

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

Oracle Cloud Infrastructure

DURATION

**5 Days**

MODULES

**23 Lectures**

COURSE CODE

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## Course Overview

Develop key insights into key concepts and features of Oracle Cloud Infrastructure (OCI). Identify how OCI's global distribution of infrastructure components can assist your enterprise.

## What You Will Learn

### Module 01: Course Overview

- Course Speakers
- For Whom is This Course Intended?
- Course Outline
- Measuring Your Progress: Skill Checks
- Get the Answers You Need: "Ask Your Instructor" & OU Community
- Best Practices and Retention Tips

### Module 02: Identity and Access Management (IAM) Overview

- Introduction
- What is OCI IAM?
- OCI IAM: Authentication (AuthN)
- OCI IAM Components
- OCI IAM Summary
- OCI IAM Identity Domains
- What are IAM Identity Domains?
- Identity Domains Overview
- Identity Domains Use Cases
- Identity Lifecycle Management
- IAM with Identity Domains
- Identity Domain Types

## Module 03: IAM Basics

- Managing OCI IAM Identity Domains
- Default Identity Domain
- Dos and Don'ts for Administrator Users
- Creating Identity Domains
- Why Multiple Identity Domains are Needed
- Demo: Creating Identity Domains
- Demo: Creating Groups
- Managing Groups
- Default Groups in Identity Domains
- Creating Users
- Managing Users
- User Lifecycle Management
- Demo: Creating Users and Groups
- Administrator Roles
- Understanding Administrator Roles
- Types of Administrator Roles
- Assigning Administrative Roles (Demo)
- Policies
- Subjects, Actions, Placement Clauses
- Demo: Policies
- Compartments
- Resource Compartments & Access
- Nested Compartments
- Compartment Quotas: Syntax, Examples, Policy Types
- Budgets

## Module 04: IAM Advanced

- Policy Inheritance and Attachment
- Demo: Policy Inheritance
- Conditional Policies & Examples
- Demo: Creating Users
- Enforce Least Privilege: Advanced Policies
- Permissions Example
- Tag-Based Access Control (Demo)
- Dynamic Groups (Scenario & Demo)
- Network Sources (Demo & Scenario)
- Resource Principals: Patterns
- Infrastructure, Stacked, Ephemeral Principals
- Optimizing IAM Policies
- Eliminating Duplicates
- Consolidating Group Membership
- Combining Policy Statements
- Object-Level Granular Access Control for OCI Object Storage

- Object IAM Policy Examples

## Module 05: Expert Tip 1

## Module 06: Networking - Virtual Cloud Network (VCN)

- CIDR Block Prefixes
- VCN Overview & Components
- Subnets
- Types of Subnets
- Demo: Create VCN (Manual & Wizard)
- Route Tables
- Route Rules & Target Types
- Demo: Route Tables
- Gateways
- Internet Gateway (Demo)
- NAT Gateway (Demo)
- Service Gateway (Demo)
- Public & Private Subnets (Demo)
- VCN Security
- Network Security Groups (NSG), Stateful & Stateless Rules (Demo)
- Security Lists (Demo)

## Module 07: Networking - IP Management

- IP Management Overview
- Private IPs
- Public IPs & Types
- Reserved Public IP
- Bring Your Own IP (BYOIP)
- Benefits & Workflow
- Public IP Pools
- Demo: IP Management

## Module 08: Networking - Connectivity

- VCN Connectivity Options
- Local vs. Remote Peering
- Local Peering (LPGs & Upgraded DRG) Demo
- Remote Peering Connection & Across Regions Demo
- BGP Basics & Dynamic Routing Gateway (DRG)
- DRG Attachments, Route Tables & Distributions
- Demo: Dynamic Routing Gateway
- Site-to-Site VPN
- Overview, Use Cases, CPE, Tunnel Modes, Demo
- FastConnect Overview
- Concepts, Connectivity Models

- Oracle Partner, Third-Party Provider & Colocation Setups
- FastConnect Redundancy & Best Practices
- Demo: FastConnect

## Module 09: Expert Tip 2

## Module 10: Networking - Load Balancer

- OCI Load Balancing Service Overview
- Load Balancer Concepts & Shapes
- Content-Based Routing (Host & Path-Based)
- Load Balancing Policies: Round Robin, Least Connections, IP Hash
- Health Checks
- Public Load Balancers
- Regional & AD-Specific Subnets Demo
- Private Load Balancers (Demo)
- Network Load Balancers (Demo)
- Web Application Acceleration Overview
- Use Cases & Concepts
- Demo: Web Application Acceleration

## Module 11: Networking - DNS Management

- What is DNS?
- Domain Name System (DNS) Introduction
- OCI DNS Capabilities & Benefits of OCI Public DNS
- DNS Service Components
- OCI DNS Management
- Zones
- Public DNS Zone (Demo)
- Private DNS Zone (Demo)
- Choices for DNS in VCN
- Private Views
- HTTP Redirects
- Traffic Management
- Components & Policy Types
- Steering Policy Types & Use Cases
- Demo: Failover Policy, Load Balancer Policy, Geolocation Steering Policy

## Module 12: Networking - Network Command Center

- Network Command Center Overview
- Inter-Region Latency (IRL)
- OCI Global Locations & IRL Dashboard
- Current Round-Trip Time
- Use Cases
- Demo: Inter-Region Latency

- Network Path Analyzer (NPA)
- Features & Scenarios
- Demo: Network Path Analyzer
- Network Visualizer
- Architecture Overview
- Use Cases
- Demo: Network Visualizer
- Capture Filters (VTAP Capture Filter Overview)
- Rules, Actions, Examples
- Demo: Capture Filters
- Virtual Test Access Points (VTAP)
- Components, Source & Target
- Use Cases
- Demo: Virtual Test Access Points

## Module 13: Expert Tip

## Module 14: Compute - Basics

- Overview of Compute Service
- OCI Compute Service Features
- Platform and Custom Images
- Instance Images: Platform & Custom
- Import/Export & Bring Your Own Image (BYOI)
- Compute Shapes
- Flexible Shapes, GPU Shapes (VM GPU, BMGPU)
- Bare Metal vs VM vs Dedicated Hosts
- Demo: Generate SSH Keypair
- Demo: Launch & Connect to Oracle Linux and Windows Instances
- Demo: Create Custom Image
- Capacity Types
- Preemptible Instances (Demo)
- Capacity Reservations (Demo)
- Dedicated VM Hosts (Demo)

## Module 15: Compute - Advanced

- Burstable Instances
- Supported Shapes, Examples, Demo
- Vertical Scaling (Demo)
- Compute Autoscaling
- Instance Configurations & Pools
- Configuring Autoscaling (Demo)
- Oracle Cloud Agent
- Oracle OS Management Hub (OSMH)
- Architecture, Dashboard, Benefits, Components, Policies
- Supported OS Platforms

- Lifecycle Environments & Management Station
- Demo: Run Command
- Instance Console Connections (Demo)
- Infrastructure Maintenance
- VM Relocation & Live Migration
- Shielded Instances (Demo)
- Confidential Computing
- Supported Shapes & Benefits

## Module 16: Object Storage - Basics

- Overview of Object Storage & OCI Storage Services
- Object Storage Resources & Endpoints
- Demo: Create Bucket, Upload Objects, Manage Visibility
- Multipart Uploads
- Console, CLI, Multipart Upload API (Demo)
- Object Storage Tiers & Auto-Tiering (Demo)
- Object Lifecycle Management
- Lifecycle Policy Rules & Filters
- Demo: Update Storage Tier via Lifecycle Management

## Module 17: Expert Tip

## Module 18: Object Storage - Advanced

- Object Storage Replication (Demo)
- Object Versioning (Demo)
- Retention Rules
- Types, Lock, Time-Bound & Indefinite (Demo)
- Object Copy (Demo)
- Object Storage Logging (Demo)
- Securing Object Storage
- Initial & Routine Security Tasks
- Pre-Authenticated Requests (Demo)
- Customer Managed Keys (Demo)
- Object Re-encryption & Automation

## Module 19: Block Storage - Basics

- Overview of Block Volume & OCI Storage Services
- Features, Use Cases, NVMe SSD Devices
- Volume Attachment Types (iSCSI vs Paravirtualized)
- Boot Volumes & Custom Boot Volumes
- Troubleshooting & Demo: Block Volume Creation & Attachments
- Block Volume Performance
- Performance Levels & Autotuning

## Module 20: Block Storage - Advanced

- Resizing Volumes (Online & Offline) (Demo)
- Block Volume Backups & Restore (Demo)
- Block Volume Clones (Demo)
- Cross Region & Cross Availability Domain Replication (Demo)
- Volume Groups & Encryption (Demo)

## Module 21: File Storage - Basics

- Overview of File Storage & OCI Storage Services
- Use Cases & Service Features
- Mounting a File System (Demo)
- NFS Export Options (Demo)
- File System Paths & Export Paths

## Module 22: File Storage - Advanced

- File System Snapshots (Demo: Create & Restore)
- File System Cloning (Demo)
- In-Transit Encryption (Demo)
- File System Replication (Demo)
- File Storage Security
- Usage and Metering
- Snapshot & Clone Metered Utilization

## Module 23: Expert Tip