



TERRAFORM WITH AZURE DEVOPS

Duration - 32 HOURS

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

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.

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.

Day-1

Mod: 0 The Why Part

What are DevOps and IaC?

Use Cases of Terraform

Use Cases of Azure DevOps

Mod:1 Azure Basics

Azure Tenant and Subscription

Azure Identity types

Azure Hierarchy

Azure policy

Azure RBAC

Azure VM

Mod:2 Azure DevOps Basics

Azure DevOps Organisation

Azure DevOps Project

Adding users into Azure DevOps

Permissions in Azure DevOps

Mod-4: Terraform Basics:

1. Terraform configuration files and Terraform DSL

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

2. Know Terraform Providers

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

Few Providers

- Random
- Azurerm

Day-2

Mod-1: More on core workflow

1. Terraform resources and Datasources

- Resource Syntax
- Resource Types
- Resource Arguments
- Using Data Sources
- Data Source Arguments
- * Terraform Variables Intro

2. Meta-Arguments

- depends_on
- count
- for_each

Mod:2 Git basics and Azure Repo

1. Git basics

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

2. 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

Mod:1 Advance Terraform

1. 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

Mod:2: 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

Azure

YAML Basics

Automating Azure Deployment Using YAML Pipeline

Day-4

Terraform Modules

- 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

- 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

Mod:2 : USING TERRAFORM IN AZURE DEVOPS PIPELINE

- **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