

1. Introduction to SAP HANA

- What is SAP HANA?
- SAP HANA Architecture Overview
- In-Memory Computing Engine
- SAP HANA Versions and Editions
- SAP HANA Use Cases in Enterprises

2. SAP HANA Installation and Deployment

- Prerequisites for Installation
- SAP HANA Studio Installation
- SAP HANA Database Installation
- SAP HANA Deployment on Premise vs. Cloud
- Hardware and Software Requirements
- Post-Installation Steps
- Troubleshooting Installation Issues

3. SAP HANA Studio Overview

- Introduction to SAP HANA Studio
- Navigating the SAP HANA Studio Interface
- SAP HANA Perspectives (Administrator, Developer, etc.)
- Connecting to SAP HANA Systems
- Managing Users, Roles, and Privileges in SAP HANA Studio

4. SAP HANA System Architecture

- SAP HANA Database and Index Servers
- Persistence Layer and Log Management
- Transaction Management and Multiversion Concurrency Control (MVCC)
- Memory Management in SAP HANA
- SAP HANA Engines (Calculation Engine, OLAP Engine)
- Column Store vs. Row Store

5. SAP HANA Administration Tools

- SAP HANA Cockpit Overview
- SAP HANA Database Explorer
- HDBSQL Command-Line Tool
- SAP Solution Manager for HANA Monitoring
- SAP HANA Lifecycle Manager

6. System Management and Monitoring

- Starting and Stopping SAP HANA Systems
- Configuring System Parameters
- System Landscape Management
- Monitoring Memory, CPU, and Disk Usage
- Performance Monitoring and Tuning
- Backup and Recovery Procedures
- High Availability and Disaster Recovery (HA/DR)

7. SAP HANA User and Role Management

- Creating Users and Assigning Roles
- Authentication Mechanisms (LDAP, Kerberos, SAML)
- Privilege Management (Object, System, and Analytical Privileges)
- Role-Based Access Control (RBAC)
- Managing User Groups and Profiles
- User Auditing and Monitoring

8. Data Provisioning in SAP HANA

- Overview of Data Provisioning Methods
- SAP Landscape Transformation (SLT) for Real-Time Data Replication
- SAP Data Services for Batch Data Integration
- SAP Smart Data Integration (SDI) and SAP Smart Data Access (SDA)
- Flat File and External Data Source Import
- Configuring Data Import and Export

9. SAP HANA Backup and Recovery

- Types of Backups (Full, Incremental, Log)
- Configuring Backup Settings and Parameters
- Performing Manual and Automated Backups
- Recovering SAP HANA Databases (Point-in-Time Recovery)
- Backup Strategy and Scheduling
- Backup Monitoring and Validation

10. SAP HANA Security Administration

- Security Concepts in SAP HANA
- Encryption Mechanisms (Data-at-Rest, Data-in-Motion)
- Securing SAP HANA Communications
- Managing Certificates and Secure Sockets Layer (SSL)
- User Authentication and Password Policies

- Auditing and Logging Security Events

11. SAP HANA Performance Tuning

- Performance Optimization Techniques
- SQL Query Optimization
- Analyzing and Troubleshooting Performance Issues
- Memory and CPU Allocation Tuning
- Indexing Strategies for Performance
- Compression Techniques in SAP HANA
- Performance Benchmarking and Load Testing

12. SAP HANA Data Modeling and Schema Management

- SAP HANA Data Models (Attribute, Analytical, and Calculation Views)
- Creating and Managing Schemas
- Schema and Table Management
- Indexes and Partitioning for Performance
- Managing Views and Procedures
- Analytical Privileges and Data Masking

13. SAP HANA High Availability and Disaster Recovery

- Configuring SAP HANA for High Availability
- SAP HANA System Replication (Synchronous, Asynchronous)
- SAP HANA Failover and Fallback Mechanisms
- Configuring Disaster Recovery Strategies
- Data Center Integration and Replication
- Disaster Recovery Testing and Validation

14. SAP HANA Data Tiering and Archiving

- SAP HANA Data Tiering Methods (Dynamic Tiering, Native Storage Extension)
- Managing Hot, Warm, and Cold Data
- Data Lifecycle Management in SAP HANA
- Data Archiving Techniques
- Configuring Archiving Policies
- Accessing Archived Data

15. SAP HANA Scale-Out and Scale-Up Configurations

- Scale-Out vs. Scale-Up Architecture in SAP HANA
- Configuring Scale-Out Systems

- Load Balancing and Distribution
- Managing and Monitoring Distributed Systems
- SAP HANA Clustering and Fault Tolerance
- Troubleshooting Scale-Out Configurations

16. SAP HANA Patching and Upgrades

- Applying Patches and Updates
- SAP HANA Revision and Upgrade Strategies
- SAP HANA Database Upgrade Procedure
- System Downtime and Planning
- Rolling Kernel Switch (RKS)
- Troubleshooting Upgrade Issues