# BW305

## SAP Business Warehouse Query Design and Analysis

**COURSE OUTLINE**

Course Version: 15
Course Duration: 5 Day(s)

# SAP Copyrights and Trademarks

© 2016 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 http://global12.sap.com/corporate-en/legal/copyright/index.epx 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.

# 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 | |
| Warning or Caution | |
| Hint | |
| Related or Additional Information | |
| Facilitated Discussion | |
| User interface control | *Example text* |
| Window title | *Example text* |

© Copyright. All rights reserved.

© Copyright. All rights reserved.

# Contents


| | | |
|---|---|---|
| vii | Course Overview | |
| **1** | **Unit 1:** | **Data Warehousing** |
| 1 | | Lesson: Describing Data Warehousing |
| 1 | | Lesson: Describing Data Warehouse Architecture |
| 1 | | Lesson: Using Reporting Tools |
| **3** | **Unit 2:** | **Navigation Options in Reports** |
| 3 | | Lesson: Using the Navigation Options in Reports |
| 3 | | Lesson: Saving Analysis Views and Workbooks |
| **5** | **Unit 3:** | **Simple Queries** |
| 5 | | Lesson: Creating Simple Queries |
| 5 | | Lesson: Finding a Query |
| 5 | | Lesson: Filtering Query Definition Data |
| 5 | | Lesson: Configuring Query Properties |
| **7** | **Unit 4:** | **Key Figures and Structures in Queries** |
| 7 | | Lesson: Creating Restricted Key Figures |
| 7 | | Lesson: Creating Calculated Key Figures |
| 7 | | Lesson: Creating a New Formula with Boolean Operators |
| 7 | | Lesson: Configuring Properties of Key Figures |
| 7 | | Lesson: Using Exception and Nested Exception Aggregation |
| **9** | **Unit 5:** | **Queries with Multiple Structures** |
| 9 | | Lesson: Creating Structures |
| 9 | | Lesson: Resolving Formula Collision |
| 9 | | Lesson: Designing Detailed Queries with the Cell Editor |
| **11** | **Unit 6:** | **Characteristics and Hierarchies in Queries** |
| 11 | | Lesson: Configuring the Properties of Characteristics |
| 11 | | Lesson: Running Display and Navigation Attribute Queries |
| 11 | | Lesson: Adding Hierarchies to Reports |
| 11 | | Lesson: Using Hierarchies and Structures |
| 11 | | Lesson: Adding External Hierarchies to a Report |
| 12 | | Lesson: Creating External Hierarchies |


© Copyright. All rights reserved.

| | | |
|---|---|---|
| **13** | **Unit 7:** | **Variables in Queries** |
| 13 | | Lesson: Using Variables |
| 13 | | Lesson: Creating Characteristic Value and Text Variables in Queries |
| 13 | | Lesson: Creating Hierarchy and Hierarchy Node Variables in Queries |
| 13 | | Lesson: Creating Formula Variables in Queries |
| 13 | | Lesson: Activating Business Content Variables |
| **15** | **Unit 8:** | **Exceptions and Conditions in Queries** |
| 15 | | Lesson: Creating Exceptions in Query Design |
| 15 | | Lesson: Creating Conditions in Query Design |
| **17** | **Unit 9:** | **Report-Report Interface** |
| 17 | | Lesson: Using the Report-Report Interface |
| **19** | **Unit 10:** | **Query Performance Optimization** |
| 19 | | Lesson: Optimizing Query Performance |
| 19 | | Lesson: Configuring Query Read Mode |
| 19 | | Lesson: Using Performance Monitoring Tools |
| **21** | **Unit 11:** | **Queries Management and Authorizations Overview** |
| 21 | | Lesson: Managing Query Objects |
| 21 | | Lesson: Describing Authorizations |
| **23** | **Unit 12:** | **Reporting Options** |
| 23 | | Lesson: Outlining Reporting Options for SAP BW |



© Copyright. All rights reserved.

# Course Overview

**TARGET AUDIENCE**

This course is intended for the following audiences:

- Application Consultant
- Project Manager
- Project Stakeholder
- End User
- Super / Key / Power User

© Copyright. All rights reserved.

© Copyright. All rights reserved.

# UNIT 1 Data Warehousing

## Lesson 1: Describing Data Warehousing

### Lesson Objectives

After completing this lesson, you will be able to:

- Describe data warehouse systems

## Lesson 2: Describing Data Warehouse Architecture

### Lesson Objectives

After completing this lesson, you will be able to:

- Describe data warehouse architecture
- Describe data storage

## Lesson 3: Using Reporting Tools

### Lesson Objectives

After completing this lesson, you will be able to:

- Use reporting tools

© Copyright. All rights reserved.

© Copyright. All rights reserved.

# UNIT 2 Navigation Options in Reports

## Lesson 1: Using the Navigation Options in Reports

### Lesson Objectives

After completing this lesson, you will be able to:

- Use the navigation options in reports

## Lesson 2: Saving Analysis Views and Workbooks

### Lesson Objectives

After completing this lesson, you will be able to:

- Save Analysis views and workbooks

© Copyright. All rights reserved.

© Copyright. All rights reserved.

# UNIT 3 Simple Queries

## Lesson 1: Creating Simple Queries

### Lesson Objectives

After completing this lesson, you will be able to:

- Use the Query Designer
- Create a simple query

## Lesson 2: Finding a Query

### Lesson Objectives

After completing this lesson, you will be able to:

- Find a query

## Lesson 3: Filtering Query Definition Data

### Lesson Objectives

After completing this lesson, you will be able to:

- Filter query definition data
- Use a reusable filter

## Lesson 4: Configuring Query Properties

### Lesson Objectives

After completing this lesson, you will be able to:

- Configure query properties

© Copyright. All rights reserved.

© Copyright. All rights reserved.

# UNIT 4 Key Figures and Structures in Queries

## Lesson 1: Creating Restricted Key Figures

### Lesson Objectives

After completing this lesson, you will be able to:

- Create a restricted key figure
- Determine constant selection

## Lesson 2: Creating Calculated Key Figures

### Lesson Objectives

After completing this lesson, you will be able to:

- Create calculated key figures at the InfoProvider level
- Create calculated key figures with functions

## Lesson 3: Creating a New Formula with Boolean Operators

### Lesson Objectives

After completing this lesson, you will be able to:

- Create a new formula with Boolean operators

## Lesson 4: Configuring Properties of Key Figures

### Lesson Objectives

After completing this lesson, you will be able to:

- Configure the properties of key figures
- Configure key figure options

## Lesson 5: Using Exception and Nested Exception Aggregation

### Lesson Objectives

After completing this lesson, you will be able to:

- Use exception and nested exception aggregation

© Copyright. All rights reserved.

© Copyright. All rights reserved.

# UNIT 5 Queries with Multiple Structures

## Lesson 1: Creating Structures

### Lesson Objectives

After completing this lesson, you will be able to:

- Design a query with a structure
- Design a query with multiple structures

## Lesson 2: Resolving Formula Collision

### Lesson Objectives

After completing this lesson, you will be able to:

- Resolve formula collision

## Lesson 3: Designing Detailed Queries with the Cell Editor

### Lesson Objectives

After completing this lesson, you will be able to:

- Design a detailed query with the Cell Editor

© Copyright. All rights reserved.

© Copyright. All rights reserved.

# UNIT 6 Characteristics and Hierarchies in Queries

## Lesson 1: Configuring the Properties of Characteristics

### Lesson Objectives

After completing this lesson, you will be able to:

- Configure the properties of characteristics

## Lesson 2: Running Display and Navigation Attribute Queries

### Lesson Objectives

After completing this lesson, you will be able to:

- Run display and navigation queries

## Lesson 3: Adding Hierarchies to Reports

### Lesson Objectives

After completing this lesson, you will be able to:

- Add hierarchies to reports

## Lesson 4: Using Hierarchies and Structures

### Lesson Objectives

After completing this lesson, you will be able to:

- Use hierarchies and structures in a report

## Lesson 5: Adding External Hierarchies to a Report

### Lesson Objectives

After completing this lesson, you will be able to:

- Add an external hierarchy to a report
- Configure external hierarchy properties
- Restrict characteristics using external hierarchies

© Copyright. All rights reserved.

# Lesson 6: Creating External Hierarchies

## Lesson Objectives

After completing this lesson, you will be able to:

- Create external hierarchies in SAP BW
- Use report-level settings in hierarchy maintenance


© Copyright. All rights reserved.

# UNIT 7 Variables in Queries

## Lesson 1: Using Variables

### Lesson Objectives

After completing this lesson, you will be able to:

- Use variables
- Create and change variables

## Lesson 2: Creating Characteristic Value and Text Variables in Queries

### Lesson Objectives

After completing this lesson, you will be able to:

- Create characteristic value and text variables in queries

## Lesson 3: Creating Hierarchy and Hierarchy Node Variables in Queries

### Lesson Objectives

After completing this lesson, you will be able to:

- Create hierarchy and hierarchy node variables in queries

## Lesson 4: Creating Formula Variables in Queries

### Lesson Objectives

After completing this lesson, you will be able to:

- Create formula variables in queries

## Lesson 5: Activating Business Content Variables

### Lesson Objectives

After completing this lesson, you will be able to:

- Activate Business Content variables

© Copyright. All rights reserved.

- Use content variables
- Use variable offsets
- Transfer values between queries using variables


© Copyright. All rights reserved.

# UNIT 8 Exceptions and Conditions in Queries

## Lesson 1: Creating Exceptions in Query Design

### Lesson Objectives

After completing this lesson, you will be able to:

- Create an exception in BEx Query Designer
- Configure the status of exception values
- Apply exception definition options

## Lesson 2: Creating Conditions in Query Design

### Lesson Objectives

After completing this lesson, you will be able to:

- Create conditions in BEx Query Designer
- Configure conditions and characteristic assignments
- Use multiple conditions in a report

© Copyright. All rights reserved.

© Copyright. All rights reserved.

# UNIT 9 Report-Report Interface

## Lesson 1: Using the Report-Report Interface

### Lesson Objectives

After completing this lesson, you will be able to:

- Use the report/report interface
- Start a jump
- Use an external URL as a jump target

© Copyright. All rights reserved.

© Copyright. All rights reserved.

# UNIT 10 Query Performance Optimization

## Lesson 1: Optimizing Query Performance

### Lesson Objectives

After completing this lesson, you will be able to:

- Optimize query performance

## Lesson 2: Configuring Query Read Mode

### Lesson Objectives

After completing this lesson, you will be able to:

- Configure query read mode

## Lesson 3: Using Performance Monitoring Tools

### Lesson Objectives

After completing this lesson, you will be able to:

- Monitor performance

© Copyright. All rights reserved.

© Copyright. All rights reserved.

# UNIT 11 Queries Management and Authorizations Overview

## Lesson 1: Managing Query Objects

### Lesson Objectives

After completing this lesson, you will be able to:

- Use the Where-Used List
- Delete a query object
- Copy a query between InfoProviders
- Translate query objects

## Lesson 2: Describing Authorizations

### Lesson Objectives

After completing this lesson, you will be able to:

- Describe authorizations

© Copyright. All rights reserved.

© Copyright. All rights reserved.

# UNIT 12 Reporting Options

## Lesson 1: Outlining Reporting Options for SAP BW

### Lesson Objectives

After completing this lesson, you will be able to:

- Outline reporting options for SAP BW
- Outline OLAP analysis with BEx Analyzer
- Outline advanced web applications
- Outline formatted report design with SAP Crystal Reports
- Outline interactive reporting with SAP BusinessObjects Web Intelligence
- Outline dashboards with key metrics in SAP BusinessObjects Dashboards

© Copyright. All rights reserved.