Part 1  Data Modeling for Business Intelligence

1.1  Data Modeling Concepts
- The Data Modeling Life Cycle
- Kinds of Data Systems
- Data Taxonomy
- Data Modeling Framework for BI
- The Data University Case Study

1.2  Logical Data Models
- What to Model
- Understanding Data Sources
- Logical E-R Modeling
- Logical Dimensional Modeling
- Logical Models and Business Metrics
- Logical Models and Business Analytics
- Logical Models and Master Data Management
- Logical Models and Nonrelational Data

1.3  Physical Data Models
- Defining Physical Modeling
- Data Structure in Transaction Systems
- Structural Modeling and Data Integration
- Structural Modeling and Business Analytics
- Physical Design Overview
Part 2 Dimensional Data Modeling

2.1 Dimensional Modeling Concepts
Dimensional Modeling in Context
Dimensional Modeling Basics
Comparing E-R and Dimensional Models
Concepts Summary

2.2 Requirements Gathering for Dimensional Modeling
Business Context for Data Modeling
Business Questions as Requirements Models
Fact/Qualifier Analysis
Requirements Gathering Summary

2.3 Logical Dimensional Modeling
Modeling Meters and Measures
Modeling Dimensions
More about Meters and Measures
Model Verification
Logical Modeling Summary

2.4 From Logical Model to Star Schema
Star Schema Dimensions
Star Schema Fact Tables
Star Schema Design Challenges
Modeling Process Summary
2.5 Dimensional Data and Business Analytics

Delivering Business Value

Effective Dimensional Modeling

Part 3 Data Modeling in the Age of Big Data

3.1 Big Data Fundamentals

What Is Big Data?

Big Data Opportunities

NoSQL Technologies

Big Data Challenges

Exercise 1 – Big Data Opportunities

3.2 Modeling and Data Models

Modeling for Relational Storage

Modeling for Nonrelational Storage

Complementary Approaches

Exercise 2 - Modeling Purposes

3.3 Key-Value Stores

Key-Value Stores Defined

Key-Value Data Representation

Use Cases

Examples

Exercise 3 – Key-Value Pairs Modeling

3.4 Document Stores

Document Stores Defined

Document Data Representation

Use Cases
3.5 **Graph Databases**

- Graph Databases Defined
- Graph Data Representation
- Use Cases
- Examples

3.6 **Embracing Big Data**

- Big Data in the Enterprise
- Managing Big Data Assets
- Capture Nonrelational Data
- Explore Nonrelational Data
- Archive Nonrelational Data
- Deploy Nonrelational Data
- Augment or Extend with Nonrelational Data
- The Human Side of Big Data

What’s Next?

**Workshop**

- **Working with Your People, Projects, Processes and Data**
- **Choose from the following list of topics for a tailored workshop**

*(It is recommended that you select two topics for approximately 4.5 hours of workshop activity.)*

- Understanding Data Sources
- Data Warehouse Modeling (relational, not dimensional)
- Dimensional Data Mart from Requirements to Star Schema
- Big Data Modeling as Exercises
- Big Data Modeling as Client Use Case