Oracle Database 12c R2: Administration Workshop Ed 3

Duration: 5 Days

What you will learn

The Oracle Database 12c R2: Administration Workshop Ed 3 course is designed to provide you with a firm foundation in administration of an Oracle Database. In this course you will gain a conceptual understanding of Oracle Database architecture and learn how to manage an Oracle Database in an effective and efficient manner.

Learn To:

Manage an Oracle Database instance.

Configure the Oracle Network environment.

Create and manage storage structures.

Manage and move data.

Create and manage users.

Monitor the database and manage performance.

Create and manage Database as a Cloud Service database deployments.

Benefits To You

You will benefit from this course as you learn detailed information on the architecture of an Oracle Database instance and database, enabling you to effectively manage your database resources. You learn how to create database storage structures appropriate for the business applications supported by your database. In addition you learn how to create users and administer database security to meet your business requirements. Basic information on backup and recovery techniques is presented in this course.

To provide an acceptable response time to users and manage resources effectively, you learn how to monitor your database and manage performance.

Audience

Data Warehouse Administrator
Database Administrators
Database Designers
Support Engineer
Technical Administrator

Related Training

Required Prerequisites

A working knowledge of SQL and PL/SQL packages is very helpful in the course.

Suggested Prerequisites
Basic knowledge of Linux operating system

Course Objectives
Back up, restore, and patch DBCS database deployments

Describe the DBaaS and on-premises Oracle Database architectures

Manage database instances

Manage UNDO data

Move data between databases

Implement basic backup and recovery procedures

Monitor and tune database performance

Tune SQL to improve performance

Manage resources with Oracle Database Resource Manager

Create pluggable databases (PDBs)

Configure the Oracle network environment

Administer user security and implement auditing

Create and manage tablespaces

Manage storage space

Register databases and manage performance with Enterprise Manager Cloud Control

Create and manage Database as a Cloud Service (DBCS) database deployments

Course Topics

Getting Started
Course Objectives

Exploring Oracle Database Architecture
Introducing Oracle Database
Relation Database Models
Oracle SQL and PL/SQL
Oracle Database Server Architecture

Connecting to Oracle Databases
Oracle Database Tools
Oracle-Supplied User Accounts
Querying the Oracle Data Dictionary

Managing Database Instances
Initialization Parameter Files
Starting Up Oracle Databases
Shutting Down Oracle Databases
Opening and Closing PDBs
Working with the Automatic Diagnostic Repository (ADR)
Querying Dynamic Performance Views

Creating PDBs
Methods and Tools to Create PDBs
Creating PDBs from Seed with SQL*Plus
Cloning PDBs with SQL*Plus
Unplugging and Pluggin In PDBs with SQL*Plus
Dropping PDBs with SQL*Plus

Configuring the Oracle Network Environment
Oracle Net Services
How Listeners Work
Configuring Listeners for Dynamic Service Registration
Configuring Listeners for Static Service Registration
Configuring Local Naming for Connections
Testing Oracle Net Connectivity with tnsping
Configuring Communidation Between Databases
Dedicated Versus Shared Server Configurations

Administering User Security
Creating Users
Granting Privileges
Creating and Granting Roles
Revoking Privileges and Roles
Creating and Assigning Profiles
Authenticating Users
Assigning Quotas to Users
Applying the Principal of Least Privilege

Creating and Managing Tablespaces
How Table Data is Stored
Creating Tablespaces in SQL*Plus
Altering and Dropping Tablespaces in SQL*Plus
Viewing Tablespace Information in SQL*Plus
Implementing Oracle Managed Files
Moving and Renaming Online Data Files in SQL*Plus

Managing Storage Space
Oracle Database Space Management Features
Block Space Management
Row Chaining and Migration

Free Space Management Within Segments
Types of Segments
Allocating Extents
Understanding Deferred Segment Creation
Space-Saving Features

Managing UNDO Data
Undo Data: Overview
Transactions and Undo Data
Storing Undo Information
Comparing Undo Data and Redo Data
Managing Undo
Local Undo Mode Versus Shared Undo Mode
Configuring Undo Retension
Categories of Undo

Moving Data
Moving Data: General Architecture
Oracle Data Pump: Overview
Oracle Data Pump: Benefits
Data Pump Export and Import Clients
Data Pump Utility: Interfaces and Modes
Data Pump Import: Transformations
SQL*Loader Overview
Loading Methods

Backup and Recovery Concepts
DBA Responsibilities
Categories of Failure
Understanding Instance Recovery
Understanding Types of Backups
Comparing Complete and Incomplete Recovery
Oracle Data Protection Solutions
Flashback Technology

Monitoring and Tuning Database Performance
Managing Performance Activities
Performance Planning Considerations
Database Maintenance
Automatic Workload Repository (AWR)
Automatic Database Diagnostic Monitor
Performance Monitoring
Performance Tuning Methodology
Database Server Statistics and Metrics

SQL Tuning
SQL Tuning Process
Oracle Optimizer
Optimizer Statistics
SQL Plan Directives
Adaptive Execution Plans
SQL Tuning Advisor

SQL Access Advisor
SQL Performance Analyzer

Oracle Database Resource Manager
Oracle Database Resource Manager: Overview
Resource Manager Elements
Using Resource Manager to Allocate Resources
Creating a Simple Resource Plan
Creating a Complex Resource Plan
Using the Active Session Pool Feature
Limiting CPU Utilization at the Database Level
Limiting CPU Utilization at the Server Level

Enterprise Manager Cloud Control
Controlling the Enterprise Manager Cloud Control Framework
Starting the Enterprise Manager Cloud Control Framework
Stopping the Enterprise Manager Cloud Control Framework

Introduction to Oracle Database Cloud Service
Oracle Cloud: Overview
Database Cloud Service Offerings
DBCS Architecture
Features and Tooling
Additional Database Configuration Options

Creating DBCS Database Deployments
Automated Database Provisioning
Creating a Database Deployment
How SSH Key Pairs are Used
Creating an SSH Key Pair
Storage Used for Database Files

Managing DBCS Database Deployments
Cloud Tooling
Accessing Tools and Features from the DBCS Console
Managing the Compute Node Associated With a Database Deployment
Managing Network Access to DBCS
Enabling Access to a Compute Node Port
Scaling a Database Deployment

Backing Up and Restoring DBCS Database Deployments
Backing Up and Recovering Databases on DBCS
Backup Destination Choices
Backup Configuration
Creating an On-Demand Backup
Customizing the Backup Configuration
Performing Recovery by Using the Console
Performing Recovery by Using the dbaascli Utility

Patching DBCS Database Deployments
Patching DBCS
Using the DBCS Console to Manage Patches

Using the dbaascli Utility to Manage Patches

Creating Master Encryption Keys for PDBs
CDB and PDB Master Encryption Keys
Determining Whether You Need to Create and Activate and Encryption Key for a PDB
Creating and Activating an Encryption Key

Tablespace Encryption by Default
Tablespace Encryption by Default in DBCS
Transparent Data Encryption (TDE) Overview
Components of TDE
Using TDE
Defining the Keystore Location
Controlling Tablespace Encryption by Default
Managing the Software Keystore and Master Encryption Key
Managing the Keystore in CDBs and PDBs