

Implementing Oracle on NetApp Storage Systems

Code:	NA-ORONSS
Length:	3 days
URL:	View Online

In this course you learn how to implement an Oracle Database solution in a NetApp storage environment. Through lecture and hands-on exercises, you practice discovering, planning, designing and provisioning an Oracle environment. In this class you install Oracle, configure an Oracle database; use several solutions to back up Oracle databases, and restore an Oracle database. The material of this class is not meant to provide an exhaustive study of Oracle. The purpose of this class is to practice the specific steps of the deployment and administration of an Oracle database using NetApp clustered Data ONTAP and NetApp integrated data protection technology.

Skills Gained

- By the end of this course, you should be able to:
- Describe key customer problems attending Oracle solutions and the advantages of implementing Oracle solutions on NetApp technology to solve these problems
- Describe key architecture decisions for planning the deployment of Oracle on NetApp Storage systems operating in 7-Mode or Cluster-Mode
- Set up NetApp storage systems for Oracle databases
- Install, configure and set up Oracle servers and Oracle databases on NetApp storage systems
- Use NetApp technology for backing up, recovering, and cloning of Oracle databases

Who Can Benefit

- Anyone familiar with Oracle database servers and NetApp storage systems is considered a typical student of this course.

Prerequisites

- Architecting Oracle on NetApp Storage (WBT)
- Data ONTAP Cluster-Mode Fundamentals (WBT)
- Familiar with Data ONTAP 7-Mode administration
- Familiar with Data ONTAP Cluster Mode Administration

Course Details

Implementing Oracle on NetApp Storage Systems

- Module 1 Implementing Oracle on NetApp Storage Systems Overview

- Describe components of Oracle databases
- Describe key issues that are often experienced with Oracle deployments
- Describe the advantages of implementing Oracle solutions on NetApp technology
- Module 2 Designing and Planning an Oracle Implementation
- Describe key design considerations for an Oracle deployment on NetApp storage systems
- Create the storage design to implement Oracle databases on NetApp storage systems
- Module 3 Setting Up NetApp Storage Systems of Oracle Databases
- Configure clustered Data ONTAP network interface groups, logical interfaces (LIFs), and interface failover
- Configure clustered Data ONTAP virtual storage servers (Vservers)
- Provision storage for a Vserver
- Access a Data ONTAP cluster
- Configure export policies
- Implement and validate a storage design on the clustered Data ONTAP operating system
- Module 4 Installing an Oracle Server and Oracle Databases
- Describe requirements and prerequisites for installing an Oracle server and databases
- Install an Oracle database
- Module 5 Oracle dNFS and NetApp Storage
- Enable direct NFS (dNFS) for an Oracle database
- Explain what dNFS is and how it differs from kernel Network File Systems (kNFS)
- List the database objects that show you the dNFS database traffic
- Configure multiple paths for dNFS
- Module 6 Using Oracle ASM with NetApp Storage
- Define Automatic Storage Management (ASM) for an Oracle database on NetApp storage
- Define the Oracle ASM Library (ASMLib)
- Describe how to install and configure ASM and ASMLib to provision and configure storage and LUNs
- Create an ASM database
- Use ASM to create an application database
- Module 7 Backup and Recovery Methods for Oracle
- Describe specific storage design requirements for the backup and recovery of Oracle databases
- Back up and recover an Oracle database by using SnapManager for Oracle (SMO)
- Back up and recover an Oracle database by using Snap Creator Framework
- Module 8 Cloning Oracle Databases
- Describe use cases for cloning Oracle databases
- Identify the components that are needed for a clone creation
- Identify which objects to clone
- Use NetApp SnapManager for Oracle (SMO) to clone an Oracle database
- Module 9 Disaster Recovery for Oracle Databases
- Describe disaster recovery plans and issues for Oracle databases
- Describe NetApp SnapMirror technology for Oracle databases
- Describe a SnapMirror disaster recovery scenario
- Implement recovery options

- Leverage Oracle Data Guard when implementing Oracle on NetApp storage
- Lab Exercises
- Lab 1-1 Use login credentials for the Linux host
- Lab 1-2 Verify the necessary file systems
- Lab 1-3 Verify that initial databases are available
- Lab 1-4 Identify NetApp cluster components
- Lab 2-1 Identify the components of the Oracle database
- Lab 2-2 Describe the use case that is associated with the storage design
- Lab 3-1 Log in to cluster1_01 VSIM
- Lab 3-2 Create a Vserver
- Lab 3-3 Modify the Vserver to enable the NFS protocol, assign the default aggregates and add the appropriate DNS
- Lab 3-4 Add the appropriate LIFS for your Vserver
- Lab 3-5 Define the export policy for the Vserver
- Lab 3-6 Modify the Vserver vsadmin user
- Lab 3-7 Provision storage on the Vserver for the Oracle database server
- Lab 4-1 Validate and prepare parameters for the Linux host
- Lab 4-2 Validate and prepare parameters for the Data ONTAP host
- Lab 4-3 Define the file systems for the Oracle database
- Lab 4-4 Create an Oracle database
- Lab 5-1 Enable dNFS for an Oracle database
- Lab 5-2 Verify that the database is using dNFS
- Lab 5-3 Disable dNFS for a database (optional)
- Lab 6-1 Create a Vserver
- Lab 6-2 Modify the Vserver to enable iSCSI protocol, assign the default aggregates and add the appropriate DNS information
- Lab 6-3 Add the appropriate LIFs for your Vserver
- Lab 6-4 Create groups, create users, and modify the Vserver vsadmin user
- Lab 6-5 Start the iSCSI service for this Vserver
- Lab 6-6 Provision storage for the database
- Lab 6-7 Configure and validate iSCSI service on the Linux host
- Lab 6-8 Prepare the Linux host for Device Mapper and discovery of LUNs
- Lab 6-9 Start the Oracle Grid Infrastructure
- Lab 6-10 Prepare the LUNs on the Linux host for use by ASM
- Lab 6-11 Create ASM disk groups with iSCSI LUNs
- Lab 6-12 Create the oraicsci database through DBCA
- Lab 6-13 Move the clustered Data ONTAP operating system and LUNs
- Lab 7-1 Start the grid infrastructure
- Lab 7-2 Install SnapDrive for UNIX
- Lab 7-3 Install and configure SMO
- Lab 7-4 Configure a SMO repository
- Lab 7-5 Create an SMO profile for oraclass

- Lab7-6 Create an SMO backup for oraclass
 - Lab 7-7 Restore an Oracle database
 - Lab 7-8 Install Snap Creator Framework for Oracle database servers
 - Lab 7-9 Set up the Snap Creator configuration file to back up your database
 - Lab 7-10 Restore the Oracle database using Snap Creator Framework
 - Lab 8-1 Create a SMO profile for oraclass
 - Lab 8-2 Delete a clone
 - Lab 8-3 Define the Snap Creator configuration for a clone workflow
 - Lab 8-4 Prepare a host for the new cloned database
 - Lab 8-5 Configure the Oracle database using Snap Creator Framework
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