

- COURSE CODE:** SQSDMN
- COURSE TITLE:** Data Mining: SQL Server 2005/2008
- AUDIENCE:** Developers, DBAs and data architects.
- PREREQUISITES:** Completion of our course 'SQL Server Analysis Services 2005/2008' (SQSSAS) or equivalent knowledge.
- DURATION:** 4 days
- LEVEL:** Beginner to intermediate
- SUMMARY:** This presentation begins by introducing the tools, techniques and concepts required to exploit SQL Server's data mining facilities. Then it progresses to include some of the more detailed topics, such as:
- Data mining projects
 - Use of BIDS and SSMS in the project development life cycle
 - The roles of MDX/DMX queries
 - Data mining structures
 - Data mining algorithms
 - Data mining models
 - Data mining interface with Excel 2007
 - Etc.
- Learn-by-doing hands-on (about 60%) exercises are strategically placed to re-enforce the learning experience.
- OBJECTIVES:** Upon completion of this course, the participant should know how to integrate SQL Server data mining solutions into the Microsoft Business Intelligence solution (SSIS, SSRS, SSAS, Excel, etc.).
- FORMAT:** Lecture and hands-on (about 60%).

1. INTRODUCTION

- Data mining definition
- Business solutions and purpose
- Processes
- The Analysis Services connection
- The Integration Services connection

2. THE DATA MINING PROCESS LIFE CYCLE

- Define the problem
- Prepare the data
- Explore the data
- Build the models
- Explore and validate models
- Deploy and update models

3. DATA MINING PROJECTS (WITHIN SSAS), USING BIDS

- Define data source
- Add mining structures to a project
- Work with data mining models
- Validate data mining models
- Create predictions
- Application integration
- Model management
- **Learn-by-doing exercises:**
 - ⇒ Create SSAS project
 - ⇒ Create Data Source
 - ⇒ Create Data Source View

4. MANAGE THE PROJECT, USING SSMS

- Create predictions
- Explore data in models
- Manage mining objects

5. PROGRAMMATIC INTERFACE WITH DATA MINING

- MDX queries
- DMX queries
- XMLA
- ASSL
- Analysis Management Objects (AMO)

6. DATA MINING WIZARD

- Purpose
- How to use
- How to use a mining structure in BIDS
- **Learn-by-doing exercises**

7. DATA MINING DESIGNER

- Purpose
- How to use

8. DATA MINING ALGORITHMS CONCEPTS

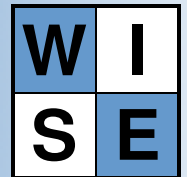
- Classification
- Regression
- Segmentation
- Association
- Sequence Analysis
- Microsoft Decision Trees
- Microsoft Linear Regression
- Microsoft Naïve Bayes
- Etc.
- **Learn-by-doing exercises**

9. MINING STRUCTURES

- Architecture
- Data sources
- Columns
- Training and testing data
- Drillthroughs
- Processing
- Viewing
- **Learn-by-doing exercises**
 - ⇒ Build a targeted data mining structure
 - ⇒ Add and process models

10. MINING MODEL

- Purpose
- Architecture
- Models
- Properties
- Columns
- Processing models
- Viewing and querying models
- Mining models specific to mining algorithms (e.g., sequence clustering)
- **Learn-by-doing exercises**
 - ⇒ Explore targeted mining model
 - ⇒ Test models
 - ⇒ Create and work with predictions



11. DATA MINING USING MICROSOFT EXCEL 2007

- How to configure
- Table analytics
- Key Influence tool
- Detect Categories tool
- Fill From Example tool
- Forecasting tool
- Highlight Exception tool
- Prediction Calculator tool
- Shopping Basket Analysis tool
- Scenario Analysis
- **Learn-by-doing exercises**

12. DATA MINING TOOLS (OFFICE 2007)

- Definition and purpose
- Explore Data tool
- Clean Data tool
- Sample Data tool
- **Learn-by-doing exercise**

13. VISIO ADD-IN

- Definition and purpose
- Decision Tree shape
- Cluster Shape Wizard

14. DATA MINING REPORTS VIA REPORTING SERVICES (SSRS)

- Types of reports
- How to create projects in BIDS
- How to use Query Designer

15. DATA MINING BEST PRACTICES