



SAP Full Stack Technical Course



Course Main Topics

Advanced Business Application Programme (ABAP)
Object Oriented ABAP (OOABAP)
WebDynpro ABAP (WDA)
SAP NetWeaver Gateway
ODATA services
CDS views (Additional Topic)
UI5 (HTML + JavaScript + XML + CSS)
FIORI Launchpad
SAP Web-IDE

Interview FAQs & Resume Preparation

Conduct MOCK Interviews & Preparation

Course Duration

70 Hours

Course Mode

Online

System Access

60 Days (from Course start)

Study Material

Effective Technical Support

SNTech GS Easy Study Material

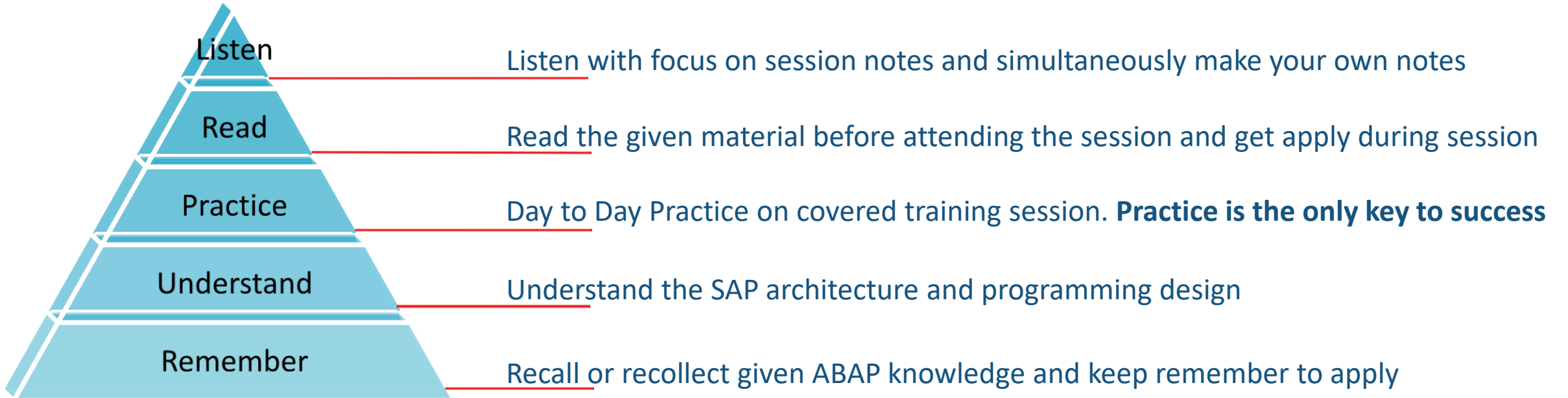
Many More Online Material links provided

SNTech Faculty

Take care at individual candidates to maintain constant knowledge & Clarifications



Learning Strategies: SNTech GS request every participant to strictly follow this strategy for their bright future ahead



Inspiring quote: "All of us do not have equal talent. Yet, All of us have an equal opportunity to develop our talents"

- by Ratan TATA



Course Content

Topic 1 ERP & ABAP Introduction?

- ERP Overview
- SAP ERP software R/3 System overview
- SAP NetWeaver Architecture overview
- Advanced Business Application Programming (ABAP) overview

Topic 2 ABAP Dictionary

Transaction code: SE11

- Introduction
- Domains
- Data element
- Field
- Structure
- Table Type
- Table
- Views
- Search Helps
- Lock objects



Topic 3 ABAP Workbench

Transaction code: SE38 or SE80

- Introduction

Report Types

- Classical Report
- Interactive List Report
- ALV Report
 - Classical ALV Report
 - List ALV Report
 - Blocked ALV

Report Events

- Load-of-programme
- At-selection screen
- At-Line selection
- At-user command
- Initialization
- Start-of-selection
- End-of-selection ... ETC.,

Data variable Declaration

- Variable Declaration
- Work area Declaration



- Internal Table Declaration
- Table Type Declaration
- Types Declaration
- Field-Symbol Declaration

Internal table Type

- Standard Internal Table
- Sorted Internal Table
- Hash Internal Table

Modularization Techniques

- Micros
- Sub routine
- Functional Module & BAPI

[Transaction code : **SE37**]

Topic 4 Dialog Programming

Transaction code: SE38 /SE80

- Introduction
- Screen Logic
- Screen Painter
- Menu Painter
- Table Control
- Transaction code creation

[Transaction code : **SE51**]

[Transaction code : **SE41**]



Topic 5 File Handling

Transaction Code: SHDB

- BDC Introduction
- BDC – Call Transaction Method
- BDC – Session Method
- BDC file upload/download

[Transaction code: SM35]

Topic 6 RFC

Transaction Code: SM59

- RFC Introduction
- Connection establishment using RFC between different systems

Topic 7 Enhancement Framework

- Introduction
- Customer/User exit (Menu exit, Screen exit)
 - Definition
 - Implementation
 - Implicit Enhancement
- Explicit Enhancement
 - BADI (Business Add-Ins) Definition
 - BADI (Business Add-Ins) Implementation

[Transaction code: **SMOD**]

[Transaction code: **CMOD**]

[Transaction code: **SE38/SE80**]

[Transaction code: **SE18**]

[Transaction code: **SE19**]



Topic 8 Smartforms

Transaction Code: SMARTFORMS

- Introduction
- Windows
 - Main window
 - Copied window
 - Secondary window
 - Final Window
- Driver Program
- Style Builder

[Transaction code: **SMARTSTYLES**]

Topic 9 Workflows

Transaction Code: SWDD

- Introduction
- Workflow builder
- Basic step types
- Triggering event mechanisms [Function module: SWE_EVENT_CREATE, SAP_WAPI_RAISE_EVENT]
- Business Workplace

Topic 10 Interface Documents (Idoc's)

- Introduction
- Inbound Interface Demo
- Outbound Interface Demo

Topic 11 Basic Object-Oriented ABAP features



OOABAP – Course Content

Topic 12 Object Oriented ABAP [OOABAP]

Transaction Code: SE24

- What is Object Oriented ABAP and Concepts ?
- SAP Class Builder Introduction
- Write First SAP class

Topic 13 Working with class methods in OOABAP

- Class methods and creating methods in sap classes
- Create a class method to get material details in SAP OOPS
- Using table types in methods in SAP classes
- User-defined types in SAP Classes

Topic 14 Events in Object Oriented ABAP

- What are Events in SAP classes ?
- Example of using Events in SAP OOABAP classes

Topic 15 Constructors in SAP OOABAP

- What is CONSTRUCTORS in SAP OOABAP ?
- Using Constructor method in SAP OOABAP
- Using CLASS CONSTRUCTOR in SAP OOABAP



Topic 16 Interfaces in SAP OOABAP

- Interface Concept in Object Oriented ABAP
- Creating Class Interface in SAP OOABAP
- Using aliases for interface methods in SAP OOABAP

Topic 17 Inheritance in SAP OOABAP

Transaction Code: SE24

- Inheritance in SAP OOABAP
- Using inheritance in SAP OOABAP

Topic 18 Local Classes in SAP OOABAP

- What is a local Class in OOABAP ? Properties of local class in OOABAP
- Local class with attributes in OOABAP

Topic 19 Local Classes with methods in OOABAP

- Local class with methods in SAP OOABAP
- Local class with tables in SAP OOABAP
- Local class with user-defined types in SAP OOABAP

Topic 20 Events in Local Classes in SAP OOABAP

- Local class with event and event handler method in SAP OOABAP



Topic 21 Local class constructor in OOABAP

- Using CONSTRUCTOR in local class
- Using CLASS-CONSTRUCTOR in SAP Local classes

Topic 22 Interfaces in local classes in SAP OOABAP

- Creating and Using interfaces in Local Classes in SAP OOABAP

Topic 23 Inheritance in local classes in SAP OOABAP

- Using inheritance in local classes in SAP ABAP Using inheritance in SAP OOABAP

Topic 24 Developing ALV using OOABAP

- Introduction to ALV using OOABAP
- ALV with structure using OOABAP
- Using field catalog in OOALV

Topic 25 ALV Factory Method with OOABAP

- ALV Using Factory Methods using OOABAP
- ALV factory method with user defined types
- Hotspot in ALV with OOABAP factory methods
- Interactive ALV with factory method using events
- Totals and Subtotals in ALV factory methods
- Top of page and end of page in OOALV with factory methods

Topic 26 Singleton Pattern on ABAP Objects

- Singleton Concept in Object Oriented ABAP
- Creating global singleton class in OOABAP
- Creating Local singleton class in OOABAP

Topic 27 Exception Handling in SAP OOABAP

- Handling exception using standard exception classes provided by SAP
- Handling exception using customized exception classes



Web Dynpro ABAP – Course Content

Topic 28 Introduction to WebDynpro ABAP

Transaction code : SE80

- Outlining the Benefits of Web Dynpro
- Explaining Web Dynpro Architecture
- Navigating Between Views
- Using View Assemblies
- Explaining Web Dynpro Architecture and Relationships Between Entities
- Usage of Assistance Class
- Faceless Component

Topic 29 WebDynpro Controllers

- Explaining Web Dynpro Controllers
 - Component Controller
 - Window Controller
 - View Controller
 - Interface Controller

Topic 30 WebDynpro Context at Design Time

- Defining the Context
- Setting Context Node Properties
- Context Mapping



Topic 31 WebDynpro User Interface

- Defining the View Layout
- Data Binding and Controlling UI Element Behavior
- Using Composite UI Elements and Static Context Menus

Topic 32 WebDynpro Controller and Context Programming

- Understanding Controller Methods and Attributes
- Using Controller Methods to Access the Context at Runtime
- Adding New Elements to a Context Node
- Implementing Supply Functions

Topic 33 WebDynpro Internationalization and Messages

- Using ABAP Dictionary Texts and the Online Text Repository
- Implementing an Assistance Class
- Reporting Messages

Topic 34 WebDynpro Value Help and Semantic Help

- Providing Value Help, Value Selectors, Semantic Help, Keyboard Access



Topic 35 WebDynpro Dialog boxes (Popups)

- Creating Dialog Boxes

Topic 36 WebDynpro Component Reuse

- Reusing Web Dynpro Components
- Declaring a Component Usage
- Implement Advanced Aspects of Component Reuse

Topic 37 WebDynpro Adaptation Techniques

- Adapting Web Dynpro Applications
- Configuring Web Dynpro Applications
- Enhancing Web Dynpros
- Modifying the Context at Runtime and the UI at Runtime

Topic 38 WebDynpro Additional Topics

- Using SAP List Viewer (ALV) in Web Dynpro for ABAP
- Integrating Web Dynpro in the Portal
- Monitoring and Debugging Web Dynpro Applications



ODATA Course Content

Topic 1 Introduction to SAP NetWeaver Gateway ?

Transaction code: SEGW

- What is SAP NetWeaver Gateway
- NetWeaver Gateway Usage
- NetWeaver Gateway Architecture
- Introduction to REST API
- Introduction to ODATA Protocol

Topic 2 ODATA Protocol ?

Transaction code: SEGW

- ODATA data Model
 - Entity Types
 - Entity Sets
 - Cardinality
 - Mappings
 - Association
 - Navigation
- ODATA Runtime Artifacts
 - Model Provider Base
 - Model Provider Extension
 - Data Provider Base
 - Data Provider Extension



- ODATA service Maintenance
 - Registration in HUB System
 - Error log
 - Gateway Client
 - SICF Activation/Deactivation

Topic 3 ODATA with CURD Query Operation ?

Transaction code: SEGW

- C - Create Operation - CreateEntity() / CreateDeepEntity()
- U - Update Operation - UpdateEntity()
- R - Read Operation - GetEntity() / GetEntitySet()
- D - Delete Operation - DeleteEntity()
- Other Events:
 - ExecuteAction()
 - GetExpandedEntity()
 - GetExpandedEntitySet()

Topic 4 ODATA service with URL parameters

Transaction code: SEGW

- Filtering (\$filter) and Projecting (\$select)
- Sorting (\$orderby)
- Client-Side paging (\$top, \$skip and \$inlinecount)
- Counting (\$count)
- Inlining (\$expand)
- Formatting (\$format)
- Metadata (\$metadata)



UI5 / HTML5 Course Content

Topic 5 User Interface 5 (UI5) Introduction

Tool: SAP WebIDE

- UI5 Framework
- SAP UI5 Software Development Kit (SDK) API overview (<https://sapui5.hana.ondemand.com/#/api>)
- WebIDE Installation and setup
- Connect WebIDE to SAP backend system gateway
- Create Hello World App in UI5

Topic 6 UI framework and Components

- UI5 Framework
- Model View Controller (MVC) architecture
- Resource Handling
- UI5 Components
 - Component.js
 - Manifest.json
 - i18N.js
 - Views
 - Fragments
 - Models
 - Formatter.js
 - CSS files
 - Images



Topic 5 UI5 Various Libraries

- Sap.m
- Sap.ui.table
- Sap.ui.commons
- Sap.ui.core
- Sap.ui.model
- Sap.ui.layout
-etc.,

Topic 6 UI5 Screen Elements Classes

- Constructor
- Properties
- Aggregations
- Associations
- Events
- Methods

Topic 7 UI5 Layouts

- Vertical Layout
- Horizontal Layout
- Grid Layout
- Responsive Layout
- HBox
- VBox
-etc.,



Topic 8 UI5 Data Binding

- Creating a Model
- Creating property binding
- Two way Data Binding
- One way Data Binding
- Element Binding
- Expression Binding
- Formatting values

Topic 9 UI5 Message Handling

- Message Types
- Message Popover
- Message Toast
- Message Box

Topic 10 UI5 Trouble Shooting

- Debugging
- Logging and Tracing



FIORI Course Content

Topic 11 FIORI Overview

- Fiori Overview
- Fiori Architecture
- Fiori Principles
- Advantages of FIORI
- Types of Fiori Apps

Topic 12 FIORI Configuration

- Configuration Steps
 - Business Group
 - Business Catalog
 - Tile
 - Semantic Object
 - Target Mapping
 - Launchpad Roles

Topic 13 FIORI Security

- Roles and Authentication



Core Data Service (CDS) Course Content (Additional Topics)

Topic 14 HANA CDS Views Overview

- HANA Studio overview and its setup
- CDS view overview and its advantages
- Technical configuration

Topic 15 CDS view Components

- CDS view types ABAP-CDS & HANA-CDS
- Join condition in CDS views
- Association in CDS views
- Annotation in CDS views
- Aggregation, Group by, Where Condition in CDS Views

Topic 16 CDS view into ODATA

- Exposing CDS views as ODATA services
- Creating template based UI5 App with CDS view OData service
- Creating DCL and testing the data with ODATA service in browser