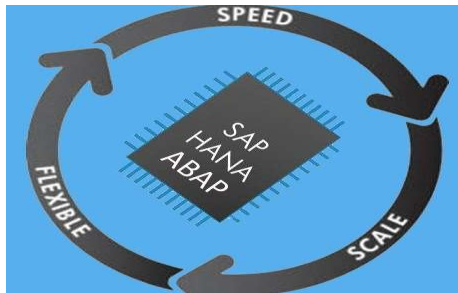# SAP ABAP on HANA

SAP ABAP on HANA

All SAP products are mobbing to **SAP HANA**, the most talked about SAP innovation in the recent times. This evolution intensifies the demands of SAP NetWeaver Application Server ABAP to the best leverage the features and capabilities of the **SAP HANA** database.

ABAP for SAP HANA refers to all developments which also leverage this power of SAP HANA within ABAP applications.

Fundamental Skills needed for ABAP development for SAP HANA is programming concepts and start creating your own ABAP for HANA programs. Our comprehensive and power packed course focuses on learning through a hand-on approach and step by step examples. After completing the course, you will be ready for the SAP ABAP on HANA certification as well. And below three are the options to opt in:

- **()** **SAP HANA Native developer:**
- **()** **SAP ABAP Development for HANA:**
- **()** **SAP UI5 FIORI**

- HANA Introduction
- SAP Components of SAP HANA
- Performance Tools in SAP HANA
- SAP HANA – OO ABAP Concepts
- SAP HANA on Application Development ABAP
- SAP HANA Positioning and Architecture
- SQL Basics for SAP HANA
- SQL Concepts for SAP HANA
- View Modelling in SAP HANA STUDIO
- CDS (Core Data Services)
- SAP HANA Database procedures in ABAP
- Development Environment
- ABAP Development Tools (ADT)
- Application Transport
- Run Time Analysis with SAP HANA
- Advanced Topics: FIORI Apps on HANA & Overview of S4/HANA Logistic.

SAP ABAP on HANA

1. HANA Introduction

- Introduction to High Performance Analytical Architecture
- Components and Tools of SAP HANA
- Advanced Database Management
- SAP HANA Software Editions
- Hardware technology Innovations
- Software Technology Innovations

2. SAP Components of SAP HANA

- SAP HANA DATABASE
- SAP HANA STUDIO
- SAP HANA CLIENT
- SAP HANA Function Libraries
- Data Replication Methodologies
- Life Cycle Management Components
- Row vs Column storage
- Hot vs Cold data Storage

3 Performance Tools in SAP HANA

- Understand the Runtime Analysis (SE30)
- Understand the ABAP Trace (SAT)
- Understand the Code Inspector (SCI)
- Understand the SQL Trace (ST05)

- SQLM and SWLT

4 SAP HANA – OO ABAP Concepts

- Visibility (Public/Protected/Private)
- Static/Instance Variables, Constants
- Static/Instance Methods, Method Parameters
- Inheritance,
- Abstract Methods, Abstract Classes, Casting
- Interfaces, Interface Methods
- Polymorphism, Method Overriding.

5 SAP HANA on Application Development ABAP

- New Technical Options
- Code Push Down
- Impact on Database
- ALV IDA Reporting on HANA
- Webdynpro   Applications on HANA
- FPM on HANA
- Developing Forms & Reports on HANA
- Screen designing on HANA ABAP
- Interfaces & Enhancements using HANA ABAP
- Web service & Proxy Development on HANA
- NetWeaver Gateway services on HANA

6 SAP HANA Positioning and Architecture

- Architecture of SAP HANA
- Data Provisioning
- Modelling on HANA Platform
- Data Reporting

7.   SQL Basics for SAP HANA

- Basic Concepts of SQL
- Fetching Data from Tables / Views
- Retrieving Data from Multiple Tables
- Data Aggregation
- Modification of Data from Tables
- Data Storage techniques
- Accessing Data using Views
- Database Transactions

8.   SQL Concepts for SAP HANA

- SQL Clause New Feature
- SQL Functions
- Using Tuple Variables
- Case Statements in SQL
- Group By
- Order By
- IS NULL/ NOT NULL
- Between
- LIKE Predicate
- Order Precedence
- Aggregate Functions
- UNION and UNION ALL
- Joining Table
- Inner Join
- Left Outer Join
- Right Outer Join
- Full Outer Join
- ❖ Data Manipulation
- Insert

- Update
- Delete
- ❖ Data Definition
- Create column table
- Alter Table
- Rename Table

9. View Modelling in SAP HANA STUDIO

- Attribute Views
- Analytical Views
- Calculation Views
- SAP HANA Views in ABAP
    - Approaching Code to Data Paradigm
    - SAP HANA Views with Native SQL Approach
    - Access HANA views in External Views in ABAP DDIC
    - Transport of SAP HANA Objects
    - ABAP DATABASE CONNECTIVITY (ADBC)

10. CDS (Core Data Services)

- View Definitions using CDS
- Open SQL usage
- ABAP Language Enhancements
- CDS implementation in CDS
- Creation of CDS Views
- Core Data Services View Definition
- CDS View on View
- CDS Views with Input Parameters
- CDS Views Associations
- Filtered Associations
- CDS Annotations

11.   SAP HANA Database procedures in ABAP

- Database Procedures in ABAP
- SAP DB procedures in ABAP
- ABAP-MANAGED DATABASE PROCEDURES
- Creation of AMDP

12.   Development Environment

- Basic Principles of Eclipse
- SAP's Eclipse
- Integration of Eclipse and SAP Software

13.   ABAP Development Tools (ADT)

- Installation of ABAP Development tools
- ADT in Development System

14.   Application Transport

- Transport Management in SAP HANA
- Combined ABAP/ HANA
- HANA transport Container
- Enhanced transport Container

15.   Run Time Analysis with SAP HANA

- Error Analysis
- ABAP Code Analysis
- SAP HANA Plan Visualizer

16.   Advanced Topics

- Full Text Search in SAP HANA
- ABAP List Viewer (ALV) with Integrated Access to SAP HANA
- Transport of SAP HANA Objects

- Side car Approaches
- Usage of External Data by CAR
- OS Data Transfer and Audit
- Sever Side Java Script
- XS-JS

17. FIORI Apps on HANA

- Fiori Transactional Apps on HANA
- Fiori Factsheets Apps on HANA
- Fiori Analytical Apps on HANA
- GATEWAY ODATA Services
- UI5 Application Development

18. Overview S4/ HANA Logistics

- Overview Simple Finance
- overview Simple Logistics
- Lumira Reporting
- Data Analysis on Lumira
- AWS cloud