Shubham Kumar

Senior DevOps Engineer | Orchestrating Innovation in Cloud Infrastructure & CI/CD Pipelines | Certified in CKAD, CKA, AWS Developer & DevOps Professional, Terraform Developer

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Summary

4 Year Experienced DevOps Engineer proficient in Cloud Operations management, specializing in automating large scale Infrastructure and Deployments. Skilled in orchestrating containers using Kubernetes and adept at utilizing configuration management tools and Infrastructure as Code principles. Demonstrated ability to innovate high level technology strategies while maintaining a practical approach. Well Versed in agile methodologies, best practices, and leveraging cloud services to drive efficiency and scalability. Strong problem solving skills, with a track record of implementing robust monitoring and alerting systems for proactive issue resolution. Proven expertise in optimizing CI/CD pipelines for accelerated software delivery. Dedicated to continuous learning and staying updated on emerging technologies to enhance operational excellence.

Education

- **Bachelor of Technology (Hons.)** in **Computer Science and Engineering**   [2016 - 2020] — **8.1 CGPA**
  Krishna Engineering College, Ghaziabad, Uttar Pradesh
  (Dr. A.P.J. Abdul Kalam Technical University, Lucknow, Uttar Pradesh)

Experience

- **Airtel Digital** — Senior Software Engineer (DevOps & SRE)   [Feb, 2023 - Present]
  - **Implemented Monitoring Stack:** Introduced and configured a comprehensive monitoring stack using Thanos and Prometheus, providing enhanced observability into the Wynk's infrastructure and applications. This included designing scalable Prometheus setups, setting up long-term storage with Thanos for historical metrics, and implementing dashboards for real-time insights into system performance and health.
  - **Established Alerting Stack:** Designed and implemented an effective alerting stack utilizing Prometheus Alertmanager and Grafana, enabling proactive identification and resolution of system issues. Defined alerting rules based on key metrics and thresholds, ensuring timely notifications and rapid response to incidents, thereby minimizing downtime and service disruptions.
  - **Deployed ArgoCD with ApplicationSets:** Leveraged ArgoCD, a GitOps continuous delivery tool, to streamline the deployment and management of applications across Kubernetes clusters. Implemented ApplicationSets to automate the deployment of application instances across multiple environments and clusters, ensuring consistency and scalability in application delivery while reducing deployment timings, manual intervention and human error.
  - **Led Kubernetes Cluster Migrations:** Took ownership of migrating Kubernetes clusters to newer versions, ensuring smooth transition and minimal disruption to production workloads. This involved planning and executing migration strategies, performing compatibility checks, and coordinating with development teams to schedule downtime windows for cluster upgrades. Successfully completed migrations without impacting service availability, demonstrating effective project management and coordination skills.
  - **Continuous Improvement Initiatives:** Proactively identified and implemented automation solutions to optimize infrastructure and deployment processes, enhancing system reliability and performance.

- **Unthinkable Solutions LLP** — Jr. Associate Software Engineering (DevOps & CloudOps Engineer)   [Jul, 2020 - Jan 2023]
  - **Microservices Architecture & Container Orchestration:** Led the creation and orchestration of microservices across multiple Kubernetes Clusters for 10+ teams, enhancing scalability and workflow efficiency.
  - **Continuous Integration & Deployment (CI/CD):** Managed robust CI/CD pipelines with Jenkins, GitHub Actions, GitLab CI, enabling seamless deployments to Red Hat Quay and AWS ECR. Implemented CD workflows with Kubernetes SDK, Helm Charts, Jenkins, ArgoCD, and Spinnaker across multi-cloud environments.

- ○ **Infrastructure Provisioning & Management:** Spearheaded the adoption of Terraform for infrastructure provisioning, following best practices like DRY Principle (via Terragrunt) and prioritizing security. Centralized management of cloud services across 10+ Cloud Accounts.
- ○ **Cloud Infrastructure Monitoring & Security:** Actively monitored and fortified cloud infrastructure, ensuring compliance and mitigating vulnerabilities. Implemented robust monitoring and logging solutions using Prometheus, Grafana, ELK, EFK, and PLG stacks for Kubernetes clusters.
- ○ **Automation & Scripting:** Leveraged Python and Bash scripting for automating deployment processes and ensuring infrastructure reliability using cloud SDKs.
- ○ **Kubernetes Cluster Migration:** Orchestrated seamless migration of large regiona-lscale Kubernetes clusters to the cloud, ensuring uninterrupted operations.

- ● **CEBS WorldWide** — SDE (Intern)   [Jun, 2019 - Jul,2019]
  - ○ **Software Engineering Proficiency:** Acquired knowledge of software engineering principles and models, enabling effective collaboration with multiple teams and understanding of software components, requirements, design, and development processes.
  - ○ **Technical Expertise in OOPs and RDBMS:** Demonstrated refined understanding of ObjectOriented Programming (OOPs) concepts and Relational Database Management Systems (RDBMS), enhancing proficiency in software development.
  - ○ **Innovative Project Development:** Conceptualized and developed a Smart Chatter application in Python for server-client interaction, featuring chat pattern analysis to automate replies in the absence of the user, showcasing creativity and technical skill in application development.

- ● **Synthia Software Pvt. Ltd.** — Web Development Intern   [Jun, 2018 - Jul, 2018]
  - ○ **MVC Architecture Implementation:** Utilized MVC architecture and ObjectOriented Programming (OOPs) concepts to develop a scalable and modular web application on the CodeIgniter Framework, ensuring maintainability and extensibility.
  - ○ **Scalable Website Development:** Engineered a highly scalable website for the national-level registration panel of a Marathon using PHP CodeIgniter, demonstrating proficiency in framework-based development and delivering robust solutions for large-scale events.

Skills Summary

- ● **Operating Systems:** Proficient in Linux (Ubuntu/CentOS), Windows, and macOS environments.
- ● **Scripting Languages:** Experienced in Python and Bash scripting for automation and system tasks.
- ● **Programming Languages:** Skilled in Python, PHP, JavaScript, C, and Java for application development.
- ● **Frameworks/CMS:** Proficient in CodeIgniter (PHP), MVC, and Android MVVM (Java) frameworks.
- ● **Databases:** Experienced with MySQL, PostgreSQL, and MongoDB for data management.
- ● **Domain Specializations:** Specialized in Kubernetes Application Development and Cloud Development.
- ● **Infrastructure as Code:** Proficient in Terraform and AWS CloudFormation for infrastructure provisioning.
- ● **Containerization and Microservices:** Experienced with Docker, Docker Compose, Kubernetes, and Lambda for containerization and microservices architecture.
- ● **Workflow Management:** Proficient in Azure DevOps and JIRA for project management and workflow automation.
- ● **CI/CD:** Experienced in Jenkins, Spinnaker, and ArgoCD for continuous integration and continuous deployment.
- ● **Logging and Monitoring:** Skilled in Elasticsearch, Kibana, Logstash, FluentD, Prometheus, Grafana, Promtail, and Loki for logging and monitoring solutions.
- ● **Server Applications:** Experienced in FTP, SFTP, SMTP, NGINX, Apache HTTPD, PHP, SSH, and Tomcat for serverside applications.
- ● **Other Tools:** Familiar with LinkerD (Service Meshing), OpenVPN, and Proofpoint Meta for additional infrastructure and security functionalities.
- ● **Version Control Systems:** Proficient in Git and Gitlab for version control and collaborative development.
- ● **SAML Integration:** Experienced in integrating SAML authentication using Keycloak and OKTA.

Projects

- ● **SuryaDeep Traders** – Crafted a robust point-of-sale panel using PHP CodeIgniter to efficiently manage products and multiple warehouses. Seamlessly integrated DevOps practices to automate deployment processes, ensuring continuous delivery and reliability. Leveraged extensive PHP development experience to optimize performance and scalability, while consistently delivering high-quality code.

- **EVedant** – Developed an innovative e-learning application utilizing PHP APIs for seamless integration with the web platform, and Android for mobile access. Designed to provide comprehensive online classes and study materials, the application offers a user-friendly interface for enhanced learning experiences. Leveraged PHP and Android development expertise to ensure robust functionality, scalability, and performance across both platforms.
- **Smart Assistant** – Engineered an advanced Artificial Intelligence (A.I.) platform characterized by its contextual and proactive nature, empowering businesses to create human-like conversational experiences. Leveraging microservices architecture atop Kubernetes orchestration, the platform offers unparalleled scalability and flexibility. With a focus on innovation and efficiency, the platform equips businesses with the tools needed to elevate customer interactions and drive sustainable growth.
- **Hiring Platforms** – Betterplace pioneers digital platforms for comprehensive lifecycle management of blue-collar staff, covering hiring, onboarding, verification, upskilling, attendance tracking, salary management, and health monitoring. Embracing a cloud-native approach, we leverage advanced technologies to empower the next billion. Our infrastructure relies on ELK and Prometheus Grafana for robust information collection and analytics, ensuring seamless operations and informed decision-making.
- **Transit** – Cloud technology empowers partners to develop end-to-end transit systems, encompassing everything from optimizing networks and streets to efficiently operating public transit and student transportation services. Our solution is fully cloud-based, leveraging Kubernetes orchestration for seamless scalability and reliability. By harnessing the power of the cloud, we enable our partners to revolutionize transportation management and enhance overall efficiency.

Achievements

- **Client Appreciation for Disaster Recovery:** Recognized organization-wide for receiving accolades from clients for swiftly restoring production infrastructure during a Cloud Account Outage. Successfully migrated services within one week, restoring operations to their original state, despite initial expectations of a multi-month recovery period, without relying on backups or disaster recovery measures.
- **Internal Recognition for Automation Efforts:** Acknowledged internally for implementing automation scripts that significantly streamlined the process of collecting information across 10+ cloud accounts and maintaining DNS records, resulting in considerable time savings for the organization.
- **Organization-Wide Appreciation for Kubernetes Migration:** Commended across the organization for leading the critical migration to upgrade the Kubernetes version of 5 sensitive Kubernetes clusters, while integrating with over 20+ teams seamlessly and without any downtime.
- **Hackathon Achievement:** Secured the 1st Position in the Startup Hackathon at TBI KIET, showcasing innovation and problem-solving skills in a competitive environment.
- **Coding Competition Accolades:** Earned a Silver Medal in National Youth Coding Competitions at MM Deemed University, Ambala, and achieved 1st Position in the Blind Coding competition held at Delhi University, demonstrating excellence in coding and problem-solving abilities.

Certifications

- AWS Certified Developer — Associate
- AWS Certified DevOps — Professional
- Hashicorp Certified Terraform — Associate
- Certified Kubernetes Administrator
- Certified Kubernete Application Developer