

Oracle Database 12c: Clusterware & ASM Admin Accelerated Ed 1

Learn via: **Classroom / Virtual Classroom / Online**

Duration: **5 Day**

Overview

Oracle Database 12c: Clusterware & ASM Admin Accelerated training covers 6 days worth of content in only 5 days. It starts with the Oracle Database 12c: Clusterware Admin Ed 1 course (4 days) and then covers the Oracle Database 12c: ASM Administration course (2 days). Learn about Oracle Clusterware and ASM architectures and how these products work together.

Learn To:

- Perform Grid Infrastructure pre-installation tasks.
- Install both Standard and Flex clusters.
- Add and remove nodes from a cluster in addition to upgrading and patching existing Grid Homes.
- Manage and administer both Standard Clusters and Policy-Managed Clusters.
- Use Oracle Clusterware to make applications highly available.
- Administer ASM files, directories, templates, and disk groups.
- Manage and administer Oracle Cloud File System and its components.
- Configure and manage advanced CloudFS features like ACFS Auditing and Encryption, ACFS Replication and High Availability NFS.

Benefits to You

Ensure fast, reliable, secure and easy to manage performance. Optimize database workloads, lower IT costs and deliver a higher quality of service by enabling consolidation onto database clouds by learning about the Oracle Database 12c Grid Infrastructure, specifically about Oracle Cluster and Oracle ASM

Audience

- Database Administrators
- Support Engineer
- Technical Consultant
- Technical Administrator
- Administrator

Prerequisites

Required Prerequisites:

- Working knowledge of Oracle Database 11g: Release 2, including Clusterware, ASM and RAC

What You Will Learn

- Understand Flex Clusters architecture and components
- Understand effect of node failure in Flex Clusters
- Understand the scope and capabilities of what-if command evaluation
- Perform the different types of what-if command evaluation
- Install Grid Infrastructure for Standard and Flex clusters
- Verify the installation
- Configure ASM disk groups
- Perform the prerequisite steps for extending a cluster
- Describe the components of ASM
- Explain and apply Automatic Storage Management (ASM) initialization parameters
- Manage ASM instances and associated processes
- Understand Flex ASM architecture and components
- Understand ASM Deployment Alternatives
- Install and configure Flex ASM
- Create and delete Automatic Storage Management (ASM) disk groups
- Describe the Automatic Storage Management (ASM) architecture

Outline

Introduction to Grid Infrastructure

- What is a Cluster?
- What is a Flex Cluster?
- Clusterware Characteristics
- Oracle Clusterware
- Hardware and Software Concepts (High level)
- Shared Storage Overview

Oracle Clusterware Architecture

- Cluster Storage Requirements
- Clusterware Initialization and OHASD
- Clusterware Process Architecture
- Location Independent Names, Addresses and Name Resolution (GNS, SCAN, VIP..)
- Shared GNS Background and Architecture
- Configuring shared GNS
- Migrating to shared GNS
- Moving GNS to Another Cluster

Flex Cluster Architecture

- Flex Cluster Architecture
- Configuring Flex Cluster
- Flex Clusters and Node Failure

Grid Infrastructure Pre-Installation Tasks

- Shared Storage for Oracle Clusterware
- Checking System Requirements
- Single Client Access Name for the Cluster
- Redundant Interconnect Usage
- Kernel Requirements
- Groups and Users
- Shell Settings
- Oracle Validated Configuration

Installing Grid Infrastructure

- Installing Oracle Grid Infrastructure
- Installing Flex Cluster
- Verifying the Oracle Clusterware Installation

Managing Cluster Nodes

- Adding Oracle Clusterware Homes
- Prerequisites for Running addNode.sh
- Adding a Node with addNode.sh
- Configuring the node role
- Removing a Node from the Cluster

Traditional Clusterware Management

- Oracle Clusterware startup and shutdown
- Administering the Voting Disk file
- Administering the Oracle Cluster Registry Disk file
- Network Administration
- What-If Command Evaluation
- Clusterware Admin Tools Review

Policy-Based Cluster Management

- Policy-Based Cluster Management Overview
- Server Categorization
- Policy Set

Patching Grid Infrastructure

- Out-of-Place Oracle Clusterware Upgrade
- Types of Patches
- Obtaining Oracle Clusterware Patches
- Rolling Patches

- Installing a Rolling Patchset with OUI
- OPatch Overview
- Installing a Rolling Patch with OPatch
- OPatch Automation

Troubleshooting Oracle Clusterware

- Diagnostic Framework Support for CRS
- Cluster Health Monitor Enhancements Overview
- Component level checks - cluvfy with -comp
- Resource Debugging - Java Tools and Dynamic Debugging
- Troubleshooting Node Evictions
- Log files and Diagnostic Collection
- The oclumon Utility

Making Applications Highly Available

- Overview of Using Oracle Clusterware to Enable HA
- Oracle Clusterware HA Components
- Resource Management Options
- Server Pools
- Overall flow diagram of HA lifecycle (crs_profile, crs_register, crs_start...)
- Clusterware Resource Modeling
- Creating an Application VIP
- ONS and FAN overviews

Oracle ASM Overview

- Overview of ASM
- ASM Placement in Storage Stack
- ASM Cluster Configuration for Oracle RAC
- ASM System Privileges
- ASM OS Groups and Role Separation
- ASM Components
- Software
- Configure disks as ASM candidate disks

Oracle ASM Instance Administration

- ASM Instance Administration
- Instance Parameters
- ASM_DISKGROUPS
- Adjusting ASM Instance Parameters in SPFILES
- Instance Startup and Shutdown
- Relevant V\$Views

Flex ASM

- Flex ASM Architecture
- Background and Overview
- ASM Deployment Alternatives
- Configuring Flex ASM
- Managing Flex ASM
- Relocating an ASM Client

Administering ASM Disk Groups

- ASM Disk Group Overview
- Disk Group Attributes
- Compatibility Attributes
- Disk Group Management
- Disk Group Metadata
- Viewing Connected Clients
- Disk Group Rebalance
- ASM Fast Mirror Resync

Administering ASM Files, Directories, and Templates

- Interaction Between Database Instances and ASM
- Accessing ASM Files
- Fully Qualified ASM File Names
- ASM File Creation
- View ASM Aliases, Files, and Directories
- ASM Directories Overview
- Managing ASM Directories

- Managing Alias File Names

Administering Oracle Cloud File System

- Oracle Cloud File System Components
- Overview of Oracle ACFS
- Oracle ASM Dynamic Volume Manager
- High Availability NFS (HANFS) Overview
- Oracle ACFS Integration with Oracle ASM
- Oracle ACFS Administration
- Clusterware Resources and ACFS Administration
- ACFS and Dismount or Shutdown Operations