Training for Database & Technology with Development in HANA Programming

Courses Listed

Beginner

- HA100 - SAP HANA® – 360° Introduction

Intermediate

- SAPTEC - Technology Fundamentals of SAP S/4HANA and SAP Business Suite
- BC100 - Introduction to Programming with ABAP

Advanced

- HA300 - SAP HANA 2.0 SPS06 Modeling
- HA400 - ABAP® Programming for SAP HANA®
- BC400 - ABAP Workbench Foundations
- BC401 - ABAP Objects

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All available schedules in your selection

BC401   ABAP Objects

There are currently no events available for this course. Please feel free to register interest for this course on SAP Training. We will then notify you when a course has been scheduled.

BC400   ABAP Workbench Foundations

There are currently no events available for this course. Please feel free to register interest for this course on SAP Training. We will then notify you when a course has been scheduled.

HA300   SAP HANA 2.0 SPS06 Modeling

There are currently no events available for this course. Please feel free to register interest for this course on SAP Training. We will then notify you when a course has been scheduled.

HA400   ABAP® Programming for SAP HANA®

There are currently no events available for this course. Please feel free to register interest for this course on SAP Training. We will then notify you when a course has been scheduled.

BC100   Introduction to Programming with ABAP

There are currently no events available for this course. Please feel free to register interest for this course on SAP Training. We will then notify you when a course has been scheduled.

HA100   SAP HANA® – 360° Introduction

There are currently no events available for this course. Please feel free to register interest for this course on SAP Training. We will then notify you when a course has been scheduled.

SAPTEC   Technology Fundamentals of SAP S/4HANA and SAP Business Suite

There are currently no events available for this course. Please feel free to register interest for this course on SAP Training. We will then notify you when a course has been scheduled.

BC401 - ABAP Objects

Course announcements

- This course will be retired as of end June 2024, and you should instead consider registering for Basic ABAP Programming (S4D400) and Intermediate ABAP Programming (S4D401) . Please also check our digital learning journey Acquiring Core ABAP Skills . Note that Object Oriented Programming (OOP) covered in BC401 is just one of many topics covered in these alternative offerings. Learning ABAP Cloud equips you with the skills to scale, innovate, integrate and maintain business applications efficiently while saving on costs, and ensures you stay current with today's cloud-centric business world. It also increases your marketability as a developer in the growing SAP ecosystem. Our classes impart ABAP knowledge that is applicable both to ABAP Cloud and on-premise installations, demonstrating the backward compatibility of ABAP Cloud, i.e. your skills and experience in ABAP on-premise can certainly form a strong foundation for working in ABAP Cloud.
- This course is also available in a self-paced e-learning format with an active subscription to the SAP Learning Hub, as BC401E.
- Strengthen your ABAP skills by gaining a full understanding of the use of object-oriented programming techniques, and how to apply them practically in your ABAP applications.

Goals

- This course will prepare you to:
- Understand the concepts of object-oriented programming
- Develop business applications with ABAP Objects

Audience

- Developer
- Developer Consultant
- Help Desk / COE Support
- Program / Project Manager

Essential

- BC400

Course based on software release

- AS ABAP 7.50
- SAP ECC 6.08

Content

- Introduction to Object-Oriented Programming
- Explaining the Object-Oriented Programming Model
- Analyzing and Designing with Unified Modeling Language (UML)
- Fundamental Object-Oriented Syntax
- Creating Local Classes
- Creating Objects
- Accessing Methods and Attributes
- Implementing Constructors in Local Classes
- Implementing Class Constructors in Local Classes
- Inheritance and Casting
- Implementing Inheritance
- Implementing Upcasts Using Inheritance
- Implementing Polymorphism Using Inheritance
- Implementing Downcasts Using Inheritance
- Interfaces and Casting
- Defining and Implementing Local Interfaces
- Implementing Polymorphism Using Interfaces
- Integrating Class Models Using Interfaces
- Object-Oriented Events
- Implementing Events in Local Classes
- Implementing Events in Local Interfaces

- Object-Oriented Repository Objects

- Creating Global Classes
- Defining and Implementing Global Interfaces
- Implementing Inheritance in Global Classes
- ABAP Object-Oriented Examples

- Using the ABAP List Viewer (ALV)
- Describing Business Add-Ins (BAdIs)
- Global Classes in ABAP Development Tools

- Developing Eclipse-Based ABAP Programs
- Class-Based Exceptions

- Explaining Class-Based Exceptions
- Defining and Raising Exceptions
- Implementing Advanced Exception Handling Techniques
- Unit Testing

- Unit Testing with ABAP Unit
- Object-Oriented Design Patterns

- Implementing Advanced Object-Oriented Techniques
- Implementing the Singleton Pattern
- Implementing Factory Classes Using Friendship
- Implementing Persistent Objects
- Runtime Type Services

- Using Runtime Type Identification (RTTI)

- Creation of a Comprehensive Object-Oriented Application
- Developing a Comprehensive Object-Oriented Application

Notes

- Courseware available as flipbook in the Learning Hub

BC400 - ABAP Workbench Foundations

Course announcements

- This course will be retired as of end June 2024, and is replaced by Basic ABAP Programming (S4D400) . Please also check our digital learning journey Acquiring Core ABAP Skills . Learning ABAP Cloud equips you with the skills to scale, innovate, integrate and maintain business applications efficiently while saving on costs, and ensures you stay current with today's cloud-centric business world. It also increases your marketability as a developer in the growing SAP ecosystem. Our classes impart ABAP knowledge that is applicable both to ABAP Cloud and on-premise installations, demonstrating the backward compatibility of ABAP Cloud, i.e. your skills and experience in ABAP on- premise can certainly form a strong foundation for working in ABAP Cloud.
- This course is also available in a self-paced e-learning format with an active subscription to the SAP Learning Hub, as BC400E.
- Gain a detailed knowledge of the fundamental concepts of ABAP and learn how to comfortably and efficiently work with the ABAP Workbench tools in order to undertake custom developments with confidence

Goals

- This course will prepare you to:
- Learn the fundamental concepts of the ABAP programming language
- Efficiently use the ABAP Workbench Tools
- Create simple application programs with user dialogs (list, selection screen, screens, Web Dynpro) and database dialogs (reading from the database)

Audience

- Developer
- Developer Consultant
- Help Desk / COE Support
- Program / Project Manager

Essential

- BC100 or previous programming language experience

Course based on software release

- SAP NETWEAVER 7.50 ECC608

Content

- Flow of an ABAP Program
- Describing the Processing of ABAP Programs
- ABAP Workbench

- Introducing the ABAP Workbench
- Organizing ABAP Development Projects
- Developing ABAP Programs
- Finalizing ABAP Development Projects
- Basic ABAP Language Elements

- Defining Elementary Data Objects
- Using Basic ABAP Statements
- Analyzing Programs with the ABAP Debugger
- Modularization Techniques in ABAP

- Explaining Modularization
- Defining and Calling Subroutines
- Calling Function Modules
- Creating Function Modules
- Describing Business Application Programming Interfaces (BAPIs)
- Calling Methods of Global Classes
- Creating Global Classes and Static Methods
- Using Local Classes

- Complex Data Objects

- Using Structured Data Objects
- Using Internal Tables
- Data Modeling and Data Retrieval

- Explaining Data Models
- Retrieving Single Database Records
- Retrieving Multiple Database Records
- Describing Other Aspects of Database Access
- Implementing Authorization Checks
- Classic ABAP Reports

- Implementing ABAP Lists
- Implementing Selection Screens
- Implementing Events of ABAP Reports
- Screens

- Creating Screens
- Creating Input and Output Fields
- Implementing Data Transport
- SAP List Viewer

- Using the SAP List Viewer
- Web Dynpro ABAP

- Describing Web Dynpro ABAP
- Implementing Navigation in Web Dynpro
- Implementing Data Transport in Web Dynpro

- Program Analysis Tools
- Improving the Quality of ABAP Code with the Code Inspector
- ABAP Development Tools for SAP NetWeaver

- Describing ABAP Development Tools for SAP NetWeaver
- Creating an ABAP Project in Eclipse
- SAP Standard Software Adjustments

- Adjusting the SAP Standard Software

HA300 - SAP HANA 2.0 SPS06 Modeling

Course announcements

- This course is also available in a self-paced e-learning format with an active subscription to the SAP Learning Hub, as HA300E.
- This course teaches the core capabilities of SAP HANA for calculation view modeling, and covers mainly graphical modeling, as well as SQL- based modeling (table functions and procedures) with a focus on performance. It also introduces core data services as a flexible method to model a persistence layer.
- The participants will gain knowledge about the management of modeling content in the SAP Web IDE for SAP HANA, and the key principles of object and data access security in a modeling context.

Goals

- This course will prepare you to:
- Develop information models following SAP best practices for maximum performance and flexibility
- Get started with SQL and SQL-Script based modeling
- Manage projects and modeling content in the SAP Web IDE for SAP HANA
- Implement security and data access controls around SAP HANA data models

Audience

- Application Consultant
- Data Consultant / Manager
- Database Administrator
- Application Developer
- BI specialist

Essential

- HA100 SAP HANA - 360° Introduction

Course based on software release

- SAP HANA 2.0 SPS06

Content

- Calculation Views

- Introducing Calculation Views
- Understanding the Different Types of Views
- Working with Common View Design Features
- Using Nodes in Calculation Views

- Using Projection Nodes
- Using Join Nodes
- Working with Data Sets
- Aggregating Data
- Creating CUBE with Star Join Calculation Views
- Extracting Top Values with Rank Nodes
- Modeling Functions

- Create Restricted and Calculated Columns
- Filtering Data
- Using Variables and Input Parameters
- Implementing Hierarchies
- Implement Currency Conversion
- Defining Time-Based Dimension Calculation Views

- Using SQL in Models

- Introducing SAP HANA SQL
- Query a Modeled Hierarchy Using SQLScript
- Working with SQLScript
- Creating and Using Functions
- Creating and Using Procedures
- Persistence Layer

- Defining the Persistence Layer
- Loading Data into Tables
- Accessing Remote Data
- Optimization of Models

- Implementing Good Modeling Practices
- Implementing Static Cache
- Controlling Parallelization
- Implementing Union Pruning
- Using Tools to Check Model Performance
- Developing a Data Management Architecture
- Management and administration of Models

- Working with Modeling Content in a Project
- Creating and Managing Projects
- Enabling Access to External Data
- Working with GIT Within the SAP Web IDE
- Migrating Modeling Content

- Security in SAP HANA Modeling

- Understanding Roles and Privileges
- Defining Analytic Privileges
- Defining Roles
- Masking Sensitive Data
- Anonymizing Data

HA400 - ABAP® Programming for SAP HANA®

Course announcements

- In this course, you learn how you can use SAP HANA and new features in the ABAP programming language to optimize existing ABAP code and to develop innovative ABAP applications to enhance your business.

Goals

- This course will prepare you to:
- develop more concise and well-performing ABAP programs using new features of the ABAP programming language
- develop and optimize ABAP applications that access data stored in the SAP HANA database

Audience

- Application Consultant
- Developer
- Development Consultant

Essential

- Basic Knowledge of SAP HANA
- BC400
- BC401
- Experience in ABAP Programming, esp. Open SQL (joins, views, aggregations)

Course based on software release

- SAP HANA 2.0 SPS06

Content

- Introduction
- Understanding SAP HANA and how it impacts the ABAP development paradigm
- Introduction to ABAP development tools (also known as ABAP in Eclipse)

- Taking ABAP to SAP HANA
- Accessing SAP HANA as a secondary database
- Tools to detect potential functional and performance issues when migrating to SAP HANA: code inspector and ABAP test cockpit, ABAP trace and ABAP profiler, SQL trace
- Tools to prioritize performance issues: SQL monitor, SQL performance tuning worklist
- Performance rules and guidelines for ABAP in the context of SAP HANA
- Database independent code-to-data

- Enhanced open SQL
- Defining advanced views using core data services (CDS) and CDS associations in ABAP
- Incorporating authorization checks with CDS in ABAP
- SAP HANA specific code-to-data

- Using native SQL and ABAP data base connectivity (ADBC)
- Creating, using and debugging ABAP managed database procedures
- Using SAP HANA information models in ABAP
- Advanced topics

- ABAP transport of SAP HANA objects (HTC and HTA)
- Using SAP HANA full text search in ABAP
- Enabling input fields for type-ahead search
- SAP list viewer (ALV) optimized for SAP HANA

Notes

- This course is for developers and consultants who are familiar with programming database access using ABAP and ABAP objects programming and want to learn how to use SAP HANA to speed up such access.

- The course covers many new ABAP features for database access that are not limited to SAP HANA as underlying database.

BC100 - Introduction to Programming with ABAP

Course announcements

- This course will be retired as of end June 2024. As an alternative, please take a look at our digital learning journey - Learning the Basics of ABAP Programming on SAP BTP . Learning ABAP Cloud equips you with the skills to scale, innovate, integrate and maintain business applications efficiently while saving on costs, and ensures you stay current with today's cloud-centric business world. It also increases your marketability as a developer in the growing SAP ecosystem. Our classes impart ABAP knowledge that is applicable both to ABAP Cloud and on-premise installations, demonstrating the backward compatibility of ABAP Cloud, i.e. your skills and experience in ABAP on-premise can certainly form a strong foundation for working in ABAP Cloud.

Goals

- Learn simple ABAP code
- Trace the flow of a program and troubleshoot simple problems

Audience

- Developer
- Developer Consultant
- Help Desk / COE Support

Essential

- None

Course based on software release

- SAP NETWEAVER 7.50 ECC608

Content

- Basics of ABAP Programming

- Developing a Simple ABAP Program
- Introducing ABAP Syntax
- Implementing a Simple Dialog
- Customizing the ABAP Editor

- Coding and Debugging in ABAP

- Defining Simple Variables
- Defining Text Symbols Performing Arithmetic Operations Using Simple Variables
- Using System Variables
- Debugging a Program
- Creating an ABAP List
- Processing Character Strings
- Control Flow Structures in ABAP

- Implementing Conditional Logic
- Implementing Loops
- Runtime Errors and Error Handling

- Analyzing Runtime Errors
- Implementing Error Handling
- Additional ABAP Programming Techniques

- Retrieving Data From the Database
- Describing Modularization in ABAP
- Using Function Modules

Notes

- The BC400 (ABAP Workbench Foundations) programming courses require that you understand the content of this basic course. .

HA100 - SAP HANA® – 360° Introduction

Course announcements

- This course introduces SAP HANA. Through lectures and exercises you will quickly develop a broad understanding of all key areas of SAP HANA including technology, architecture, data modeling, data management and application development. This course is an important prerequisite for many detailed, follow-on SAP HANA courses. Topics covered in this course are included in most SAP HANA certifications.

Goals

- This course will prepare you to:
- Understand the key technology of SAP HANA
- Understand the key roles and their responsibilities in an SAP HANA project
- Work with the various SAP HANA interfaces used by developers and administrators
- Create a data model using SAP HANA modeling tools
- Acquire and enrich data and load to SAP HANA
- Build a report that runs on an SAP HANA data model
- Get started with the application development environment

Audience

- Application Consultant
- Business Analyst
- Change Manager
- Database Administrator
- Application Developer
- BI / BW consultant
- Data Scientist
- SAP HANA Project Manager

- SAP HANA Support Staff

Essential

- None

Course based on software release

- SAP HANA 2.0 SPS07

Content

- Describing SAP HANA
- Technical requirements of SAP HANA
- Data management with SAP HANA
- Analytical processing with SAP HANA
- Powering data warehouses with SAP HANA
- Running SAP applications on SAP HANA
- Developing Applications of SAP HANA
- Monitoring SAP HANA
- Security and data privacy with SAP HANA
- Migration to SAP HANA

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SAPTEC - Technology Fundamentals of SAP S/4HANA and SAP Business Suite

Course announcements

- Would you like to understand how SAP systems function?
- This course introduces the technology fundamentals of most SAP applications (incl. SAP S/4HANA and SAP Business Suite), how SAP systems function, as well as an introduction to different user interfaces, such as SAP Fiori or SAP GUI. The training contains hands-on exercises in an SAP S/4HANA system and other SAP applications. The course will also introduce learners to the SAP strategy and provides an overview of cloud topics.
- After completing this course, users will have acquired the fundamental technology knowledge necessary to follow the learning path to their choice of business role ranging from SAP System administrator to developer to user interface expert or to project or program manager.

Goals

- This course will prepare you to:
- Present in detail the architecture of SAP Application Server. The SAP Application Server is the central component of SAP S/4HANA, and the SAP Business Suite.
- Learn effective techniques for navigating
- Receive an overview of the development process in an SAP system landscape
- Understand the basics of the SAP strategy

Audience

- System Administrator
- Technology Consultant
- System Architect
- Database Administrator
- Help Desk / COE Support

- Program / Project Manager
- Developer
- Development Consultant

Essential

- Knowledge of Information Technology

Course based on software release

- SAP S/4HANA 2021
- ABAP Platform 2021
- AS ABAP 7.56

Content

- SAP portfolio overview
- SAP systems
- Navigation using SAP Fiori, SAP GUI, SAP Business Client, a web browser
- Explaining the architecture of an SAP system, Application Server (AS) ABAP and Application Server (AS) Java
- Explaining the processes of an AS ABAP and AS Java based SAP system
- Processing user requests in AS ABAP
- Explaining the data structure of an AS ABAP-based SAP system
- Software development in SAP systems
- Communication and integration technologies (RFC, HTTP, and OData)
- Application Lifecycle Management (ALM)
- Describing the maintenance of an SAP system

Notes

- SAPTEC examines SAP Application Server and imparts the knowledge that is required for subsequent courses related to the technology of SAP Application Server.
- SAPTEC is the entry point for administration for SAP S/4HANA, and SAP Business Suite.
- SAPTEC is the foundation for curricula like SAP System Administration, ABAP Development, SAP Portal, and SAP Process Integration.