BC402

Advanced ABAP

COURSE OUTLINE

Course Version: 16
Course Duration: 5 Day(s)
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Typographic Conventions

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

<table>
<thead>
<tr>
<th>This information is displayed in the instructor’s presentation</th>
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<tbody>
<tr>
<td>Demonstration</td>
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<tr>
<td>Procedure</td>
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<td>Warning or Caution</td>
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<td>Hint</td>
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<td>Related or Additional Information</td>
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<td>User interface control</td>
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<td>Window title</td>
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Example text

Example text
## Course Overview

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<td>Explaining Statements for Processing Character Strings and Byte Strings</td>
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<td>7</td>
<td>Using Special Techniques with Internal Tables</td>
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TARGET AUDIENCE
This course is intended for the following audiences:

- Development Consultant
- Developer
Lesson 1: Moving from Statements to Expressions and Functions

Lesson Objectives
After completing this lesson, you will be able to:

- Explain the differences between statements, expressions, and functions

Lesson 2: Using ABAP Data Types and Data Objects

Lesson Objectives
After completing this lesson, you will be able to:

- Type data objects
- Use global and local data objects

Lesson 3: Selecting Data from a Single Database Table with Open SQL

Lesson Objectives
After completing this lesson, you will be able to:

- Select data from a single database table with Open SQL
Lesson 1: Calling Programs Synchronously

Lesson Objectives
After completing this lesson, you will be able to:

● Call programs synchronously

Lesson 2: Describing the ABAP Runtime and Memory Management

Lesson Objectives
After completing this lesson, you will be able to:

● Generate and activate programs
● Explain the memory management of user sessions
● Transfer data between programs
● Analyze the memory management of deep data objects

Lesson 3: Using Shared Objects

Lesson Objectives
After completing this lesson, you will be able to:

● Explain shared objects
● Use shared objects
Lesson 1: Using Numeric Data Types in Arithmetic Expressions

Lesson Objectives
After completing this lesson, you will be able to:

- Use arithmetic expressions

Lesson 2: Explaining Statements for Processing Character Strings and Byte Strings

Lesson Objectives
After completing this lesson, you will be able to:

- Process strings using ABAP statements
- Use logical operators
- Use date and time fields

Lesson 3: Processing Character Strings and Byte Strings Using Functions and Expressions

Lesson Objectives
After completing this lesson, you will be able to:

- Process strings using functions and expressions
- Process strings using regular expressions
Lesson 1: Using Standard, Sorted, and Hashed Tables

Lesson Objectives
After completing this lesson, you will be able to:

- Explain the differences between standard, sorted, and hashed tables
- Process internal tables

Lesson 2: Using Special Techniques with Internal Tables

Lesson Objectives
After completing this lesson, you will be able to:

- Use special techniques with internal tables
- Use secondary keys for internal tables

Lesson 3: Using Table Functions and Expressions

Lesson Objectives
After completing this lesson, you will be able to:

- Use table functions and expressions

Lesson 4: Using Data References and Field Symbols

Lesson Objectives
After completing this lesson, you will be able to:

- Use data references and field symbols
Lesson 1: Explaining the Dynamic Programming Techniques of ABAP

Lesson Objectives
After completing this lesson, you will be able to:

• Explain the dynamic programming techniques of ABAP

Lesson 2: Using Dynamic Statements and Dynamic Calls

Lesson Objectives
After completing this lesson, you will be able to:

• Define parts of ABAP statements at runtime
• Call procedures, methods, and programs dynamically
• Generate programs at runtime

Lesson 3: Using Generic Data Types

Lesson Objectives
After completing this lesson, you will be able to:

• Explain generic data types of ABAP
• Use generic data types
• Access data objects dynamically
• Use generically typed data references

Lesson 4: Describing Data Types, Data Objects, and Objects at Runtime

Lesson Objectives
After completing this lesson, you will be able to:

• Explain Runtime Type Identification (RTTI)
• Describe data types and data objects at runtime
• Describe object types and objects at runtime
Lesson 5: Creating Data Types, Data Objects, and Objects at Runtime

Lesson Objectives
After completing this lesson, you will be able to:

- Create objects at runtime
- Create data objects at runtime
- Create data types at runtime
Lesson 1: Describing the Technical Background of Database Accesses with Open SQL

Lesson Objectives
After completing this lesson, you will be able to:

- Explain the architecture of database accesses
- Explain database indices
- Explain SAP table buffering

Lesson 2: Processing and Aggregating Datasets on the Database

Lesson Objectives
After completing this lesson, you will be able to:

- Request ordered or condensed datasets from the database
- Perform calculations on the database

Lesson 3: Implementing Complex WHERE Conditions and Special INTO Clauses

Lesson Objectives
After completing this lesson, you will be able to:

- Filter datasets selected from the database using the WHERE clause
- Use different types of data objects as the target for SELECT statements
- Read large volumes of data from the database

Lesson 4: Using the Features of the New Open SQL Syntax

Lesson Objectives
After completing this lesson, you will be able to:

- Use Expressions in Open SQL

Lesson 5: Selecting Data from Multiple Database Tables

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Lesson Objectives
After completing this lesson, you will be able to:

- Identify the disadvantages of nested selects
- Use ABAP joins and database views

Lesson 6: Explaining Additional Techniques for Reading from Multiple Database Tables

Lesson Objectives
After completing this lesson, you will be able to:

- Explain special techniques for reading from multiple database tables
- Use explicit buffering techniques
Lesson 1: Defining and Activating Checkpoints

Lesson Objectives
After completing this lesson, you will be able to:

- Define checkpoints
- Activate checkpoints

Lesson 2: Using the ABAP Trace

Lesson Objectives
After completing this lesson, you will be able to:

- Use the ABAP trace

Lesson 3: Using the SQL Trace

Lesson Objectives
After completing this lesson, you will be able to:

- Use the SQL trace

Lesson 4: Using the SQL Monitor

Lesson Objectives
After completing this lesson, you will be able to:

- Use the SQL Monitor