COURSE OUTLINE

Course Version: 13
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 | ![Presentation Icon] |
| Demonstration | ![Demonstration Icon] |
| Procedure | ![Procedure Icon] |
| Warning or Caution | ![Warning Icon] |
| Hint | ![Hint Icon] |
| Related or Additional Information | ![Related Information Icon] |
| Facilitated Discussion | ![Discussion Icon] |
| User interface control | ![User Interface Icon] |
| Window title | ![Window Title Icon] |
## Course Overview

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2. Lesson: Finding SAP HANA Information Sources

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4. Lesson: Describing Linux Operating System Requirements

### Unit 3: SAP HANA Installation

5. Lesson: Introducing SAP HANA Lifecycle Management Tools
6. Lesson: Describing Advanced Installation Options
7. Lesson: Explaining a Distributed System

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TARGET AUDIENCE
This course is intended for the following audiences:

- System Administrator
Lesson 1: Introducing SAP HANA

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

• Understand the basics of SAP HANA

Lesson 2: Finding SAP HANA Information Sources

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

• Find the most important information sources
Lesson 1: Understanding the Sizing of SAP HANA

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

- Understand the sizing approach for a SAP HANA database in an Appliance or a Tailored Datacenter Integration (TDI) scenario.

Lesson 2: Describing Linux Operating System Requirements

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

- Explain the SAP HANA system concepts and system types
Lesson 1: Introducing SAP HANA Lifecycle Management Tools

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

- Explain SAP HANA lifecycle management tools

Lesson 2: Describing Advanced Installation Options

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

- Explain the use of the command line options

Lesson 3: Explaining a Distributed System

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

- Explain a distributed system installation
Lesson 1: Explaining SAP HANA Memory Management and Data Persistence

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

- Identify the components for memory management and persistence in the SAP HANA database architecture
- Describe the SAP HANA memory usage and allocation behavior
- Describe memory management in row store and column store
- Explain how data is persisted in data and log volumes
- Identify optimization potential with regard to memory management and persistence
Lesson 1: Introducing SAP HANA Cockpit 2.0

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

- Understand the SAP HANA Cockpit 2.0 architecture

Lesson 2: Installing SAP HANA Cockpit 2.0

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

- Understand the installation requirements and procedure

Lesson 3: Configuring SAP HANA Cockpit 2.0

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

- Understand the resources, resource groups, and cockpit user concept
Lesson 1: Describing SAP HANA Roadmap and Scenarios

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

- Describe SAP HANA use cases and scenario categories
- Discuss the SAP HANA roadmap

Lesson 2: Identifying Deployment Options

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

- Talk about solution packages
- Explain the different deployment options for SAP HANA
- Explain SAP HANA cloud offerings
- Describe the availability and capabilities of virtualization for SAP HANA
- Describe the option for tailored data center integration
- Identify available co-deployment scenarios
- Describe which limitations exist with regard to productive usage
- Describe the new option for multitenant database containers
UNIT 7  Post Installation Tasks

Lesson 1: Performing Post-Installation Steps
Lesson Objectives
After completing this lesson, you will be able to:
• Perform the post-installation steps after a SAP HANA installation

Lesson 2: Updating SAP HANA
Lesson Objectives
After completing this lesson, you will be able to:
• Update a SAP HANA database using the HDBLCM tool.

Lesson 3: Using the Resident HDBLCM Tool
Lesson Objectives
After completing this lesson, you will be able to:
• Explain the resident HDBLCM functions

Lesson 4: Using SAP HANA Interactive Education (SHINE)
Lesson Objectives
After completing this lesson, you will be able to:
• Explain the installation and use of the SAP HANA Interactive Education (SHINE)

Lesson 5: Explaining the Revision Strategy of SAP HANA
Lesson Objectives
After completing this lesson, you will be able to:
• Understand the SAP HANA maintenance strategy
Lesson 1: Outlining Administration Tools

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

- Describe which administration tools exist for SAP HANA
- Explain what capabilities the various administration tools have and when to use them

Lesson 2: Introducing SAP HANA Studio

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

- Explain the features of SAP HANA studio
- Explain the concept of perspectives
- Add an SAP HANA system to an SAP HANA studio installation
- Obtain an initial system overview in the Administration Console of the SAP HANA studio
- Describe the monitoring dashboard

Lesson 3: Using the HDBSQL Command Line Tool

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

- Explain the capabilities of HDBSQL
- Explain different ways of logging on to the SAP HANA database
- Describe the functionality and usage of the hdbuserstore
- Establish a connection to SAP HANA using HDBSQL and execute commands

Lesson 4: Describing the DBA Cockpit

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

- Describe the basic functions of the DBA Cockpit
• Explain how to monitor SAP HANA using DBACOCKPIT
Lesson 1: Starting and Stopping SAP HANA

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

• Start and stop SAP HANA using SAP HANA studio

Lesson 2: Configuring the SAP HANA Database

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

• Configure the SAP HANA database

Lesson 3: Performing Regular Database Administration Tasks

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

• Perform regular database administration tasks

Lesson 4: Configuring Traces

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

• Activate the trace function

Lesson 5: Working with Diagnosis Information and Diagnosis Files

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

• Open diagnosis files for analysis
• Collect and download diagnosis information

Lesson 6: Using the SQL Console
Lesson Objectives
After completing this lesson, you will be able to:

● Use the SQL console successfully

Lesson 7: Administrating SAP HANA Tables
Lesson Objectives
After completing this lesson, you will be able to:

● Decide when to use column-based and row-based storage

Lesson 8: Transporting Changes
Lesson Objectives
After completing this lesson, you will be able to:

● Explain the application lifecycle management of SAP HANA

Lesson 9: Appendix: Administration Tasks in SAP HANA Studio
Lesson Objectives
After completing this lesson, you will be able to:

● Understand the administration tasks that are still in SAP HANA studio
Lesson 1: Explaining the Concept of Backup and Recovery

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

● Explain the concept of backup and recovery

Lesson 2: Performing Data Area Backup

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

● Perform a data area backup

Lesson 3: Configuring a Log Area Backup

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

● Configure a log area backup

Lesson 4: Describing Additional Backup Topics

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

● Use the backup catalog to get information about backups

Lesson 5: Performing Database Recovery

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

● Perform a database recovery

Lesson 6: Explaining Backup and Recovery Using Storage Snapshot

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

- Explain the concept of backup and recovery using a storage snapshot

**Lesson 7: Explaining Database Copy**

**Lesson Objectives**

After completing this lesson, you will be able to:

- Explain the scenarios for a database copy
Lesson 1: Outlining Security Functions

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

- Describe the security perspective in different implementation scenarios
- Outline the security functions in SAP HANA

Lesson 2: Explaining Encryption

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

- Explain the TLS connection encryption
- Explain the data volume encryption

Lesson 3: Describing Auditing

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

- Explain the audit logging infrastructure
Lesson 1: Explaining Authentication and Authorization
Lesson Objectives
After completing this lesson, you will be able to:

- Explain how to handle user management and user provisioning
- Explain the different authentication methods
- Explain the user and role concept in SAP HANA
- Explain how to maintain users’ roles

Lesson 2: Explaining Types of Privileges
Lesson Objectives
After completing this lesson, you will be able to:

- Explain the authorization concept
- Explain what an object privilege is
- Explain what a system privilege is
- Explain what a package privilege is
- Explain what an analytic privilege is
- Explain what an application privilege is

Lesson 3: Explaining Roles
Lesson Objectives
After completing this lesson, you will be able to:

- Explain the purpose of the predelivered roles
- Explain what a template role is
- Explain the purpose of the support role

Lesson 4: Performing Administrative Tasks
Lesson Objectives
After completing this lesson, you will be able to:

- Deactivate a user
- Reactivate a user
- Reset a locked user
- Manage the password policy

**Lesson 5: Explaining Information Sources for Administrators**

**Lesson Objectives**

After completing this lesson, you will be able to:

- List tables and views that support the user management
- Analyze which privileges a user has been granted
UNIT 13
High Availability and Disaster Tolerance

Lesson 1: Explaining High Availability
Lesson Objectives
After completing this lesson, you will be able to:
• Explain the high availability scenarios for SAP HANA

Lesson 2: Describing SAP HANA Scale Out
Lesson Objectives
After completing this lesson, you will be able to:
• Describe the basics of SAP HANA scale out
• Describe the possibilities for configuration of a distributed system

Lesson 3: Describing Disaster Recovery
Lesson Objectives
After completing this lesson, you will be able to:
• Describe the scenarios for disaster recovery support
Lesson 1: Outlining Architecture and Technology

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

- Explain the architecture of multitenant database containers.

Lesson 2: Administrating Multitenant Database Containers

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

- Distinguish between global administration tasks and administration tasks for a tenant database
- Manage and control the memory and CPU usage of a tenant database
- Describe security aspects when using multitenant database containers

Lesson 3: Performing a Backup and Recovery of Multitenant Database Containers

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

- Explain the backup concept for multitenant database containers.
- Perform a backup of the system database
- Perform a backup a tenant database