

ORACLE 11G Administration

Course Length: 4 days **Course Cost:** €1,200

Course Description: This class will develop the key fundamental skills necessary to be an Oracle® DBA. Students will design and create a server using the Optimal Flexible Architecture (OFA), configure logical and physical structures, set up database and user security, add and administer users, and monitor and tune main server areas. Each student will create a toolkit of administration scripts for database management and tuning by the end of this class

Audience: Non-Oracle database administrators, application developers, and system administrators

Prerequisites: *Introduction to Oracle 11g*, or at least six months working in an Oracle technical environment. An understanding of relational database concepts, SQL, and PL/SQL programming skills are required. A solid understanding of Oracle schema is recommended.

Course Contents

<p>Overview of Oracle Database</p> <ul style="list-style-type: none"> • ORACLE_HOME and ORACLE_SID The Oracle Database vs. The Oracle Instance • Instance • Instance Memory Structures • Background Processes • Server Processes • Datafiles • Blocks, Extents, and Segments • Control Files • Redo Logs • The Oracle Architecture • SYS and SYSTEM Users <p>Starting and Shutting Down an Oracle Database</p> <ul style="list-style-type: none"> • SYSDBA and SYSOPER System Privileges • Oracle Database Startup • Oracle Database Shutdown • Altering Database Availability Suspending and Resuming a Database Quiescing a Database • Tracking Database Activity - The Alert Log • Data Dictionary Views for Startup and Shutdown 	<p>Oracle Physical Structures — Undo Segments</p> <ul style="list-style-type: none"> • Undo Overview • Database Parameters for Undo Creating Undo Tablespaces Altering and Dropping Undo Tablespaces • Switching Undo Tablespaces Undo Advisor • Data Dictionary Views for Undo <p>Segment Space Management</p> <ul style="list-style-type: none"> • Blocks, Extents and Segments Segment Space Management Fragmentation • Coalescing Fragmented Space Row Migration and Chaining Manual Segment Space Usage • Automatic Segment Space Management Data Dictionary Views for Physical • Objects <p>Tables</p> <ul style="list-style-type: none"> • Tables Overview • Physical Properties of Tables Creating Tables • Table Storage and Logging Altering Tables
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**Using The Oracle Data Dictionary
Introducing the Data Dictionary**

- DBA, ALL, and USER Data Dictionary Views
- V\$ Dynamic Performance Views Using Oracle Documentation to Locate
- Data Dictionary Views Combining Data Dictionary Views

**Oracle Database Users and Schemas
Users and Schemas**

- Oracle Default Database Users
- Oracle Sample Schemas
- Creating Users
- Altering and Dropping Users
- Data Dictionary Views For Users

Oracle System Privileges

- Overview of System Privileges
- Granting and Revoking System Privileges
- Data Dictionary Views for System Privileges
- Roles
- Creating and Removing Roles
- Data Dictionary Views for Roles
- Predefined Roles
- User Group PUBLIC

Parameter Files

- Oracle Database Parameters
- The Parameter File (PFILE) and the Server Parameter File (SPFILE)
- Dynamic vs. Static Parameters
- Determining Current Parameter Settings
- Benefits of SPFILES over PFILES
- Creating an SPFILE from a PFILE and Back Again
- Understanding Scope Session-Level Parameters
- Data Dictionary Views for Parameters

Datafiles and Tablespaces

- Datafiles Overview Tablespaces Overview
- SYSTEM and SYSAUX Tablespaces
- Creating Tablespaces
- Dictionary- and Locally Managed

Dropping Tables

- The Recycle Bin
- The TRUNCATE COMMAND
- Temporary Tables
- Clustered Tables
- Indexed-Organized Tables Creating an IOT
- Data Dictionary Views for Tables

Indexes

- Indexes
- B-tree Indexes
- NULL Values and Indexes
- NULL Values and Unique Indexes
- Creating Indexes
- Monitoring Index Usage
- Dropping Indexes
- Rebuilding and Moving Indexes
- Coalescing Indexes
- Bitmap Indexes
- Special Index Types
- Key Compression
- Data Dictionary Views for Indexes

Constraints

- Integrity Constraints
- Constraint Names and Syntax
- Constraint Checking
- Managing Primary Key Constraints
- Managing NOT NULL Constraints
- Managing Check Constraints
- Managing Foreign Key Constraints
- Data Dictionary Views for Constraints

Views

- Views
- Creating and Replacing Views
- Data Dictionary Views for Views
- Security Through Views
- Altering and Dropping Views
- Dependencies and Views
- Updating Data Through Views

Object Privileges

- Object Privileges
- Granting and Revoking Object Privileges
- Using WITH GRANT OPTION Revoking and the GRANT OPTION

- Tablespaces
- Locally Managed Tablespace Extent Allocation
- Temporary Tablespaces
- Temporary Tablespace Groups
- Default Tablespaces Tablespace Quotas
- Dropping and Altering a Table space
- Renaming a Tablespace
- Renaming or Relocating Datafiles
- Bigfile Tablespaces
- Data Dictionary Views for Datafiles and Tablespaces
- **Control Files**
 - Control Files Overview
 - Database Parameters for Control Files
 - Backing Up Control Files
 - Restoring Control Files from Multiplexed Copies
 - Restoring Control Files from Backups
 - Moving Control Files
 - Data Dictionary Views for Control Files
- **Oracle Physical Structures — Online Redo Logs**
 - Redo Log Files
 - Database Parameters for Redo
 - Sizing the Redo Log Files
 - How Many Redo Log Groups?
 - Creating Redo Logs Removing Redo Logs
 - Renaming Redo Log Files
 - Forcing Log Switches Archiving Redo Logs
 - Configuring Archive Log Mode
 - Database Parameters for Archiving

- Data Dictionary Views for Object
- Privileges

Synonyms

- Synonyms
- Private and Public Synonyms
- Creating and Dropping Synonyms
- Security and Synonyms
- Object Precedence

The Optimizer and Statistics

Optimizer Overview

- Optimizer Statistics
- Data Dictionary Views and Statistics
- Collecting Statistics
- Removing Statistics
- Automated Statistics Collection

Oracle Net Services

- Oracle Networking Explained
- The Net Configuration Assistant
- Configuring the Listener — GUI
- Configuring the Listener — Manually
- Configuring the Client — GUI
- Configuring the Client — Manually

Data Pump

- Oracle Data Pump Architecture
- Configuring for Data Pump Command-Line Utilities
- Exporting With expdp
- Importing With impdp
- Interactive Mode
- Attaching to a Running Job
- Parallel Data Pump
- Data Dictionary Views for Data Pump

SQL*Loader and External Tables

- SQL* Loader
- SQL*Loader Control File
- Loading Data with SQL*Loader
- Conventional vs. Direct Path Loads
- External Tables Overview
- Creating an External Table
- Creating a Writable External Table

Back Up Your Database

- Physical Backups vs. Logical Backups
- Offline Backup Basics
- Oracle Offline Backup Steps
- Other Backup Considerations
- Advanced Backup Concepts RMAN

	<p>Recover Your Database</p> <ul style="list-style-type: none">• Offline Recovery Basics Restoration Using Offline Backups for a• NOARCHIVE Database Restoring Other Files• Other Recovery Considerations <p>Oracle Enterprise Manager</p> <ul style="list-style-type: none">• Introducing Oracle Enterprise Manager OEM Architecture and Physical• Structure• Installing OEM When Using DBCA Using EMCA to Install OEM• Managing OEM• Removing OEM• Troubleshooting OEM Securing OEM• Starting OEM• Introducing the OEM Home Pages Using OEM — Managing the Job
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