# **BW330H**

SAP BW powered by SAP HANA: Data Warehouse Modeling

**COURSE OUTLINE** 

Course Version: 16 Course Duration:

# **SAP Copyrights and Trademarks**

© 2019 SAP SE or an SAP affiliate company. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries. Please see <a href="http://global12.sap.com/corporate-en/legal/copyright/index.epx">http://global12.sap.com/corporate-en/legal/copyright/index.epx</a> for additional trademark information and notices.

Some software products marketed by SAP SE and its distributors contain proprietary software components of other software vendors.

National product specifications may vary.

These materials are provided by SAP SE or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP SE or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP SE or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

In particular, SAP SE or its affiliated companies have no obligation to pursue any course of business outlined in this document or any related presentation, or to develop or release any functionality mentioned therein. This document, or any related presentation, and SAP SE's or its affiliated companies' strategy and possible future developments, products, and/or platform directions and functionality are all subject to change and may be changed by SAP SE or its affiliated companies at any time for any reason without notice. The information in this document is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of their dates, and they should not be relied upon in making purchasing decisions.





iii

# **Typographic Conventions**

American English is the standard used in this handbook. The following typographic conventions are also used.

This information is displayed in the instructor's presentation	-
Demonstration	*
Procedure	1 2 3
Warning or Caution	
Hint	
Related or Additional Information	>
Facilitated Discussion	<b></b>
User interface control	Example text
Window title	Example text

# Contents

#### vii Course Overview

1	Unit 1:	Data Modeling with SAP Business Information Warehouse (SAP BW) Powered by SAP HANA
1		Lesson: Understanding Modeling Objectives and Issues
1		Lesson: Understanding SAP HANA From a Modeling Perspective
1		Lesson: Understanding SAP BW From a Modeling Perspective
1		Lesson: Comparing SAP BW with SAP HANA
3	Unit 2:	Business Review
3		Lesson: Understanding the Relevant Skills and Exercises
3		Lesson: Getting to know the ItelO Case Study
3		Lesson: Understanding the ERP Model
5	Unit 3:	Global Decision Areas and Best Practice Standards
5		Lesson: Planning Transport Management
5		Lesson: Separating Master Data and Transactional Data
5		Lesson: Tracking History
5		Lesson: Evaluating Global Standards and Local Adaptations
5		Lesson: Designing a Layered Scalable Architecture (LSA) With
		Virtual Layers
6		Lesson: Understanding LSA++ Domains
6		Lesson: Understanding Reporting Options
7	Unit 4:	Process of Modeling
7		Lesson: Defining the Sequence of SAP BW Projects
7		Lesson: Planning the Phases of a SAP BW Project
7		Lesson: Developing a SAP BW Data Model
7		Lesson: Comparing a Data Model With SAP HANA Live
8		Lesson: Comparing a Data Model With Business Content
9	Unit 5:	Field-Based Rapid Prototyping
9		Lesson: Implementing Field-Based Modeling
11	Unit 6:	Master Data Modeling With SAP BW Characteristics
11		Lesson: Listing Tables in the SAP BW Data Model
11		Lesson: Using Reference Characteristics
11		Lesson: Using Hierarchies in SAP BW Characterisitcs



13	Unit 7:	Key Figure Modeling in SAP BW
13		Lesson: Defining Key Figures as SAP BW InfoObjects
13		Lesson: Creating Key Figures for Non-Cumulatives
15	Unit 8:	I ransaction Data Modeling in SAP BW
15		Lesson: Modeling Advanced DataStore Objects (ADSOs)
15		Lesson: Creating a Data Model for Non-Cumulative Values in SAP BW
15		Lesson: Implementing Currency Harmonization
15		Lesson: Implementing Quantity Conversion
15		Lesson: Modeling Transformations
16		Lesson: Modeling a CompositeProvider
17	11	Marker Date Made Provide CAD HANA V/ serve
1/	Unit 9:	Master Data Modeling in SAP HANA Views
17		Lesson: Modeling Master Data in SAP HANA Views
19	Unit 10:	Transaction Data Modeling With SAP HANA
<b>19</b> 19	Unit 10:	Transaction Data Modeling With SAP HANA Lesson: Modeling Transaction Data in SAP HANA Views
19 19 21	Unit 10: Unit 11:	Transaction Data Modeling With SAP HANA         Lesson: Modeling Transaction Data in SAP HANA Views         Hybrid Modeling in Mixed Scenarios
<b>19</b> 19 <b>21</b>	Unit 10: Unit 11:	Transaction Data Modeling With SAP HANA         Lesson: Modeling Transaction Data in SAP HANA Views         Hybrid Modeling in Mixed Scenarios
<b>19</b> 19 <b>21</b> 21	Unit 10: Unit 11:	Transaction Data Modeling With SAP HANA         Lesson: Modeling Transaction Data in SAP HANA Views         Hybrid Modeling in Mixed Scenarios         Lesson: Understanding Mixed Scenarios for SAP BW on SAP HANA
<b>19</b> 19 <b>21</b> 21 21 21	Unit 10: Unit 11:	Transaction Data Modeling With SAP HANA         Lesson: Modeling Transaction Data in SAP HANA Views         Hybrid Modeling in Mixed Scenarios         Lesson: Understanding Mixed Scenarios for SAP BW on SAP HANA         Lesson: Modeling Mixed Scenarios
<b>19</b> 19 <b>21</b> 21 21 21 21	Unit 10: Unit 11:	Transaction Data Modeling With SAP HANA         Lesson: Modeling Transaction Data in SAP HANA Views         Hybrid Modeling in Mixed Scenarios         Lesson: Understanding Mixed Scenarios for SAP BW on SAP HANA         Lesson: Modeling Mixed Scenarios         Lesson: Enhancing Views in SAP HANA
19 19 21 21 21 21 21 21 23	Unit 10: Unit 11: Unit 12:	Transaction Data Modeling With SAP HANALesson: Modeling Transaction Data in SAP HANA ViewsHybrid Modeling in Mixed ScenariosLesson: Understanding Mixed Scenarios for SAP BW on SAP HANALesson: Modeling Mixed ScenariosLesson: Enhancing Views in SAP HANAEnhanced Scenarios in SAP BW
19 19 21 21 21 21 21 23 23	Unit 10: Unit 11: Unit 12:	Transaction Data Modeling With SAP HANALesson: Modeling Transaction Data in SAP HANA ViewsHybrid Modeling in Mixed ScenariosLesson: Understanding Mixed Scenarios for SAP BW on SAP HANALesson: Modeling Mixed ScenariosLesson: Enhancing Views in SAP HANAEnhanced Scenarios in SAP BWLesson: Modeling an SAP BW Workspace
19 19 21 21 21 21 21 23 23 23	Unit 10: Unit 11: Unit 12:	Transaction Data Modeling With SAP HANALesson: Modeling Transaction Data in SAP HANA ViewsHybrid Modeling in Mixed ScenariosLesson: Understanding Mixed Scenarios for SAP BW on SAP HANALesson: Modeling Mixed ScenariosLesson: Enhancing Views in SAP HANAEnhanced Scenarios in SAP BWLesson: Modeling an SAP BW WorkspaceLesson: Implementing an SAP HANA analysis process
19 19 21 21 21 21 23 23 23 23 25	Unit 10: Unit 11: Unit 12: Unit 12:	Transaction Data Modeling With SAP HANA         Lesson: Modeling Transaction Data in SAP HANA Views         Hybrid Modeling in Mixed Scenarios         Lesson: Understanding Mixed Scenarios for SAP BW on SAP HANA         Lesson: Modeling Mixed Scenarios         Lesson: Enhancing Views in SAP HANA         Enhanced Scenarios in SAP BW         Lesson: Modeling an SAP BW         Lesson: Implementing an SAP HANA analysis process         Existing Model Enhancement
<ol> <li>19</li> <li>19</li> <li>21</li> <li>21</li> <li>21</li> <li>23</li> <li>23</li> <li>25</li> </ol>	Unit 10: Unit 11: Unit 12: Unit 12:	Transaction Data Modeling With SAP HANA         Lesson: Modeling Transaction Data in SAP HANA Views         Hybrid Modeling in Mixed Scenarios         Lesson: Understanding Mixed Scenarios for SAP BW on SAP HANA         Lesson: Modeling Mixed Scenarios         Lesson: Enhancing Views in SAP HANA         Enhanced Scenarios in SAP BW         Lesson: Modeling an SAP BW         Lesson: Implementing an SAP HANA analysis process         Existing Model Enhancement

# **Course Overview**

#### TARGET AUDIENCE

This course is intended for the following audiences:

- Technology Consultant
- Application Consultant
- Business Analyst
- Business Process Architect
- Business Process Owner/Team Lead/Power User
- Enterprise Architect
- Program/Project Manager



vii

# UNIT 1

## Data Modeling with SAP Business Information Warehouse (SAP BW) Powered by SAP HANA

## Lesson 1: Understanding Modeling Objectives and Issues

#### **Lesson Objectives**

After completing this lesson, you will be able to:

- Define SAP BW on SAP HANA modeling
- Identify modeling targets
- Prioritize modeling objectives
- Identify suboptimal models

## Lesson 2: Understanding SAP HANA From a Modeling Perspective

#### **Lesson Objectives**

After completing this lesson, you will be able to:

- Understand the advantages of SAP HANA from a modeling perspective
- Identify the components of a data storage strategy
- Understand Recommendations for SAP HANA

## Lesson 3: Understanding SAP BW From a Modeling Perspective

#### Lesson Objectives

After completing this lesson, you will be able to:

- Understand the advantages of SAP BW
- Recommend suitable modeling options

## Lesson 4: Comparing SAP BW with SAP HANA

#### **Lesson Objectives**

After completing this lesson, you will be able to:

- Understand how SAP BW modeling relates to SAP HANA modeling
- Understand Mixed models



# UNIT 2 Business Review

## Lesson 1: Understanding the Relevant Skills and Exercises

#### **Lesson Objectives**

After completing this lesson, you will be able to:

• Understand the relevant skills and tasks

## Lesson 2: Getting to know the ItelO Case Study

#### **Lesson Objectives**

After completing this lesson, you will be able to:

Get to know the ItelO Case Study

## Lesson 3: Understanding the ERP Model

#### Lesson Objectives

After completing this lesson, you will be able to:

• Understand how the ERP Model separates data



# UNIT 3 Global Decision Areas and Best Practice Standards

## Lesson 1: Planning Transport Management

#### Lesson Objectives

After completing this lesson, you will be able to:

• Overview the transport management system

## Lesson 2: Separating Master Data and Transactional Data

#### **Lesson Objectives**

After completing this lesson, you will be able to:

Understand the advantages of separating master and transactional data

## Lesson 3: Tracking History

#### **Lesson Objectives**

After completing this lesson, you will be able to:

• Understand Tracking History

## Lesson 4: Evaluating Global Standards and Local Adaptations

#### **Lesson Objectives**

After completing this lesson, you will be able to:

- Evaluate global standards and local adaptations
- Choose an appropriate system landscape model

# Lesson 5: Designing a Layered Scalable Architecture (LSA) With Virtual Layers

#### Lesson Objectives

After completing this lesson, you will be able to:

- Understand the integration and adaptation of data
- Understand the history of Enterprise Data Warehouse architecture



- Understand the purpose of SAP BW layers
- Recommend a typical LSA++

## Lesson 6: Understanding LSA++ Domains

#### **Lesson Objectives**

After completing this lesson, you will be able to:

• Understand the purpose of domains

## **Lesson 7: Understanding Reporting Options**

#### **Lesson Objectives**

After completing this lesson, you will be able to:

• Understand report navigation

# UNIT 4 **Process of Modeling**

## Lesson 1: Defining the Sequence of SAP BW Projects

#### Lesson Objectives

After completing this lesson, you will be able to:

• Define a sequence of SAP BW projects

## Lesson 2: Planning the Phases of a SAP BW Project

#### **Lesson Objectives**

After completing this lesson, you will be able to:

- List the five phases of a SAP BW project
- Understand the preparation phase
- Understand the business blueprint phase
- Understand the realization phase
- Understand the final preparation phase
- Understand the go live and support phase
- Understand Agile Methods

## Lesson 3: Developing a SAP BW Data Model

#### **Lesson Objectives**

After completing this lesson, you will be able to:

- Structure the process of data model creation in the business blueprint phase
- Perform a requirement analysis
- Create an architecture overview
- Create a logical data model
- Develop an SAP BW data model

## Lesson 4: Comparing a Data Model With SAP HANA Live Lesson Objectives





After completing this lesson, you will be able to:

- Get an overview of SAP HANA live
- Improve an existing SAP HANA live view

## Lesson 5: Comparing a Data Model With Business Content

#### **Lesson Objectives**

After completing this lesson, you will be able to:

• Compare a data model with business content

# UNIT 5 Field-Based Rapid Prototyping

## Lesson 1: Implementing Field-Based Modeling

#### **Lesson Objectives**

After completing this lesson, you will be able to:

- Create an Open Operational Data Store (ODS) view
- Turn an ODS view into a field-based Advanced DataStore Object (ADSO)



# UNIT 6 Master Data Modeling With SAP BW Characteristics

## Lesson 1: Listing Tables in the SAP BW Data Model

#### **Lesson Objectives**

After completing this lesson, you will be able to:

• List the tables in the SAP BW data model

## **Lesson 2: Using Reference Characteristics**

#### **Lesson Objectives**

After completing this lesson, you will be able to:

Use reference characteristics

## Lesson 3: Using Hierarchies in SAP BW Characterisitcs

#### Lesson Objectives

After completing this lesson, you will be able to:

• Use hierarchies



# UNIT 7 Key Figure Modeling in SAP BW

## Lesson 1: Defining Key Figures as SAP BW InfoObjects

#### **Lesson Objectives**

After completing this lesson, you will be able to:

• Define key figures

## **Lesson 2: Creating Key Figures for Non-Cumulatives**

#### Lesson Objectives

After completing this lesson, you will be able to:

Create key figures for non-cumulatives



# UNIT 8 Transaction Data Modeling in SAP BW

## Lesson 1: Modeling Advanced DataStore Objects (ADSOs)

#### Lesson Objectives

After completing this lesson, you will be able to:

- Understand the function of ADSOs for the core EDW layer
- Create ADSOs for the core EDW layer

# Lesson 2: Creating a Data Model for Non-Cumulative Values in SAP BW

#### Lesson Objectives

After completing this lesson, you will be able to:

Ceate a data model for non-cumulative values

## **Lesson 3: Implementing Currency Harmonization**

#### **Lesson Objectives**

After completing this lesson, you will be able to:

• Create translation types for currency translation

## Lesson 4: Implementing Quantity Conversion

#### **Lesson Objectives**

After completing this lesson, you will be able to:

• Create translation types for quantity conversion

## Lesson 5: Modeling Transformations

#### Lesson Objectives

After completing this lesson, you will be able to:

- Transform data during the BW ETL Process
- Perform currency and unit conversion



## Lesson 6: Modeling a CompositeProvider

### **Lesson Objectives**

After completing this lesson, you will be able to:

• Design Composite Providers

# UNIT 9

# Master Data Modeling in SAP HANA Views

## Lesson 1: Modeling Master Data in SAP HANA Views

## **Lesson Objectives**

After completing this lesson, you will be able to:

• Create SAP HANA views with hierarchies



# UNIT 10 Transaction Data Modeling With SAP HANA

## Lesson 1: Modeling Transaction Data in SAP HANA Views

### Lesson Objectives

After completing this lesson, you will be able to:

- Create SAP HANA views with measures
- Integrate CompositeProviders with HANA Views and aDSOs



# UNIT 11 Hybrid Modeling in Mixed Scenarios

## Lesson 1: Understanding Mixed Scenarios for SAP BW on SAP HANA

#### **Lesson Objectives**

After completing this lesson, you will be able to:

- Understand the combination of SAP BW and SAP HANA models
- Differentiate scenarios for SAP BW on SAP HANA

## **Lesson 2: Modeling Mixed Scenarios**

#### **Lesson Objectives**

After completing this lesson, you will be able to:

Generate views

## **Lesson 3: Enhancing Views in SAP HANA**

#### **Lesson Objectives**

After completing this lesson, you will be able to:

Enhance views



# UNIT 12 Enhanced Scenarios in SAP BW

## Lesson 1: Modeling an SAP BW Workspace

#### **Lesson Objectives**

After completing this lesson, you will be able to:

- Understand SAP BW workspaces
- Report on locally managed data

## Lesson 2: Implementing an SAP HANA analysis process

#### **Lesson Objectives**

After completing this lesson, you will be able to:

• Implement an SAP HANA analytic process



# UNIT 13 Existing Model Enhancement

## Lesson 1: Using the SAP BW Remodeling Toolbox

#### **Lesson Objectives**

After completing this lesson, you will be able to:

• Remodel an InfoObject

## Lesson 2: Converting Silos or LSA Models to LSA++ Models

#### **Lesson Objectives**

After completing this lesson, you will be able to:

- Define a strategy for conversion to LSA++
- Convert legacy infocubes
- Convert legacy multiproviders
- Streamline the EDW Core

