

# BC414

## Programming Database Updates

### COURSE OUTLINE

Course Version: 18

Course Duration: 2 Day(s)

# SAP Copyrights and Trademarks

© 2018 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*



# Contents

**vii      Course Overview**

**1          Unit 1:      Database Updates with ABAP Open SQL**

1                  Lesson: Database Updates with ABAP Open SQL

**3          Unit 2:      Database Change Bundling**

3                  Lesson: Grouping Database Changes

**5          Unit 3:      SAP Locking**

5                  Lesson: Creating Lock Objects and Lock Modules

5                  Lesson: Setting and Releasing Locks

5                  Lesson: Working with the Different Lock Modes

**7          Unit 4:      Organization of Database Updates**

7                  Lesson: Performing Database Changes from Within the Application Program

7                  Lesson: Performing Database Changes Using the Update Technique

7                  Lesson: Applying Further Features of the Update Technique

**9          Unit 5:      LUWs Across Multiple Programs**

9                  Lesson: Extending LUWs Across Multiple Programs

**11        Unit 6:      Number Assignment**

11                Lesson: Assigning Numbers

11                Lesson: Using Advanced Features of Number Assignment

**13        Unit 7:      Database Change Logging**

13                Lesson: Logging Database Changes

**15        Unit 8:      Object Services**

15                Lesson: Applying Object Services

**17        Unit 9:      Cluster Tables**

17                Lesson: Working with Cluster Tables

**19        Unit 10:     Program-Controlled Program Calls**

19                Lesson: Calling Programs Synchronously and Transferring Data Between Them



# Course Overview

## **TARGET AUDIENCE**

This course is intended for the following audiences:

- Application Consultant
- Data Consultant
- Development Consultant
- Industry / Business Analyst Consultant
- Support Consultant
- Technology Consultant
- Developer





# UNIT 1

# Database Updates with ABAP Open SQL

## Lesson 1: Database Updates with ABAP Open SQL

### Lesson Objectives

After completing this lesson, you will be able to:

- Use Open SQL commands to implement database changes



## Lesson 1: Grouping Database Changes

### Lesson Objectives

After completing this lesson, you will be able to:

- Bundle database changes



## Lesson 1: Creating Lock Objects and Lock Modules

### Lesson Objectives

After completing this lesson, you will be able to:

- Describe the use of the SAP locking concept
- Create lock objects and derive lock modules

## Lesson 2: Setting and Releasing Locks

### Lesson Objectives

After completing this lesson, you will be able to:

- Set and release locks by calling appropriate lock modules

## Lesson 3: Working with the Different Lock Modes

### Lesson Objectives

After completing this lesson, you will be able to:

- Work with various lock modes



## **Lesson 1: Performing Database Changes from Within the Application Program**

### **Lesson Objectives**

After completing this lesson, you will be able to:

- Implement direct updates
- Apply subroutines with deferred processing

## **Lesson 2: Performing Database Changes Using the Update Technique**

### **Lesson Objectives**

After completing this lesson, you will be able to:

- Perform database changes using the update technique

## **Lesson 3: Applying Further Features of the Update Technique**

### **Lesson Objectives**

After completing this lesson, you will be able to:

- Apply further features of the update technique





## Lesson 1: Extending LUWs Across Multiple Programs

### Lesson Objectives

After completing this lesson, you will be able to:

- Perform complex LUW processing
- Apply SAP lock mechanisms in complex LUW processing



## Lesson 1: Assigning Numbers

### Lesson Objectives

After completing this lesson, you will be able to:

- Create number range objects and maintain number range intervals
- Assign numbers

## Lesson 2: Using Advanced Features of Number Assignment

### Lesson Objectives

After completing this lesson, you will be able to:

- Describe buffer numbers
- Use functions to manage number ranges



## Lesson 1: Logging Database Changes

### Lesson Objectives

After completing this lesson, you will be able to:

- Create change document objects
- Create change documents
- Use functions to manage change documents



## Lesson 1: Applying Object Services

### Lesson Objectives

After completing this lesson, you will be able to:

- Implement database updates by using the Persistence Service
- Implement transaction logic by using the Transaction Service





## Lesson 1: Working with Cluster Tables

### Lesson Objectives

After completing this lesson, you will be able to:

- Implement operations on cluster tables



## Lesson 1: Calling Programs Synchronously and Transferring Data Between Them

### Lesson Objectives

After completing this lesson, you will be able to:

- Call programs synchronously
- Pass data between programs