
Course Catalog

Comelio



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a. Locations



Our trainings take place at various locations in the German-speaking countries.

Public trainings:

You can enroll for public trainings at our training centers across Germany like in Berlin, Dresden, Hamburg, München / Munich, Düsseldorf, Frankfurt, and Stuttgart. Not all public trainings will be organized in all cities but you can still book a particular training for your team in one of our training and conference centers.

In Austria you can attend seminars and trainings in Wien / Vienna while we offer training dates in Switzerland in Zürich / Zurich.

On-site trainings:

We have mobile and flexible trainers / lecturers who like to visit you and your team for an on-site training or a training in a conference center or hotel near you.

USA

Chicago	Tel: Fax:
Miami	Tel: +1.305.395.7962 Fax: +1.305.395.7964
New York	Tel: +1.212.380.1181 Fax: +1.305.395.7964

1. Oracle

A. Data Mining



(i) Using Oracle 11g



Overview

Course ID	2023675
Language	en
Duration	3 D ys
Delivery mode	Classroom
Course Type	
Target Group	Business Intelligence Developer
Prerequisites	Oracle SQL, PL / SQL
Method	Lecture with examples and exercises.
Course level	Advanced



Course Dates

Chicago	Miami	New York
1,900.00 USD	1,800.00 USD	1,900.00 USD
17-19 Aug 12-14 Oct 07-09 Dec	10-12 Aug 05-07 Oct 30 Nov - 02 Dec	03-05 Aug 28-30 Sep 23-25 Nov

Prices plus local taxes.



Course Description

Oracle Data Mining (ODM) provides powerful data mining functionality as native SQL functions within the Oracle Database. Oracle Data Mining enables users to discover new insights hidden in data and to leverage investments in Oracle Database technology. With Oracle Data Mining, you can build and apply predictive models that help you target your best customers, develop detailed customer profiles, and find and prevent fraud. This training provides you with an overview of the Oracle Data Mining architecture and shows you what kind of Data Mining algorithms you can use for your data analysis. You will get to know each algorithm's principle and statistical-mathematical background before you see the algorithm being applied to DB data.



Course Outline

A. Data Mining and Oracle

(0.5 Days) Statistics, multivariate statistics and Data Mining - Data Mining cycle - Data preprocessing: Descriptive data aggregation, data cleansing, data integration and transformation - Data Reduction - Discretization and concept hierarchies - Data Mining and Business Intelligence: Databases, Data Warehouses and OLAP as the basis for Data Mining - Oracle architecture for Data Mining: database, Data Mining module and MS Excel add-in

B. Factors and influences

(0.5 Days) Factor Analysis and Principal Component Analysis - Outlier Analysis

C. Data Mining using Association analysis

(0.25 Days) Finding frequent patterns (Frequent Itemset Mining) - Apriori algorithm - association rules and association analysis - shopping basket analysis

D. Data Mining and Classification

(0.75 Days) Decision Trees: selection of attributes, tree pruning, deduction of rules, quality measures and comparison of models - Support Vector Machines: algorithms, building and using a model

E. Data Mining and Probability Theory

(0.5 Days) Classification using logistic regression - Probability and Bayes's Theorem - Naïve Bayes: algorithms, building and using a model

F. Cluster Analysis

(0.5 Days) Introduction to Cluster Analysis - Similarity and distance measurement - Variants and basic techniques - Partitioning methods: k-Means Method - Hierarchical methods: agglomerative and divisive methods

A. Oracle 11g



(i) Administration



Overview

Course ID	2020251
Language	en
Duration	5 D ys
Delivery mode	Classroom
Course Type	
Target Group	DBAs
Prerequisites	General database knowledge
Method	Lecture with examples and exercises.
Course level	Beginning



Course Dates

Chicago	Miami	New York
2,850.00 USD	2,650.00 USD	2,850.00 USD
10-14 Aug 19-23 Oct 28 Dec - 01 Jan	14-18 Sep 23-27 Nov	21-25 Sep 30 Nov - 04 Dec

Prices plus local taxes.



Course Description

This training is intended for database administrators who perform the following tasks a) Create and configure one or more Oracle databases, b) Monitor and tune Oracle databases, c) Oversee routine maintenance operations for Oracle databases, d) Create and maintain schema objects, such as tables, indexes, and views, e) Schedule system and user jobs, and f) Diagnose, repair, and report problems. To benefit most from this training, you should be familiar with relational database concepts. You should also be familiar with the operating system environment under which you are running Oracle Database.



Course Outline

A. Installation and Set-Up

Installation Requirements - Software Installation with Oracle Universal Installer - Understanding the Oracle Architecture - Database Interfaces and their Use: SQL, PL/SQL, Java, OCCI - Start and Stop the Agent and Listener - Enterprise Manager Database Console - Database Shut Down

B. Schema Objects and Data Administration

Create, Change and Examine Tables - Define Constraints - Define Indexes and Views - Using SQL for Data Manipulation

C. User Management

Manage and Remove Database Users and Roles - Rights Management with Roles and Privileges - Resources and Access

D. Backup and Recovery

Fundamentals of Database Backup, Restore and Recovery - Techniques for Instance Recovery - Purpose of Checkpoints, Redo Log Files, Archived Log Files and ARCHIVELOG Mode - Offline and Online Backup of the Database - Incremental Backups - Automate Database Backups - Monitoring the Flash Recovery Area - Recover Lost Control Files, Redo Log Files and Data Files

E. Oracle Net Services

Representation of Oracle Net - Configuring the Listener with Oracle Net Manager - Control the Oracle Net Listener using the Listener Control Utility - Configuring the client and Middle-Tier Connection to Oracle Net Manager - Testing the Connection via Oracle Net with TNSPING

F. Storage Models

Creating and Managing Tablespaces and Data Files - Retrieving Information from Tablespaces - Configuration of Tablespaces with Oracle Managed Files (OMF)



(ii) Data Mining



Overview

Course ID	2022768
Language	en
Duration	3 D ys
Delivery mode	Classroom
Course Type	
Target Group	Business Intelligence Developer
Prerequisites	Oracle SQL, PL / SQL
Method	Lecture with examples and exercises.
Course level	Advanced



Course Dates

Chicago	Miami	New York
1,900.00 USD	1,800.00 USD	1,900.00 USD
17-19 Aug 12-14 Oct 07-09 Dec	10-12 Aug 05-07 Oct 30 Nov - 02 Dec	03-05 Aug 28-30 Sep 23-25 Nov

Prices plus local taxes.



Course Description

Oracle Data Mining (ODM) provides powerful data mining functionality as native SQL functions within the Oracle Database. Oracle Data Mining enables users to discover new insights hidden in data and to leverage investments in Oracle Database technology. With Oracle Data Mining, you can build and apply predictive models that help you target your best customers, develop detailed customer profiles, and find and prevent fraud. This training provides you with an overview of the Oracle Data Mining architecture and shows you what kind of Data Mining algorithms you can use for your data analysis. You will get to know each algorithm’s principle and statistical-mathematical background before you see the algorithm being applied to DB data.



Course Outline

A. Data Mining and Oracle

(0.5 Days) Statistics, multivariate statistics and Data Mining - Data Mining cycle - Data preprocessing: Descriptive data aggregation, data cleansing, data integration and transformation - Data Reduction - Discretization and concept hierarchies - Data Mining and Business Intelligence: Databases, Data Warehouses and OLAP as the basis for Data Mining - Oracle architecture for Data Mining: database, Data Mining module and MS Excel add-in

B. Factors and influences

(0.5 Days) Factor Analysis and Principal Component Analysis - Outlier Analysis

C. Data Mining using Association analysis

(0.25 Days) Finding frequent patterns (Frequent Itemset Mining) - Apriori algorithm - association rules and association analysis - shopping basket analysis

D. Data Mining and Classification

(0.75 Days) Decision Trees: selection of attributes, tree pruning, deduction of rules, quality measures and comparison of models - Support Vector Machines: algorithms, building and using a model

E. Data Mining and Probability Theory

(0.5 Days) Classification using logistic regression - Probability and Bayes' s Theorem - Naïve Bayes: algorithms, building and using a model

F. Cluster Analysis

(0.5 Days) Introduction to Cluster Analysis - Similarity and distance measurement - Variants and basic techniques - Partitioning methods: k-Means Method - Hierarchical methods: agglomerative and divisive methods



(iii) OLAP



Overview

Course ID	2023677
Language	en
Duration	2 D ys
Delivery mode	Classroom
Course Type	
Target Group	Business Intelligence Developer
Prerequisites	Oracle SQL, PL / SQL
Method	Presentation with examples and hands-on labs.
Course level	Beginning



Course Dates

Chicago	Miami	New York
1,400.00 USD	1,350.00 USD	1,400.00 USD
27-28 Aug 22-23 Oct 17-18 Dec	30-31 Jul 24-25 Sep 19-20 Nov	03-04 Sep 29-30 Oct 24-25 Dec

Prices plus local taxes.



Course Description

Oracle OLAP is a multidimensional analytic engine embedded in Oracle Database 11g. Oracle OLAP cubes deliver calculations using simple SQL queries. This query performance may be leveraged transparently when deploying OLAP cubes as materialized views – enhancing the performance of summary queries against detail relational tables. Because Oracle OLAP is embedded in Oracle Database 11g, it allows centralized management of data and business rules in a secure, scalable and enterprise-ready platform. Oracle OLAP makes it easy to produce analytic measures, including time-series calculations, financial models, forecasts, allocations, regressions, and more. Hundreds of analytic functions can be easily combined in custom functions to solve nearly any analytic calculation requirement. Oracle OLAP cubes are represented using a star schema design: dimension views form a constellation around the cube (or fact) view. This standard representation of OLAP data makes it easy for any reporting and analysis tool or application - including sophisticated business intelligence solutions, SQL-based development tools and Microsoft Excel - to leverage the power of Oracle OLAP in a simple and productive way. This training shows you how to develop Data Warehousing solutions based on Oracle.



Course Outline

A. Multidimensional Data Structures and OLAP

(0.25 Days) Oracle OLAP and Oracle BI / DW Platform - Architecture of a Data Warehouse and an OLAP Solution - Elements of an OLAP Solution

B. OLAP Cubes and the Analytic Workspace Manager 11g (AWM 11g)

(0.5 Days) Defining Measures and Calculations using the Calculation Builder - Loading the Data and Mapping Data to Multidimensional Structures with Dimensions and Hierarchies

C. SQL-Queries for Oracle OLAP Cubes

(0.5 Days) Cube Views - Calculations and Aggregations - Filters - Joining Relational and OLAP Data

D. Cube-Organized Materialized Views (Cube MVs)

(0.25 Days) Cube MV Summary Management - Defining and Using Cube MVs

E. OLAP Cube-Administration

(0.5 Days) Implementing Security - Performance Optimization - Cube Maintenance and Management

(iv) Oracle BI Discoverer / Analyzing Relational and OLAP Data



Overview

Course ID	2023678
Language	en
Duration	2 D ys
Delivery mode	Classroom
Course Type	
Target Group	Business Intelligence Developer
Prerequisites	Oracle SQL, PL / SQL
Method	Presentation with examples and hands-on labs.
Course level	Advanced



Course Dates

Chicago	Miami	New York
1,600.00 USD	1,550.00 USD	1,600.00 USD
27-28 Aug 22-23 Oct 17-18 Dec	03-04 Sep 29-30 Oct 24-25 Dec	17-18 Sep 12-13 Nov

Prices plus local taxes.



Course Description

Oracle Business Intelligence Discoverer is an intuitive ad-hoc query, reporting, analysis and Web publishing tool set that gives business users immediate access to information in databases. Oracle BI Discoverer enables business users at all levels of the organization to make faster and more informed business decisions. Using any standard Web browser, you have secure and immediate access to data from both relational and multidimensional data sources. The Oracle BI Spreadsheet Add-In enables end users to display and navigate Oracle OLAP data from within Excel. Users can treat the Oracle OLAP data as regular Excel data. Using a wizard-driven interface, users can select data from Oracle OLAP simply by choosing from a list of values or by creating advanced selections, such as those based on exceptions, top/bottom analysis, or hierarchies.



Course Outline

A. Simple Reports

(0.75 Days) Workbook and Worksheets - Queries - Tables and Cross-Tabs - Page Elements (Header and Footer, Title, Formatting Columns, Graphics) - Sorting and Grouping of Results - Aggregations

B. Diagrams

(0.25 Days) Types of Diagrams - Reports and Diagrams

C. Complex Techniques

(0.5 Days) Conditions and Conditional Formatting - OLAP Operations: Pivoting, Drilling, and Slicing/Dicing - Static and Dynamic Parameters - Calculations - Advanced Analysis

D. Administration of Reports

(0.5 Days) Scheduling Manager - Running Reports in Batch Mode - Managing Workbooks, Publishing and Exporting Reports



(v) PHP



Overview

Course ID	2020309
Language	en
Duration	1 Day
Delivery mode	Classroom
Course Type	
Target Group	Programmers, Web developers
Prerequisites	PHP Basics
Method	Lecture with examples and exercises.
Course level	Advanced



Course Dates

Chicago	Miami	New York
1,250.00 USD	1,200.00 USD	1,250.00 USD
04-04 Sep 30-30 Oct 25-25 Dec	31-31 Jul 25-25 Sep 20-20 Nov	21-21 Aug 16-16 Oct 11-11 Dec

Prices plus local taxes.



Course Description

This PHP Oracle training is for PHP programmers developing applications for Oracle Database. It bridges the gap between the world of PHP and the universe of Oracle and shows how to use the PHP scripting language with Oracle Database. This training gives you the fundamental building blocks needed to create high-performance PHP Oracle Web applications.



Course Outline

A. PHP OCI8 Extension

(0.5 Days) Connecting to Oracle Using OCI8 - Connection Types - Connection and Environment Errors - Transactions and Connections - Authorization and Authentication - Executing SQL Statements With OCI8 - Fetch Functions - Insert, Update, Delete, Create and Drop in PHP OCI8 - PHP Error Handling - Using Bind Variables in Prepared Statements - Improving Performance by Prefetching and Caching - Monitoring OCI8 SQL Statements - LIMIT, Auto-Increment, Last Insert ID and Multiple Inserts

B. PHP Data Objects

(0.5 Days) Connecting to Oracle Using PDO - Executing SQL Statements - Using Bind Variables in Prepared Statements - Transactions - PL/SQL-Integration in PDO

C. PL/SQL and PHP

(0.5 Days) PL/SQL Overview - Blocks, Procedures, Packages and Triggers - Using PL/SQL With OCI8: Calling PL/SQL Code, Array Binding and PL/SQL Bulk Processing, Using REF CURSORS for Result Sets, Oracle Collections in PHP, Using PL/SQL and Oracle Object Types in PHP, Getting Output With DBMS_OUTPUT, PL/SQL Backtraces in a PL/SQL Exception Handler

D. Using Large Objects in OCI8

(0.25 Days) Working With LOBs in Oracle and PL/SQL - Inserting and Updating LOBs - Fetching LOBs - Temporary LOBs - Uploading and Displaying an Image - Working With BFILES

E. Using XML With Oracle and PHP

(0.25 Days) Fetching Relational Rows as XML - Fetching Rows as Fully Formed XML - Using the SimpleXML Extension in PHP - Fetching XMLType Columns - Inserting Into XMLType Columns - Fetching an XMLType from a PL/SQL Function - XQuery XML Query Language



(vi) PL/SQL 1



Overview

Course ID	2020506
Language	en
Duration	4 D ys
Delivery mode	Classroom
Course Type	
Target Group	DBAs, database developers
Prerequisites	Oracle SQL, PL / SQL
Method	Lecture with examples and exercises.
Course level	Beginning



Course Dates

Chicago	Miami	New York
2,650.00 USD	2,500.00 USD	2,650.00 USD
17-20 Aug 12-15 Oct 07-10 Dec	24-27 Aug 19-22 Oct 14-17 Dec	07-10 Sep 02-05 Nov 28-31 Dec

Prices plus local taxes.



Course Description

PL/SQL is an SQL-based procedural programming language that was designed specifically for the seamless processing of SQL commands. It provides specific syntax for this purpose and supports exactly the same datatypes as SQL. Server-side PL/SQL is stored and compiled in Oracle Database and runs within the Oracle executable. It automatically inherits the robustness, security, and portability of Oracle Database. PL/SQL is tightly integrated with SQL. With PL/SQL, you can use all SQL data manipulation, cursor control, and transaction control statements, and all SQL functions, operators, and pseudocolumns. Oracle provides product-specific packages that define APIs you can invoke from PL/SQL to perform many useful tasks. You can create standalone subprograms (procedures and functions) at schema level. They are compiled and stored in the database, where they can be used by any number of applications connected to the database. This training introduces you to the basic syntax of PL/SQL and shows you then how to develop scripts, procedures, functions or triggers.



Course Outline

A. PL/SQL Syntax

(1 Day) Basics of PL/SQL: programming concept of Oracle applications, PL/SQL blocks, variables, data types - control structures: conditional statements, loops - transaction management - data record types and records - working with files

B. Cursor for SQL Queries in PL/SQL

(0.5 Days) Declaration of Cursors in PL/SQL - cursor handling - data processing with cursors - attributes and parameters - cursor variables - cursor expressions in SQL

C. Exceptions and Error Handling

(0.25 Days) Key topics of error handling - exception block - triggering and handling exceptions - exception types and complex exception handling in nested PL/SQL routines

D. Collections

(0.5 Days) PL/SQL collections and collection types - bulk load and bulk inserts - combination of collections and SQL - collection methods – collections and records

E. Native Dynamic SQL

(0.5 Days) Dynamic SQL and its execution at run-time in PL/SQL - parameters - bulk inserts and bulk binding / mass data processing - using native dynamic SQL with cursors, collections and record types

F. PL/SQL Modules in Oracle

(0.75 Days) PL/SQL procedures - functions - parameters - local modules - overloading - use PL/SQL packages - triggers (DML, Instead-of-trigger, system triggers)

G. Overview of PL/SQL Extensions

(0.25 Days) Object-relational data structures and their usage in PL/SQL - XML integration with Oracle and XML processing in PL/SQL



(vii) PL/SQL 2 - Object-Relational Features



Overview

Course ID	2020497
Language	en
Duration	2 D ys
Delivery mode	Classroom
Course Type	
Target Group	Programmers, developers
Prerequisites	Oracle SQL, PL / SQL
Method	Lecture with examples and exercises.
Course level	Advanced



Course Dates

Chicago	Miami	New York
1,600.00 USD	1,550.00 USD	1,600.00 USD
13-14 Aug 08-09 Oct 03-04 Dec	20-21 Aug 15-16 Oct 10-11 Dec	30-31 Jul 24-25 Sep 19-20 Nov

Prices plus local taxes.



Course Description

Oracle’s Object-Relational Features are intended for programmers developing new applications or converting existing applications to run in the Oracle environment. The object-relational features are often used in content management, data warehousing, data/information integration, and similar applications that deal with complex structured data. The object views feature can be valuable when writing new C++, Java, or XML applications on top of an existing relational schema. This training assumes that you have a working knowledge of application programming and that you are familiar with the use of Structured Query Language (SQL) to access information in relational database systems. The various parts of this training a) introduce the key features and explain the advantages of the object-relational model, b) explain the basic concepts and terminology that you need to work with Oracle Objects, c) discuss collection datatypes and operations on collection datatypes, d) explain object views, which allow you to develop object-oriented applications without changing the underlying relational schema, and e) explains how to perform essential operations with objects and object types.



Course Outline

A. General Concepts of PL/SQL and Oracle Objects

(0.25 Days) Overview of Object Orientation - Relational Mapping with PL/SQL - Object-Relational Structures

B. Object Types in PL/SQL and SQL

(0.25 Days) Introduction: basic principles of object types and objects, defining object types - PL/SQL objects in the Oracle database: create an object type, objects and SQL statements, objects in PL/SQL, object methods

C. Inheritance in PL/SQL

(0.5 Days) Inheritance and hierarchies in PL/SQL object types: Simple inheritance, overriding methods, substitution principle and dynamic binding, overloading, inheritance prevention - Abstraction: The principle of abstraction, substitution principle for abstraction, tables and inheritance, substitution principle for tables substitutability important SQL functions

D. PL/SQL Objects and PL/SQL Collections

(0.5 Days) Create collections using object types: use of VARRAYs, use of nested tables - Use of collections in tables: collection types, collections of primitive data type, DML operations - collections and objects in PL/SQL: use of collections and cursors, nested tables, collections, nested structures

E. Management of Objects

(0.25 Days) Permissions and security: system privileges for PL/SQL object types, schema rights for PL/SQL object types - administration of objects: dependencies, synonyms, system views for objects

F. Object Views and OR-Mapping

(0.25 Days) Object Views and their use: general approach, nested structures - hierarchies and relationships, single-level hierarchies with collections, multilevel hierarchy with and without collections, relationships - working with Object Views: primary keys in views, NULL values??, references, inheritance, manipulation of data in views using SQL statements



(viii) PL/SQL 3 - XML Integration



Overview

Course ID	2020293
Language	en
Duration	3 D ys
Delivery mode	Classroom
Course Type	
Target Group	Programmers, developers
Prerequisites	General database knowledge
Method	Lecture with examples and exercises.
Course level	Beginning



Course Dates

Chicago	Miami	New York
2,050.00 USD	1,950.00 USD	2,050.00 USD
03-05 Aug 28-30 Sep 23-25 Nov	07-09 Sep 02-04 Nov 28-30 Dec	17-19 Aug 12-14 Oct 07-09 Dec

Prices plus local taxes.



Course Description

Oracle XML DB is the name for a set of Oracle Database technologies related to high-performance XML storage and retrieval. It provides native XML support by encompassing both SQL and XML data models in an interoperable manner. Oracle XML DB includes the following features: a) Support for the World Wide Web Consortium (W3C) XML and XML Schema data models and standard access methods for navigating and querying XML. The data models are incorporated into Oracle Database. b) Ways to store, query, update, and transform XML data while accessing it using SQL. c) Ways to perform XML operations on SQL data. d) A simple, lightweight XML repository where you can organize and manage database content, including XML, using a file/folder/URL metaphor. This training provides an overview incl. presentations and hands-on labs of how to use Oracle XML DB.



Course Outline

A. Relational Query Results in XML

(0.5 Days) ISO Standard SQL/XML and its functions: Simple queries, XML document features, complex queries, SQL/XML query processing - queries with DBMS_XMLGEN: Package structure, query processing, complex queries - Oracle-specific SQL functions: generation of simple elements, use of object and table types, creation of aggregates, XML document specification

B. XML Processing using PL/SQL and DOM

(0.5 Days) Overview of DOM and the PL/SQL package DBMS_XMLDOM - produce, process and manipulate XML documents - use of XPath

C. XML Processing using PL/SQL and XSLT

(0.5 Days) Processing XML with XSLT, use parameters - overview of XSLT and the PL/SQL package DBMS_XSLPROCESSOR

D. Storing XML in Oracle

(0.25 Days) Usage scenarios: Realization of Import and Export - Storage models: use of the file system, relational storage, object-relational storage, use of XMLType, De-/Serialization of objects

E. XML Schema - based XML

(0.5 Days) DBMS_XMLSCHEMA: register XML schema, generate storage structures and XML Schema, XML Schema evolution, catalog views - Schema-based storage: XML Schema and XML storage, advanced storage options

F. XML datatype XMLType

(0.75 Days) Using the PL/SQL package DBMS_XMLSTORE - XML Schema, XSLT, PL/SQL Transformation of XMLType, validation of XMLType - XMLType views: Generation of views with and without XML Schema



(ix) SQL



Overview

Course ID	2020123
Language	en
Duration	3 D ys
Delivery mode	Classroom
Course Type	
Target Group	Programmers, developers, DB developers
Prerequisites	General database knowledge
Method	Lecture with examples and exercises.
Course level	Beginning



Course Dates

Chicago	Miami	New York
2,050.00 USD	1,950.00 USD	2,050.00 USD
07-09 Sep 02-04 Nov 28-30 Dec	03-05 Aug 28-30 Sep 23-25 Nov	10-12 Aug 05-07 Oct 30 Nov - 02 Dec

Prices plus local taxes.



Course Description

Structured Query Language (SQL) is the set of statements with which all programs and users access data in an Oracle database. Application programs and Oracle tools often allow users access to the database without using SQL directly, but these applications in turn must use SQL when executing the user's request. The strengths of SQL provide benefits for all types of users, including application programmers, database administrators, managers, and end users. The purpose of SQL is to provide an interface to a relational database such as Oracle Database, and all SQL statements are instructions to the database. This training covers all key concepts of using SQL like a) querying data, b) inserting, updating, and deleting rows in a table, c) creating, replacing, altering, and dropping objects, d) controlling access to the database and its objects, and e) guaranteeing database consistency and integrity.



Course Outline

A. SQL and Relationa Databases

(0.25 Days) The Relational Database System: Key Concepts, Requirements for a DBMS, Architecture Patterns, System Components - The Relational Model: Basic Concepts, Semantic Model, Characteristics of Data and Data Types, Relationships, Entity-Relationship Model (ERM), Normalization

B. SQL DML: Simple Queries

(0.5 Days) Fundamental Structures of Queries - Filters and Operators - Sorting: Single and Multiple Sorting - Grouping: Standard Aggregate Functions, Grouping, Groups with Multiple Columns, Groups with Different Aggregate Functions

C. SQL DML: Advanced Queries

(0.5 Days) Queries with Multiple Tables: Principle of Queries using Multiple Tables, Manual and ANSI SQL Joins - Subqueries: Replacement of Values, Subqueries in the Column List, Correlated Subqueries, Derived Tables, Predicates with Subqueries - Advanced Techniques in SQL: Case Distinctions, Access to Pseudo Columns - Hierarchical Queries

D. SQL Functions

(0.25 Days) Strings - Mathematics - Date and Time - Aggregates

E. SQL DML: Queries and Analyses

(0.5 Days) Advanced Grouping: Purpose of Extensions to GROUP BY, GROUPING SETS, ROLLUP, CUBE, GROUPING Functions - Creating Rankings: Rankings, Charts, Ranking with Distributions, Quantiles, Histograms, Individual Row Numbers for Records - Statistical Analysis in SQL: Window Functions, Centered Moving Average, Cumulation, First and Last Values ??of a Subset, Linear Regression - Advanced Query Techniques: Common Table Expressions (CTE), Pivoting and Unpivotierung - Simple Reports with SQL*Plus: Simple Reports, Grouping and Aggregates, Output Options and Report Formats

F. SQL DDL: Schema Objects

(0.5 Days) Creating and Managing Tables - Constraints and Keys - Views - Other Database Objects: Sequences, Indexes, Synonyms

G. SQL DML: Data Manipulation

(0.5 Days) Inserting Data: The Standard Case, Inserting Data from Query, Inserting into Multiple Tables - Updating Data: The Standard Case, Updating Based on Other Table Data using Subqueries - Deleting Data: The Standard Case, The Use of Subqueries - Transactions in DML Operations: Basics, Instructions for Transaction Control, Savepoints



(x) Statistics using SQL



Overview

Course ID	2022764
Language	en
Duration	3 D ys
Delivery mode	Classroom
Course Type	
Target Group	Business Intelligence Developer
Prerequisites	Oracle SQL, PL / SQL
Method	Lecture with examples and exercises.
Course level	Advanced



Course Dates

Chicago	Miami	New York
2,050.00 USD	1,950.00 USD	2,050.00 USD
10-12 Aug 05-07 Oct 30 Nov - 02 Dec	17-19 Aug 12-14 Oct 07-09 Dec	07-09 Sep 02-04 Nov 28-30 Dec

Prices plus local taxes.



Course Description

Oracle developers, and marketing/controlling professionals who have direct access to the Oracle database using SQL or PL/SQL can perform statistical analysis for descriptive statistics and inferential statistics using SQL queries and PL/SQL procedures and PL/SQL functions. This course presents you the numerous functions that are available directly in the Oracle database by making heavy use of scripting examples. The statistical concepts of central tendency, dispersion, correlation and regression, and statistical testing for distribution tests, contingency analysis and the analysis of variance (ANOVA) are also a part of this training.



Course Outline

A. Data analysis using Descriptive Statistics

(0.5 Days) Central tendency: Frequencies using COUNT, mode using STATS_MODE, mean values ??using AVG, MEDIAN - quantiles using PERCENTILE_CONT and PERCENTILE_DISC - Measures of dispersion: range using MIN and MAX, standard deviation using STDDEV, STDDEV_POP and STDDEV_SAMP, variance using VAR_POP, VAR_SAMP and VARIANCE - Rank and distribution using CUME_DIST, DENSE_RANK, RANK, and PERCENT_RANK

B. Correlation analysis

(0.25 Days) Covariance using COVAR_POP and COVAR_SAMP - correlation using CORR (Bravais-Pearson) - rank correlation using CORR_S (Spearman's rho) and CORR_K (Kendall's tau)

C. Regression analysis

(0.25 Days) Linear regression and the least squares method - linear equation derived using REGR_SLOPE and REGR_INTERCEPT - coefficient of determination using REGR_R2 - averages using REGR_AVGX and REGR_AVGY - model check using REGR_COUNT, REGR_SXX, REGR_SYY and REGR_SXY - prediction and residual analysis

D. Contingency

(0.25 Days) contingency and categorical variables - Chi-Square test using CHISQ_OBS and CHISQ_DF - significance using CHISQ_SIG - Contingency: Phi Coefficient using PHI_COEFFICIENT, Cramer's V using CRAMERS_V, Contingency Coefficient using CONT_COEFFICIENT and Cohen's Kappa using COHENS_K

E. Statistical Tests

(0.75 Days) Overview of probability theory - introduction to test theory - t-test using STATS_T_TEST_ONE (one sample), STATS_T_TEST_PAISED (two samples), STATS_T_TEST_INDEP (two independent samples) and STATS_T_TEST_INDEPU (two independent samples with unequal variance) - variance comparison using STATS_F_TEST - distribution tests using STATS_BINOMIAL_TEST - Mann-Whitney test using STATS_MW_TEST - Kolmogorov-Smirnov function using STATS_KS_TEST - Wilcoxon signed ranks using STATS_WSR_TEST

F. Analysis of Variance (ANOVA)

(0.5 Days) Analysis of Variance - ANOVA performed using STATS_ONE_WAY_ANOVA: Sum of Squares using SUM_SQUARES_BETEEN and SUM_SQUARES_WITHIN, mean squares using MEAN_SQUARES_BETWEEN and MEAN_SQUARES_WITHIN, F-value using F_RATIO and significance using SIG

G. Time series analysis and trend

(0.5 Days) Fundamentals of time series analysis: Components, stationarity, autocorrelation, autocovariance, periodicity - Smoothing: moving average, exponential smoothing - Trend calculations using linear regression - seasonal decomposition and residual analysis

A. Oracle 12c



(i) Administration



Overview

Course ID	2020250
Language	en
Duration	5 D ys
Delivery mode	Classroom
Course Type	
Target Group	DBAs
Prerequisites	General database knowledge
Method	Lecture with examples and exercises.
Course level	Beginning



Course Dates

Chicago	Miami	New York
2,850.00 USD	2,650.00 USD	2,850.00 USD
10-14 Aug 19-23 Oct 28 Dec - 01 Jan	14-18 Sep 23-27 Nov	21-25 Sep 30 Nov - 04 Dec

Prices plus local taxes.



Course Description

This training is intended for database administrators who perform the following tasks a) Create and configure one or more Oracle databases, b) Monitor and tune Oracle databases, c) Oversee routine maintenance operations for Oracle databases, d) Create and maintain schema objects, such as tables, indexes, and views, e) Schedule system and user jobs, and f) Diagnose, repair, and report problems. To benefit most from this training, you should be familiar with relational database concepts. You should also be familiar with the operating system environment under which you are running Oracle Database.



Course Outline

A. Installation and Set-Up

Installation Requirements - Software Installation with Oracle Universal Installer - Understanding the Oracle Architecture - Database Interfaces and their Use: SQL, PL/SQL, Java, OCCI - Start and Stop the Agent and Listener - Enterprise Manager Database Console - Database Shut Down

B. Schema Objects and Data Administration

Create, Change and Examine Tables - Define Constraints - Define Indexes and Views - Using SQL for Data Manipulation

C. User Management

Manage and Remove Database Users and Roles - Rights Management with Roles and Privileges - Resources and Access

D. Backup and Recovery

Fundamentals of Database Backup, Restore and Recovery - Techniques for Instance Recovery - Purpose of Checkpoints, Redo Log Files, Archived Log Files and ARCHIVELOG Mode - Offline and Online Backup of the Database - Incremental Backups - Automate Database Backups - Monitoring the Flash Recovery Area - Recover Lost Control Files, Redo Log Files and Data Files

E. Oracle Net Services

Representation of Oracle Net - Configuring the Listener with Oracle Net Manager - Control the Oracle Net Listener using the Listener Control Utility - Configuring the client and Middle-Tier Connection to Oracle Net Manager - Testing the Connection via Oracle Net with TNSPING

F. Storage Models

Creating and Managing Tablespaces and Data Files - Retrieving Information from Tablespaces - Configuration of Tablespaces with Oracle Managed Files (OMF)



(ii) Data Mining



Overview

Course ID	2023687
Language	en
Duration	3 D ys
Delivery mode	Classroom
Course Type	
Target Group	Business Intelligence Developer
Prerequisites	Oracle SQL, PL / SQL
Method	Lecture with examples and exercises.
Course level	Advanced



Course Dates

Chicago	Miami	New York
2,050.00 USD	1,950.00 USD	2,050.00 USD
31 Aug - 02 Sep 26-28 Oct 21-23 Dec	24-26 Aug 19-21 Oct 14-16 Dec	14-16 Sep 09-11 Nov

Prices plus local taxes.



Course Description

Oracle Data Mining (ODM) provides powerful data mining functionality as native SQL functions within the Oracle Database. Oracle Data Mining enables users to discover new insights hidden in data and to leverage investments in Oracle Database technology. With Oracle Data Mining, you can build and apply predictive models that help you target your best customers, develop detailed customer profiles, and find and prevent fraud. This training provides you with an overview of the Oracle Data Mining architecture and shows you what kind of Data Mining algorithms you can use for your data analysis. You will get to know each algorithm’s principle and statistical-mathematical background before you see the algorithm being applied to DB data.



Course Outline

A. Data Mining and Oracle

(0.5 Days) Statistics, multivariate statistics and Data Mining - Data Mining cycle - Data preprocessing: Descriptive data aggregation, data cleansing, data integration and transformation - Data Reduction - Discretization and concept hierarchies - Data Mining and Business Intelligence: Databases, Data Warehouses and OLAP as the basis for Data Mining - Oracle architecture for Data Mining: database, Data Mining module and MS Excel add-in

B. Factors and influences

(0.5 Days) Factor Analysis and Principal Component Analysis - Outlier Analysis

C. Data Mining using Association analysis

(0.25 Days) Finding frequent patterns (Frequent Itemset Mining) - Apriori algorithm - association rules and association analysis - shopping basket analysis

D. Data Mining and Classification

(0.75 Days) Decision Trees: selection of attributes, tree pruning, deduction of rules, quality measures and comparison of models - Support Vector Machines: algorithms, building and using a model

E. Data Mining and Probability Theory

(0.5 Days) Classification using logistic regression - Probability and Bayes' s Theorem - Naïve Bayes: algorithms, building and using a model

F. Cluster Analysis

(0.5 Days) Introduction to Cluster Analysis - Similarity and distance measurement - Variants and basic techniques - Partitioning methods: k-Means Method - Hierarchical methods: agglomerative and divisive methods

(iii) Oracle BI Discoverer / Analyzing Relational and OLAP Data



Overview

Course ID	2020494
Language	en
Duration	2 D ys
Delivery mode	Classroom
Course Type	
Target Group	Business Intelligence Developer
Prerequisites	Oracle SQL, PL / SQL
Method	Presentation with examples and hands-on labs.
Course level	Advanced



Course Dates

Chicago	Miami	New York
1,600.00 USD	1,550.00 USD	1,600.00 USD
06-07 Aug 01-02 Oct 26-27 Nov	30-31 Jul 24-25 Sep 19-20 Nov	20-21 Aug 15-16 Oct 10-11 Dec

Prices plus local taxes.



Course Description

Oracle Business Intelligence Discoverer is an intuitive ad-hoc query, reporting, analysis and Web publishing tool set that gives business users immediate access to information in databases. Oracle BI Discoverer enables business users at all levels of the organization to make faster and more informed business decisions. Using any standard Web browser, you have secure and immediate access to data from both relational and multidimensional data sources. The Oracle BI Spreadsheet Add-In enables end users to display and navigate Oracle OLAP data from within Excel. Users can treat the Oracle OLAP data as regular Excel data. Using a wizard-driven interface, users can select data from Oracle OLAP simply by choosing from a list of values or by creating advanced selections, such as those based on exceptions, top/bottom analysis, or hierarchies.



Course Outline

A. Simple Reports

(0.75 Days) Workbook and Worksheets - Queries - Tables and Cross-Tabs - Page Elements (Header and Footer, Title, Formatting Columns, Graphics) - Sorting and Grouping of Results - Aggregations

B. Diagrams

(0.25 Days) Types of Diagrams - Reports and Diagrams

C. Complex Techniques

(0.5 Days) Conditions and Conditional Formatting - OLAP Operations: Pivoting, Drilling, and Slicing/Dicing - Static and Dynamic Parameters - Calculations - Advanced Analysis

D. Administration of Reports

(0.5 Days) Scheduling Manager - Running Reports in Batch Mode - Managing Workbooks, Publishing and Exporting Reports



(iv) PHP



Overview

Course ID	2020311
Language	en
Duration	1 Day
Delivery mode	Classroom
Course Type	
Target Group	Programmers, Web developers
Prerequisites	PHP Basics
Method	Lecture with examples and exercises.
Course level	Advanced



Course Dates

Chicago	Miami	New York
1,250.00 USD	1,200.00 USD	1,250.00 USD
04-04 Sep 30-30 Oct 25-25 Dec	21-21 Aug 16-16 Oct 11-11 Dec	31-31 Jul 25-25 Sep 20-20 Nov

Prices plus local taxes.



Course Description

This PHP Oracle training is for PHP programmers developing applications for Oracle Database. It bridges the gap between the world of PHP and the universe of Oracle and shows how to use the PHP scripting language with Oracle Database. This training gives you the fundamental building blocks needed to create high-performance PHP Oracle Web applications.



Course Outline

A. PHP OCI8 Extension

(0.5 Days) Connecting to Oracle Using OCI8 - Connection Types - Connection and Environment Errors - Transactions and Connections - Authorization and Authentication - Executing SQL Statements With OCI8 - Fetch Functions - Insert, Update, Delete, Create and Drop in PHP OCI8 - PHP Error Handling - Using Bind Variables in Prepared Statements - Improving Performance by Prefetching and Caching - Monitoring OCI8 SQL Statements - LIMIT, Auto-Increment, Last Insert ID and Multiple Inserts

B. PHP Data Objects

(0.5 Days) Connecting to Oracle Using PDO - Executing SQL Statements - Using Bind Variables in Prepared Statements - Transactions - PL/SQL-Integration in PDO

C. PL/SQL and PHP

(0.5 Days) PL/SQL Overview - Blocks, Procedures, Packages and Triggers - Using PL/SQL With OCI8: Calling PL/SQL Code, Array Binding and PL/SQL Bulk Processing, Using REF CURSORS for Result Sets, Oracle Collections in PHP, Using PL/SQL and Oracle Object Types in PHP, Getting Output With DBMS_OUTPUT, PL/SQL Backtraces in a PL/SQL Exception Handler

D. Using Large Objects in OCI8

(0.25 Days) Working With LOBs in Oracle and PL/SQL - Inserting and Updating LOBs - Fetching LOBs - Temporary LOBs - Uploading and Displaying an Image - Working With BFILES

E. Using XML With Oracle and PHP

(0.25 Days) Fetching Relational Rows as XML - Fetching Rows as Fully Formed XML - Using the SimpleXML Extension in PHP - Fetching XMLType Columns - Inserting Into XMLType Columns - Fetching an XMLType from a PL/SQL Function - XQuery XML Query Language



(v) PL/SQL 1



Overview

Course ID	2020505
Language	en
Duration	4 D ys
Delivery mode	Classroom
Course Type	
Target Group	DBAs, database developers
Prerequisites	Oracle SQL, PL / SQL
Method	Lecture with examples and exercises.
Course level	Beginning



Course Dates

Chicago	Miami	New York
2,650.00 USD	2,500.00 USD	2,650.00 USD
10-13 Aug 05-08 Oct 30 Nov - 03 Dec	24-27 Aug 19-22 Oct 14-17 Dec	07-10 Sep 02-05 Nov 28-31 Dec

Prices plus local taxes.



Course Description

PL/SQL is an SQL-based procedural programming language that was designed specifically for the seamless processing of SQL commands. It provides specific syntax for this purpose and supports exactly the same datatypes as SQL. Server-side PL/SQL is stored and compiled in Oracle Database and runs within the Oracle executable. It automatically inherits the robustness, security, and portability of Oracle Database. PL/SQL is tightly integrated with SQL. With PL/SQL, you can use all SQL data manipulation, cursor control, and transaction control statements, and all SQL functions, operators, and pseudocolumns. Oracle provides product-specific packages that define APIs you can invoke from PL/SQL to perform many useful tasks. You can create standalone subprograms (procedures and functions) at schema level. They are compiled and stored in the database, where they can be used by any number of applications connected to the database. This training introduces you to the basic syntax of PL/SQL and shows you then how to develop scripts, procedures, functions or triggers.



Course Outline

A. PL/SQL Syntax

(1 Day) Basics of PL/SQL: programming concept of Oracle applications, PL/SQL blocks, variables, data types - control structures: conditional statements, loops - transaction management - data record types and records - working with files

B. Cursor for SQL Queries in PL/SQL

(0.5 Days) Declaration of Cursors in PL/SQL - cursor handling - data processing with cursors - attributes and parameters - cursor variables - cursor expressions in SQL

C. Exceptions and Error Handling

(0.25 Days) Key topics of error handling - exception block - triggering and handling exceptions - exception types and complex exception handling in nested PL/SQL routines

D. Collections

(0.5 Days) PL/SQL collections and collection types - bulk load and bulk inserts - combination of collections and SQL - collection methods – collections and records

E. Native Dynamic SQL

(0.5 Days) Dynamic SQL and its execution at run-time in PL/SQL - parameters - bulk inserts and bulk binding / mass data processing - using native dynamic SQL with cursors, collections and record types

F. PL/SQL Modules in Oracle

(0.75 Days) PL/SQL procedures - functions - parameters - local modules - overloading - use PL/SQL packages - triggers (DML, Instead-of-trigger, system triggers)

G. Overview of PL/SQL Extensions

(0.25 Days) Object-relational data structures and their usage in PL/SQL - XML integration with Oracle and XML processing in PL/SQL



(vi) PL/SQL 2 - Object-Relational Features



Overview

Course ID	2020498
Language	en
Duration	2 D ys
Delivery mode	Classroom
Course Type	
Target Group	Programmers, developers
Prerequisites	Oracle SQL, PL / SQL
Method	Lecture with examples and exercises.
Course level	Advanced



Course Dates

Chicago	Miami	New York
1,600.00 USD	1,550.00 USD	1,600.00 USD
13-14 Aug 08-09 Oct 03-04 Dec	20-21 Aug 15-16 Oct 10-11 Dec	30-31 Jul 24-25 Sep 19-20 Nov

Prices plus local taxes.



Course Description

Oracle’s Object-Relational Features are intended for programmers developing new applications or converting existing applications to run in the Oracle environment. The object-relational features are often used in content management, data warehousing, data/information integration, and similar applications that deal with complex structured data. The object views feature can be valuable when writing new C++, Java, or XML applications on top of an existing relational schema. This training assumes that you have a working knowledge of application programming and that you are familiar with the use of Structured Query Language (SQL) to access information in relational database systems. The various parts of this training a) introduce the key features and explain the advantages of the object-relational model, b) explain the basic concepts and terminology that you need to work with Oracle Objects, c) discuss collection datatypes and operations on collection datatypes, d) explain object views, which allow you to develop object-oriented applications without changing the underlying relational schema, and e) explains how to perform essential operations with objects and object types.



Course Outline

A. General Concepts of PL/SQL and Oracle Objects

(0.25 Days) Overview of Object Orientation - Relational Mapping with PL/SQL - Object-Relational Structures

B. Object Types in PL/SQL and SQL

(0.25 Days) Introduction: basic principles of object types and objects, defining object types - PL/SQL objects in the Oracle database: create an object type, objects and SQL statements, objects in PL/SQL, object methods

C. Inheritance in PL/SQL

(0.5 Days) Inheritance and hierarchies in PL/SQL object types: Simple inheritance, overriding methods, substitution principle and dynamic binding, overloading, inheritance prevention - Abstraction: The principle of abstraction, substitution principle for abstraction, tables and inheritance, substitution principle for tables substitutability important SQL functions

D. PL/SQL Objects and PL/SQL Collections

(0.5 Days) Create collections using object types: use of VARRAYs, use of nested tables - Use of collections in tables: collection types, collections of primitive data type, DML operations - collections and objects in PL/SQL: use of collections and cursors, nested tables, collections, nested structures

E. Management of Objects

(0.25 Days) Permissions and security: system privileges for PL/SQL object types, schema rights for PL/SQL object types - administration of objects: dependencies, synonyms, system views for objects

F. Object Views and OR-Mapping

(0.25 Days) Object Views and their use: general approach, nested structures - hierarchies and relationships, single-level hierarchies with collections, multilevel hierarchy with and without collections, relationships - working with Object Views: primary keys in views, NULL values??, references, inheritance, manipulation of data in views using SQL statements



(vii) PL/SQL 3 - XML Integration



Overview

Course ID	2020292
Language	en
Duration	3 D ys
Delivery mode	Classroom
Course Type	
Target Group	Programmers, developers
Prerequisites	General database knowledge
Method	Lecture with examples and exercises.
Course level	Beginning



Course Dates

Chicago	Miami	New York
2,050.00 USD	1,950.00 USD	2,050.00 USD
03-05 Aug 28-30 Sep 23-25 Nov	07-09 Sep 02-04 Nov 28-30 Dec	17-19 Aug 12-14 Oct 07-09 Dec

Prices plus local taxes.



Course Description

Oracle XML DB is the name for a set of Oracle Database technologies related to high-performance XML storage and retrieval. It provides native XML support by encompassing both SQL and XML data models in an interoperable manner. Oracle XML DB includes the following features: a) Support for the World Wide Web Consortium (W3C) XML and XML Schema data models and standard access methods for navigating and querying XML. The data models are incorporated into Oracle Database. b) Ways to store, query, update, and transform XML data while accessing it using SQL. c) Ways to perform XML operations on SQL data. d) A simple, lightweight XML repository where you can organize and manage database content, including XML, using a file/folder/URL metaphor. This training provides an overview incl. presentations and hands-on labs of how to use Oracle XML DB.



Course Outline

A. Relational Query Results in XML

(0.5 Days) ISO Standard SQL/XML and its functions: Simple queries, XML document features, complex queries, SQL/XML query processing - queries with DBMS_XMLGEN: Package structure, query processing, complex queries - Oracle-specific SQL functions: generation of simple elements, use of object and table types, creation of aggregates, XML document specification

B. XML Processing using PL/SQL and DOM

(0.5 Days) Overview of DOM and the PL/SQL package DBMS_XMLDOM - produce, process and manipulate XML documents - use of XPath

C. XML Processing using PL/SQL and XSLT

(0.5 Days) Processing XML with XSLT, use parameters - overview of XSLT and the PL/SQL package DBMS_XSLPROCESSOR

D. Storing XML in Oracle

(0.25 Days) Usage scenarios: Realization of Import and Export - Storage models: use of the file system, relational storage, object-relational storage, use of XMLType, De-/Serialization of objects

E. XML Schema - based XML

(0.5 Days) DBMS_XMLSCHEMA: register XML schema, generate storage structures and XML Schema, XML Schema evolution, catalog views - Schema-based storage: XML Schema and XML storage, advanced storage options

F. XML datatype XMLType

(0.75 Days) Using the PL/SQL package DBMS_XMLSTORE - XML Schema, XSLT, PL/SQL Transformation of XMLType, validation of XMLType - XMLType views: Generation of views with and without XML Schema



(viii) SQL



Overview

Course ID	2020122
Language	en
Duration	3 D ys
Delivery mode	Classroom
Course Type	
Target Group	Programmers, developers, DB developers
Prerequisites	General database knowledge
Method	Lecture with examples and exercises.
Course level	Beginning



Course Dates

Chicago	Miami	New York
2,050.00 USD	1,950.00 USD	2,050.00 USD
07-09 Sep 02-04 Nov 28-30 Dec	03-05 Aug 28-30 Sep 23-25 Nov	10-12 Aug 05-07 Oct 30 Nov - 02 Dec

Prices plus local taxes.



Course Description

Structured Query Language (SQL) is the set of statements with which all programs and users access data in an Oracle database. Application programs and Oracle tools often allow users access to the database without using SQL directly, but these applications in turn must use SQL when executing the user's request. The strengths of SQL provide benefits for all types of users, including application programmers, database administrators, managers, and end users. The purpose of SQL is to provide an interface to a relational database such as Oracle Database, and all SQL statements are instructions to the database. This training covers all key concepts of using SQL like a) querying data, b) inserting, updating, and deleting rows in a table, c) creating, replacing, altering, and dropping objects, d) controlling access to the database and its objects, and e) guaranteeing database consistency and integrity.



Course Outline

A. SQL and Relationa Databases

(0.25 Days) The Relational Database System: Key Concepts, Requirements for a DBMS, Architecture Patterns, System Components - The Relational Model: Basic Concepts, Semantic Model, Characteristics of Data and Data Types, Relationships, Entity-Relationship Model (ERM), Normalization

B. SQL DML: Simple Queries

(0.5 Days) Fundamental Structures of Queries - Filters and Operators - Sorting: Single and Multiple Sorting - Grouping: Standard Aggregate Functions, Grouping, Groups with Multiple Columns, Groups with Different Aggregate Functions

C. SQL DML: Advanced Queries

(0.5 Days) Queries with Multiple Tables: Principle of Queries using Multiple Tables, Manual and ANSI SQL Joins - Subqueries: Replacement of Values, Subqueries in the Column List, Correlated Subqueries, Derived Tables, Predicates with Subqueries - Advanced Techniques in SQL: Case Distinctions, Access to Pseudo Columns - Hierarchical Queries

D. SQL Functions

(0.25 Days) Strings - Mathematics - Date and Time - Aggregates

E. SQL DML: Queries and Analyses

(0.5 Days) Advanced Grouping: Purpose of Extensions to GROUP BY, GROUPING SETS, ROLLUP, CUBE, GROUPING Functions - Creating Rankings: Rankings, Charts, Ranking with Distributions, Quantiles, Histograms, Individual Row Numbers for Records - Statistical Analysis in SQL: Window Functions, Centered Moving Average, Cumulation, First and Last Values ??of a Subset, Linear Regression - Advanced Query Techniques: Common Table Expressions (CTE), Pivoting and Unpivotierung - Simple Reports with SQL*Plus: Simple Reports, Grouping and Aggregates, Output Options and Report Formats

F. SQL DDL: Schema Objects

(0.5 Days) Creating and Managing Tables - Constraints and Keys - Views - Other Database Objects: Sequences, Indexes, Synonyms

G. SQL DML: Data Manipulation

(0.5 Days) Inserting Data: The Standard Case, Inserting Data from Query, Inserting into Multiple Tables - Updating Data: The Standard Case, Updating Based on Other Table Data using Subqueries - Deleting Data: The Standard Case, The Use of Subqueries - Transactions in DML Operations: Basics, Instructions for Transaction Control, Savepoints



(ix) Statistics using SQL



Overview

Course ID	2020531
Language	en
Duration	3 D ys
Delivery mode	Classroom
Course Type	
Target Group	Business Intelligence Developer
Prerequisites	Oracle SQL, PL / SQL
Method	Lecture with examples and exercises.
Course level	Advanced



Course Dates

Chicago	Miami	New York
2,050.00 USD	1,950.00 USD	2,050.00 USD
17-19 Aug 12-14 Oct 07-09 Dec	10-12 Aug 05-07 Oct 30 Nov - 02 Dec	03-05 Aug 28-30 Sep 23-25 Nov

Prices plus local taxes.



Course Description

Oracle developers, and marketing/controlling professionals who have direct access to the Oracle database using SQL or PL/SQL can perform statistical analysis for descriptive statistics and inferential statistics using SQL queries and PL/SQL procedures and PL/SQL functions. This course presents you the numerous functions that are available directly in the Oracle database by making heavy use of scripting examples. The statistical concepts of central tendency, dispersion, correlation and regression, and statistical testing for distribution tests, contingency analysis and the analysis of variance (ANOVA) are also a part of this training.



Course Outline

A. Data analysis using Descriptive Statistics

(0.5 Days) Central tendency: Frequencies using COUNT, mode using STATS_MODE, mean values ??using AVG, MEDIAN - quantiles using PERCENTILE_CONT and PERCENTILE_DISC - Measures of dispersion: range using MIN and MAX, standard deviation using STDDEV, STDDEV_POP and STDDEV_SAMP, variance using VAR_POP, VAR_SAMP and VARIANCE - Rank and distribution using CUME_DIST, DENSE_RANK, RANK, and PERCENT_RANK

B. Correlation analysis

(0.25 Days) Covariance using COVAR_POP and COVAR_SAMP - correlation using CORR (Bravais-Pearson) - rank correlation using CORR_S (Spearman's rho) and CORR_K (Kendall's tau)

C. Regression analysis

(0.25 Days) Linear regression and the least squares method - linear equation derived using REGR_SLOPE and REGR_INTERCEPT - coefficient of determination using REGR_R2 - averages using REGR_AVGX and REGR_AVGY - model check using REGR_COUNT, REGR_SXX, REGR_SYY and REGR_SXY - prediction and residual analysis

D. Contingency

(0.25 Days) contingency and categorical variables - Chi-Square test using CHISQ_OBS and CHISQ_DF - significance using CHISQ_SIG - Contingency: Phi Coefficient using PHI_COEFFICIENT, Cramer's V using CRAMERS_V, Contingency Coefficient using CONT_COEFFICIENT and Cohen's Kappa using COHENS_K

E. Statistical Tests

(0.75 Days) Overview of probability theory - introduction to test theory - t-test using STATS_T_TEST_ONE (one sample), STATS_T_TEST_PAISED (two samples), STATS_T_TEST_INDEP (two independent samples) and STATS_T_TEST_INDEPU (two independent samples with unequal variance) - variance comparison using STATS_F_TEST - distribution tests using STATS_BINOMIAL_TEST - Mann-Whitney test using STATS_MW_TEST - Kolmogorov-Smirnov function using STATS_KS_TEST - Wilcoxon signed ranks using STATS_WSR_TEST

F. Analysis of Variance (ANOVA)

(0.5 Days) Analysis of Variance - ANOVA performed using STATS_ONE_WAY_ANOVA: Sum of Squares using SUM_SQUARES_BETEEN and SUM_SQUARES_WITHIN, mean squares using MEAN_SQUARES_BETWEEN and MEAN_SQUARES_WITHIN, F-value using F_RATIO and significance using SIG

G. Time series analysis and trend

(0.5 Days) Fundamentals of time series analysis: Components, stationarity, autocorrelation, autocovariance, periodicity - Smoothing: moving average, exponential smoothing - Trend calculations using linear regression - seasonal decomposition and residual analysis

A. PHP



(i) Oracle



Overview

Course ID	2020312
Language	en
Duration	1 Day
Delivery mode	Classroom
Course Type	
Target Group	Programmers, Web developers
Prerequisites	PHP Basics
Method	Lecture with examples and exercises.
Course level	Advanced



Course Dates

Chicago	Miami	New York
1,250.00 USD	1,200.00 USD	1,250.00 USD
18-18 Sep 13-13 Nov	04-04 Sep 30-30 Oct	28-28 Aug 23-23 Oct 18-18 Dec

Prices plus local taxes.



Course Description

This PHP Oracle training is for PHP programmers developing applications for Oracle Database. It bridges the gap between the world of PHP and the universe of Oracle and shows how to use the PHP scripting language with Oracle Database. This training gives you the fundamental building blocks needed to create high-performance PHP Oracle Web applications.



Course Outline

A. PHP OCI8 Extension

(0.5 Days) Connecting to Oracle Using OCI8 - Connection Types - Connection and Environment Errors - Transactions and Connections - Authorization and Authentication - Executing SQL Statements With OCI8 - Fetch Functions - Insert, Update, Delete, Create and Drop in PHP OCI8 - PHP Error Handling - Using Bind Variables in Prepared Statements - Improving Performance by Prefetching and Caching - Monitoring OCI8 SQL Statements - LIMIT, Auto-Increment, Last Insert ID and Multiple Inserts

B. PHP Data Objects

(0.5 Days) Connecting to Oracle Using PDO - Executing SQL Statements - Using Bind Variables in Prepared Statements - Transactions - PL/SQL-Integration in PDO

C. PL/SQL and PHP

(0.5 Days) PL/SQL Overview - Blocks, Procedures, Packages and Triggers - Using PL/SQL With OCI8: Calling PL/SQL Code, Array Binding and PL/SQL Bulk Processing, Using REF CURSORS for Result Sets, Oracle Collections in PHP, Using PL/SQL and Oracle Object Types in PHP, Getting Output With DBMS_OUTPUT, PL/SQL Backtraces in a PL/SQL Exception Handler

D. Using Large Objects in OCI8

(0.25 Days) Working With LOBs in Oracle and PL/SQL - Inserting and Updating LOBs - Fetching LOBs - Temporary LOBs - Uploading and Displaying an Image - Working With BFILES

E. Using XML With Oracle and PHP

(0.25 Days) Fetching Relational Rows as XML - Fetching Rows as Fully Formed XML - Using the SimpleXML Extension in PHP - Fetching XMLType Columns - Inserting Into XMLType Columns - Fetching an XMLType from a PL/SQL Function - XQuery XML Query Language

A. Statistics



(i) Oracle and SQL



Overview

Course ID	2022765
Language	en
Duration	3 D ys
Delivery mode	Classroom
Course Type	
Target Group	Business Intelligence Developer
Prerequisites	Oracle SQL, PL / SQL
Method	Lecture with examples and exercises.
Course level	Advanced



Course Dates

Chicago	Miami	New York
2,050.00 USD	1,950.00 USD	2,050.00 USD
10-12 Aug 05-07 Oct 30 Nov - 02 Dec	17-19 Aug 12-14 Oct 07-09 Dec	07-09 Sep 02-04 Nov 28-30 Dec

Prices plus local taxes.



Course Description

Oracle developers, and marketing/controlling professionals who have direct access to the Oracle database using SQL or PL/SQL can perform statistical analysis for descriptive statistics and inferential statistics using SQL queries and PL/SQL procedures and PL/SQL functions. This course presents you the numerous functions that are available directly in the Oracle database by making heavy use of scripting examples. The statistical concepts of central tendency, dispersion, correlation and regression, and statistical testing for distribution tests, contingency analysis and the analysis of variance (ANOVA) are also a part of this training.



Course Outline

A. Data analysis using Descriptive Statistics

(0.5 Days) Central tendency: Frequencies using COUNT, mode using STATS_MODE, mean values ??using AVG, MEDIAN - quantiles using PERCENTILE_CONT and PERCENTILE_DISC - Measures of dispersion: range using MIN and MAX, standard deviation using STDDEV, STDDEV_POP and STDDEV_SAMP, variance using VAR_POP, VAR_SAMP and VARIANCE - Rank and distribution using CUME_DIST, DENSE_RANK, RANK, and PERCENT_RANK

B. Correlation analysis

(0.25 Days) Covariance using COVAR_POP and COVAR_SAMP - correlation using CORR (Bravais-Pearson) - rank correlation using CORR_S (Spearman's rho) and CORR_K (Kendall's tau)

C. Regression analysis

(0.25 Days) Linear regression and the least squares method - linear equation derived using REGR_SLOPE and REGR_INTERCEPT - coefficient of determination using REGR_R2 - averages using REGR_AVGX and REGR_AVGY - model check using REGR_COUNT, REGR_SXX, REGR_SYY and REGR_SXY - prediction and residual analysis

D. Contingency

(0.25 Days) contingency and categorical variables - Chi-Square test using CHISQ_OBS and CHISQ_DF - significance using CHISQ_SIG - Contingency: Phi Coefficient using PHI_COEFFICIENT, Cramer's V using CRAMERS_V, Contingency Coefficient using CONT_COEFFICIENT and Cohen's Kappa using COHENS_K

E. Statistical Tests

(0.75 Days) Overview of probability theory - introduction to test theory - t-test using STATS_T_TEST_ONE (one sample), STATS_T_TEST_PAISED (two samples), STATS_T_TEST_INDEP (two independent samples) and STATS_T_TEST_INDEPU (two independent samples with unequal variance) - variance comparison using STATS_F_TEST - distribution tests using STATS_BINOMIAL_TEST - Mann-Whitney test using STATS_MW_TEST - Kolmogorov-Smirnov function using STATS_KS_TEST - Wilcoxon signed ranks using STATS_WSR_TEST

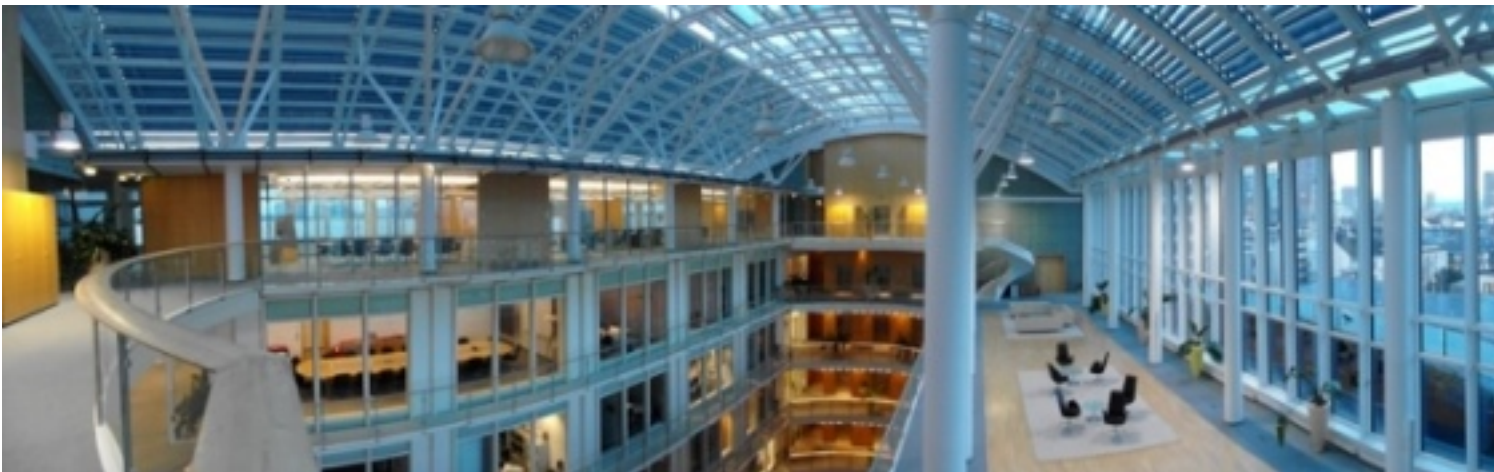
F. Analysis of Variance (ANOVA)

(0.5 Days) Analysis of Variance - ANOVA performed using STATS_ONE_WAY_ANOVA: Sum of Squares using SUM_SQUARES_BETEEN and SUM_SQUARES_WITHIN, mean squares using MEAN_SQUARES_BETWEEN and MEAN_SQUARES_WITHIN, F-value using F_RATIO and significance using SIG

G. Time series analysis and trend

(0.5 Days) Fundamentals of time series analysis: Components, stationarity, autocorrelation, autocovariance, periodicity - Smoothing: moving average, exponential smoothing - Trend calculations using linear regression - seasonal decomposition and residual analysis

b. Disclaimer



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