

## Using SLES for SAP Applications to Provide High Availability for SAP HANA Scale Up

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### Course Summary

#### Description

This course provides an understanding of the tasks and processes involved in deploying SAP HANA with System Replication in a Scale Up Performance Optimized configuration on SLES for SAP Applications with HA. This course is based on SUSE best practices. The course starts by providing an overview of SAP HANA and using System Replication (SR) to provide high availability for SAP HANA. It then covers the storage and configuration required to successfully deploy SAP HANA SR on SLE High Availability (HA). Next the required cluster resources are configured and tested. The course finishes by discussing administration procedures specific to the configuration then the SLE cluster nodes are tuned specifically to host SAP HANA.

#### Objectives

At the end of this course, students will be able to:

- Introduction to SAP HANA
- Understand the SAP HANA high availability component System Replication
- Plan for, install and configure SAP HANA with System Replication
- Tune the SLE cluster nodes to host SAP HANA
- Deploy and configure SLE HA to host SAP HANA SR with automated SAP HANA failover
- Design and perform cluster tests
- Monitor SAP HANA SR and perform cluster administration tasks specific to the configuration

#### Topics

- Course Introduction
- Introduction to SAP HANA
- Native SAP HANA High Availability Solutions
- Preparing to Deploy SAP HANA SR
- Installing SAP HANA Scale Up
- Configure SAP HANA System Replication
- Tuning SLES for SAP Applications to Host a SAP HANA Workload
- Deploy and Configure SLES for SAP Applications to Host SAP HANA SR Scale
- Design and Perform Cluster Tests
- Monitoring and Administering the HA Solution

#### Audience

SLES administrators tasked with administering SLE HA clusters hosting SAP HANA SR in a Scale Up Performance Optimized configuration.

#### Prerequisites

Attendees should have knowledge of SLES equivalent to the SCA in Enterprise Linux level. A detailed understanding of the SUSE Linux Enterprise High Availability Extension or general High Availability concepts is required. Knowledge of SAP HANA including System Replication would be beneficial.

#### Duration

Two days

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### Course Outline

- I. *Course Introduction*
  - A. Course Objectives and Audience
  - B. Course Lab Environment Overview
  - C. Certification Options
  - D. Additional SUSE Training
- II. *Introduction to SAP HANA*
  - A. Available Documentation
  - B. Overview of SAP HANA
  - C. SAP HANA Database Terminology
  - D. SAP HANA Architecture
  - E. Overview of SAP HANA Deployment Options
  - F. Scale Up and Scale Out
  - G. Introduction to HANA System Replication
- III. *Native SAP HANA High Availability Solutions*
  - A. Component Redundancy
  - B. Server Hardware
  - C. Data Centers and HANA System Replication
  - D. SAP HANA High Availability Features
  - E. Service Auto-Restart
  - F. SAP HANA Auto-Restart
  - G. SAP HANA Disaster Recovery Support
  - H. SAP HANA System Replication
  - I. Backing Up SAP HANA
- IV. *Preparing to Deploy SAP HANA SR*
  - A. Performance vs. Cost Optimized
  - B. SAP HANA Hardware and Cloud Measurement Tools
  - C. Planning to Deploy SAP HANA Scale Up Performance Optimized with System Replication
  - D. Preparing to Install SAP HANA
  - E. Appliance vs. SAP HANA Tailored Datacenter Integration (TDI)
  - F. SAP HANA Hardware Directory
  - G. Supported Operating Systems
  - H. Supported File Systems for SAP HANA
  - I. Storage for SAP HANA
  - J. HANA User and Group Accounts
  - K. HA with SAP HANA System Replication
- V. *Installing SAP HANA Scale Up*

SAP HANA Platform Lifecycle Management Tools
- VI. *Configure SAP HANA System Replication*
  - A. Prepare the SAP HANA Primary System before Configuring System Replication
  - B. Configure HANA System Replication
  - C. Test a manual SAP HANA System Replication Takeover
- VII. *Tuning SLES for SAP Applications to Host a SAP HANA Workload*

Using saptune to Tune Systems for a SAP HANA Workload
- VIII. *Deploy and Configure SLES for SAP Applications to Host SAP HANA SR Scale*
  - A. Installing the SLES for SAP Applications HA Components
  - B. Deploy the Cluster
  - C. Global Cluster Configuration
  - D. Perform Basic Cluster Functionality Tests
  - E. Cluster Bootstrap Configuration
  - F. Configure SAP HANA HA/DR Providers
  - G. Create and Configure the Required Cluster Resources
- IX. *Design and Perform Cluster Tests*
  - A. Designing Cluster Tests
  - B. Testing Tasks and Tools
  - C. Planning and Performing Cluster Tests
- X. *Monitoring and Administering the HA Solution*
  - A. Monitoring the HA Components
  - B. Monitoring SAP HANA System Replication
  - C. Important Cluster Administration Instructions