

Oracle Cloud Infrastructure Foundations I – Course Description

Overview

This course introduces students to basic Oracle Cloud Infrastructure concepts. This course teaches students Oracle Cloud Infrastructure terminology and focuses on the four main ideas of 'Core Infrastructure', 'Database', 'Solutions, Platform and Edge', and 'Governance and Administration' through lesson slides, corresponding videos and demonstrations, hands on labs, and midterm and final exams. Oracle Academy provides you with free access to the [Oracle Cloud Platform](#) which is a comprehensive, standards-based combination of Oracle and open source technologies that enable users to efficiently build, deploy, integrate, secure, and manage enterprise applications. Students must be the age of legal majority in their country of residence to receive a Cloud account.

Available Curriculum Languages:

- English

Duration

- Recommended total course time: 90 hours*
- Professional education credit hours for educators who complete Oracle Academy training: 30

**Course time includes instruction, self-study, videos and assessment*

Target Audiences

Educators

- Technical, vocational and 2- and 4- year college and university faculty members who teach computer science, information communications technology (ICT), data science, business or a related subject

Students

- Students who wish to gain a foundational knowledge of the Oracle Cloud Infrastructure
- Novice and advanced level programmers, database administrators, developers and Network architects wishing to learn about utilizing technology in a Cloud environment
- Students interested in Architecture, Operations or development roles in IT

Prerequisites

Required

- Basic understanding of Computing and Networking including IP Addressing, Virtual Machine and Database uses

Suggested

- Previous experience with either database or programming fundamentals and knowledge of networking devices including gateways

Suggested Next Courses

Further study of Oracle Cloud Infrastructure

Section Topics and Content

Core Infrastructure

Section 1 – Getting Started with Oracle Cloud Infrastructure

- Oracle Cloud Infrastructure Overview
- The Global Footprint of the Oracle Cloud Infrastructure
- The Components of a Region
- Physical Network
- Oracle Cloud Infrastructure Services Overview
- OCI Differentiation from Other Offerings
- Video

Section 2 – Virtual Cloud Network

- CIDR (classes inter-domain routing) Basics
- Virtual Cloud Network (VCN) Concepts
- IP Addresses
- Gateways and Routing
- Peering
- Transit Routing
- Security
- Default VCN, Internal DNS
- Putting It All Together!
- Hands-On Lab
- Videos

Section 3 – Connectivity to On-Premises Networks

- IPsec VPN
- Oracle FastConnect
- Connectivity Demo
- Videos

Section 4 – Compute

- Bare Metal, VM and Dedicated Hosts
- Instance Console Connections
- Images – Import/Export and Bring your own Image
- Boot Volume
- Instance Configuration and Pool
- Autoscaling Policy
- Instance Metadata and Lifecycle
- Hands-On Lab
- Videos

Section 5 – Block Volume

- OCI Storage Service
- Local NVMe Storage
- OCI Block Volume Service
- Meeting your Storage and Application Requirements
- Block Volume Service Support
- Cloning and Policy Based Backups
- Volume Groups
- Hands-On Lab
- Videos

Section 6 – File Storage Service

- OCI File Storage Service
- File Storage Service
- File Storage Service Demo
- File Storage Service Security
- Hands-On Lab
- Videos

Section 7 – Object Storage

- Object Storage Service
- Object Storage Capabilities
- Hands-On Lab
- Videos

Section 8 – Load Balancer

- Overview of Load Balancing
- Public Load Balancer
- Public Load Balancer Demo
- Private Load Balancer
- Policies, Health Checks
- Hands-On Lab
- Videos

Section 9 – Data Migration

- Data Migration to OCI
- Online and Offline Transport
- Data Transfer Service
- Storage Gateway Capabilities and Use Cases
- Storage Gateway Demo
- Videos

Database

Section 10 – Database

- Oracle Cloud Infrastructure Database Service
- Database Systems Available with OCI
- Features of Database Service
- One-Node Database System
- Database Systems Demo
- Videos

Section 11 – Autonomous Database

- Autonomous Database (ADB) and Database System Cloud Offerings in OCI
- Autonomous Data Warehouse Cloud - Serverless and Autonomous Transaction Processing - Serverless
- Autonomous Database Demo
- Autonomous Data Warehouse Cloud - Dedicated and Autonomous Transaction Processing - Dedicated
- Deploy, Use and Manage ADB
- Hands-On Lab
- Videos

Section 12 – Data Safe

- Introduction to Data Safe
- Security Assessment and Demo
- User Assessment and Demo
- Activity Auditing and Demo
- Data Discovery and Demo
- Data Masking and Demo
- Video

Solutions, Platform and Edge

Section 13 – DNS (Domain Name System)

- DNS Zone Management
- Videos

Section 14 – Traffic Management Policies

- Traffic Management
- Health Checks
- Videos

Section 15 – Web Application Firewall

- WAF Concepts and Use Cases
- OCI WAF Service
- OCI WAF Capabilities and Architecture
- OCI WAF Demo
- Videos

Section 16 – Resource Manager

- Components of Resource Manager
- Benefits of Resource Manager
- Terraform Files for Resource Manager
- Resource Manager Demo
- Video

Section 17 – OCI Streaming Service

- OCI Streaming Service
- Streaming Concepts
- Create a Stream and Publish and Consume Messages
- Streaming Demo
- Video

Section 18 – Monitoring

- OCI Monitoring Service
- Metrics, Alarms, Monitoring Query Language
- Metrics Explorer and Triggering an Alarm
- Monitoring Demo
- Video

Section 19 – Oracle Functions

- Overview, Key Features, Core Concepts
- IAM Policies
- Functions and Functions Metrics
- Functions Use Cases
- Oracle Functions Demo
- Videos

Section 20 – OCI Events

- OCI Events Service and Use Cases
- OCI Events Concepts
- Videos

Section 21 – OCI Registry Service

- OCI Registry Service
- Policy Requirements for OCIR
- Manage Repos using OCIR
- Global Image Retention Policies
- OCI Registry Service Demo
- Videos

Section 22 – Oracle Container Engine for Kubernetes

- Containers, Docker Container Engine
- Orchestration Systems on Kubernetes
- Oracle Container Engine for Kubernetes - OKE
- K8s Cluster in OCI using 'Quickstart'
- Videos

Governance and Administration

Section 23 – Identity and Access Management

- IAM Principals, Authentication (AuthN), Authorization (AuthZ)
- IAM Policies and Advanced IAM Policies
- Compartments
- Policy Inheritance and Attachment for Compartments
- Tags
- OCI Support and Policies
- Hands-On Lab
- Videos

Section 24 – Key Management

- Oracle Cloud Infrastructure Key Management
- Video

Section 25 – Billing and Cost Management

- Billing and Account Management Options in OCI Console
- Cost Analysis
- Budgets
- Usage Reports
- Service Limits and Usage
- Compartment Quotas
- Cost Management Best Practices
- Videos

Section 26 – Service Requests and SLAs

- Getting Help with OCI Issues
- My Oracle Support Portal
- Registering your Account with Oracle Support
- OCI SLAs
- Creating and Checking Support Ticket Status
- Checking Limits, Quotas and Usage of OCI Resources
- Requesting Service Limit Increase
- Support Severity Levels
- Video

Section 27 – Oracle Cloud Infrastructure Security Overview

- OCI Overview
- Shared Security Responsibility Model
- OCI Security Capabilities and Considerations
- Videos