Lab: CI/CD Pipeline with GitHub Actions and Terraform

Objective

Use GitHub Actions to deploy infrastructure into AWS using Terraform.

Part A: GitHub Actions Steps

1. Create a GitHub repository

2. Create .github/workflows/deploy.yml

3. Configure GitHub OIDC provider for AWS

4. Create IAM role for GitHub Actions with AssumeRole policy

Part B: Terraform Project Setup

1. Create Terraform files for an S3 bucket

2. Store remote state in another bucket

3. Use GitHub Actions to run plan and apply

Validation

- Confirm resource created via GitHub run

- Check CloudTrail for access logs

- Review state in remote backend