Karen Kanana Muthomi

DevOps Engineer

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SUMMARY

I am a dynamic and proactive DevOps engineer with a strong foundation in continuous integration and continuous delivery (CI/CD) pipelines. I excel in automating infrastructure, ensuring smooth and reliable deployments across various cloud environments. I have a knack for streamlining processes, optimizing system performance, and enhancing collaboration between development and operations teams.

I am not only technically proficient but also an effective leader and team player, always eager to tackle new challenges. I am skilled at identifying inefficiencies and implementing solutions that enhance system reliability and performance. My commitment to delivering high-quality results, coupled with my excellent communication and time management skills, makes me an invaluable asset to any team.

TECHNICAL SKILLS

- Clouds Platforms - Microsoft Azure, AWS, GCP
- IaC - AWS CloudFormation, Terraform, Ansible
- Version Control - Gitlab, Github
- CI/CD - Jenkins, Gitlab CI
- Containerization - Docker, Docker Hub, AWS ECR
- Container Orchestration - Kubernetes
- Linux/Unix systems administration
- Windows server administration
- Virtualization - VMware, KVM, Hyper-V, O-virt
- TCP/IP & Security - subnets, OSI Model, CIDR notations, HTTP/HTTPS, DNS, SSH, TCP, routing, firewall
- Scripting - Bash, Python
- Identity and Access Management - LDAP, Microsoft Active Directory, IPA
- Monitoring - Zabbix, Grafana
- Databases - Structured and unstructured databases

CORE COMPETENCIES

- Setting up and managing CI/CD pipelines to automate code integration, testing, and deployment processes.
- Writing and managing infrastructure code to automate the provisioning and configuration of environments.
- Deploying, managing, and scaling applications and services in cloud environments.
- Creating, managing, and orchestrating containers for application deployment and scaling.
- Automating the configuration and management of systems and applications.
- Setting up monitoring, alerting, and logging systems to track application performance and system health.
- Managing code versions, branches, and merges, and using version control systems to collaborate on code.
- Writing scripts to automate repetitive tasks and streamlining workflows.
- Understanding of networking concepts ((e.g., DNS, VPNs, firewalls) and implementing security best practices to protect infrastructure.
- Working effectively with development, operations, and other teams to foster a culture of collaboration and shared responsibility.
- Identifying, diagnosing, and resolving issues across the software development and deployment lifecycle.
- Understanding software development methodologies, including Agile and Scrum, to effectively integrate operations with development processes.

EXPERIENCE

Systems Administrator | MFS Technologies Limited
December 2023 - Present

Daily tasks:
- Managing cloud and on-prem services.
- System administration of both Windows and Linux systems all the way from installation of Operating systems, to user, file system, configuration, service management etc.
- Managing and implementing code using Git, Jenkins, Code Pipeline on AWS etc.
- Automation of recursive tasks with Ansible and Terraform.
- Network configuration and management includes routing, subnetting, DNS, SSH etc
- Identity management with AD/IPA.
- Firewall configuration that includes configuring access on Cisco ASA, implementing rich rules on Linux servers etc.
- Deployment and management of containers using Kubernetes and Docker.
- Configuration of proxies and load balancers such as Nginx, Apache.
- Configuring and managing databases.
- Monitoring environments with tools such as Zabbix and other SIEM tools.
- Offering training on how to access various company resources.
- Providing application support for internal and external clients, troubleshooting issues and identifying root causes..
- Managing client tickets, ensuring timely resolution and providing regular status updates.
- Supporting mobile banking platforms, identifying and resolving issues related to system integration, data transfer, and user experience.

Key Achievements:
- Improved API documentation for all the apis in Postman collections.
- Successfully migrated infrastructure and applications from AWS to an on-premises environment, ensuring minimal downtime and maintaining system performance.
- Set up, configured, and customized Uptime Kuma for comprehensive monitoring of application uptime, including custom alerts and notifications, ensuring high availability and reliability of services.
- Optimized database performance by analyzing query performance, indexing key columns, and implementing caching strategies, resulting in significant improvements in query response times.
- Successfully scaled database infrastructure to handle increased load, including configuring replication, sharding, or partitioning to improve performance and reliability.
- Designed and implemented CI/CD pipelines using Git, and Jenkins reducing deployment times and increasing code quality.

System Administrator & Technical Writer| Tutornix
December 2023 - Present

- At Tutornix, I am an integral part of a dynamic team dedicated to researching and writing about a diverse range of open-source technologies and system administration topics including:
- Linux Administration Tips and Hacks - Linux commands, server management best practices, and firewall setup.
- Automation in System Administration - Covering Ansible for infrastructure automation, Terraform for infrastructure as code, and Bash scripting for task automation.
- Cloud Computing and Management - Providing guides on AWS, managing infrastructure with CloudFormation, and securing cloud environments.
- Network Administration - Network fundamentals, configuring Cisco ASA firewalls, and troubleshooting network issues.

- Virtualization and Containerization - VMware environments, Docker containerization, and Kubernetes orchestration.
- Databases such as MySQL, PostgreSQL, MariaDB, MongoDB, Redis etc, database backup and recovery best practices, and performance tuning.
- Security and Identity Management - Active Directory implementation, identity and access management best practices, and SIEM tools for security.
- System Monitoring and Performance - Using Zabbix, Cacti, Prometheus and Grafana, ELK stack, Alertmanager, Nagios etc for system monitoring, identifying key performance metrics, and troubleshooting performance issues.
- DevOps and CI/CD Pipelines - Building CI/CD pipelines with Jenkins, Git version control practices, and automating deployments with AWS CodePipeline.

Freelance Front-end Engineer
September 2021 - November 2023

Daily tasks:
- Design and develop web applications using HTML, CSS, JavaScript, React JS, and other web technologies.
- Write clean, maintainable, and efficient code that is well-documented and adheres to industry standards.
- Collaborate with cross-functional teams to design, develop, and launch new features and products.
- Ensure the technical feasibility of UI/UX designs and optimize applications for maximum speed and scalability.
- Participate in code reviews.
- Troubleshoot and debug issues and provide support to end-users.
- Develop and maintain project timelines, budgets, and other project-related documentation.

Key Achievements:
- Developed a new application using React that increased client satisfaction by 20%.
- Improved the performance of existing applications by optimizing SQL statements and implementing best practices, resulting in a 15% increase in efficiency.
- Working collaboratively with clients and developers to ensure successful project outcomes.

Software Developer Intern | COSEKE
April 2021 - August 2021 | Nairobi, Kenya

Daily tasks:
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Key Achievements:
- Successfully integrated a new third-party tool into an existing application, resulting in a 25% increase in functionality

EDUCATION

Moringa School | Software Engineering
June 2022 - February 2023

- Software Engineering Certification

Jomo Kenyatta University of Agriculture and Technology | Bachelor of Science in Information Technology

September 2017 - February 2023

- Bachelor's Degree - Second Class Honors

Volunteer Experience

- **President's Award Scheme Assessor**
  I was in charge of conducting interviews, assessing participants' skill development, and verifying their community involvement. I also provided guidance and feedback to participants throughout the program and supported them in achieving their goals.

- **Member, Effective Altruism**
  I contribute to Effective Altruism by undertaking technical projects for nonprofits, developing software solutions and websites, and creating custom tools. My aim is to help these organizations achieve their goals more efficiently in areas like global health, poverty alleviation, and education, using evidence and reason to make a positive impact.

REFEREES

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