

## **Delivering Business Intelligence with Microsoft SQL Server 2005 or 2008 Course Summary**

### **Description**

This course provides students with the skills necessary to deliver business intelligence. It is based on the Brian Larson book *Delivering Business Intelligence with Microsoft SQL Server 2005* published on January 23, 2006 by McGraw-Hill Osborne Media, ISBN: 0072260904 or on the Brian Larson book *Delivering Business Intelligence with Microsoft SQL Server 2008* published on November 19, 2008 by McGraw-Hill Osborne Media, ISBN: 0071549447.

### **Topics**

- Equipping the Organization for Effective Decision Making
- Using Business Intelligence
- The Source of Business Intelligence
- The Unified Dimensional Model
- Beginning the Development of Business Intelligence
- Creating and Populating Data Marts
- Using Integration Services for Populating Data Marts
- Cubism – Measures and Dimensions
- Special Features of OLAP Cubes
- MDX Scripting
- MDX Queries
- Introduction to Data Mining
- Working With the Data Mining Model
- Exploration Using Data Mining
- Delivering Business Intelligence With Reporting Services
- Integrating OLAP With Your Applications
- Excel Pivot Tables and Pivot Charts

### **Audience**

This course is targeted at business intelligence developers and users, data warehouse developers, star schema and cube developers, data modelers, data base analysts, and any other personnel who need to deliver business intelligence.

### **Prerequisites**

Students should have experience with any relational database management system as well as experience with data warehouses and star schemas. It would be helpful if students are involved with delivering business intelligence

### **Duration**

Five days

## Delivering Business Intelligence with Microsoft SQL Server 2005 or 2008 Course Outline

- I. Equipping the Organization for Effective Decision Making**
  - A. Effective Decision Making
  - B. Keys to Effective Decision Making
  - C. Business Intelligence
- II. Using Business Intelligence**
  - A. What Business Intelligence Can Do For You
    - 1. When We Know What We Are Looking For
    - 2. Discovering New Questions And Their Answers
  - B. Business Intelligence At Many Levels
    - 1. The Top Of The Pyramid
    - 2. Mid-Level
    - 3. The Broad Base
  - C. Maximum Miniatures, Inc.
    - 1. Business Needs
    - 2. Current Systems
  - D. Building the Foundation
- III. The Source of Business Intelligence**
  - A. Seeking the Source
    - 1. Transactional Data
  - B. The Data Mart
    - 1. Features of a Data Mart
    - 2. Data Mart Structure
  - C. Snowflakes, Stars, and Analysis Services
- IV. The Unified Dimensional Model**
  - A. Online Analytical Processing (OLAP)
    - 1. Building OLAP – Out of Cubes
    - 2. Features of an OLAP System
    - 3. Architecture
    - 4. Disadvantages
  - B. The Unified Dimensional Model
    - 1. Structure
    - 2. Advantages
  - C. Tools of the Trade
- V. Beginning the Development of Business Intelligence**
  - A. The Business Intelligence Development Studio
    - 1. Visual Studio
    - 2. Navigating the Business Intelligence Development Studio
    - 3. Business Intelligence Development Studio Options
  - B. The SQL Server Management Studio
    - 1. The SQL Server Management Studio User Interface
  - C. Don Your Hardhat
- VI. Creating and Populating Data Marts**
  - A. Who Needs a Data Mart Anyway?
  - B. Designing a Data Mart
    - 1. Decision Makers' Needs
    - 2. Available Data
    - 3. Data Mart Structures
    - 4. Creating a Data Mart Using the SQL Server Management Studio
    - 5. Creating a Data Mart Using the Business Intelligence Development Studio
  - C. The Benefits of Integration
- VII. Using Integration Services for Populating Data Marts**
  - A. Integration Services
    - 1. Package Structure
    - 2. Package Items
  - B. Package Development Features
    - 1. Programming in Integration Services Packages
    - 2. Package Development Tools
    - 3. Migrating From SQL Server 2000 DTS Packages
  - C. Putting Integration Services Packages Into Production
    - 1. Deploying Integration Services Packages
    - 2. Executing Integration Services Packages
  - D. Meanwhile, Back at the Unified Dimensional Model (UDM)

## Delivering Business Intelligence with Microsoft SQL Server 2005 or 2008 Course Outline (cont'd)

### VIII. **Cubism – Measures and Dimensions**

- A. Where We've Been and Where We're Going
  - 1. Completing the Manufacturing Data Mart
  - 2. Creating a Cube
- B. Measures
  - 1. Measure Groups
  - 2. Made-Up Facts – Calculated Measures
  - 3. It Doesn't Add Up – Measure Aggregates Other Than SUM
- C. Dimensions
  - 1. Managing Dimensions
  - 2. Relating Dimensions to Measure Groups
  - 3. Types of Dimensions
  - 4. Slowly Changing Dimensions
- D. You Are Special

### IX. **Special Features of OLAP Cubes**

- A. Where No Cube Has Gone Before
  - 1. Deploying and Processing
  - 2. Deploying From the Business Intelligence Development Studio
  - 3. Deploying From the Analysis Services Deployment Wizard
- B. Additional Cube Features
  - 1. Linked Objects
  - 2. The Business Intelligence Wizard
  - 3. Key Performance Indicators (KPIs)
  - 4. Actions
  - 5. Partitions
  - 6. Perspectives
  - 7. Translations
- C. More Sophisticated Scripting

### X. **MDX Scripting**

- A. Terms and Concepts
  - 1. Where Are We?
  - 2. Getting There From Here
- B. Putting MDX Scripting to Work
  - 1. Cube Security
  - 2. This Year to Last Year Comparisons and Year-To-Date Rollups
- C. Extracting Data From Cubes

### XI. **MDX Queries**

- A. The MDX Select Statement
  - 1. The Basic MDX Select Statement
  - 2. Additional Tools For Querying
  - 3. Additional Dimensions
- B. Additional MDX Syntax
  - 1. Operators
  - 2. Functions
- C. Can You Dig It?

### XII. **Introduction to Data Mining**

- A. What Is Data Mining?
  - 1. Order From Chaos
  - 2. Tasks Accomplished From Data Mining
  - 3. Steps For Data Mining
- B. Data Mining Algorithms
  - 1. Microsoft Naïve Bayes
  - 2. Microsoft Clustering
  - 3. Microsoft Associations
  - 4. Microsoft Sequence Clustering
  - 5. Microsoft Time Series
  - 6. Microsoft Neural Network
- C. Grab a Pick Axe

### XIII. **Working With the Data Mining Model**

- A. Data Mining Structure
  - 1. Data Columns
  - 2. Data Mining Model
  - 3. Training Data Set
- B. Mining Model Viewer
  - 1. Microsoft Decision Trees
  - 2. Microsoft Naïve Bayes
  - 3. Microsoft Clustering
  - 4. Microsoft Neural Network
  - 5. Microsoft Association
  - 6. Microsoft Sequence Clustering
  - 7. Microsoft Time Series
- C. Reading the Tea Leaves

### XIV. **Exploration Using Data Mining**

- A. Mining Accuracy Chart
  - 1. Column Mapping
  - 2. Lift Chart
  - 3. Profit Chart
  - 4. Classification Matrix

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Course Outline (cont'd)**

- B. Mining Model Prediction
  - 1. A Singleton Query
  - 2. A Prediction Join Query
- C. Data Mining Extensions
  - 1. Prediction Query Syntax
  - 2. Types of Prediction Queries
- D. Special Delivery

**XV. Delivering Business Intelligence  
With Reporting Services**

- A. Reporting Services
  - 1. Report Structure
  - 2. Report Delivery
- B. Report Serving Architecture
  - 1. Report Server
  - 2. The Parts of the Whole
  - 3. Reporting Services Installation Considerations
- C. Report Creation
  - 1. Data Regions
- D. Report Manager
  - 1. Folders
  - 2. The Report Manager
  - 3. Deploying Reports Using the Report Designer
  - 4. Uploading Reports Using Report Manager
  - 5. Printing from Report Manager
- E. Managing Reports on the Report Server
  - 1. Security
  - 2. Linked Reports

- 3. Report Caching
- 4. Execution Snapshots
- 5. Report History
- 6. Standard Subscriptions
- 7. Data-Driven Subscriptions
- F. Ad Hoc Reporting
  - 1. Report Model
  - 2. Report Builder Basics
- G. Putting It All Together

**XVI. Integrating OLAP With Your  
Applications**

- A. ADOMD.NET
  - 1. ADOMD.NET Structure
  - 2. ADOMD.NET Example
- B. Using Reporting Services Without the Report Manager
  - 1. URL Access
  - 2. Web Services Access
  - 3. The Report Viewer Control
- C. Ready Made Solution

**XVII. Excel Pivot Tables and Pivot  
Charts**

- A. Excel
  - 1. Creating Pivot Tables and Pivot Charts
  - 2. Pivot Tables
  - 3. Pivot Charts
- B. New Capabilities, New Opportunities