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DevOps Engineer

SUMMARY

Versatile and results-driven DevOps Engineer with over 2 years of hands-on experience designing, automating, and managing scalable cloud infrastructure and CI/CD pipelines. Skilled in AWS, Terraform, Kubernetes, and Docker, with a proven ability to reduce operational costs, increase deployment velocity, and enhance system reliability. Adept at implementing infrastructure-as-code, container orchestration, and GitOps workflows to streamline delivery and enforce consistency across environments. Passionate about automation, observability, and enabling engineering teams to build and ship faster, safer, and smarter.

PROFESSIONAL EXPERIENCE

DevOps Engineer (Contract)

ENGIS | Enugu, Nigeria | November 2024 – Present

- **GitOps Workflow Implementation:** Spearheaded the adoption of GitOps using ArgoCD and Terraform, enabling declarative infrastructure and application delivery across multiple Kubernetes environments. This improved deployment traceability, reduced human error, and streamlined rollback processes.
- **Helm-Powered Microservices Deployment:** Packaged and deployed Golang-based microservices using Helm charts, standardizing deployment patterns and supporting environment-specific configuration management. Enhanced team velocity by promoting reusable Helm templates across projects.
- **Kubernetes Infrastructure Automation:** Provisioned a production-grade Amazon EKS cluster using Terraform, incorporating modular, scalable infrastructure-as-code principles. Enabled seamless deployment of containerized services with built-in resilience and scaling capabilities.
- **Application Delivery & Networking:** Deployed microservices with Kubernetes manifests and Helm charts. Integrated NGINX Ingress Controller for domain-based routing and TLS termination, improving reliability and user access control.
- **Cloud Database Management:** Provisioned and maintained a highly available Amazon Aurora PostgreSQL cluster using Terraform. Installed and configured pgAdmin in a secure monitoring namespace for streamlined database visualization and management.

- **CI/CD Pipeline Automation:** Engineered a full-featured Jenkins CI/CD pipeline, automating the build, test, and deployment lifecycle. Reduced deployment time by 60% and improved team confidence in shipping new features.
- **Observability & Logging:** Deployed a centralized EFK logging stack (Elasticsearch, Fluentd, Kibana) for Kubernetes, improving log aggregation, searchability, and root cause analysis during incidents.
- **Resource Optimization:** Implemented Horizontal Pod Autoscalers (HPA) across services based on CPU and memory metrics to dynamically scale workloads, enhancing performance under varying traffic loads.

DevOps Engineer (Contract)

AutomatedPros | Dubai, UAE (Remote) | January 2024 – July 2024

- **AWS Cloud Infrastructure:** Designed and maintained secure, scalable, and highly available AWS environments, provisioning VPCs, EC2 instances, Security Groups, IAM roles, ECS clusters, and S3 storage using Terraform and Infrastructure as Code (IaC) best practices.
- **Infrastructure as Code & Compliance:** Defined and enforced AWS infrastructure configurations using Terraform and Chef, ensuring compliance with security and operational best practices.
- **Monitoring & Operational Tools:** Built and integrated monitoring solutions using Prometheus, Grafana, and the ELK stack for real-time observability and alerting. Developed operational tools to enhance deployment, monitoring, and AWS infrastructure analysis.
- **CI/CD & Automation:** Implemented CI/CD pipelines using GitHub Actions and Jenkins for automated application deployment, leveraging AWS CodeDeploy and ECS to streamline releases.
- **Cost Optimization & Performance Tuning:** Conducted infrastructure cost analysis and implemented optimizations, including auto-scaling strategies, and multi-region failover mechanisms to reduce costs while improving availability.
- **Collaboration and Documentation:** Authored comprehensive documentation for processes, ensuring knowledge transfer and clarity for team members. Conducted workshops to align teams with DevOps best practices.

DevOps Engineer (Volunteer)

ExpatSwap | Remote | September 2024 – Present

- **Cost-Effective Infrastructure Design:** As a volunteer, I designed and implemented a new architecture that reduced cloud costs by 70%, addressing the company's primary concern. The initial setup included over 12 EC2 instances spread across 3 VPCs, each hosting separate frontend and backend services for Dev and Prod environments, along with 3 ALBs, which significantly spiked operational costs. Proposed and implemented a consolidated architecture by deploying frontends on Vercel's free hosting service and backends (Dev and Prod) on ECS Fargate, routing traffic through a single Application Load Balancer (ALB) with host-based routing.
- **Infrastructure as Code:** Used Terraform to deploy modular infrastructure, including a single VPC with its components, a centralized ALB with health checks and listener rules, ECS

services with IAM roles, and container insights for monitoring. Configured autoscaling for ECS services to handle high traffic scenarios, ensuring system reliability.

- CI/CD Pipeline Implementation: Developed and automated a GitLab-CI/CD pipeline to build and push Docker images to a private ECR repository, update task definitions stored in S3 using jq, and deploy backend services with AWS CLI commands. Ensured secure handling of variables and employed security best practices throughout.
- Automation with Bash Scripting: Automated deployment tasks, including image building, pushing, and service updates, leveraging Bash scripts integrated with AWS CLI to enhance deployment efficiency.
- Comprehensive Documentation: Documented all processes, including Terraform configurations, pipeline stages, and deployment procedures, ensuring transparency, reproducibility, and ease of onboarding for future engineers.
- Future-Oriented Planning: Recommended separating Dev and Prod environments and implementing Route 53 failover mechanisms to ensure high availability and regional redundancy.

DevOps Engineer Intern

Samba Data - R&D | Enugu, Nigeria (Hybrid) | January 2023 – October 2023

- Domain Management: Migrated domains to AWS Route 53 for efficient management and integration.
- CI/CD for Python Applications: Developed Jenkins pipelines for Python apps in both staging and production environments, improving deployment speed and stability.
- Observability: Set up Zabbix for real-time monitoring of Docker containers and servers, ensuring infrastructure availability and rapid issue identification.
- Backup Solutions: Implemented S3-based backups with Duplicity for reliable cloud storage.
- Docker & Nginx: Deployed WikiJS with Docker, secured by Nginx and Certbot, providing documentation services to the team.
- Email Automation: Integrated Amazon SES for automated email notifications, streamlining communication processes across the organisation.

OPEN SOURCE CONTRIBUTIONS

OpenScience Contributor

Bioconductor | Remote | October 2024 – Present

- GKE Autopilot Infrastructure Deployment: Architected and provisioned a production-grade GKE Autopilot cluster on Google Cloud using Terraform, establishing a robust and scalable environment for open science tooling.
- Cloud-Native Tooling Integration: Deployed and configured critical event-driven and data orchestration tools such as KEDA (Kubernetes Event-Driven Autoscaler) and Dagster (data orchestrator) to support dynamic, research-driven workflows.
- Secure Cloud Access via Workload Identity Federation: Implemented Workload Identity Federation (WIF) to allow Kubernetes service accounts to securely authenticate with Google Cloud services, eliminating the need for long-lived service account keys.

- **CI/CD with GitHub Actions:** Set up GitHub Actions pipelines to automate Terraform workflows and Kubernetes manifests deployment, enabling continuous delivery of infrastructure and workloads with built-in version control.
 - **Microbiome Data Curation:** Gained hands-on experience with methods and technologies related to metagenomic sequencing and microbial data analysis by studying microbiome curation documentation.
 - **Standardized Data Recording:** Recorded study details, experimental designs, and microbial signatures into a structured format for integration into BugSigDB, a publicly accessible database for microbial signatures.
- Quality Control and Review: Reviewed and enhanced curations submitted by other contributors, ensuring data accuracy, consistency, and compliance with the community's curation standards.
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SKILLS

- **Cloud & Infrastructure:** AWS, GCP
 - **Infrastructure Management:** Terraform
 - **Containerization & Container Orchestration:** Docker, ECS, EKS, GKE
 - **CI/CD Tools:** GitHub Actions, GitLab CI, Jenkins
 - **Monitoring & Logging:** Prometheus, Grafana, CloudWatch, Zabbix, EFK
 - **Automation & Configuration Management:** Docker, Ansible, Bash, Python
 - **Database Management:** RDS Postgres, AuroraDB, PGAdmin
 - **Version Control:** GitLab, GitHub
 - **Backup & Recovery:** AWS Backup, Duplicity
 - **Documentation:** WikiJS, Confluence, ClickUp
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EDUCATION

Bachelor's Degree in Biochemistry
University of Nigeria | 2015 – 2021
