

## Oracle R Enterprise Essentials Ed 1

**Duration:** 2 Days

### What you will learn

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.

### Related Training

#### *Required Prerequisites*

Experience with statistics or R programming experience

#### *Suggested Prerequisites*

Oracle Database 11g: Data Mining Techniques

## 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**

Using R: What, Who, and Why?

R User Interfaces

Oracle's Strategy for R

### **Getting Started with ORE**

Prerequisites for Using ORE

Starting R and Loading ORE

Basic Database Interaction with ORE

### **Introducing the R Language and Environment**

Accessing R Help

R language basics

Debugging with R

### **Producing Graphs in R and ORE**

R Graph Types

R Graphics Packages

Overloaded Functions for ORE

## **Using the ORE Transparency Layer - Part 1**

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

## **Using the ORE Transparency Layer - Part 2**

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

## **ORE Embedded R Execution - R Interface**

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

## **ORE Embedded R Execution - SQL Interface**

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

## **Using ORE Predictive Analytics - Part 1**

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

## **Using ORE Predictive Analytics - Part 2**

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

## **Using ROracle for Direct Database Access**

What is ROracle?  
Authentication  
Table Access Methods  
Query Execution  
Rollback