Implement Machine Learning Using Oracle Data Miner

Course Duration:24 Hours **Course code: Implement Machine Learning**

1. Course Overview

This 3-day course focuses on applying machine learning techniques using Oracle Data Miner (ODM) within Oracle SQL Developer. You will learn how to explore data, build, evaluate, and deploy predictive models directly inside the Oracle Database. The course covers data preparation, classification, regression, clustering, association models, and anomaly detection. You will also learn how to integrate machine learning results into business processes, automate workflows, and monitor deployed models. The hands-on labs provide practical experience with Oracle Data Miner's graphical user interface and workflows.

2. What you'll learn?

By the end of the course, you should be able to:

- Describe Oracle Data Miner architecture and integration with Oracle Database
- Use the Oracle Data Miner GUI to create workflows
- Prepare and transform data for machine learning models
- Build classification, regression, clustering, and association models
- Perform anomaly detection and outlier analysis
- Evaluate model performance and accuracy
- Deploy models and integrate results into SQL and business applications
- Automate and manage Oracle Data Miner workflows

3. Target Audience

- Data analysts, data scientists, and database professionals
- Business intelligence developers
- Professionals responsible for building and deploying ML models within Oracle Database environments

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4. Pre-Requisites

Familiarity with:

- Oracle Database and SQL basics
- Data analysis concepts
- Fundamentals of statistics and machine learning (recommended but not mandatory)

5. Course content

1. Course Overview

- Introduction to course objectives and structure

2. Fundamentals of Oracle Machine Learning

- Fundamentals of Oracle Machine Learning – Part 1
- Fundamentals of Oracle Machine Learning – Part 2

3. Introduction to Oracle Machine Learning UIs

- Oracle Machine Learning UIs – Part 1
- Oracle Machine Learning UIs – Part 2
- Practice 3-1: Create a SQL Developer Connection for the Data Miner User
- Practice 3-2: Install the Data Miner Repository
- Practice 3-3: Create a Data Miner Workflow

4. Using Classification Models

- Classification Models – Part 1
- Classification Models – Part 2
- Practice 4-1: Select and Examine Titanic Data Source
- Practice 4-2: Perform Transformations to Prepare the Data
- Practice 4-3: Use Attribute Importance to Filter Input Variables
- Practice 4-4: Create Classification Models
- Practice 4-5: Create Classification Models Using Oracle Data Miner Automated OML

5. Using Regression Models

- Regression Models – Part 1
- Regression Models – Part 2
- Practice 5-1: Select and Examine Boston Housing Data Source
- Practice 5-2: Perform Transformations to Prepare the Data
- Practice 5-3: Use Attribute Importance to Filter Input Variables
- Practice 5-4: Create Regression Models
- Practice 5-5: Create Regression Models Using Oracle Data Miner Automated OML

6. Using Clustering Models

- Clustering Models – Part 1
- Clustering Models – Part 2
- Practice 6-1: Select and Examine Life Insurance Customers' Data Source
- Practice 6-2: Create Clustering Models
- Practice 6-3: Select and Examine the IRIS Flower Dataset
- Practice 6-4: Create Clustering Models
- Practice 6-5: Create K-Means Clustering Model Without the Species Attribute
- Practice 6-6: Compare the K-Means Models With and Without the SPECIES Column

7. Using Anomaly Detection Models

- Anomaly Detection Models – Part 1
- Anomaly Detection Models – Part 2
- Practice 7-1: Select and Examine the Auto Insurance Claims Dataset
- Practice 7-2: Create Anomaly Detection Model
- Practice 7-3: Create Anomaly Detection Model for the Tax Dataset