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## Oracle 19c Database Administration (TTOR02019)

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### Overview

This comprehensive, hands-on course provides concrete information on the design of an Oracle Database instance and database, allowing you to manage your database investment. In this class, you will learn how to create database storage structures that align with your requirements and business models. You will also learn how to create users and administer databases as well as harden the databases to meet your business requirements. This is the foundational course for learning about Oracle Database and it does not assume prior knowledge or Oracle technologies.

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### Prerequisite Comments

TTSQLQY3 Writing SQL Queries

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### Target Audience

This hands-on course is geared for experienced DBAs new to Oracle 19c. Incoming students should possess:

Basic understanding of database principles

Linux skills, including familiarity with command-line options such as ls, cd, cp, and su

Beginning to intermediate proficiency with SQL

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### Course Objectives

This course is approximately 50% hands-on, combining expert lecture, real-world demonstrations and group discussions with machine-based practical labs and exercises. Working in a hands-on learning environment led by our Oracle Certified expert facilitator, students will learn how to:

Describe Oracle Database architecture

Describe Oracle Database Cloud Service (DBCS) architecture and features

Create and manage DBCS database deployments

Configure the database to support your applications

Manage database security and implement auditing

Implement basic backup and recovery procedures

Move data between databases and files

Employ basic monitoring procedures and manage performance

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### Course Outline

#### 1 - Oracle Database Architecture

Oracle Database Server Architecture

Oracle Database Instance Configurations

Connecting to the Database Instance

Oracle Database Memory Structures

## 2 - Creating DBCS Database Deployments

Automated Database Provisioning  
Creating a Database Deployment

## 3 - Accessing an Oracle Database

Connecting to an Oracle Database Instance  
Oracle Database Tools  
SQL\*Plus  
Oracle SQL Developer  
SQL Developer Command Line (SQLcl)  
Database Configuration Assistant (DBCA)  
Oracle Enterprise Manager Database Express  
Enterprise Manager Cloud Control 13c Features

## 4 - Managing DBCS Database Deployments

Managing the Compute Node  
Scaling a Database Deployment  
Patching DBCS

## 5 - Managing Database Instances

Working with Initialization Parameters  
Starting the Oracle Database Instance  
Shutting Down an Oracle Database Instance  
Opening and Closing PDBs  
Alert Log  
Trace Files  
DDL Log File

## 6 - Oracle Net Services

Oracle Net Services  
Oracle Net Listener  
The Default Listener  
Establishing Oracle Network Connections  
Connecting to an Oracle Database

## 7 - User Security

Database User Accounts  
Oracle-Supplied Administrator Accounts  
Creating Oracle Database Users in a Multitenant Environment-9  
Schema-Only Account  
Authenticating Users  
System Privileges for Administrators  
Object Privileges  
Granting Privileges in a Multitenant Environment  
Granting and Revoking System Privileges  
Granting and Revoking Object Privileges

## 8 - Creating PDBs

Creating a New PDB from PDB\$SEED  
Cloning PDBs  
Unplugging and Plugging in PDBs  
Plugging an Unplugged Regular PDB into a CDB

## 9 - Creating and Managing Tablespaces

Creating Tablespaces  
Creating Permanent Tablespaces in a CDB  
Altering and Dropping Tablespaces  
Viewing Tablespace Information  
Tablespace Encryption by Default in DBCS

## 10 - Managing Storage Space

Space Management Features  
Block Space Management  
Row Chaining and Migration  
Types of Segments  
Allocating Extents

## 11 - Managing Undo Data

Undo Data

## 12 - Moving Data

Oracle Data Pump  
SQL Loader

### 13 - Backup and Recovery Concepts

Types of Failures  
Instance Recovery  
The Checkpoint (CKPT) Process  
Redo Log Files and the Log Writer (LGWR)  
Automatic Instance Recovery or Crash Recovery  
Using the MTTR Advisor  
Complete Recovery Process  
The Point-in-Time Recovery Process  
Flashback

### 14 - Backup and Recovery Configuration

Configuring for Recoverability  
Redo Log Files

### 15 - Creating Database Backups

RMAN Backup  
Backing Up Databases on DBCS

### 16 - Performing Database Recovery

Data Recovery Advisor  
Loss of a Control File  
Loss of a Redo Log File  
DBCS: Performing Recovery by Using the Console  
dbaascli Utility

### 17 - Monitoring and Tuning Database Performance

Automatic Workload Repository (AWR)  
Automatic Database Diagnostic Monitor (ADDM)  
Advisory Framework

### 18 - Tuning SQL

SQL Tuning Process  
Oracle Optimizer  
Optimizer Statistics  
SQL Plan

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