

ANKIT RATHI

Senior DevOps Engineer | AWS Solutions Architect Professional Certified
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EXPERIENCE

Senior Platform Engineer / Software Engineer 3

09/2022 - Present

Banque Saudi Fransi

Dubai

- Employed **cert-manager** to automate certificate management via **HTTP** and **DNS** validations.
- Improved Security posture by implementing **OAuth2** authentication for internal services like Grafana. Seamless **SSO experience** for developers across all the internally used services.
- Implemented a unified **monitoring** and alerting system using **kube-prometheus**, ensuring robust **observability** of **kubernetes** cluster's health and performance.
- Reduced iOS build time by **75%** (1 hr → 15 mins) by self-hosted mac-studio GitHub runners.
- Created CI-CD workflow on **github actions** for automated kubernetes manifests **linting** and deployment using **kubescape**, **kubeval** and **kustomize**.
- Pivotal role in architecting a robust and secure infrastructure for a website, leveraging tech such as **Hub** and **Spoke** model VCN, **Next-Generation Firewall**, **DRG**, **NLB**, **ALB**, **OCI k8s**.
- SAML** implementation to create users for **Sonarqube** using **Keycloak** (Identity Provider)
- Setup backup jobs (**full, partial and differential backups**) for self-managed MSSQL on kubernetes to achieve required **RTO** and **RPO**.

DevOps Engineer

01/2020 - 08/2022

Tradeling.com

Dubai, UAE

- Set up Infrastructure on **self-managed kubernetes** cluster from scratch on AWS using **ansible**, **terraform** and poseidon/typhoon. Generated k8s manifests using **php**.
- Migrate all backend APIs to **AWS Edge Optimized API Gateway** and **EKS**. Also used AWS **WAF**, **API Throttling**, **API Caching**, **Network LB** and **VPC Link**
- Caching APIs at **AWS Cloudfront** with dynamic origins thereby reducing the homepage response time by **75%** (105ms to 25ms). Also used custom **CORS** and caching policies.
- Reduced the **avg** website **load time** in China by **80%** (2500ms to 500ms) by testing with **Zenlayer Global Accelerator**, **Huawei CloudConnect**, **Alibaba Global Accelerator**, **Geolocation Records** and reduced the cost of solution from 3500\$ to 100\$ i.e. **97%**
- Closed around 70 plus vulnerabilities reported in ASV, Network VAPT, Web Application PT to make the infrastructure **PCI compliant**.
- Set up **Monitoring** for Tradeling Infrastructure from scratch using **ELK stack**, **metricbeat**, **journalbeat** and **ansible** which collects data from 20+ servers across 3 environments
- Set up **CI-CD** on **GitHub Actions** and **Docker Jenkins** using ansible running **5000** jobs daily. Maintained jenkins jobs using groovy scripts
- Created Monitoring **Dashboards** in **Kibana** for API Performance, MongoDB, NATS, MySQL, Kubernetes, Hosts, System Monitoring and Docker.
- Daily Automated Releases using **python** script (**2000+ lines of code**) sending **automated email change log** of **50+ repositories** to respective teams. Attend **stand-ups** and **sprint planning** sessions.
- Maintaining Self Managed Databases including **MySQL**, **MongoDB** using docker-compose
- Daily backups** of MongoDB, MySQL using ansible, uploaded to AWS S3 buckets
- 24/7 automated website monitoring using **Prometheus**, alertmanager, blackbox exporter with automated slack alerts.

DevOps Engineer

11/2018 - 01/2020

Accelya Group

Dubai, UAE

- Setting up Infrastructure of the new customers for Development, UAT and Production Environments on **Weblogic** and **Tomcat** Platforms.
- Migration** of the build-jobs of **66 customers** to separate the 'Builds & Deployments' phases.
- Build **JIRA Dashboard** for the team. This was extensively used by all teams to log tickets and follow the DevOps Approach.

Sr Software Engineer

01/2017 - 10/2018

Walmart Labs

Bangalore, India

- Set up Infrastructure for **microservices** on **OneOps** with **DR** enabled involving **1000s** of servers across two data centers.
- Created DevOps Automation **Dashboard** using **Django**, **Python** to automate **splunk** alert actions.

CERTIFICATIONS



FIND ME ONLINE

www.ankitrathi.info

[Blogger](https://codeaprendiz.blogspot.com)
<https://codeaprendiz.blogspot.com>

[LinkedIn](https://www.linkedin.com/in/ankit-singh-rathi)
www.linkedin.com/in/ankit-singh-rathi

[GitHub](https://www.github.com/codeaprendiz)
www.github.com/codeaprendiz

[Stack Overflow](https://stackoverflow.com/users/5761011/codeaprendiz?tab=profile)
<https://stackoverflow.com/users/5761011/codeaprendiz?tab=profile>

[HackerRank](https://www.hackerrank.com/codeaprendiz)
<https://www.hackerrank.com/codeaprendiz>

[HackerEarth](https://www.hackerearth.com/@codeaprendiz)
<https://www.hackerearth.com/@codeaprendiz>

SKILLS

Infrastructure As Code Tools

Ansible · Terraform · Cloud Formation

Cloud Providers

AWS · OCI · GCP · Alibaba · Huawei

Container And Orchestration

Docker · DockerSwarm · Kubernetes ·

Fargate · Openshift

Languages

python · go · shell · nodejs · php

Version Control Systems

Git · SVN · Code Commit

Service Mesh

Istio · Linkerd

Ingress Controllers

Traefik · Nginx Ingress Controller · Kong

Monitoring & Logging

Grafana · Prometheus · Elastic Search ·

Kibana · Logstash · Splunk · Datadog ·

Journalbeat · Metricbeat · Alertmanager ·

Blackbox Exporter · Cloudwatch

CI-CD

GitHub Actions · Jenkins · Code Build ·

Code Deploy · Drone-Cl

PROJECTS

[ankitrathi.info](#) | [Learn DevOps](#) | [Popular OpenSource Repositories](#)

- [learn-devops](#) (1.2k stars), [terraform](#), [kubernetes](#), [ansible](#)

Automatic Certificate Management Using Lets Encrypt, mTLS using Linkerd

- Utilized **cert-manager** to automate certificate issuance and renewal management.
- Achieved **zero-downtime** during certificate renewals, preserving a secure user experience.
- End-to-end encrypted (**HTTPS** and **mTLS**) using cert-manager and **Linkerd** (service mesh)

Monitoring and Logging Setup using kube-prometheus and loki

- Leveraged **Grafana** to create insightful, interactive dashboards that visualized the metrics from **Prometheus**, offering an intuitive view into the cluster's operation.
- Deployed bitnami/**grafana-loki** for efficient log aggregation and management, centralizing logs from various services to provide a complete view of system operations and incidents.

Self Hosted Github Runners

- **480%** reduction in github mins usage (**480 minutes** → 0)/iOS build, using mac studio runners.
- Used Actions Runner Controller (ARC), a **kubernetes operator** for scaling, orchestrating self-hosted runners for GitHub Actions giving performance, compliance and **caching** benefits.

Robust Security Integration in CI/CD using Trivy

- Enabled comprehensive repository and Docker image scanning by integrating Aqua Security's Trivy with GitHub Actions, ensuring every build undergoes thorough security checks.
- Stack: **aquasecurity/trivy-action**, self hosted runners, **github actions**.

OAuth2 Authentication for Internal Services

- Utilized **bitnami/oauth2-proxy**, cert-manager, **nginx** ingress, **Keycloak** (Identity Provider).

Secure And Robust Infrastructure for Banking Website

- Deployed **Next-Generation Firewall**, SG, NSG to fortify network security. Implemented regional **Web Application Firewall** to protect website against online threats and attacks

API Performance Enhancement through Strategic AWS Cloudfront Implementation

- Optimization of **API caching** via **CloudFront**, reducing GET API response times of home page api's by **75% (105ms → 25ms)**. Created **dynamic origins**, **custom caching** and **CORS** policy

Implementation of AWS API Gateway for Backend API Optimization

- Used **Edge Optimized AWS REST API Gateway** and implemented strategic **caching**, reducing API response times from **175ms → 55ms** (one use-case) enhancing user experience.
- Incorporated **AWS WAF**, custom domain naming, **NLB**, **EKS**, and **VPC Links**, fortifying API security while ensuring a robust, scalable, and resilient backend infrastructure.

Monitoring And Logging Setup Using ELK Stack

- Stack : **ELK** i.e. Elastic Search, Logstash and Kibana, **docker-compose**, **ansible** on instances.
- Logging → **Journalbeat**, Monitoring → **Metricbeat** (kubernetes, mongodb, mysql and NATs)
- **Dashboards** → Kubernetes, System, Host, MongoDB, MySQL, NATs, Docker monitoring.
- **URL monitoring** and **Alerts** on slack using **Prometheus**, **Alertmanager**, **Blackbox-Exporter**
- **Prometheus**, **Alertmanager**, **Blackbox-exporter** set up done using ansible, docker-compose

Multi-Cloud Infrastructure Optimization for China

- Improved web performance in China by **reducing** the avg **load time 80%** (2500ms to 500ms).
- Used **Alibaba Global Accelerator**, **geolocation** records (**\$3500/month**). Dedicated bandwidth, HongKong → India. **Huawei Cloud Connect** (China → Singapore), **SNAT**, **DNAT**. Cost **\$1500/month**. **Zenlayer Global Accelerator** (**\$100/month**) w.r.t data-transfer package.

Self Managed kubernetes infrastructure using opensource Typhoon

- Stack: AWS, Terraform, poseidon/typhoon, used **reserved** and **spot** Instances to **save cost**
- **Self healing** cluster. Spot instance → terminated, **lamda fn** → trigger a **webhook** in Jenkins which would run **ansible playbook task** to **drain** the corresponding kubernetes cluster node.

Automated Releases to Staging and Production

- Jenkins triggered **ansible** to automate release to staging via **Python** script (**2000+** lines)
- **Automated Change Log-Email** → dedicated audience, **Live Updates** → **Slack Channel**

Infrastructure setup using Terraform, Ansible

- Designed and implemented AWS infrastructure including components **VPCs**, **EC2** instances, **Route53** DNS configurations, Route tables, Security Groups, **Bastion** hosts, and **NAT** Gateways using **Terraform** and **Ansible**, ensuring reproducibility, scalability & maintainability.
- Planning regular **upgrades** of self managed services like **MongoDB**, **MySQL**, **NATs**

Payment Card Industry Data Security Standards (PCI-DSS) Compliance

- Used AWS **KMS** to encrypt card holders data before it was saved to the database.
- Infrastructure was made **PCI-DSS complaint** by closing ~70 vulnerabilities across different scans : **ASV**, **Network VAPT** and Web Application **Penetration** Testing.

Migrating Self-Managed Services to AWS Managed Services

- MySQL → AWS RDS MySQL, MongoDB → Mongo Atlas, Elasticsearch → AWS Elasticsearch, Self Managed k8s using kops to AWS EKS

SKILLS

Kubernetes Configuration Management

Helm · Kustomize

Security

Trivy · Sealed Secrets

Distributed Tracing

Jaeger

Collaboration & Issue Tracking

JIRA · Confluence

Databases

MySQL · PostgreSQL · MongoDB · Oracle-SQL ·

MS-SQL

Web Servers

Tomcat · Apache · Nginx · Jboss

Build Configurations

Maven · npm

OS

Feroda CoreOS · Linux · Windows

EDUCATION

B.E. Computer Science and Engineering


Bangalore Institute Of Technology

07/2013 - 07/2017


Bangalore, India

GPA | **75** / 100

ACHIEVEMENTS

 **AWS Certified Solutions Architect - Professional**

It took me around 290 hours spread across 4 months to prepare for the examination outside office hours.

 **Daily Automated Releases to Stage And Weekly to Prod**

Invested significant time and effort into developing over **2,000** lines of **Python** code. This solution facilitated real-time Slack notifications for build and deployment statuses, computed change logs from more than 50 repositories, and automated the dispatch of emails to the relevant recipients

 **learn-devops : open source repo**

Created an open-source repository containing 400+ devops tasks across various devops domains. The repository has more than 1.2k github stars.

LANGUAGES

English Advanced ●●●●●

Hindi Native ●●●●●