

Terraform Certified Associate with AWS

Learn to use Terraform to build, version and manage AWS infrastructure, from providers and state to modules and remote collaboration.

4 Days

32 HOURS

7

MODULES

29

TOPICS

30

HANDS-ON LABS

COURSE OVERVIEW

The Terraform Certified Associate with AWS course is designed for learners seeking to leverage Infrastructure as Code (IaC) for efficient cloud resource management on Amazon Web Services (AWS). Through hands-on labs and comprehensive lessons, participants will master the use of Terraform, a popular IaC tool, to build, change, and version AWS infrastructure safely and efficiently. From setting up the development environment to advanced concepts like module creation and state management, this AWS Terraform course covers all the essential skills required to become proficient in automating infrastructure deployments. Participants will gain practical experience with Terraform's core features and will understand best practices for security and maintenance within AWS environments. The course's structured approach ensures that learners become adept at writing, planning, and creating reproducible and scalable cloud infrastructures. Upon completion, individuals will be well-prepared for real-world IaC challenges, making this AWS Terraform training crucial for professionals aiming to enhance their DevOps and cloud engineering skills.

Who Should Attend

The Terraform Certified Associate with AWS course caters to professionals seeking expertise in cloud infrastructure automation and DevOps practices.

DevOps Engineers

Cloud Infrastructure Architects

Systems Administrators interested in infrastructure as code (IaC)

Software Developers looking to provision and manage cloud resources

IT Managers wanting to understand IaC for team integration

Technical Project Managers overseeing cloud-based projects

Site Reliability Engineers (SREs) focusing on automation and scalability

Security Professionals ensuring infrastructure compliance

Cloud Consultants providing advice on AWS resource management with Terraform

AWS Certified Professionals aiming to enhance their skill set with IaC tools

Students and individuals aiming for a career in cloud services and infrastructure automation

Technical Support Staff who manage and troubleshoot cloud-based environments

Quality Assurance Engineers involved in environment setup and testing

LEARNING OBJECTIVES

- Explain Infrastructure as Code concepts and compare Terraform with Ansible
- Configure AWS authentication and apply basic Terraform commands
- Describe Terraform state files and desired versus current state
- Build AWS resources such as EC2, networks and S3 storage
- Apply variables, meta-arguments and expressions in configurations
- Implement provisioners such as file, remote-exec and local-exec
- Develop reusable modules and manage workspaces
- Configure remote state backends and Git-based collaboration

7 Modules, 29 Topics

01

3 Labs

Getting Started & Setting Up Labs

TOPICS

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

02

5 Labs

Building Cloud Infrastructure with Terraform

TOPICS

- Understanding Terraform State file
- Understanding Working of State file - Desired State & Current State
- Terraform Provider Versioning

03

14 Labs

Read, Generate, Modify Configurations

TOPICS

- Understanding Attributes and Output Values in Terraform
- Understanding Terraform Variables and Data Types - (String, Number, Boolean, List, Map)
- Understanding Meta-Arguments - (for_each & count)
- Understanding conditional expression and locals
- Understanding Expressions - for & Splat expression
- Understanding Data Sources & Dynamic Blocks
- Terraform Commands - validate, fmt

04

Lab

Terraform Provisioners

TOPICS

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

05**3 Labs**

Terraform Modules & Workspaces

TOPICS

- Applying the DRY (Don't Repeat Yourself) principle
- Understanding Usage of Terraform Modules
- Standard Structure of Terraform Modules
- Understanding and implementing Terraform workspaces

06**3 Labs**

Remote State Management

TOPICS

- Integrating Terraform with Git for team collaboration
- Understanding Basic Working of Git
- Challenges and security considerations in Terraform state
- Terraform State Backend Configuration

07**Lab**

Terraform Cloud and Enterprise Overview

TOPICS

Introduction to Terraform Cloud · Creating infrastructure with Terraform Cloud · Overview of Sentinel Security in Terraform

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 Networks, Subnets, Elastic IPs, and Network Interfaces ■ Deploying Windows and Linux EC2 ■ Configuring S3 Storage, Security Groups ■ Methods to define Terraform Provider Versions
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 ■ Using Meta-Arguments ■ Using Conditional expression and Locals ■ Using for and Splat expression ■ Using Data Sources ■ Using Dynamic Blocks ■ Exploring debugging techniques in Terraform ■ Using terraform validate and terraform fmt ■ Replacing Resource in terraform manually - taint and replace ■ Using Terraform Graph utility ■ Saving Terraform Plan to a file and apply from plan file
04	Terraform Provisioners	Implementing file, remote-exec and local-exec provisioners
05	Terraform Modules & Workspaces	■ Creating and Using local Modules ■ Utilizing Modules from Terraform Registry ■ Working with Terraform Workspaces
06	Remote State Management	■ Handling Git commands (initialize, commit, push, tagging, branching) ■ Remote state management with Terraform, including importing existing resources ■ Putting terraform state file on AWS S3
07	Terraform Cloud and Enterprise Overview	Basic Deploying Infrastructure with Terraform Cloud and Sentinel Security

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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