Terraform with AWS Training

BILGINC IT Academy
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Duration: **2 Day**

Exclusive - Learn to automate AWS infrastructure with Terraform.

Terraform with AWS is designed to give you practical experience with Infrastructure as Code (IaC) using Terraform in AWS environments. You'll start with the basics of Terraform and AWS services, then move on to more advanced topics like state management, workspaces, and integrating Terraform into CI/CD pipelines. By the end of the course, you'll know how to use Terraform to manage AWS resources like EC2 instances, S3 buckets, and VPCs, ensuring your cloud infrastructure is scalable, reliable, and version-controlled.

You'll get practical experience with the Terraform CLI, learn how to integrate Terraform with key AWS services, and understand best practices for managing multi-environment deployments. Included are labs and demos to help you apply what you've learned in real-world scenarios.

By taking this course, you'll gain the skills needed to efficiently provision, manage, and maintain AWS infrastructure using Terraform. You'll be able to automate workflows, implement security and compliance measures, and troubleshoot configurations, making you a valuable asset to any organization looking to leverage IaC for cloud infrastructure management.

Who Should Attend?

- Cloud engineers, DevOps practitioners, and IT professionals aiming to learn IaC with Terraform.
- Developers and administrators automating AWS resources.
- Professionals implementing DevOps best practices with Terraform.

Prerequisites

- Basic understanding of AWS services (e.g., EC2, S3, IAM).
- Familiarity with CLI tools and scripting.
- Knowledge of foundational DevOps principles.

- Introduction to DevOps
- DevOps Engineering on AWS

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What You Will Learn

- Understand the principles of Infrastructure as Code (IaC) and Terraform's role in automation.
- Gain familiarity with key AWS services (EC2, S3, VPC, IAM) and their integration with Terraform.
- Install and configure Terraform CLI, set up workspaces, and establish connectivity with AWS.
- Write Terraform configurations to manage AWS resources such as EC2 instances, S3 buckets, and VPCs.
- Grasp state management concepts and effectively use Terraform workspaces for multi-environment deployments.

Training Outline

- **Introduction to Terraform and AWS:**
  - Overview of Terraform and Infrastructure as Code (IaC) principles.
  - Understanding AWS Services for Infrastructure Automation.
- **Installing and Configuring Terraform:**
  - Setting up Terraform CLI and Workspace.
  - Integrating Terraform with AWS (API Keys, IAM Roles).
- **Writing Terraform Configurations:**
  - Basic Syntax: Resources, Providers, Variables, and Outputs.
  - Creating and managing resources in AWS (EC2, S3, VPC).
- **State Management and Workspaces:**
  - Understanding Terraform State.
  - Managing Multi-Environment Deployments with Workspaces.
- **Advanced Terraform Concepts:**
  - Modules, Data Sources, and Outputs.
  - DRY Principle in Terraform Code.
- **Terraform Networking and Security:**
  - Creating VPCs, Subnets, and Security Groups.
  - Configuring AWS IAM Roles and Policies.
- **Error Handling and Debugging:**
  - Troubleshooting Terraform Configurations.
  - Debugging Deployment Failures."
- **Terraform Automation:**
  - Using Terraform with CI/CD Pipelines.
  - Automating Workflows with Jenkins or GitHub Actions.
- **Terraform Security and Compliance:**
  - Implementing AWS Policies with Terraform.
  - Scanning Terraform Code for Security Issues (Checkov, Sentinel).