MANOJ M

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Objective

Accomplished DevOps and DevSecOps Engineer skilled in crafting advanced CI/CD pipelines, orchestrating containerized deployments, fortifying cloud infrastructure, and implementing robust monitoring solutions. Proficient in Docker, Kubernetes, Jenkins, AWS, Azure, Linux, Ansible, Terraform, Istio, ArgoCd, PostgreSQL, Redis, ELK Stack, Falco, KubeScan, Prometheus-Grafana monitoring, and more Backed by a robust Spring Boot proficiency, I enhance software architecture comprehension and expedite debugging. Melding DevOps expertise with Spring Boot skills, I drive seamless software delivery and enable collaborative cross-functional efforts.

Education

College of Engineering Pathanapuram, APJ Abdul Kalam Technological University **August 2018 – July 2022**
Bachelor of Technology (B.Tech) in Computer Science *GPA: 7.98*

Bishop Moore Vidyapith, Kayamkulam, ISC **June 2017 – March 2018**
12th *73.20%*

Technical Skills

DevOps and DevSecOps Tools: Kubernetes, Jenkins, Ansible, Terraform, Istio, Hashicorp Vault, Docker, Nginx, Sonarqube, Talisman, Trivy, OPA Conftest, ArgoCd, Redis
Monitoring: Prometheus, Grafana, Falco, KubeScan, ELK, Splunk
Cloud Platforms: AWS, Azure
Version Control & Database: Git (GitHub, Bitbucket), PostgreSQL, Mongodb
Programming: Java (incl. Spring Boot), Python, JavaScript, C++
Operating Systems: Linux (Ubuntu, CentOS, Red Hat)
Others: Data structures, Networking, Previous experience in Machine Learning, MERN stack, UiPath RPA, Blockchain

Experience

Gadgeon Systems Inc **August 2022 – Current**
Devops Engineer & Backend Developer for My Geon Application(Employee management tool of Gadgeon) *Smart city, kochi*

- Introduced a robust DevOps approach from scratch, reducing deployment time by an impressive 60%.
- Spearheaded end-to-end DevOps implementation for all microservices in the MyGeon application using Jenkins, Kubernetes, Terraform, Ansible, Helm, Docker, Sonarqube, Nginx, Redis, Istio, Ingress, MongoDB, and PostgreSQL.
- Leveraged AWS services, including Amazon Route 53, Amazon Elastic Container Registry (ECR), Amazon Elastic Kubernetes Service (EKS), Amazon Elastic Load Balancing (ELB), Amazon Relational Database Service (RDS), Amazon S3, Amazon EC2, and AWS Identity and Access Management (IAM), to optimize the infrastructure and application deployment.
- Pioneered the inception and integration of monitoring tools such as the ELK stack and Prometheus Grafana, resulting in a remarkable 70% reduction in debugging time for MyGeon app.
- Efficiently utilized my less busy periods to contribute to development tasks, resulting in a 10% reduction in development time and enhancing the performance and functionality of the Goffboarding microservice.
- Played an integral role in pioneering the adoption of workflow automation using Temporal and Camunda, streamlining team processes.

Devops Engineer for DHL AET Application(Json producer-consumer Application)

- Led the implementation of a secure pipeline, ensuring stringent security measures for the project.
- Adapted seamlessly to a highly secure Azure environment, showcasing the ability to work effectively under strict security protocols and leveraging Azure Kubernetes Service (AKS) for container orchestration
- Collaborated closely with security teams, aligning DevOps practices with robust security considerations

Orange Dice Solutions **July 2020 – July 2022**
DevOps Engineer Trainee *kochi(remote)*

- Orchestrated Jenkins-Kubernetes integration for automated containerized app deployment, utilizing Terraform and Ansible for infrastructure provisioning and configuration management, with AWS to optimize scalability and reliability.
- Spearheaded the implementation of Docker-based microservices architecture on Linux servers, including Linux server administration tasks and Nginx configuration, optimizing resource utilization and enhancing scalability while ensuring high availability and fault tolerance.

Computer Society Of India **June 2021 – June 2022**
Chairman *Pathanapuram*

- Led and organized a dynamic team to drive technology-focused initiatives, workshops, and events.
- Explored diverse technologies including machine learning, blockchain, Python programming, data structures in Java, UiPath RPA, MERN Stack, and Linux.

College of Engineering Pathanapuram **January 2022 – August 2022**
Union Chairman *Pathanapuram*

- Led the college union, overseeing and coordinating various activities, events, and projects.
- Demonstrated strong leadership through effective communication, organization, and documentation.
- Successfully managed teams, fostering a collaborative and positive environment among members.

Projects

ADDING SECURITY PRACTICES IN ROBUST DEVOPS PIPELINE WITH DEVSECOPS METHODOLOGY.

- **Git Hooks Integration with Talisman** – Integrated Git hooks with Talisman to enforce pre-commit checks for sensitive data and credentials, enhancing code security and compliance.
- **Mutation Testing with PIT** – Implemented mutation testing using PIT to assess the effectiveness of unit tests and identify potential weaknesses in code coverage.
- **Static Code Analysis with SonarQube** – Utilized SonarQube for static code analysis to identify and remediate code quality issues, security vulnerabilities, and technical debt in software projects.
- **Dependency Vulnerability Scanning with Dependency-Check** – Performed vulnerability scanning of project dependencies using Dependency-Check to identify and address known security vulnerabilities proactively.
- **Trivy Vulnerability Scanning for Docker Images** – Implemented Trivy scanning for Docker images to proactively identify and remediate security vulnerabilities before building, ensuring containerized applications are free from risks. Conducted comprehensive Trivy scans for final Docker images prior to deployment, guaranteeing vulnerability-free deployments to AWS ECR for enhanced security.
- **OPA Configuration Testing on Dockerfile and Kubernetes Configuration Files** – Conducted Open Policy Agent (OPA) configuration testing on Dockerfiles and Kubernetes configuration files to enforce security policies and best practices, ensuring container and Kubernetes resource security.
- **Istio Implementation for Enhanced Security** – Implemented Istio for enhanced security, leveraging mutual TLS (mTLS) for secured connections with strict mTLS using peer authentication. Utilized Istio authorization to control fine-grained access between pods, ensuring secure communication within the Kubernetes cluster. Additionally, visualized the Istio service mesh using Kiali and other tools for comprehensive observability. Leveraged Istio ingress gateway for secure external access and implemented additional security features for enhanced protection against threats and attacks

HASHICORP VAULT IN KUBERNETES

- **Enhancing Kubernetes Security with Vault's Advanced Secret Management** – Implemented HashiCorp Vault in Kubernetes for secure credential and secret storage. Configured with stringent authentication and dynamic secret injection, ensuring confidentiality and integrity.

INFRASTRUCTURE AS CODE WITH TERRAFORM AND ANSIBLE

- **Infrastructure Transformation with Terraform and Ansible** – Led the transformation of infrastructure into code by designing and implementing Terraform configurations, automating provisioning and management of cloud resources. Additionally, utilized Ansible for configuration management, automating deployment and configuration of software and infrastructure components, streamlining operations, and reducing manual intervention..

IMPLEMENTING GITOPS METHODOLOGY WITH ARGOCD

- **Implemented ArgoCD for Deployment Automation** – Embraced ArgoCD to revolutionize deployment practices, eliminating manual interventions and reducing errors. Leveraged ArgoCD's GitOps methodology with a pull-based approach, establishing Git as the definitive single source of truth for Kubernetes configurations. This strategic implementation fortified security measures, ensured disaster recovery preparedness, and decisively thwarted security threats like storing credentials in Jenkins and other vulnerable avenues.

MONITORING THE KUBERNETES CLUSTER

- **Monitoring with Prometheus and Grafana** – Implemented Prometheus and Grafana for real-time system monitoring, collecting metrics, visualizing data, and enabling proactive alerting for actionable insights.
- **Monitoring with falco** – Integrated Falco and Falco UI for proactive security threat detection, leveraging real-time anomaly detection and visualization for rapid incident response, bolstering overall infrastructure security.
- **KubeScan Security Monitoring** – Utilized KubeScan for robust security assessments within Kubernetes clusters. Leveraged its comprehensive scanning capabilities and intuitive scoring system to proactively identify and remediate vulnerabilities, enhancing overall security resilience.

LINUX SERVER ADMINISTRATION PROJECTS

- **INTERNAL DNS** – Deployed and managed a scalable DNS infrastructure using BIND on Red Hat and Ubuntu servers, incorporating caching DNS server and primary-secondary setup for enhanced reliability.
- **Mail Server Deployment with Postfix** – Configured a secure mail server using Postfix on Red Hat and Ubuntu machines, ensuring efficient email communication.
- **Web Server Hosting with Nginx** – Provisioned and maintained Nginx web servers on Red Hat and Ubuntu machines for hosting dynamic web applications with optimized configurations.
- **Load Balancer Setup with Nginx** – Designed and implemented a load balancing solution using Nginx on Red Hat and Ubuntu servers, incorporating TLS encryption to ensure secure communication between clients and backend servers.
- **DHCP Server** – deployed and configured DHCP servers using DHCP packages on Red Hat and Ubuntu machines, providing automated IP address assignment and network configuration.

Certifications(udemy)

DevOps: Certified Kubernetes Administrator, Aws Solution Architect-Associate
Programming : Java Programming, Spring boot