SSAS COURSE CONTENT

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1. SSAS Installation and Configuration

- ♣ Introduction to SSAS 2012 & 2014
- Multidimensional Mode Configuration
- **▲** Tabular Mode Configuration, In-Memory
- Testing SSAS Workspace Servers in SSDT
- Understanding Real-world Databases
- Need for OLAP Databases and Mining
- Need for Cubes and Faster Reports
- Identifying OLAP / Analysis Entities
- Kimball and Inmon Methods BI Design
- SSAS Usage and Target Access Methods
- Column Storage, Row Storage Options

2. Basic SSAS Entities & Usage

- Data Source and Data Source Views
- Computed Columns and Attributes
- Building Relationships For Cubes
- Identifying Facts and Dimensions
- Identifying Measurable Aggregates
- Identifying Attributes and Hierarchies
- Deciding Cube (MOLAP) Schema
- Named Oueries and Relations in DSV
- Database Dimensions from DSV Entities
- Cube Dimensions from DSV Relations
- Cube & Database Dimensions Issues

3. Dimension Wizard and Attributes

Creating Multi-Dimensional Entities

- Attributes and Key Member Names
- Cube Dimension Templates and Options
- Applying Time Based Dimensions
- Dimension Hierarchies and Limitations
- Cube Attribute Relations and Uses
- ♣ Composite Attribute Keys in OLAP Cubes
- Building Attribute Levels and Hierarchies
- Duplicate Attribute Key Errors
- Common Deployment & Security Errors
- Deployment Warnings in Real-World

4. Cube Wizard and Relations

- ♣ Cube Design Regular Templates
- Cube Measures and Dimension Keys
- Additive and Semi-Additive Measures
- Cube Customization Options and MDX
- Calculations and MDX Members
- MDX Scripts for Member Calculations
- Cube Calculation Sets and MDX Scripts
- BI Enhancements and MDX in MOLAP
- **▲** Time-Based Calculations with MDX

5. Dimension Types & KPI

- Role-Playing Dimensions and MDX
- Fact and Factless Dimensions
- Referenced Dimensions & Usage
- Conformed Dimensions & Usage
- Degenerate Dimensions & Usage
- Junk & Hierarchical Dimensions
- Dimension Usage and Granularity
- Building Fact Less Dimensions
- Static and Dynamic KPIs with MDX
- Parent and Child KPIs with MDX

- Defining KPIs and Goals using MDX
- Perspectives using MDX Expressions
- SSAS Actions with MDX and XMLA

6. SSAS Partitions and Aggregations

- Local and Remote Cube Partitions
- Storage Modes MOLAP, ROLAP, HOLAP
- Aggregations and Proactive Caching
- Tuning Cube Partition Processing
- Row Estimations and Aggregations
- Assigning Aggregations, Scripts
- ♣ Usage-Based Optimization (UBO)

7. MDX Functions, FILTERS and JOINS.

- MDX Functions & Conditional JOINS
- Complex MDX Queries & FILTERS
- CROSS APPLY versus MDX JOINS
- CROSS APPLY and MDX Query Filters
- Cube and Dimension Writebacks
- MDX with Roleplaying Dimensions
- MDX Transactions & Limitations

8. Data Mining and Forecast

- Need for Data Mining Structures
- Data Mining Algorithms and Rules
- DMX Queries and Forecast Reports
- Data Mining Scope and DMX Ranks

9. Tabular Mode Cube Design

- Entity Identification Procedures
- Workspace Configuration Settings
- In-Memory Processing Options
- Advance Cube Design Scenarios
- Aggregated Measures with KPIs

- Partitioned Dimensions & Usage
- Conditional MDX Scripts & Options
- Hierarchical MDX in Tabular Mode
- MDX Filters and Joins in Tabular Mode

10. Deployment (Tabular & Multidimensional)

- ♣ Deployment Options and Pre-requisites
- Cube Deployment Process and Tools
- ♣ SSAS Deployment Wizard Tool & Errors
- Storage Locations Cube & Partitions
- Creating OLAP Databases, Scripts
- Processing Options and Schedules
- Managing Deployment Process (OLAP)
- SSAS Database and Cube/Mining Audits
- MDX Query Log Tables in DB Engine
- Flight Recorder Options and Sampling
- Managing SSAS Log Providers

11. OLAP Database Management

- OLAP & Tabular Database Backups
- OLAP Compressions and Encryptions
- Backups, Restores and Passwords
- Scheduling Backups and Jobs
- OLAP DB Synchronizations and XMLA
- Partitions Splits and Merge Options
- Managing Partitions & Aggregations

12. Usage-Based Optimization (UBO)

- Need for Optimization and Audits
- Designing Aggregations using UBO
- Aggregations For Optimization Levels
- Audit Query Filters and Reuse Options
- OLAP Restore Options and XMLA

13. Using OLAP Structures

- Cube Analysis with Excel Tables
- ♣ Excel Pivots and Refresh Options
- ♣ Configuring ODC (Office) Connections
- Prediction Functions and Analysis
- DMX and MDX Queries Interfaces

14. Managing Security with MDX

- ♣ SSAS Security Roles and Scope
- ♣ Object Level Access and Dynamic MDX
- Item Security and DAX Expressions
- Dynamic Cube Security with MDX
- OLAP Security Audits and Query Logs

15. Schedules and SSAS Upgrades

- **♣** OLAP Management with ETL/DWH
- **♣** MDX and OLAP Operations with ETL
- Scheduling SSAS Operations (XMLA)
- Comparing SSAS 2012 & SSAS 2014

16. Practice Test & Interview Questions

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