Streamlined DevOps: AWS Lambda and CI/CD Integration Project

The project aims to simplify and automate development operations by integrating AWS Lambda service with Continuous Integration and Continuous Delivery (CI/CD) processes. It emphasizes on harnessing the power of AWS services to enforce a seamless and efficient CI/CD pipeline, thereby increasing production speed and reducing manual errors in software development.

Tech Stack

- - AWS Lambda: A serverless computation service that runs code in response to events and automatically manages underlying compute resources.
- ☁ - AWS CloudFormation: A service for deploying and managing AWS infrastructure.
- ☁ - AWS S3 (Simple Storage Service): Secure, durable, highly scalable cloud storage.
- - AWS CodePipeline: A fully managed continuous delivery service.
- - AWS CodeBuild: A fully managed continuous integration service that compiles source code, runs tests, and produces software packages
- - GitHub: A platform for version control and collaboration.

Features

- - Continuous Integration and Continuous Deployment (CI/CD) pipeline using AWS CodePipeline and CodeBuild.
- ☁ - Use of CloudFormation for infrastructure as Code (IaC) for resource provisioning.
- - File and code handling through AWS S3 and AWS Lambda respectively.
- - Version control system via GitHub.

Architecture

- - Serverless computing with AWS Lambda running code.
- - Developers push code to the GitHub repository, which triggers the CodePipeline.
- - AWS CodePipeline sources the latest code from GitHub and initiates CodeBuild.
- ☁ - CodeBuild, using build specification files, packages the code and generates CloudFormation templates, pushing both to a designated S3 bucket.
- ☁ - AWS CloudFormation reads the template file and deploys AWS Lambda functions.
- - Newly modified or created AWS Lambda functions are ready to respond to designated events.