Oracle R Enterprise Essentials Ed 1

This Oracle R Enterprise Essentials training will teach you how to leverage the Oracle Database as a high performance computing platform from the powerful R statistical programming language and environment.

Learn To

This Oracle R Enterprise Essentials training will teach you how to leverage the Oracle Database as a high performance computing platform from the powerful R statistical programming language and environment. Overcome the memory limitations of the open source client R engine. Prepare data, perform statistical analysis, and build predictive models on Big Data data sets that are generally impossible with open source R. Generate graphics and invoke R scripts from SQL for integration with the Oracle stack!

Learn To:

- Start up R, load ORE, and connect to Oracle Database.
- Use common constructs of the R language.
- Use the ORE Transparency Layer.
- Use ORE for embedded R execution.
- Use ORE predictive analytics packages.
- Use ROracle.

Benefits To You

By taking this course, you will get a chance to manipulate database data using the R language. You will develop the knowledge and skills to use Oracle Database for predictive analysis using R. Leverage the database server machine for executing R scripts from SQL and R, both individually and in a data-parallel and task-parallel manner.

More Information

Oracle has adopted R as a language and environment to support statisticians, data analysts, and data scientists in performing statistical data analysis and advanced analytics, as well as generating sophisticated graphics. Oracle R Enterprise (ORE) is a component of the Oracle Database Advanced Analytics Option. ORE makes the open source R statistical programming language and environment ready for the enterprise and big data.

Prerequisites

Suggested Prerequisite

- Experience with statistics or R programming experience

Required Prerequisite

- Oracle Database 11g: Data Mining Techniques

Audience

- Data Scientist
- Statistician

Course Objectives

- Start up R, load ORE, and connect to Oracle Database
- Apply R Language Basics
- Use the ORE Transparency Layer
- Use ORE for embedded R execution
- Use ORE predictive analytics packages
- Interact directly with Oracle Database objects using ROracle

Course Topics

Introducing Oracle R Enterprise

- Oracle's Strategy for R
- Using R: What, Who, and Why?
- R User Interfaces

Getting Started with ORE

- Starting R and Loading ORE
- Basic Database Interaction with ORE
- Prerequisites for Using ORE

Introducing the R Language and Environment

- Accessing R Help
- R language basics
- Debugging with R

Producing Graphs in R and ORE

- R Graphics Packages
- R Graph Types
- Overloaded Functions for ORE

Using the ORE Transparency Layer - Part 1

- Working with Oracle Database
- Introducing the Transparency Layer
- ORE Packages, Classes, and Functions
- Common Data Transformations and Data Type Mapping

Using the ORE Transparency Layer - Part 2

- Ordering Framework
- In-database Sampling and Random Partitioning
- Case Study Examination

- Object Persistence

ORE Embedded R Execution - R Interface

- Embedded R Execution
- Generating Graphs within an Embedded R Function
- Connecting to Databases from an Embedded R Function
- Rationale for Embedded R Execution

ORE Embedded R Execution - SQL Interface

- Parallel Execution for Embedded R Scripts
- Generating Output Using rq*Eval Functions
- Using R Scripts in the Database Repository
- Embedded R Execution

Using ORE Predictive Analytics - Part 1

- Using Functions in the OREdm Package
- Using Functions in the OREmodels Package

Using ORE Predictive Analytics - Part 2

- Exponential Smoothing for Time Series Data Predictions
- Scoring data within R models in the database
- Preparing Time Series Data

Using ROracle for Direct Database Access

- What is ROracle?
- Authentication
- Query Execution
- Rollback
- Table Access Methods