Agile methods, you can bring far greater innovation, value, and quality to any data warehousing (DW), business intelligence (BI), or analytics project. However, conventional Agile methods must be carefully adapted to address the unique characteristics of DW/BI projects. In Agile Analytics, Agile pioneer Ken Collier shows how to do just that. Collier introduces platform-agnostic Agile solutions for integrating infrastructures consisting of diverse operational, legacy, and specialty systems that mix commercial and custom code. Using working examples, he shows how to manage analytics development teams with widely diverse skill sets and how to support enormous and fast-growing data volumes. Collier's techniques offer optimal value whether your projects involve "back-end" data management, "front-end" business analysis, or both. Part I focuses on Agile project management techniques and delivery team coordination, introducing core practices that shape the way your Agile DW/BI project community can collaborate toward success Part II presents technical methods for enabling continuous delivery of business value at production-quality levels, including evolving superior designs; test-driven DW development; version control; and project automation Collier brings together proven solutions you can apply right now--whether you're an IT decision-maker, data warehouse professional, database administrator, business intelligence specialist, or database developer. With his help, you can mitigate project risk, improve business alignment, achieve better results--and have fun along the way.

## A Modern Enterprise Architecture Approach

The revised version of this book to provide essential guidance, compelling ideas, and unique ways to Enterprise Architects so that they can successfully perform complex enterprise modernisation initiatives transforming from chaos to coherence. This is not an ordinary theory book describing Enterprise Architecture in detail. There are myriad of books on the market and in libraries discussing details of enterprise architecture. My aim here is to highlight success factors and reflect lessons learnt from the field within enterprise modernisation and transformation context. As a practising Senior Enterprise Architect, myself, I read hundreds of those books and articles to learn different views. They have been valuable to me to establish my foundations in the earlier phase of my profession. However, what is missing now is a concise guidance book showing Enterprise Architects the novel approaches, insights from the real-life experience and experimentations, and pointing out the differentiating technologies for enterprise modernisation. If only there were such a guide when I started engaging in modernisation and transformation programs. The biggest lesson learned is the business outcome of the enterprise modernisation. What genuinely matters for business is the return on investment of the enterprise architecture and its monetising capabilities. The rest is the theory because nowadays sponsoring executives, due to economic climate, have no interest, attention, or tolerance for non-profitable ventures. I am sorry for disappointing some idealistic Enterprise Architects, but with due respect, it is the reality, and we cannot change it. This book deals with reality rather than theoretical perfection. Anyone against this view on this climate must be coming from another planet. In this concise, uncluttered and easy-to-read book, I attempt to show the significant pain points and valuable considerations for enterprise modernisation using a structured approach and a simple narration especially considering my audience from non-English speaking backgrounds. The architectural rigour is still essential. We cannot compromise the rigour aiming to the quality of products and services as a target outcome. However, there must be a delicate balance among architectural rigour, business value, and speed to the market. I applied this pragmatic approach to multiple substantial transformation initiatives and complex modernisations programs. The key point is using an incrementally progressing iterative approach to

every aspect of modernisation initiatives, including people, processes, tools, and technologies as a whole. Starting with a high-level view of enterprise architecture to set the context, I provided a dozen of distinct chapters to point out and elaborate on the factors which can make a real difference in dealing with complexity and producing excellent modernisation initiatives. As eminent leaders, Enterprise Architects are the critical talents who can undertake this massive mission using their people and technology skills, in addition to many critical attributes such as calm and composed approach. Let's keep in mind that as Enterprise Architects, we are architects, not firefighters! I have full confidence that this book can provide valuable insights and some 'aha' moments for talented architects like yourself to tackle this enormous mission of turning chaos to coherence.

## **Extreme Scoping**

Extreme Scoping, based on the Business Intelligence Roadmap, will show you how to build analytics applications rapidly yet not sacrifice data management and enterprise architecture.

### Agile Business Architecture for Digital Transformation

We are in a frenetic and a convoluted digital age. Every organisation strives to transform its business to stay competitive in this exponentially growing digital world. Digital transformation became pervasive and ubiquitous in all business ventures. This new norm of constant transformation requires architecting our business and underlying technology stacks rapidly. Establishing agile business architecture frameworks are fundamental requirements to achieve successful digital transformation outcomes. In this book, I attempt to share my knowledge and experience using a rigorous yet agile architectural method. My aim is to add accelerated value to the broader business architecture and digital transformation communities by focusing on the practical aspect with minimal emphasis on the theoretical aspect. The content in this book is based on my architectural thought leadership experience gained in multiple large business and enterprise architecture initiatives, focusing on business capabilities, digital transformation initiatives, and enterprise modernisation engagements, reflecting hard lessons learned in these applied settings. In this book I attempt to redefine the role of business architects as primary leaders for digital transformation programs. The content reflects my experience and observations from the field. As a caveat, this book is not based on theories in the traditional business architecture textbooks which may conflict with my experience. My beta readers found this as a unique guide reflecting reality from the field. Hope it adds new insights for your role in the business digital transformation initiatives.

#### Modeling the Agile Data Warehouse with Data Vault

Data Modeling for Agile Data Warehouse using Data Vault Modeling Approach. Includes Enterprise Data Warehouse Architecture. This is a complete guide to the data vault data modeling approach. The book also includes business and program considerations for the agile data warehousing and business intelligence program. There are over 200 diagrams and figures concerning modeling, core business concepts, architecture, business alignment, semantics, and modeling comparisons with 3NF and Dimensional modeling.

## Foundations for Architecting Data Solutions

While many companies ponder implementation details such as distributed processing engines and algorithms for data analysis, this practical book takes a much wider view of big data development, starting with initial planning and moving diligently toward execution. Authors Ted Malaska and Jonathan Seidman guide you through the major components necessary to start, architect, and develop successful big data projects. Everyone from CIOs and COOs to lead architects and developers will explore a variety of big data architectures and applications, from massive data pipelines to web-scale applications. Each chapter addresses a piece of the software development life cycle and identifies patterns to maximize long-term success throughout the life of your project. Start the planning process by considering the key data project types Use guidelines to evaluate and select data management solutions Reduce risk related to technology, your team, and vague requirements Explore system interface design using APIs, REST, and pub/sub systems Choose the right distributed storage system for your big data system Plan and implement metadata collections for your data architecture Use data pipelines to ensure data integrity from source to final storage Evaluate the attributes of various engines for processing the data you collect

#### **Data Warehousing**

#### PLEASE PROVIDE COURSE INFORMATION PLEASE PROVIDE

#### **IBM Data Warehousing**

Reviews planning and designing architecture and implementing the data warehouse. Includes discussions on how and why to apply IBM tools. Offers tips, tricks, and workarounds to ensure maximum performance. Companion Web site includes technical notes, product updates, corrections, and links to relevant material and training.

### Data Warehousing in Action

Construct and implement a data warehousing plan. In their efforts to collect information that will give them an edge, many companies have amassed vast amounts of data. Often this data becomes unwieldy and difficult to translate into anything useful. Data warehousing, storing all of this data in a system that allows for rapid retrieval of customized information, is the solution. This book, written by a data warehousing authority, is a step-by-step guide to creating and managing a data warehouse from start to finish, reviewing marketing, technology, and design issues.

## Realize Enterprise Architecture with AWS and SAFe

Harness the power of enterprise architecture, AWS, and agile methodologies to optimize operational efficiency in your organization Key FeaturesUse EA and agile practices to maximize your organization's operational efficiencyLearn how to use EA approaches in AWS through their prescriptive frameworksAlign SAFe principles with EA and cloud migrationBook Description Agile implementation of enterprise architecture (EA) in the cloud is a powerful organizational tool, but it is challenging, particularly for architects who are used to on-premises environments. This in-depth guide will tell you all you need to know to reap the benefits of applying EA in your organization to achieve operational efficiency. Starting with an overview of the foundations of enterprise architecture, you'll see how it can be applied to AWS as well as explore the frameworks AWS provides for EA, such as the AWS Well-Architected Framework. That's not all – the book shows you how these frameworks align with The Open Group Architecture Framework (TOGAF) architecture development method (ADM) and the Zachman Framework so that you can choose the right fit for your organization. As you advance, you'll learn how to apply SAFe to make your organization agile as well as efficient. Once you've gotten to grips with the theory, you can explore use cases and take a guiz at the end of the book to test yourself and see how EA is applied in practice. By the end of this enterprise architecture book, you'll have the skills and knowledge required to apply EA in the cloud with AWS and drive your organization to become super-efficient and agile. What you will learnSet up the core foundation of your enterprise architectureDiscover how TOGAF relates to enterprise architecture Explore AWS's EA frameworks and find out which one is the best for youUse SAFe to maximize agility in your organizationFind out how to use ArchiMate to model your architectureEstablish proper EA practices in your organizationMigrate to the cloud with AWS and SAFeWho this book is for This agility book is for experienced and inexperienced solutions architects, enterprise architects, and cloud architects who know the basics of software and solutions architecture, along with cloud fundamentals, and are looking to get started with AWS and SAFe to implement enterprise architecture in the cloud.

#### **Data Warehousing**

Rapid access to information is a prime requirement in any organization that wants to have a competitive edge in today's fast changing markets. How to retrieve information? How to capture data? How to format it? The answer lies in Data Warehousing. This HOTT Guide will give you access to all the essential information about the newest data storehouse: through articles by expert trendwachters on strategic considerations, how-to reports defining the various ways to extract the data needed for critical business decisions, technical papers clarifying technologies and tools, business cases and key concepts that will provide the reader with a comprehensive overview of a business solution that is already indispensable.

#### Enterprise Business Intelligence and Data Warehousing

Corporations and governmental agencies of all sizes are embracing a new generation of enterprise-scale business intelligence (BI) and data warehousing (DW), and very often appoint a single senior-level individual to serve as the Enterprise BI/DW Program Manager. This book is the essential guide to the incremental and iterative build-out of a successful enterprise-scale BI/DW program comprised of multiple underlying projects, and what the Enterprise Program Manager must successfully accomplish to orchestrate the many moving parts in the quest for true enterprise-scale business intelligence and data warehousing. Author Alan Simon has served as an enterprise business intelligence and data warehousing program management advisor to many of his clients, and spent an entire year with a single client as the adjunct consulting director for a \$10 million enterprise data warehousing (EDW) initiative. He brings a wealth of knowledge about best practices, risk management, organizational culture alignment, and other Critical Success Factors (CSFs) to the discipline of enterprise-scale business intelligence and data warehousing.

## Data Warehousing Fundamentals for IT Professionals

CUTTING-EDGE CONTENT AND GUIDANCE FROM A DATA WAREHOUSING EXPERT—NOW EXPANDED TO REFLECT FIELD TRENDS Data warehousing has revolutionized the way businesses in a wide variety of industries perform analysis and make strategic decisions. Since the first edition of Data Warehousing Fundamentals, numerous enterprises have implemented data warehouse systems and reaped enormous benefits. Many more are in the process of doing so. Now, this new, revised edition covers the essential fundamentals of data warehousing and business intelligence as well as significant recent trends in the field. The author provides an enhanced, comprehensive overview of data warehousing together with in-depth explanations of critical issues in planning, design, deployment, and ongoing maintenance. IT professionals eager to get into the field will gain a clear understanding of techniques for data extraction from source systems, data cleansing, data transformations, data warehouse architecture and infrastructure, and the various methods for information delivery. This practical Second Edition highlights the areas of data warehousing and business intelligence where high-impact technological progress has been made. Discussions on developments include data marts, real-time information delivery, data visualization, requirements gathering methods, multi-tier architecture, OLAP applications, Web clickstream analysis, data warehouse appliances, and data mining techniques. The book also contains review questions and exercises for each chapter, appropriate for self-study or classroom work, industry examples of real-world situations, and several appendices with valuable information. Specifically written for professionals responsible for designing, implementing, or maintaining data warehousing systems, Data Warehousing Fundamentals presents agile, thorough, and systematic development principles for the IT professional and anyone working or researching in information management.

## Data Architecture: A Primer for the Data Scientist

Today, the world is trying to create and educate data scientists because of the phenomenon of Big Data. And everyone is looking deeply into this technology. But no one is looking at the larger architectural picture of how Big Data needs to fit within the existing systems (data warehousing systems). Taking a look at the larger picture into which Big Data fits gives the data scientist the necessary context for how pieces of the puzzle should fit together. Most references on Big Data look at only one tiny part of a much larger whole. Until data gathered can be put into an existing framework or architecture it can't be used to its full potential. Data Architecture a Primer for the Data Scientist addresses the larger architectural picture of how Big Data fits with the existing information infrastructure, an essential topic for the data scientist. Drawing upon years of practical experience and using numerous examples and an easy to understand framework. W.H. Inmon, and Daniel Linstedt define the importance of data architecture and how it can be used effectively to harness big data within existing systems. You'll be able to: Turn textual information into a form that can be analyzed by standard tools. Make the connection between analytics and Big Data Understand how Big Data fits within an existing systems environment Conduct analytics on repetitive and non-repetitive data Discusses the value in Big Data that is often overlooked, non-repetitive data, and why there is significant business value in using it Shows how to turn textual information into a form that can be analyzed by standard tools Explains how Big Data fits within an existing systems environment Presents new opportunities that are afforded by the advent of Big Data Demystifies the murky waters of repetitive and non-repetitive data in Big Data

## The Data Warehouse Lifecycle Toolkit

"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(TM) 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 Essential Guide to Data Warehousing

"Agosta presents the quantitative business case for (and against) data warehousing, and helps you evaluate every key data warehousing application in the context of your own enterprise. Learn how to use data warehousing to slash supply chain management costs, make cross-selling more effective, strengthen customer and brand relationships, promote product quality, and more. Discover how to align your business and technical goals for data warehousing; then review every stage of the data warehousing project lifecycle, from planning and design through deployment and optimization. Understand what can go wrong - and how to keep it from happening to you!" "The Essential Guide to Data Warehousing is for every business executive and IT professional seeking to understand the benefits, risks, and technologies of data warehousing - without the jargon and hype."--BOOK JACKET.Title Summary field provided by Blackwell North America, Inc. All Rights Reserved

## Building a Data Warehouse

Building a Data Warehouse: With Examples in SQL Server describes how to build a data warehouse completely from scratch and shows practical examples on how to do it. Author Vincent Rainardi also describes some practical issues he has experienced that developers are likely to encounter in their first data warehousing project, along with solutions and advice. The relational database management system (RDBMS) used in the examples is SQL Server; the version will not be an issue as long as the user has SQL Server 2005 or later. The book is organized as follows. In the beginning of this book (chapters 1 through 6), you learn how to build a data warehouse, for example, defining the architecture, understanding the methodology, gathering the requirements, designing the data models, and creating the databases. Then in chapters 7 through 10, you learn how to populate the data warehouse, for example, extracting from source systems, loading the data stores, maintaining data quality, and utilizing the metadata. After you populate the data warehouse, in chapters 11 through 15, you explore how to present data to users using reports and multidimensional databases and how to use the data in the data warehouse for business intelligence, customer relationship management, and other purposes. Chapters 16 and 17 wrap up the book: After you have built your data warehouse, before it can be released to production, you need to test it thoroughly. After your application is in production, you need to understand how to administer data warehouse operation. What you'll learn A detailed understanding of what it takes to build a data warehouse The implementation code in SQL Server to build the data warehouse Dimensional modeling, data extraction methods, data warehouse loading, populating dimension and fact tables, data quality, data warehouse architecture, and database design Practical data warehousing applications such as business intelligence reports, analytics applications, and customer relationship management Who this book is for There are three audiences for the book. The first are the people who implement the data warehouse. This could be considered a field guide for them. The second is database users/admins who want to get a good understanding of what it would take to build a data warehouse. Finally, the third audience is managers who must make decisions about aspects of the data warehousing task before them and use the book to learn about these issues.

## Data Architecture: A Primer for the Data Scientist

Over the past 5 years, the concept of big data has matured, data science has grown exponentially, and data architecture has become a standard part of organizational decision-making. Throughout all this

change, the basic principles that shape the architecture of data have remained the same. There remains a need for people to take a look at the "bigger picture" and to understand where their data fit into the grand scheme of things. Data Architecture: A Primer for the Data Scientist, Second Edition addresses the larger architectural picture of how big data fits within the existing information infrastructure or data warehousing systems. This is an essential topic not only for data scientists, analysts, and managers but also for researchers and engineers who increasingly need to deal with large and complex sets of data. Until data are gathered and can be placed into an existing framework or architecture, they cannot be used to their full potential. Drawing upon years of practical experience and using numerous examples and case studies from across various industries, the authors seek to explain this larger picture into which big data fits, giving data scientists the necessary context for how pieces of the puzzle should fit together. New case studies include expanded coverage of textual management and analytics New chapters on visualization and big data Discussion of new visualizations of the end-state architecture

## Agile Data Warehouse Design

Agile Data Warehouse Design is a step-by-step guide for capturing data warehousing/business intelligence (DW/BI) requirements and turning them into high performance dimensional models in the most direct way: by modelstorming (data modeling + brainstorming) with BI stakeholders. This book describes BEAM2, an agile approach to dimensional modeling, for improving communication between data warehouse designers, BI stakeholders and the whole DW/BI development team. BEAM2 provides tools and techniques that will encourage DW/BI designers and developers to move away from their keyboards and entity relationship based tools and model interactively with their colleagues. The result is everyone thinks dimensionally from the outset! Developers understand how to efficiently implement dimensional modeling solutions. Business stakeholders feel ownership of the data warehouse they have created, and can already imagine how they will use it to answer their business questions. Within this book, you will learn: 2 Agile dimensional modeling using Business Event Analysis & Modeling (BEAM2) 2 Modelstorming: data modeling that is quicker, more inclusive, more productive, and frankly more fun! 2 Telling dimensional data stories using the 7Ws (who, what, when, where, how many, why and how) 2 Modeling by example not abstraction; using data story themes, not crow's feet, to describe detail 2 Storyboarding the data warehouse to discover conformed dimensions and plan iterative development 2 Visual modeling: sketching timelines, charts and grids to model complex process measurement - simply 2 Agile design documentation: enhancing star schemas with BEAM2 dimensional shorthand notation 2 Solving difficult DW/BI performance and usability problems with proven dimensional design patterns Lawrence Corr is a data warehouse designer and educator. As Principal of DecisionOne Consulting, he helps clients to review and simplify their data warehouse designs, and advises vendors on visual data modeling techniques. He regularly teaches agile dimensional modeling courses worldwide and has taught dimensional DW/BI skills to thousands of students. Jim Stagnitto is a data warehouse and master data management architect specializing in the healthcare, financial services, and information service industries. He is the founder of the data warehousing and data mining consulting firm Llumino.

#### **Data Architecture**

Data Architecture: From Zen to Reality explains the principles underlying data architecture, how data evolves with organizations, and the challenges organizations face in structuring and managing their data. Using a holistic approach to the field of data architecture, the book describes proven methods and technologies to solve the complex issues dealing with data. It covers the various applied areas of data, including data modelling and data model management, data quality, data governance, enterprise information management, database design, data warehousing, and warehouse design. This text is a core resource for anyone customizing or aligning data management systems, taking the Zen-like idea of data architecture to an attainable reality. The book presents fundamental concepts of enterprise architecture with definitions and real-world applications and scenarios. It teaches data managers and planners about the challenges of building a data architecture roadmap, structuring the right team, and building a long term set of solutions. It includes the detail needed to illustrate how the fundamental principles are used in current business practice. The book is divided into five sections, one of which addresses the software-application development process, defining tools, techniques, and methods that ensure repeatable results. Data Architecture is intended for people in business management involved with corporate data issues and information technology decisions, ranging from data architects to IT consultants, IT auditors, and data administrators. It is also an ideal reference tool for those in a higher-level education process involved in data or information technology management. Presents fundamental concepts of enterprise architecture with definitions and real-world applications and scenarios Teaches

data managers and planners about the challenges of building a data architecture roadmap, structuring the right team, and building a long term set of solutions Includes the detail needed to illustrate how the fundamental principles are used in current business practice

#### **Data Warehousing Fundamentals**

Geared to IT professionals eager to get into the all-importantfield of data warehousing, this book explores all topics needed bythose who design and implement data warehouses. Readers will learnabout planning requirements, architecture, infrastructure, datapreparation, information delivery, implementation, and maintenance. They'll also find a wealth of industry examples garnered from theauthor's 25 years of experience in designing and implementing databases and data warehouse applications for majorcorporations. Market: IT Professionals, Consultants.

#### Common Information Models for an Open, Analytical, and Agile World

Maximize the Value of Your Information Throughout Even the Most Complex IT Project Foreword by Tim Vincent, IBM Fellow and Vice President, CTO for IBM Analytics Group To drive maximum value from complex IT projects, IT professionals need a deep understanding of the information their projects will use. Too often, however, IT treats information as an afterthought: the "poor stepchild" behind applications and infrastructure. That needs to change. This book will help you change it. Five senior IBM architects show you how to use information-centric views to give data a central role in project design and delivery. Using Common Information Models (CIM), you learn how to standardize the way you represent information, making it easier to design, deploy, and evolve even the most complex systems. Using a complete case study, the authors explain what CIMs are, how to build them, and how to maintain them. You learn how to clarify the structure, meaning, and intent of any information you may exchange, and then use your CIM to improve integration, collaboration, and agility. In today's mobile, cloud, and analytics environments, your information is more valuable than ever. To build systems that make the most of it, start right here. Coverage Includes • Mastering best practices for building and maintaining a CIM • Understanding CIM components and artifacts: scope, perspectives, and depth of detail • Choosing the right patterns for structuring your CIM • Integrating a CIM into broader governance Using tools to manage your CIM more effectively
Recognizing the importance of non-functional characteristics, such as availability, performance, and security, in system design • Growing CIM value by expanding their scope and usage • Previewing the future of CIMs

#### Building and Managing the Meta Data Repository

"This is the first book to tackle the subject of meta data in data warehousing, and the results are spectacular . . . David Marco has written about the subject in a way that is approachable, practical, and immediately useful. Building and Managing the Meta Data Repository: A Full Lifecycle Guide is an excellent resource for any IT professional." -Steve Murchie Group Product Manager, Microsoft Corporation Meta data repositories can provide your company with tremendous value if they are used properly and if you understand what they can, and can't, do. Written by David Marco, the industry's leading authority on meta data and well-known columnist for DM Review, this book offers all the guidance you'll need for developing, deploying, and managing a meta data repository to gain a competitive advantage. After illustrating the fundamental concepts, Marco shows you how to use meta data to increase your company's revenue and decrease expenses. You'll find a comprehensive look at the major trends affecting the meta data industry, as well as steps on how to build a repository that is flexible enough to adapt to future changes. This vendor-neutral guide also includes complete coverage of meta data sources, standards, and architecture, and it explores the full gamut of practical implementation issues. Taking you step-by-step through the process of implementing a meta data repository, Marco shows you how to: - Evaluate meta data tools Build the meta data project plan -Design a custom meta data architecture - Staff a repository team - Implement data quality through meta data - Create a physical meta data model - Evaluate meta data delivery requirements The CD-ROM includes: - A sample implementation project plan - A function and feature checklist of meta data tool requirements - Several physical meta datamodels to support specific business functions Visit our Web site at www.wiley.com/compbooks/ Visit the companion Web site at www.wiley.com/compbooks/marco

#### Software Architecture for Big Data and the Cloud

Software Architecture for Big Data and the Cloud is designed to be a single resource that brings together research on how software architectures can solve the challenges imposed by building big data

software systems. The challenges of big data on the software architecture can relate to scale, security, integrity, performance, concurrency, parallelism, and dependability, amongst others. Big data handling requires rethinking architectural solutions to meet functional and non-functional requirements related to volume, variety and velocity. The book's editors have varied and complementary backgrounds in requirements and architecture, specifically in software architectures for cloud and big data, as well as expertise in software engineering for cloud and big data. This book brings together work across different disciplines in software engineering, including work expanded from conference tracks and workshops led by the editors. Discusses systematic and disciplined approaches to building software architectures for cloud and big data with state-of-the-art methods and techniques Presents case studies involving enterprise, business, and government service deployment of big data applications Shares guidance on theory, frameworks, methodologies, and architecture for cloud and big data

#### Amazon Redshift Cookbook

Discover how to build a cloud-based data warehouse at petabyte-scale that is burstable and built to scale for end-to-end analytical solutions Key FeaturesDiscover how to translate familiar data warehousing concepts into Redshift implementationUse impressive Redshift features to optimize development, productionizing, and operations processes Find out how to use advanced features such as concurrency scaling, Redshift Spectrum, and federated gueriesBook Description Amazon Redshift is a fully managed, petabyte-scale AWS cloud data warehousing service. It enables you to build new data warehouse workloads on AWS and migrate on-premises traditional data warehousing platforms to Redshift. This book on Amazon Redshift starts by focusing on Redshift architecture, showing you how to perform database administration tasks on Redshift. You'll then learn how to optimize your data warehouse to quickly execute complex analytic queries against very large datasets. Because of the massive amount of data involved in data warehousing, designing your database for analytical processing lets you take full advantage of Redshift's columnar architecture and managed services. As you advance, you'll discover how to deploy fully automated and highly scalable extract, transform, and load (ETL) processes, which help minimize the operational efforts that you have to invest in managing regular ETL pipelines and ensure the timely and accurate refreshing of your data warehouse. Finally, you'll gain a clear understanding of Redshift use cases, data ingestion, data management, security, and scaling so that you can build a scalable data warehouse platform. By the end of this Redshift book, you'll be able to implement a Redshift-based data analytics solution and have understood the best practice solutions to commonly faced problems. What you will learn Use Amazon Redshift to build petabyte-scale data warehouses that are agile at scaleIntegrate your data warehousing solution with a data lake using purpose-built features and services on AWSBuild end-to-end analytical solutions from data sourcing to consumption with the help of useful recipesLeverage Redshift's comprehensive security capabilities to meet the most demanding business requirementsFocus on architectural insights and rationale when using analytical recipesDiscover best practices for working with big data to operate a fully managed solutionWho this book is for This book is for anyone involved in architecting, implementing, and optimizing an Amazon Redshift data warehouse, such as data warehouse developers, data analysts, database administrators, data engineers, and data scientists. Basic knowledge of data warehousing, database systems, and cloud concepts and familiarity with Redshift will be beneficial.

## Business Intelligence Cookbook

Over 80 quick and advanced recipes that focus on real world techniques and solutions to manage, design, and build data warehouse and business intelligence projects with this book and ebook.

### Data Warehousing in the Age of Big Data

Data Warehousing in the Age of the Big Data will help you and your organization make the most of unstructured data with your existing data warehouse. As Big Data continues to revolutionize how we use data, it doesn't have to create more confusion. Expert author Krish Krishnan helps you make sense of how Big Data fits into the world of data warehousing in clear and concise detail. The book is presented in three distinct parts. Part 1 discusses Big Data, its technologies and use cases from early adopters. Part 2 addresses data warehousing, its shortcomings, and new architecture options, workloads, and integration techniques for Big Data and the data warehouse. Part 3 deals with data governance, data visualization, information life-cycle management, data scientists, and implementing a Big Data—ready data warehouse. Extensive appendixes include case studies from vendor implementations and a special segment on how we can build a healthcare information factory. Ultimately, this book will help you

navigate through the complex layers of Big Data and data warehousing while providing you information on how to effectively think about using all these technologies and the architectures to design the next-generation data warehouse. Learn how to leverage Big Data by effectively integrating it into your data warehouse. Includes real-world examples and use cases that clearly demonstrate Hadoop, NoSQL, HBASE, Hive, and other Big Data technologies Understand how to optimize and tune your current data warehouse infrastructure and integrate newer infrastructure matching data processing workloads and requirements

## Modern Enterprise Business Intelligence and Data Management

Nearly every large corporation and governmental agency is taking a fresh look at their current enterprise-scale business intelligence (BI) and data warehousing implementations at the dawn of the "Big Data Era"...and most see a critical need to revitalize their current capabilities. Whether they find the frustrating and business-impeding continuation of a long-standing "silos of data" problem, or an over-reliance on static production reports at the expense of predictive analytics and other true business intelligence capabilities, or a lack of progress in achieving the long-sought-after enterprise-wide "single version of the truth" – or all of the above – IT Directors, strategists, and architects find that they need to go back to the drawing board and produce a brand new BI/data warehousing roadmap to help move their enterprises from their current state to one where the promises of emerging technologies and a generation's worth of best practices can finally deliver high-impact, architecturally evolvable enterprise-scale business intelligence and data warehousing. Author Alan Simon, whose BI and data warehousing experience dates back to the late 1970s and who has personally delivered or led more than thirty enterprise-wide Bl/data warehousing roadmap engagements since the mid-1990s, details a comprehensive step-by-step approach to building a best practices-driven, multi-year roadmap in the guest for architecturally evolvable BI and data warehousing at the enterprise scale. Simon addresses the triad of technology, work processes, and organizational/human factors considerations in a manner that blends the visionary and the pragmatic. Takes a fresh look at true enterprise-scale BI/DW in the "Dawn of the Big Data Era" Details a checklist-based approach to surveying one's current state and identifying which components are enterprise-ready and which ones are impeding the key objectives of enterprise-scale BI/DW Provides an approach for how to analyze and test-bed emerging technologies and architectures and then figure out how to include the relevant ones in the roadmaps that will be developed Presents a tried-and-true methodology for building a phased, incremental, and iterative enterprise BI/DW roadmap that is closely aligned with an organization's business imperatives, organizational culture, and other considerations

#### Clickstream Data Warehousing

The first, step-by-step guide to building Web-enabled data warehouses The Web can be an incredibly rich source of customer data, and right now companies across industry sectors are hustling to get up and running with data warehouses capable of capturing the clickstream data from their Web sites. This allows companies to track exactly where a customer is going, or "clicking to," on their site in order to gain meaningful information about that customer's preferences. Following Ralph Kimball's The Data Webhouse Toolkit (0-471-37680-9) where he provides the blueprint, Clickstream Data Warehousing fills developers in on all the technical details that go into building a Web-enabled data warehouse. The authors review all key architectural and design issues that developers need to masterfully build a Webhouse using examples to illustrate key points. Companion Web site features code examples from the book and links to related Web sites.

### **Data Warehouse Project Management**

Data warehouse development projects present a unique set of management challenges that can confound even the most experienced project manager. This work addresses these challenges and provides a roadmap to managing every aspect of data warehouse design, development, and implementation. It also reveals many pitfalls to watch out for.

## Open Source Data Warehousing and Business Intelligence

Open Source Data Warehousing and Business Intelligence is an all-in-one reference for developing open source based data warehousing (DW) and business intelligence (BI) solutions that are business-centric, cross-customer viable, cross-functional, cross-technology based, and enterprise-wide. Considering the entire lifecycle of an open source DW &

## **Data Warehousing For Dummies**

Data warehousing is one of the hottest business topics, and there's more to understanding data warehousing technologies than you might think. Find out the basics of data warehousing and how it facilitates data mining and business intelligence with Data Warehousing For Dummies, 2nd Edition. Data is probably your company's most important asset, so your data warehouse should serve your needs. The fully updated Second Edition of Data Warehousing For Dummies helps you understand, develop, implement, and use data warehouses, and offers a sneak peek into their future. You'll learn to: Analyze top-down and bottom-up data warehouse designs Understand the structure and technologies of data warehouses, operational data stores, and data marts Choose your project team and apply best development practices to your data warehousing projects Implement a data warehouse, step by step, and involve end-users in the process Review and upgrade existing data storage to make it serve your needs Comprehend OLAP, column-wise databases, hardware assisted databases, and middleware Use data mining intelligently and find what you need Make informed choices about consultants and data warehousing products Data Warehousing For Dummies, 2nd Edition also shows you how to involve users in the testing process and gain valuable feedback, what it takes to successfully manage a data warehouse project, and how to tell if your project is on track. You'll find it's the most useful source of data on the topic!

## **Building the Operational Data Store**

The most comprehensive guide to building, using, and managing the operational data store. Building the Operational Data Store, Second Edition. In the five years since the publication of the first edition of this book, the operational data store has grown from an intriguing concept to an exciting reality at enterprise organizations, worldwide. Still the only guide on the subject, this revised and expanded edition of Bill Inmon's classic goes beyond the theory of the first edition to provide detailed, practical guidance on designing, building, managing, and getting the most of an ODS. With the help of fascinating and instructive case studies, Inmon shares what he knows about: \* How the ODS fits with the corporate information factory. \* Different types of ODS and how to choose the right one for your organization. \* Designing and building an ODS from scratch. \* Managing and fine-tuning an ODS for peak efficiency. \* ODS support technology. \* The pros and cons of competing off-the-shelf ODS products. \* The advantages and disadvantages of various hardware and software platforms. \* Integrating the ODS with data marts. \* Distributed metadata using the ODS. \* Data aggregation within the ODS. \* Business process reengineering and the ODS. \* The role of standards in the ODS. Visit our Web site at www.wiley.com/compbooks/