AKASH PAWAR

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Summary

Cloud and Site Reliability Engineer with over two years of experience in designing scalable serverless architectures, optimizing backend systems, and automating kubernetes infrastructure. Skilled in developing cloud applications for performance, cost, and scalability.

Certifications

- Certified Kubernetes Administrator   — AWS Solutions Architect   — AWS Certified Developer

Experience

DevOps Engineer   **Dec 2022 – Current**
Trames Private Limited   *India, Remote*

Cloud Migration & Optimization

- Led major **cloud migration** projects, migrating workloads from **AWS to Azure**, optimizing performance & reducing infrastructure complexity.
- Implemented **cost optimization strategies** using **Spot Instances, autoscaling, reserved instances, and resource right-sizing**, achieving a **35% cost reduction ($5,500/month)** without compromising scalability or reliability.
- Implemented cost-saving **automation workflows** using **Lambda, EventBridge, and API Gateway** for on-demand VM management, DynamoDB scaling & Slack-integrated VM control, optimizing resource usage & operational efficiency.
- Migrated production databases from aws to **Azure PostgreSQL Servers**, ensuring high availability, data integrity, and seamless data replication.

Kubernetes & DevOps Infrastructure (POC Click here)

- Architected and deployed a production-ready **EKS cluster on AWS** using **Terraform**, implementing multi-node groups (on-demand & spot instances), ALB controller, EBS CSI driver, and IRSA for secure workload identity management.
- Built end-to-end **GitOps CI/CD pipeline** using **ArgoCD** with app-of-apps pattern for managing microservices deployment, external secrets integration via **ESO**, and automated application lifecycle management.
- Implemented comprehensive **observability stack** with **Prometheus, Grafana, OpenSearch & Fluent Bit**. including dashboards for monitoring, centralized logging, and infrastructure metrics collection across Kubernetes workloads.
- Designed **network security** with Kubernetes Network Policies, service mesh communication patterns, and **AWS ALB ingress** with SSL termination for secure multi-application routing.
- Hands-on experience with **AWS CloudWatch** for log aggregation, metric collection, and alarm configuration; later transitioned to **Logz.io** for enhanced log analytics, centralized monitoring, and streamlined troubleshooting.

Serverless & Automation

- Architected and deployed multiple serverless backend architectures using **AWS API Gateway, Lambda, S3, SQS, & AWS SAM**, including patterns such as API Gateway →Lambda and API Gateway →S3 with event notifications to SQS for downstream processing.
- Utilized **Terraform and AWS CDK** to automate infrastructure provisioning and ensuring time efficient and consistent deployments.
- Built a custom monitoring tool using **Python** for VM metrics and process tracking, deploying it via **Ansible**, improving observability and operational efficiency.
- Developed the **MCP Server and its backend** using Python and `boto3` to analyze AWS cloud costs with an integrated LLM client.

MCP – Cloud Cost Analysis With LLM

- Designed and built the **MCP Server and backend** using Python and `boto3`, enabling AWS cloud cost analysis through a seamless LLM-based query interface.
- Integrated AWS Cost Explorer APIs to fetch and summarize cloud spend, empowering users to detect high-cost services, idle resources, and spending trends.

CI/CD & Deployment

- Configured **GitHub Actions, AWS CodePipeline, and Azure DevOps** to streamline deployments, reducing deploy time and minimizing potential human errors.
- Implemented **self-hosted GitHub Actions runners** for deploying to private VMs in Azure, optimizing deployment & security of application workflow.
- Utilized **NGINX as a reverse proxy** for application traffic management, optimizing request routing and enhancing its performance.

Security & Compliance

- Enforced **IAM policies, RBAC, & AWS Identity Center (SSO)** to standardize access control across multiple AWS accounts and Azure, enhancing security and streamlining user management.
- Implemented **AWS GuardDuty** for proactive threat detection and security monitoring.
- Configured **VNet Peering and VPNs** to secure cross-cloud and cross-VNet communication, ensuring secure access to internal resources.

Cloud & Networking Expertise

- Designed and implemented **multi-cloud networking** with **AWS VPC, Azure VNet Peering, NACLs** & **Security Groups**, enhancing cross-cloud connectivity and security.
- Worked extensively with core AWS services such as **EC2, DynamoDB, ECS, EKS IAM, S3, Lambda**, and Azure services including **App Service, AKS, Azure VM**.

Skills and Expertise

- **Cloud Platforms:** AWS, Azure, Kubernetes (EKS, AKS), Docker, Helm, OpenVPN, VPC/VNet, Security Groups, NACLs
- **Infrastructure as Code:** Terraform, AWS CDK
- **CI/CD GitOps:** GitHub Actions, AWS CodePipeline, Azure DevOps, ArgoCD, Azure Pipeline
- **Programming Scripting:** Python, Node.js, Express, React.js/Next.js, JavaScript/TypeScript
- **Monitoring Observability:** CloudWatch, Logzio, Prometheus, Grafana, OpenSearch
- **Databases Messaging:** PostgreSQL, MongoDB, Redis
- **Networking Security:** VPN, Load Balancers (ALB, NLB), IAM Policies

Education

MITAOE   **2019 − 2023**
B.Tech in ENTC with specialization in cloud computing   *Pune, India*