



# **SAP ABAP HANA Training Course Content**

Course Duration - 45-50 Hrs., 7-8 Weeks

# **Course Information**

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# Introduction To SAP ABAP HANA Training (Live Project)

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**SAP** stands for System Applications and Products in Data Processing. **SAP** is the market leader in ERP software and helps companies of all sizes. **SAP ABAP HANA** technical consultants are in great demand in today's job market.

## What you'll learn

- > Introduction to ABAP/4 & Data Dictionary Objects Tables, Views, Data Types & Type Groups
- > Master Search Helps, Internal Tables, OPEN SQL
- > Modularization Include programs, Function Modules, Subroutines
- > Reports Selection-screen, Classical & Interactive Reports
- > Forms Scripts, Smart forms, Adobe forms
- > Interfaces and Conversions BDC, LSMW, BAPI, ALE/IDOC
- > Module Pool Programming, Object Oriented ABAP & ALV Reports
- > Enhancements User-Exits, Customer-Exits & BADI's, Workflows, Webdynpro
- > ABAP on HANA HANA, ODATA, Fiori & UIS Overview & BTP ABAP Overview



# **Course Content**

## Module 1: Introduction to ABAP/4

- System Landscape
- Naming Conventions
- Introduction to Write Statement
- System Variables
- Edit Mask
- User Settings
- > Data Types
- General structure of ABAP Program
- Conditional statements
- LOOP Statements
- Exit, Continue, Stop Statement
- String Operations
- Package Creation
- Transport Requests

# \*\*\*\*\*\*\*\* Data Dictionary Objects \*\*\*\*\*\*\*\*

- Domains
- > Data Elements

### Module 2: Tables

- ➢ Key Fields, Buffer
- > Types of Tables
- Currency/Quantity Fields
- Structures: Append Structure/Include Structure
- > Foreign Key Relationship: CHECK table, FOREIGN key table
- VALUE table, Domain Properties
- > Table Maintenance Generator



# Module 3: Views

- Database
- Projection View
- ➢ Help View
- Maintenance View

# Module 4: Data Types & Type Groups

# Module 5: Search Helps

- Elementary Search helps
- Collective Search helps
- > Match code objects
- Assigning Search
- Helps Lock objects

# Module 6: Internal Tables

- > Variables
- > Work Areas
- > Internal table
- > Types of Internal Tables
- > Internal Table Operations
- Control Break statements



# Module 7: OPEN SQL

- R/3 Interface Layer
- > Open SQL/Native SQL
- Introduction to SELECT statement
- More about SELECT Statement
- ➢ SELECT with JOINS
- ➢ SELECT FOR ALL ENTRIES
- SELECT single/up to 1 Rows
- > List of OPEN SQL Statements: INSERT, MODIFY, UPDATE, DELETE

#### \*\*\*\*\*\*\* Modularization \*\*\*\*\*\*\*

## Module 8: Include programs

- Standard Includes programs
- Customized Include programs

## Module 9: Function Modules

- Import/Export/ Changing
- > Tables
- ➢ Exceptions
- ➢ RFC Function Module
- Update Function Module

## Module 10: Subroutines

- Local subroutines
- External Subroutines



# \*\*\*\*\*\*\*\*\* Reports \*\*\*\*\*\*\*\*

#### Module 11: Selection-screen

- > Main stages of report
- > Selection Screen Commands-Parameters, Select-options, SS format.
- Variants, Select Texts, Text Symbols, Messages
- Selection screen Events

## Module 12: Classical Reports

> Classical Report Events and Programing

#### Module 13: Interactive Reports

- Interactive Events
- Interactive Report using HIDE
- Interactive Report using GET CURSOR
- Interactive Report using AT-USER COMMAND
- > Menu Painter-Menu Bar, Application Tool Bar, Standard Tool Bar.

#### Module 14: ALV Reports

- ALV Report with Structure
- > ALV with Field catalog
- > ALV with Layout
- > ALV with field catalog Merge
- > ALV with Totals and Subtotals
- ALV with Logo
- ➤ TOP-OF-PAGE
- ➢ END-OF-LIST
- > Interactive, Hierarchical & Blocked ALV



# Module 15: Performance Tuning

- Run Time Analysis
- > SQL Trace
- Extended SLIN Check
- Code Inspector

#### \*\*\*\*\*\*\*\* Forms \*\*\*\*\*\*\*

## Module 16: Scripts

- ➢ What is a SAP SCRIPT?
- > Why SAP scripts are client dependent
- Components of SAP Scripts
- Window Types
- Using logos, Address, Windows
- > Passing Data b/w Driver program and SCRIPTS
- Symbols-system symbols/program symbols
- > Control Commands: Define, address, and TOP...END
- > TOP, Bottom...End bottom, Protect...End protect, New-Page
- Standard Text
- Debugging scripts



# Module 17: Smartforms

- > What is smart form?
- Diff b/w scripts and smart forms
- Function Module in smart forms
- SSF\_FUNCTION\_MODULE\_NAME
- Smart Style
- Components of smart form
- Window types
- ➢ EX ON WINDOW-TITLE/PAGENO
- ➢ EX ON TEXT
- ➢ EX ON GRAPHIC
- > EX ON ADDRESS passing data b/w driver program and SF with ex
- ➢ EX ON TEMPLATE
- ➢ EX ON TABLE/CONDITIONS
- EX ON PROGRAM LINES
- ➢ EX ON ALTERNATIVE/CONDITIONS
- EX ON LOOP
- EX ON FOLDER
- Debugging Smart form

Form Configuration

# Module 18: Adobe forms

- Adobe forms Overview
- Page concept and Elements of form
- > Online and offline forms
- Scripting language in Form level
- > Adobe Form Design and Configuration



# \*\*\*\*\*\*\*\* Interfaces and Conversions \*\*\*\*\*\*\*\*

#### Module 19: BDC

- ➢ What is BDC?
- > Types of Data Transfer
- > Various Methods in data transfer
- > Call Transaction
- Session Method
- > File upload from Presentation Server/ Application Server

## Module 20: LSMW

#### Module 21: BAPI

- ➢ What is BOR?
- > What is BAPI, Rules?
- Diff b/w RFC and BAPI
- Various scenarios of BAPI
- Creating a custom BAPI
- Uploading using BAPI
- Reports using BAPI



# Module 22: ALE/IDOC

- > What is ALE and Types of data transfer?
- ➢ What is EDI?
- > What is I DOC and Real time example of IDOC?
- Components of IDOC
- > Message type
- Process Codes
- Port Configuration
- Partner profile Configuration
- Customer Distribution model
- Step to create segment
- Step to create IDOC'S/Segments
- > Structure of data transfer
- > Outbound program, Configuration settings
- > Table for message types/IDOC types / outbound program /process
- ➢ codes. FILTERING:
- ➢ IDOC filtering
- Segment filtering
- Custom IDOC'S/Extended IDOC's

# Module 23: Module Pool Programming

- Introduction
- Screen Events
  - PAI
  - PBO
  - POH
  - POV
- > Structure of MPP program



- > Ex on Text Field
- Ex on Input Field/Button/Box
- > Ex on Tab strip
- Ex on Table Control
- > Ex on editable Table Control
- Navigation b/w Screens
- Call Screen/Set Screen/Leave Screen

# Module 24: Object Oriented ABAP

- Object Oriented ABAP
- > What is a Class, Object, Instance,
- Components of Class
- Types of instances
- Visibility of Components
- Ex on Instance/Static Attributes
- > Ex on Methods-Using importing, Exporting, Table Types, TYPES
- Constructor and its Types
- Ex on Constructor
- > Using Interfaces, Aliases, Inheritance, abstract Class
- > Using local classes for all the above concepts

## Module 25: Object Oriented ALV Reports

- > 00-ALV with Structure
- > 00-ALV with Field catalog
- > 00-ALV with Field catalog merge
- > 00 interactive ALV's
- > 00 interactive ALV's with 2 grids on a single screen
- > 00 ALV with Tree



- > 00-ALV with Splitter control
- > 00-ALV with LOGO/Top of Page

\*\*\*\*\*\*\*\* Enhancements \*\*\*\*\*\*\*

## Module 26: User-Exits

## Module 27: Customer-Exits

- What are Customer Exits?
- Types of Customer Exits
- Function Module exit using CALL CUSTOMER
- Function Module exit using SMOD
- > MENU EXIT
- ➢ SCREEN EXIT
- ➢ Field Exit

## Module 28: BADI's

- ➢ What is a BADI?
- Diff b/w Exits and BADI'S
- Single Implementation BADI
- > Multiple Implementations BADI
- FILTER BADI/Custom BADI

## Module 29: Enhancement Framework

- Enhancement spots
- Enhancement section
- Types of Enhancement spots
- Implicit Spots and Explicit Enhancement spots



# \*\*\*\*\*\*\*\* Advanced Concepts \*\*\*\*\*\*\*\*

## Module 30: Workflows

- > What is Workflow
- Uses of workflow
- Configuration of workflow
- > Enhancement of Standard workflow
- Elements in workflow
- > Types of containers and Tasks
- > Error analysis of workflow

#### Module 31: Overview on Webdynpro

- Introduction
- > Architecture
- > Webdynpro Application creation

#### \*\*\*\*\*\*\*\* ABAP on HANA \*\*\*\*\*\*\*

#### Module 32: HANA

- Introduction to ABAP on HANA
- > CDS Views
- > AMDP
- ➢ ALV in ABAP HANA
- > HANA migration Steps
- ➢ ABAP 7.40 Coding
- > ATP Check



## Module 32: ODATA

- Introduction
- > Architecture
- > Entity Creation
- Runtime Artifacts
- > DPC & MPC classes and re-defining DPC methods
- > Associations
- > DEEP Entity Creation
- Function Import
- Service Creation
- CRUD Operations

#### Module 33: Fiori & UIS Overview

#### Module 34: BTP ABAP Overview

- RESTful ABAP Framework.
- > create Fiori Application on sap BTP cloud Platform with ABAP language.
- > Implementation of Behavior Definition for CRUD Operation on Business Object.
- > How to Handle All Operation Inside Behavior Implementations with Real Case study.

## Module 35: Functional Overview

- > SD (Sales & Distribution): Business Flow, Transactions, Tables, Standard Reports
- > MM (Material management): Business Flow, Transactions, Tables, Standard Reports

## \*\*\*\*\*\*\*\*\* PROJECT - Implement SAP ABAP HANA for a Live Project

#### Introduction to Project Use Case

> Implement SAP ABAP HANA for a Live Project.

## **Project Work:**

> Understand the requirement and come up with technical specs.



> Design SAP ABAP HANA components as per client requirements.

Module 36: Project Work - Build SAP ABAP HANA project components.

- > Build SAP ABAP HANA Components as per client requirements.
- Test the components.

# Module 37: SAP ABAP HANA Certification Guidance

- > Explain various SAP ABAP HANA Certification Options
- > Discuss Important SAP Certification Exam Questions
- > Prepare for SAP ABAP HANA Certification

Module 38: Resume Preparation, Interview and Job Assistance

- > Prepare Crisp Resume as SAP ABAP HANA Specialist
- > Discuss common interview questions in SAP ABAP HANA
- Provide Job Assistance