

DEVOPS

ADVANCED

5 DAYS

Automating Infrastructure on Google Cloud with Terraform

Build a strong foundation in Infrastructure as Code using Terraform with Google Cloud Platform. Learn how to design, provision, and manage multi environment GCP infrastructure using Terraform configuration syntax, variables, modules, and best practices for scalable cloud management.

Why Terraform on GCP?

Consistent and repeatable

infrastructure provisioning: With Terraform, your team can define infrastructure as code, which means that your team can easily reproduce the same infrastructure across multiple environments.

Infrastructure automation

Reduce the time and effort required to manage your team's infrastructure and improve the consistency and reliability of deployments.

Multi-cloud support

Terraform is cloud-agnostic, which means that your team can use it to manage infrastructure on multiple cloud providers, including Google Cloud, AWS, Azure, and others

What you'll be able to do

- ✓ Gain a solid understanding of Infrastructure as Code (IaC) principles
- ✓ Learn how to use Terraform to create, update, and destroy infrastructure on the Google Cloud Platform (GCP)
- ✓ Understanding Terraform's configuration syntax
- ✓ Understanding how to use variables, modules, and other advanced features of Terraform to manage complex infrastructure.
- ✓ Learn how to use the Google Cloud Provider for Terraform to manage Google Cloud-specific resources
- ✓ Learning how to manage infrastructure across multiple environments
- ✓ Understanding best practices for managing infrastructure with Terraform

Who this is for

- DevOps Engineers
- Cloud Engineers
- System Administrators
- IT Professionals
- Developers
- IT Managers and team leads
- Anyone looking to advance their cloud career

Curriculum

01 Terraform and GCP Foundations

- Apply terraform and gcp foundations with Terraform on GCP in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

02 Auth and Environment Setup

- Apply auth and environment setup with Terraform on GCP in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
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03 Provision Core GCP Resources

- Apply provision core gcp resources with Terraform on GCP in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
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04 Modules and Reuse

- Apply modules and reuse with Terraform on GCP in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
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05 State Management

- Apply state management with Terraform on GCP in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
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06 CI/CD Pipelines for Terraform

- Apply ci/cd pipelines for terraform with Terraform on GCP in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards

07 Updates and Maintenance Automation

- Apply updates and maintenance automation with Terraform on GCP in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
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08 Debugging Terraform

- Apply debugging terraform with Terraform on GCP in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
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09 Multi-service Patterns

- Apply multi-service patterns with Terraform on GCP in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
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10 Security and Networking Basics

- Apply security and networking basics with Terraform on GCP in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
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11 Best Practices

- Apply best practices with Terraform on GCP in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
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12 Hands-on Capstone

- Apply hands-on capstone with Terraform on GCP in practical DevOps workflows
- Complete hands-on labs with realistic scenarios
- Validate outcomes, logs, and failure modes
- Capture reusable patterns for team standards