

## MSBI SSIS Course Content

### What is BI?

Introduction to Business Intelligence, understanding the concept of Data Modeling, Data Cleaning, learning about Data Analysis, Data Representation, Data Transformation.

### ETL Overview

Introduction to ETL, the various steps involved Extract, Transform, Load, using a user's email ID to read a flat file, extracting the User ID from email ID, loading the data into a database table.

### Working with Connection Managers

Introduction to Connection Managers – logical representation of a connection, the various types of Connection Managers – Flat file, database, understanding how to load faster with OLE DB, comparing the performance of OLE DB and ADO.net, learning about Bulk Insert, working with Excel Connection Managers and identifying the problems.

### Data Transformations

Learning what is Data Transformation, converting data from one format to another, understanding the concepts of Character Map, Data Column and Copy Column Transformation, import and export column transformation, script and OLEDB Command Transformation, understanding row sampling, aggregate and sort transformation, percentage and row sampling.

### Advance Data Transformation

Understanding Pivot and UnPivot Transformation, understanding Audit and Row Count Transformation, working with Split and Join Transformation, studying Lookup and Cache Transformation.

### Slowly Changing Dimensions

Understanding data that slowly changes over time, learning the process of how new data is written over old data, best practices. Detail explanation of three types of SCDs –Type1, Type2 and Type3, and their differences.

### Overview of Fuzzy Look-up Transformation and Lookup and Term Extraction

Understanding how Fuzzy Lookup Transformation varies from Lookup Transformation, the concept of Fuzzy matching,

### Concepts of Logging & Configuration

Learning about error rows configuration, package logging, defining package configuration, understanding constraints and event handlers.

## MSBI SSRS Course Content

## Introduction to SSRS

Get introduced to the SSRS Architecture, components of SSRS Report Building tool, learning about the data flow in different components.

## Matrix and Tablix Overview

Understanding the concepts of Matrix and Tablix, working with Text Box, learning about formatting, row/column grouping, understanding sorting, formatting, concepts of Header, Footer, Totals, Subtotals and Page Breaks.

## Parameters and Expression

Learning about Parameters, filter and visibility expression, understanding drill-through and drill-down, defining variables, custom code.

## Reports and Charts creation

Introduction to various aspects of Bar Chart, Line Chart, Combination Chart, Shape Chart, Sub Reports

## Dashboard Building

Learn how to build a Dashboard with Sparklines, Data Bars, Map Charts, Gauge Charts and drilling into reports, the basics of ad hoc reporting.

Data Bar, Sparkline, Indicator, Gauge Chart, Map Chart, Report Drilling, What is Ad hoc reporting?

## Reports and Authenticity

Understanding Report Cache, Authorization, Authentication and Report Snapshot, learning about Subscriptions and Site Security.

## MSBI SSAS Course Content

### Getting started with SSAS

Understanding the concept of multidimensional analysis, understanding SSAS Architecture and benefits, learn what is Cube, working with Tables and OLAP databases, understanding the concept of Data Sources, working with Dimension Wizard, understanding Dimension Structure, Attribute Relationships, flexible and rigid relationship.

### Structures and Processes

Learning about Process Dimension, the Process database, creation of Cube, understanding Cube Structure, Cube browsing, defining the various categories, Product Key and Customer Key, Column Naming, processing and deploying a Cube, Report creation with a Cube.

### Type of Database Relationship

Understanding Data Dimensions and its importance, the various relationships, regular, referenced, many to many, fact, working on Data Partitions, and Data Aggregations.

## SSAS Cube

Learning about SSAS Cube, the various types of Cubes, the scope of Cube and comparison with Data Warehouse.

## Cube: Operations & Limitations

The various operations on Cube, the limitations of OLAP Cubes, the architecture of in-memory analytics and its advantages.

## Cube and In-memory Analytics

Deploying cube with existing data warehouse capabilities to get self-service business intelligence, understanding how in-memory analytics works.

## Data Source View

Logical model of the schema used by the Cube, components of Cube, understanding Named Queries and Relationships.

## Dimensions

An overview of the Dimensions concept, describing the Attributes and Attributes Hierarchies, understanding Key/Value Pairs, Metadata Reload, logical keys and role-based dimensions.

## Measures & Features of Cube

Understanding the Measure of Cube, analyzing the Measure, exploring the relationship between Measure and Measure Group, Cube features and Dimension usage.

## Measures and Features of Cube Cont.

Working with Cube Measures, deploying analytics, understanding the Key Performance Indicators, deploying actions and drill-through actions on data, working on data partitions, aggregations, translations and perspectives.

## Working with MDX

Understanding Multidimensional Expressions language, working with MDX queries for data retrieval, working with Clause, Set, Tuple, Filter condition in MDX.

## Functions of MDX

Learning about MDX hierarchies, the functions used in MDX, Ancestor, Ascendant and Descendant function, performing data orderin

## MSBI Projects

### Project 1 – Configuration and Logging

**Topics** – In this SQL Server Integration Services (SSIS) project you will extensively work on multiple data from heterogeneous source into SQL Server. As part of the project you will learn to clean and standardize data and automate the administrative work. Some of the tasks that you will be performing are adding logs to SSIS package, configuration and saving it to an XML file. Upon completion of the project you will have hands-on experience in handling constraints, error row configuration and event handlers.

### Project 2 – SSAS Cube Using BI Data Tools

**Data** – Adventure Works DW

**Topics**–In this project you will be working exclusively on a business organization’s production volumes while comparing it to the sales performance in order to derive valuable insights. You will exclusively deploy the Adventure Works DW2012 which is a relational data warehouse that runs on a database engine instance. This relational data warehouse will provide the original data for the SQL Server Analysis Services (SSAS). You shall build SSAS Cubes using the Business Intelligence tools. Upon completion of the project you will be well-versed to work in a real world business scenario to analyze various parameters and instances in order to derive business insights.

### Project 3 – Building Dashboard

**Data** – Sales

**Topics**– In this project you will be working on SQL Server Reporting Services (SSRS) and deploying it for building dashboards in a business environment. The Business Intelligence Report that you create will be used to calculate sales based on the years and currencies that you choose. Some of the tasks that you will be performing as part of this project are – design and create Gauge and Map Charts, Spark lines and Data Bar and perform drill-through Reports, and ad hoc Reporting.