Data Mastery with SSAS and MS SQL Server 2022 Training

COURSE CONTENT

About Multisoft

Train yourself with the best and develop valuable in-demand skills with Multisoft Systems. A leading certification training provider, Multisoft collaborates with top technologies to bring world-class one-on-one and certification trainings. With the goal to empower professionals and business across the globe, we offer more than 1500 training courses, which are delivered by Multisoft's global subject matter experts. We offer tailored corporate training; project Based Training, comprehensive learning solution with lifetime e-learning access, after training support and globally recognized training certificates.

About Course

The Data Mastery with SSAS and MS SQL Server 2022 Training by Multisoft Systems is designed to equip professionals with comprehensive knowledge of SQL Server Analysis Services (SSAS) and its integration with Microsoft SQL Server 2022. This course covers data modeling, cube development, multidimensional and tabular analysis, and Business Intelligence (BI) techniques, enabling learners to build efficient and scalable analytical solutions.

Module 1: Introduction

- ✓ Overview of Business Intelligence and Data Models
- ✓ Modern BI Trends: Self-Service BI, Cloud Analytics, AI/ML Integration
- ✓ Microsoft Business Intelligence Platform: SSAS, Power BI, Azure

Module 2: Understanding Data Warehousing and OLAP

- ✓ Concepts of Data Warehousing
- ✓ Modern Data Warehousing Approaches: Cloud Data Warehouses
- ✓ Introduction to Online Analytical Processing (OLAP)
- ✓ Differences between OLAP and OLTP
- ✓ In-Memory OLAP: Tabular Models

Module 3: Setting Up SSAS

- ✓ Installation and Configuration: Multidimensional vs. Tabular Mode
- ✓ Understanding SSAS Architecture
- ✓ Overview of SSAS Tools: SSMS, SSDT, PowerShell

Module 4: Multidimensional Analysis and Data Modeling

- ✓ Introduction to Multidimensional Analysis
- ✓ Comparison with Tabular Models
- ✓ Data Sources and Data Source Views
- ✓ Steps to Create a Multidimensional Database

Module 5: Creating and Managing Cubes

- ✓ What is a Cube?
- ✓ Steps to Create a Cube
- ✓ Best Practices for Cube Design: Partitioning, Aggregations
- ✓ Managing and Maintaining Cubes

Module 6: Working with Dimensions and Measures

- ✓ Configuring Dimensions: Role-Playing Dimensions
- ✓ Defining Attribute Hierarchies
- ✓ Implementing Sorting and Grouping for Attributes
- ✓ Slowly Changing Dimensions: Type 1, Type 2, Type 3
- ✓ Working with Measures: Calculated Measures
- ✓ Working with Measure Groups

Module 7: Processing and Deploying SSAS Models

- ✓ Processing Options: Parallel Processing
- ✓ Deploying Models: On-Premises vs. Azure Analysis Services
- ✓ Incremental Processing

Module 8: Querying SSAS

- ✓ MDX Fundamentals
- ✓ Adding Calculations to a Cube
- ✓ Using MDX to Query a Cube
- ✓ Introduction to DAX (Data Analysis Expressions)
- ✓ Advanced DAX Concepts: Time Intelligence, Row Context vs. Filter Context
- ✓ Using DAX to Create Calculated Columns and Measures in a Tabular Data Model

Module 9: Performance Optimization

- ✓ Monitoring and Tuning Performance: SQL Server Profiler, Extended Events
- ✓ Using Aggregations
- ✓ Partitioning Strategies for Large Datasets
- ✓ Best Practices for Performance

Module 10: Security and Administration

- ✓ Implementing Security in SSAS: Row-Level Security

✓ Managing Roles and Permissions

✓ Backup and Restore Strategies: Cloud-Based Backup Options

Module 11: Advanced Topics

✓ Advanced MDX and DAX Queries: Practical Examples

✓ Real-Time Data Analysis with SSAS: DirectQuery Mode

✓ Integration with Other BI Tools: Power BI, Excel, Tableau

Module 12: SSAS Tabular Models

✓ Introduction to Tabular Models

✓ Creating and Managing Tabular Models

✓ Differences between Multidimensional and Tabular Models

✓ When to Use Tabular vs. Multidimensional

Module 13: Cloud Integration

✓ Azure Analysis Services Overview

✓ Advantages of Cloud-Based SSAS

✓ Data Refresh Strategies: Incremental Refreshes

Module 14: Error Handling and Troubleshooting

✓ Common Issues and Resolutions

✓ Debugging and Logging in SSAS