

Microsoft® SQL Server® 2005 Analysis Services

Instructor: Lynn Langit is a trainer and consultant who specializes in designing and implementing Business Intelligence solutions using Microsoft Analysis Server. She possesses a unique combination of technical knowledge and business experience that make her particularly qualified to implement OLAP training.

Target Audience/Prerequisites: This course does not require any prior experience with Analysis Server 2005. It is assumed that students have working experience with SQL Server 2000 or 2005; basic relation database concepts (e.g., tables, queries, and indexing); data transformation services; Excel 2003; and SharePoint Server 2003.

Total Learning Time: 12-36 hours

Media run time is 12+ hours, total learning time could be up to 36 hours if the courseware, labs and exams are utilized. This course can also be used as quick reference material, with the ability to access just the information you need in a matter of minutes.

Course Description: In this course, you will learn how to use Microsoft SQL Server 2005 Analysis Services (SSAS) to design and implement OnLine Analytical Processing (OLAP) cubes and data mining models to support Business Intelligence (BI) solutions. This course includes concepts, procedures and practices based on real-world experience giving both the novice and experienced SQL Server 2005 developer the tools to build data warehousing and decision support system solutions. This course also provides information on end-user client tools for SSAS cubes and mining models which include Microsoft Excel 2003/2007 and Microsoft SQL Server 2005 Reporting Services. Implementing SSAS reporting has been shown to improve data retrieval (report generation) as compared to SQL Server OnLine Transaction Processing (OLTP) by up to 1000%.

Course Outline:

What is Microsoft BI?

- Core concept – BI is the cube or UDM
- Example cube as seen using Excel pivot table
- MS BI is comprehensive – more than Analysis Services on SQL Server
- Demonstration of SQL Reporting Services with cube as data source

OLAP Modeling

- Modeling source schemas—stars and snowflakes
- Understanding dimensional modeling— Dimensions (Type 1, 2, or 3) or rapidly changing
- Understanding fact (measures) and cube modeling
- Other types of modeling—data mining etc...

Using SSAS in BIDS

- Understanding the development environment
- Creating Data Sources and Data Source Views
- Creating cubes – using the UDM and the Cube Build Wizard
- Refining Dimensions and Measures in BIDS

Intermediate SSAS

- KPIs
- Perspectives
- Translations – cube metadata and currency localization
- Actions – regular, drill-through and reporting

Advanced SSAS

- Using multiple fact tables
- Modeling intermediate fact tables
- Modeling M:M dimensions, Fact (degenerate) dimensions, Role-playing dimensions, writeback dimensions
- Modeling changing dimensions – Dimension Intelligence w/ Wizard
- Using the Add Business Intelligence Wizards – write-back, semi-additive measures, time intelligence, account intelligence

Cube Storage and Aggregation

- Storage topics – basic aggregations, MOLAP
- Advanced Storage Design – MOLAP, ROLAP, HOLAP
- Partitions – relational and Analysis Services partitions
- Customizing Aggregation Design - Processing Design
- Rapidly changing dimensions / ROLAP dimensions
- Welcome to the Real Time – Proactive Caching
- Cube processing options

Beginning MDX

- Basic syntax
- Using the MDX query editor in SQL Server Management Studio
- Most-used Functions & Common tasks
- New MDX functions

Intermediate MDX

- Adding calculated members
- Adding scripts
- Adding named sets
- .NET Assemblies

SSAS Administration

- Best practices – health monitoring
- XMLA scripting (SQL Mgmt Studio)
- Other Documentation methods
- Security – roles and permissions
- Disaster Recovery – backup / restore
- Clustering – high availability

Introduction to Data Mining

- What and why?
- Examples of using each of the 9 algorithms (MS Clustering, MS Decision Trees, Naïve Bayes, MS Sequence Clustering, MS Time Series, MS Association Rules, MS Neural Network)
- Data Mining dimensions
- Data Mining clients
- Processing mining models

Introduction to Reporting Clients

- Excel 2003 Pivot Tables
- SQL RS & Report Builder
- SPS RS web parts & .NET 2.0 report viewer controls
- Business Scorecards 2005 & ProClarity

Future Directions – Integration with Office 12

- SharePoint 12 and AS
- Report Center (type of dashboard) uses KPIs, Reports, Excel Web, Filter
- Excel Services 12 and AS (Web Services)

Number of Modules	Media Run Time	Total Learning Time	Printable PDF Courseware*	Hands-on Labs	Sample Code	Pre/Post Exams	Supports Microsoft Exam Number
8 Modules	12+ hours	12-36 hours	450+ Pages	Yes	Yes	Yes	70-445

* Professionally printed, bound courseware (student manuals) are available. Ask for details.