**DAY: 01**

1. **Introduction**

* Welcome note
* What you should know
* Infrastructure As Code (IAC)
* Tools available in market for IAC

1. **Terraform Set up**

* Installation Terraform - Windows
* Installation Terraform - Linux and MacOS
* Cloud account set up (**GCP**)

1. **Terraform bootstrap**

* Sample GCP instance creation

1. **Terraform Life Cycle**

* Write
* Plan
* Create
* Reproduce
* Destroy

**DAY: 02**

1. **Terraform Terminology**

* Provider
* Resource
* Provisioner
* Variable

1. **Deploying Infrastructure with Terraform**

* Real code for VM creation on GCP
* Terraform code/file validation

1. Terraform Validate utility
2. Terraform Format utility
3. Terraform Lint

* Dig down Terraform initialization process
* Dig down Terraform Plan
* Visualize Terraform Plan using Graph
* Dig down Terraform State (Desired and Current State)
* Modify the deployed infrastructure

**DAY: 03**

**7. Explore Terraform eco-system**

* Explore Terraform Provider
* Explore Terraform Resource (Arguments and Attributes)
* Explore Terraform Input, Output and Local variables
* Explore Terraform Variable data types
* Explore Terraform Variable assignments (via file, command line and environment)
* Understand Terraform variables parsing hierarchy
* Explore Terraform Conditional expression
* Explore Terraform Count
* Explore Terraform Dynamic block
* Explore Terraform Taint

**8. Terraform state management**

* Terraform remote state explanation
* Implementing GCS backend for remote state management
* Locking Terraform state management in collaborating environment
* Challenges in state file locking

**DAY: 04**

**9. Terraform Provisioner Implementation**

* Terraform provisioners and its type
* Implementing provisioner - local-exec
* Implementing provisioner - remote-exec

**10. Terraform module development**

* Terraform module introduction
* Terraform module creation
* Terraform module use in real code
* Terraform Registry

**DAY: 05**

**11. Terraform eco-system integration with DevOps world**

* Implementation of Github for Terraform code management
* Implementation of Jenkins for Terraform code execution

**12. Terraform security consideration**

* Cloud credential security implementation
* Sensitive parameters

**13. Terraform miscellaneous**

* Terraform multiple Environments (Dev/Test/Prod) implementation