THE DATA WAREHOUSE LIFECYCLE TOOLKIT
HDT802
Four Days

Prerequisites

Students should have at least some experience with any relational database management system.

Who Should Attend

This course is targeted at technical staff, team leaders and project managers who need to understand how to design a data warehouse using Ralph Kimball's data warehouse design methodology.

Course Description

This course provides the students with the skills necessary to design a successful data warehouse. **The course is based on the new Data Warehouse Lifecycle Toolkit, Second Edition, by Ralph Kimball, Margy Ross, Warren Thornthwaite, Joe Mundy, and Bob Becker, ISBN: 0470149775, which was published January 10, 2008 by Wiley.**

Course Topics

- Project Management and Requirements
- Designing the Data Warehouse—Part 1
- Designing the Data Warehouse—Part 2
- Building Dimensional Models
- Data Warehouse Architecture
- Back Room Technical Architecture
- Front Room Technical Architecture
- Infrastructure and Metadata
- Creating the Architecture Plan and Selecting Products
- Designing Aggregates
- Completing the Physical Design
- Data Staging
- Building End User Applications
- Planning the Deployment
- Maintenance and Growth of the Data Warehouse

I. PROJECT MANAGEMENT AND REQUIREMENTS

- **A.** The Business Life Cycle
- **B.** Project Planning and Management
- **C.** Collecting the Requirements

II. DESIGNING THE DATA WAREHOUSE—PART 1

- **A.** The Case For Dimensional Modeling
- **B.** Fact and Dimension Tables
- **C.** Drilling Up and Down
- **D.** Primary, Foreign, and Surrogate Keys
- **E.** Additive, Semiadditive, and Nonadditive Facts
- **F.** Families of Fact Tables
- **G.** Factless Fact Tables

III. DESIGNING THE DATA WAREHOUSE—PART 2

- **A.** Extended Dimension Table Designs
- **B.** Extended Fact Table Designs
- **C.** Advanced Relational OLAP Querying and Reporting

IV. BUILDING DIMENSIONAL MODELS

- **A.** Getting Started With the Matrix Method
- **B.** Managing the Dimensional Modeling Project

V. DATA WAREHOUSE ARCHITECTURE

- **A.** Defining the Columns
- **B.** Defining the Rows
- **C.** Logical and Physical Models
- **D.** Services and Data Stores
- **E.** Flow From Source System to User Desktop
- **F.** Key Technical Architecture Features
- **G.** Evolution of the Data Warehouse Architecture

VI. BACK ROOM TECHNICAL ARCHITECTURE

- **A.** Back Room Data Stores
- **B.** Back Room Services
- **C.** Back Room Asset Management

VII. FRONT ROOM TECHNICAL ARCHITECTURE

- **A.** Front Room Data Stores
- **B.** Front Room Services

VIII. INFRASTRUCTURE AND METADATA
- **A.** Infrastructure
- **B.** Metadata and the Metadata Catalog

IX. CREATING THE ARCHITECTURE PLAN AND SELECTING PRODUCTS
- **A.** Creating the Architecture
- **B.** A Product Evaluation Methodology

X. DESIGNING AGGREGATES
- **A.** Deciding What to Aggregate
- **B.** Processing Aggregates
- **C.** Administering the Aggregates
- **D.** An Aggregate Navigation System
- **E.** An Aggregate Navigation Algorithm

XI. COMPLETING THE PHYSICAL DESIGN
- **A.** Develop Standards
- **B.** Develop the Physical Model
- **C.** Develop the Initial Index Plan
- **D.** Design and Build the Database Instance
- **E.** Develop the Physical Storage Structure
- **F.** Implement Usage Monitoring

XII. DATA STAGING
- **A.** Plan Effectively
- **B.** Dimension Table Staging
- **C.** Fact Table Loads and Warehouse Operations
- **D.** Data Quality and Cleansing

XIII. BUILDING END USER APPLICATIONS
- **A.** Role of the End User Application
- **B.** Application Specification
- **C.** End User Application Development

XIV. PLANNING THE DEPLOYMENT
- **A.** Determine Desktop Installation Readiness
- **B.** Develop the End User Education Strategy
- **C.** Develop an End User Support Strategy
- **D.** Develop the Deployment Release Framework
- **E.** Document the Deployment Strategy

XV. MAINTENANCE AND GROWTH OF THE DATA WAREHOUSE
- **A.** Manage the Existing Data Warehouse Environment
- **B.** Prepare for Data Warehouse Growth and Evolution