

# TADM55

## SAP HANA Installation & Operations

### COURSE OUTLINE

Course Version: 11

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



Demonstration



Procedure



Warning or Caution



Hint



Related or Additional Information



Facilitated Discussion



User interface control

*Example text*

Window title

*Example text*



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# Course Overview

## **TARGET AUDIENCE**

This course is intended for the following audiences:

- System Administrator





## Lesson 1: SAP HANA - A Short Introduction

### Lesson Objectives

After completing this lesson, you will be able to:

- Understand the basics of SAP HANA

## Lesson 2: SAP HANA Information Sources

### Lesson Objectives

After completing this lesson, you will be able to:

- Find the most important information sources



## Lesson 1: Sizing of SAP HANA

### Lesson Objectives

After completing this lesson, you will be able to:

- Describe what needs to be taken into consideration for sizing of an SAP HANA server
- Identify where to look up sizing information depending on the SAP HANA scenario
- Use the SAP Quick Sizer for sizing an SAP HANA database server
- Describe sizing of main memory, persistence, and CPU
- Identify where to look up sizing information depending on the SAP HANA scenario
- Run the SAP Quick Sizer for sizing an SAP HANA database server

## Lesson 2: Requirements

### Lesson Objectives

After completing this lesson, you will be able to:

- Explain the SAP HANA system concepts and system types
- Clarify the SAP HANA System concepts and system types
- Explain the required file system structure and directories and their recommended sizes



## Lesson 1: Introduction SAP HANA Lifecycle Management Tools

### Lesson Objectives

After completing this lesson, you will be able to:

- Explain SAP HANA Lifecycle Management Tools
- Explain the various installation methods
- Install SAP HANA as a single-host
- Install and configure SAP HANA Studio
- Install the SAP HANA SHINE content
- Explain a multiple-host system installation

## Lesson 2: Advanced Installation Options

### Lesson Objectives

After completing this lesson, you will be able to:

- Explain the use of the command line options
- Explain the use of the configuration file.
- Explain the use of the configuration file in batch mode

## Lesson 3: SAP HANA Studio installation

### Lesson Objectives

After completing this lesson, you will be able to:

- Install and configure SAP HANA Studio
- Understand the different installation features
- Setup an SAP HANA Studio Update site

## Lesson 4: Performing a Distributed System Installation

### Lesson Objectives

After completing this lesson, you will be able to:

- Explain the preparatory steps required to install a distributed system
- Describe the steps for installing a distributed system

## Lesson 1: Post-Installation Steps

### Lesson Objectives

After completing this lesson, you will be able to:

- Configure connections for remote support
- Install/check HANA licenses

## Lesson 2: Updating SAP HANA

### Lesson Objectives

After completing this lesson, you will be able to:

- Explain the update process as a whole
- Update dependent components

## Lesson 3: Revision strategy of SAP HANA

### Lesson Objectives

After completing this lesson, you will be able to:

- Understand Support Package Stack, Support Packages and SAP HANA Revisions
- Know the difference between Maintenance Revisions and Datacenter Service Points
- Explain the SAP HANA Maintenance Strategy
- Know about SAP HANA Zero Downtime Maintenance
- Explain the following terms within the framework of SAP HANA revision strategy





## Lesson 1: 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 2: Software Packaging

### Lesson Objectives

After completing this lesson, you will be able to:

- Talk about solution packages
- Describe the elements of the SAP HANA Platform Edition
- Name additional components that are included in SAP HANA Enterprise Edition
- Name the components that are installed by default, and those that can be activated additionally as add-ons
- Describe how content is bundled and provided with SAP HANA

## Lesson 3: 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
- Look up customer stories and use cases

## **Lesson 4: Deployment Options**

### **Lesson Objectives**

After completing this lesson, you will be able to:

- 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

## Lesson 1: Administration Tool Overview

### 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: SAP HANA Studio and SAP HANA Cockpit

### Lesson Objectives

After completing this lesson, you will be able to:

- Understand the basic functions of the SAP HANA studio and SAP HANA Cockpit
- 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
- Monitoring dashboard

## Lesson 3: SHINE - SAP HANA Interactive Education

### Lesson Objectives

After completing this lesson, you will be able to:

- Explain the purpose of the SAP HANA Interactive Education (SHINE)
- List the features provided by SHINE
- Install and configure SHINE

## Lesson 4: 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 5: 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 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 SAP HANA

### Lesson Objectives

After completing this lesson, you will be able to:

- Configure the SAP HANA studio

## Lesson 3: SAP HANA Table Administration

### Lesson Objectives

After completing this lesson, you will be able to:

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

## Lesson 4: Periodic Tasks

### Lesson Objectives

After completing this lesson, you will be able to:

- Name which administrative tasks need to be performed initially, regularly, and on demand

## Lesson 5: Configuring Traces

### Lesson Objectives

After completing this lesson, you will be able to:

- Activate the trace function
- Check the trace files

## Lesson 6: Working with Diagnosis Information and Diagnosis Files

## **Lesson Objectives**

After completing this lesson, you will be able to:

- Open diagnosis files for analysis
- Delete/merge files
- Download files
- Collect and download diagnosis information

## **Lesson 7: SQL Console**

### **Lesson Objectives**

After completing this lesson, you will be able to:

- Use the SQL console successfully

## **Lesson 8: Transporting Changes**

### **Lesson Objectives**

After completing this lesson, you will be able to:

- Explain the Application Lifecycle Management of SAP HANA

## Lesson 1: 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: Data Area Backup

### Lesson Objectives

After completing this lesson, you will be able to:

- Perform a data area backup
- Estimate the size of a backup

## Lesson 3: Log Area Backup

### Lesson Objectives

After completing this lesson, you will be able to:

- Configure a log area backup

## Lesson 4: Additional Backup Topics

### Lesson Objectives

After completing this lesson, you will be able to:

- Use the backup catalog to get Information about backups
- Perform backups using scripts

## Lesson 5: Recovery

### Lesson Objectives

After completing this lesson, you will be able to:

- Perform a database recovery

## **Lesson 6: 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: Database Copy**

### **Lesson Objectives**

After completing this lesson, you will be able to:

- Explain the scenarios for a database copy



## Lesson 1: Security Overview

### 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: Authentication and Authorization

### Lesson Objectives

After completing this lesson, you will be able to:

- Explain the different authentication methods

## Lesson 3: Encryption

### Lesson Objectives

After completing this lesson, you will be able to:

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

## Lesson 4: Auditing

### Lesson Objectives

After completing this lesson, you will be able to:

- Explain the audit logging infrastructure



## Lesson 1: User Management

### Lesson Objectives

After completing this lesson, you will be able to:

- Explain how to handle user management and user provisioning
- Explain the user and role concept in SAP HANA
- Explain how to maintain users' roles
- Explain how to maintain SAP HANA privileges

## Lesson 2: 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: 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: 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: 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

## **Lesson 6: SAP HANA Live Authorization Assistant**

### **Lesson Objectives**

After completing this lesson, you will be able to:

- Explain the concept of the Analytic Authorization Assistant

## Lesson 1: High Availability

### Lesson Objectives

After completing this lesson, you will be able to:

- Explain the high availability scenarios for SAP HANA

## Lesson 2: 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: Disaster Recovery

### Lesson Objectives

After completing this lesson, you will be able to:

- Describe the scenarios for disaster recovery support



## Lesson 1: Monitoring with SAP Solution Manager

### Lesson Objectives

After completing this lesson, you will be able to:

- Describe how SAP HANA is integrated in SAP Solution Manager

## Lesson 2: Remote Support

### Lesson Objectives

After completing this lesson, you will be able to:

- Establish a remote service connection for SAP HANA

## Lesson 3: SAP Early Watch Alert (EWA)

### Lesson Objectives

After completing this lesson, you will be able to:

- Set up an EarlyWatch Alert for SAP HANA

## Lesson 4: Appendix

### Lesson Objectives

After completing this lesson, you will be able to:

- Provide you with additional information