AMMAR YASSER
INFRASTRUCTURE SWE/GOLANG DEVELOPER

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PROFILE

Software engineer with focus on infra. I have experience in early and late stage start-ups as well as big corporates. Do you have a technical product with interesting infrastructure challenges ? Let's talk!

OPEN SOURCE

KubeVirt: A project that allows you to manage VMs using Kubernetes. Used by NVIDIA, Cloudflare and more
Technologies: QEMU, Docker, Podman, K8s client-go, Ginkgo, Containerization primitives

- Rewrite the main tool (KubeVirtCI) used for building and testing KubeVirt from bash to go
- Run kubernetes control planes on containers and connect to a network with VMs in it by creating a joined layer 3 network
- Introduce Bootc provisioning of VM images, allowing the ability to define KubeVirtCI machines through container image definitions
- Refactor the device plugin framework used by KubeVirt in detecting nodes with FPGA's, GPUs, etc.. to schedule VMs to use a shared interface and reduce duplication
- Debug low level protocols (DHCP) using ip command, tcpdump and other networking utilities

Otterize: Manage network policies, service mesh auth policies, AWS IAM using intents based access control
Technologies: K8s client-go, Linkerd

- The project only had support for Istio, I have added support to the Linkerd service mesh by building a reconciler and engine to reconcile the Otterize resource (ClientIntents) to Linkerd Servers, Auth policies, MTLS auth, Net auth and keep resources in-sync all the time

PROFESSIONAL EXPERIENCE

Infrastructure Engineer, Zyda   **Aug 2022 - Present**

Job description: Main admin for the Zyda SaaS platform infrastructure, Managing several EKS clusters, all CI/CD process, platform security and many other aspects. I still work with them on a consultant contract after joining VOIS
Technologies: AWS, EKS, RDS, OpenSearch, Redis, MySQL, PostgreSQL, NGINX, Python, Go, Cloudflare

- Rearchitected the platform to defend again a targeted DDoS attack occurring daily and causing a total platform outage that lasted from Jan 2024 to Mar 2024 by moving all critical EKS cluster entry points behind AWS Cloudfront and installing a WAF on it
- Managed the migration of all DNS and SSL infrastructure from Cloudflare to AWS R53 and Kubernetes certificate manager. resulting in 60K$ in annual savings
- Built a full platform to manage the creation, lifecycle and destruction of on-demand development environments. leading to 20% reduction in feature shipping time
- Rearchitected container image building to support AMD and ARM and increased reliance on ARM in production, resulting in a 30% drop in compute spend
- Built automations and tools to support managing 500 domains on the cluster to shift the burden of domain management from engineering to business and support teams. Resulting in 45% reduction in count of created tickets to DevOps
- Resolving outages of different levels, from service degradation all the way to full platform downtime and creating automations to ensure platform stability. e.x: Build a monitoring solution on Prometheus and Grafana that is integrated with Slack for SSL certificate renewal errors. resulting in 50% annual reduction in full platform outages
- Implement cloud infrastructure changes (Log retention and ingestion, Container image retention, Compute resources assigned per workload) resulting in a 10K$ per month savings

Senior DevOps Engineer, VOIS   **Jan 2024 - Present**

Job description: Administer infrastructure for My Vodafone app in Greece
Technologies: Kubernetes, Jenkins, Terraform, ArgoCD, Vault, Cilium, Helm, K6

- Adopt K6 and integrate it into existing CI/CD process for more than 100+ micro-services
- Migrated 1000+ traditional Kubernetes network policies to Cilium network policies to support FQDNs and have statefulness. Resulting in 45% reduction in support tickets related to network issues
- Automate multiple processes related to user management on Vault and Strapi to reduce time spent on such tickets from ~1HR to not more than 2 minutes
- Write a custom helm chart to deploy ArgoCD with reduced permissions to obtain approval for it in a shared tenant environment
- Co-ordinate between multiple teams and many stakeholders for communications regarding upgrades and service degradation

DevOps Consultant, Yalah   **Jan 2024 - Jul 2024**

Job description: Main infrastructure engineer for an early stage Food and Beverage startup
Technologies: GCP, AWS, KrakenD, OpenVPN, Pritunl, SOCKS5, NodeJS, PM2, Jenkins, NGINX

- Built a VPN solution to block all countries except the UAE while supporting a global dev team. By using Pritunl and SOCKS5 proxy. effectively bypassing any VPN restriction imposed by any nation (Tested by residents of China)
- Migrate all infra from GCP to AWS with no downtime while co-ordinating with AWS Partners to acquire cloud credits to turn all infra costs to effectively zero for a full year.
- Migrate application from EC2 machines running NodeJS and PM2 to EKS. And migrate CI/CD from Jenkins to Github actions to consolidate source management tools and cut costs by removing the reliance on Jenkins
- Migrate the application's API Gateway from KrakenD (Free tier) to NGINX Ingress controller to add support of wildcard paths and eliminate all errors related to misconfiguration

DevOps Engineer, UNIFI Solutions   **Jul 2023 - Jan 2024**

Job description: Run self-managed K8s clusters on Azure that host multiple databases and an IoT application
Technologies: Azure, Kubernetes, Helm, Kubeadm, Kafka, NGINX, PromQL

- Handle migration of a live cluster's container runtime from Docker to ContainerD with 0 downtime
- Expose multiple broker Kafka cluster on Kubernetes through NGINX running on an Azure VM acting as a cluster load balancer
- Write custom PromQL to monitor all details of the compute resources (CPU, Memory, Disk I/O, Context switches, Interrupts) and the the workloads (Resource usage as a percentage of a workloads requests and limits) and integrate it with Telegram resulting in 60% quicker detection and mitigation of issues

EDUCATION AND CERTICATES

- **Helwan University, BSc in Architectural Engineering** (2018-2023)
- **AWS Certified Solutions Architect, Professional**
- **AWS Certified Developer, Associate**

ADDITIONAL INFORMATION

- **Residence:** Cairo, Egypt
- **Languages:** Arabic (Native), English (Fluent), French (Basic Competency)