

## Oracle Cloud Infrastructure Foundations II – Course Description

### Overview

This course, created by the Oracle Cloud Infrastructure Team, follows on from the basic Oracle Cloud Infrastructure concepts learned in Oracle Cloud Infrastructure Foundations I. This course explores the Oracle Cloud Infrastructure further and focuses on the three main ideas of 'Core Infrastructure', 'Database', and 'Governance and Administration' through lesson slides, corresponding videos and demonstrations, hands on labs, and final exams. Students will gain a firm understanding of OCI and receive hands on practice in the core services. 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, hands on labs, 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 deeper knowledge of the Oracle Cloud Infrastructure
- Database administrators, developers and Network architects wishing to learn more about utilizing technology in a Cloud environment.
- Students interested in Architecture, Operations or development roles in IT

### Prerequisites

#### Required

- Oracle Cloud Infrastructure Foundations I

#### Suggested

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

## Section Topics and Content

### Core Infrastructure

#### Section 1 – Virtual Cloud Network

- Virtual Cloud Network (VCN) L100 Recap
- Local Peering & Remote Peering
- Transit Routing Scenarios
- Deploy Virtual Firewall on OCI
- Videos

#### Section 2 – Connectivity - VPN Connect (IPSec)

- VPN Connect Design
- VPN Connect Demo
- Videos

#### Section 3 – Connectivity - FastConnect

- FastConnect Use cases
- FastConnect Concepts
- Describe FastConnect Service Models
- FastConnect Resiliency Options
- Pre-Requisites: Connectivity – Level 100
- Videos

#### Section 4 – Compute

- Compute Quotas
- Instance Configuration and Pools
- Autoscaling Policy
- Compute Instance Metrics
- Instance Console Connections
- Bring your Own Image
- Bring your own Hypervisor
- Videos

#### Section 5 – Storage

- Local NVMe SSD devices
- Block Storage Volume Groups and Performance
- File Storage Service Performance
- EBS Reference Architecture with FSS
- Videos

#### Section 6 – Load Balancer

- OCI LB SSL Support
- Advanced features, including Session Persistence and Path Based Routing
- Monitoring Metrics
- Troubleshooting Guidelines
- Videos

## Section 7 – High Availability and Disaster Recovery

- High Availability and Disaster Recovery
- Leverage OCI for HA and DR
- HA and DR features for OCI
- High Availability and Disaster Recovery scenarios
- Videos

## Database

### Section 8 – Capacity Planning

- Database Performance Characteristics
- Tools available for knowing your database workload
- Database Sizing/Capacity Planning for Performance
- Database Migration to new Infrastructure
- Videos

### Section 9 – High Availability

- The options of database high availability available with Oracle Cloud Infrastructure
- Features of Active Data Guard
- Network Preparation for DataGuard Setup
- Launch a Data Guard for Database Cloud Service Virtual Machines
- Launch a Data Guard for Database Cloud Service Bare Metal
- Switch Over/Failover/Reinstate in Data Guard setup
- Delete Standby Database
- Autonomous Database(ATP/ADW) Cloning
- Demo
- Videos

### Section 10 – Moving Databases to OCI

- Oracle Databases in the Oracle Cloud
- Move to the Oracle Cloud – Migration Scenarios
- Oracle Database Cloud Migration Solutions
- Videos

### Section 11 – Database CLI (DBCLI) OCI

- What is DBCLI
- Applicability of DBCLI for OCI Data Management
- Various options supported through DBCLI
- Videos

## Section 12 – Autonomous Database

- Autonomous Database in OCI & Deployment Considerations
- DB Cloud Service Comparison
- Architecture & Best Practices for Autonomous Database Dedicated
- ATPD Client Connections
- Security Option in ATPD
- High Availability option in ATPD
- Customized software Updates & Patching in Autonomous Database-Dedicated
- Developer tools and productivity in Autonomous Database
- How to Migrate to Autonomous Database
- Management & Monitoring Options for Autonomous Database
- Videos

## Solutions and Platform

### Section 13 – Terraform

- Quick Introduction of Terraform
- Terraform State File – Local and Remote
- Terraform Target Resources
- Terraform Modules
- Terraform Provisioners
- Terraform and Instance Principal Configuration
- Videos

## Governance and Administration

### Section 14 – Identity and Access Management

- Instance Principals
- Multi-Factor Authentication (MFA)
- Advanced Policies
- Federate OCI with Oracle Identity Cloud Service (IDCS)
- Federate OCI with Microsoft Active Directory
- Federate OCI with Microsoft Azure Active Directory
- Reference IAM Model for an Enterprise
- Real life story for IAM compartment and policy design
- Videos