

Architecting Oracle Cloud Infrastructure Solution

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Take a deep dive into architecting a cloud-based infrastructure using Oracle Cloud Infrastructure services. Building on your skills obtained from the Oracle Cloud Infrastructure Administration Essentials course, explore deeper into the Oracle Cloud Infrastructure services to design and implement a secure and scalable cloud solution that meets HA and DR requirements. Design secure networks with disaster recovery options, and explore advanced database features on OCI.

Skills Gained

- Make architectural decisions based on OCI best practices and principles
- Design highly available, secure networks with disaster recovery options using advanced features of OCI services
- Explore and leverage multiple ways of connecting to cloud networks based on security and performance requirements

Who Can Benefit

- Cloud Administrator
- Implementer
- Manager

Prerequisites

Required Prerequisite

- Oracle Cloud Infrastructure Administration Essentials
- Fundamental knowledge of IP Networking
- Basic familiarity with the Linux command line
- Existing experience managing Linux or Windows Servers
- Experience working with n-tier or distributed application

Course Details

Topics

Identity and Access Management

- IAM Basics

- Instance Principals
- Advanced Policies
- Scoping Access with Permissions or API Operations
- Federation
- Reference IAM Model: Compartments

Virtual Cloud Network

- Service Gateway
- Private IP as Route Target
- VCN Peering
- Edge Security
- Securing Your VCN
- Virtual Firewall Instances
- Virtual Cloud Network Best Practices

Connectivity - IPsec VPN

- Connectivity Options
- Connectivity to On-Premises Network Planning
- VPN Basics
- IPsec VPN
- OCI VPN
- OCI VPN Redundancy Models
- Typical Networking Scenarios
- Public and Private Subnets with VPN
- VPN IPsec Connectivity

Connectivity - FastConnect

- Why Do You Need Dedicated Connectivity to Cloud?
- FastConnect Connectivity Options
- FastConnect Use Case Scenarios
- Private & Public Peering Network Design
- BGP Advertisement and Traffic-flow
- FastConnect Redundancy
- IPsec VPN and FastConnect
- Hybrid Architectures Using FastConnect
- Intercloud Connectivity

- Multi-Cloud Connectivity Using FastConnect

Compute

- Compute: Bare Metal and Virtual Machines
- High Availability and Disaster Recovery
- Instance Configurations and Pools
- Instance Console Connections
- Custom Images
- Bring Your Own Image (BYOI)
- NVIDIA GPU Images
- Cloud-Init and Metadata
- Instance Metadata

Storage

- OCI Storage Services
- Local NVMe SSD Devices
- Block Volume
- File Storage Service
- Object Storage Service
- Partner Backup Options
- Data Backup and Migration Options
- OCI Storage Gateway
- Data Transfer Service

Load Balancer

- Session Persistence
- Request Routing (Virtual Hostnames and Path Routing)
- SSL Handling

Database

- dbcli on OCI Database Systems
- Database Sizing Templates
- Using Oracle Cloud Infrastructure Object Storage with Database
- Troubleshooting Database Backup Failures
- Collecting Database and Diagnostic Information to Resolve Errors
- Migrating Databases to Oracle Cloud Infrastructure

- Maximum Availability Architecture (MAA) for Oracle Databases on OCI

- Dynamic Routing Gateway (DRG)
- IPSec VPN
- FastConnect
- VCN Peering
- Private IP as Route Target: NAT
- Multiple VNICs

Database Service

- Bare Metal Database System Service
- Database Service on Virtual Machines
- Exadata DB Systems
- Database Service: Backup / Restore
- Migrating Databases to Oracle Cloud
- OCI Terraform Provider : Database
- dbcli on OCI Database Systems

Using Automation Tools to Provision and Manage OCI Resources

- Automation Concepts and Tools
- OCI Software Development Kits (SDK)
- Command - Line Interface
- Chef on OCI
- Terraform on OCI

Identity and Access Management Service: Advanced

- Instance Principals
- Federation: Use Case

OCI Architecting Best Practices

- High Availability (HA) and Disaster Recovery (DR)
- Compute Layer HA Design
- Network Layer HA Design
- Storage Layer HA Design
- Database Layer HA Design
- Typical 2-Tier Enterprise Production Application with HA
- Disaster Recovery: Data Availability and Integrity

Oracle Cloud In frastructure: Customer Case Studies

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