

Course 282: Oracle Backup, Recovery, and Tuning, Hands-On (5 days)

Course Description...

Oracle Database 11g includes an increased range of tools that can be used to ensure full protection and recovery from failure. Those responsible for administering Oracle data need an in-depth knowledge of these tools to ensure optimal database availability. In this course you gain extensive hands-on experience with backup strategies and recovery techniques on Oracle databases. In this course, you will employ a set of automated tuning tools to mitigate poor resource allocation and enhance database performance. The course is based on and will be using Oracle Database 11g.

Learning Objectives...

- Implement backup and recovery strategies to safeguard Oracle 11g databases
- Configure the database for fault tolerance
- Perform backup and recovery with Recovery Manager and Oracle Enterprise Manager
- Maintain high availability with hot standby databases using Oracle Data Guard
- Alleviate bottlenecks by tuning the Oracle 11g server memory components
- Automate server tuning with the workload repository and diagnostics information

Who should attend...

Those interested in safeguarding and tuning Oracle 11g databases.

Prerequisites...

Course 281, "Oracle Database Administration" or equivalent knowledge of database administration is assumed.

See next page for a detailed course outline...



Course Outline...

Safeguarding the Database and Ensuring Resilience

- Configuring and protecting redo logs and control files
- Achieving total recall with Flashback Data Archive

Basic Backup and Recovery Techniques

- Identifying possible points of failure
- Selecting appropriate backup strategies
- Implementing hot and cold backups
- Managing the Flash Recovery Area
- Recovering the database
- Database, tablespace and datafile recoveries
- Flashing back the database to a recent point in time

Performing Backup and Recovery with Recovery Manager (RMAN)

- Creating and merging recovery catalogs
- Registering databases for recovery
- Modifying catalog contents
- Implementing virtual private catalogs
- Backup operations with RMAN
- Working with full and incremental backups
- Scripting the backup activity
- Listing and reporting on RMAN operations
- Protecting very large datafiles with multisection backups
- Performing automated recovery
- Backup sets and image copies for restore and recovery
- Rolling forward image copies with incremental backups
- Tuning backup processing with block change tracking

Automating Backup and Recovery with Oracle Enterprise Manager (OEM)

- Configuring default settings
- Navigating the screens to perform backup and recovery
- Repairing lost data with Data Recovery Advisor
- Obtaining advice for repairing data failures
- Executing repairs, classifying and closing failures

Disaster Recovery with Data Guard

- Establishing the standby environment
- Creating and synchronizing the standby database
- Controlling log shipping and redo apply mechanisms
- Applying data protection policies
- Physical vs. logical standby databases
- Managing the standby database
- Maintaining a read-only standby during managed recovery
- Synchronizing the standby with incremental backups
- Moving operations to the standby
- Failing over and switching to the standby facility
- Achieving No-Data-Loss and delayed recovery



Configuring and Tuning the Oracle Server

- Tuning the SGA
- Maximizing the use of the shared pool
- Tuning the buffer cache with the Buffer Cache Advisor
- Reducing I/O with multiple buffer pools
- Monitoring latch contention
- Enhancing query performance with the result cache
- Controlling result cache usage
- Monitoring the result cache with DBMS_RESULT_CACHE

Oracle 11g Server Automated Tuning

- Automatic Workload Repository (AWR)
- Performing root cause analysis with the Automatic Database Diagnostics Monitor (ADDM)
- Tracking session activity with Active Session History (ASH)
- Handling logging and tracing with Automated Diagnostics Repository (ADR)
- Gathering statistics with user-specified preferences
- Automatic Memory Management (AMM)
- Tuning memory with the memory advisors
- Enabling total memory management with AMM
- Generating workloads for predictive testing
- Capturing workloads with Database Replay
- Analyzing and evaluating the results of the replay session

Please contact your ROI representative to discuss course tailoring!!!