

SAP AI & ABAP Cloud

Developer-Only Educational Program (9 Days)

Course Overview

This 9-day educational program is designed specifically for developers and focuses on integrating Artificial Intelligence (SAP Joule) into the SAP environment. All AI capabilities within these courses run exclusively in the SAP cloud (SAP Business Technology Platform), not on local or on-premise systems. Existing local SAP training servers serve only as a conceptual reference for module context.

Hands-on AI exercises are delivered on free or low-cost SAP cloud tenants self-provisioned by participants, while comprehensive certification preparation takes place on practice systems provided directly by SAP.

Who Should Attend

This program is specifically curated for enterprise IT professionals and developers aiming to modernize their SAP development lifecycle with Artificial Intelligence. Ideal candidates include:

- **Senior & Mid-Level ABAP Developers:** Professionals transitioning from classic on-premise ABAP to the modern ABAP Cloud paradigm, looking to leverage AI for accelerated code generation, automated testing, and legacy code refactoring.
- **SAP Development Consultants & Technical Architects:** Technical leaders who need to understand how SAP Joule and SAP AI Core integrate into the SAP Business Technology Platform (BTP) to design secure, future-proof, AI-assisted enterprise architectures.
- **Back-End Cloud Developers:** Engineers seeking to officially validate their skills through SAP certification while simultaneously mastering generative AI tools to maximize daily productivity.

Prerequisites:

Participants should have a solid foundation in programming logic and basic familiarity with Eclipse and ABAP Development Tools (ADT). An understanding of standard SAP business processes is expected. Prior exposure to the ABAP RESTful Application Programming Model (RAP) and Core Data Services (CDS) is highly beneficial but not strictly mandatory. *(Note: A laptop with the latest ADT, a free SAP Universal ID, and stable internet are required).*

At Course Completion, You Will Be Able To

- Utilize and implement ABAP AI capabilities using Joule for Developers.
- Set up and configure SAP Joule across various Organizational System Landscapes.
- Independently prepare for and take the official "SAP Certified Associate - Back-End Developer, ABAP Cloud" certification exam.
- Leverage Agent-Assisted Coding with the help of SAP AI Core to build multi-agent workflows and optimize custom BAPI integrations.

Detailed Course Outline

Track 1: AI in ABAP Development & Administration (3 Days)

This track bridges the gap between traditional development and AI-assisted engineering, focusing on both the practical coding applications and the architectural deployment of SAP Joule.

Module 1.1: Joule for Developers – ABAP AI Capabilities

- **Overview of Generative AI in SAP:** Understanding the shift from classic AI to GenAI and how Joule fits into the SAP ecosystem.
- **Navigating the AI Workspace:** Integrating and accessing Joule directly within Eclipse and ABAP Development Tools (ADT).
- **AI-Assisted Code Generation:** Prompting Joule to automatically generate Core Data Services (CDS) views, Entity Manipulation Language (EML) scripts, and ABAP classes.
- **Code Refactoring & Explanations:** Using AI to analyze, explain, and optimize legacy custom code for the ABAP Cloud environment.
- **Automated Testing:** Accelerating quality assurance by generating unit tests (ABAP Unit) using natural language prompts.
- **Debugging & Troubleshooting:** Leveraging Joule as an intelligent assistant to identify syntax errors and logical flaws in real-time.

DURATION	2 Days
DELIVERY	Intensive hands-on labs
ENVIRONMENT	SAP Build Basic Trial (Joule-enabled) or a licensed BTP ABAP tenant (self-provisioned)

Module 1.2: Setting up Joule across Organizational System Landscapes

- **SAP BTP Architecture Fundamentals:** Understanding global accounts, subaccounts, spaces, and entitlements required for AI services.
- **Security & Identity Management:** Configuring the SAP Identity Authentication Service (IAS), mapping role collections, and establishing Trust Configurations.
- **Service Provisioning:** Step-by-step enablement of the SAP Joule service and routing requests securely to the AI foundation.
- **Landscape Integration:** Connecting backend systems (like S/4HANA Cloud) to BTP to enable seamless AI data flows.
- **Data Privacy & Compliance:** Best practices for managing enterprise data boundaries and AI token metering.

DURATION	1 Day
DELIVERY	Instructor-led live demo
ENVIRONMENT	Productive BTP global account with admin rights (instructor-managed)

Track 2: Back-End Development & Official SAP Certification (5 Days)

A deep, rigorous immersion into the ABAP Cloud framework. This track not only builds enterprise-grade development skills but is strictly aligned with the exam objectives for the official SAP Certified Associate credential.

Module 2.1: Equivalent to SAP Certified Associate – Back-End Developer, ABAP Cloud

- **The "Clean Core" Paradigm:** Transitioning from classic ABAP extensions to cloud-ready, upgrade-safe development.
- **ABAP RESTful Application Programming Model (RAP):** End-to-end building of modern business objects and Fiori-ready OData services.
- **Advanced Data Modeling:** Deep dive into advanced Core Data Services (CDS) concepts, including annotations and access controls.
- **Business Logic Implementation:** Utilizing Entity Manipulation Language (EML) for transactional behaviors (create, update, delete, actions).
- **Extensibility Strategies:** Mastering Key User Extensibility, Developer Extensibility, and Side-by-Side Extensibility on SAP BTP.
- **Certification Readiness:** Comprehensive review sessions, hands-on mock scenarios, and targeted drills within the SAP-provided exam practice systems.

DURATION 5 Days

DELIVERY Hands-on labs paired with certification prep

ENVIRONMENT Official practice systems directly provided and managed by SAP

Track 3: Advanced AI Coding Techniques (1 Day)

A forward-looking module focusing on the broader generative AI landscape within SAP, moving beyond built-in tools to custom agent-assisted coding.

Module 3.1: Agent-Assisted Coding with AI Core

- **SAP AI Core & Generative AI Hub:** Navigating the infrastructure that powers custom AI and Large Language Model (LLM) integration.
- **Prompt Engineering for Enterprise IT:** Tailoring prompts specifically for complex SAP contexts, BAPI integrations, and enterprise architectures.
- **Multi-Agent Workflows:** Designing systems where multiple AI agents collaborate to solve complex business requirements and write multi-layered code.
- **Cost & Resource Management:** Understanding the commercial token-metered plans and optimizing AI query execution to control GenAI costs.

DURATION 1 Day

DELIVERY Watch-along and supervised guided labs (Live session)

ENVIRONMENT SAP AI Core (Labs managed in a guided environment under instructor supervision)