Oracle Database 10g: Implement and Administer a Data Warehouse

Duration: 4 Days

What you will learn

This Oracle Database 10g: Implement and Administer a Data Warehouse training is intended for database administrators, system administrators and database application developers who design, maintain and use data warehouses. Expand your knowledge through interacting with expert Oracle University instructors.

Learn To:

Describe security challenges in a data warehouse.

Develop an effective backup and recovery strategy.

Implement an effective partitioning schema for your data warehouse tables.

Describe star, snowflake and 3NF schemas.

Describe and demonstrate effective usage of Materialized Views in a data warehouse.

Demonstrate extraction, transformation, and loading processes.

Recommended Prerequisite Knowledge

Before enrolling in this course, we recommend that you become familiar with relational database concepts, basic data warehouse theory and Oracle server concepts. This includes application and server tuning and the operating system environment under which you're running the Oracle Database Server.

Audience
Data Warehouse Administrator
Database Administrators
Database Designers

Related Training

Required Prerequisites

Knowledge of Database Administration

Oracle Database 10g: 2 Day DBA Release 2

Suggested Prerequisites
Oracle Database 10g: New Features for Administrators Release 2

Course Objectives
Understand and describe the features inherent in an Oracle 10g Data Warehouse

Demonstrate how to implement parallel operations

Data Warehouse Design
Logical Versus Physical Design in Data Warehouses
Data Warehousing Schemas
Data Warehousing Objects
Physical Design in Data Warehouses
Hardware and I/O Considerations

Data Warehousing Schemas
Star Schema Model
Snowflake Schema Model
Tuning Star Queries
Star Transformation Hints
Star Transformation Hints
Static Partition Pruning And Star Query
Dynamic Partition Pruning And Star Query
Dynamic Partition Pruning Determination

Partitioning Basics
Supported partition types
Rolling window operations
Partition pruning
Partitioning Using a Template

Extraction, Transportation, and Loading (Extraction and Transportation)
ETL Tools
Extraction Methods
Logical Extraction Methods
Physical Extraction Methods
Change Data Capture
Transportation Using Transportable Tablespaces
Loading Mechanisms

ETL-Loading
Load a formatted flat file into an existing table with SQL*Loader
Performing basic transformations while loading with SQL*Loader
External tables using oracle_loader driver
External tables using oracle_datapump driver
Loading data with OCI and Direct-path APIs

ETL-Transformation
Transformation Using SQL
Transformation Using PL/SQL
Transformation Using Table Functions
Error Logging and Handling Mechanisms

Parallelism Concepts

Parallel Operations
Degree Of Parallelism
Parallel Execution Plan
Operations That Can Be Parallelized
The PARALLEL Clause
Parallel Query
Parallel DDL
Performance Benefits of Parallel DML

Parallel Operations in Data Warehouses
Automated Parallel Query Tuning
Data Distribution And V$PQ_TQSTAT
Object Statistics And V$PQ_TQSTAT

Materialized Views
Materialized Views Overview
Types Of Materialized Views
Nested Materialized Views
Partitioned Materialized Views
Refresh Methods and Modes
Altering/Dropping Materialized Views
Dimensions and Hierarchies
Dimensions and the Data Dictionary

Dimensions
Creating dimensions
Validate dimensions data
View dimension definition information
Distinguish between dimensions and constraints

Materialized Views Refresh
Refresh Methods and Modes
Identifying Dependent MVs
Conditions For Complete/Fast Refreshes
Materialized View Logs
Parallel Refreshes

Query Rewrite
What Can Be Rewritten?
Enabling Query Rewrite
Join Compatibility Checks
Common Joins
PCT and Query Rewrite
Query Rewrite using Multiple MVs
Index Materialized Views

SQL Access Advisor
DBMS_OLAP Advisory Procedures
Workload Management and Sources
Recommendations
Workload Filters and Attribute Types
Tuning of Manually Created Materialized Views

Fast-Refreshable Materialized Views
RECOMMEND_MVIEW_STRATEGY procedure

Data Warehousing System Management
Statistics Collection
Resumable Sessions
Backup and Recovery
Table Compression
Security