

DW/BI Lifecycle: Kimball Methods for Launch, Requirements & Dimensional Modeling

Why Attend

The data warehouse and business intelligence (DW/BI) system continues to be one of the most organizationally complex and technically interesting IT projects. This course prepares you to successfully implement your DW/BI environment by distilling the essential upfront elements of the popular Kimball approach as described in the bestselling book, *The Data Warehouse Lifecycle Toolkit, Second Edition*.

This course is packed with specific techniques, guidance and advice from initial project planning through business requirements and dimensional modeling. It is taught through a combination of lectures, class exercises, small group workshops, and individual problem solving.

The DW/BI Lifecycle course is appropriate for anyone who is new to DW/BI and wants to learn a holistic set of best practices from the beginning, or for anyone who has been through a couple projects and wants to refine their methods to better align with the proven, broadly-accepted Kimball approach.

Who Should Attend

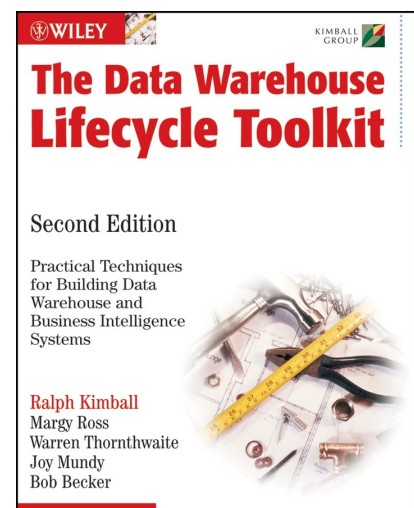
This course is designed for all major roles on a DW/BI project, including project managers, business analysts, data modelers and database administrators, architects, and ETL or BI application designers/developers.

Instructor

Margy Ross, co-author of *The Data Warehouse Lifecycle Toolkit* and several other *Toolkit* books with Ralph Kimball. She was Kimball University's DW/BI Lifecycle course instructor for over 15 years. Margy has taught dimensional modeling techniques to nearly 15,000 students worldwide.

Course Overview

- Day 1 • Introduction to the Kimball Lifecycle
- Program/Project Planning and Management
 - Business Requirements Analysis
 - Dimensional Modeling Introduction
- Day 2 • Dimensional Modeling continued



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DAY 1

Introduction to the Kimball Lifecycle

- Roadmap for creating the DW/BI system

Project Planning and Management

- Readiness factors
- Risk assessment and mitigation plans
- Scoping
- Role of agile development

Business Requirements Definition

- Program versus project requirements
- Requirements gathering preparation
- Techniques for gathering requirements and handling obstacles
- Program/project requirements deliverables
- Prioritization by business process

Dimensional Modeling Overview

- Role of dimensional modeling in various DW/BI architectures
- Fact and dimension table characteristics

Retail Sales "Basics" Case Study

- 4-step process for designing dimensional models
- Transaction fact tables
- Fact table granularity
- Denormalizing dimension table hierarchies
- Degenerate dimensions
- Date dimension considerations
- Dealing with nulls
- Surrogate key for dimensions
- Star versus snowflake schemas
- Centipede fact tables with too many dimensions
- Factless fact tables

Order Management "Design" Workshop

- Converting requirements and source data realities into dimensional model
- Consolidated fact tables
- Dimension table role-playing
- Allocated facts at different levels of detail
- Complications with operational header/line data and patterns to avoid
- Multiple currencies

DAY 2

Design Workshop Continued

- Junk dimensions for miscellaneous transaction indicators
- Periodic and accumulating snapshot fact tables

Inventory "Beyond the 1st Business Process" Case Study

- Implications of business processes on data architecture
- Periodic snapshot fact tables
- Enterprise Data Warehouse Bus Architecture and matrix for master data and integration
- Conformed dimensions - identical and shrunken roll-ups
- Exercise: Translate requirements into DW Bus Matrix
- Opportunity/stakeholder matrix

Slowly Changing Dimensions

- Type 0
- Basic Type 1, 2 and 3 techniques
- Type 4 mini-dimensions
- Advanced techniques to deliver current and point-in-time values (Types 5, 6 and 7)

Course Registration "Design Review" Exercise

- Common dimensional modeling flaws
- Bridge tables for multivalued dimension attributes

Dimensional Modeling Process

- Process flow, tasks and deliverables
- Detailed implementation bus matrix

Transportation "Design Enhancement" Case Study

- Schema enhancements to embellish existing design for changing requirements
- Design trade-offs
- Multiple time zones