

Infrastructure-as-Code: Terraform

Duration: 1 day (for base delivery) |

Focus Area: Business / IT alignment |

Difficulty: 200

Intended Audience

Primary Audience:

- DevOps / Cloud Engineers
- Cloud Solution Architects
- Infrastructure / Platform Engineers

Secondary Audience:

- Software Engineers
- Directors / IT Managers

Overview

This workshop focuses primarily on how to use Terraform efficiently to provision Infrastructure components on Azure.

Objectives

After completing this training, you will be able to:

- Understand Infrastructure-as-Code Principles
- Learn Core concepts around Terraform
- Use Terraform to manager Azure Resources

An extended 2-day version of this Workshop is also possible by integrating Terraform pipelines with tools such as GitHub Actions and including chalk-and-talk component focusing on customer's problem domain

Key takeaways

Course material

- Bigger Picture around IaC
- Core Workflow
- Writing Reusable and Maintainable Code
- State Management

Agenda (for base delivery)

Day 1

- Introduction to IaC and Terraform
- Core Workflow and Config Options
- Dependency Management
- Local and Remote Modules
- State Management
- Niche Topics
- DevOps with Terraform (as applicable)

Course details

Module 1: Bigger Picture on IaC

- Intro to Azure Well Architected Framework
- Approaching Operational Excellence
- Provisioning vs Configuration Management
- Provisioning tools for Azure

Module 2: Core Workflow and Config Options

- Azure Provider overview
- Day 1, Day 2, Day N workflows
- Operations: plan, apply, destroy (also validate and fmt)
- Configuring Terraform Templates
- Local values, Variable definitions, Tfvars, Env Variables
- Returning Values with Output

Pre-requisites

Before attending this course, it is recommended that you meet the following criteria

- Basic knowledge of the Microsoft Azure platform.
- Be familiar with maneuvering around Azure portal.

If you are new to these, here are a few references you can complete prior to class:

- [Microsoft Azure](#)

Module 3: Console, Functions and Dependencies

- Expressions and Types
- Terraform Console for REPL and examining state
- Built-in Functions
- Terraform Import
- Implicit vs Explicit Dependencies

Module 4: Terraform Modules

- Encapsulation and Reusability with Modules
- Composition over Inheritance
- Modules Structure
- Local and Remote Modules

Module 5: State Management

- State Management using Azure Blob Storage
- Best Practices for maintaining states and reducing provisioning times
- Terraform Workspaces

For more information

Contact your Microsoft Account Representative for further details.