Zaw Wana

Platform / Site Reliability Engineer — Kubernetes | Linux | Observability

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PROFESSIONAL SUMMARY

Certified Kubernetes Administrator running production container platforms and Linux fleets in enterprise and public-sector environments. Day-2 operations across the full cluster lifecycle: node lifecycle and etcd health, RBAC and SCC policy, network policies, routes and HAProxy ingress, resource quotas, and persistent storage. First-responder experience tracing failures from node to pod to service, with root-cause analysis fed back into runbooks, and ELK/Prometheus observability to catch failures before users do. Also owns the Linux OS layer beneath the platform — patching cycles, kernel and resource tuning, hardening, and storage — plus highly available data tiers and secrets through Vault and CyberArk. Currently supporting a government AI infrastructure programme under IM8-aligned security controls. Computing Science honours graduate, Singapore Institute of Technology.

CORE TECHNICAL SKILLS

Kubernetes & Containers	Kubernetes (CKA), node lifecycle, etcd health, RBAC, network policies, resource quotas, PV/PVC & storage classes, OpenShift (OCP 4.x), Routes, SCCs, HAProxy ingress, private registry & image mirroring, K3s, Istio, Helm, Docker
Reliability & Observability	Incident response, root-cause analysis, runbooks, ELK / Elasticsearch / Logstash / Kibana, OpenSearch, Prometheus, Grafana, Zabbix, log aggregation, alerting, capacity & performance monitoring
High Availability	MariaDB Galera (multi-master HA), HAProxy proxy tier, backup & recovery, JVM/Java tuning (heap, Metaspace, GC flags), container memory budgeting
Linux Platform	RHEL / CentOS / Rocky, Ubuntu administration, OS patching & kernel upgrades, reboot sequencing, dnf/yum, systemd, SELinux, firewalld, auditd, ulimits/cgroups, NFS & iSCSI/SMB storage mounts, LVM, Windows Server
Automation & IaC	Terraform, Ansible, Jenkins, GitLab CI, ArgoCD / GitOps, Git, Python, Bash, operational runbooks
Security & Hardening	CIS benchmark hardening, IM8-aligned controls, CVE triage, SSH cipher/MAC hardening, HashiCorp Vault, CyberArk PAM, LDAP, Azure AD (Entra ID) IAM & RBAC, secrets management, IPSec VPN, DevSecOps, Kyverno policy-as-code, Trivy vulnerability scanning
Data & Cloud	MySQL, MongoDB, Redis, AWS (EC2, S3, IAM, CloudWatch, VPC), Azure (Entra ID, RBAC, Policy), hybrid & on-prem integration, Proxmox virtualisation

WORK EXPERIENCE

AI Platform Engineer — NCS
Nov 2025 — Present

Video intelligence and enterprise AI infrastructure — on-prem, government security baseline.

- Operate the OpenShift estate — namespaces, RBAC and SCC policy, network policies, quotas, Routes, HAProxy ingress, PV/PVC storage
- Built and run MariaDB Galera multi-master HA — survives node loss with no failover downtime, fronted by HAProxy for routing and health checks
- ELK monitoring across cluster, systemd, and MariaDB logs — dashboards and alerts that surface failures before users report them
- Own the Linux layer — patching, kernel and package management, resource limits, storage mounts, sequenced to keep production up
- Day-1 build and Day-2 ops on an enterprise AI platform running on GPU-backed nodes, plus database ownership of schema, tuning, backup and recovery
- Provision infrastructure with Terraform — environments rebuilt from code, not reassembled by hand
- Harden to CIS and government IM8 baselines; remediate scan findings and produce the audit evidence
- Privileged access through CyberArk, service credentials in Vault — no long-lived secrets in configs or node images
- Identity governance across Entra ID and on-prem LDAP — user/group lifecycle, RBAC, Azure Policy — over a mixed Linux and Windows estate
- IPSec VPN tunnels so field devices reach internal systems without public exposure

DevOps / Infrastructure Engineer — Singtel
Aug 2024 — Sep 2025

Infrastructure and delivery behind Singtel's NaaS, 5G, and multi-access edge computing products.

- First responder across Linux servers and Kubernetes clusters — traced failures node to pod to service, with root-cause analysis feeding back into runbooks

- Administered Kubernetes clusters for edge workloads — node management, workload placement, resource limits, Helm-packaged deployments
- Full-stack Zabbix monitoring across infrastructure, network, and application metrics
- Jenkins CI/CD pipelines and ArgoCD rollouts — Git as source of truth, cluster drift reconciled automatically instead of patched in place
- Troubleshot and performance-tuned OpenSearch, MySQL, Redis, MongoDB, and container workloads
- Owned OS patching across the Linux fleet — systems current, vulnerabilities closed, no production downtime
- Terraform for provisioning; Ansible for daily Docker and virtualised operations
- Python automation for security (IoC IP filtering) and operations (system health checks)

Software Engineer — Urban Farming Partners Singapore **Oct 2022 — Apr 2024**

End-to-end IoT monitoring platform turning plant-sensor telemetry into dashboards, mobile apps, and analyst-ready datasets.

- Designed and delivered an end-to-end IoT monitoring platform, turning raw sensor data from plant-monitoring microcontrollers into real-time dashboards, mobile apps, and analyst-ready datasets
- Built responsive dashboards with the MERN stack and Next.js, deployed on Vercel, visualising soil moisture, temperature, and humidity readings
- Built MQTT and WebSocket ingestion feeding a Confluent Kafka streaming layer, cleaning, transforming, and aggregating telemetry from a fleet of plant-monitoring devices
- Partnered with data analysts to define schemas and expose query-ready datasets for trend analysis and anomaly detection
- Delivered a native iPadOS app in Swift for on-site monitoring and alerts, plus a cross-platform Flutter companion app
- Secured REST APIs with JWT authentication and role-based access control
- Implemented CI/CD with Docker and GitHub Actions, plus monitoring for pipeline health and device uptime

PLATFORM ENGINEERING — SELF-DIRECTED

- Two-tier homelab Kubernetes estate, continuously operated: a 3-node kubeadm cluster (Cilium CNI, MetalLB L2 load balancing, containerd) running production workloads, plus a K3s development cluster running Istio service mesh and Kyverno policy-as-code admission control ahead of promoting either to prod — both run through real upgrade, certificate-rotation, and failure scenarios
- GitOps delivery with ArgoCD in an app-of-apps pattern — a root Application bootstraps every other workload from Git, with automated sync, pruning, and self-heal so cluster drift is reconciled rather than patched in place
- Hosts this portfolio and internal homelab services on the platform, with ingress and TLS termination, persistent storage classes, RBAC and namespace quotas, a private image registry, and a full Prometheus/Grafana + ELK observability stack — built to enterprise patterns
- CI/CD for this portfolio itself: GitHub Actions builds and publishes the container image to GHCR on every push to main, gated by a Trivy vulnerability scan of the image filesystem before it ships
- HA data tier: MariaDB Galera cluster behind an evaluated proxy layer (HAProxy / MaxScale / ProxySQL), with backup, restore, and node-loss drills
- Platform roadmap in progress: Gateway API for HTTP routing in place of classic ingress
- Bash-based CKA exam simulator running against a disposable k3d sandbox; AWS serverless projects for SAA preparation

CERTIFICATIONS & EDUCATION

Certified Kubernetes Administrator (CKA) — Cloud Native Computing Foundation · ID LF-ijwzjz1ojo **Aug 2026**

BSc Computing Science (Honours) — Singapore Institute of Technology **Aug 2022 — Apr 2025**

Diploma in Business Process with Systems Engineering — Temasek Polytechnic **Apr 2017 — Feb 2020**