

AWS Terraform course content

1 Introduction to Terraform and AWS

- 1.1 What is Terraform?
- 1.2 Why use Terraform with AWS?
- 1.3 Setting up your development environment

2 Terraform Basics

- 2.1 Understanding Infrastructure as Code (IAC)
- 2.2 Terraform Configuration Language (HCL)
- 2.3 Terraform Providers
- 2.4 Terraform Resources

3 AWS Fundamentals

- 3.1 AWS Services Overview
- 3.2 AWS Identity and Access Management (IAM)
- 3.3 Virtual Private Cloud (VPC) Concepts
- 3.4 AWS Regions and Availability Zones

4 Terraform Configuration Files

- 4.1 Terraform Configuration Syntax
- 4.2 Variables and Data Types
- 4.3 Input and Output Variables
- 4.4 Modules

5 Creating and Managing AWS Resources

- 5.1 Creating EC2 Instances
- 5.2 Provisioning AWS Networking Resources











- 5.3 Managing Security Groups and IAM Roles
- 5.4 Creating and Attaching EBS Volumes

6 Terraform State Management

- 6.1 Understanding Terraform State
- 6.2 Remote State Management
- 6.3 Locking State Files

7 Terraform Best Practices

- 7.1 Code Organization
- 7.2 Using Variables and Outputs Effectively
- 7.3 Terraform Code Testing
- 7.4 Handling Secrets and Sensitive Data

8 Infrastructure as Code Deployment

- 8.1 Plan, Apply, and Destroy Workflow
- 8.2 Terraform Workspaces
- 8.3 Terraform Remote Execution (Terraform Cloud)

9 Advanced Terraform Topics

- 9.1 Dynamic Resource Creation
- 9.2 Terraform Functions and Expressions
- 9.3 Using Terraform with AWS Auto Scaling
- 9.4 Terraform and AWS Lambda

10 Infrastructure Deployment Strategies

- 10.1 Blue-Green Deployments
- 10.2 Canary Deployments











10.3 Immutable Infrastructure

11 Infrastructure Monitoring and Logging

- 11.1 Integrating Terraform with AWS CloudWatch
- 11.2 Logging Best Practices

12 Infrastructure as Code in a Team

- 12.1 Collaborative Workflows with Terraform
- 12.2 Terraform State Locking Strategies
- 12.3 Version Control and CI/CD Integration

13 Terraform and AWS Best Practices

- 13.1 AWS Tagging Strategies
- 13.2 Resource Naming Conventions
- 13.3 IAM Best Practices

14 Troubleshooting and Debugging

- 14.1 Common Terraform Errors and Solutions
- 14.2 Debugging Terraform Configurations
- 14.3 Terraform Log Analysis

15 Security and Compliance

- 15.1 AWS Security Groups and NACLs
- 15.2 Security Scanning and Compliance Checks
- 15.3 Encryption and Data Protection

16 Terraform and AWS Cost Management

16.1 Cost Allocation Tags







www.viraietech.com





- 16.2 AWS Cost Explorer
- 16.3 Cost Optimization Strategies

17 Case Studies and Real-World Projects

- 17.1 Building a Highly Available Web Application
- 17.2 Data Pipeline Automation with Terraform
- 17.3 Multi-Region Deployment

18 Conclusion and Next Steps

- 18.1 Recap and Key Takeaways
- 18.2 Further Learning Resources
- 18.3 Certification and Career Path in AWS and Terraform







