Clay Buxton

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Experience

Senior DevOps Engineer at **Lockheed Martin |** King of Prussia, PA   Since August 2023
- Designed and implemented Kubernetes clusters on classified, air-gapped, resource constrained edge devices. Deployed internal applications to these clusters in non-standard environments, while taking advantage of specialized hardware.
- Maintained and supported users in 10+ RKE2 clusters for a variety of programs for development, test, and production.
- Contributed to a large-scale PaaS platform which deploys RKE2 and support applications to OpenStack and AWS.
- Deployed and configured hardware such as servers and networking equipment in a datacenter.

DevOps Engineer at **greymatter.io |** Remote from Greater Philadelphia Area   Jan 2022 – July 2023
- Contributed to design and implementation of greymatter, a service mesh designed to enhance reliability, security, and observability of applications. greymatter leverages envoy, is written in Go, and uses unique CUE based configuration.
- Architected and built an internal CI/CD platform to run natively in Kubernetes. Contributed to open-source projects to add features required for our pipelines. Reduced number of developer incidents to less than ¼ and decreased pipeline runtime by an order of magnitude. Implemented modern CI/CD designs such as ephemeral jobs, runner auto-scaling, and automated secrets.
- Extensive experience with Kubernetes, Ansible and Terraform to set up and configure clusters, deploying Greymatter alongside customer applications, deploying security policies, and troubleshooting production issues.

Software Engineer at **Lockheed Martin |** King of Prussia, PA   May 2018-Dec 2021
- Managed a Linux based development environment, ensuring high uptime, and security in an airgap.
- Implemented and maintained a GitLab instance, providing developers with a centralized code platform with CI/CD pipelines for multiple applications, on multiple platforms, streamlining the development process significantly.
- Architected Kubernetes and Docker implementations and designed hardened containers.
- Implemented DoD Risk Management Framework for OS hardening and security controls, automated with Ansible.
- Engineering work with Java, C++, GNU Radio on a large, micro-service driven, command and control application.

Current Project Portfolio   **Github:** https://github.com/clbx

HomeLab – Production Services
A continuous project in learning new technologies and keeping up to date. "JuiceCloud" is a home datacenter running a bare-metal, custom, Kubernetes cluster. Fully powered by GitOps, I use JuiceCloud to run production services for family and friends, leveraging tools like ArgoCD, Kyverno, Renovate and Trivy, to automate the deployment, maintenance, and security of the cluster.

Kubernetes Tools and Plugins
While working with Kubernetes I built a few plugins and tools to solve problems I encountered.
- **kubectl-browse-pvc** is a kubectl plugin to browse an unbound PVC from the command line. Available on Krew.
- **kube-port-forward-controller** automatically opens ports on a router using annotations on a service.
- **BuildKite on Kubernetes**: Contributed to a plugin to run BuildKite jobs in Kubernetes and the official provider.

Skills & Abilities

Languages: Go, Bash, Python, C++, C, C#, Java   **Clouds:** AWS, Azure, GCP   **Platforms:** Kubernetes, OpenShift, Docker, Linux

Tools/Software: Git, Gitlab, Terraform, Ansible, Pulumi, Helm, Prometheus, SQL & NoSQL Databases, Vault, Vuln Scanning and Hardening, Rancher.

Concepts & Technologies: Infra as Code, GitOps, Agile, CI/CD, Service Mesh, System Administration, Development Pipelines, Service Mesh. Networking Concepts (DNS, DHCP, TCP/IP), Virtualization (VMWare, KVM).

Education & Certifications

Georgia Institute of Technology | Master of Science   3.60 GPA
- M.S. Computer Science. Computational Systems Specialization

Elizabethtown College | Bachelor of Science   3.42 GPA
- B.S. Computer Engineering, B.S. Computer Science

Top Secret Department of Defense Security Clearance