Oracle Cloud DBA

Infrastructure as a Service and Cloud Database for DBAs

Course Overview and Introduction to Oracle Linux
Course goals
Course schedule
The history of Linux
Linux distributions
Oracle Linux
UEK

Introduction to Virtualization
What is virtualization?
Virtualization concepts
Benefits of virtualization

Introduction to IaaS
What is IaaS?
IaaS concepts
IaaS benefits
How is IaaS used?
Oracle IaaS services

Introduction to Oracle Compute Cloud Service
Overview of Oracle Compute Cloud Service
Oracle Compute Cloud Service features
How is Oracle Compute Cloud Service used?

Introduction to Storage
What is storage?
Types of storage - local storage and cloud storage
Types of cloud storage - public, personal, hybrid
Types of storage - block storage, object storage, ephemeral storage

Introduction to Oracle Storage Cloud Service
Overview of object storage on the cloud
How does object storage work?
Benefits of object storage
About Oracle Storage Cloud Service
Accessing Oracle Storage Cloud Service
Installing Cygwin and cURL

Oracle Compute Cloud Service Instances
What is a VM?
What can I do with a VM?
How do I use Oracle Compute Cloud Service (introduction to the web console)
What do I need to do to create a VM?
What is an SSH Key?
How do I use an SSH Key?
How do I generate an SSH key pair?
Saving the private key and public key on your local host

Oracle Compute Cloud Service Block Storage Volumes
Workflow for using a block storage volume
Creating a block storage volume

Adding a block storage volume to your existing VM
Identifying the new storage volume
About file systems
Creating a file system on your storage volume
About Mount Points
Mounting the storage volume on your VM

Oracle Compute Cloud Service Bootable Storage Volumes
What is a bootable storage volume?
What is a machine image?
Creating a bootable block storage volume
Creating a VM with a bootable storage volume (using the web console)
Logging in to the VM to access the storage volume

Configuring Network Settings
Networking concepts
How do network settings work?
About security lists
About security rules
How does SSH access work?
Reserving a public IP address
Associating a public IP address with an existing VM
Creating a security list

Oracle Compute Cloud Service Orchestrations
What is an orchestration?
Why should I use orchestrations
Structure of an orchestration
What objects can I create using an orchestration?
What is JSON?
JSON syntax
JSON editing and syntax checker tools
How do I create an instance using an orchestration – steps

HTTP and REST Fundamentals
What is HTTP
How does HTTP work?
HTTP headers
HTTP methods
What is a URL?
What is REST?
About JSON

Oracle Storage Cloud Service Access and Authentication
About accessing Oracle Storage Cloud Service
Understanding authentication tokens and time limits
Constructing the authentication URL
Finding your account information
Storing an object using an authentication token
Using access control lists

Oracle Storage Cloud Service Containers and Objects
About containers
Creating containers
Setting container metadata
List containers
Deleting containers

About objects
Listing objects in a container

Overview of Cloud Services
Cloud Services
Oracle Database Cloud Offerings
Subscribe to an Oracle Cloud Service

Creating a Database Deployment
Comparing a Database Deployment and a Database Instance
Database Cloud Service Architecture
Features and Tooling
Automated Database Provisioning
Comparison: Database Deployment and an On-Premises Database
Using the Wizard to Create a Database Deployment
How SSH Key Pairs are Used & Creating an SSH Key Pair
Storage Used for Database Files & File System Layout

Administering a Database Deployment
Using the Oracle Cloud My Services Dashboard
Viewing the Service Details & Using the Database Cloud Service Console
Configuring Connections to the Compute Node
Oracle Cloud User Roles and Privileges & Administering Users, Roles, and Privileges
Managing Compute Node Users
Managing Database Users and Privileges
Scaling a Database Deployment
Patching & Upgrading a Database Deployment

Backing Up and Recovering
Backing Up and Recovering Database Deployments
Using Utilities to Back Up and Recover the Database Deployment
Choosing a Backup Destination & Default Backup Configuration
Creating an On-Demand Backup
Changing the Backup Destination
Customizing the Backup Configuration
Performing Recovery by Using the Console
Performing Recovery by Using the dbaascli Utility
Use Case: Create a Database Deployment by Using a Production Database Backup

Overview of Oracle Cloud Security
Cloud Security Guidelines
Enforcing Security in a Database Deployment
Physical and Operating System Security of the Compute Node
User Authentication: Services and Compute Node Access
User Authentication: Database Access

Configuring Network Access to a Database Deployment
Describing Network Access to the Compute Node and Database
Creating Security Lists & Configuring Connections to the Compute Node
Implementing Fine-Grained Control of Network Traffic
Controlling Network Traffic & Network Security
Defining Security Rules
Accessing the Database Using Various Tools

Using Oracle DBaaS Monitor
Managing the Database
Monitoring the Database

Managing and Monitoring the Listener
Monitoring the Operating System

Implementing Database Deployment Security
Secure Access to Configuration Files on the Compute Node
Backing Up Operating System and Database Configuration Files
Restricting Access to the Database
Protecting Data in the Database Deployment
Tablespace Encryption by Default
Transparent Data Encryption (TDE): Overview
Auditing: Compute Node Connections and Actions
Auditing: Database
Use Case: Configure Network Isolation

Overview of Migrating to Oracle Database Cloud Service
Choosing a Migration Method: Considerations
Choosing a Migration Method: Information Gathering
Choosing a Method: Oracle Data Pump Considerations
Choosing a Method: Unplug/Plug and Remote Cloning Considerations
Choosing a Method: RMAN, SQL*Loader, and GoldenGate Considerations
Applicable Migration Methods

Using SQL Developer to Migrate
Overview of Using SQL Developer
Using SQL Developer and INSERT Statements to Migrate Selected Objects
Using SQL Developer and SQL*Loader to Migrate Selected Objects
Use Case: Automated Patching of Database Cloud Service

Overview of DBCS Performance Management
Performance Management in the Database Cloud Environment
Performance Monitoring and Tuning
Tuning Methodology
Effective Tuning Goals
General Tuning Session
What Can be Tuned in a DBCS Environment?

Tuning Performance Issues
Tools for Performance Management
DBaaS Monitor: Database Information & Operating System Information
Identifying Performance Issues by Using the DBaaS Monitor
Using the Enterprise Manager Database Express Performance Hub
Identifying Performance Issues by Using Enterprise Manager Database Express
Identifying Performance Issues by Using SQL Developer
Using ADDM to Diagnose Performance Issues
Using the SQL Tuning Advisor

Performance Management
Database Deployment Scaling: Overview
Database Resource Manager
Using Resource Manager to Control PDB Resource Usage
Controlling Resource Usage by Consumer Groups
Determining When to Scale Up the Database Deployment
Scaling Up CPU and Memory

Using REST APIs to Manage Oracle Database Cloud Service
What is Oracle REST Data Services (ORDS)?
Key Principles of Representational State Transfer (REST)

What Does ORDS Do?
ORDS and Database Cloud Service
Using REST APIs in Oracle Cloud
Using REST APIs with Database Cloud Service
Using cURL and REST APIs
Reference: REST API HTTP Status Codes

Deleting a Database Deployment
What Happens When You Delete a Database Deployment?
How Can You Delete a Database Deployment?
Use Case: Creating a Cloned Database Deployment from a Snapshot