

C_ABAPD: SAP ABAP Cloud Back-End Developer (ABAP on S/4HANA)

Build clean-core ABAP services with CDS, RAP and OData, and prepare for the SAP ABAP Cloud back-end developer exam.

DURATION

8 days · 64 hours

LEVEL

Intermediate

CURRICULUM

24 modules · 20 labs

DELIVERY

Live online, Onsite,
Corporate

Course overview

ABAP remains the language that runs the core of SAP S/4HANA, but the way it is written has changed. ABAP Cloud asks developers to build on released APIs, model data with CDS and expose services through the RESTful ABAP Programming model (RAP), so that systems stay upgrade-friendly. This eight-day course teaches that modern style hands-on, for freshers and for classic ABAP developers moving to S/4HANA and BTP.

The first half builds the foundations. You will set up ABAP Development Tools in Eclipse, learn the language syntax, data types and modularisation, and work with the ABAP Dictionary, CDS view entities, associations and annotations. ABAP SQL, internal tables and object-oriented ABAP — classes, interfaces, exceptions and inheritance — follow, with a lab every session.

The second half is about building real applications. You will create RAP business objects with behaviour definitions and implementations, add validations, determinations and actions, handle draft, and publish the result through service definitions and OData service bindings. A Fiori elements preview lets you see your app working end to end.

We also cover clean core principles, release contracts and how to find released APIs, ABAP Unit tests and test doubles, and enough classic ABAP — reports, ALV, BADIs and enhancements — to support existing systems you will meet on projects.

This course is aligned to the SAP Certified Associate – Back-End Developer – ABAP Cloud exam (C_ABAPD). Ace Skills is not an SAP partner and this is not official SAP training. SAP adds a release suffix to its exam codes and updates them regularly, so please confirm the current code on SAP Learning before booking.

Highlights

- 64 hours of live, trainer-led sessions
- ABAP Development Tools in Eclipse from day one
- CDS view entities, ABAP SQL and internal tables
- RAP business objects exposed as OData and previewed in Fiori
- Clean core, released APIs and ABAP Unit testing
- Practice questions with review

What's included

- ABAP Development Tools (Eclipse) labs throughout
- SAP BTP ABAP environment trial or training system access guidance
- CDS data modelling with associations and annotations
- End-to-end RAP business object build with draft
- OData V4 service binding and Fiori elements preview
- ABAP Unit testing and clean core checks
- Classic ABAP awareness for brownfield projects
- Course completion certificate from Ace Skills Consulting
- Post-training doubt support

Who this course is for

Who should attend

- Freshers and graduates starting an SAP technical career
- Classic ABAP developers moving to S/4HANA and ABAP Cloud
- Java or .NET developers joining SAP projects
- SAP functional consultants who want technical depth
- Technical leads planning clean core development

Prerequisites

- Basic programming knowledge in any language
- Understanding of relational databases and SQL basics
- Awareness of SAP business processes is helpful but not required

Detailed curriculum — 8 days, 64 hours, 24 modules, 20 hands-on labs

Day 1 ABAP Platform and Development Tools

8 hours

1.1 SAP S/4HANA and ABAP Cloud landscape

- S/4HANA and SAP BTP at a glance
- ABAP Cloud development model
- Software components, packages and transport requests
- On-premise, private cloud and public cloud development
- Tier model and the clean core idea

LAB Connect to the ABAP environment and create a package · 30 min

1.2 ABAP Development Tools in Eclipse

- Installing ADT and creating ABAP projects
- Code completion, quick fixes and refactoring
- ABAP console applications
- Project Explorer and editors
- Debugger basics and breakpoints

LAB Write and debug a first console class · 45 min

1.3 ABAP language basics

- Syntax, statements and comments
- Inline declarations and constructor expressions
- String processing and templates
- Elementary data types and declarations
- Control structures and loops

LAB Build calculations and string output in ABAP · 45 min

Day 2 Data Types, Dictionary and Modularisation

8 hours

2.1 Data types in depth

- Structures and table types
- Data elements and domains
- Fixed-point arithmetic
- Global and local types
- Type conversion rules

LAB Define structured types and convert data safely · 40 min

2.2 ABAP Dictionary

- Database tables and key fields
- Foreign keys and value helps overview
- Generating test data
- Technical settings and client handling
- Activation and adjustment

LAB Create database tables and fill them with test data · 45 min

2.3 Modularisation and error handling

- Methods and parameters
- RAISE and TRY...CATCH
- Code readability guidelines
- Class-based exceptions
- Message handling basics

LAB Refactor logic into methods with exception handling · 40 min

Day 3 ABAP SQL and Internal Tables

8 hours

3.1 ABAP SQL

- SELECT with field lists and WHERE clauses
- SQL expressions and built-in functions
- Performance guidelines for HANA
- Joins and aggregate functions
- INSERT, UPDATE, MODIFY and DELETE

LAB Query and change data with ABAP SQL · 50 min

3.2 Internal tables

- Standard, sorted and hashed tables
- READ TABLE, LOOP AT and table expressions
- Grouping and sorting
- Keys and secondary keys
- FOR expressions and REDUCE

LAB Process business data with internal tables · 50 min

3.3 Working with data efficiently

- Choosing the right table kind
- Avoiding nested selects
- Field symbols and data references
- SQL trace and runtime analysis overview

Day 4 Core Data Services

8 hours

4.1 CDS view entities

- CDS in the S/4HANA virtual data model
- Projections, joins and unions
- Parameters and literals
- Defining view entities
- Calculated fields and CASE

LAB Build CDS view entities over your tables · 50 min

4.2 Associations and annotations

- Associations and path expressions
- UI and semantic annotations
- Access control with DCL
- Compositions for parent-child data
- Metadata extensions

LAB Add associations, annotations and access control · 50 min

4.3 Consuming CDS

- Reading CDS views in ABAP SQL
- Data preview and dependency analyser
- Released CDS views from SAP
- Naming conventions for VDM layers

Day 5 Object-Oriented ABAP

8 hours

5.1 Classes and objects

- Classes, attributes and methods
- Instance and static components
- Functional methods and chaining
- Visibility sections
- Constructors

LAB Design a class for a business entity · 45 min

5.2 Inheritance and interfaces

- Inheritance and redefinition
- Interfaces and polymorphism
- Factory and singleton patterns
- Abstract and final classes
- Casting

LAB Implement polymorphism with interfaces · 45 min

5.3 Clean core and released APIs

- ABAP Cloud language version
- Finding released objects
- Wrapping unreleased functionality
- Release contracts and API states
- ATC checks for cloud readiness

LAB Run ATC checks and replace an unreleased call · 40 min

Day 6 RAP Business Objects

8 hours

6.1 RAP fundamentals

- RAP architecture and layers
- Data model with root and child entities
- Behaviour definitions
- Managed and unmanaged implementation types
- Projection layer

LAB Generate and examine a managed RAP business object · 45 min

6.2 Behaviour implementation

- Behaviour pools and handler classes
- Validations
- Actions and functions
- Numbering and field control
- Determinations
- Entity Manipulation Language (EML)

LAB Add validations, determinations and an action · 60 min

6.3 Draft and locking

- Draft handling concepts
- ETag and optimistic locking
- Draft tables
- Authorisation checks in RAP

LAB Enable draft for the business object · 35 min

Day 7 Services, OData and Fiori Elements Preview

8 hours

7.1 Business services

- Service definitions
- Publishing local services
- OData V2 and V4 service bindings
- Service metadata and testing

LAB Expose the business object as an OData V4 service · 40 min

7.2 Fiori elements preview

- List report and object page patterns
- Value helps and search
- UI annotations for line items and facets
- Previewing the app from ADT

LAB Shape a Fiori elements app with annotations · 50 min

7.3 Classic ABAP awareness

- Executable reports and selection screens
- BAdIs and enhancement spots
- When classic techniques are still used
- ALV output with SALV
- Customer exits and user exits overview

LAB Read and extend a classic report with an ALV list · 40 min

Day 8 Testing, Integration and Exam Readiness

8 hours

8.1 ABAP Unit testing

- Test classes and test methods
- Test doubles for CDS and SQL
- Coverage in ADT
- Assertions
- Testing RAP behaviour with EML

LAB Write ABAP Unit tests for the business object · 50 min

8.2 Putting it together

- Review of the end-to-end application
- Common project pitfalls
- Transport and release of objects
- Code review checklist

8.3 Exam readiness

- C_ABAPD topic review
- Practice questions with review
- Question styles
- Confirming the current exam release on SAP Learning

Skills and tools

Skills you will build

ABAP

ABAP Cloud

ABAP Development Tools

ABAP SQL

Internal tables

OO ABAP

ABAP Dictionary

CDS view entities

RAP

Behaviour definitions

EML

OData

Fiori elements

Clean core

ABAP Unit

ALV

BAdIs

Tools used in class

ABAP Development Tools (Eclipse)

SAP BTP trial / ABAP environment

SAP S/4HANA (training system)

SAP GUI

ABAP Test Cockpit (ATC)

Certification exam

This course is aligned to the exam below and prepares you for it. The exam itself is booked and taken with the vendor.

Exam	SAP Certified Associate – Back-End Developer – ABAP Cloud
Exam code	C_ABAPD
Official page	https://learning.sap.com/certifications

Exam skill areas covered
Core SAP S/4HANA and ABAP SQL
CDS, EML, RAP, Fiori, and ALV

Exam details are pending verification. Confirm the current exam code, format and fee on the official vendor page before booking.

Frequently asked questions

Which exam code should I book?

SAP adds a release suffix to C_ABAPD and refreshes it periodically. Check SAP Learning for the current code before booking; we align the course to the latest outline.

Is this official SAP training?

No. It is an independent Ace Skills course aligned to the published exam topics, and Ace Skills is not an SAP partner.

Will I get system access?

We guide you to an SAP BTP ABAP environment trial or a training system before Day 1, so you can complete every lab.

Do I need prior ABAP experience?

No. The course starts with the language basics, though some programming experience in any language helps you keep pace.

Does it cover classic ABAP?

Yes, at an awareness level — reports, ALV, BAdIs and enhancements — so you can support existing systems alongside ABAP Cloud work.

Book a batch or talk to an advisor

Course page: aceskillsconsulting.com/course/c-abapd-sap-abap-cloud-back-end-developer · Email: info@aceskillsconsulting.com

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