Oracle 19c Database Tuning (TTOR21519)

Category: Software Development & Programming | **Vendor:** Trivera Tech

Duration: 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

Dive into the world of database optimization with our hands-on Oracle 19c Database Tuning course. Aimed at entry-level learners, this course is designed to provide an in-depth understanding of data management and manipulation techniques. With an understanding of Oracle Database Tuning, you can contribute significantly to the efficiency of your organization's data infrastructure and the successful execution of data-driven strategies.

About This Course

Dive into the world of database optimization with our hands-on Oracle 19c Database Tuning course. Aimed at entry-level learners, this course is designed to provide an in-depth understanding of data management and manipulation techniques. With an understanding of Oracle Database Tuning, you can contribute significantly to the efficiency of your organization's data infrastructure and the successful execution of data-driven strategies.

Our five-day course, led by an Oracle Certified instructor, combines interactive lectures, engaging discussions, and practical lab activities. Topics covered include Oracle Database Architecture, Query Optimizer, Oracle's Tuning Features, Container and Pluggable Databases, and Oracle's Real Application Testing (RAT) among others. About half of the course time is devoted to hands-on lab exercises, where you'll apply your newly learned skills in real-life scenarios. The labs provide you with the opportunity to perform tasks like optimizing queries, setting up and tuning databases, and using tools like the SQL Tuning Advisor and Automatic Workload Repository.

Upon completion of this course, you'll be equipped to optimize queries, manage databases efficiently, utilize Oracle's Heat Map, monitor a service, and use the Automatic Workload Repository (AWR). These critical skills enable you to maintain high-performing databases that are crucial to your organization's operations.

Who Should Attend

This course is geared for professionals seeking a solid foundation in database management and optimization. The training is perfect for experiences database administrators / DBAs, data analysts, and software developers who are involved in data-intensive operations or wish to enhance their skills in database tuning.

Prerequisites & Entry Requirements

General Prerequisites:

This hands-on course is geared for experienced DBAs already working with Oracle. Incoming students should possess:

-Familiarity with basic database concepts such as tables, records, and relationships between data is crucial before diving into the specifics of Oracle Database Tuning.

-Practical knowledge of basic SQL commands like SELECT, INSERT, UPDATE, and DELETE. Knowing how to write simple SQL queries will provide a solid foundation for learning more advanced optimization techniques.

-A general understanding of how Oracle Database functions, including its structure and primary components.

Learning Outcomes

Upon successful completion of this course, participants will be able to:

This course combines engaging instructor-led presentations and useful demonstrations with valuable hands-on labs and engaging group activities. Throughout the course you'll learn how to:
-Develop a solid understanding of Oracle 19c Database Architecture: By the end of this course, you'll be comfortable with the components of Oracle's database system, from Instance Definitions to Datafile Definitions.
-Master the Query Optimizer: You'll gain a firm grasp of SQL Parsing, Optimizing Terms, and Query Plan Generation. You'll learn how to build efficient queries that provide the data you need without unnecessary strain on your systems.
-Get comfortable with Tuning Container and Pluggable Databases: You'll learn how to optimize and manage pluggable databases, enhancing the performance of your data operations.
-Explore Oracle Tuning Features: We'll get you familiar with Oracle's Heat Map and delve into the 19c Compression Levels and Types, boosting your database's efficiency.
-Learn to Evaluate Execution Plans: You'll become proficient in defining SQL execution plans and using the Automatic Workload Repository, allowing you to monitor and improve the performance of your queries.
-Gain hands-on experience with Oracle Tuning Tools: You'll practice with tools like the Enterprise Manager and Automatic Database Diagnostic Monitor, equipping you to handle real-world tuning tasks with confidence.

Detailed Course Outline

Overview Oracle Database Architecture

Instance Definition

Define SGA

Define Background Processes

Datafile Definition

Query Optimizer

SQL Parsing

Optimizing Terms

Optimizing Methods

Query Plan Generation

Query Plan Control

Tuning Container Databases and Pluggable Databases

Pluggable tuning parameters

Define Container tuning structure

Using PDB$SEED

Create a new PDB

Plug and unplug a PDB

Oracle Tuning features

Identifying and Using Oracle's Heat Map

19c Compression Levels and Types

Evaluating Execution Plans

Defining SQL execution plans

Automatic Workload Repository

Reading execution plans

Oracle Tuning Tools

Monitoring tools overview

Enterprise Manager

Dynamic Performance Views

Automatic Workload Repository

Automatic Database Diagnostic Monitor

Sql Tuning Advisor

SQL Access Advisor

Sql Access Advisor

DB operation Tuning

DB operation Active Reporting

Using Automatic Workload Repository

Defining AWR

AWR Settings

Creating AWR Baselines

Metrics, Alerts, and Thresholds

Defining Metrics

Setting Alerts

Setting Corrective Action

User Defined Metrics

Metric Dynamic Views

Join Types

Nested Loops Join

Sort Merge join

Hash Join and Cartesian Join

Equijoins and Nonequijoins

Outer Joins

Semijoins

AWR Using Baselines

Creating AWR baselines

Creating AWR Repeating baselines

Moving Window Baseline

Additional AWR performance tools

Automatic Maintenance Tasks

Segment Advisor

Statistics Gathering

Automatic Tuning Optimizer

Automatic Database Diagnostic Monitor

Active Session History (ASH)

Optimizer Statistics

Optimizer Statistics Overview

Table and Index Statistics

Statistic Preferences

Statistics Gathering

e) Locking Statistics, Export/Import Statistics

Pending and published statistics

Optimizer Hints

Optimizer Paths

Cost Base Optimization

Monitoring a Service

Overview of what is an Oracle Service

Creating an Oracle Service for Single instance and RAC

Monitoring a Service

Resource Management and a Service

Enterprise Manager and a Service

Bind Variables and database parameters

Bind variable definition

Cursor_sharing parameter

Adaptive Cursor Sharing

Oracle's Real Application Testing (RAT)

Sql Performance Analyzer overview

Sql Performance Analyzer Options

Database Parameter changes

Database version changes

Creating SQL Tuning Sets

Database Replay Overview

Database Replay Configuration

Database Replay Options

SQL Tuning Advisor

SQL Tuning Advisor: Overview

SQL Tuning Advisor Limited Mode

Sql Tuning Advisor Comprehensive mode

Sql Tuning Profiles

SQL Access Advisor

SQL Access Advisor: Overview

Sql Access Advisor options

SQL Access Advisor and Sql Tuning Sets

Sql Access Advisor and AWR

Results and Implementation

Automatic Sql Tuning

Automatic Sql Tuning Maintenance Task

Automatic Tuning Optimization implementation(ATO)

Automatic Tuning Optimization Results

Enable/Disable Automatic Tuning Optimization

Sql Plan Management

Sql plan Management and baseline overview

Enable sql plan management

Loading Sql Plan baselines into the SGA

Adaptive plan management

Shared Pool Tuning

Shared pool architecture

Shared pool parameters

Library Cache

Dictionary cache

Large pool considerations and contents

Tuning the database buffer cache

Database buffer cache overview

Database buffer cache parameters

Oracle and Dirty reads and writes

Automatic Shared Memory Management (ASMM)

Buffer Cache goals and responsibility

Buffer Cache pools

Tuning the PGA (Program Global Area)

PGA Overview

PGA Database Parameters

Temporary Segments

Temporary Tablespace

Sizing the PGA

Automatic Memory Management (AMM)

Oracle's Automatic Memory Management Overview

Database Auto-tuned Parameters

Database Non Auto-tuned Parameters

Automatic Memory Management Hints and Sizing suggestions

AMM versus ASMM

Tuning Segment space Utilization (ASSM)

Overview of Automatic Segment Space Management

Defining the DB_BLOCK_SIZE

Defining DB_nk_CACHE_SIZE parameter

The DB_BLOCK_SIZE Parameter

Overview of table compression, block chaining, and block migration

Automatic Storage Management

Overview of ASM

Definition of Grid Infrastructure

ASM Instance

ASM Diskgroups

ASM Diskgroup parameters and templates

ASMCMD

Additional Course Details

Nexus Humans Oracle 19c Database Tuning (TTOR21519) training program is a workshop that presents an invigorating mix of sessions, lessons, and masterclasses meticulously crafted to propel your learning expedition forward.

This immersive bootcamp-style experience boasts interactive lectures, hands-on labs, and collaborative hackathons, all strategically designed to fortify fundamental concepts.

Guided by seasoned coaches, each session offers priceless insights and practical skills crucial for honing your expertise. Whether you're stepping into the realm of professional skills or a seasoned professional, this comprehensive course ensures you're equipped with the knowledge and prowess necessary for success.

While we feel this is the best course for the Oracle 19c Database Tuning (TTOR21519) course and one of our Top 10 we encourage you to read the course outline to make sure it is the right content for you.

Additionally, private sessions, closed classes or dedicated events are available both live online and at our training centres in Dublin and London, as well as at your offices anywhere in the UK, Ireland or across EMEA.

Frequently Asked Questions

Q: What delivery options are available for Oracle 19c Database Tuning (TTOR21519)?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 5-day Oracle 19c Database Tuning (TTOR21519) course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Oracle 19c Database Tuning (TTOR21519) training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Oracle 19c Database Tuning (TTOR21519)?

Yes, we provide corporate training, dedicated training, and closed classes for Oracle 19c Database Tuning (TTOR21519). Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Oracle DBA; Database; Tuning

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Q: Why choose Nexus Human for Oracle 19c Database Tuning (TTOR21519)?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Oracle 19c Database Tuning (TTOR21519) training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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