Jonathan Kerk

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Executive Summary

DevOps Engineer with focus on AWS cloud infrastructure and GitLab CICD. Responsible for building new and optimizing existing GitLab CICD templates, cloud resources with Terraform/Terragrunt and managing cloud infrastructure for applications hosted in AWS EKS along with other AWS technologies.

Previously a sole contributor in managing security compliances, operational costs, BAU operations of multiple AWS accounts.

Prior experiences as Systems Engineer and Software Developer / Level 2 Support. Practical scripting knowledge in Python and Bash. Proficient in Linux server administration.

Education

University of Wollongong   Oct 2018 –Mar 2021
Bachelor of Computer Science (Digital Systems Security) (Part-time)

Skills & Competencies

Programming Languages – Python, Java, Bash, Microsoft Batch
Tools – Linux, Git, GitLab CI, Terraform, Terragrunt, AWS CLI, Docker, Kubernetes

Certifications

AWS Certified Solutions Architect (Associate)   Issued May 2022
SAA-C02

Hashicorp: Terraform Associate (003)   Issued Dec 2023

Work Experience

Government Technology Agency   *Jan 2023 - Present*
DevOps Engineer
- Part of the Government Paid Leave Schemes (GPLS) Portal team as an individual contributor
- Led migration of CICD workflows from Atlassian BitBucket / Bamboo to SHIP 2.0 / GitLab CICD
- Architected and implemented full-fledged CICD templates and pipelines in GitLab for EKS based microservices and EC2 services, creating a workflow from source to deploy via Helm, Kubectl and Ansible
- Authored technical documentation for CICD templates and workflows
- Initiated and co-hosted sharing sessions on CICD templates within and across projects
- Migration of approximately 300 legacy vanilla Terraform resources to Terragrunt wrapper, along with creation of new Terraform modules
- Championed major AWS RDS version upgrades, including drafting of technical runbook to be used by members of the team and scheduling rollouts
- Performed upgrading of multiple AWS EKS clusters, inclusive of schedule planning, communication with team, runbooks and execution
- Led initiative to improve team's operational processes by introducing multiple playbooks, enforcing clear code review processes with templates to improve traceability and accountability of work
- Initiated tracking sheet and provided initial analysis on cloud infrastructure security findings based on security reports
- Part of operations support to provide BAU support, inclusive of OS patching via AMI refreshes, COTS software upgrades via automation and production DevOps support.
- Authored technical challenges and conducted technical interviews for potential candidates
- Provided training and guidance to new and existing colleagues in DevOps / automation technologies
- Setting up of new tools such as Prometheus, Grafana, ExternalDNS in AWS EKS using Helm charts

S&P Global   *Jul 2022 – Jan 2023*
DevOps Engineer
- Leading infrastructure team, hosting monthly infrastructure reviews and leading discussions for improvements and optimizations
- Sole contributor in maintenance of 4 AWS Accounts, including security compliance, tagging, financial forecasting with score of 95 points based on internal metrics for all accounts
- Creation of custom Docker agent images for Mend and Sonarqube
- Integration of Product source code to corporate-hosted Mend and Sonarqube from CI pipelines
- Solutions design and implementation of cross region service for multiple AWS based products, enabling trade reporting to Hong Kong Trade Repository (HKTR)
- Implementing reusable Terraform modules for various AWS resources such as IAM Group, Users, Roles, Auto Scaling Groups, Elastic File System, Transfer
- Technical documentation for existing and new infrastructure stack
- Engagement with external vendors and corporate Cloud team on new infrastructure building blocks
- Provided technical rectifications for on-premise client, including NGINX reverse-proxy configurations and security related flags

IHS Markit (Acquired Mar 22) / S&P Global
Software Developer
Jul 2021 – Jul 2022

- Contributor in Delivery team to implement enhancements and defect fixes to Spring Boot application
- Rotation-based Level 2 Support for Trade Reporting application in Spring Boot, providing in-depth troubleshooting, root cause analysis and resolution to Level 1 Support and clients
- Participated in Agile based development cycles, acting as Sprint lead for development sprints on rotation basis
- Part of infrastructure team creating and enhancing existing AWS resources using Terraform and AWS CLI
- Cost analysis of cloud billing to reduce monthly overheads, resulting in 30% cost savings in AWS operational costs by rightsizing and optimizations
- Redesigning of AWS Security Groups using Terraform modules to introduce security segregation of outbound connectivity
- Executing estate-wide deployments for over 80 EC2 servers in UAT and Production environments
- Security and compliance fixes for AWS resources based on AWS Security Hub and internal compliance directives
- Created AWS SSM automation for refreshing AWS SES SMTP credentials for servers utilizing Postfix relay design
- Designed and implemented weekly scheduled pipeline to build custom EC2 AMIs for applications using GitLab CI and Hashicorp Packer
- Developed automation in Lambda to identify and update AWS Auto Scaling Groups with updated AMIs built by scheduled pipelines
- Responsible for Availability-Zone scoped Disaster Recovery exercise in AWS, including drafting of proposals, execution and post mortem reports
- Authoring technical documentations for Day 2 operations for infrastructure resources in product

DXC Technology
Java Developer
Mar 2021 – Jul 2021

- Part of delivery team to provide enhancements to Spring application
- Performed on-site remediation of Oracle database records with SQL Procedures
- Creation of Docker database images for local integration testing for developers

ST Engineering (Electronics) (Infosoft)
Associate Engineer
Sep 2018 – Feb 2021

- Deployment, maintenance and administration of ESXi hosts and virtualized application servers
- Administration of Microsoft Active Directory with Group Policy enforcements
- Developed system report generation automation initiative in VBScript and Microsoft Batch, resulting in reduction of maintenance time cost by 90% for legacy Windows systems
- Developed Python GUI application for customizing client-based application on Windows based machines, reducing time taken for client configurations by 90% for Windows 7 systems
- Creation of golden Windows 7 images for client machines and estate-wide deployments to 700 laptops over local network
- Initiation of improved workflow by introducing on-premise Jenkins server and JFrog Artifactory for automated builds
- Assessment and maintenance of Java codebases for vulnerabilities based on HPE Fortify SCA