

Mohamed Salah

Principal DevOps Engineer | Cloud Infrastructure & Platform Engineering

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PROFESSIONAL SUMMARY

Principal DevOps Engineer with 8+ years and three AWS Associate certifications, transforming traditional infrastructure into scalable, secure and resilient cloud-native platforms across AWS, Azure and Google Cloud. Migrated 50+ microservices from EC2 to ECS and then to a cloud-agnostic Kubernetes estate, cutting cloud spend by over 40% while sustaining 99.95% availability for CPaaS platforms handling millions of SMS and voice transactions daily. Operate multi-cluster Kubernetes fleets — EKS, GKE, AKS and on-premise Rancher — through Terraform and ArgoCD-driven GitOps, and built the central observability platform (Prometheus, Thanos, Grafana, Loki, Tempo) that unified 8 clusters and cut MTTR from hours to minutes. Embed DevSecOps end to end — image and IaC scanning, admission control, runtime policy enforcement, Vault and Keycloak for secrets and identity — aligned to regulated telecom and financial-services requirements. Creator of Veirox, a production agentic-AI operations platform built on MCP servers and multi-agent orchestration.

KEY ACHIEVEMENTS

- Cut cloud infrastructure spend by over 40% by migrating 50+ microservices to Kubernetes and replacing managed AWS services (S3, Cognito, API Gateway, Datadog, KMS) with self-hosted, cloud-agnostic equivalents.
- Reduced MTTR from hours to minutes with a highly available observability platform covering 8 Kubernetes clusters across EKS, GKE, AKS and on-premise Rancher for multiple clients.
- Raised release cadence from monthly to weekly across 50+ services by standardising CI/CD on GitLab CI, AWS CodePipeline and ArgoCD-driven GitOps.
- Sustained 99.95% availability for multi-tenant CPaaS platforms processing millions of daily SMS and voice transactions across AWS EU, US and India regions.

TECHNICAL SKILLS

Cloud Platforms

- **AWS:** EC2, ECS (Fargate), EKS, Lambda, Auto Scaling Groups; VPC, ALB/NLB, Route 53, API Gateway, CloudFront, WAF, Transit Gateway; S3, EBS, EFS, RDS, DynamoDB, Kinesis, Glue, Transfer Family; EventBridge, SQS, SNS, Step Functions; IAM, KMS, Secrets Manager, SSM Parameter Store, Cognito; CloudFormation, CodePipeline, CodeBuild, CodeCommit, CloudWatch
- **Azure:** AKS, Azure Functions, Azure Container Registry, Azure DevOps Pipelines, Entra ID (Azure AD), Blob Storage, Virtual Network, Application Gateway, Key Vault, Azure Monitor, Log Analytics
- **Google Cloud:** GKE (node pools, autoscaling, Workload Identity), Cloud Run, Artifact Registry, Cloud Storage, Cloud Load Balancing, VPC, Cloud IAM, Secret Manager, Cloud Monitoring, Cloud Logging

Containers & Kubernetes

- **Orchestration:** Docker, Podman, Kubernetes, Amazon EKS, Google GKE, Azure AKS, Rancher (on-premise), Docker Swarm, Helm, Helmfile, Kustomize, K3s, kind, minikube, MicroK8s
- **Platform & Networking:** Istio, Linkerd, Cilium, Calico, Flannel, MetalLB, NGINX and HAProxy Ingress, Kong, Traefik, Consul, cert-manager, External Secrets Operator, Velero, Rook-Ceph, MinIO
- **Scaling & Multi-Cluster:** Karpenter, KEDA, Cluster Autoscaler, Rancher Fleet, Karmada, Cluster API, Crossplane

Automation & Delivery

- **Infrastructure as Code:** Terraform (modules, remote state, workspaces), Terragrunt, Terraform Cloud, Atlantis, AWS CloudFormation, Ansible, Packer
- **CI/CD & GitOps:** Jenkins, GitLab CI, GitHub Actions, AWS CodePipeline, Bitbucket Pipelines, ArgoCD, Argo Rollouts, Argo Workflows, Argo Events, Flux; blue-green, canary and progressive delivery
- **Artifacts & Pipeline Testing:** Nexus, JFrog Artifactory, Harbor, ECR/ACR/Artifact Registry; k6, JMeter, Selenium, Playwright

Observability & Reliability

- **Monitoring & Tracing:** Prometheus, Thanos, Grafana, Loki, Promtail, Tempo, OpenTelemetry, Alertmanager, Datadog, Sentry, AWS CloudWatch, PagerDuty, distributed tracing
- **SRE Practice & FinOps:** DORA metrics, SLI/SLO and error budgets, incident response and war rooms, on-call and escalation design, post-mortems, capacity planning, high availability and disaster recovery; Kubecost, AWS Cost Explorer, Savings Plans, Spot, rightsizing

Security & DevSecOps

- **Code & Supply Chain:** SonarQube, Semgrep, Snyk, Trivy, Grype, OWASP ZAP, Checkov, tfsec; secret scanning (GitLeaks, TruffleHog, git-secrets); Dependabot, Renovate; SBOM (Syft, CycloneDX, SPDX); image signing (Cosign/Sigstore, Notary); hardened base images
- **Runtime & Posture:** Falco, Tetragon, KubeArmor; admission control (OPA/Gatekeeper, Kyverno); CIS Benchmarks, kube-bench, kube-hunter; AWS GuardDuty, Security Hub, Inspector and Config; Defender for Cloud; GCP Security Command Center; WAF
- **Secrets & Identity:** HashiCorp Vault, Keycloak, Sealed Secrets, SOPS, AWS Secrets Manager/KMS, Azure Key Vault, GCP Secret Manager; OIDC/SAML SSO, mTLS and PKI; IRSA, GCP Workload Identity; IAM and RBAC design

AI & Agentic Engineering

- **AI for Operations (AIOps):** Agentic and generative AI, Model Context Protocol (MCP) servers and connectors, multi-agent orchestration, RAG knowledge bases, agentic runbooks and skills, long-term agent memory, LLM-assisted root cause analysis and autonomous remediation
- **Agent Frameworks & SDKs:** LangGraph, LangChain, AWS Strands Agents, OpenAI Agents SDK, Anthropic Claude Agent SDK, MCP server development, tool and function calling, human-in-the-loop approval workflows, agent evaluation and guardrails
- **AI-Assisted Engineering:** Expert-level use of AI coding agents in production workflows — Claude Code, OpenAI Codex, GitHub Copilot, Cursor; agent context engineering (CLAUDE.md, rules, skills), multi-agent delegation, prompt and workflow design, team enablement

Engineering Foundations

- **Languages & Frameworks:** Python (FastAPI, Flask), Bash, Java (Spring Boot), C#/.NET, JavaScript/Node.js
- **Data, Messaging & Caching:** MongoDB, MySQL, PostgreSQL, Oracle, Redis, Memcached, Apache Kafka, RabbitMQ, ActiveMQ, NATS
- **Systems & Collaboration:** Linux (Ubuntu, CentOS, RHEL), Windows Server, KVM, NGINX, Apache, HAProxy; Git, GitHub, GitLab, Bitbucket, AWS CodeCommit; JIRA, Confluence, Zendesk, Agile/Scrum

PROFESSIONAL EXPERIENCE

Acksession | Cairo, Egypt

01/2025 – Present

Principal DevOps Engineer

- Lead cloud infrastructure operations across AWS, Azure and Google Cloud, owning GKE clusters end to end — provisioning, autoscaling, node pool configuration and integration with GCP-native services.
 - Architected agentic AI operations: deployed a dedicated Veirox instance on company infrastructure, giving engineers and managers conversational agents that monitor, maintain, migrate and troubleshoot production environments via MCP servers and secure connectors.
 - Built custom MCP servers for Prometheus, Loki, Tempo and Kubernetes cluster state, plus multi-agent tooling on LangGraph, letting agents query telemetry natively, correlate signals and deliver ranked remediation recommendations to engineering leadership.
 - Standardised multi-cloud provisioning on Terraform and multi-cluster GitOps delivery on ArgoCD, with production observability on Prometheus, Grafana, Loki, Tempo and OpenTelemetry across GKE and multi-cloud workloads.
 - Own security architecture across all three clouds — WAF, network design, IAM policy and compliance controls — and drove DevSecOps adoption via image scanning, admission control and runtime policy enforcement.
 - Mentor a team of 3 DevOps engineers and lead adoption of AI coding agents (Claude Code, OpenAI Codex, GitHub Copilot, Cursor) with the context-engineering conventions that make them reliable on production infrastructure code.
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Cequens | Remote, Cairo

05/2021 – 01/2025

Principal DevOps Engineer

Cloud-Native Migration & Cost Optimisation

- Migrated 50+ microservices (Node.js, .NET, Python, Java, React, Angular) from Docker-on-EC2 to managed AWS ECS, then to a cloud-agnostic Kubernetes estate portable across AWS, Azure, GCP and on-premise.
- Cut cloud spend by over 40% through workload rightsizing and Kubernetes-native replacements for managed AWS services — MinIO for S3, Keycloak for Cognito, Kong for API Gateway, Vault for SSM and KMS, Prometheus/Grafana for Datadog.
- Codified the full estate in Terraform and Ansible — API Gateway, load balancers, ECS services, networking and IAM — making every environment reproducible from code.

Multi-Cluster Observability Platform (flagship)

- Designed and operated a highly available central observability platform monitoring 8 Kubernetes clusters spanning EKS, GKE, AKS and on-premise Rancher, across QC, production and dedicated client environments.
- Cut MTTR from hours to minutes by unifying metrics, logs and traces into a single pane of glass, eliminating per-cluster blind spots for on-call engineers.
- Architected the metrics tier on Prometheus, Thanos and Grafana, logging on Loki in distributed mode with Promtail, APM and error tracking on Datadog and Sentry, all backed by Rook-Ceph persistent storage.

CI/CD, GitOps & Reliability

- Raised release cadence from monthly to weekly across 50+ services by standardising CI/CD on GitLab CI and AWS CodePipeline with ArgoCD-driven GitOps promotion through QC, production and on-premise.
 - Sustained 99.95% availability on multi-tenant platforms processing millions of SMS and voice transactions daily, through multi-AZ HA design and zero-downtime deployments.
 - Eliminated cloud vendor lock-in — unlocking on-premise and private-cloud delivery for regulated customers — and mentored engineers on Kubernetes, Terraform and observability practice.
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Mavenir | Remote

05/2020 – 05/2021

Senior Cloud Engineer

- Architected multi-tenant, multi-zone cloud services across AWS EU, US and India regions for a CPaaS platform handling millions of daily SMS and voice transactions.
- Ran the AWS estate end to end: EC2 and Auto Scaling Groups, ALB, Route 53, S3, EBS, RDS, API Gateway, Kinesis, Glue and Transfer Family.
- Codified infrastructure with Terraform, CloudFormation and Ansible, built Jenkins CI/CD pipelines, and owned Datadog monitoring, on-call and incident response to SLA.

Al Rajhi Bank | Riyadh, Saudi Arabia

07/2018 – 04/2020

Cloud Engineer

- Managed deployments for Mobile Banking and Internet Banking across on-premise data centres and AWS in a regulated hybrid environment, tuning performance against banking SLAs and partnering with engineering teams on production troubleshooting.
- Designed and maintained Jenkins CI/CD pipelines automating build, test and release for Java and React applications, improving deployment consistency and speed.

Edafa for Telecom Solutions | Cairo, Egypt

01/2017 – 01/2018

Java Developer

- Developed and optimised the Vodafone Egypt Payment Gateway, an e-payment system managing the full payment lifecycle, alongside telecom VAS and media services over HTTP, SIP, MAP and SMPP.
- Tuned performance across MySQL, PostgreSQL and Oracle, wrote unit and integration tests with JUnit and Mockito, and automated Jenkins builds and deployments to JBoss/WildFly and Apache Tomcat.

SELECTED PROJECTS

Veirox — Autonomous DevOps & SRE Agent Platform | veirox.com

2025 – Present

Founder & Principal Engineer

- Designed and built a production, multi-tenant SaaS platform that gives DevOps and SRE teams autonomous AI agents for incident response, remediation and infrastructure operations — currently deployed on client production infrastructure and used daily to manage multi-cloud environments.
- Built the agent runtime on Model Context Protocol (MCP) servers and multi-agent orchestration, exposing 200+ tools across 40+ integrations spanning AWS, Azure, GCP, EKS/GKE/AKS and on-premise Kubernetes, Prometheus, Grafana, Datadog, Sentry, PagerDuty, GitHub, GitLab, Jira and Slack.
- Evaluated and integrated multiple agent frameworks and SDKs — LangGraph, LangChain, AWS Strands Agents, the OpenAI Agents SDK and the Anthropic Claude Agent SDK — selecting per use case across orchestration, tool calling, streaming and human-in-the-loop control.
- Engineered the knowledge layer that makes agents reliable: versioned runbooks with semantic search, parameterised skills loaded on demand, long-term entity-keyed memory, and a memory-extractor agent that mines past sessions into structured facts.
- Implemented safety and governance for autonomous operations — a policy engine with must-always/must-never runtime rules, six approval workflow types, connector-level denylisting of destructive commands, PII redaction and a full audit trail.
- Delivered Veirox Connect — an outbound-only WebSocket tunnel giving agents access to private Kubernetes clusters, on-premise databases and air-gapped networks with no inbound firewall exposure — alongside signed webhook ingestion, on-call scheduling with escalation, an AES-256 secrets vault, cost ceilings and a cross-platform Go CLI.

CERTIFICATIONS

- **AWS Certified Solutions Architect – Associate** — Amazon Web Services • [Verify on Credly](#)
- **AWS Certified Developer – Associate** — Amazon Web Services • [Verify on Credly](#)
- **AWS Certified SysOps Administrator – Associate** — Amazon Web Services • [Verify on Credly](#)
- **AI Engineering Bootcamp — Agentic & Generative AI** — Andela AI Academy • [View certificate](#)

EDUCATION

Information Technology Institute (ITI) | 6th of October City, Giza, Egypt

09/2017 – 06/2018

Professional Diploma, Cloud Application Development — Ranked first in track. Nine-month intensive in Linux administration, Jenkins CI/CD and cloud-native delivery on AWS.

Higher Technological Institute | 6th of October City, Giza, Egypt

Graduated 01/2015

B.Sc. Electronics & Communication Engineering — GPA 3.25 (Very Good).

LANGUAGES

Arabic — Native • English — Professional working proficiency