Oracle Database 12c/18c/19c Performance Tuning

Course information

Days : 5
Total lessons : 20
Suggested Prerequisites :

- Oracle Database : Administrator Workshop I
- Oracle Database : Administrator Workshop II

Training includes :

- Experienced trainer(s)
- Pre-test and Post-test
- Practices and solutions

Public price :

- 25,000 baht(THB) : 1 person

In-house price for 5 days:

- 75,000 baht(THB) : Economic Class : 1 - 5 people
- 94,000 baht(THB) : Small Class : 6 - 10 people
- 120,000 baht(THB) : Medium Class : 11 - 20 people
- 140,000 baht(THB) : Large Class : 21 - 30 people

All prices exclude VAT 7 %

Course details

Day 1

Lesson 1 : Introduction
Lesson 2 : Basic Tuning Tools
Lesson 3 : Using Automatic Workload Repository
Lesson 4 : Defining Problems

Day 2

Lesson 5 : Using Metrics and Alerts
Lesson 6 : Baselines
Lesson 7 : Using AWR-Based Tools
Lesson 8 : Monitoring an Application

Day 3

Lesson 9 : Identifying Problem SQL Statements
Lesson 10 : Influencing the Optimizer
Lesson 11 : Using SQL Performance Analyzer
Lesson 12 : SQL Performance Management

Day 4

Lesson 13 : Using Database Replay
Lesson 14 : Tuning the Shared Pool
Lesson 15 : Tuning the Buffer Cache
Lesson 16 : Tuning PGA and Temporary Space

Day 5

Lesson 17 : Automatic Memory Management
Lesson 18 : Tuning Segment Space Usage
Lesson 19 : Tuning I/O
Lesson 20 : Performance Tuning Summary

Lesson details

Lesson 1 : Introduction

- Identify tuning tools
- Utilize a tuning methodology

Lesson 2 : Basic Tuning Tools

- View the top wait events to determine the highest wait
- View the time model to diagnose performance issues
- Use dynamic performance views to view statistics and wait events
- Use Enterprise Manager Monitoring
- Identify the key tuning components of the alert logs
- Identify the key tuning components of user trace files

Lesson 3 : Using Automatic Workload Repository

- Create and manage AWR snapshots
- Generate AWR reports
- Create Compare Periods reports

Lesson 4 : Defining Problems

- Identify performance issues
- Set tuning priorities
- Interpret tuning diagnostics
- Tune for life cycle phase

Lesson 5 : Using Metrics and Alerts

- View metrics by using the metrics history views
- Create metric thresholds
- View alerts

Lesson 6 : Baselines

- Create AWR baselines
- Enable adaptive thresholds
- Create AWR baselines for future time periods

Lesson 7 : Using AWR-Based Tools

- Describe tuning automatic maintenance tasks
- Generate ADDM reports
- Generate Active Session History (ASH) reports

Lesson 8 : Monitoring an Application

- Configure and manage services
- Use services with client applications
- Use services with the Database Resource Manager
- Use services with the Scheduler
- Set performance-metric thresholds on services
- Configure services aggregation and tracing

Lesson 9 : Identifying Problem SQL Statements

- Describe SQL statement processing
- Describe the role of the optimizer
- View the SQL statement statistics
- Identify the SQL statements that perform poorly
- Generate and view an execution plan
- Generate a tkprof report
- Generate an optimizer trace

Lesson 10 : Influencing the Optimizer

- Describe the optimizer's behavior
- Adjust parameters to influence the optimizer
- Adjust data structures to influence the optimizer

Lesson 11 : Using SQL Performance Analyzer

- Identify the benefits of using SQL Performance Analyzer
- Describe the SQL Performance Analyzer workflow phases
- Use SQL Performance Analyzer to ascertain performance gains following a database change
- Use SQL Performance Analyzer to test the impact of proposed changes

Lesson 12 : SQL Performance Management

- Manage changes to optimizer statistics
- Capture SQL profiles
- Use SQL Access Advisor
- Set up SQL Plan Management
- Set up various SQL Plan Management scenarios

Lesson 13 : Using Database Replay

- Identify the benefits of using Database Replay
- List the steps involved in Database Replay
- Use Enterprise Manager to record and replay workloads

Lesson 14 : Tuning the Shared Pool

- Diagnose and resolve hard-parsing problem
- Diagnose and resolve soft-parsing problem
- Size the shared pool
- Diagnose and resolve shared pool fragmentation
- Keep objects in the shared pool
- Size the reserved area
- Manage the results cache

Lesson 15 : Tuning the Buffer Cache

- Describe the buffer cache architecture
- Size the buffer cache
- Resolve common performance issues related to the buffer cache
- Use common diagnostic indicators to suggest a possible solution

Lesson 16 : Tuning PGA and Temporary Space

- Diagnose PGA memory issues
- Size the PGA memory
- Diagnose temporary space issues
- Specify temporary tablespace parameters for efficient operation

Lesson 17 : Automatic Memory Management

- Use memory advisors to size dynamic memory areas
- Enable Automatic Shared Memory Manager
- Enable Enterprise Manager memory parameters
- Set minimum size of auto-tuned SGA components
- Use the SGA advisor to set SGA_TARGET
- Enable Automatic Memory Management
- Use the Memory Advisor to set overall memory parameters

Lesson 18 : Tuning Segment Space Usage

- Tune segment space management
- Use Segment Space Advisor
- Convert to Automatic Segment Space Management
- Tune block space management
- Diagnose and correct row migration
- Diagnose table fragmentation
- Use table compression

Lesson 19 : Tuning I/O

- Diagnose database I/O issues
- Describe the Stripe and Mirror Everything (SAME) concept
- Set filesystemio_options
- Choose appropriate I/O solutions
- Tune Automatic Storage Management (ASM)

Lesson 20 : Performance Tuning Summary

- List best practices identified throughout the course
- Summarize the performance tuning methodology

For more information please contact :
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