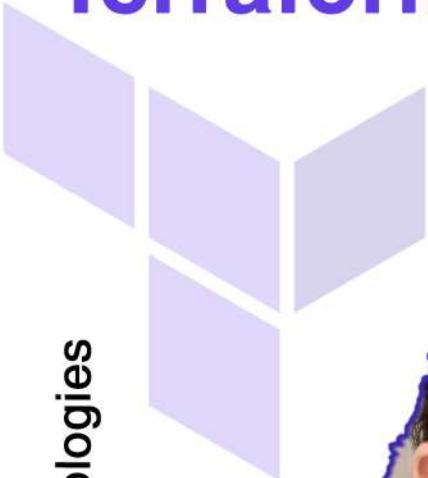


Terraform



Zetlan Technologies



COURSE MODULES

Module 1: Introduction to Terraform

- What is Infrastructure as Code (IaC)?
- Introduction to Terraform and its benefits
- Terraform vs. other IaC tools (CloudFormation, Ansible, etc.)
- Installing Terraform and setting up the environment
- Understanding the Terraform workflow

Module 2: Terraform Basics

- Terraform configuration files (.tf, .tfstate, .tfvars)
- Terraform commands: init, plan, apply, destroy
- Understanding providers and modules
- Managing Terraform state files

Module 3: Terraform Configuration & Resources

- Writing and organizing Terraform configuration files
- Defining resources and providers
- Using input variables and output values
- Working with data sources
- Managing dependencies between resources

Module 4: Terraform State Management

- Understanding Terraform state and state locking
- Storing Terraform state remotely (AWS S3, Azure Storage)
- Terraform state security best practices
- Terraform workspaces for environment separation

Module 5: Terraform Modules

- What are Terraform modules?
- Creating reusable Terraform modules
- Using community modules from Terraform Registry
- Structuring Terraform projects for scalability

Module 6: Terraform Provisioners

- Understanding provisioners (local-exec, remote-exec)
- Configuring provisioners for automation
- Best practices for using provisioners

Module 7: Terraform on AWS (Hands-On Project)

- Setting up AWS provider and authentication
- Deploying EC2 instances, VPC, and S3 using Terraform
- Configuring security groups and IAM roles
- Using Terraform to manage AWS Lambda and RDS

Module 8: Terraform on Azure & GCP (Optional)

- Setting up Terraform for Azure and GCP
- Deploying virtual machines, storage, and networking
- Managing IAM roles and policies

Module 9: Terraform Backend & Remote State

- Configuring remote backends (S3, GCS, Azure Storage)
- Working with Terraform Cloud and Enterprise
- State file locking and collaboration strategies

Module 10: Terraform Best Practices

- Writing DRY (Don't Repeat Yourself) Terraform code
- Using linting tools (tflint, terraform fmt)
- Managing sensitive data with HashiCorp Vault & AWS Secrets Manager
- Security best practices and compliance

Module 11: Terraform CI/CD & Automation

- Integrating Terraform with GitHub Actions / GitLab CI / Jenkins
- Implementing Infrastructure as Code in a DevOps pipeline
- Automating Terraform deployments

Module 12: Advanced Terraform Features

- Working with Terraform Dynamic Blocks
- Handling complex dependencies and loops
- Using Terraform Functions
- Debugging and troubleshooting Terraform issues

Module 13: Terraform Certification Preparation (Optional)

- Overview of Terraform Associate Certification Exam
- Practice questions and mock tests
- Exam tips and study resources