SQL Server Analysis Services

Introduction to BI, Data Warehousing and Analysis Services

Data Warehouses
Fact Tables
Dimension Tables
Dimensions Cubes
Star Schemas
Snowflake Schemas
Normalization vs Denormalization
Business Intelligence Semantic Model (BISM)
Tabular Model
SSAS Features, Tools and Terminologies

Creating Multidimensional Analysis Solutions

Supported Data Sources
Data Source View (DSV) Wizard
DSV Designer Named
Calculation Database
Dimensions
Dimension Wizard
Dimension Designer
Attributes
Attribute Relationships
Hierarchies and Levels
Ragged Hierarchies
Parent-Child Hierarchies
Deploying & Processing Dimensions
Browsing Dimensions
Sorting Dimension Members
Dimension Translations
Time Dimensions

Working with Cubes

       Cube Wizard
       Deploying & Processing Cubes
       Browsing Cubes
       Cube Dimensions
       Measures & Measure Groups
       Calculated Members
       Time Dimension
       Dimension Write back
       Cube Partitions: Storage, Aggregation Design, Usage-based Optimization

Working with Measures and Measure Groups

       Measure Groups & Measures
       Adding & Enhancing Dimensions
       Fact Relationships
       Many-To-Many Relationships
       Data Mining Dimensions
       Role-Playing Dimensions
       Adding Calculations To Cubes

Multidimensional expressions

       Basic syntax
       Using the MDX query editor in SQL Server Management Studio
       Fundamental Concepts
       Members
       Cells
       Tuples
       Sets
       Simple MDX Queries
       Adding calculated members
       Adding scripts
       Adding named sets

All the training sessions will be conducted with Practical Examples.
Students' practice labs will be provided separately for hands on.

Customizing Cube Functionality

      Key Performance Indicators (KPIs)
      Trends
      Actions: URL redirection, Report redirection, Drill-through
      Cube Perspectives
      Cube Translations
      Browsing Perspectives and Translations

SSAS Administration

      Management Studio
      Database Creation
      Managing SSAS Objects
      XMLA Scripts
      Processing SSAS Objects
      Managing Partitions
      Backup & Restore
      Detach and Attach
      Synchronization
      Managing SSAS Security

SSAS Security

      Security Architecture
      Cube Roles
      Database Dimension Security
      Cube Dimension Security

Analyzing Cubes with Microsoft Excel

      Creating an offline cube
      Analyzing Data in Excel: Pivot Tables, Pivot Charts
      Analyzing Data in PowerPivot

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Microsoft MDX Basics

Basic MDX
SELECT
FROM Clause
Where Clause
Filters
With Clause
Aliasing through With Clause
Comments

Dimensions

Source
MDX Functions
Key Concepts of Dimensions
Dimension Properties
Dimension Attributes
Attribute Values
Attribute Members
MDX Hierarchies
User Hierarchies
Levels
members Function
Members have Properties
Intrinsic Dimension and Level Properties
Intrinsic Member Properties
Tuples
Member Reference with Tuples
Tuples with Multiple Dimensions
Cells
Partial Tuples
Sets
MDX: Tuple Vs Set
Set Functions
Empty Sets
Sets with Multipart Tuples

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Using Two Axis
Distinct Function
MeasureGroupMeasures Function
CrossJoin Function
CrossJoin and Auto-Exists
Exists Function

Navigating Hierarchies

Navigation Functions of Immediate Relatives
Function Syntax members
Function Dimensions have
Members Hierarchies have
Members Levels Have
Members Children
function Descendants
Function Descendants
Syntax
Parent Function
Ancestor Function
Ascendants Function
Siblings Function
Cousin Function
Lastchild and Firstchild functions
Lead, Lag, Head and Tail Functions
Lead Function
Lag Function
Head Function
Tail Function
Prevmember, Nextmember Functions
PrevMember Function
NextMember
CurrentMember Function
DrilldownLevel

Hierarchize
Order Function
Rank Function
Controlling Sort Order
Ascending Sort
Descending Sort
basc
bdesc
Range Operator
TopCount, BottomCount Function
Item Function
Filter Function
Filter Operator Table
NonEmpty Function
Combining Sets
Union
Intersection (Intersect)
Exception (Except)

MDX Calculations

Named Calculation
Named Set
Expressions
Nulls in expressions in MDX
Operators supported in MDX
Solve Order
Calculated Members (WITH Member)
Query-scoped
Session-scoped
Create Member Using
Sets In Expressions
Existing Keyword
IIF Function
IsEmpty

CurrentMember
Level and Ordinal Function
Statistical Functions
Min and Max
AVG Function
Sum Function
Aggregate Function
Count Function (Counting Tuples)
Count (Dimension)
Count (Hierarchy Levels)
Count (Set)
TopCount Function

Working With Time

The Time Dimension
Current Value
Navigating Time
Historical Values
ParrallelPeriod
OpeningPeriod/ClosingPeriod
OpeningPeriod
ClosingPeriod
PeriodsToDate
(x)TD Functions
Year-To-Date (YTD)
Quarter-To-Date (QTD)
Month-To-Date (MTD)
Week-To-Date (WTD)
LastPeriods
Combining Functions

Business Insights

Peer Ranking
Percent of Level or Group
Percentage of Parent
Inventory
Order Ranking
Calculating Averages (AVG)
Rolling Averages

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