Oracle Cloud Infrastructure Architect Professional (2025): Hands-on Workshop

Oracle Cloud Infrastructure

DURATION	MODULES	COURSE CODE
5 Days	**9 Lectures**	**—**

Course Overview

Design secure networks with disaster recovery options, explore advanced database features on OCI, N-Tier Applications, Microservices, and Serverless Architecture. Also explore the gamut of new services and features on OCI, such as: Kubernetes Networking with OKE Functions Resource Manager OCI API, SDK, & CLI OCI Database Service & Autonomous Database Database Security Access to Microsoft Azure Migrate Data, Database, & On-Premises Workloads to OCI

What You Will Learn

Module 1: Introduction to Architecting Solutions

- OCI 2025 Architect Professional Overview
- Prerequisites & Architect Certifications
- Refresher Topics:
- IAM
- Networking
- Compute
- Storage
- Security Fundamentals
- OCI Multicloud Overview
- Disaster Recovery Concepts
- High Availability Concepts

Module 2: Architect High Availability and Disaster Recovery Solutions

- High Availability
- Demo: High Availability Workshop – Part 01
- Demo: High Availability Workshop – Part 02
- Disaster Recovery
- OCI Full Stack Disaster Recovery (FSDR) – Overview

- FSDR Requirements
- FSDR Components and Concepts
- Demo: Setup FSDR Components
- Demo: DR Plan Pre-Check and Execution

Module 3: Architect Cloud-Native Solutions

- Microservices Architecture – Overview
- Containerization Overview
- Case Study: Architecting Cloud-Native Solutions
- Oracle Cloud Infrastructure Registry (OCIR)
- Introduction to OCIR
- Managing OCIR
- OCIR Images Concepts
- Introduction to Container Instances
- Features & Use Cases
- Working with Container Instances
- Demo: Deploying a fully functional WordPress site
- Demo: Working with Container Instances
- Introduction to OKE (Oracle Kubernetes Engine)
- Basic & Enhanced Clusters Overview
- Serverless Kubernetes with Virtual Nodes
- Supported Images & Shapes for Worker Nodes
- Prerequisites for Creating an OKE Cluster
- Policy Configuration for Cluster Creation & Deployment
- Creating Kubernetes Clusters Using Console Workflows
- Network Resource Configuration for Custom Cluster Creation
- Examples of Network Resource Configuration
- Demo: Create Cluster using Quick Create Workflow – Managed Nodes
- Demo: Create Cluster using Custom Create Workflow – Managed Nodes
- Accessing a Cluster
- Using Kubectl
- Using Cloud Shell & Local Terminal
- Demo: Cloud Shell Access Setup to OKE Clusters
- Demo: Local Access Setup to OKE Clusters
- OCI DevOps Service
- Introduction to DevOps in OCI
- Continuous Integration & Continuous Deployment (CI/CD)
- Oracle Functions
- Overview & Concepts
- Understanding Function Operations
- OCI Functions Use Cases
- Prerequisites for Creating OCI Functions
- Demo: Functions QuickStart on Cloud Shell
- Demo: Creating Functions from Existing Container Images
- Managing Functions & Scheduling

- Functions Integration with OCI Services
- Demo: Functions Integration with OCI Services
- Pre-Built Functions Overview
- Function Image Security
- API Gateway
- Overview & Introduction
- Concepts
- Prerequisites for Using API Gateway
- OCI Functions: Logs, Metrics, and Tracing
- Introduction to API Management

Module 4: Implement Infrastructure as Code

- Infrastructure as Code (IaC) Overview
- Understanding Terraform Concepts
- Benefits and Overview
- Terraform Commands
- Variables
- Provider
- Resources
- Outputs
- Modules
- State
- Your First Terraform Configuration
- Preparing the Environment
- Terraform Workflow
- Change Infrastructure – Updating Configuration Files
- OCI Resource Manager
- Introduction and Concepts
- Creating Your First Stack
- Using Source Providers
- Advanced Infrastructure as Code Topics
- Importing Existing Infrastructure
- Drift Detection
- Templates
- Remote Exec and Endpoints

Module 5: Architect, Implement and Operate Databases in OCI

- OCI Database Overview
- OCI Database Services
- Oracle Database
- BaseDB System Configuration – Uplift
- Exadata Database Service
- BaseDB Managed Features
- Maintenance
- Autonomous Database (ADB)

- Overview & Workload Types
- Deployment Options
- Auto Provisioning
- Serverless Provisioning
- Dedicated Provisioning
- Autonomous Database Advanced Features
- Auto Configuration
- Optimizer Statistics
- Initialization Parameters
- Scaling
- Cloning
- Backup and Recovery
- Patching and Updates
- Disaster Recovery and High Availability
- Autonomous Data Guard (Serverless & Dedicated)
- Backup-Based Disaster Recovery
- Globally Distributed Autonomous Database
- Oracle Database Autonomous Recovery Service
- OCI Cache
- Overview
- Implementing OCI Cache
- Demo: Create OCI Cache Cluster

Module 6: Architect Security Solutions

- Security Services Overview
- Introduction
- Use Cases
- Networking & Security Services
- OCI Bastion Service
- Zero Trust Packet Routing (ZPR)
- OCI Network Firewall
- Use Cases
- Policy
- Certificates and OS Management
- OCI Certificates Service
- Use Cases
- Demo: OCI Certificates
- Oracle OS Management Hub (OSMH)
- Application Security
- Securing Applications in the Cloud – Part 1 & Part 2
- Demo: Load Balancer and WAF Policy
- Key Management & Secrets
- OCI Key Management Service (KMS)
- Vault Introduction
- Demo: Encryption and Decryption with Vault

- OCI Services Integration with Vault
- Secrets Management
- Demo: Automate Secret Generation and Audit
- Demo: Retrieve Secret from Vault Using Instance Principal
- OCI Dedicated KMS
- OCI External KMS – Overview
- Organization Management
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Module 7: Architect Multicloud and Hybrid Solutions

- OCI-Azure Interconnect Introduction
- Oracle Interconnect for Google Cloud
- Introduction to Oracle Database@Azure
- Oracle Database@Azure – Architecture
- Oracle Database@Azure – Provisioning
- Introduction to Oracle Database@Google Cloud
- Oracle Database@Google Cloud – Architecture
- Oracle Database@Google Cloud – User Journey
- Oracle Database@Google Cloud – Onboarding
- Introduction to Oracle Cloud VMware Solution
- Use Cases & Key Benefits
- Designing a Hybrid Cloud
- SDDC Products Overview – Part 1
- SDDC Products Overview – Part 2
- SDDC Deployment

Module 8: Migrate Workloads to OCI

- Introduction to Oracle Cloud Migrations
- Key Concepts
- Discovery and Inventory
- Migration Projects
- Replicate and Launch
- Migrations Flow & Architecture
- Data Transfer Service
- Disk-Based Data Transfer
- Appliance-Based Data Transfer
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- Storage Gateway
- Database Migration: Overview
- Database Targets in OCI
- Choosing Database Targets in OCI
- Migration Types and Methods
- Migration Process
- Migration Advisors
- RMAN Migration Method
- Data Pump Migration Method
- Remote Cloning Migration Method
- Unplug and Plug Migration Method
- UI Based Oracle DB Migration Tools
- Data Guard Migration Method
- Migration Using Oracle Golden Gate
- Zero-Downtime Migration Method
- OCI Database Migration Service

Module 9: Architect Observability Solutions

- Monitoring Service Overview
- Monitoring Concepts
- Demo: Monitoring Concepts
- Notifications Service
- Demo: Notifications Service
- Alarms
- Demo: Alarms
- Access and Limits
- Metric Queries

- Demo: Metric Queries
- Logging Service: Overview
- Logging Concepts
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- Service Logs
- Demo: Service Logs
- Custom Logs
- Demo: Custom Logs
- Access & Explore Logs
- Logging Queries
- Demo: Logging Queries
- Connector Hub
- Demo: Connector Hub
- Audit Logs
- Demo: Audit Logs
- OCI Search with OpenSearch
- OCI Search with OpenSearch

- OCI Prerequisite Resources
- OCI Search with OpenSearch