# HA100 SAP HANA Introduction

**Goals**
- Understand the key concepts of SAP HANA and in-memory computing
- Create a data model with SAP HANA modeling tools
- Provision and enrich data into SAP HANA
- Run analytics on SAP HANA

**Audience**
- Application Consultant
- Change Manager
- Business Analyst
- Application Developer
- BI / BW consultant
- Data Scientist
- Database Administrator

**Prerequisites**

**Essential**
- None

**Recommended**
- Basic understanding of business IT
HA100 SAP HANA Introduction (Contd...)

Course based on software release
• SAP HANA 2.0 SPS03

Content
• Describing SAP HANA
  – Understanding the Need for a Modern Digital Platform
  – Describing how SAP HANA Powers a Digital Platform
• Architecture of SAP HANA
  – Outlining Components of SAP HANA
  – Working with SAP HANA interfaces
  – Understanding Key Features of SAP HANA Database
  – Describing High Availability
• Analytical Processing with SAP HANA
  – Understanding Core Modeling with SAP HANA
  – Understanding SAP Supplied Data Models
  – Advanced Modeling with SAP HANA
• Data Management with SAP HANA
  – Describing Data Management
  – Describing Data Acquisition Tools
  – SAP HANA Data Management Suite
• Developing and Running Applications on SAP HANA
  – Running SAP Enterprise Suites on SAP HANA
  – Connecting SAP Business Intelligence Tools to SAP HANA
  – Outlining SAP Business Warehouse on SAP HANA
  – Developing SQL Data Warehouses with SAP HANA
  – Building Native HANA Applications
• Appendix: Continuing your SAP HANA Learning Journey

Notes
• This course is based on SAP HANA 2.0 but is useful for customers working with SAP HANA 1.0

HA300 SAP HANA 2.0 SPS03 Modeling

Goals
• This course will prepare you to:
  – Develop information models following SAP best practices for maximum performance and flexibility
  – Get started with SQL and SQLScript based modeling
  – Manage projects and modeling content in the Web IDE
  – Implement security and data access controls around SAP HANA data models
  – Get a quick overview of advanced data processing such as text, spatial, predictive and graph
HA300 SAP HANA 2.0 SPS03 Modeling (Contd...)

Audience
• Business application consultant
• Data Consultant / Manager
• Database Administrator
• Application developer
• BI specialist

Prerequisites
Essential
• HA100 – SAP HANA Introduction

Recommended
• HA150 – SQL and SQLScript for SAP HANA

Course based on software release
• SAP HANA 2.0 SPS03

Content
• Information Views
  – Introducing Information Views
  – Understanding the Different Types of Views
  – Working with Common View Design Features
• Using Nodes in Calculation Views
  – Using Projection Nodes
  – Using Join Nodes
  – Working with Data Sets
  – Aggregating Data
  – Creating Cubes with Star Join Calculation Views
  – Extracting Top Values with Rank Nodes
• Modeling Functions
  – Create Restricted and Calculated Columns
  – Filter Data
  – Use Variables and Input Parameters
  – Create Hierarchies
  – Implement Currency Conversion
• SAP HANA Studio Modeling
• Using SQL in Models
  – Introducing SAP HANA SQL
  – Working with SQLScript
  – Query a Modeled Hierarchy Using SQLScript
  – Creating and Using Functions
  – Creating and Using Procedures
• CDS in SAP HANA Modeling
  – Defining the Persistence Layer Using CDS
  – Creating Views with CDS
• SAP Supplied Virtual Data Models
  – SAP HANA Live
  – Embedded Analytics and CDS
**HA300 SAP HANA 2.0 SPS03 Modeling (Contd...)**

- Optimization of Models
  - Using Tools to Check Model Performance
  - Implementing Good Modeling Practices
- Management and administration of Models
  - Working with Modeling Content in a Project
  - Creating and Manage Projects
  - Enabling Access to External Data
  - Working with GIT Within the SAP Web IDE
  - Using SAP Enterprise Architecture Designer
  - Migrating Modeling Content
- Security in SAP HANA Modeling
  - Understanding Roles and Privileges
  - Defining Analytic Privileges
  - Defining Roles
  - Masking Sensitive Data
  - Anonymizing Data
- Introduction to Advanced Modeling

**Notes**
- Most of the activities of this course rely on the SAP Web IDE for SAP HANA, but graphical modeling in SAP HANA Studio is also covered with a dedicated unit.

**HA301 SAP HANA 2.0 SPS03 Advanced Modeling**

**Goals**
- This course will prepare you to:
  - Understand and put into practice the main advanced modeling capabilities of SAP HANA 2.0 SPS03 in the areas of text search and analysis, graph modeling, spatial analysis and predictive modeling.
  - Promote these advanced modeling capabilities to extend the core SAP HANA Modeling features.
  - Broaden your experience with the modern SAP HANA tooling in XS Advanced (SAP Web IDE for SAP HANA)

**Audience**
- Business application consultant
- Data Consultant / Manager
- Database Administrator
- Application developer
- BI specialist

**Prerequisites**

**Essential**
- HA100 – SAP HANA Introduction
- HA300 – SAP HANA Modeling

**Recommended**
- HA150 – SQL and SQL Script Basics for SAP HANA

**Course based on software release**
- SAP HANA 2.0 SPS03
Content

• Introduction to Advanced Modeling

• SAP HANA Predictive Analysis Library (PAL)
  – Describing SAP HANA PAL
  – Using PAL in Flowgraphs
  – Calling PAL Functions in Calculation Views
  – Calling PAL Procedures in SQL Scripts
  – Exploring the PAL Library

• SAP HANA Spatial
  – Introducing SAP HANA Spatial
  – Working with Spatial Data Types
  – Importing and Exporting Spatial Data
  – Accessing and Manipulating Spatial Data
  – Using Spatial Clustering

• SAP HANA Graph
  – Defining SAP HANA Graph Workspace
  – Describing the Different Graph Algorithms
  – Using the Graph Node in Calculation Views
  – Using GraphScript Procedures

• SAP HANA Text
  – Understanding Full Text Search
  – Understanding Text Analysis
  – Understanding Text Mining

• SAP HANA Series Data
  – Getting Started with SAP HANA Series Data

Notes

• The information provided in the HA301 course is valid for participants who have followed the HA300 course in either SAP HANA 1.0 and SAP HANA 2.0.

• Certification C_HANAIMP_15 includes questions - approx. 25% - based on topics covered in HA301. We strongly recommend that you follow this course as part of your certification exam preparation.