

Terraform Advanced (GCP) with CI/CD

Duration: 5 Days

Cloud Platform: GCP

Syntax

- “Low Level” HCL syntax
- Style Conventions
- Comments
- Blocks
- Arguments
- JSON Configuration Syntax
- Defining “declarative”
- How to think about Terraform (versus Ansible)
- Reviewing the Terraform Configuration
- Running the Terraform Configuration
- Provisioners

Resources

- Meta-Arguments
- depends_on
- count
- for_each
- provider
- lifecycle
- Data Sources

Variables and Output

- Input Variables
- Output Values
- Local Values

Functions

- String
- Collection
- Numeric
- Encoding
- Filesystem
- Date and Time
- Hash and Crypto
- IP Network
- Type Conversion

Modules

- Module Blocks
- Module Sources
- Meta Arguments

Terraform Templates

- templatefile Function
- Template Demonstration

- Introducing Data Sources
- Creating an External Data Source
- Building tftpl template files

Expressions

- Types and Values
- Strings and Templates
- Reference to Values
- Operators
- Function Calls
- Conditionals
- For Expressions
- Splat Expressions
- Dynamic Blocks
- Type Constraints
- Version Constraints

State

- Understanding the importance of states
- state storage and locking
- importing existing resources
- Remote State
- What to do when local state is lost

CICD Pipelines with Terraform

- Terraform and GitLab pipelines
- Terraform and Jenkins pipelines

Enterprise Case Studies (Theory Only)

- Terraform and Docker
- Terraform and Kubernetes
- Terraform and Amazon AWS
- Terraform and Azure
- Terraform and VMWare
- Understanding how to apply Terraform to your unique infrastructure

Beyond Basics

- Intro to Go Programming
- Terraform Cloud
- Additional HashiCorp Offerings
- Backends
- Secrets