

ODAT-1 - ORACLE DATABASE 23AI: ADMINISTRATION WORKSHOP

Categoria: **Database**

INFORMAZIONI SUL CORSO



Durata:
5 Giorni



Categoria:
Database



Qualifica Istruttore:
Oracle Certified
Professional



Dedicato a:
Professionista IT



Produttore:
Oracle

OBIETTIVI

This course is targeted at Database Administrators and begins with explaining the architecture of an Oracle Database instance and the tools used to access it. The course includes creating and managing a database, configuring and managing Oracle Net Services along with creating and administering pluggable databases (PDBs). You learn how to create and manage database storage, users, backup, and implement database security. Additionally, the course covers protection of database against failures, loading, and transporting data.

PREREQUISITI

CONTENUTI

1: Introduction to Oracle Database

- Objectives 1-2
- Oracle Database Server Architecture: Overview 1-3
- Oracle Database Instance Configurations 1-4
- Oracle Multitenant Container Database: Introduction 1-5
- Oracle Multitenant Container Database: Architecture 1-7
- Oracle Database Memory Structures 1-8
- Shared Pool 1-10
- Database Buffer Cache 1-12
- Redo Log Buffer 1-13
- Large Pool 1-14
- Java Pool and Streams Pool 1-15
- Program Global Area (PGA) 1-16
- Process Architecture 1-17
- Process Structures 1-18
- Database Writer Process (DBWn) 1-20
- Log Writer Process (LGWR) 1-22
- Checkpoint Process (CKPT) 1-24
- System Monitor Process (SMON) 1-25
- Process Monitor Process (PMON) 1-26

- Recoverer Process 1-27
- Archiver Processes (ARCn) 1-28
- Database Sharding: Introduction 1-29
- Oracle Database Server: Interactive Architecture Diagram 1-30
- Summary 1-31

2: Accessing an Oracle Database

- Objectives 2-2
- Connecting to an Oracle Database Instance 2-3
- Oracle Database Tools 2-5
- Database Tool Choices 2-7
- SQL*Plus 2-8
- Oracle SQL Developer 2-10
- Oracle SQL Developer: Connections 2-11
- Oracle SQL Developer: DBA Actions 2-12
- Database Configuration Assistant (DBCA) 2-13
- Oracle Enterprise Manager Database Express 2-14
- Enterprise Manager Cloud Control 13c Features 2-16
- Oracle Enterprise Manager Component Overview 2-18
- Single Pane of Glass for Enterprise Management 2-19
- Oracle Enterprise Manager Database Management 2-20
- Summary 2-22

3: Creating an Oracle Database by Using DBCA

- Objectives 3-2
- Planning the Database 3-3
- Choosing a Database Template 3-4
- Choosing the Appropriate Character Set 3-5
- How are character sets used? 3-7
- Setting NLS_LANG Correctly on the Client 3-8
- Using the Database Configuration Assistant 3-9
- Using DBCA in Silent Mode 3-10
- Summary 3-11

4: Creating an Oracle Database by Using a SQL Command

- Objectives 4-2
- Creating a Container Database (CDB) 4-3
- Creating a CDB by Using a SQL Command: Example 4-4
- Using the SEED FILE_NAME_CONVERT Clause 4-5
- Using the ENABLE PLUGGABLE DATABASE Clause 4-6
- Summary 4-7

5: Starting Up and Shutting Down a Database Instance

- Objectives 5-2
- Starting the Oracle Database Instance 5-3
- Shutting Down an Oracle Database Instance 5-4
- Comparing SHUTDOWN Modes 5-6
- Opening and Closing PDBs 5-8

- Configuring PDBs to Automatically Open 5-9
- Summary 5-10

6: Managing Database Instances

- Objectives 6-2
- Working with Initialization Parameters 6-3
- Initialization Parameters 6-5
- Modifying Initialization Parameters 6-7
- Viewing Initialization Parameters 6-10
- Working with the Automatic Diagnostic Repository 6-12
- Automatic Diagnostic Repository 6-13
- Viewing the Alert Log 6-14
- Using Trace Files 6-16
- Administering the DDL Log File 6-18
- Querying Dynamic Performance Views 6-20
- Considerations for Dynamic Performance Views 6-22
- Data Dictionary: Overview 6-23
- Querying the Oracle Data Dictionary 6-24
- Summary 6-26

7: Oracle Net Services: Overview

- Objectives 7-2
- Connecting to the Database Instance 7-3
- Oracle Net Services: Overview 7-4
- Defining Oracle Net Services Components 7-5
- Tools for Configuring and Managing Oracle Net Services 7-6
- Oracle Net Listener: Overview 7-7
- The Default Listener 7-8
- Comparing Dedicated and Shared Server Architecture 7-9
- Summary 7-10

8: Configuring Naming Methods

- Objectives 8-2
- Establishing Oracle Network Connections 8-3
- Connecting to an Oracle Database Instance 8-4
- Name Resolution 8-5
- Establishing a Connection 8-6
- User Sessions 8-7
- Naming Methods 8-8
- Easy Connect 8-9
- Local Naming 8-10
- Directory Naming 8-11
- Using Database Services to Manage Workloads 8-12
- Creating Database Services 8-13
- Summary 8-14

9: Configuring and Administering the Listener

- Objectives 9-2

- Review: Oracle Net Services Overview 9-3
- Oracle Net Listener: Overview 9-4
- The Default Listener 9-5
- Configuring Dynamic Service Registration 9-6
- Configuring Static Service Registration 9-8
- Summary 9-10

10: Configuring a Shared Server Architecture

- Objectives 10-2
- Shared Server Architecture: Overview 10-3
- Comparing Dedicated and Shared Server Architecture: Review 10-4
- Enabling Shared Server 10-5
- Controlling Shared Server Operations 10-6
- SGA and PGA Usage 10-7
- Shared Server Configuration Considerations 10-8
- Summary 10-9
- Practice Overview 10-10

11: Creating PDBs from Seed

- Objectives 11-2
- Provisioning New Pluggable Databases 11-3
- Tools 11-4
- Creating a New PDB from PDB\$SEED 11-5
- Using the FILE_NAME_CONVERT Clause 11-6
- Using OMF or the PDB_FILE_NAME_CONVERT Parameter 11-7
- Summary 11-8

12: Using Other Techniques to Create PDBs

- Objectives 12-2
- Cloning Regular PDBs 12-3
- Migrating Data from a Non-CDB into a CDB 12-4
- Plugging a Non-CDB into CDB Using DBMS_PDB 12-5
- Replicating a Non-CDB into a CDB by Using GoldenGate 12-6
- Cloning a Non-CDB or Remote PDB 12-7
- Using DBCA to Clone a Remote PDB 12-8
- Plugging an Unplugged Regular PDB into CDB 12-9
- Plugging in a PDB Using an Archive File 12-10
- Cloning Remote PDBs in Hot Mode 12-11
- Near-Zero Downtime PDB Relocation 12-12
- Using DBCA to Relocate a Remote PDB 12-14
- Proxy PDB: Query Across CDBs Proxying Root Replica 12-15
- Creating a Proxy PDB 12-16
- Summary 12-17

13: Managing PDBs

- Objectives 13-2
- Changing the PDB Mode 13-3
- Modifying PDB Settings 13-4

- Impact of Changing Initialization Parameters 13-5
- Changing Initialization Parameters: Example 13-6
- Using the ALTER SYSTEM Command in a PDB 13-7
- Configuring Host Name and Port Number per PDB 13-8
- Dropping PDBs 13-9
- Summary 13-10

14: Database Storage Overview

- Objectives 14-2
- Database Storage Architecture 14-3
- Logical and Physical Database Structures 14-5
- Segments, Extents, and Blocks 14-7
- Tablespaces and Data Files 14-8
- Default Tablespaces in a Multitenant Container Database 14-9
- SYSTEM and SYSAUX Tablespaces 14-10
- Types of Segments 14-11
- How Table Data Is Stored 14-12
- Database Block Content 14-13
- Understanding Deferred Segment Creation 14-14
- Controlling Deferred Segment Creation 14-15
- Monitoring Tablespace Space Usage 14-16
- Summary 14-17

15: Creating and Managing Tablespaces

- Objectives 15-2
- Creating Tablespaces 15-3
- Creating a Tablespace: Clauses 15-4
- Creating Permanent Tablespaces in a CDB 15-7
- Defining Default Permanent Tablespaces 15-8
- Temporary Tablespaces 15-9
- Altering and Dropping Tablespaces 15-10
- Viewing Tablespace Information 15-12
- Implementing Oracle Managed Files (OMF) 15-13
- Enlarging the Database 15-15
- Moving or Renaming Online Data Files 15-16
- Examples: Moving and Renaming Online Data Files 15-17
- Summary 15-18

16: Improving Space Usage

- Objectives 16-2
- Space Management Features 16-3
- Block Space Management 16-4
- Row Chaining and Migration 16-5
- Free Space Management Within Segments 16-6
- Allocating Extents 16-7
- Using Unusable Indexes 16-8
- Using Temporary Tables 16-9
- Creating Global Temporary Tables 16-10

- Creating Private Temporary Tables 16-11
- Table Compression: Overview 16-12
- Table Compression: Concepts 16-13
- Compression for Direct-Path Insert Operations 16-14
- Advanced Row Compression for DML Operations 16-15
- Specifying Table Compression 16-16
- Using the Compression Advisor 16-17
- Resolving Space Usage Issues 16-18
- Reclaiming Space by Shrinking Segments 16-19
- Shrinking Segments 16-20
- Results of a Shrink Operation 16-21
- Managing Resumable Space Allocation 16-22
- Using Resumable Space Allocation 16-23
- Resuming Suspended Statements 16-25
- What operations are resumable? 16-27
- Summary 16-28

17: Managing Undo Data

- Objectives 17-2
- Undo Data: Overview 17-3
- Transactions and Undo Data 17-5
- Storing Undo Information 17-6
- Comparing Undo Data and Redo Data 17-7
- Managing Undo 17-8
- Comparing SHARED Undo Mode and LOCAL Undo Mode 17-9
- Configuring Undo Retention 17-10
- Categories of Undo 17-11
- Guaranteeing Undo Retention 17-12
- Changing an Undo Tablespace to a Fixed Size 17-13
- Temporary Undo: Overview 17-14
- Temporary Undo Benefits 17-15
- Enabling Temporary Undo 17-16
- Monitoring Temporary Undo 17-17
- Summary 17-18

18: Creating and Managing User Accounts

- Objectives 18-2
- Database User Accounts 18-3
- Oracle-Supplied Administrator Accounts 18-5
- Creating Oracle Database Users in a Multitenant Environment 18-6
- Creating Common Users in the CDB and PDBs 18-7
- Creating Schema-Only Accounts 18-8
- Authenticating Users 18-9
- Using Password Authentication 18-11
- Using Password File Authentication 18-13
- Using OS Authentication 18-14
- OS Authentication for Privileged Users 18-16
- Assigning Quotas 18-17

-Summary 18-20

19: Configuring Privilege and Role Authorization

- Objectives 19-2
- Privileges 19-3
- System Privileges 19-4
- System Privileges for Administrators 19-6
- Schema-Level Privileges 19-7
- New Developer Role and Simplified Schema Privileges 19-13
- Object Privileges 19-14
- Granting Privileges in a Multitenant Environment 19-15
- Granting Privileges: Example 19-16
- Using Roles to Manage Privileges 19-17
- Assigning Privileges to Roles and Assigning Roles to Users 19-18
- Oracle-Supplied Roles 19-19
- Granting Roles in a Multitenant Environment 19-20
- Granting Roles: Example 19-21
- Making Roles More Secure 19-22
- Revoking Roles and Privileges 19-23
- Granting and Revoking System Privileges 19-24
- Granting and Revoking Object Privileges 19-25
- Summary 19-26

20: Configuring User Resource Limits

- Objectives 20-2
- Profiles and Users 20-3
- Creating Profiles in a Multitenant Architecture 20-4
- Creating Profiles: Example 20-5
- Profile Parameters: Resources 20-6
- Profile Parameters: Locking and Passwords 20-9
- Oracle-Supplied Password Verification Functions 20-12
- Assigning Profiles in a Multitenant Architecture 20-13
- Summary 20-14

21: Implementing Oracle Database Auditing

- Objectives 21-2
- Database Security 21-3
- Monitoring for Compliance 21-5
- Types of Activities to be Audited 21-6
- Mandatorily Audited Activities 21-7
- Understanding Auditing Implementation 21-8
- Administering the Roles Required for Auditing 21-9
- Database Auditing: Overview 21-10
- Configuring Auditing 21-11
- Creating a Unified Audit Policy 21-12
- Creating an Audit Policy: Systemwide Audit Options 21-13
- Creating an Audit Policy: Object-Specific Actions 21-14
- Creating an Audit Policy: Specifying Conditions 21-15

- Enabling and Disabling Audit Policies 21-16
- Auditing Actions in the CDB and PDBs 21-17
- Modifying a Unified Audit Policy 21-19
- Auditing Top-Level Statements Only 21-20
- Viewing Audit Policy Information 21-21
- Value-Based Auditing 21-22
- Fine-Grained Auditing 21-24
- FGA Policy 21-25
- Audited DML Statements: Considerations 21-27
- FGA Guidelines 21-28
- Archiving and Purging the Audit Trail 21-29
- Purging Audit Trail Records 21-30
- Summary 21-31

22: Introduction to Loading and Transporting Data

- Objectives 22-2
- Moving Data: General Architecture 22-3
- Oracle Data Pump: Overview 22-4
- Oracle Data Pump: Benefits 22-5
- SQL Loader: Overview 22-7
- Summary 22-9

23: Loading Data

- Objectives 23-2
- SQL Loader: Review 23-3
- Creating the SQL*Loader Control File 23-4
- SQL*Loader Loading Methods 23-6
- Protecting Against Data Loss 23-7
- SQL*Loader Express Mode 23-8
- Using SQL*Loader to Load a Table in a PDB 23-9
- Summary 23-10

24: Transporting Data

- Objectives 24-2
- Data Pump Export and Import Clients 24-3
- Data Pump Interfaces and Modes 24-4
- Data Pump Import Transformations 24-6
- Using Oracle Data Pump with PDBs 24-7
- Exporting from a Non-CDB and Importing into a PDB 24-8
- Exporting and Importing Between PDBs 24-9
- Full Transportable Export/Import 24-10
- Full Transportable Export/Import: Example 24-12
- Transporting a Database Over the Network: Example 24-13
- Using RMAN to Transport Data Across Platforms 24-14
- RMAN CONVERT Command 24-15
- Transporting Data with Minimum Down Time 24-16
- Transporting a Tablespace by Using Image Copies 24-17
- Determining the Endian Format of a Platform 24-18

- Transporting Data with Backup Sets 24-19
- Transporting a Tablespace 24-20
- Transporting Inconsistent Tablespaces 24-22
- Summary 24-23

25: Using External Tables to Load and Transport Data

- Objectives 25-2
- External Tables 25-3
- External Tables: Benefits 25-4
- ORACLE_LOADER Access Driver 25-5
- ORACLE_DATAPUMP Access Driver 25-6
- External Tables 25-7
- Viewing Information About External Tables 25-8
- Summary 25-9
- Practice Overview 25-10

26: Automated Maintenance Tasks: Overview

- Objectives 26-2
- Proactive Database Maintenance Infrastructure 26-3
- Automated Maintenance Tasks: Components 26-4
- Predefined Automated Maintenance Tasks 26-6
- Maintenance Windows 26-8
- Predefined Maintenance Windows 26-9
- Automated Maintenance Tasks 26-10
- Summary 26-11

27: Automated Maintenance Tasks: Managing Tasks and Windows

- Objectives 27-2
- Configuring Automated Maintenance Tasks 27-3
- Enabling and Disabling Maintenance Tasks 27-4
- Creating and Managing Maintenance Windows 27-5
- Resource Allocations for Automated Maintenance Tasks 27-6
- Changing Resource Allocations for Maintenance Tasks 27-7
- Summary 27-8
- Practice Overview 27-9

28: Database Monitoring and Tuning Performance Overview

- Objectives 28-2
- Performance Management Activities 28-3
- Performance Planning Considerations 28-4
- Database Maintenance 28-6
- Automatic Workload Repository (AWR) 28-7
- Automatic Database Diagnostic Monitor (ADDM) 28-8
- Configuring Automatic ADDM Analysis at the PDB Level 28-9
- Advisory Framework 28-10
- Performance Tuning Methodology 28-12
- Summary 28-13

29: Monitoring Database Performance

- Objectives 29-2
- Server-Generated Alerts 29-3
- Setting Metric Thresholds 29-4
- Reacting to Alerts 29-5
- Alert Types and Clearing Alerts 29-6
- Database Server Statistics and Metrics 29-7
- Performance Monitoring 29-8
- Viewing Statistics Information 29-9
- Monitoring Wait Events 29-11
- Monitoring Sessions 29-12
- Monitoring Services 29-13
- Summary 29-14

30: Analyzing SQL and Optimizing Access Paths

- Objectives 30-2
- SQL Tuning Process 30-3
- Oracle Optimizer 30-4
- Optimizer Statistics 30-5
- Optimizer Statistics Collection 30-6
- Setting Optimizer Statistics Preferences 30-8
- Optimizer Statistics Advisor 30-10
- Optimizer Statistics Advisor Report 30-11
- Executing Optimizer Statistics Advisor Tasks 30-12
- SQL Plan Directives 30-13
- Adaptive Execution Plans 30-14
- SQL Tuning Advisor: Overview 30-16
- SQL Access Advisor: Overview 30-18
- SQL Performance Analyzer: Overview 30-19
- Managing Automated Tuning Tasks 30-21
- Summary 30-22

INFO

Materiale didattico: Materiale didattico ufficiale Oracle in formato digitale

Costo materiale didattico: incluso nel prezzo del corso a Calendario

Natura del corso: Operativo (previsti lab su PC)