

SAP ABAP on HANA

Duration: 8 Weeks (Weekdays Batch) / 9 Weekend (Weekend Batch)

Prerequisites

- Any graduate who has a basic knowledge of RDBMS concepts.

Course Content

1. Introduction of HANA

- Introduction to SAP HANA
- Why Sap HANA?
- Introduction to OLTP &OLAP
- Introduction to SAP In-Memory
- Strategy and Technology
- S/4 HANA
- How HANA is Plat form, In memory Data base ,software, Hard ware with Architecture
- Why is SAP HANA so FAST?
- SAP HANA Architecture
- SAP HANA Database concepts
- HANA Compared to BWA
- Columnar tables architecture
- HANA Landscapes
- HANA Sizing
- HANA Scenarios
- HANA Job Profiles

2. HANA Studio/Eclipse:

- Introduction and Installation to SAP HANA Studio with different perspectives
- Introduction to Eclipse with different perspectives
- Handling Practice Environment
- Handling Real time Environment
- Catalog
- Content
- Provisioning
- Security
- Different perspectives in HANA studio/Eclipse
- Schema
- SQL
- Tables –Row store Column store, Global, local temporary table ,logging tables , Portioning
- Create, Alter, Drop Queries
- Load, Unload, Preload flags, Merging techniques
- Database Views
- Synonyms

- Sequences
- Triggers
- Indexes
- Procedures
- Columnar views
- In memory Computing Studio
- Perspectives
- Administration views
- Navigation View
- System monitor
- Information modeller
- Preferences
- Local settings
- Loading data into HANA
- Data modelling concepts
- Reporting
- Backup and Recovery

3. Modelling

- Understanding Different Types of Joins in SAP HANA
- Inner ,Left Outer, Right Outer, Referential ,Text, Temporal, Spatial

4. Attribute View:

- Standard Attribute View
- Time Based Attribute View
- Derived Attribute View
- Creating Calculated Column
- Creating Hierarchies in Attribute Views
- Dynamic Filter-Using Input Parameters
- Enabling Attribute View for Time Travel Queries by using History Table

5. Analytical View:

- Understanding STAR Join Node
 - Creating Calculated Columns & Measures
 - Restricted Columns
 - Counters
 - Input Parameters
 - Variables, Semantics
 - Analytical View Properties Focusing aon Temporal Join in Analytical View
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6. Calculation View:

- Calculation View
- Understanding Calculation view Properties-Data Category(Star Join)
- SQL Scripted Based & Graphical Mode
- Understanding different nodes in Calculation view
- Projection
- Aggregation
- Join
- Union
- Rank
- Understanding Dynamic Join
- Understanding KEEP FLAG Property
- Understanding Transparent Filter Property
- Understanding STAR Join Node
- Created Calculated Columns & Measures
- Restricted Columns (Dynamic with Input Parameters)
- Counters
- Input Parameters
- Variables
- Semantics
- Extract Semantics
- Creating Hierarchies in Calculation View
- Processing of HANA Models

7. Analytical Privileges:

- Static
- Dynamic with Stored Procedures

8. Decision Tables:

- Updating
- What if Analysis

9. Reporting:

- HANA, Reporting Layer and Connectivity option
- Business Objects BI 4.0(Just an overview)
- Overview of others

10. Data Provisioning:

- Overview
- HANA as Primary data base
- HANA as side car/Secondary data base
- Smart Data Access
- Smart access overview
- Replication of data through SDA
- Different landscapes
- SLT

- SLT overview
- Replication of data through SLT
- Different landscapes
- BODS
- BODS overview
- Replication of data through BODS
- Different landscapes
- Flat files
- Flat file overview
- Replication of data through Flat file
- Different landscapes

11. Object Oriented ABAP (OOABAP)

- Procedural and object oriented approach
- OOABAP concepts
- Local class
- Global class
- Instance and statics methods
- Constructor ,class constructor
- Interfaces
- Super class ,subclass

12. ABAP on HANA

- SAP HANA as Secondary Database – Access via Open SQL
- Preparing for SAP HANA
- Improve Open SQL Using ABAP test Cockpit(ATC)
- Use the SQL Performance Tuning Worklist to Analyze Static and Runtime Check Results
- Improve Open SQL Statement Using The SQL Trace(STO5)
- Performance Rules and Guidelines for SAP HANA

13. Optimizing ABAP on Primary Database SAP HANA New Open SQL:

- Core Data Services in ABAP
- New features in Open SQL
- Associations in Core Data Services
- Use Associations in Core Data Services in ABAP
- Columnar/Row store Table creations through GUI

14. Code-To-Data with SAP HANA AS Secondary Database:

- Classical Open SQL and its Limitations
 - ABAP Database Connectivity(ADBC)
 - Native SQL Syntax
 - Procedures
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- External Views
 - Calling SAP HANA Procedures in ABAP
 - Calling External views in ABAP
- 15. Using ABAP-Managed Database Procedures:**
- ABAP-Managed Database Procedures
 - Create and Call an ABAP-Managed Database Procedures
 - Debugging ABAP-managed Database Procedures
 - Integrating with UI5
 - Integrating with Calculation views
- 16. SAP HANA Proxy Objects:**
- Accessing SAP HANA Views via ABAP Dictionary External views
 - Create an External View for SAP
 - HANA View and Use it an Open SQL SELECT
 - Transport of SAP HANA Objects
 - Create HANA Transport Container for a Delivery
 - Calling SAP HANA Procedures via ABAP Database Procedure Proxies
- 17. S/4 HANA**
- S/4 Finance Overview
 - S/4 Finance simplified tables
 - S/4 Finance Fiori apps
 - S/4 Finance transactions
 - S/4 Logistics Overview
 - S/4 Logistics simplified tables
 - S/4 Logistics Fiori apps
 - S/4 Logistics transactions
 - HANA Modelling, ABAP on HANA,UI5,Fiori,Data Provisioning in S/4 Hana
- 18. HANA Migration**
- ABAP Reports
 - ABAP Dictionary
 - Code review tools
 - ABAP coding standards and procedures
 - ABAP objects post HANA migration
- 19. UI5, Fiori, Gateway:**
- Introduction to SAP UI5
 - Introduction to SAP NetWeaver Gateway
 - Introduction to SAP Fiori
 - Webdynpro ABAP overview .MVC Architecture
 - Webdynpro ABAP development
 - Difference between UI5/ Fiori, Webdynpro & other Web Technologies
 - Difference between Webdynpro and ui5
 - Disadvantages of the Previous Technologies
 - Advantages of Sapui5 and how it overcomes the disadvantages of previous technologies
 - Understanding each layer of MVC model
 - Understanding on End to End Data flow in SAPUI5
- 20. SAP ODATA ABAP Services on Netweaver Gateway**
- Gateway Architecture Overview & Usage
 - Technical Components Involved
 - Introduction to REST, OData
 - OData advantages
 - OData formats JSON and XML
 - Structure of an OData Service
 - Service Document, Service Metadata Document
- 21. OData in SAP Solutions:**
- EDM data types
 - SAP NetWeaver Gateway Service Builder (SEGW)
- 22. Data Model:**
- Entity Types
 - Entity Sets
 - Properties , Navigation Properties
 - Association (Referential Constraints, Principal Entity, Dependent Entity)
 - Association Set(Principle Entity Set, Dependent Entity Set)
 - Cardinality
 - Mappings
- 23. Runtime Artifacts:**
- Model Provider Base
 - Model Provider Extension
 - Data Provider Base
 - Data Provider Extension
- 24. Service Maintenance:**
- Registration in Hub Systems
 - Maintain
 - Error log
 - Gateway Client
 - HTTP Status codes, Common Messages and Common Errors
 - Debugging OData ABAP Services
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25. With & Without Mapping in Odata Services:

- BAPI's with Mapping ,
- Database Views with Mapping
- BAPI's without Mapping
- Multiple BAPI's with Single Entity Set

26. CRUD Operations in OData Services:

- CreateEntity()
- DeleteEntity()
- UpdateEntity()
- GetEntity (Read)
- GetEntitySet(Query)
- GetExpandedEntitySet
- UpdateStream()
- GetStream()
- ExecuteAction() etc.

27. Service URL Parameters:

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

28. Configuration And Maintenance Of Gateway:

- SPRO related Configurations
- SICF related Configurations

29. Deploying SAP Fiori apps to SAP ABAP UI5 repository:

30. SAP FIORI Launch Pad Configuration

- Launch Pad Instance Roles
- Semantic Objects
- Catalogs
- Target Mappings
- Tiles
- Groups
- PFCG Roles (Role to User Assignment)

31. Types of Models:

- Resource Model,
- JSON Model,
- XML Model,
- OData Model

32. Bindings:

- One-way Binding, Two way Binding, One Time Binding
- Data binding, Aggregate binding, Model binding

33. Data Types:

- SAPUI5 Data Typing, User types
- Integers, Floating-Point Numbers
- String, Boolean, Variable, Date and Time

34. Types of Views:

- JavaScript Views, (imp)
- Xml Views, (imp)
- JSON Views
- Html Views

❖ Implementing code in VIEWS and CONTROLLERS Technique.

- ✓ HANA Certification Guidance and Material, VIDEOS
 - ✓ Discussion on HANA Best Practices
 - ✓ Discussion on HANA Interview Questions
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