Oracle Database 11g: Implement Partitioning  Release 2

Duration: 2 Days

What you will learn

This course will discuss the Oracle Partitioning methods for tables, index, and materialized views that are available in Oracle Database 11g Release 2 with examples and explanations of appropriate use. Oracle Database 11g introduces several new partitioning methods: Reference partitioning, System partitioning, Interval partitioning, Virtual column partitioning, and several new composite partitioning methods: Range-Range, Hash-Hash, List-List, List-Hash, List-Range, along with Interval-Range, Interval-Hash, and Interval-List. When added to all the existing methods of partitioning, this large range of choices require that Database Administrators and Data Architects understand each method and appropriate uses.

The course will also cover partitioning of Lob segments, nested tables, and object tables. Proper use of partitioning can greatly benefit many types of applications including Data Warehouses, Information Lifecycle management, and very large databases in general.

This course is based on Oracle Database 11g Release 2 Patch Set 1.

Learn To:
Apply partitioning strategies to enhance application performance
Use partitioning techniques to reduce impact of table and index maintenance
Use partitioning to decrease the time to refresh materialized views

Audience
Architect
Data Warehouse Administrator
Database Administrators
Database Designers

Related Training
Required Prerequisites
Basic Oracle Database administration, Basic SQL Skills
Oracle Database 11g: Administration Workshop II Release 2
Oracle Database 11g: Administration Workshop I Release 2

Course Objectives
Understand partitioning options with other database features
Describe the partitioning architecture, uses, and advantages

Describe the partition types supported by the Oracle RDBMS

List all of the options for creating partition tables

Create partitioned tables

Describe the table and index partition relationships

List all the options of partitioned indexes

Create partitioned indexes

List all of the alterable partitioned table and index attributes

Describe the overhead associated with each maintenance command

Use the data dictionary to verify partitioning structure

Create Materialized Views that are partitioned

Explain the benefits of partitioning materialized views

Show performance enhancements of partitioned materialized views

Choose appropriate partition attributes for various application requirements

Describe Oracle Enterprise Manager support of partitioned objects

Course Topics

**Introduction to Partitioning**
VLDB Manageability and Performance Constraints
Manual Partitions
Partitioned Tables, Indexes, Materialized Views
Benefits of Partitioning
Performance Consideration, Manageability & Partitioning Methods
Table Versus Index Partitioning, Partitioned Indexes & Verifying Partition Use
Proof of Pruning
SQL-Loader, Partitioned Objects and Partitioning History

**Implementing Partitioned Tables**
Table, Partition, and Segment Relations
Equipartitioning & General Restrictions
The CREATE TABLE Statement with Partitioning
Partition Key Value, Range Partitioning, Interval Partitioning, Multicolumn Partitioning
List Partitioning, Hash Partitioning, Named Partitions & Hash Partitioning: Quantity of Partitions
Composite Partitioning
Index Organized Table (IOT) Partitioning, LOB Partitioning
Partitioned Object Tables and Partitioned Tables with Object Types

Implementing Partitioned Indexes
Partitioned Indexes & Partitioned Index Attributes
Index Partitioning Types
Global Indexes, Local Prefixed Index
Local Prefix Index Examples, Local Nonprefixed Index
Index Partitioning and Type Matrix
Specifying Index with Table Creation
Graphic Comparison of Partitioned Index Types
Index Partition Status, Data Dictionary Views Indexes & Guidelines for Partitioning Indexes

Maintenance of Partitioned Tables and Indexes
Maintenance Overview
Table and Index Interaction During Partition Maintenance
Modifying a Table or Indexing Logical Properties
Modifying Partition Properties on the Table
Using the ALTER TABLE or INDEX Commands
Renaming a Partition
Partition Storage Changes
Moving a Partition, Adding a Partition, Dropping a Partition, Splitting and Merging a Partition, Coalescing a Partition, Rebuilding Indexes

Partitioning Administration and Usage
Using Partitioned Tables
Pruning Rules, Partition-wise Joins
ANALYZE and Partitioned Objects & Data Dictionary View Statistics
SQL*Loader and Partitioned Objects
SQL*Loader Conventional Path
SQL*Loader Direct Path Sequential Loads
SQL*Loader Direct Path Parallel Loads
Export and Import

Partitioning and Workload Types
Partitioning in Data Warehouses
Partitioning for Information Lifecycle Management
Partitioning in OLTP Environments