

# 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.

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



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# Course Overview

## 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**

### **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