



- COURSE CODE:** ORADBA
- COURSE TITLE:** Oracle DBA Fundamentals
- CURRENCY:** 10g & 11g
- AUDIENCE:** Aspiring Oracle DBAs, junior DBAs and Oracle production DBAs.
- PREREQUISITES:** Completion of our course 'Oracle Architecture, Concepts & Facilities' (ORAACF) or equivalent knowledge.
- DURATION:** 4 days
- SUMMARY:** Designed for the Oracle beginner-DBA in particular and the Oracle apprentice-DBA in general, this Oracle DBA fundamentals course describes Oracle's architecture, its processes and database objects – instance, database, tablespaces, tables, indexes, etc. – in terms of how they work. Additionally, backup and recovery, load, import, export, etc. utilities are central to the hands-on exercises.
- Finally, locking and concurrency are explored in terms of transaction processing and recovery.
- OBJECTIVES:** Upon completion of this course, the participant should be able to create and manage the fundamental Oracle schema objects: database, tablespace, table, index, and the like.

1. ORACLE DB ARCHITECTURE

- Memory structure
- Logical storage structure
- Physical storage structure
- Processes
- SQL extensions (e.g., PL/SQL)
- Administration tools (e.g., Oracle Enterprise Manager)
- The Oracle instance
- Real Application Cluster (RAC) architecture

2. ORACLE DB STRUCTURE

- Data blocks
- Extents
- Segments (e.g., undo)
- Tablespaces
- Data files
- Control files
- The Data Dictionary

3. SCHEMA OBJECTS

- Tables
- Views
- Materialized views
- Dimensions
- Sequence objects
- Synonyms
- Indexes

4. PARTITIONED TABLES & INDEXES

- Advantages/disadvantages
- Partitioning options
- Partitioning index options

5. ORACLE BUILT-IN DATA TYPES

- Character
- Varchar
- Number
- Date
- LOB
- ROWID
- XML

6. SOME ORACLE DB LIMITS

- Data types
- Physical DB
- Logical DB
- Process
- Runtime

7. DATA INTEGRITY & CONSTRAINTS

- Definition
- Managing
- Adding
- Modifying
- Dropping
- Metadata views

8. ORACLE SECURITY CONCEPTS

- Users
- Privileges
- Grouping and roles
- Metadata views

9. DATABASE CREATION WORKSHOP

- Planning
- CREATE DATABASE statement
- Initialization parameters
- Dropping DB
- Starting up and shutting down
- Metadata views
- Workshop

10. REDO/UNDO LOG WORKSHOP

- Definition
- Planning
- Creation
- REDO/UNDO working together
- Commit/rollback processing
- Controlling logging
- Archiving
- Metadata views



11. TABLESPACE CREATION WORKSHOP

- Definition
- Planning
- CREATE TABLESPACE statement
- Block sizes
- Redo records
- Altering tablespaces
- Read-only tablespaces
- Space management (e.g., PCTFREE, PCTUSED)
- Metadata views
- Workshop

12. DATA FILES & TEMPFILES

- Definition
- Planning
- Adding to tablespace
- Changing size
- Controlling block size
- Physical views
- Workshop

13. TABLE CREATION WORKSHOP

- Definition
- Planning
- CREATE TABLE statement
- Options (e.g., IOT, temporary, partitioning)
- Choosing data types
- Altering tables
- Null and constraint considerations
- Statistics collection
- Metadata views
- Workshop

14. INDEX CREATION WORKSHOP

- Definition
- Planning
- CREATE INDEX statement
- Options (e.g., B-tree, function-based, bitmap)
- When to consider
- Altering
- Statistics collection
- Metadata views
- Workshop

15. BACKUP & RECOVERY WORKSHOP

- Definition
- Planning and strategies
- Types (e.g., complete, point-in-time)
- Database backup
- Automatic
- Recovery manager
- How to perform recovery
- Backup management
- Workshop

16. ORACLE ENTERPRISE MANAGER

- Definition
- Starting and stopping
- Database control
- SQL statements and other management tools

17. DATABASE LOADING & UNLOADING

- SQL*Loader
- External tables
- IMPORT utility
- Flat files
- Export utility
- Data Pump unload

18. INTRODUCTION TO BASIC SQL

- SELECT
- INSERT
- UPDATE
- DELETE
- MERGE
- JOINS
- Subselects
- Subqueries
- Table functions
- Common Table Expressions
- Workshop

19. INTRODUCTION TO DATA ACCESS METHODS

- Table scans
- Index scans
- Cluster scans
- Hash scans
- Joins
- Range scans
- Skip scans
- Unique scans
- Workshop

20. LOCKING & CONCURRENCY

- Definition
- Lockable objects
- Multiversion control
- Transaction-level read consistency
- Isolation levels
- Deadlocks
- DML locks
- DDL locks
- Latches vs. locks