

Mike Shade

DevOps / Site Reliability Engineer



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About

Experienced DevOps Engineer who excels at finding the right solutions to hard problems and automating the toil away. Takes pride in communicating effectively to stakeholders of all types, distilling complex ideas down to their essence to guide decisions and collaborate across teams. With a particular acumen for containers and Kubernetes, builds platforms that are usable, intuitive, and effective. Significant experience successfully designing, implementing, and improving many kinds of production workloads and technologies, from on-premises to the cloud and from edge to origin.

Work Experience

The Motley Fool

A financial and investing advice platform providing information to millions of readers.

Sr. Devops Engineer

June 2018 - April 2023

<https://fool.com> (<https://fool.com>)

Platform Engineering for a large development team supporting dozens of deployments per day to a site with millions of daily page views

- Designed and implemented Kubernetes-based microservice hosting platform, on-premise with Rancher, and in AWS EKS, to standardize hosting and deployment methods using modern practices
- Advised development teams in cloud-native patterns for effective scalability, fault tolerance, security, and efficiency
- Directed lifecycle of multiple production Kubernetes clusters and supporting services in hybrid environment, to minimize downtime and keep platform features secure and up to date
- Developed a library of Helm charts to standardize deployment to Kubernetes
- Implemented Kubernetes-based ephemeral environments to enable full-stack build/deploy testing
- Improved monitoring, logging, and observability via integrations with AWS, Datadog, Kubernetes, Splunk, and internal tooling, to measure application performance and enable swift action to correct problems
- Designed efficient, intuitive CI/CD processes for build/deploy and Infrastructure as Code with Jenkins, Github Actions, GitlabCI, Terraform, and CloudFormation to improve development velocity and reproducibility
- Built platform management and automation tools with Python to integrate systems
- Designed containerized local development stack to decrease dev onboarding time and reduce developer feedback loop
- Evangelized IaC, cloud-native, and shift-left practices across the organization to improve processes
- Created tooling and templates to reduce project startup time
- Applied a deep understanding of the entire stack to quickly triage incidents, perform root cause analysis, and prevent future issues

Forum One

A full-service web design and technology consulting firm

Sr. System Administrator

April 2011 - June 2018

<https://forumone.com> (<https://forumone.com>)

Senior member of a team supporting the development and hosting of 50+ websites for a wide variety of large government, non-profit, and commercial clients.

- Designed scalable, reliable infrastructure for PHP, Python, Node.js and Docker-based applications on AWS to drive client success
- Streamlined infrastructure management with CloudFormation, SaltStack, and Puppet automation tools for repeatability and reduced management overhead
- Implemented a Dockerized development workflow with integrated CI/CD deployment pipeline to improve developer experience and efficiency
- Collaborated as part of a Scrum team to deliver successful agile software projects

- Provided informed counsel to clients regarding infrastructure planning, scaling, and management for reliability and cost effectiveness
 - Guided business development team in proposals for effective, resilient, cost-conscious hosting solutions
 - Delivered valuable client-facing support, consulting, and incident response services, reducing costs and improving reliability
 - Directed internal IT staff, provided career development mentorship, and technical guidance to grow an effective team
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Forum One

A full-service web design and technology consulting firm

System Administrator

April 2007 - April 2011

- Designed and maintained infrastructure for hosting various CMS platforms, ensuring optimal performance and reliability
 - Responded to incidents and addressed issues as part of an on-call rotation, minimizing downtime and managing responses
 - Managed dedicated and cloud servers
 - Procured services and provided vendor oversight, for cost savings and improved service delivery
 - Directed internal IT operations to support all business operations
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Omniplex World Services Corporation

Provider of investigative services to public and private sector agencies nationwide

Technical Support Specialist

March 2006 - April 2007

<http://www.omniplex.com/> (<http://www.omniplex.com/>)

- Supported secure operations of country-wide fleet of IT systems
 - Provided Help Desk support to thousands of remote field employees
 - Proactively supported and managed IT lifecycle
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Skills

Platforms

- Kubernetes: EKS / Rancher / k3s
- Docker / containerd
- Linux of all breeds
- AWS / vSphere
- Serverless

Kubernetes

- Helm / Kustomize packaging/templating
- ArgoCD / Github / GitlabCI
- Blue/Green Deployments
- Kong API Gateway / Nginx Ingress
- External Secrets Operator with Vault / AWS Secrets Manager
- Cluster Autoscaling / HPA
- Nexus container registry

Automation / Observability

- Ansible / SaltStack / Puppet
- Terraform / CloudFormation
- Datadog / Splunk / Cloudwatch
- Fluentd / fluent-bit / promtail

Databases

- PostgreSQL / MySQL / MariaDB
- Redis
- ElasticSearch
- Apache Solr

Caching / HA / Delivery

- Nginx / Varnish / Apache
- Kong API gateway
- Redis / Memcached / ElastiCache
- HAProxy / ELB / ALB
- CDNs: CloudFlare / Fastly / CloudFront

Programming / Tools

- Bash
- Python
- Git / Source Control

Foundational

- DNS / Route53
 - LAN / WAN Networking / VPC
 - Firewall / Security Policy
 - Hashicorp Vault / AWS Secrets Manager
 - Infrastructure and Config as Code
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Notable Projects

Peace Corps

Infrastructure Design, Administration

2016 - 2018

<https://www.peacecorps.gov/> (<https://www.peacecorps.gov/>)

Django / Wagtail CMS application hosting

- Design and implementation of auto-scaling and highly available infrastructure to host high profile Python application
 - Support ongoing operations
 - Ensure FISMA compliance of hosting environment
 - Support continuous integration and deployment pipeline
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County Health Rankings and Roadmaps

Infrastructure Design, Application Support

2008 - 2018

<http://www.countyhealthrankings.org/> (<http://www.countyhealthrankings.org/>)

Multi-technology application presenting impactful and highly publicized public health data

- Multiple iterations of infrastructure, from single and multi-instance, to auto-scaling AWS platform to handle yearly spikes
 - MapBox / TileMill stack for map production
 - PHP (Laravel) API backend
 - Drupal frontend
 - Multiple layers of caching for each app component, including edge CDN, Memcached, and Database layers
 - Support continuous integration and deployment
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EPA

Infrastructure Consultant

2014 - 2018

<https://www.epa.gov/> (<https://www.epa.gov/>)

Provide expert guidance on infrastructure development and ongoing improvements to support large-scale Drupal application

- MySQL database replication support, optimization, tuning
 - Caching strategies with CDN to improve application performance
 - Incident log and metric analysis to determine causes of and remedies to performance issues
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Center for Strategic and International Studies

Infrastructure Design, Administration

2010 - 2018

<https://www.csis.org/> (<https://www.csis.org/>)

Drupal Application hosting for client with large volumes of high profile content and media

- Design and implementation of auto-scaling and highly available infrastructure to host Drupal application.
 - Support growing patterns of international traffic
 - Tiered caching strategy comprised of edge CDN, Memcached, and Database layers
 - Support continuous integration and deployment
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Education

Terraform training

2022

Advanced Hashicorp Terraform training, module design and reuse, and CICD patterns

AWS Training, Advanced Architecting

2021

Advanced Architecting on AWS training, covering best practices, security, VPC networking, hybrid infrastructure

AWS Training, Containers on EKS

2021

Best practices and usage of Elastic Kubernetes Service for deploying containerized workloads

Python and Django

2018

Training on development with Python and Django framework to further understanding for infrastructure support

SaltStack Certified Engineer

2014

Certification 0x0414F5F9

Red Hat Certified Engineer, RHEL5

2008

Interests

- Music - I'm a member of several bands, ask!
- Open Source Software and Community
- Personal Finance / Investing
- Photography
- Hiking / Travel