



Oracle Database 11g Administration Level 2

Days: 5
Format: Instructor-Led
Certification Exams: 1Z1-053
Certification Track: None

Recommended Course Sequence

Knowledge of prerequisites
noted below.

*Course content is subject to change
without notice.*

Course Description:

The overall objective of this course is to bring database administrators beyond a basic understanding of their environment and to focus attention on more advanced skills needed to effectively configure, administer, monitor and tune the database within a large-scale enterprise.

Target Student:

The primary target audience for this course is Oracle database administrators. Oracle web server and application server administrators, as well as others who must manage an embedded repository database using Oracle database technology will also find this information useful.

This course is also recommended for technical consultants, support engineers, project managers and other technical management and support personnel.

Prerequisites:

Many students taking this course have familiarity with system administration and administration of other non-Oracle databases, and this is helpful though not mandatory.

Specific course prerequisites for this course are:

- ORA11g001, Oracle Database 11G: SQL Fundamentals
- ORA11g101, Oracle Database 11G: Program with PL/SQL
- ORA11g201, Oracle Database 11G: Administration I

Certification Track:

This course along with its prerequisites covers information necessary to complete the certification test

- EXAM #1Z1-053 ORACLE DATABASE 11G: ADMINISTRATION II.

At Course Completion:

Specific subject areas to be explored and objectives to be reached are:

- Automatic database management, monitoring and tuning facilities. Included is automatic management of storage space and memory resources within the database.
- Using Oracle flashback technology to recover from user errors and from database failures, including flashback data archive and flashback transaction back out along with the Total Recall capability.
- Controlling resource utilization on database servers whose resource demand exceeds its capacity.
- Automating launching routine maintenance tasks and even application functions using the database Scheduler.
- Handling database corruption.
- Utilizing diagnostic sources in troubleshooting database problems and employing the Fault diagnose ability Infrastructure to capture fault data.
- Automatic resumption of database operations even in the face of failures and errors.
- User-managed and automatically managed backup strategies and database recovery operations.

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- Use advanced Enterprise Manager Wizards and tools, including the integrated Log Miner, Flashback Transaction Back out wizard, database Recovery Wizard, and others.
- Automatic Storage Management (ASM) of some or all database files, providing a database-centric and optimized storage subsystem and volume manager.

Course Outline

Lesson 1: Managing Memory
<ul style="list-style-type: none">■ About manual memory management■ Automatic memory management■ Memory target■ Memory max target■ SGA target■ SGA max size■ Work area size policy & PGA aggregate target■ Using EM & the memory advisors■ Monitor in memory access mode
Lesson 2: Managing Storage & The Segment Advisor
<ul style="list-style-type: none">■ Monitor Tablespaces■ About reusable space allocation■ Table storage management■ PCT free illustrated■ Use the segment advisor■ Using the shrink space option■ Cascade to dependent objects■ Optionally call delete task
Lesson 3: Managing Resources
<ul style="list-style-type: none">■ Database resource manager architecture■ Consumer groups■ Resource plans■ Automatic & adaptive consumer group mapping■ Activating plans■ Monitoring resource allocation■ Explicit consumer group switching
Lesson 4: Automating Tasks With The Scheduler (Basic)
<ul style="list-style-type: none">■ Scheduler architecture■ RAC environment■ Manage programs■ Manage schedules■ Manage jobs
Lesson 5: Automating Tasks With The Scheduler (Advanced)
<ul style="list-style-type: none">■ Manage job classes■ Manage windows & window groups■ Manage chains■ About events & the scheduler

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Lesson 6: Globalization

- Globalization settings
- NLS Lang
- NLS Language & NLS Territory
- Date & Time localization
- Linguistic indexes
- About locale builder

Lesson 7: Diagnosing Database Problems

- About the fault diagnose ability infrastructure
- ADR highlights from EM
- Using the alert log
- About the trace files
- Database instance health snapshot
- Using the support workbench
- Enable oracle configuration manager

Lesson 8: Automatic Storage Management

- ASM & the broader database architecture
- Creating the ASM instance
- Administering the ASM instance
- SYSASM super administrator
- ASM storage parameters
- Using DBCA
- Using ASMCMD
- Configuring databases for ASM storage
- DBCA
- DBUA
- ASM migration using EM

Lesson 9: Recovery Concepts

- About the backup & recovery structures
- Managing redo data
- Is log buffer large enough?
- What V\$Log Reveals
- What V\$Log History reveals
- What V\$Logfile reveals
- What V\$Archived Log reveals
- Managing archived redo data
- Archive log status
- Creating a foundation for sound recovery

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Lesson 10: Oracle Flashback Technology

- About flashback technology
- Flashback query
- Select as of timestamp
- Select as of SCN
- Using DBMS flashback
- Configuring undo management for flashback
- Undo retention
- Flashback table
- Flashback drop
- Flashback versions query
- Flashback transaction query
- Flashback transaction back out

Lesson 11: Flashback Database

- About flashback database
- Configuring the flash recovery area
- More about db recovery file desk
- Performing database flashback
- Monitoring flashback performance
- Flashback database considerations
- Configure flashback data archive

Lesson 12: Instance Recovery

- About instance recovery
- SMON process & instance recovery
- PMON process & process recovery
- Instance recovery parallelism
- Changing recovery parallelism
- MTTR advisor & tuning checkpoints
- Log checkpoints to alert
- Redo logfile size advisor
- Fast-start on-demand parallelism

Lesson 13: Configuring RMAN

- RMAN architecture
- RMAN sample backup session
- Launch & use RMAN
- Configure RMAN settings
- Allocate RMAN channels

Lesson 14: Backup With RMAN

- About backup file types
- Performing full backups
- Performing incremental backups
- Establishing a backup retention policy
- Generate reports
- Report unrecoverable
- Report need backup
- List incarnation
- Validate backup data integrity

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Lesson 15: RMAN Management With EM

- Monitoring the flash recovery area
- The EM interface to RMAN
- Scheduling RMAN backups
- Using the oracle-suggested backup strategy
- Manage current backups
- Backup reports
- Manage restore points

Lesson 16: User-Managed Recovery Operations

- Recovery concepts
- Recover temporary Tablespaces
- Recover read-only Tablespaces
- Recover index Tablespaces
- Recover redo log group member
- Recreate the password file

Lesson 17: Recovery With RMAN

- Complete media recovery
- Incomplete media recovery
- TSPITR
- DBPITR
- Recovery using EM

Lesson 18: Using The RMAN Recovery Catalog

- Configuring the recovery catalog
- Using a virtual private catalog

Lesson 19: Advanced RMAN Capabilities

- Backup set encryption
- RMAN duplicate database