Oracle Cloud Infrastructure Data Science Professional: Hands-on Workshop Course

Course Duration: 16 Hours **Course Code: OCI-DS-PRO-WKSP**

1. Course Overview

The **Oracle Cloud Infrastructure (OCI) Data Science Professional: Hands-on Workshop** is designed to provide participants with practical experience in building, training, and deploying machine learning models using OCI Data Science services. Through real-world examples, guided labs, and hands-on exercises, learners will gain a solid understanding of the end-to-end machine learning workflow on OCI.

2. What You'll Learn?

By the end of this workshop, you will be able to:

- Understand the OCI Data Science platform and its capabilities.
- Set up and configure OCI Data Science environments.
- Build, train, and evaluate machine learning models using Python and popular ML frameworks.
- Work with data in OCI Object Storage and integrate with OCI services.
- Deploy machine learning models as REST APIs for production use.
- Apply best practices for monitoring, scaling, and securing data science workloads.

3. Target Audience

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This course is ideal for:

- Data Scientists and Machine Learning Engineers.
- AI/ML Enthusiasts looking to explore OCI Data Science.
- Developers and IT Professionals interested in cloud-based ML solutions.
- Organizations planning to leverage OCI for data-driven innovation.

4. Pre-Requisites

Participants are expected to have:

- Basic knowledge of Python programming.
- Understanding of machine learning fundamentals.
- Familiarity with cloud concepts (preferred but not mandatory).

5. Course Content

Module 1: Introduction to Oracle Cloud Infrastructure (OCI)

- Overview of OCI services and architecture
- Identity and access management for data science projects

Module 2: Getting Started with OCI Data Science

- Setting up the OCI Data Science environment
- Working with notebooks and JupyterLab interface

Module 3: Data Preparation and Exploration

- Accessing and importing data from OCI Object Storage
- Data cleaning, transformation, and visualization techniques

Module 4: Building and Training Machine Learning Models

- Using Python ML libraries (scikit-learn, TensorFlow, PyTorch)

- Training, validating, and fine-tuning models

Module 5: Model Deployment and Operations

- Deploying ML models as REST APIs
- Model lifecycle management and versioning

Module 6: Advanced Topics and Best Practices

- Security and governance for ML projects
- Scaling and optimizing performance on OCI
- Hands-on case studies and real-world scenarios