

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, Rebu

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