

Diplomado DBA Oracle 10g

Objetivo: El objetivo de este diplomado es que un alumno se inicie en Oracle y aprenda a realizar las funciones principales de Administración de un DBA, las cuales incluyen, su instalación, conocimiento de su arquitectura, la creación de Bases de Datos, el manejo de espacio, la creación de usuarios, el manejo de permisos, el respaldo y recuperación de Base de Datos.

Dirigido a: Personal de sistemas que se desean iniciar en el conocimiento de Oracle y quieren aprender las tareas básicas importantes para administrar este importante manejador de Base de Datos.

El diplomado está dividido en tres grandes módulos:

- Introducción a Oracle 10g (SQL y PL/SQL)
- DBA I
- DBA II

Duración aproximada: 105-120 horas

Requisitos: Conocimientos del área de sistemas; aunque el diplomado está orientado a quienes no conocen Oracle no es un diplomado básico y se requiere que el participante sepa principios de Sistemas Operativos, principios básicos de redes.

Módulo I.- Introducción a Oracle 10g (Ambiente, SQL y PL/SQL)

Objetivo: En este módulo el alumno se familiarizará con el ambiente de Oracle y aprenderá temas de SQL y PL/SQL que después le permitan entender los procesos de administración de Oracle. La administración requiere que el alumno sepa cómo comunicarse con Oracle, sepa cómo funciona, cómo escribir sentencias SQL, guardarlas y reutilizarlas. Si un alumno no tomara este módulo se asume que está familiarizado con el ambiente y que conoce cómo comunicarse con el manejador de Base de Datos y cómo interpretar resultados de consultas básicas. Este módulo también cubre la creación de Stored Procedures; consideramos este tema importante porque el DBA debe conocer que los procedimientos almacenados existen y deben ser utilizados por los programadores para cuestiones de performance y porque pueden ser útiles para escribir sus propias funciones de mantenimiento y porque didácticamente permiten familiarizarse con el manejador de Base de datos. Aproximadamente son 16 horas de temas de SQL y 24 de PL/SQL.

I.- 1 Managing Data with SQL, PL/SQL, and Utilities

Understanding Oracle an introduction to the product
How to communicate with the Database?
Manipulating Data Through SQL
Using *INSERT* Statements
Using *UPDATE* Statements
Using *DELETE* Statements
Identifying *PL/SQL* Objects
Working with Functions
Working with Procedures
Working with Triggering Events and Managing Triggers
Using and Administering *PL/SQL* Programs
Configuring *PL/SQL* for Better Performance
Creating Directory Objects
Data Pump Overview
Using Data Pump to Export Data
Using Data Pump to Import Data
Monitoring the Progress of a Data Pump Job
Loading Data with SQL *Loader
Specifying SQL *Loader Command-Line Parameters
Specifying Control File Options

Módulo II.- Oracle 10g Administration I

Objetivo: Este módulo tiene como objetivo que el alumno se inicie en la administración del RDBMS Oracle 10g para conocer su arquitectura, los programas que lo componen, cómo asigna memoria y espacio en disco, donde se almacenan los archivos, qué procesos implica. El alumno aprenderá también a instalarlo, a asignar espacio, a crear usuarios de Oracle y a usar los principios básicos de respaldo y recuperación.

Estos son los temas que componen este módulo:

- Oracle Database 10g Components and Architecture
- Creating and Controlling a Database
- Database Storage and Schema Objects
- Oracle Net Services
- Oracle Shared Server
- User Administration and Security
- Managing Consistency and Concurrency
- Implementing Database Backups
- Implementing Database Recovery

Estos es el **contenido** a detalle de este módulo:

II.- 1 Oracle Database 10g Components and Architecture (Introduction)

- The Oracle Product Family
- Oracle 10g
- Oracle Application Server 10g
- Oracle Developer Suite
- Oracle Application 11i
- Oracle Collaboration Suite
- Oracle Services
- Relational Database Concepts
- Rows, Columns, Tables, and Databases
- Relationships and Constraints
- Other Segment Types
- Interacting with Segments
- The Oracle Architecture
- User Processes
- The Oracle Instance
- The Oracle Database
- Installing Oracle 10g
- Review the System Requirements
- Plan Your Install
- Using the Oracle Universal Installer

II.- 2 Creating and Controlling a Database

- The Oracle Enterprise Management Framework
- Starting and Stopping the Oracle Management Agent
- Using iSQL *Plus
- Managing Parameter Initialization Files
- Starting Up and Shutting Down an Oracle Database
- Oracle 10g Database Startup
- Shutting Down an Oracle 10g Database
- Shutting Down Oracle Using SQL * Plus
- Monitoring the Database Alert Log

II.- 3 Database Storage and Schema Objects

- Identifying Segments, Extents, and data Blocks
- Managing Tablespaces
- Identifying Default Tablespaces
- Creating and Maintaining Tablespaces
- Obtaining Tablespace Information
- Managing Datafiles
- Working with Schema Objects
- Specifying Datatypes
- Creating Tables
- Working with Constraints
- Working with Indexes
- Working with Views
- Working with Sequences

II.- 4 Oracle Net Services

- Network Design Considerations
- Network Complexity Issues
- Network Security Issues
- Interfacing Existing Systems with New Systems
- Network Responsibilities for the DBA
- Network Configurations
- Single-Tier Architecture
- Two-Tier Architecture
- N- Tier Architecture
- An Overview of Oracle Net Features
- Connectivity
- Manageability
- Scalability
- Security
- Accessibility
- Configuring Oracle Net on the Server
- Understanding the Oracle Listener
- Managing Oracle Listeners
- Dynamically Registering Services
- Additional Configurations When Using Multiple Listeners
- Troubleshooting Server-Side Connection Problems
- Oracle Net Logging and Tracing on the Server
- Configuring Oracle Net for the Client
- Client-Side Names Resolution Options
- The Hostnaming Method
- The Oracle Easy Connect Naming Method
- The Localnaming Method
- Troubleshooting Client-Side Connection Problems

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II.- 5 Oracle Shared Server

- An Overview of Oracle Shared Server
- Dedicated Server versus Shared Server
- Advantages and Disadvantages of Shared Server
- Oracle Shared Server Infrastructure
- PGA and SGA Changes When Using Oracle Shared Server
- The Role of the Listener in an Oracle Shared Server Environment
- Configuring the Oracle Shared Server
- Defining the Shared Server Parameters
- Configuring Shared Server at Database Creation
- Configuring Shared Server Using Enterprise Manager
- Managing Shared Server
- Displaying Information about Shared Server Connections Using the Listener Utility
- Using Dynamic Performance Views for Shared Server
- Requesting a Dedicated Connection in a Shared Server Environment
- Tuning the Shared Server Option
- Configuring the Large Pool
- Sizing the Large Pool
- Determining Whether You Have Enough Dispatchers
- Measuring How Long Users are Waiting for Dispatchers
- Determining Whether You Have Enough Shared Servers

II.- 6 User Administration and Security

- Creating and Managing User Accounts
- Configuring Authentication
- Assigning a Default Tablespace
- Assigning a Temporary Tablespace
- Assigning a Profile to a User
- Removing a User from the Database
- Granting and Revoking Privileges
- Granting Object Privileges
- Granting Systems Privileges
- Role Privileges
- Controlling Resource Usage by Users
- Assigning Tablespace Quotas
- Assigning Resource Limits with a Profile
- Applying the Principle of Least Privilege
- Managing Default User Accounts
- Implementing Standard Password Security Features
- Auditing Database Activity
- Managing Statement Auditing
- Managing Privilege Auditing
- Managing Object Auditing
- Purging the Audit Trail
- Managing Fine-Grained Auditing

II.- 7 Managing Consistency and Concurrency

- Leveraging Undo Management
- Understanding Undo Segments
- Using Undo Data
- Monitoring, Configuring, and Administering Undo
- Monitoring Locking and Resolving Lock Conflicts
- Understanding Locks and Transactions
- Maximizing Data Concurrency
- Detecting and Resolving Lock Conflicts

II.- 9 Implementing Database Backups

- Understand and Configuring Recovery Components
- Control Files
- Understanding Checkpoints
- Redo Log Files
- Archived Redo Log Files
- The Flash Recovery Area
- Performing Backups
- Understanding Backup Terminology
- Backing Up the Control File
- Using RMAN to Create Backups
- Managing Backups
- Catalog Maintenance
- Monitoring the Flash Recovery Area
- Automating Backups

II.- 10 Implementing Database Recovery

- Understanding Database Failure Types
- Statement Failures
- User Process Failures
- Network Failures
- User Error Failures
- Instance Failures
- Media Failures
- Performing Recovery Operations
- Understanding Instance Startup
- Keeping an Instance from Failing
- Recovering from Instance Failure
- Tuning Instance Recovery
- Recovering from User Errors
- Recovering from Loss of a Control File
- Recovering from Loss of a Redo Log File
- Recovering from Loss of a System-Critical Datafile
- Recovering from Loss of a Non-System-Critical Datafile

Módulo III.- Oracle 10g Administration II (Backups & Recovery)

Objetivo: Este módulo tiene como objetivo que el alumno conozca las herramientas de respaldo y recuperación de Oracle 10g.

Estos son los temas que componen este módulo:

- Configuring Recovery Manager
- Using Recovery Manager
- Recovering From Non-Critical Losses
- Database Recovery
- Understanding the Flashback Database
- Recovering from User Errors
- Handling Block Corruption
- Understanding Automatic Database Management
- Understanding Automatic Storage Management
- Understanding Globalization Support
- Managing Resources
- Using the Scheduler to Automate Tasks
- Monitoring and Managing Storage
- Securing the Oracle Listener, Diagnostic Sources, and Memory

III.- 1 Configuring Recovery Manager

- Exploring the Features and Components of RMAN
- RMAN Usage Considerations
- RMAN Repository and Control Files
- RMAN Using the Recovery Catalog
- Starting and Connecting to RMAN
- Describing Media Management Layer
- Describing Channel Allocation
- Parameters and Persistent Settings for RMAN
- Configuring RMAN Settings with Enterprise Manager
- Describing Retention Policies
- Configuring the Control File Autobackup

III.- 2 Using Recovery Manager

- RMAN Commands
- Backup Sets and Image Copies
- Creating Backup Sets
- Creating Image Copies
- Compressed Backups
- Full and Incremental Backups
- Parallelization of Backup Sets
- Backup Options
- Enabling and Disabling Block Change Tracking
- Managing Backups with Enterprise Manager
- Monitoring RMAN Backups
- Using LIST Commands
- Using REPORT Commands
- Working Examples Using RMAN
- Enabling ARCHIVELOG Mode
- Using RMAN to back Up Archived Redo Logs
- Scheduling a Backup Job

III.- 3 Recovering From Non-Critical Losses

- An Overview of Non- Critical Files
- Creating a New Temporary Tablespace
- Starting the Database with a Missing Tempfile
- Altering the Default Temporary Tablespace for a Database
- Re-creating Redo Log Files
- Recovering an Index Tablespace
- Re- creating Indexes
- Recovering Read-Only Tablespaces
- Re-creating the Password File

III.- 4 Database Recovery

- Understanding the Restore and Recovery Process
- Server-Managed Recovery
- User-Managed Recovery
- Recovering Control Files
- Recovering a Control File Autobackup
- Re-creating a Control File
- Performing an Incomplete Recovery
- RMAN Incomplete Recovery
- Performing User-Managed Incomplete Recovery
- Database Recovery Using Enterprise Manager
- Performing a Recovery after a RESETLOGS Operation

III.- 5 Understanding the Flashback Database

- An Overview of Flashback Technologies
- An Overview of the Flashback Database
- Managing the Flash Recovery Area with Recovery Manager
- Configuring the Flash Recovery Area
- Using de Flash Recovery Area
- Backing Up the Flash Recovery Area
- Configuring the Flashback Database
- Using de Flashback Database with RMAN
- Monitoring the Flashback Database
- Using the Flashback Database with Enterprise Manager
- Configuring the Flashback Database with EM
- Using the Flashback Database with EM
- Monitoring the Flashback Database with EM

III.- 6 Recovering from User Errors

- An Overview of Flashback Technologies
- Using Flashback Drop
- Understanding the Recycle Bin
- Limitations on Flashback Drop and the Recycle Bin
- Using EM to Perform Flashback Dropped Tables
- Using Flashback Versions Query
- Using Flashback Transaction Query
- Using Flashback Table
- Summary
- Exam essentials
- Review Questions
- Answer to Review Questions

III.- 7 Handling Block Corruption

- An Overview of Block Corruption
- Block Corruption Symptoms
- Using Various Methods to Detect and Resolve Corruption
- Using the ANALYZE Utility
- Using the DBVERIFY Utility
- Using DB_BLOCK_CHECKING
- Using the DBMS_REPAIR Package
- Block Media Recovery

III.- 8 Understanding Automatic Database Management

- Using the Automatic Workload Repository (AWR)
- AWR Statistics Collection Facility
- Workload Repository
- Active Session History
- AWR Snapshots
- AWR Baselines
- Using AWR Views
- Using AWR Reports
- Managing Server-Generated Alerts
- Threshold and Non-Threshold Alerts
- Using Automatic Routine Administration Tasks
- Automatic Statistics Collection
- Understand the Advisory Framework
- An Overview of the Advisor

III.- 9 Understanding Automatic Storage Management

- Introducing the ASM Architecture
- Understanding an ASM Instance
- Creating an ASM Instance
- Connecting to an ASM Instance
- Starting Up and Shutting Down an ASM Instance
- Defining ASM Initialization Parameters
- Categorizing ASM Dynamic Performance Views
- Using ASM Filenames
- Fully Qualified Names
- Numeric Names
- Alias Names
- Alias with Template Names
- Incomplete Names
- Incomplete Names with Template
- Understanding ASM File Types and Templates
- Administering ASM Disk Groups
- Understanding Disk Group Architecture
- Understanding Failure Groups and Disk Group Mirroring
- Understanding Disk Group Dynamic Rebalancing
- Creating and Deleting Disk Groups
- Altering Disk Groups
- Using RMAN to Perform Database Migration to ASM

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III.- 10 Understanding Globalization Support

- An Overview of Globalization Support
- Globalization Support Features
- Globalization Support Architecture
- Supporting Multilingual Applications
- Using Unicode in a Multilingual Database
- Using NLS Parameters
- Setting NLS Parameters
- Prioritizing NLS Parameters
- Using NLS Views
- Using Datetime Datatypes
- DATE Datatype
- TIMESTAMP Datatype
- TIMESTAMP WITH TIME ZONE Datatype
- Using Linguistic Sorts and Searches
- An Overview of Text Sorting
- Using Linguistic Sort Parameters
- Linguistic Sort Types
- Searching Linguistic Strings

III.- 11 Managing Resources

- An Overview of the Database
- Resource Manager
- Working with the Pending Area
- Creating a Pending Area
- Validating Changes
- Submitting the Pending Area
- Clearing the Pending Area
- Resource Consumer Groups
- Managing Resource Consumer Groups
- Resource Plans
- Creating Simple Resource Plans
- Creating Complex Resource Plans
- Creating Resource Sub-Plans
- Modifying Resource Plans
- Deleting Resource Plans
- Resource Plan Directives
- Creating Resource Plan Directives
- Putting the Pieces Together
- Creating the Elements

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III.- 12 Using the Scheduler to Automate Tasks

- Scheduler Overview
- Scheduler Architecture
- The Job Table
- The Job Coordinator
- The Job Slave Processes
- RAC Considerations
- Common Administration Tools
- Using the ENABLE Procedure
- Using the DISABLE Procedure
- Setting Attributes
- Using Scheduler Jobs
- Creating Job
- Copying Jobs
- Running Jobs
- Stopping Jobs
- Dropping Jobs
- Using Job Classes
- Job Class Parameters
- Creating Job Classes
- Dropping Job Classes
- Using Scheduler Programs
- Program Attributes
- Creating Programs
- Dropping Programs
- Using Schedules
- Schedules Attributes
- Creating Schedules
- Setting Repeat Intervals
- Testing Repeat Intervals
- Using Scheduler Windows
- Creating Windows
- Opening and Closing Windows
- Window Logging
- Purging Logs
- Using Scheduler Views

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III.- 13 Monitoring and Managing Storage

- Monitoring Tablespace Storage
- Space Usage Monitoring
- Editing Thresholds with Enterprise Manager
- Database Control
- Using Segment Management Tools
- Segment Shrink
- Segment Advisor
- Index Space Monitoring
- Understanding Special Table Types
- Index-Organized Tables
- Clustered Tables
- Using Miscellaneous Space Management Tools
- Controlling Undo Space
- Controlling Redo Log File Space
- Leveraging Resumable Space Allocation
- An Overview of Resumable Space Allocation
- Using Resumable Space Allocation
- DBMS_RESUMABLE Package
- Using the AFTER SUSPEND System Event
- Resumable Space Allocation Data Dictionary Views

III.- 14 Securing the Oracle Listener, Diagnostic Sources, and Memory

Securing the Oracle Listener
An Overview of the TNS Listener
Managing the Listener Remotely
Setting the Listener Password
Controlling Database Access
Using Listener Logging
Removing Unneeded External Procedure Services
Creating a Separate Listener for External Procedures
Diagnostic Sources
Using the Oracle Alert Log
Using Server-Generated Alerts
Using Oracle Trace Files
Automatic Memory Management
Oracle Memory Usage

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Importante:

- El diplomado está basado en el uso de comandos y no en una interfase gráfica. Si se desea aprender el uso de Enterprise Manager, por ejemplo, primero hay que conocer Oracle.
- Este diplomado no incluye temas de afinación (tuning). Recomendamos el curso de tuning a alumnos que ya han practicado la administración durante, mínimo, 6 meses.
- *El precio no incluye IVA.*
- *Incluye material del curso en inglés, mochila, servicio de galletas, café y refrescos, estacionamiento y diploma de participación en el curso.*

Formas y condiciones de pago:

Para la inscripción, aplicación de los descuentos y aseguramiento de que el diplomado se impartirá en las fechas pactadas se requiere el pago anticipado antes con depósito o transferencia bancaria a la siguiente cuenta:

1. Depósito en Banamex cuenta 4923239 Suc. 575 a nombre de Desarrollo y Capacitación en Internet, S. A. de C. V. (CLABE en caso de transferencia electrónica vía Internet 002180057549232394)
2. Cheque a nombre de Desarrollo y Capacitación en Internet, S. A. de C. V.