COURSE OUTLINE

Course Version: 16
Course Duration:
SAP Copyrights, Trademarks and Disclaimers

© 2019 SAP SE or an SAP affiliate company. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries. Please see http://global12.sap.com/corporate-en/legal/copyright/index.epx for additional trademark information and notices.

Some software products marketed by SAP SE and its distributors contain proprietary software components of other software vendors.

National product specifications may vary.

This course may have been machine translated and may contain grammatical errors or inaccuracies.

These materials are provided by SAP SE or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP SE or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP SE or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

In particular, SAP SE or its affiliated companies have no obligation to pursue any course of business outlined in this document or any related presentation, or to develop or release any functionality mentioned therein. This document, or any related presentation, and SAP SE’s or its affiliated companies’ strategy and possible future developments, products, and/or platform directions and functionality are all subject to change and may be changed by SAP SE or its affiliated companies at any time for any reason without notice. The information in this document is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of their dates, and they should not be relied upon in making purchasing decisions.
American English is the standard used in this handbook. The following typographic conventions are also used.

<table>
<thead>
<tr>
<th>Typographic Convention</th>
<th>Example text</th>
</tr>
</thead>
<tbody>
<tr>
<td>This information is displayed in the instructor’s presentation</td>
<td></td>
</tr>
<tr>
<td>Demonstration</td>
<td></td>
</tr>
<tr>
<td>Procedure</td>
<td></td>
</tr>
<tr>
<td>Warning or Caution</td>
<td></td>
</tr>
<tr>
<td>Hint</td>
<td></td>
</tr>
<tr>
<td>Related or Additional Information</td>
<td></td>
</tr>
<tr>
<td>Facilitated Discussion</td>
<td></td>
</tr>
<tr>
<td>User interface control</td>
<td></td>
</tr>
<tr>
<td>Window title</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Course Overview</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------</td>
</tr>
<tr>
<td>1</td>
<td><strong>Unit 1: SAP HANA Introduction</strong></td>
</tr>
<tr>
<td></td>
<td>Lesson: Introducing SAP HANA</td>
</tr>
<tr>
<td>3</td>
<td><strong>Unit 2: Installation Preparations</strong></td>
</tr>
<tr>
<td></td>
<td>Lesson: SAP HANA Sizing</td>
</tr>
<tr>
<td></td>
<td>Lesson: Linux Operating System Requirements</td>
</tr>
<tr>
<td>5</td>
<td><strong>Unit 3: SAP HANA Installation</strong></td>
</tr>
<tr>
<td></td>
<td>Lesson: Installing SAP HANA 2.0</td>
</tr>
<tr>
<td></td>
<td>Lesson: Installing SAP HANA Cockpit 2.0</td>
</tr>
<tr>
<td></td>
<td>Lesson: Describing Advanced Installation Options</td>
</tr>
<tr>
<td></td>
<td>Lesson: Explaining a Distributed System</td>
</tr>
<tr>
<td>7</td>
<td><strong>Unit 4: SAP HANA Multitenant Database Container Architecture</strong></td>
</tr>
<tr>
<td></td>
<td>Lesson: SAP HANA Architecture and Technology</td>
</tr>
<tr>
<td>9</td>
<td><strong>Unit 5: SAP HANA Scenarios and Deployment Options</strong></td>
</tr>
<tr>
<td></td>
<td>Lesson: Describing SAP HANA Roadmap and Scenarios</td>
</tr>
<tr>
<td></td>
<td>Lesson: Explaining SAP HANA as Primary Persistence for SAP NetWeaver-based Applications</td>
</tr>
<tr>
<td></td>
<td>Lesson: Explaining SAP HANA as an Application Platform</td>
</tr>
<tr>
<td></td>
<td>Lesson: Identifying Deployment Options</td>
</tr>
<tr>
<td>11</td>
<td><strong>Unit 6: SAP HANA Cockpit 2.0</strong></td>
</tr>
<tr>
<td></td>
<td>Lesson: Introducing SAP HANA Cockpit 2.0</td>
</tr>
<tr>
<td></td>
<td>Lesson: Configuring SAP HANA Cockpit 2.0</td>
</tr>
<tr>
<td></td>
<td>Lesson: Updating SAP HANA Cockpit 2.0</td>
</tr>
<tr>
<td>13</td>
<td><strong>Unit 7: SAP HANA Architecture</strong></td>
</tr>
<tr>
<td></td>
<td>Lesson: SAP HANA Memory Management and Data Persistence</td>
</tr>
<tr>
<td>15</td>
<td><strong>Unit 8: Post-Installation Tasks</strong></td>
</tr>
<tr>
<td></td>
<td>Lesson: Performing Post-Installation Steps</td>
</tr>
<tr>
<td></td>
<td>Lesson: Updating SAP HANA</td>
</tr>
<tr>
<td></td>
<td>Lesson: Using the Resident SAP HANA Database Lifecycle Manager Tool</td>
</tr>
<tr>
<td></td>
<td>Lesson: Using SAP HANA Interactive Education</td>
</tr>
<tr>
<td></td>
<td>Lesson: Explaining the Revision Strategy of SAP HANA</td>
</tr>
<tr>
<td>Unit</td>
<td>Administration Tools</td>
</tr>
<tr>
<td>------</td>
<td>----------------------</td>
</tr>
<tr>
<td>17</td>
<td>Lesson: Explaining the Administration Tools</td>
</tr>
<tr>
<td>17</td>
<td>Lesson: Using the SAP HANA HDBSQL Command Line Tool</td>
</tr>
<tr>
<td>17</td>
<td>Lesson: Working with the DBA Cockpit</td>
</tr>
<tr>
<td>17</td>
<td>Lesson: Managing SAP Landscapes</td>
</tr>
<tr>
<td>17</td>
<td>Lesson: Appendix: Using SAP HANA Studio</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit</th>
<th>Database Administration Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Lesson: Starting and Stopping SAP HANA</td>
</tr>
<tr>
<td>19</td>
<td>Lesson: Checking for SAP HANA Alerts</td>
</tr>
<tr>
<td>19</td>
<td>Lesson: Daily Database Administration Tasks</td>
</tr>
<tr>
<td>19</td>
<td>Lesson: Configuring the SAP HANA Database</td>
</tr>
<tr>
<td>19</td>
<td>Lesson: SAP HANA Mini Checks</td>
</tr>
<tr>
<td>19</td>
<td>Lesson: Working with SAP HANA Traces</td>
</tr>
<tr>
<td>20</td>
<td>Lesson: Performing SAP HANA Table Administration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit</th>
<th>Backup and Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Lesson: Explaining Backup and Recovery</td>
</tr>
<tr>
<td>21</td>
<td>Lesson: Performing Data Area Backup</td>
</tr>
<tr>
<td>21</td>
<td>Lesson: Configuring a Log Area Backup</td>
</tr>
<tr>
<td>21</td>
<td>Lesson: Describing Additional Backup Topics</td>
</tr>
<tr>
<td>21</td>
<td>Lesson: Performing Database Recovery</td>
</tr>
<tr>
<td>21</td>
<td>Lesson: Creating a Fallback Snapshot</td>
</tr>
<tr>
<td>22</td>
<td>Lesson: Explaining Backup and Recovery Using Data Snapshots</td>
</tr>
<tr>
<td>22</td>
<td>Lesson: Explaining Database Copy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit</th>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>Lesson: Describing Security Functions</td>
</tr>
<tr>
<td>23</td>
<td>Lesson: Explaining Encryption</td>
</tr>
<tr>
<td>23</td>
<td>Lesson: Describing Auditing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit</th>
<th>Maintaining Users and Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>Lesson: SAP HANA Authentication and Authorization</td>
</tr>
<tr>
<td>25</td>
<td>Lesson: Types of Privileges</td>
</tr>
<tr>
<td>25</td>
<td>Lesson: SAP HANA Roles</td>
</tr>
<tr>
<td>25</td>
<td>Lesson: Administrative Tasks</td>
</tr>
<tr>
<td>25</td>
<td>Lesson: Information Sources for Administrators</td>
</tr>
</tbody>
</table>
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 need for SAP HANA
- Find additional documentation
Lesson 1: SAP HANA Sizing

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

- Perform SAP HANA sizing

Lesson 2: Linux Operating System Requirements

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

- Understand the Linux operating system requirements for SAP HANA
Lesson 1: Installing SAP HANA 2.0
Lesson Objectives
After completing this lesson, you will be able to:
• Explain the SAP HANA lifecycle management tools

Lesson 2: Installing SAP HANA Cockpit 2.0
Lesson Objectives
After completing this lesson, you will be able to:
• Install SAP HANA Cockpit 2.0

Lesson 3: Describing Advanced Installation Options
Lesson Objectives
After completing this lesson, you will be able to:
• Explain the advanced installation options

Lesson 4: Explaining a Distributed System
Lesson Objectives
After completing this lesson, you will be able to:
• Explain a multi-host system
Lesson 1: SAP HANA Architecture and Technology

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

- Explain the SAP HANA architecture and technology
Lesson 1: Describing SAP HANA Roadmap and Scenarios

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

• Describe the SAP HANA roadmap and scenarios

Lesson 2: Explaining SAP HANA as Primary Persistence for SAP NetWeaver-based Applications

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

• Explain SAP HANA as primary persistence for SAP NetWeaver-based applications

Lesson 3: Explaining SAP HANA as an Application Platform

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

• Explain SAP HANA as an application platform

Lesson 4: Identifying Deployment Options

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

• Identify deployment options for SAP HANA
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: Configuring SAP HANA Cockpit 2.0

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

- Configure SAP HANA cockpit 2.0

Lesson 3: Updating SAP HANA Cockpit 2.0

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

- Understand the SAP HANA cockpit 2.0 revision strategy
- Update SAP HANA cockpit 2.0 to a newer Support Package
Lesson 1: SAP HANA Memory Management and Data Persistence

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

- Explain SAP HANA memory management and data persistence
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 an SAP HANA database using the HDBLCM tool

Lesson 3: Using the Resident SAP HANA Database Lifecycle Manager Tool

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

- Explain the resident HDBLCM functions

Lesson 4: Using SAP HANA Interactive Education

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

- Explain the installation and use of SAP HANA Interactive Education

Lesson 5: Explaining the Revision Strategy of SAP HANA

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

- Understand the SAP HANA revision strategy
UNIT 9 Administration Tools

Lesson 1: Explaining the Administration Tools
Lesson Objectives
After completing this lesson, you will be able to:

● Explain the available administration tools

Lesson 2: Using the SAP HANA HDBSQL Command Line Tool
Lesson Objectives
After completing this lesson, you will be able to:

● Use the HDBSQL command line tool
● Explain different ways of logging on to the SAP HANA database

Lesson 3: Working with the DBA Cockpit
Lesson Objectives
After completing this lesson, you will be able to:

● Work with the DBA Cockpit

Lesson 4: Managing SAP Landscapes
Lesson Objectives
After completing this lesson, you will be able to:

● Manage complex SAP landscapes

Lesson 5: Appendix: Using SAP HANA Studio
Lesson Objectives
After completing this lesson, you will be able to:

● Use SAP HANA studio
Lesson 1: Starting and Stopping SAP HANA
Lesson Objectives
After completing this lesson, you will be able to:
- Use the different tools to start and stop SAP HANA

Lesson 2: Checking for SAP HANA Alerts
Lesson Objectives
After completing this lesson, you will be able to:
- Check for SAP HANA alerts

Lesson 3: Daily Database Administration Tasks
Lesson Objectives
After completing this lesson, you will be able to:
- Perform daily database administration tasks

Lesson 4: Configuring the SAP HANA Database
Lesson Objectives
After completing this lesson, you will be able to:
- Configure the SAP HANA database

Lesson 5: SAP HANA Mini Checks
Lesson Objectives
After completing this lesson, you will be able to:
- Use the SAP HANA Mini Checks

Lesson 6: Working with SAP HANA Traces
Lesson Objectives
After completing this lesson, you will be able to:

- Configure SAP HANA traces
- Check SAP HANA traces

Lesson 7: Performing SAP HANA Table Administration

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

- Perform SAP HANA table administration
Lesson 1: Explaining Backup and Recovery

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

• Explain backup and recovery

Lesson 2: Performing Data Area Backup

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

• Perform 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:

• Describe additional backup topics

Lesson 5: Performing Database Recovery

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

• Recover a database

Lesson 6: Creating a Fallback Snapshot

Lesson Objectives
Lesson 7: Explaining Backup and Recovery Using Data Snapshots

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

- Explain backup and recovery using data snapshots

Lesson 8: Explaining Database Copy

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

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

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

● Describe the SAP HANA security functions

Lesson 2: Explaining Encryption

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

● Explain encryption

Lesson 3: Describing Auditing

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

● Describe auditing
Lesson 1: SAP HANA Authentication and Authorization

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

- Understand user management
- Understand authentication and authorization

Lesson 2: Types of Privileges

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

- Explain the different types of privileges
- Explain what an object privilege is
- Explain what a package privilege is

Lesson 3: SAP HANA Roles

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

- Understand roles

Lesson 4: Administrative Tasks

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

- Perform administrative tasks
- Reset a locked user

Lesson 5: Information Sources for Administrators

Lesson Objectives
After completing this lesson, you will be able to:
- Explain information sources for administrators
- Analyze which privileges a user has been granted