

SAP S/4HANA ABAP Development

Professional Training Syllabus

Beginner to Advanced | Real-Time Projects | Hands-on Practice | Interview Preparation

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ABAP – Training Curriculum (No. of Sections: 40)

◇ MODULE 1: ERP & SAP Overview (No of section: 2)

Objective: Understand ERP fundamentals and SAP architecture.

Topics:

- 1.1 What is ERP
- 1.2 Objectives of ERP
- 1.3 What is SAP?
- 1.4 Advantages of SAP over other ERP Packages
- 1.5 Different Modules of SAP
- 1.6 Product Overview of Functional Modules (SD, MM, FI, PP, etc.)
- 1.7 SAP Architecture (Presentation, Application, Database Layers)
- 1.8 One End-to-End Life Cycle Implementation
- 1.9 System Landscape

◇ MODULE 2: SAP Navigation & ABAP Overview (No of section: 2)

Objective: Get familiar with SAP system and ABAP environment.

Topics:

- 2.1 Login to SAP system
- 2.2 Work Processes overview (Dialog, Background, Update, Enqueue, Spool)
- 2.3 Project type in SAP (Implementation, Rollout, Upgrade, Support, Enhancement, Migration, Integration)
- 2.4 SAP implementation approaches (Greenfield, Brownfield, Hybrid)
- 2.5 Transaction codes (/n and /o usage)
- 2.6 RICEFW object (Reports, Interfaces, Conversions, Enhancements, Forms, Workflows)
- 2.7 ABAP Program Structure
- 2.8 Data Types & Declarations
- 2.9 Control Statements (IF, CASE, DO, WHILE)
- 2.10 Control Program Sequence Statements (CONTINUE, CHECK, EXIT)

◆ MODULE 3: ABAP Dictionary (SE11) (No of section- 3)

Objective: Learn to define and manage database objects.

Topics:

- 3.1 Data Elements
- 3.2 Domains
- 3.3 Tables (Transparent, Pooled, Cluster)
- 3.4 Table Maintenance Generator (SM30)
- 3.5 Primary Key–Foreign Key Relationships
- 3.6 Structures
- 3.7 Views (Database, Projection, Maintenance, Help)
- 3.8 Search Helps (Elementary & Collective)
- 3.9 Lock Objects

◆ MODULE 4: Internal Tables and Work Areas (No of section- 3)

Objective: Learn runtime data handling and memory management.

Topics:

- 4.1 Types of Internal Tables and Work Area Declaration
- 4.2 Table Operations – APPEND, MODIFY, INSERT, LOOP, READ
- 4.3 ABAP Commands – REFRESH, FREE, CLEAR, DELETE, EXIT, CONTINUE, CHECK
- 4.4 Control Break Statements – AT NEW, AT END OF, FIRST, LAST
- 4.5 Open SQL (SELECT statements, INNER JOIN, OUTER JOIN, FOR ALL ENTRIES)
- 4.6 System Variables (SY/SYST)

◆ MODULE 5: Reports (Classical & Interactive) (No of section- 4)

Objective: Develop professional ABAP reports with user interaction.

Topics:

- 5.1 Events in Reports – INITIALIZATION, START-OF-SELECTION, AT LINE-SELECTION, USER-COMMAND, TOP-OF-PAGE, END-OF-PAGE
- 5.2 Demo Interactive Program (Drill-down Reports)
- 5.3 Debugging Techniques
- 5.4 Defining Selection Screens – PARAMETERS, SELECT-OPTIONS, Checkboxes, Radio Buttons
- 5.5 Hiding & Modifying Input Fields
- 5.6 Formatting Selection Screens
- 5.7 User Actions on the Selection Screen

◆ MODULE 6: Modularization Techniques (No of section- 3)

Objective: Write structured and reusable ABAP code.

A. Include Program

B. Subroutines

C. Function Modules

- 6.1 Function Groups
- 6.2 Parameter Passing Mechanisms

6.3 Different Parameter Types (Import, Export, Changing, Tables)

6.4 Exception Handling

6.5 Sample Function Modules

6.6 Types of Function Modules (Normal, RFC, Update)

6.7 Demo on RFC Function Modules

◆ MODULE 7: ALV (ABAP List Viewer) Reports (No of section- 2)

Objective: Display formatted, interactive data using ALV.

Topics:

7.1 Type Pools (SLIS, REUSE_ALV_*)

7.2 Field Catalog Creation

7.3 Layout Structures

7.4 Function Modules for Display Reports (REUSE_ALV_LIST_DISPLAY, REUSE_ALV_GRID_DISPLAY)

◆ MODULE 8: Data Transfer (BDC & BAPI) (No of section- 4)

Objective: Learn techniques to upload and migrate data.

Topics:

8.1 Introduction to BDC

8.2 Types of BDC – Session Method and Call Transaction Method

8.3 File Handling for Application Server (Function Modules)

8.4 File Handling for Presentation Server

8.5 Recording using SHDB

8.6 Display and Update Modes

8.7 Difference between Session and Call Transaction Methods

8.8 BAPI Overview and Demo

◆ MODULE 9: Forms Development (No of section- 3)

Objective: Design output layouts for business documents.

9.1 Adobe Form Architecture

9.2 Form Design Concepts

9.3 Form Builder – Form Painter, Global Settings, Pages & Windows, Hierarchy Nodes

9.4 Application Program

9.5 Language Conversion and Smart Styles

◆ MODULE 10: Performance Tuning & Code Quality (No of section- 1)

Objective: Optimize ABAP programs for speed and maintainability.

Topics:

10.1 SQL Trace (ST05)

10.2 ABAP Runtime Analysis (SAT / SE30)

10.3 Code Inspector (SCI)

10.4 Performance Optimization Techniques (Indexes, Buffering, For All Entries, Parallel Cursor)

◆ **MODULE 11: Enhancements and Modifications (No of section- 4)**

Objective: Add custom logic to SAP standard programs.

Topics:

- 11.1 BADI (Classical and New)
- 11.2 Customer Exits
- 11.3 User Exits
- 11.4 Enhancement Framework

◆ **MODULE 12: IDoc (Intermediate Document) (No of section- 2)**

Objective: Enable data exchange between SAP and external systems using standard IDoc mechanisms.

- 12.1 Overview and Architecture of IDoc
- 12.2 IDoc Structure (Control, Data, Status Records)
- 12.3 Basic Types and Message Types
- 12.4 Outbound IDoc Configuration (WE20, WE21, WE19, NAST, Change Pointers)
- 12.5 Inbound IDoc Processing
- 12.6 IDoc Status Codes & Error Handling (WE02, WE05, BD87)
- 12.7 Custom IDoc Extension (Basic Concepts)

◆ **MODULE 13: OData (No of section- 2)**

Objective: Expose SAP data as RESTful services using OData for integration with external systems.

Topics:

- 13.1 Introduction to OData and REST Architecture
- 13.2 HTTP Methods: GET, POST, PUT, DELETE
- 13.3 SEGW – OData Project Setup
- 13.4 Entity and Entity Set Creation
- 13.5 Model Provider Class (MPC) & Data Provider Class (DPC)
- 13.6 Redefinition of Methods: GET_ENTITY, GET_ENTITYSET
- 13.7 Testing via /IWFND/GW_CLIENT and Postman
- 13.8 Registering Service: /IWFND/MAINT_SERVICE
- 13.9 Output Formats: JSON and XML

◆ **MODULE 14: CDS View (No of section- 2)**

- 14.1 Introduction to CDS (Core Data Services)
- 14.2 CDS View Creation
- 14.3 CDS Annotations
- 14.4 Advanced CDS Concepts
- 14.5 CDS Extensibility & Security

14.6 Testing & Consumption

◆ MODULE 15: Code Cleaning (No of section- 1)

- 15.1 Introduction Code Cleaning Experience in SAP ABAP
- 15.2 Identifying and Removing Dead / Unused Code
- 15.3 Performance Optimization
- 15.4 Moving Code to HANA-Optimized Pushdown
- 15.5 Removing Hard-Coding and Making Code Configuration-Driven
- 15.6 Ensuring Clean-Core & Upgrade-Safe Enhancements
- 15.7 ATC / SCI Fixing (SAP Standard Checks)
- 15.8 Refactoring Code to Object-Oriented ABAP

◆ MODULE 16: ABAP 7.5 Coding (No of section- 1)

- 16.1 New Syntax (Short, Clean, Modern ABAP)
- 16.2 Inline Declarations
- 16.3 New LOOP + READ Syntax
- 16.4 Constructor Operators
- 16.5 String Templates
- 16.6 Table Expressions
- 16.7 HANA-Optimized Coding
- 16.8 Agile Methodology