

Terraform with Oracle Cloud Infrastructure and Jenkins

Duration: 4 days (8hrs/day)

Prerequisites: Basic knowledge of Oracle Cloud Infrastructure.

Cloud Platform: Oracle Cloud Infrastructure, **Terraform Version:** Latest

Lab Requirement: Participant Oracle Cloud Infrastructure Account Required

Module 1 - Getting Started & Setting Up Labs

Introduction to Infrastructure as Code and Terraform

Lab: Installation of Terraform on Windows

Introduction to Oracle Cloud Infrastructure

OCI Authentication with Terraform

Lab: Setting Up Terraform on Windows and OCI Authentication

Lab: Defining Provider & Using Basic Terraform commands

Module 2 – Building Cloud Infrastructure with Terraform

Lab: OCI Identity – Create Users, Groups using Terraform

Lab: Create OCI Default Network resources using Terraform

Lab: Create OCI Linux Instance using Terraform

Lab: Create Windows Instance using Terraform

Lab: OCI – Create OCI Load Balancer using Terraform

Lab: Create an Object Bucket using Terraform & How to do file upload

Lab: OCI - Auto Scaling using Terraform

Lab: Create Streams using Terraform

Understanding Terraform State file

Understanding Working of State file – Desired State & Current State

Terraform Provider Versioning

Lab: Methods to define Terraform Provider Versions

Module 3 - Read, Generate, Modify Configurations

Understanding conditional expression and locals

Lab: Using Conditional expression and Locals

Understanding Data Sources & Dynamic Blocks

Lab: Using Data Sources

Lab: Using terraform validate and terraform fmt

Lab: Replacing Resource in terraform manually – taint and replace

Module 4 - Terraform Provisioners

Lab: Implementing file, remote-exec and local-exec provisioners

Module 5 - Terraform Modules & Workspaces

Lab: Creating and Using local Modules

Module 6 - Remote State Management

Lab: Putting terraform state file on OCI Object Storage and OCI Resource Manager

Module 7 – Terraform Cloud and Enterprise Overview

Lab: Deploying Infrastructure with Terraform Cloud

Module 8 – Jenkins

Introduction to CI/CD and Jenkins

Lab: Jenkins Installation

Lab: Jenkins User Interface

Install SSH Plugin in Jenkins and Add Node Credentials

Lab: Install SSH Plugin in Jenkins and SSH Server Credentials for Authentication

Integrate Node SSH Server with Jenkins

Lab: Integration of SSH Server with Jenkins to Run Projects

Deploy Web Server Automatically through Jenkins

Lab: Deploy Web Server by Using Jenkins and Access Web Server from Browser

Lab: Working with Jenkins Parameters

Lab: Create Users Manually in the Jenkins DB and Manage Roles for Jenkins Users

Lab: Store Terraform Files on GitHub

Lab: Integrating Jenkins and Terraform

Lab: Automatically Deploy VMs with the Help of Terraform and Jenkins