

Hans Knecht

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Certified Kubernetes (K8s) Application Developer (CKAD) | AWS - Solutions Architect - Associate | AWS - SysOps Administrator - Associate | CompTia - Project+ | CompTia - Security+ | CompTia - Network+

About

Motivated Cloud/Site Reliability Engineer with over 15 years of individual contributor experience. Searching for a role in a company where I can help shape the technology decisions and engineering culture. Open to both management and individual contributor roles.

Experience

Staff Software Engineer - Anomalo

2023 - Now

- Wrote and maintained helm chart for BYOC, SaaS, and multi-cloud deployments of Anomalo
- Wrote and maintained custom k8s operator written in python for bootstrapping of customer installations
- Managed 35+ installs of Anomalo across multi-cloud K8s clusters in the SaaS environment
- Scaled EKS and AKS clusters from manual configuration to fully hands off with clusters north of 10,000 pods and 100s of nodes (Karpenter, Cluster API, ArgoCD, Node-Problem-Detector, Custom Schedulers, etc.)
- Moved management of k8s resources from helm chart into application to allow non-k8s admins to administer the Anomalo Application (i.e. custom operator without CRDs)
- Implemented structured logging using promises and expectations to monitor and observe the health of long running or irregular processes (i.e. Machine Learning jobs)
- Managed observability pipeline for logs, traces, metrics from customer clouds and saas environments (Loki, Grafana, OTEL, Victoria Metrics, Prometheus)
- Improved EKS and AKS K8s Networking using Cilium and Linkerd
- Expanded the Platform Engineering Team from 1 -> 4 with team norms, hiring, interviewing, and process improvements

Cloud Consultant - Knechtions Consulting

2018 - Now

- Introduced and architected GitOps via ArgoCD cutting deployments from 1 day to 15 minutes
- Architected and automated backup and DR solutions in AWS to improve recovery from 99% to 99.99%
- Rebuilt deployment pipeline of Kubernetes clusters ensuring timely updates with 0 downtime
- Automated Regional Failover for 99.999% SLA'd applications
- Responsible for cloud security configuration and scanning to relevant regulations (PCI, HIPAA, ITAR, NIST)
- Built shared CI/CD Pipelines using Jenkins and Github Actions saving \$50,000 in server costs
- Used Kyverno, Falco, Snyk, Cosign, and Trivy to secure Kubernetes clusters and applications
- Used Istio, Gloo, AWS Waf, and Cloudflare to secure the network internally and externally
- Used Datadog, AWS Config, and Cloudtrail to provide SIEM functionality and monitor for security breaches
- Performed Infrastructure and Web Application Security Audits
- Provided technical guidance on best practice configuration for EKS/AWS Accounts
- Created and Managed Tailscale VPN configuration for Cloud Native VPN
- Wrote Custom K8s Operators for variety of in house uses

Principal Site Reliability Engineer - Mission Lane LLC

2020 - 2023

- Technical Lead for team of 5 SREs

- Owned the Developer Experience on GCP (Kubernetes, Helm, ArgoCD, Istio, K6) with 99.99% SLOs
- Wrote core Mission Lane Helm Chart for deployment standardization on the Developer Platform
- Introduced Flagger for canary releases, k8s releases, reducing deployment failure rate 70% for core services
- Built OSS Observability platform (Elasticsearch, OpenTelemetry, Prometheus, Grafana) cutting costs 65%
- Automated collection of traces (OpenTelemetry) and automatic handling of fault testing using http headers
- Contributed significantly to OSS K6 kubernetes operator
- Architected and Built out ML Model Serving platform on K8s (Bento, Yatai, Airflow) allowing in house model serving
- Built and owned automated dependency management cutting update toil saving ~15 engineer hours a week
- Provided best practices around incident management and acted as Incident Commander
- Implemented Service Catalog to improve developer experience and engineering quality (Backstage, Cortex)
- Created the architecture board to distribute architecture decisions from a single architect to all Staff+ engineers
- Wrote DB Analyzer CLI to ensure improved resiliency of database systems

Principal DevOps Engineer - Capital One Financial

2018 - 2020

- Technical Lead for team of 5 DevOps Engineers
- Wrote and Managed CICD (Jenkins + Terraform) Pipelines for ~75 applications built in Node + Java improving cycle time ~70%
- Migrated to IaC for repeatable and automated deployments
- Wrote service tooling (python), allowing for no downtime rehydrations, shared and easy CLI management of ECS Services, Hashicorp Vault Interactions, and terraform automation
- Re-architected the infrastructure into a multi-tenant ECS cluster driving operating efficiency from ~3% to more than 70% leading to a net operating cost drop of 90% (\$150,000 a year in savings)
- Drove reduction in non-actionable alerts to 10% and lowered alert fatigue significantly
- Wrote Docker best practices and maintained CapitalOne wide Docker Images
- Maintained 99.999% SLAs across active/active regions in AWS

DevOps/Network Administrator - Kinsale Insurance

2017 – 2018

- Technical Lead for team of 3 Engineers
- Introduced and developed a Centralized Logging system using the ELK stack
- Developed CICD Pipeline, SOX Compliant, using Bamboo and Jenkins, to deliver and update applications automatically.
- Introduced Automated Security to allow for faster feedback and increase security
- Using Ansible, Python, and OpenNebula delivered an scalable IaC and IAAS system.
- Developing scalable container solutions for tomcat applications.
- Migrated code base from SVN to Gitlab to allow for faster and more integrated pipelines
- Created POC Private cloud on OpenNebula and Ceph

Systems and Security Engineer - Digital Harbor Inc.

2015 – 2017

- Focused on running a private cloud built on Proxmox and KVM
- On-prem to AWS migration using IaC with minimal downtime
- Managed site to site VPNs to AWS and offices around the world.
- Built and maintained cross site AD infrastructure
- Used Ansible to automated deployment of servers and VMs
- Configured DLP for HIPAA, PII, and PIA on firewalls, endpoints, and exchange servers.
- Configured and Managed Zabbix, Trend Micro, ShadowProtect, CarbonBlack, Jira, Tomcat, and Confluence

Level 3 Support - CSS Corp

2014 - 2015

- Focused on providing WAN networking and linux support
- Provided general troubleshooting and helpdesk support
- Provided AD and Exchange Administration and support

- Provided Network Monitoring and troubleshooting
- Created automation PowerShell scripts for the offboarding process and simple databases for reporting tools
- Managed Linux and Windows patching

Language

English (Fluent/Native)
Swedish (Fluent/Native)

Education

Bachelor of Science - Cybersecurity and Information Assurance - 2020 - Western Governors University

Technologies

- Kubernetes
- GCP/AWS
- Python/Golang
- BentoML
- ArgoCD
- Istio/Linkerd
- Helm/Kustomize
- Terraform/Ansible
- Jenkins/Github Actions
- Elasticsearch
- Open Telemetry
- Datadog
- Prometheus/Grafana
- Postgres
- Linux
- Flagger
- Open Source