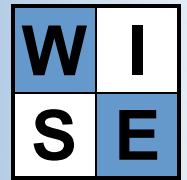


- COURSE CODE:** ORAACF
- COURSE TITLE:** Oracle Architecture, Concepts & Facilities
- CURRENCY:** 10g & 11g
- AUDIENCE:** Database administrators, system administrators and developers
- PREREQUISITES:** At least 1 year of IT experience
- DURATION:** 2 days
- SUMMARY:** This course describes, via examples and hands-on exercises, the Oracle database and its architecture. Emphasis is placed not only on what Oracle's features are, but also their use and how they work. This presentation should be an ideal prerequisite to more advanced Oracle courses, such as:
- Oracle Database Administration Fundamentals (ORADBA)
 - Oracle Data Warehouse Design (OWHDWD)
 - Oracle Data Warehouse Performance & Tuning (OWHWPT)
 - Oracle Data Warehousing: ETL Specifically (OWHETL)
- OBJECTIVES:** Upon completion of this course, the delegate should understand Oracle database's architecture, API facilities and how this may contribute to various OLTP and BI solutions.



1. ORACLE DATABASE ARCHITECTURE

- Application architecture
- Physical database structures
- Logical database structures
- Oracle data dictionary
- The Oracle instance
- Database access
- Oracle utilities

2. ORACLE DATABASE FACILITIES

- Scalability and performance features
- Manageability features
- Database backup and recovery features
- Business Intelligence (BI) facilities
- ETL
- Security facilities
- Data integrity and constraints

3. APPLICATION DEVELOPMENT FEATURES & FACILITIES

- SQL
- PL/SQL
- Java
- Application Programming Interfaces (APIs)
- Transaction management
- Datatypes

4. DATABASE COMPONENTS

- Data blocks
- Extents
- Segments
- Tablespaces
- Datafiles
- Control files

5. TRANSACTION CONCEPTS

- Introduction to transactions
- Transaction management
- Autonomous transactions



6. SCHEMA OBJECTS

- Tables
- Views
- Materialized views
- Dimensions
- The sequence generator
- Synonyms
- Indexes
- Index-organized tables
- Clusters
- Hash clusters

7. THE DATA DICTIONARY

- Structure
- Data dictionary uses
- Database object metadata

8. MEMORY ARCHITECTURE

- System Global Area (SGA)
- Program Global Areas (PGA)

9. PROCESS ARCHITECTURE

- User processes
- Oracle processes

10. APPLICATION ARCHITECTURE

- Multitier architecture
- Oracle Net Services

11. ORACLE UTILITIES

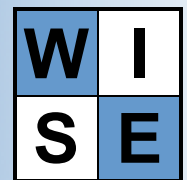
- Oracle utilities
- Data pump export and import
- Data pump API
- Metadata API
- SQL*Loader
- External tables

12. DATABASE & INSTANCE

- The Oracle instance
- Instance and database startup
- Database and instance shutdown

13. LOCKING & CONCURRENCY

- Multiuser environment
- Isolation levels
- Oracle locks vs. Latches
- Oracle flashback query



14. MANAGEABILITY FACILITIES

- Performance management and troubleshooting
- Application tuning
- Memory management
- Space management
- Storage management
- Configuration management
- Workload management
- Automatic storage management
- Oracle scheduler

15. BACKUP & RECOVERY

- Media recovery
- RMAN and user-managed restore and recovery
- Oracle flashback technology

16. BUSINESS INTELLIGENCE (BI)

- Extraction, transformation and loading (ETL) facilities
- Materialized views for data warehouses
- Bitmap indexes in data warehousing
- Parallel execution
- Analytic SQL

17. TABLE PARTITIONING

- Partitioning methods
- Partitioning indexes
- Partitioning and performance

18. DATABASE SECURITY

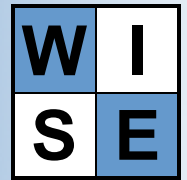
- Database security
- Transparent data encryption
- Authentication methods
- Authorization
- Access restrictions on tables, views, synonyms or rows
- Security policies
- Database auditing

19. DATA INTEGRITY

- Integrity constraints
- Types of integrity constraints

20. TRIGGERS

- Introduction
- Trigger types
- Execution



21. SQL, PL/SQL & JAVA

- SQL
- Cursors
- Execution plans
- Procedural languages
- Java

22. ORACLE DATATYPES

- Character datatypes
- Numeric datatypes
- DATE datatype
- LOB datatype
- RAW and LONG RAW datatypes
- ROWID and UROWID datatypes
- XML datatypes
- Object datatypes
- Type inheritance