



TERRAFORM

PROVIDERS . RESOURCES . STATE
MODULES . WORKSPACES .
PLAN . APPLY . DRIFT . PROVIDER

DURATION

30 Hours

LEVEL

Intermediate

MODULES

8

MODE

Classroom ·
Online · Hybrid

01 COURSE OVERVIEW

An infrastructure-as-code course building real cloud environments with Terraform. The course treats state as the central concept: how Terraform records reality, what drift is, and how teams share state safely. Modules, variables, outputs and workspaces are used to build a reusable environment definition.

Learners provision a multi-tier environment and then reproduce it in a second region from the same modules.

WHO IT IS FOR

- Cloud and DevOps engineers
- System administrators automating builds
- Platform teams standardising environments
- Developers managing their own infrastructure

PREREQUISITES

Working knowledge of at least one cloud platform and basic command line.

02 LEARNING OUTCOMES

- 01 Write HCL configurations with variables and outputs.
- 02 Interpret plan output before applying changes.
- 03 Manage state locally and in a remote backend.
- 04 Factor infrastructure into reusable modules.
- 05 Handle dependencies, counts and for_each loops.
- 06 Import existing resources and resolve drift.
- 07 Run Terraform safely inside a CI pipeline.

03 MODULE STRUCTURE

8 MODULES

01 IAC AND TERRAFORM BASICS

Declarative vs imperative

Providers

Configuration syntax

Installation

init, plan, apply, destroy

LAB

FIRST RESOURCE

02 VARIABLES AND OUTPUTS

Input variables

Locals

tfvars files

Types and validation

Outputs

Sensitive values

LAB

PARAMETERISED DEPLOYMENT

03 STATE

State file contents

Locking

Sensitive data in state

Remote backends

State commands

Drift detection

LAB

S3 OR AZURE BACKEND

04 RESOURCES AND DEPENDENCIES

Implicit and explicit dependencies

Dynamic blocks

Provisioners and their limits

count and for_each

Lifecycle rules

05 MODULES

Module structure

Registry modules

Composition patterns

Inputs and outputs

Versioning

LAB

NETWORK MODULE

06 ENVIRONMENTS

Workspaces

Variable layering

Tagging strategy

Directory-per-environment

Naming conventions

LAB

DEV AND PROD FROM ONE MODULE SET

07 DATA SOURCES AND IMPORTS

Data sources

terraform import

Targeted operations

Remote state data

Refactoring with moved blocks

08 AUTOMATION AND GOVERNANCE

Terraform in CI

Terraform Cloud basics

Cost estimation

Plan review gates

Policy as code

PROJECT

MULTI-TIER ENVIRONMENT AS CODE

04 ASSESSMENT & CERTIFICATION

Module assignments and labs

25%

Mini projects

20%

Internal assessments

15%

Final project and review

40%

CERTIFICATION

Learners who complete all modules, submit the final project and clear the review receive a course completion certificate from Kaizen Infinities Private Limited. Project work is documented for the learner's portfolio, and interview preparation is included in the closing sessions.

05 CAREER OUTCOMES

ROLES THIS PROGRAMME PREPARES FOR

CLOUD AUTOMATION ENGINEER

DEVOPS ENGINEER

INFRASTRUCTURE ENGINEER

PLATFORM ENGINEER

CLOUD CONSULTANT

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