MS-BI
COURSE CONTENT

Faculty:

Fee:

Duration:

Demo Time:

Batch Time:

Introduction to DBMS:

Database Management System

Database Management System and data models

- **Physical data models**
- **Logical data models (RDBMS)**

Introduction to SQL Server:

Connecting To Server

- **Server Type**
- **Server Name**
- **Authentication Modes**
- **Sql Server Authentication Mode**
- **Windows Authentication Mode**
- **Login and Password**

Sql Server Management Studio and Tools In Management Studio

- **Object Explorer**
- **Object Explorer Details**
- **Query Editor**

TSQL (Transact Structured Query Language)
Introduction To TSQL:

Types of TSQL Commands

- **Data Definition Language (DDL)**
- **Data Manipulation Language (DML)**
- **Data Query Language (DQL)**
- **Data Control Language (DCL)**
- **Transaction Control Language (TCL) Constraints**
- **Procedural Integrity Constraints**
- **Declarative Integrity Constraints**
- **Not Null, Unique, Default and Check constraints**

- Primary Key and Referential Integrity or foreign key constraints
- Data Types In TSQL
- Table
- Creating Table
- Altering Table
- Deleting Table

Data Definition Language

- CREATE
- ALTER
- DROP
- TRUNCATE

Data Manipulation Language

- Insert
- Identity
- Creating A Table From Another Table
- Inserting Rows From One Table To Another
- Update
- Computed Columns
- Delete
- Truncate
- Differences Between Delete and Truncate

Data Query Language (DQL)

- Select
- Where clause
- Order By Clause
- Distinct Keyword
- Isnull() function
- Column aliases

- 0Predicates
- Between … And
- In
- Like

Built In Functions

- Scalar Functions
- Numeric Functions

  ABS()

  CEILING()—NEAREST SMALL

  FLOOR()—NEAREST LARGER

  ROUND()

- Character/String Functions
- Conversion Functions
- Date Functions
- Aggregate Functions
- Group By and Having Clauses
- Over(partition by …) Clause
- Ranking Functions
- Common Table Expressions (CTE)

Top n Clause
Set Operators

- Union/UnionAll
- Intersect
- Except

Joins

- Inner Join
- Equi Join

- **Self Join**
- **Outer Join**
- **Left Outer Join**
- **Right Outer Join**
- **Full Outer Join**
- **Cross Join**

Sub Queries

- **Single Row Sub Queries**
- **Multi Row Sub Queries**
- **Any or Some**
- **ALL**
- **Nested Sub Queries**
- **Co-Related Sub Queries**
- **Exists and Not Exists**

Indexes

- **Clustered Index**
- **NonClustered Index**
- **Create , Alter and Drop Indexes**
- **Using Indexes**

Security

- **Login Creation**
- **SQL Server Authenticated Login**
- **Windows Authenticated Login**
- **User Creation**
- **Granting Permissions**
- **Revoking Permissions**
- **Roles**

Views

- **Purpose Of Views**
- **Creating , Altering and Dropping Indexes**
- **Simple and Complex Views**
- **Encryption and Schema Binding Options in creating views**

Transaction Management

- **Introduction**
- **Begin Transaction**
- **Commit Transaction**
- **Rollback Transaction**
- **Save Transaction**
- **Role Of Log File In Transaction Management**
- **Implicit Transactions**

Control Statements

- **Control statements In TSQL Programming**
- **Conditional Control Statements**
- **If**
- **Case**
- **Looping Control Statements**
- **While**

Cursors

- **Working With Cursors**

- **Types Of Cursors**

- **Forward Only and Scroll Cursors**

- **Static, Dynamic and Keyset Cursors**

- **Local and Global Cursors**

Stored Procedures

- **Creating , Altering and Dropping**

- **Optional Parameters**

- **Input and Output Parameters**

- **Permissions on Stored Procedures**

- **User Defined Functions**

- **Creating, Altering and Dropping**

- **Types Of User Defined Functions**

- **Scalar Functions**

- **Table Valued Functions**

- **Inline Table Valued Functions**

- **Multi Statement Table Valued Functions**

- **Permissions On User Defined Functions**

- **Triggers**

- **Purpose of Triggers**

- **Differences Between Stored Procedures and User Defined Functions and Triggers**

- **Creating, Altering and Dropping Triggers**

- **Magic Tables**

- **Instead Of Triggers**

SQL SERVER 2012 INTEGRATION SERVICES

Introduction to SQL Server Integration Services

- ✓ **Product History**
- ✓ **Development and Management Tools**
- ✓ **Deploying and Managing SSIS**
- ✓ **Packages**

SQL SERVER DATA TOOLS / BIDS

- ✓ **Launching SSDT**
- ✓ **The package designer**
  - ❖ **Control flow**
  - ❖ **Data flow**
  - ❖ **Error handling**
  - ❖ **Package explorer**
- ✓ **The Toolbox**
- ✓ **Solution Explorer**
- ✓ **The Properties window**
- ✓ **The Variables window**
- ✓ **The SSIS menu**

Introduction to Control Flow

- ✓ **Control Flow Overview**
- ✓ **Precedence Constraints**
- ✓ **The Execute SQL Task**
- ✓ **The Bulk Insert Task**
- ✓ **The File System Task**
- ✓ **The FTP Task**
- ✓ **The Send Mail Task**
- ✓ **The Analysis Services tasks**
- ✓ **The Execute Process Task**

- ✓ The Execute Package Task

Containers

- ✓ For loop container
- ✓ For each loop container

Introduction to Data Flow

- ✓ Data Flow Overview
- ✓ Data Sources
- ✓ Data Destinations
- ✓ Data Transformations
- ✓ The Copy Column Transformation
- ✓ The Derived Column Transformation
- ✓ The Data Conversion Transformation
- ✓ The Conditional Split Transformation
- ✓ The Aggregate Transformation
- ✓ The Sort Transformation
- ✓ Data Viewers

Variables

- ✓ Variables Overview
- ✓ Variable scope
- ✓ SSIS system variables
- ✓ Using variables in control flow
- ✓ Using variables in data flow
- ✓ Property expressions

Slowly Changing Dimensions

- ✓ About Slowly changing dimensions
- ✓ Types of Slowly changing dimensions
- ✓ Loading Slowly changing dimensions with SSIS
- ✓ Handling inferred member in scd

Change Data Capture

- ✓ About CDC & LSN

- ✓ Enabling CDC on database
- ✓ Enable on Table
- ✓ Implementing incremental Load with CDC

Debugging, Error Handling and Logging

- ✓ SSIS debugging overview
- ✓ Breakpoints in SSIS
- ✓ Checkpoints in SSIS
- ✓ SSIS debugging windows
- ✓ Control Flow: The OnError event handler
- ✓ Data Flow: Error data flow
- ✓ Configuring Package Logging
- ✓ Built-in log providers

Advanced Data Flow

- ✓ Revisiting data sources and destinations
- ✓ The Lookup Transformation
- ✓ Getting Fuzzy: The Fuzzy Lookup and
- ✓ Fuzzy Grouping Transformations
- ✓ The Multicast Transformation
- ✓ The Merge and Merge Join Transformations
- ✓ The Slowly Changing Dimension Transformation

Script Task

SSIS Package Configurations

- ✓ Improvement in package configuration compare to SSIS 2008
- ✓ SSIS 2012 SQL Server package configuration
- ✓ XML Configuration
- ✓ Environment Variable Configuration
- ✓ Parent Package Configuration
- ✓ Registry Entry Configuration

- ✓ SQL Server Configuration

SSIS Package Deployment

- ✓ **The deployment utility**
- ✓ **Deployment options**
  - o **Project Deployment Model**
  - o **Package Deployment Model.**
- ✓ **Deployment types**
  - o **File system deployment**
  - o **SQL Server deployment**
- ✓ **Deployment security**
- ✓ **Executing packages – DTExec and DTExecUI**

SSIS Package Management

- ✓ **The SSIS Service**
- ✓ **Managing packages with DTUtil**
- ✓ **Managing packages with SQL ServerManagement Studio**
- ✓ **Scheduling packages with SQL ServerAgent**

SQL SERVER 2012 REPORTING SERVICES

Introduction to SQL Server Reporting Services

- ✓ **Reporting Services Architecture**
- ✓ **Reporting Services Terminology**
- ✓ **Reporting Services Editions**

Creating Reports

- ✓ **Shared Data Sources**
- ✓ **Creating Reports from Scratch**

Types of Reports

- ✓ **Parameterized Reports**
- ✓ **Linked Reports**

- ✓ **Drilldown Reports**
- ✓ **Drill through Reports**
- ✓ **Sub Reports**
- ✓ **Snapshot Reports**
- ✓ **Cached Reports**
- ✓ **Ad hoc Reports**

Report Parameters

- ✓ **Creating Report Parameters**
- ✓ **Creating Drop-Down Parameters**
- ✓ **Multi-Valued Parameters**
- ✓ **Debugging Parameter Issues**
- ✓ **Cascading Parameters**

Calculations and Formatting

- ✓ **Creating Expressions**
- ✓ **Using the Global Collections**
- ✓ **Formatting Items**
- ✓ **Conditional Formatting**

Grouping and Sorting

- ✓ **Creating Groups**
- ✓ **Calculating Totals and Percentages**
- ✓ **Interactive Sorting**

Creating Matrix Reports and Charts

- ✓ **Creating a Basic Matrix Report**
- ✓ **Matrix Subtotals**
- ✓ **Creating a Basic Chart**
- ✓ **Exploring the Charting Possibilities**

Managing Reporting Services

- ✓ **Deploying Reports and Data Sources**
- ✓ **Exporting Reports and Printing**
- ✓ **Using the Web-Based Report Manager**
- ✓ **Using SQL Server Management**

Reporting Services Security

- ✓ **Securing Access to Reports**
- ✓ **Data Source Security**

Snapshots and Subscriptions

- ✓ **Caching and Snapshots**
- ✓ **Creating Standard Subscriptions**
- ✓ **Creating Data-Driven Subscriptions**
- ✓ **Managing Subscriptions**

Ad-Hoc Reporting with Report Builder

- ✓ **The Report Builder Architecture**
- ✓ **Creating Report Model Projects**
- ✓ **Running Report Builder**

SQL SERVER 2012 ANALYSIS SERVICES

- ✓ **Introduction to multidimensional model**
- **Tabular model**
- **Different types of OLAP**
  - **MOLAP**
  - **ROLAP**
  - **HOLAP**

Working with Cube

- ✓ **Creating multidimensional solution for Cube**
- ✓ **Creating data source view (DSV)**
- ✓ **Selecting schema for DSV**
- ✓ **Working with measures, measure groups and dimensions**

Working with MDX

Cube functionalities and deploying cube

- ✓ **Perspectives**
- ✓ **KPI (Key Performance Indicators)**
- ✓ **Hierarchies**
- ✓ **Partitions**
- ✓ **Named query**
- ✓ **Calculated members**
- ✓ **Deployment of cube**

Cube processing

- ✓ **Dimension processing**
- ✓ **Measure/Fact processing**

Job Support:

- ✓ **FAQ'S**
- ✓ **Resume preparation**
- ✓ **Placement Assistance**
- ✓ **Forwarding Resume to companies**
- ✓ **Interviwe crack level**
- ✓ **Job support**