Ryan Lin

Web3 SRE / DevOps Engineer

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Summary:

- Web3 DevOps project experience, was managing Layer 2 and off-chain-related infrastructure
- Have a deep understanding of the blockchain industry, Polkadot and Ethereum ecosystem
- Familiar with DeFi, the mechanism of PoS and Layer 2 ZK roll-up solution
- Lots of Hands-on experience on AWS/GCP and Multi-Cloud solution
- Was in charge of solution architecture design
- Experience in different CI/CD Pipelines
- Deep understanding of Infrastructure as Code and hands-on experience in Terraform
- Hands-on experience with the auto-scaling design in ECS, Kubernetes, EKS
- Enjoy automating everything in the whole SDLC
- Helped the team to understand DevSecOps culture and was keen to exchange knowledge with the team
- Applied GitOps strategy for various projects
- Experience in SRE, production monitoring
- Cross-cultural working experience, multi-lingual speaker and good communication skills
- Great analytical and troubleshooting abilities
- An agile, adaptable and fast-learning person with a can-do attitude

Skills:

OS Administration:
CentOS 7, Ubuntu (18.04/20.04), Mac OS, Windows server

Programming languages:
Python, Groovy, YAML, HCL, Shell (Bash, Power Shell), Rust, Solidity

Containerisation & Orchestration:
Docker, ECS, Kubernetes, EKS

Database Administration:
MongoDB, DynamoDB, SQL, Redis

CI/CD Tools:
Jenkins, AWS CodePipeline, GitHub Actions, BitBucket Pipeline, GitLab Pipeline

Cloud Services:
AWS: IAM, S3, EC2, ASG, Fargate, ELB, ECR, CloudFront, Route 53, RDS, Certificate Manager, API Gateway, Lambda, Secret Manager, SSM, SQS, SNS, AWS Backup, Cognito
GCP: IAM, Compute Engine, Kubernetes Engine, Filestore, Google domain

Infrastructure as Code:
CloudFormation, Terraform, Serverless Framework, SAM, boto3

DevSecOps:
WAF & Shield, SonarQube, VPN, AWS Organization, CloudTrail

Monitoring, Alerts &Logging:
CloudWatch, Grafana, DataDog, NewRelic, OpsGenie

Testing Tools:
Locust (Load test), Postman

Version Control Tools:
Git, GitHub, BitBucket, GitLab

Deployment Strategy:
Blue-green Deployment, Canary Deployment, Rolling-update Deployment

Agile / Scrum:
Atlassian Jira, Confluence, Trello, Kanban board, Stand-up meeting, Retro, Plan meeting

Experience

Taiko

Cloud Architecture Consultant Apr 2023 – Oct 2023

- ZKevm client deployment script

- EKS uplift on GCP/ Tencent Cloud
- Cloud migration from GCP to Tencent Cloud
- Secret Manager solution on EKS
- Auto scaling solution on GKE node pool

Nethermind

Senior DevOps Engineer (switched to the new company with the leader) Jan 2023 – Dec 2023

- Helped a client to build the EKS infra from 0 to 1.
- Designed and built the CICD pipeline to make the development fully automatic and implement GitOps.
- Built a good reusable module for Kubernetes monitoring and logging. (Prometheus + Grafana + Loki)
- SRE practice for over 200 ETH validators for Lido. (All in Kubernetes cluster)
- Helped the junior engineer with onboarding and training sessions.
- Enterprise Okta access control integration
- AWS cost optimization (saved at least 10k per month)

Myria – ETH Layer 2 Blockchain Game Platform

DevOps Engineer May 2022 – Jan 2023

- Designed the AWS organization and let one AWS account break down into different AWS sub-accounts, securing the whole cloud service. And at the same time, applied SSO and group permission set for each user, implementing access control for the developers or power users.
- Developed new GitLab CI/CD pipelines for different APIs, including Terraform infra state file management and git versioning.
- Applied the Canary deployment strategy for the Prod API release, which can control the traffic ratio for each new version release by the Application Load balancer. (zero downtime for deployment)
- Utilized Terraform to manage the infrastructure on AWS as an IaC strategy.
- Modulized most of Terraform code, which can make it reusable and maintainable, such as RDS, Redis, ECR and so on. Version control for the module will be applied by the tag in the repository.
- Configured the NewRelic monitoring platform for the APIs with alerting, and developed the Terraform code for Application Performance Monitoring and Infrastructure Status Monitoring in different APIs.
- Provided cloud solution architecture consulting for various new microservices projects, including the architecture of internal and public APIs.
- Implemented the Front-end CI/CD and CDN with Terraform and AWS CLI in Bash, which made the Front-end deployment fully automated. (including CDN automated invalidation)
- Set up the Lambda function automated CI/CD pipeline with modulized Terraform code, and implemented the Serverless architecture.
- Configured SQS and SNS for async architecture by Terraform.
- Built and managed the SonarQube as a vulnerability scanning tool for the internal development team.
- Deployed the Data availability committee for the Starkex ETH Layer 2 architecture.
- Implemented the integration with Slack, like monitoring alerts, daily work report bot, and Jira automation as the ChatOps Strategy.
- Developed the Gitlab Runner establishment automation template and user data, which can quickly spin up a new internal and safe runner.
- Helped and provided advice to the QA team for pen-testing and performance testing.
- Utilized OpenVPN to set up and managed the internal VPN for VPC as the access control strategy for each EC2 server and Database.

Parcelpoint – Network of 1400 local delivery, pickup and return locations

DevOps Engineer (in voluntary administration) Mar 2022 – Jul 2022

- Managed Multi-Account AWS Infrastructure across multiple regions as a daily duty.
- Did development, operations, and maintenance of infrastructure for the whole modern digital logistic system.
- Created multiple microservices API Clusters and end-to-end CI/CD pipelines using EC2, Kubernetes, Ansible, Hashicorp

Vault and Jenkins.
- Managed the legacy Docker Swarm API and migrated it to EKS afterwards.
- Led an EKS migration project from self-host Kubernetes without any downtime.
- Implemented the repository migration from BitBucket to GitLab.
- Was in charge of the security and performance of the Parcelpoint application.
- Designed and maintained the networking infrastructure including VPC, Internet Gateway, Nat Gateways, Route Tables, and Subnets.
- Configured the sidecar containers added to the Pods for log collection via DataDog.
- Did the day-to-day operation for a highly secure, scalable, and fault-tolerant self-managed Kubernetes Cluster in the AWS cloud.
- Implemented a secrets management solution using the Hashicorp Vault deployed on a self-host EC2 server.
- Utilized Jenkins and Ansible playbooks to build and deploy Docker images on the Kubernetes clusters.

ProEats – Online Restaurant Reservations Platform

DevOps Engineer Nov 2021 – Mar 2022

- Participated in the initial system design of the project, implemented and maintained a three-tier architecture (clients, server, database) for the main website.
- Designed and implemented a High-available and secure cloud architecture, including VPC, Internet Gateway, Availability Zone, Public/Private Subnet, Route Table, Security Group, and NAT Gateway.
- Utilized BitBucket as the version control and CI/CD tool for the team, and developed the BitBucket Pipeline script for front-end and back-end respectively.
- Configured a hosted zone on Route 53 to manage the domain name registered from DNS.
- Created the S3 to host the React static website as the front-end solution. Utilized CloudFront to configure CDN for loading page, and registered the SSL certificate on AWS Certificate Manager, which can improve user experience.
- Configured Cross-origin resource sharing (CORS) on S3 to connect the front-end and back-end.
- Orchestrated the container by AWS ECS and deployed the containerized back-end code on AWS Fargate with Application Load Balancer in two different availability zones, which can implement the auto-scaling feature and ensure high availability for the web app.
- Containerized the back-end code and pushed the Docker image to AWS ECR for future rollback if any error occurs.
- Set up the MongoDB Atlas as a cloud database, which is flexible and scalable.
- Provisioned AWS infrastructure by utilizing Terraform to promote configuration efficiency and reduce the potential risk of configuration drift and error-prone provisioning. Applied IaC practice and ensured consistency of infrastructure provisioning and configuration.
- Extracted the loggings from CloudWatch and integrated the Grafana for monitoring.
- Practiced the Agile development methodology and sprint planning through Jira.

ReadyRental – Online Rental House System

DevOps Engineer Jan 2021 – Nov 2021

- Administrated AWS IAM and set serval group attached different policy, which gives different permissions to 11 developers and 2 DevOps engineers.
- Helped the team to use Docker and Shell to containerize the code and let them understand DevOps culture and concepts.
- Was responsible for the Production environment deployment, and set up a Jenkins server on GCP as the main CI/CD tool for whole the team.
- Developed and maintained continuous integration and deployment pipeline in Jenkins to comply with code integration, testing and app deployment automation in UAT and Production environments. Bridged the development process, streamlined the delivery process, and accelerated the release cycle greatly.
- Created the S3 to host the React static website as the front-end solution. Utilized CloudFront to configure CDN for loading page, increasing the page access speed by 60% and improving user experience.
- Utilized DockerHub as a remote Docker image repository to make sure the collaboration fluency between the team members.
- Assisted in configuring VPC for overall architecture and allocating subnet for back-end modules, which boosts network security and ensures data safety.

- Set the Application Load Balancer for the back-end server to optimize traffic for resources architected on ECS.
- Managed all the AWS Access Keys, Secret Keys and connection strings as environment variables in BitBucket to achieve the security goal for the team.
- Registered the SSL certificate on AWS Certificate Manager for a new domain name, and then the website link can be turned into an HTTPS safe connection.
- Designed AWS Lambda function with developers and configured API Gateway for the Images Uploading feature.
- Coordinated and collaborated with different teams in an Agile environment, smoothed workflow and implemented automation for Production and UAT environment to help deliver the Sprint goal.

Off-World Robotics – UNSW Engineering Integration Team

System Engineer – Part-time Jun 2019 – Jan 2021

Education:

Master of Engineering Science from UNSW (QS ranking 19th)

Major in Systems and Control