

SHUBHAM TYAGI

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Profile Summary

Over 3.8 years of hands-on experience automating DevOps practices and managing continuous integration and delivery workflows in the technology industry. Working as a DevOps Engineer at Cognizant, contributing to innovative solutions and driving operational efficiencies. Showcased expertise in managing AWS infrastructure, utilizing Terraform, Docker, and Kubernetes to facilitate efficient and reliable deployment processes. Exhibited strong capabilities in utilizing Jenkins, Git, GitLab, and Ansible to optimize the management of continuous integration and delivery pipelines. Displayed a proven track record in automating deployment workflows, improving system reliability and operational performance. Possess an understanding of monitoring solutions such as Prometheus and Grafana, enhancing visibility and observability across various system components. Cultivated a robust foundation in containerization techniques, configuration management practices, and version control methodologies to support collaborative development efforts. Dedicated efforts to achieving high availability and operational excellence by implementing automation strategies across various processes.

Core Competencies

Cloud Infrastructure Management - Configuration Management
CI/CD Pipeline Automation - Change Management
Infrastructure as Code (IaC) - Cloud Security & Compliance
Containerization and Orchestration - Risk Assessment
OpenShift: Managed and operated Red Hat OpenShift clusters.
Argo CD: Leveraged GitOps for CI/CD pipeline management.
Tekton: Built and maintained CI/CD pipelines using OpenShift Pipelines.
Istio: Implemented and troubleshooted Service Mesh solutions.
OSM: Implemented and troubleshooted Service Mesh solutions.
3scale: Implemented and troubleshooted API Gateways.
Loki: Configured centralized logging with Loki.
OVN: Managed OpenShift cluster networking using OVN.
NetworkPolicies: Implemented NetworkPolicies for secure traffic.
RBAC: Applied Role-Based Access Control for enhanced security.
Pod Security Policies: Enforced Pod Security Policies for enhanced security.
Image Scanning: Implemented image scanning to enhance security.
Service Mesh: Implemented and troubleshooted Service Mesh solutions.
API Gateways: Implemented and troubleshooted API Gateways.

Technical Skills

Cloud Computing: AWS (EC2, IAM, S3, RDS, ALB, NLB, Lambda, VPC, Route 53, Security Groups, CloudWatch, ECS)
Databases: MySQL
Containerization: Docker, Kubernetes
DevOps Tools: Jenkins, GitLab CI, Git, GitHub Actions, CI/CD
Infrastructure as Code: Terraform
Configuration Management: Ansible
Programming Languages: Python, Bash
Operating Systems: Windows, Linux/Ubuntu

Work Experience

Since Dec'24 with Cognizant, Noida

Role as Senior Infra Developer: Project Involvement – Multi-Region Migration & DevOps Enablement

- Migration & Regional Expansion: Contributing to the migration and infrastructure expansion across multiple AWS regions. Actively involved in provisioning new environments to support regional deployments.
- Helm Upgrade & Management: Upgrading Helm versions for new regions, ensuring compatibility with application deployment pipelines and cluster configurations.
- CI/CD Enhancements: Updating Jenkinsfiles to support multi-region and multi-environment builds using dynamic parameters and variables, streamlining deployment processes.
- Secret Management: Managing and updating secrets for newly added regions to maintain secure access and compliance.
- Infrastructure Provisioning with Terraform: Creating and managing Kubernetes clusters in new regions using Terraform, ensuring consistency and scalability through reusable modules.
- Monitoring & Observability: Implementing and maintaining monitoring solutions using AWS CloudWatch and Datadog to ensure real-time visibility into infrastructure and application performance.
- Version Control & Collaboration: Creating feature branches in GitHub as per project requirements and collaborating with team members to review and merge changes into the main branch following standard Git practices.
- Terraform Code Enhancements: Refactoring Terraform configurations to support multi-region deployments and automate provisioning across environments.

Nov 2021 to Nov 2024 with Motherson Technology Services Ltd., Noida

Growth Path:

Cloud Engineer (Nov'2021 to Nov'2023)

DevOps Engineer (Nov'2023 to Present)

Role as Cloud Engineer:

- **AWS Infrastructure Management:** Provisioning and managing a comprehensive suite of AWS services (EC2, IAM, S3, RDS, Lambda, VPC, Route 53, EKS) to support scalable application deployment. Optimizing storage solutions by configuring EBS volumes and utilizing AWS LVM for efficient volume management.
- **Containerization and Orchestration:** Spearheading containerization using Docker and orchestrating microservices with Kubernetes, ensuring high availability and operational efficiency. Developing and maintaining Docker images and containers for consistent deployment practices.
- **CI/CD Pipeline Design:** Designing and maintaining CI/CD pipelines with Jenkins, enhancing software delivery lifecycle efficiency. Collaborating with development teams to establish Jenkins pipelines, achieving faster release cycles.
- **Security and VPN Configuration:** Setting up secure communication channels through Site-to-Site and Point-to-Site VPN connections. Collaborating with security teams to implement IAM roles and policies, enhancing data protection and compliance.
- **Infrastructure as Code (IaC):** Developing AWS infrastructure using Terraform, streamlining deployment and enhancing scalability through reusable modules.
- **Version Control and Collaboration:** Utilizing Git, GitLab, and GitHub for continuous development workflow. Managing branches for Docker files, Ansible playbooks, and Kubernetes manifests based on project requirements.
- **Linux File System Management:** Creating file systems with LVM, developing physical volumes (PVs) and volume groups (VGs) tailored to project specifications.
- **System Monitoring and Maintenance:** Implementing AWS Systems Manager for automated patch management and use AWS CloudWatch to monitor resources, proactively addressing performance issues.
- **Backup and Recovery:** Establishing and managing backup protocols using AWS Backup and snapshots, ensuring data integrity and availability.
- **Cost Optimization and Resource Utilization:** Analyzing AWS resource usage, leading cost-reduction efforts through automation and best practices for resource tagging and rightsizing.
- **Cross-functional Collaboration:** Engaging actively with development and operations teams to align on project objectives and delivery timelines, driving continuous improvement initiatives.

Role as DevOps Engineer:

- **AWS Infrastructure Development:** Building robust AWS infrastructure from scratch using Terraform, improving deployment efficiency and scalability. Automating provisioning of VPC, EC2, ALB, EBS, NLB, IAM, and S3 resources.
- **Microservices Containerization:** Implementing Docker-based containerization and orchestrated services with Kubernetes, ensuring high availability. Creating and managing Docker images and containers for consistent deployment.
- **Configuration Management:** Utilizing Ansible for consistent setup across environments. Developing and maintaining Docker files, aiding in creating base images for QA and Performance teams.
- **Monitoring and Observability:** Setting up monitoring with Prometheus and Grafana, enhancing visibility into system health. Creating scripts for proactive issue resolution across build machines, CI/CD applications, and Kubernetes clusters.
- **CI/CD Automation:** Preparing end-to-end pipelines with Jenkins, automating software releases and minimizing downtime. Managing Jenkins pipelines for integration, nightly, and release builds, reducing manual effort.
- **Version Control Management:** Managing GitLab repositories, managed merge requests, and creating branches according to project requirements. Utilizing GitHub for collaboration and version control.
- **Security and Code Quality:** Integrating SonarQube for code analysis, ensuring code quality and security. Conducting Trivy scans for Docker images to identify vulnerabilities early in the development lifecycle.
- **Kubernetes Expertise:** Working with Kubernetes resources including deployments, namespaces, persistent volumes, services, and configmaps. Developing YAML configurations for infrastructure as code management.

Oct 2019 to Nov 2020 with Progressive Info Vision Pvt Ltd. (Desktop Support Engineer)

Achievements

- Ensured data integrity and availability through comprehensive backup and recovery processes.
- Optimized AWS resources, resulting in substantial cost savings.
- Enhanced operational efficiency through automated patching and updates.
- Streamlined CI/CD pipelines, reducing deployment time.
- Implemented cost optimization strategies, resulting in a reduction in operational costs.

Education

2019: B.Tech. in Mechanical Engineering from Dr. A.P.J. Abdul Kalam Technical University, Lucknow

Certification

AWS Certified Solutions Architect from AWS

Personal Details

Date of Birth: 26th Jan 1998

Languages Known: English & Hindi