**Project Overview**

The project includes three environments: dev, staging, and qa, each identical in configuration and utilizing the following AWS services:

* Domain:
  + dev.lot2.eodatahub.org.uk
  + staging.lot2.eodatahub.org.uk
  + qa.lot2.eodatahub.org.uk
* AWS Region:
  + us-east-1 for all environments
* Resources per Environment:
  + S3 bucket for application code
  + CloudFront distribution for content delivery
  + Certificate Manager for SSL/TLS certificates

**Infrastructure Details**

The infrastructure for all environments has been provisioned using Terraform scripts. Each environment maintains consistency across the following resources:

* S3: Stores application code specific to each environment.
* CloudFront: Provides Content Delivery Network (CDN) services to accelerate content delivery.
* Certificate Manager: Manages SSL/TLS certificates to ensure secure HTTPS connections.

**Route 53 Configuration**

Route 53 is used as the DNS service and is shared across all environments with dedicated DNS records:

* DNS Records:
  + dev.lot2.eodatahub.org.uk
  + staging.lot2.eodatahub.org.uk
  + qa.lot2.eodatahub.org.uk

**Continuous Integration and Continuous Deployment (CICD)**

Terraform Cloud serves as the CICD platform for managing infrastructure code deployments:

* Terraform Cloud: Centralized platform for managing Terraform environments and workflows. Features include automation, collaboration, and governance for infrastructure as code.

Key Features:

* + Automation: Triggers deployments automatically upon changes to the main branch.
  + Collaboration: Facilitates team collaboration by centralizing Terraform configurations and state management.
  + Governance: Ensures consistency and security through policy enforcement and version control of infrastructure code.

Conclusion

The project's infrastructure is designed for agile development and testing across multiple environments. Route 53 ensures reliable DNS management across all services, while Terraform Cloud automates deployment workflows and maintains consistent infrastructure configurations for dev, staging, and qa environments.