

Terraform Syllabus

- Introduction to Terraform
 - What is IAC and its Benefits
 - Overview of Terraform
 - Terraform Architecture
 - Terraform Components
 - Installation and Setup
 - Terraform Commands
 - Deploying Docker Instance
 - Deploying to Azure
 - Deploying to AWS
- Working with Resources
 - Overview of Resources
 - Create Azure VM
 - Create AWS EC2 Instance
 - Meta Arguments
 - Count Meta Argument
 - For-Each Meta Argument
 - Life-Cycle Meta Argument
 - Depends-On Meta Argument
 - Setup Azure Load Balancer and VNet Peering.
- Working with Data Sources
 - Importance of Data Sources
 - Using Data Sources for Azure and AWS
 - Local Only Data Source
 - Custom Condition Checks
- Terraform Providers
 - Overview
 - Provider Configuration
 - Provider Requirements

Terraform Syllabus

- Version Constraints
- Multi Provider Configuration
- Handling Local Conflicts
- PlugIn-dir argument
- Managing State and State Backend
 - Importance of State
 - Terraform State Commands
 - Deleting resource from State
 - Importing resource state
 - Refreshing State and reconciling drift.
 - Terraform Backend
 - Azure Storage as Backend
 - AWS Bucket as Backend
 - Manual State Pull/Push
- Terraform HCL Language and Variables
 - Terraform Identifiers
 - Comments
 - Local Variables
 - Input Variables
 - Output Variables
 - Assigning values to Variables
- Terraform Provisioners
 - What are Provisioners
 - Self Object
 - Types of Provisioners
 - Local-exec
 - Remote Exec
 - File Exec
 - Setup Webservers in VM/EC2 instance

Terraform Syllabus

- Building and using Modules
 - Root Module
 - Writing and using Child Modules
 - Meta Arguments
 - Count
 - For-each
 - Providers
 - Depends_on
 - Accessing Module Output
 - Providers with-in Modules
 - Implicit
 - Explicit
 - Configuration Aliases
 - Module Sources
 - Local Paths
 - Terraform Registry
 - GitHub
 - S3 Buckets
- Workspaces to manage environments
 - Default Workspaces
 - Creating Workspaces
 - Managing State for Environment
- Error Handling and Debugging
 - Try Function
 - Can Function
 - Debugging
 - Logging
- Working with Collections
 - Lists

Terraform Syllabus

- Tuples
- Maps
- Objects
- Type Conversion
- Complex Types
- Terraform Functions
 - Numeric Functions
 - String Functions
 - Templates
- Deploying using DevOps Pipelines
 - Setup CI Pipelines
 - Creating Infrastructure using Terraform
- Deploying to Kubernetes Cluster
 - Working with AKS
 - Working with EKS
- Hackathon Project.