

# SAP HANA 2.0 SPS07 Modeling

Course code: HA300

This course teaches the core capabilities of SAP HANA for calculation view modeling, and covers mainly graphical modeling, as well as SQL- based modeling (table functions and procedures) with a focus on performance. It also introduces Core Data Services as a flexible method to model a persistence layer. The participants will gain knowledge about the management of modeling content in the SAP Web IDE for SAP HANA, and the key principles of object and data access security in a modeling context.

## Who is the course for

- Application Consultant
- Data Consultant / Manager
- Database Administrator
- Application Developer
- BI specialist

## What we teach you

This course will prepare you to:

- Develop information models following SAP best practices for maximum performance and flexibility
- Get started with SQL and SQL-Script based modeling
- Manage projects and modeling content in the SAP Web IDE for SAP HANA
- Implement security and data access controls around SAP HANA data models

## Required skills

### Essential

- HA100 SAP HANA - 360° Introduction

### Recommended

- HA150 SAP HANA 2.0 SPS07 - SQLScript for SAP HANA

## Teaching materials

SAP guide book for this course.

## Course based on software release

- SAP HANA 2.0 SPS07

## Course outline

### Preparing the Modeling Environment

- Getting Started with SAP Web IDE for SAP HANA
- Importing an Existing Project in SAP Web IDE for SAP HANA

### Creating Calculation Views

- Understanding Basic Concepts and Terminology
- Checking the Output of a Calculation View
- Creating Dimension Calculation Views
- Creating Cube Calculation Views
- Creating SQL Access Only Calculation Views
- Choosing a Data Source for a Calculation View

### Working with Common Features of Calculation Views

#### Defining the Top View Node

#### Working with Common Nodes in Calculation Views

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# SAP HANA 2.0 SPS07 Modeling

- Using Projection Nodes
- Working with Aggregation Nodes

## Joining Data Sources in Calculation Views

- Combining data sources using a join node
- Joining more than two tables in a single join node
- Creating Cube with Star Join Calculation Views
- Configuring non-equi joins
- Preventing incorrect aggregations using a dynamic join
- Filtering on Join Nodes
- Optimizing Joins

## Working with Union Nodes in Calculation Views

- Working with the Union Node

## Creating Data Slices

- Implementing Minus and Intersect Nodes

## Ranking Data

- Implementing Rank Nodes

## Embedding Functions in Calculation Views

- Generating Restricted Columns
- Generating Calculated Columns
- Filtering Data
- Implementing Currency Conversion

## Creating Dynamic Calculation Views

- Implementing Variables
- Defining Value Help Views
- Implementing Input Parameters
- Mapping Variables and Input Parameters

## Implementing Hierarchies in Calculation Views

- Modeling Hierarchies
- Creating Time-Based Dimension Calculation Views
- Using a Hierarchy for Value Help

## Developing Custom Logic using SQL

- Introducing SAP HANA SQL Console
- Implementing SQL in Calculation Views
- Querying a Modeled Hierarchy Using SQL
- Working with SQLScript
- Creating and Using Functions
- Creating and Using Procedures

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## Applying Best Practices for Modeling

- Implementing Recommended Modeling Practices
- Implementing Best Practices in Calculation View Nodes

## Using Tools to Check Model Performance

- Validating Calculation Views with Performance Analysis Mode
- Debugging Calculation Views with the Debug Query Mode
- Analyzing executions with the SQL Analyzer

## Implementing Features to Improve Performance

- Implementing Union Pruning
- Controlling Parallelization
- Partitioning Tables

## Storing Calculation View Results

- Implementing Static Cache to Improve Performance
- Creating Snapshots

## Using Additional Modeling Productivity Tools

- Developing Calculation views more efficiently

## Working with Modeling Content in a Project

- Working in a Modeling Project
- Explaining the Project Structure
- Building Models
- Managing modeling content

## Managing the Lifecycle of a Modeling Project

- Creating a Project
- Enabling Access to External Data
- Using Git to Manage Source Code
- Deploying an application
- Migrating Modeling Content

## Implementing Security in SAP HANA Modeling

- Defining Analytic Privileges
- Defining Roles
- Masking Sensitive Data
- Anonymizing Data

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