Oracle Autonomous Database Professional (2025)

Oracle Cloud Infrastructure

DURATION	MODULES	COURSE CODE
3 Days	**18 Lectures**	**—**

Course Overview

Learn how to automate key operational tasks — provisioning, patching, scaling, backup, and recovery — while leveraging Oracle's autonomous capabilities. You'll discover how to optimize database performance, enhance security, and reduce downtime by tapping into AI-driven features. The course addresses challenges around manual administration, cost-efficiency, and high availability, giving learners the skills to simplify database operations and focus on innovation.

What You Will Learn

Module 1: Course Overview and Getting Started

- Getting Started with Oracle Autonomous Database
- Objectives
- Overview of Oracle Autonomous Database
- Complete Database Automation
- Key Features and Benefits
- Offerings and Service Differentiation
- Serverless vs Dedicated
- Licensing and Pricing
- Universal Credit Payment Structures

Module 2: Oracle Cloud Infrastructure and Autonomous Database Platform

- Complete Cloud Infrastructure Platform Overview
- Core Infrastructure Services
- Database Services
- Data Management & Data Science Capabilities
- Managing, Securing, and Operating at Scale
- Cloud-Native Applications and Analytics Support
- Autonomous Database Serverless
- Auto Scaling Setup
- Provisioning

Module 3: Database Provisioning, Start/Stop, and Scaling

- Provisioning an Autonomous Database
- Starting and Stopping ADB
- Scaling Options
- Managing Users
- Creating Users
- Changing Admin Password
- Managing Users via Database Actions
- Database Consolidation with Elastic Resource Pools
- Cloning and Refreshable Clones

Module 4: Moving Autonomous Database and Resource Management

- Moving Autonomous Database Resources
- Creating Alarms and Events
- Defining Events, Topics, and Subscriptions
- Creating Alarms (CPU Utilization)

Module 5: Backup, Recovery, and Data Guard

- Autonomous Database Backups
- Restoring and Recovering Databases
- Manual Backups
- Autonomous Data Guard
- Enabling, Manual Switchover, Failover Options
- Cross-Region Data Guard

Module 6: Dedicated Autonomous Database Infrastructure

- Dedicated Infrastructure Overview
- Primary Benefits and Workload Isolation
- Dedicated Network Architecture
- Resilience and Backup Options
- Private Database Cloud and Exadata Infrastructure
- Provisioning Dedicated Resources
- Creating Container Databases and Autonomous Databases
- IAM Roles and Policies for Dedicated Infrastructure
- Monitoring Dedicated Infrastructure

Module 7: Management and Monitoring

- Database Operations via Cloud Control Plane
- Using REST APIs and OCI CLI for ADB Management
- Service Monitoring and Notifications
- Patching, Upgrades, and Transparent Application Continuity
- ACLs and Private Endpoints
- Network Security Groups

Module 8: Security and Compliance

- Data Encryption and Key Management
- End-to-End Data Protection
- Auto Indexing and Automatic Optimization
- Oracle Data Safe
- Security Assessment
- User and Entitlement Risk
- Activity Auditing
- Sensitive Data Discovery and Masking
- Compartment Quotas and Service Limits

Module 9: Connectivity

- ADB Connectivity Options
- mTLS and TLS
- JDBC Thin & UCP Connections
- SQLNet Connections
- Python, Node.js, and Other Scripting Languages
- Using SQL Developer and Database Actions for Connection
- Wallet Management and Expiration

Module 10: Disaster Recovery

- Configuring Autonomous Data Guard
- Fully Automated Data Protection
- Cross-Region Data Guard for Dedicated ADB

Module 11: Autonomous Database Tools

- Oracle Autonomous Database Tools Overview
- Database Actions
- SQL Developer, SQLcl, APEX, Data Studio, Graph Studio
- Machine Learning Notebooks
- APEX for Rapid App Development
- Data Load, Data Share, Catalog

Module 12: Oracle Machine Learning and AutoML

- Introduction to AutoML
- OML4Py and AutoML UI Pipeline
- Algorithm and Feature Selection
- Model Tuning and Business Model Integration
- Analytic Views (AVs) for Optimized Query Processing
- Data Analysis and Demos

Module 13: Data Insights and Analytics

- Using Data Studio for Analytics
- Search, Discover, and Understand Data
- Simplifying Analytic Workflows
- Demos: Data Insights

Module 14: Generative AI and Select AI

- Autonomous Database Select AI Overview
- Natural Language Queries
- Generative AI Use Cases
- Demonstrations of Select AI
- Translating Natural Language into SQL
- Building Conversational and NL Query Apps
- Enhancing AI with Private Data and Context
- SQL Query Generation Flow
- Key Takeaways

Module 15: Autonomous JSON Database

- Converged Database and JSON Capabilities
- JSON Workloads, Pricing, and Performance
- Duality Views for App Development
- MongoDB Compatibility and Oracle API for MongoDB
- Document Collections and SQL Flexibility
- Summary

Module 16: Oracle Text

- Oracle Text Overview
- Full Text Indexes and Queries
- Indexing Pipeline and Faceted Navigation
- Text Analytics
- Oracle Text in Autonomous Database

Module 17: Hybrid Vector Index (23AI)

- Hybrid Vector Index Overview
- JSON Paths to Vectorize
- Hybrid Vector Index Capabilities

Module 18: Advanced Data Management

- Spatial Data Management in ADB
- Spatial Studio, Geocoding, and Analysis
- Graph Database Management in ADB
- Property Graph Model

- PGQL Queries
- Graph Analytics and Prebuilt Algorithms
- Graph Studio