



SAS
(Statistical Analysis Software/System)

SAS-BI (Base, Adv. & BI Project):-

Class Room: Training Fee & Duration : 30K & 3 Months	Online Training Fee & Duration : 35K & 3 Months
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Learning SAS:

Getting Started with SAS

- Basic overview about SAS software
- Basic about programming

Working with SAS syntax

- Fundamental concepts
- Characteristics of SAS statements
- Explain SAS syntax rules

Getting Familiar with SAS dataset

- Descriptor & Data portions
- Accessing SAS libraries

Reading SAS datasets

- How to read data in SAS
- SAS data as input
- Observations & variables

Reading SAS datasets

- Descriptor & Data portions

Reading Excel worksheets

- Overview about importing Excel file

Reading Delimited Raw data files

- How to read raw data
- Compilation & Execution phases of Data step

Validating and cleaning data

- Procedures for validating data
- Techniques for cleaning data

Manipulating data

- Variable creation
- Subsetting Observation

Combining SAS Datasets

- Appending, concatenating dataset
- Merging the SAS dataset

Enhancing Report (ODS systems)

- Global statements
- Format & Label Statement
- User Defined formats
- Sending output to external files (HTML,PDF,RTF)

Summary Reports

- FREQ Procedure

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- MEANS Procedure
- How to use procedures in Clinical trials

Controlling Input and Output

- Outputting multiple Observation
- Writing to Multiple SAS Datasets
- Selecting Variables & Observations

Summarizing Data

- Creating an Accumulating Total variable

Reading Raw Data Files

Data Transformations

- Manipulating character & numeric variables
- Converting Variable type

Processing Data iteratively

- Do loop processing
- SAS Arrays

Restructuring a Data set

TRANPOSE Procedure

Learning Excel:

The Basics

- Creating a New Workbook
- Navigating in Excel
- Moving the Cell Pointer
- Using Excel Menus
- Using Excel Toolbars: Hiding, Displaying, and Moving Toolbars
- Entering Values in a Worksheet and Selecting a Cell Range
- Previewing and Printing a Worksheet
- Getting Help from the Office Assistant
- Saving a Workbook & Re-opening a saved workbook

Formatting a Worksheet

- Creating Headers, Footers, and Page Numbers
- Adjusting Page Margins and Orientation
- Adding Print Titles and Gridlines, rows to repeat at top of each page
- Formatting Fonts & Values
- Adjusting Row Height and Column Width
- Changing Cell Alignment
- Adding Borders
- Applying Colors and Patterns
- Using the Format Painter
- Using AutoFormat
- Merging Cells, Rotating Text, and using AutoFit
- Using AutoFill

Managing your workbooks

- Switching Between Sheets in a Workbook
- Inserting and Deleting Worksheets
- Renaming and Moving Worksheets
- Protecting a Workbook
- Hiding Columns, Rows and Sheets

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- Splitting and Freezing a Window
- Inserting Page Breaks
- Advanced Printing Options

Editing a Workbook

- Entering Date Values and using AutoComplete
- Editing, Clearing, and Replacing Cell Contents
- Cutting, Copying, and Pasting Cells
- Moving and Copying Cells with Drag and Drop
- Collecting and Pasting Multiple Items
- Using the Paste Special Command
- Inserting and Deleting Cells, Rows, and Columns
- Using Undo, Redo, and Repeat
- Checking Your Spelling
- Finding and Replacing Information
- Inserting Cell Comments

Formulas

- Creating a basic Formula
- Calculating Value Totals with AutoSum
- Editing & Copying Formulas
- Fixing Errors in Your Formulas
- Formulas with Several Operators and Cell Ranges

Working with the Forms Menu

- Sorting, Subtotaling & Filtering Data
- Copy & Paste Filtered Records
- Using Data Validation

Creating & Working with Charts

- Creating a Chart
- Moving and Resizing a Chart
- Formatting and Editing Objects in a Chart
- Changing a Chart's Source Data
- Changing a Chart Type and Working with Pie Charts
- Adding Titles, Gridlines, and a Data Table
- Formatting a Data Series and Chart Axis
- Annotating a Chart
- Working with 3-D Charts
- Selecting and Saving a Custom Chart
- Using Fill Effects
- Mapping Data
- Modifying a Map

Data Analysis & Pivot Tables

- Creating a PivotTable
- Specifying the Data a PivotTable Analysis
- Changing a PivotTable's Calculation
- Selecting What Appears in a PivotTable
- Grouping Dates in a PivotTable
- Updating a PivotTable
- Formatting and Charting a PivotTable

Lookup table

- Lookup()
- Vlookup()
- Hlookup()
- Application of exact match and approximate match
- Creating an order form using vlookup function

Statistics with Excel

- Annova: Single Factor
- Annova: Two Factor with Replication
- Annova: Two Factor without Replication
- Correlation
- Covariance
- Descriptive Statistics
- Exponential Smoothing
- F-Test Two-sample for variances
- Fourier analysis
- Histogram
- Moving Average
- Random Number generation
- Rank and Percentile
- Regression
- Sampling
- T-test: paired two sample for means
- T-test: two-sample assuming equal variances
- T-test: two-sample assuming equal variances
- Z-test: two-sample for means

SQL Procedure:**Introduction to SQL procedure**

- What is SQL and components of SQL?

Basic Queries

- Overview of the SQL procedure
- Specifying Columns & Rows

Displaying Query Results

- Presenting Data
- Summarizing Data

Sub queries

- Correlated Queries
- Non correlated Queries

SQL Joins

- Introduction to SQL joins

Set Operators

- EXCEPT Operator
- INTERSECT Operator
- UNION Operator
- OUTER UNION Operator

Creating Tables and views

- Creating view with SQL procedure

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Interfacing SQL with Macro Language

Managing Tables

Use of SQL in Clinical Trials

Macro language (SAS Macro):

Macro Variables

- Introduction to Macro Variables
- Automatic macro variables
- Macro variable References
- User Defined Macro variables
- Macro Functions

Macro definitions

- Defining and Calling a macro
- Macro parameters & Storage

Data Step and SQL Procedure

- Creating Macro variables in the Data step
- Indirect References to Macro Variables
- Creating Macro Variables in SQL

Macro Programs

- Conditional processing
- Global and Local macro variables

Use of Macro language

SAS Enterprise Guide:

Introduction

- Starting SAS Enterprise Guide
- SAS Enterprise Guide windows
- Basic elements of SAS Enterprise Guide
- Entering data
- Creating a list report
- Producing a frequency report
- Creating a scatter plot
- Adding a note to the project
- Saving the project

Reading Data from Files

- Opening a SAS data set from your local computer
- Opening a SAS data set stored in a SAS library
- Opening a Microsoft Excel file

Creating Reports

- Creating a simple report
- Changing titles and footnotes
- Changing column labels and formatting values
- Defining your own formats
- Creating a grouped report
- Selecting a style for the report

Working with Data in the Query Builder

- Opening the Query Builder
- Selecting columns

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- Creating a new column
- Ordering and removing columns
- Filtering data
- Sorting the data rows

Joining Two Data Files Together

- Opening the two data files to be joined
- Joining tables
- Filtering the data
- Modifying the type of join

SAS BI:

Prepare Data:

- Your data may be in a relational database (Oracle, Teradata, MySQL, etc.). The data is then placed in OLAP cubes, information maps, or in some cases a SAS dataset so it can be viewed in the BI toolset. Some users create their extract transform load (ETL) process in SAS Data Integration (DI) Studio, which is another SAS product.

SAS OLAP Cube Studio

- Build OLAP cubes, which are based on MDX code. OLAP cubes allow summarization of huge datasets so users can quickly view and drill-down to desired information. This post contains an overview of building a cube in SAS OLAP Studio.

SAS Information Map Studio

- Build information maps from RDBMS (Oracle, Teradata, and DB2), SAS datasets and OLAP cubes. Information maps allow you to join data, rename variables, and set the data into business friendly view.

Display and Use Data:

Once your data is prepared it can be accessed in various ways.

- SAS Web Report Studio
- Create reports from OLAP Cubes, Info Maps, or SAS datasets. Simple, easy to use interface that allows end-users to quickly review reports and drill-down to other reports.

SAS Add-In for Microsoft Office

- In MS Excel – Create reports from OLAP Cubes, information maps, or SAS datasets. Mix SAS data with the data from Excel spread sheets.
- In MS Office/PowerPoint – create reports from cubes, information maps, or datasets. Not as much flexibility as with MS Excel, but you can easily create report that you can share with other applications.
- Possible to create data in MS Excel that you can save to the server and then use in other BI Tools. This would be an option for smaller datasets that are updated infrequently and not centrally stored, for instance, an department organization structure

SAS BI Dashboard

- Use the summarized data to create dials, maps, and even moving indicators.

SAS Information Delivery Portal

- Combine all your Web Report Studio reporting, stored processes, and publication channels, and even external web sites in one location. The portal allows a jumping off point.

Helpers:

- **SAS Enterprise Guide**
- Connect to SAS datasets, RDBMS, and even Excel spread sheets. Create stored processes to use and display data.

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- Create reports and more from OLAP Cubes, Info Maps, or SAS datasets.
- Also create reports that can be shared as a stored process for the other SAS tools.
- **SAS Prompt Framework**
- Used with stored processes and with SAS Enterprise Guide. Prompts allow you to prompt or ask questions of the users and return data based on the choices
- **SAS Stored Processes**
- Write SAS programs that can move data around, create reports, or just ensure prompts are available in information maps.

Administration:

- SAS Management Console
- Allows you to administer the system and control data access.