Terraform Certified Associate

Duration: 4 Days

Cloud Platform: Microsoft Azure

Hands-On Format: This hands-on class is approximately 80/20 lab to lecture ratio, combining engaging lecture, demos, group activities and discussions with comprehensive machine-based practical programming labs and project work.

Module 1 - Getting Started & Setting Up Labs

Choosing a right Infrastructure as Code tool
Terraform Overview
Installing Terraform - Windows Users
Difference between Terraform and Ansible
Setting up Azure Account
Introduction to Azure CLI
Authenticate Azure with Terraform
Terraform init, plan and apply

Module 2 – Building Cloud Infrastructure with Terraform

Introduction to Terraform with Azure
Create Resource Group
Terraform Destroy
Azure Virtual Networks
Azure Subnet
Azure Public IP
Azure Network Interface
Create Windows and Linux VM
Azure Storage
Security Groups
Load Balancers
Understanding Terraform State files
Understanding Desired & Current States
Terraform Provider Versioning
Types of Terraform Providers
Methods to define Terraform provider Version

Module 3 - Read, Generate, Modify Configurations

Understanding Attributes and Output Values in Terraform
Referencing Cross-Account Resource Attributes
Terraform Variables
Methods to Define Variables
Data Types for Variables
Fetching Data from Maps and List in Variable
Count and Count Index
For_each
Create multiple VMs with Terraform
Conditional Expressions
Local Values
Splat Expressions

Terraform Functions
Lookup Function
Element Function
Zipmap Function
Data Sources
Debugging in Terraform
Terraform Format
Validating Terraform
Configuration FilesLoad
Order & Semantics
Dynamic Blocks
Tainting Resources
Terraform Graph
Saving Terraform Plan to File

Module 4 - Terraform Provisioners

Understanding Provisioners in Terraform
Types of Provisioners
Implementing remote-exec provisioners
Implementing local-exec provisioners

Module 5 - Terraform Modules & Workspaces

Understanding DRY principle
Variables and Terraform Modules
Terraform Registry
Terraform Workspace
Implementing Terraform Workspace

Module 6 - Remote State Management

Integrating with GIT for team management
Git Initialize
Git Commit
Git Push
Git Tagging
Git Branching
Security Challenges in Committing TFState to GIT
Remote State Management with Terraform
Terraform State Management
Importing Existing Resources with Terraform Import

Module 7 – Terraform Cloud and Enterprise Overview

Introduction to Terraform Cloud
Creating Infrastructure with Terraform Cloud
Overview of Sentinel Security
Introduction to Local and Remote Backends
Implementing Remote Backend in Terraform Cloud