

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

Duration: 5 Days

What you will learn

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

Administrator

Database Administrators

Support Engineer

Technical Administrator

Technical Consultant

Related Training

Required Prerequisites

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

Course Objectives

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

Course Topics

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