SAS
INTELLIGENCE PLATFORM

CURRICULUM

SAS INTELLIGENCE PLATFORM – BI TOOLS 4.2 VERSION

SAS BUSINESS INTELLIGENCE TOOLS - COURSE OUTLINE

Practical Project Based Training & Implementation on all the BI Tools

- SAS Data Integration Studio *4.2*
- SAS Olap Cube Studio *4.2*
- SAS Management Console 9.2
- SAS Enterprise Guide 4.2
- SAS Information Map Studio *4.2*
- SAS Web Report Studio *4.2*
- SAS Dashboard *4.2*
- SAS Information Delivery Portal *4.2*
- SAS Web Olap Viewer for Java
- SAS Stored Process *4.2*
- SAS Stored Process Web Application *4.2*
- SAS Add In for Ms Office *4.2*

- Introduction to DWH / BI Concepts

Course Overview

SAS Data Integration Studio 4.2

» Introduction to SAS DIS Studio
- Features of SAS DIS Studio
- Tasks performed by SAS DIS Studio
- Navigation to SAS DIS Studio
- Registering Source Tables Metadata

» Register metadata for existing SAS data sets
- Register metadata for a relational database accessed through an ODBC Driver
- Register metadata for an external flat file (.csv, .txt files)

» Registering Target Tables Metadata
- Register target metadata for dimensional and fact tables

» Creating a Job to load target tables
- Dimensional Tables
- Fact Table

» Creating the Star Schema Design (Implementing Slowly Changing Dimension Concepts)

» Applying Transformations
- **Slowly Changing Dimensions**
- SCD Type2 Loader
- Fact Table Lookup
- Surrogate Key Generator
- Key Effective Date
- **Data Transformations**
- Proc SQL
- Lookup Table
- Append
- Extract
- Validate
- Return Code Check
- Data Transfer
- Sort
- Rank
- Splitter
- Control Table
- User Written Code
- Create Transformation Template
- Transpose
- **Data Access Transformations**
- File Reader
- File Writer
- Table Loader
- **Analysis Transformations**
- Frequency Report
- One-Way Frequency Report
- Summary Report
- Tabulate Report
- Print Report
- Standardize

- Converting a report job to a Stored Process
- Scheduling Jobs in DIS
- Metadata Sharing
- Metadata Synchronization
- Creating Project and Custom Repositories
- Setting up Change Management for Project Repository
- Creating a Job that contains Jobs
- Creating Status Handlers for the Jobs
- Impact and Reverse Impact Analysis

SAS OLAP Cube Studio *4.2*

- OLAP Introduction
- OLAP Components / ArchitectureOLAP Models
  - ROLAP
  - MOLAP
  - HOLAP
- Discuss Dimensions / Facts / Hierarchies / Levels / Measures / Ragged Hierarchies / Aggregation
- Introduction to SAS OLAP Cube Studio Tool
  - Features of SAS OLAP Cube
  - Tasks performed by SAS OLAP Cube
  - SAS OLAP Server benefits
- Navigation to SAS OLAP Cube Studio
- Steps to create an OLAP Cube
  - Creating an OLAP Cube using the cube designer:
    - Create an OLAP Cube from Detail Table (ROLAP)
    - Create an OLAP Cube from Star Schema (ROLAP, HOLAP)
    - Create an OLAP Cube from Summarized Table
  - * Create an OLAP Cube with the following features:
    - Dimensions
    - Levels
    - Hierarchies
    - Measures
    - Aggregates
  - Review the Cube design and structure
- Exploring OLAP Cube with
  - SAS Enterprise Guide
  - SAS Information Map Studio
  - Microsoft Office Excel
  - SAS WRS
- Performing Cube Updates
- Incremental Update to OLAP Cube
- In-Place Cube Update
- Introduction to MDX queries

SAS Management Console *9.2*

- Introduction to SAS Management Console
- Navigation in SAS Management Console
- SAS Open Metadata Architecture
- Introduction to Metadata
  - Centralized Metadata Management
- SAS Metadata Server
  - Connecting to the Metadata Server
  - Introduction and Working With Metadata Repositories
- Client / Server Interactions
- Create a Custom and Project Repository
- Replication and Promotion of Metadata
- User Manager plug-in
- Introduction to SAS Application Servers and defining the SAS Application Servers and various other servers from SAS Management Console
- Security planning for the user and user groups
- Access control planning
- Data Library Manager plug-in
  - Defining a data library

- Setting up Change Management
- Creating a new metadata profile from SAS ETL Studio
- Using Job Scheduler plug-in
  - Define a SAS Batch Server
  - Define a Scheduling Server
  - Create and Schedule a job
  - Introduction to Stored Process and creating Stored Process
  - Additional Topics (Database Server, Database Schema, Data Library)

SAS Enterprise Guide *4.2*

- Introduction to SAS Enterprise Guide
- SAS Enterprise Guide Framework
  - SAS EG Building Blocks
  - SAS EG Navigation
- Create a Project
- Add data to the Project:
  - Adding local SAS table
  - Accessing remote data (Self Study)
  - Adding spreadsheet to a project
  - Adding text file to a project as a SAS dataset
- Creating various Report Tasks
  - List Report
  - Frequency Report
    - One-Way Frequency Report
    - Two-Way Frequency Report
  - Generating Summary Statistics
  - Create Tabular Summary Report
  - Creating a Graph
- Create various Data Transformation
  - Filter
  - Sort
  - Rank
  - Transpose
  - Splitter
  - Append
- Introduction to Query Builder
  - Setting a filter and selecting columns
  - Creating new columns in a query
  - Replacing values in a query
  - Joining Tables
    - Inner Joins
    - Outer Joins
  - Creating and applying custom formats
- Creating Advanced Queries
  - Controlling Query Output
  - Creating and applying parameterized queries
  - Grouping and Filtering data in a query
- Additional Topics
  - Automating projects and processes
  - Creating customized Process Flow
  - Modifying SAS Code
  - Customizing Task Code
  - Exporting SAS Code
  - Customizing the Outputs
    - Style Manager
    - Document Builder
    - Project View
- Viewing an OLAP Cube with SAS Enterprise Guide
- Viewing an Information Map with SAS Enterprise Guide
- Create and Register Stored Process from SAS Enterprise Guide

SAS Information Map Studio *4.2*

- Introduction to SAS Information Map Studio
- Navigating SAS Information Map Studio
- Access and source data from SAS Information Map Studio
- Updating an Information Map with filters, prompts, folders and new data items
- Building an Information Map from:
  - SAS Datasets (Relational SAS Information Map)
  - OLAP Cube (Multi Dimensional Information Map)

SAS Web Report Studio *4.2*

- Introduction and Navigation to SAS Web Report Studio Interface
- Understanding the Tasks performed within SAS Web Report Studio
- Creating Basic reports by using New Report and Report Wizard
- Create a Web Report from Detail table and OLAP cubes Information Maps
- Managing Existing Reports
  - Searching a report
  - Navigating report folders
  - View report definitions
  - Storage locations for reports
  - Report actions available (Edit/Rename/Move/Copy/Delete/Rename/Schedule)
  - Scheduling & Distributing Report

SAS Stored Process *4.2*

- Introduction to SAS Stored Process
- Building Registering and Testing Stored Process
  - SAS Enterprise Guide 4.2 (Create, Register and Test)
  - SAS Data Integration Studio (Create and Register)
  - SAS Management Console (Registration)
  - Access Stored Process from SAS Web Report Studio / SAS Information Map Studio / SAS Stored
  - Process Web Applciation
- Create Stored Process with Prompts.

SAS Stored Process Web Application *4.2*

- Introduction to SAS Stored Process Web Application
- Viewing SAS Stored Process from Web Application
- Managing Stored Process from Web Application

SAS Add-In for Microsoft Office *4.2*

- Introduction and Navigation to SAS Add-In for Microsoft Office
- Connecting to the SAS Metadata Server from Microsoft Excel
- Inserting SAS Data into Microsoft Excel
  - Accessing SAS data
  - Filtering SAS data
  - Sorting SAS data
  - Selecting and Ordering columns
- Analyzing with SAS Tasks in Microsoft Office
- Access and Analyze SAS OLAP Cubes from Microsoft Office
- Running Stored Process from Microsoft Excel
- Customizing the Output Style

Data Warehousing and Business Intelligence Concepts Data Warehousing

- Data Warehouse Introduction
  - Steps to Design Data Warehouse
  - Components of Data Warehouse
  - Approaches to Data Warehouse Designing
  - Data Modeling types:
    - Normalized Data Model (Databases)
    - Dimensional Data Model (Data Warehouses)

Business Intelligence

- Business Intelligence Introduction
- SAS Business Intelligence Architecture
  - Client Tier – Middle Tier – Server Tier
- Introduction to Metadata
  - Types of Metadata
  - SAS Centralized Metadata Repository
  - Advantages of SAS Centralized Metadata Repository
  - About Metadata Profile
- Data Model's
  - Normalized Relational Data Model (Entity-Relationship)
  - Dimensional Data Model
    - Star Schema Design
    - Snowflake Schema Design
    - Dimension Tables
    - Steps in designing Dimensional tables
      - Conformed Dimensions
      - Junk Dimensions
      - Degenerate Dimension
      - Slowly Changing Dimension (Type1, Type2 & Type3)
    - Fact Table
      - Steps in designing Fact tables
      - Types of Fact tables
        - Additive
        - Semi-Additive
        - Non-Additive.