# Big Data Executive Program





THE POWER TO KNOW<sub>®</sub>

# Big Data Executive Program

# **Business Data Management for Big Data (BDM)**

SAS Big data management is the organization, administration and governance of large volumes of data. Corporations, government agencies and other organizations employ big data management strategies to help them contend with fast-growing pools of data. SAS enables faster management of the data processes enabling faster delivery of analytics goals.

Duration: 80 hours / 10 days (RM8,970) Total Savings 35%

What you get: Aspirants who want to become Big Data Manager and build skills to build a data warehouse and/or data mart for business intelligence and big data analytics applications.

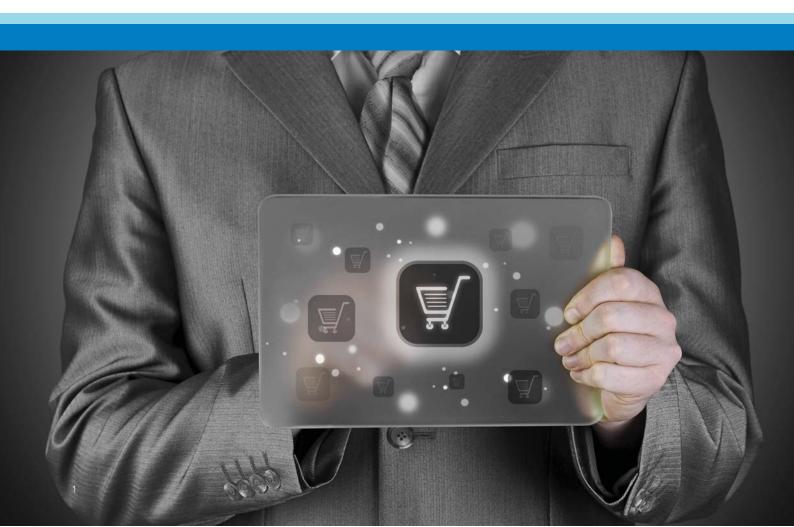
Who should attend: Business Analyst, DI Developers

**Prerequisites:** Flair of any programming language is preferred however not necessary. Candidates with experience in Data Management preferred

# **Subjects:**

- SAS Programming I: Essentials (3 days)
- SAS Macro Language I: Essentials (2 days)
- SAS SQL 1: Essentials (2 days)
- SAS Data Integration Studio 1: Essentials (3 days)

\*flexibility to complete the program at your own pace



# SAS Programming 1: Essentials

# **Duration: 3 days**

This course is for users who want to learn how to write SAS programs. It is the entry point to learning SAS programming and is a prerequisite to many other SAS courses.

#### Learn how to

- navigate the SAS Studio programming environment
- navigate the SAS Enterprise Guide programming environment
- navigate the SAS windowing environment
- read various types of data into SAS data sets
- create SAS variables and subset data
- combine SAS data sets
- create and enhance listing and summary reports.

Who should attend: Anyone starting to write SAS programs

# **Prerequisites**

Before attending this course, you should have experience using computer software.

Specifically, you should be able to

- understand file structures and system commands on your operating systems
- access data files on your operating systems.

No prior SAS experience is needed.

#### **Course Contents**

#### Introduction

- overview of SAS Foundation
- course logistics
- course data files

#### SAS Programs

- introduction to SAS programs
- submitting a SAS program
- SAS program syntax

#### Accessing Data

- examining SAS data sets
- accessing SAS libraries

# Producing Detail Reports

- subsetting report data
- sorting and grouping report data
- enhancing reports

# Formatting Data Values

- using SAS formats
- creating user-defined formats

# Reading SAS Data Sets

- reading a SAS data set
- customizing a SAS data set

#### Reading Spreadsheet and Database Data

- reading spreadsheet data
- reading database data

#### Reading Raw Data Files

- introduction to reading raw data files
- reading standard delimited data
- reading nonstandard delimited data
- handling missing data

# Manipulating Data

- using SAS functions
- conditional processing

#### Combining Data Sets

- concatenating data sets
- merging data sets one-to-one
- merging data sets one-to-many
- merging data sets with nonmatches

#### Creating Summary Reports

- using the FREQ procedure
- using the MEANS and UNIVARIATE procedures
- using the Output Delivery System

#### Learning More

- SAS resources
- next steps

# SAS Macro Language 1: Essentials

# **Duration: 2 days**

This course focuses on the components of the SAS macro facility and how to design, write, and debug macro systems. Emphasis is placed on understanding how programs with macro code are processed.

#### Learn how to

- perform text substitution in SAS code
- automate and customize the production of SAS code
- conditionally or iteratively construct SAS code
- use macro variables and macro functions.

Who should attend: Experienced SAS programmers who have a sound understanding of DATA step processing and who want to write SAS programs that are reusable and dynamic

#### **Prerequisites**

Before attending this course, you should have at least completed SAS Programming I: Essentials

#### **Course Contents**

#### Introduction

- course logistics
- purpose of the macro facility
- program flow

# Macro Variables

- introduction to macro variables
- automatic macro variables.
- macro variable references
- user-defined macro variables
- delimiting macro variable references
- macro functions

#### Macro Definitions

- defining and calling a macro
- macro parameters

#### DATA Step and SQL Interfaces

- creating macro variables in the DATA step
- indirect references to macro variables
- creating macro variables in SQL

#### Macro Programs

- conditional processing
- parameter validation
- iterative processing
- global and local symbol tables

#### Learning More

- SAS resources
- beyond this course

#### Supplemental Materials

program flow

# **Duration: 2 days**

This course teaches you how to process SAS data using Structured Query Language (SQL).

#### Learn how to

- query and subset data
- summarize and present data
- combine tables, including complex joins and merges
- create and modify table views and indexes
- replace multiple DATA and PROC steps with one SQL query.

Who should attend: SAS programmers and business analysts

#### **Prerequisites**

Before attending this class, you should be able to

- submit SAS programs on your operating system
- create and access SAS data sets
- use arithmetic, comparison, and logical operators
- invoke SAS procedures.

You can gain this experience from the SAS Programming 1: Essentials course. No knowledge of SQL is necessary.

#### **Course Contents**

#### Introduction

- introducing the Structured Query Language
- course logistics

#### **Basic Queries**

- overview of the SQL procedure
- specifying columns
- specifying rows

# Displaying Query Results

- presenting data
- summarizing data

#### **SQL** Joins

- introduction to SQL joins
- inner joins
- outer joins
- complex SQL joins

#### Subqueries

- noncorrelated subqueries
- in-line views

#### Set Operators

- introduction to set operators
- the UNION operator
- the OUTER UNION operator
- the EXCEPT operator
- the INTERSECT operator

#### Creating Tables and Views

- creating tables with the SQL procedure
- creating views with the SQL procedure

#### Advanced PROC SQL Features

- dictionary tables and views
- using SQL procedure options
- interfacing PROC SQL with the macro language

#### Learning More

- SAS resources
- beyond this course

# Self-Study Material

- correlated subqueries
- introduction to indexes
- creating indexes
- maintaining tables with the SQL procedure
- integrity constraints
- interfacing PROC SQL with the macro language

# SAS Data Integration Studio: Essentials

# **Duration: 3.0 days**

This course introduces SAS Data Integration Studio and includes topics for registering sources and targets; creating and working with jobs; and working with transformations.

#### Learn how to

- register source data and target tables
- create jobs and explore the functionality of the job editor
- work with many of the various transformations.

Who should attend: Data integration developers and data integration architects

#### **Prerequisites**

Before attending this course you should have experience with SAS programming basics. You can gain this experience by completing the SAS Programming 1: Essentials course.

#### **Course Contents**

#### Introduction

- exploring the platform for SAS Business Analytics
- introduction to the data management applications
- introduction to the classroom environment and the course tasks

# Working with Change Management

- introduction to change management
- establishing a change management environment (self-study)

#### Creating Metadata for Source Data

- setting up the environment
- registering source data metadata

# Creating Metadata for Target Data

- registering target data metadata
- importing metadata

# Creating Metadata for Jobs

- introduction to jobs and the job editor
- using the Join transformation

#### Orion Star Case Study

- defining and loading the customer dimension table
- defining and loading the organization dimension table
- defining and loading the time dimension table

#### Additional Features for Jobs

- importing SAS code
- propagation and mapping
- chaining jobs
- performance statistics
- metadata reports

# Working with Transformations

- introduction
- using the Extract and Summary Statistics transformations
- exploring SQL transformations
- establishing status handling
- using the Data Validation transformation
- using the Transpose, Sort, Append, Rank, and List Data transformations
- basic standardizations



# SAS Institute Sdn. Bhd.