

Terraform Essentials

Learn to provision and manage AWS cloud infrastructure with Terraform, from providers and state to modules and provisioners.

2 Days

8 HOURS A DAY

5

MODULES

18

TOPICS

14

HANDS-ON LABS

COURSE OVERVIEW

The objective of this course is to equip learners with the skills to efficiently create, manage, and automate AWS cloud infrastructure using Terraform. Through theoretical lessons and hands-on labs, participants will gain proficiency in Terraform commands, providers, state management, and modules.

WHO THIS COURSE IS FOR

Cloud Engineers

DevOps Engineers

Infrastructure Engineers

Systems Administrators

AWS Administrators

PREREQUISITES

- Basic knowledge of Cloud AWS.

TOOLS AND REQUIREMENTS

- Cloud Platform: AWS
- Terraform Version: Latest

LEARNING OBJECTIVES

- Explain infrastructure as code concepts and compare Terraform with Ansible
- Configure Terraform providers and authenticate with AWS
- Apply basic Terraform commands such as init, plan and apply
- Analyse the Terraform state file and its desired and current state
- Build AWS resources including EC2, VPC, S3 and load balancers
- Reference attributes, output values and variables across resources
- Implement provisioners such as file, remote-exec and local-exec
- Plan module structure and configure remote state backends

5 Modules, 18 Topics

DAY 1

01**3 Labs**

Getting Started & Setting Up Labs

TOPICS

- Introduction to Infrastructure as Code and Terraform
- Compare between Terraform and Ansible
- Understanding Terraform Providers
- Authenticate AWS with Terraform
- **Basic Terraform commands:** init, plan, apply
- Understanding Provider Block

02**5 Labs**

Building Cloud Infrastructure with Terraform

TOPICS

- Understanding Terraform State file
- Understanding Working of State file - Desired State & Current State
- Challenges and security considerations in Terraform state

DAY 2

03**4 Labs**

Read, Generate, Modify Configurations

TOPICS

- Understanding Attributes and Output Values in Terraform
- Understanding Terraform Variables and Data Types - (String, Number, Boolean, List, Map)

04**Lab**

Terraform Provisioners

TOPICS

Understanding provisioners in Terraform · Understanding Connection Block · Types of provisioners

Understanding Terraform Modules & Backend Configuration

TOPICS

- Applying the DRY (Don't Repeat Yourself) principle
- Understanding Usage of Terraform Modules
- Standard Structure of Terraform Modules
- Terraform State Backend Configuration

HANDS-ON LABS

Practise What You Learn

#	MODULE	ACTIVITY
01	Getting Started & Setting Up Labs	■ Installation of Terraform on Windows ■ Setting Up Terraform on Windows and AWS Authentication ■ Defining Provider & Using Basic Terraform commands
02	Building Cloud Infrastructure with Terraform	■ Creating EC2 instances in AWS ■ Provisioning Virtual Private Cloud, Subnets & Elastic IP, NIC ■ Deploying accessible Linux EC2s ■ Configuring S3 Buckets, Security Group, and Load Balancers, RDS Service ■ Remote state management with Terraform, including importing existing resources
03	Read, Generate, Modify Configurations	■ Handling Terraform attributes and output values ■ Referencing attributes across resources ■ Methods to Define Variables & Variable Arguments ■ Fetching Data from List & Map in Variables
04	Terraform Provisioners	Implementing file, remote-exec, and local-exec provisioners
05	Understanding Terraform Modules & Backend Configuration	Putting terraform state file on S3 Bucket

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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