Abstract

This document presents a structured approach to deploying a static website on Amazon Web Services (AWS) using Infrastructure as Code (IaC). The implemented solution integrates AWS Identity and Access Management (IAM) for secure access control, Amazon Simple Storage Service (S3) for static content storage and hosting, and Amazon CloudFront for global content distribution. The architecture ensures scalability, high availability, and reduced latency for users accessing the website worldwide.

The infrastructure is fully automated using Terraform, enabling consistent and reproducible deployment. The Terraform configuration provisions an S3 bucket specifically configured for static website hosting, establishes appropriate IAM credentials for secure programmatic access, and creates a CloudFront distribution to optimize content delivery across multiple geographic locations. Security best practices are applied through controlled access permissions and structured infrastructure definitions.

The project emphasizes the advantages of Infrastructure as Code by replacing manual cloud configuration with declarative scripts. This approach enhances maintainability, minimizes human error, and simplifies future modifications or scaling of the infrastructure. The modular organization of Terraform files further improves clarity and flexibility within the deployment process.

By combining AWS core services with IaC principles, this solution demonstrates how a secure, efficient, and globally accessible static website architecture can be implemented using modern cloud computing methodologies.