# **Developing Data Models with SAP HANA Cloud**

### **Course Description:**

This learning journey provides foundational knowledge and skills in data modeling with SAP HANA Cloud. It equips learners with the ability to create graphical Calculation Views and manage modeling content using SAP Business Application Studio. Through this course, you will explore essential modeling techniques and gain hands-on experience in designing efficient data models for business applications.

#### **Audience Profile:**

This course is designed for data analysts, data scientists, and anyone interested in learning how to model data in SAP HANA Cloud. It is particularly beneficial for professionals working with cloud-based data systems, looking to expand their understanding of SAP HANA Cloud and enhance their data modeling skills.

#### Prerequisite:

• Discovering SAP Business Technology Platform (for foundational knowledge of SAP BTP)

### **Course Objectives:**

By the end of this learning journey, participants will:

- Understand core SAP HANA Cloud capabilities and the process of graphical modeling for Calculation Views.
- Be able to manage projects and modeling content within SAP Business Application Studio.
- Gain proficiency in creating and optimizing data models, working with common nodes, joining data sources, and improving performance.

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## **Module 1: Preparing the Modeling Environment**

- Getting Started with SAP Business Application Studio
- Working with Development Spaces
- Creating a New Project in SAP Business Application Studio
- Importing an Existing Project in SAP Business Application Studio
- Navigating SAP Business Application Studio

### **Module 2: Creating Calculation Views**

Understanding Basic Concepts and Terminology

- Creating Dimension Calculation Views
- Creating Cube Calculation Views
- Creating Time-Based Dimension Calculation Views
- Choosing a Data Source for a Calculation View
- Checking the Output of a Calculation View
- Working with Common Features of Calculation Views
- Top View Node

## **Module 3: Working with Common Nodes in Calculation Views**

- Using Projection Nodes
- Working with Aggregation Nodes

## **Module 4: Joining Data Sources in Calculation Views**

- Using Join Nodes
- Filtering on Join Nodes
- Optimizing Joins

## **Module 5: Working with Union Nodes in Calculation Views**

- Working with the Union Node
- Implementing Union Pruning

## **Module 6: Creating Data Slices**

Implementing Minus and Intersect Nodes

## **Module 7: Ranking Data**

• Implementing Rank Nodes

#### **Module 8: Embedding Functions in Calculation Views**

• Generating Restricted Columns

- Generating Calculated Columns
- Filtering Data
- Implementing Currency Conversion

## **Module 9: Creating Dynamic Calculation Views**

- Implementing Variables
- Implementing Input Parameters
- Mapping Variables and Input Parameters

#### **Module 10: Implementing Hierarchies in Calculation Views**

Modeling Hierarchies

## Module 11: Developing Custom Logic using SQL

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

## Module 12: Applying Best Practices for Modeling

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

#### **Module 13: 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

## **Module 14: Implementing Features to Improve Performance**

- Controlling Parallelization
- Partitioning Tables

#### **Module 15: Storing Calculation View Results**

- Implementing Static Cache to Improve Performance
- Creating Snapshots
- Defining MDS Cubes

## **Module 16: Using Additional Modeling Productivity Tools**

- Productivity Aids for Efficient Calculation View Development
- Working with Modeling Content in a Project

## **Module 17: Working in a Modeling Project**

- Project Structure
- Deploying Models
- Manage Modeling Content

## Module 18: Managing the Lifecycle of a Modeling Project

- Creating a Project
- Enabling Access to External Data
- Using Git to Manage Source Code
- Deploying an Application

## Module 19: Implementing Security in SAP HANA Modeling

- Defining Analytic Privileges
- Defining Roles
- Masking Sensitive Data