**Lead DevOps Engineer**

**Team**: 5 members

**Project Description:**

This project involves creating an automated claims processing system that integrates real-time risk analytics, fraud detection, and predictive modeling for an insurance company. The goal is to streamline the claims process, enhance customer satisfaction, and improve operational efficiency while mitigating risks.

The system will use modern data engineering, DevOps engineering, and cloud technologies to handle data flows efficiently, identify fraud, and optimize underwriting decisions based on real-time risk assessments.

**Tech Stack:**

* IaC
  + Hashicorp - Terraform
  + AWS - CDK (Python)
  + AWS - Cloudformation
* CI/CD
  + Jenkins
  + Github Actions
  + AWS - Code pipeline, Code Build, Code Deploy, Code connections
* Containers & Orchtestration
  + AWS - EKS (Kubernetes)
  + AWS - ECS , ECR
* Security :
  + Cloudflare
  + AWS - Secret manager
  + Hashicorp - Vault
  + AWS
    - IAM
    - IAM - Identity center
    - Organization
    - Cloud trail
    - AWS config
    - Cloud Inspector
    - Security Hub
    - Trusted Advisor
* Monitoring:
  + Prometheus, Loki and Grafana
  + AWS - Cloud Watch (Custom metrics, Logs, Alarms, Log query)
  + DataDog
* AWS Cloud (IaaS & PaaS)
  + AWS - ALB & NLB
  + AWS - EBS, EFS, S3
    - AWS - SNS, SQS
  + AWS - SSM (Parameter store, Session manager, Run command, State manager)
  + AWS - RDS(MySQL), DynamoDB, Data Migration service, Athena
  + AWS - API Gateway, Lambda
* AWS - Event Bridge, Scheduler
  + Networking
  + Route53
  + ACM
  + Cloud front
  + VPC
* Cost Optimization
  + Cost and Billing Management
  + Budgets
  + Cost Optimization hub
  + AWS Health Dashboard
  + AWS Well architected framework

**Responsibilities:**

As a **DevOps Lead**, ensuring that the code, build, deployment, monitoring, and security follow **best practices by AWS** involves integrating AWS-native tools, services, and security standards into the software development lifecycle (SDLC). Below are detailed best practices that should be followed for each phase from **code** development to **deployment**, **monitoring**, and **security**.

**Infrastructure as Code (IaC):** Developed and maintained IaC for finance-based applications' solution architecture.

**CI/CD Pipeline:** Designed and implemented a CI/CD pipeline for a Kubernetes-based microservices architecture, cutting deployment time by 50% and improving system reliability by 30%.

**Autoscaling & Performance:** Developed an autoscaling solution for Kubernetes, reducing infrastructure costs by 25% and improving application performance by 15% during peak traffic.

**Kubernetes Management:** Designed, developed, and maintained Kubernetes clusters and applications, automating deployment, scaling, and monitoring.

**Security & Networking:** Implemented security policies, networking, and storage solutions within Kubernetes, ensuring robust and secure infrastructure.

**Overall Impact:** Focused on enhancing performance, scalability, and reliability of Kubernetes environments, leading to significant cost savings and efficiency improvements.