

# ANKIT RATHI

Senior DevOps Engineer | AWS Solutions Architect Professional  
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Dubai



## EXPERIENCE

### Senior Platform Engineer / Software Engineer 3

09/2022 - Present

#### Banque Saudi Fransi

Dubai, UAE

- 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.
- 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**, **differential**) for self-managed MSSQL on k8s to achieve required **RTO** & **RPO**.
- Developed and managed CI/CD pipelines leveraging GitHub Actions and **ArgoCD**. Automated kubernetes manifests **linting** and deployment using **kubescape**, **kubeval** and **kustomize**.
- Deployed & configured **WAF** to protect against DDoS attacks, enhancing web application security.
- Administered GitHub repositories, optimizing **branching**, **tagging** strategies, and access permissions.
- Participate in daily **stand-ups**, **sprint** planning, & adhere to agile methodologies for project execution.
- Proficient in **incident** & change management, prioritizing issue resolution for optimal service performance.

### DevOps Engineer

01/2020 - 08/2022

#### Tradeling

Dubai, UAE

- Set up Infrastructure on **self-managed kubernetes** cluster on AWS using **ansible**, **terraform** and poseidon/typhoon. Generated k8s manifests using **php**.
- Migrated all backend APIs to **AWS Edge Optimized API Gateway** and **EKS**. Used **AWS WAF**, **API Throttling**, **API Caching**, **Network LB (L4, TCP)** 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 **average 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.
- Proficient in AWS networking, encompassing **VPC**, subnets, **NACL**, security groups, both local and remote **peering** gateways, transit routing, **Network (L4)** and **Application (L7)** load balancers, Internet and NAT gateways, and VPC endpoints

### 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 'Build & Deployment' phases.
- Designed and implemented an extensive **JIRA dashboard**, widely adopted by multiple teams for streamlined ticket management and supporting DevOps methodologies.

### Software Engineer

01/2017 - 10/2018

#### Walmart Labs

Bangalore, India

- Created infrastructure for **microservices** on OneOps with disaster recovery (**DR**) capabilities, managing **1000s** of servers across two data centers.
- Created DevOps Automation **Dashboard** using **Django**, **Python** to automate **splunk** alert actions.

## CERTIFICATIONS



## FIND ME ONLINE



### Website

[www.ankitrathi.info](http://www.ankitrathi.info)



### LinkedIn

<https://www.linkedin.com/in/ankit-singh-rathi>



### Github

<https://github.com/codeaprendiz>



### Stack overflow

<https://stackoverflow.com/users/5761011/codeaprendiz>

## SKILLS

### Infrastructure As Code

Ansible . Terraform . Cloud Formation

### Cloud Providers

AWS . GCP . Azure

### Container And Orchestration

Docker . Docker-Swarm . Kubernetes . Fargate . Openshift

### Languages

python . shell . go . nodejs . php

### Version Control Systems

Git . SVN . Code Commit

### Service Mesh

Linkerd . Istio

### Ingress Controllers

Traefik . Nginx Ingress Controller . Kong

### CI-CD

Github Actions . Jenkins . Code Build . Code Deploy . Drone-CD . ArgoCD

### Kubernetes Configuration Management

Helm . Kustomize

### Code Quality & Security

Trivy . Sealed-Secrets . SonarQube

### Monitoring & Logging

Grafana . Prometheus . Elastic Search . Kibana . Logstash . Splunk . Datadog . Journalbeat . Metricbeat . Alertmanager . Blackbox Exporter . Cloudwatch . Loki . Sentry

### Distributed Tracing

Jaeger

### Performance & Testing

J-meter, Siege, Postman

### Collaboration & Issue Tracking

JIRA . Confluence

### Databases

MySQL . PostgreSQL . MongoDB . Oracle-SQL . MS-SQL

### Web Servers

Apache Tomcat . Nginx . Jboss

### Build Configurations

Maven . npm

## 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 encryption (**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 minutes 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 self hosted GitHub Actions runners, ensuring every build undergoes thorough security checks.

### [OAuth2 Authentication for Internal Services](#)

- Implemented **OAuth2** Authentication for internal services, leveraging **bitnami/oauth2-proxy** and **cert-manager** for secure proxying and automated certificate management.
- Utilized **nginx ingress** for effective routing and load balancing, and integrated **Keycloak** as the **Identity Provider** for seamless authentication processes.

### [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 policies** for more efficient content delivery, and robust **CORS** policies to ensure secure cross-origin resource sharing.

### [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 **EC2** instances.
- **Journalbeat** for logging, **Metricbeat** for monitoring kubernetes, mongodb, mysql and NATs.
- Created **Dashboards** for 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 average **load time** by **80%** (2500ms to 500ms).
- Used **Alibaba Global Accelerator**, **geolocation** records (**\$3500/month**). Solution included dedicated bandwidth from HongKong to India. Huawei Cloud Connect (China to Singapore), **SNAT**, **DNAT** with Cost **\$1500/month**. **Zenlayer Global Accelerator** (**\$100/month**) w.r.t data-transfer package.

### [Self Managed kubernetes infrastructure using open-source Typhoon](#)

- Stack: AWS, Terraform, poseidon/typhoon, used **reserved** and **spot** Instances to **save cost**.
- k8s cluster was **Self healing**, when spot instance was terminated, a lamda function triggered a webhook in Jenkins which would run **ansible playbook task** to **drain** corresponding k8s cluster node.

### [Automated Releases to Staging and Production](#)

- Jenkins triggered **ansible** playbook task to automate release to staging via **Python** script (**2000+** lines).
- **Automated Change Log-Email** was sent to dedicated audience. **Live Updates** sent to **Slack Channel**.

### [Infrastructure setup using Terraform, Ansible](#)

- Designed and implemented AWS infrastructure including components **VPCs**, **EC2** instances, **Route53** configurations, Hosted Zones, 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 -> RDS MySQL, MongoDB -> MongoDB Atlas, Elasticsearch -> AWS **Elasticsearch**, Self Managed kubernetes using kops to AWS **EKS**

## SKILLS

### OS

Fedora . CoreOS . Windows . Ubuntu . Linux

### Identity Providers

Keycloak . Oracle IDCS . AWS IAM

## 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 around **290 hours** spread across 4 months to prepare for the examination outside office hours.

### Led the infrastructure aspect of performance testing to support up to 30,000 users / hour

This involved configuring J-Meter and Siege instances for effective stress testing and optimizing the infrastructure by calibrating instance specifications, load balancer bandwidth, CPU cores and RAM for k8s pods, thereby enhancing overall system performance.

### 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 . Hindi

## INTERESTS

Coding . Swimming . Basketball . Sienfield . Friends