

KOENIG SOLUTIONS · COURSE OUTLINE

Azure DevOps Using Terraform (Microsoft)

Learn to manage Azure infrastructure with Terraform and automate deployments using Azure DevOps pipelines.

4 Days

32 HOURS

11

MODULES

82

TOPICS

COURSE OVERVIEW

This course starts with the fundamentals of DevOps, Infrastructure as Code, Azure and Azure DevOps, before introducing Terraform configuration files, providers and resources. It then covers Git basics, Azure Repos, and building Azure Pipelines with YAML, alongside advanced Terraform topics such as variables and meta-arguments. Later modules address Terraform modules, state management and remote state, and conclude with using Terraform within Azure DevOps pipelines, including authentication methods and managing variables with key vaults and variable groups.

WHO THIS COURSE IS FOR

Who can attend this Course?

Infrastructure Architects or Sysadmins or Developers who are planning to master Terraform with Azure Devops

Any beginner who is interested in learning IaC Infrastructure as Code current trending tool Terraform

Anyone who wants to learn Terraform & Azure Devops from a practical perspective

PREREQUISITES

Are there any course requirements or prerequisites?

- Knowledge of Azure Infrastructure Administration is good to have
- You must have an Azure Cloud account to follow the hands-on activities (If Not opted for Lab from us)
- You don't need to have any basic knowledge of Terraform or Azure DevOps. This Course will get started from the very basics of Terraform and Azure DevOps and take you to very advanced levels.

LEARNING OBJECTIVES

How Does This Course Help You?

- It gives hands On Knowledge on Azure Devops and Terraform
- It Closely follows the exam guide of Azure DevOps Expert (AZ-400) and Hashicorp Certified Terraform Associate Exam

11 Modules, 82 Topics

DAY 1

00

The Why Part

TOPICS

What are DevOps and IaC? · Use Cases of Terraform ·
Use Cases of Azure DevOps

01

Azure Basics

TOPICS

Azure Tenant and Subscription · Azure Identity types ·
Azure Hierarchy · Azure policy · Azure RBAC · Azure VM

02

Azure DevOps Basics

TOPICS

Azure DevOps Organisation · Azure DevOps Project · Adding users into Azure DevOps · Permissions in Azure DevOps

04

Terraform Basics

TERRAFORM CONFIGURATION FILES AND TERRAFORM DSL

- Hashicorp configuration language (Hcl)
- Terraform configuration files
(Desired Configuration)
- Configuration Syntax
- Arguments and Blocks
- Identifiers
- Comments

KNOW TERRAFORM PROVIDERS

- What Providers Do
- Where Providers Come From
- How to Use Providers
- Provider Installation

FEW PROVIDERS

- Random
- Azurearm

DAY 2

01

More on Core Workflow

TERRAFORM RESOURCES AND DATASOURCES

Resource Syntax · Resource Types · Resource Arguments · Using Data Sources · Data Source Arguments · Terraform Variables Intro

META-ARGUMENTS

depends_on · count · for_each

02

Git Basics and Azure Repo

GIT BASICS

- Local and Remote Repo
- Branches Concept
- How to Push, Pull and Clone code Via Terminal

AZURE REPO INTRO

- Creating Repo
- Authentication in Azure repo
- Creating Pull request and Merging in Azure Repo
- Azure Branch Policy
- intro to Github

DAY 3

01

Advance Terraform

MORE ON VARIABLES

- Fetching data from Map and List
- Declaring an Input Variable
- variable Arguments
- Default values
- Type Constraints
- Data Types for variables
- Variables on the Command Line
- Variable Definitions (.tfvars) Files
- Environment Variables

02

Azure Pipeline Basics

AZURE PIPELINE TYPES

- Build and Release Pipeline

AZURE PIPELINE TERMS

- Jobs, tasks, Stages, Trigger

AZURE PIPELINE AGENT TYPES

- Microsoft Hosted and Self Hosted

AZURE PIPELINE TYPES

- Classic and YAML
- Azure Pipeline Extensions
- YAML Basics
- Automating Azure Deployment Using YAML Pipeline

Terraform Modules

TOPICS

- Understand DRY principle
- Module Blocks
- Calling a Child Module
- Meta Arguments for Terraform Module
- variables in modules
- output in Terraform modules
- Creating Local Modules
- Publishing modules to Github
- Publishing modules to Terraform Registry
- Terraform Registry

State Management

TOPICS

- Purpose
- Backends
- state storage and Locking
- Import Existing Resource
- Integrating with GIT for team management
- Security Challenges in Committing TFState to GIT
- Terraform .gitignore and .terraform
- Remote State Management with Terraform

02

Using Terraform in Azure DevOps Pipeline

TOPICS

- Using Extension in Azure Pipeline
- Different methods of Terraform Authentication in Azure Pipeline

MANAGING TERRAFORM VARIABLES IN AZURE PIPELINE

- Using Parameters in YAML
- Using variables in Classic Pipeline
- Using Variable Groups
- Using Azure Key vault with Azure Pipeline

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.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

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