Tasdik Rahman

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Work Experience

New Relic, Berlin: *Senior Software Engineer, Cloud Platform* October, 2022 - Present

- Led the design & implementation of a core Golang-based scheduling engine, directing a distributed team of 4 engineers across 3 time zones. Engineered a declarative abstraction via Kubernetes admission/mutating webhooks and controllers, acting as a critical platform component to process thousands of daily multi-cloud deployments while simplifying complex scheduling requirements for 1,000+ platform users. Presented this architecture at Container-Days, Hamburg, 2024.
- Developed a custom golang based reconciliation engine (K8s controller) to orchestrate k8s cluster bootstrapping across 280+ clusters in a cellular architecture. Transitioned execution from fragile Jenkins pipelines to an event-driven architecture, utilizing Custom Resource Definitions (CRDs) as database to persistently store state and inventory.
- Developed a state-aware Kubernetes controller (golang) to automate multi-cloud workload migrations from Cluster API pools to Karpenter. Implemented intelligent stabilization monitoring, node tracking, and automated circuit-breaking, driving compute optimization and reducing cloud spend by tens of thousands of dollars.
- Contributing upstream, by adding new features and fixes to kubernetes-sig projects of Cluster-API-AWS, Cluster-API-GCP and being part of release team for Cluster API 1.9. Maintaining the internal forks of kubernetes-sig projects, Cluster-API, Cluster-API-AWS, Cluster-API-GCP.

DeliveryHero, Berlin: *Senior Systems Engineer, Logistics* July, 2021 - September, 2022

- Designing & executing from scratch, k8s upgrade automation for all 50+ k8s clusters managed by our team serving traffic for global services, achieving reduction of 30% upgrade time, making upgrades reliable and repeatable, leading a team of 3 newer team members during this project and open sourcing it.

Gojek, Bangalore: *Software Engineer, Engineering Platform team* December, 2018 - July, 2021

- Engineered a high-throughput deployment automation platform processing 300+ daily 1-click canary rollouts for 18+ product groups across 13,000+ VMs and 100+ K8s clusters. Architected the system utilizing a Ruby on Rails central orchestrator and service registry, which routed deployments to specialized Golang (Kubernetes) and Python (VM) execution backend systems, utilizing PostgreSQL for centralized state management.
- Implemented SSL certificate automation for all 180+ internal developer VPNs inside the org, by building & open sourcing kingsly, taking care of the entire certificate life-cycle, right from creation to rotation, reducing human effort spent on renewals to zero. Release blog post.
- Designed and built a dedicated VM provisioning API microservice in Ruby on Rails, serving as a core backend component for the central service registry. Streamlined self-service infrastructure rollouts via pre-baked templates while leveraging PostgreSQL for strict microservice state tracking and centralized inventory management.

Razorpay (YC W15), Bangalore: *Infrastructure Engineer I* July, 2017 - December, 2018

- As Engineer #4 on the early cloud platform team, operated as an expert generalist to drive platform scale from 30k+ to 85k+ merchants. Paired deep infrastructure expertise with broad operational versatilityjumping from daily reliability ops, security patching, and legacy VM maintenance, to leading self-hosted Kubernetes R&D and presenting our kubernetes-sig/bootkube powered migration architecture from VM's to k8s at DevOpsDays Bangalore, 2018.

Open Source

Contributor: *oVirt Org under RedHat* Summer 2017

- Wrote additional Ansible playbooks from scratch along with their test cases for enabling remote machine engine renames with zero downtime & for interaction of the main control engine with remote resources (Database, Data Warehouse) & other oVirt-utilities which would help in *Easier testing, Automated Re-deployment & Reducing manual errors while deploying.*

Education

B.Tech in Information Technology, SRM University, India 2013 - 2017

- First Class with Distinction, CGPA of **9.133/10**

Technical Skills

Languages - Golang, Python, Ruby, Shell Scripting
Tools/Frameworks - Kubebuilder, controller-runtime, Cluster API, Chef, Ansible, Packer, Terraform, Docker, Ruby on Rails, Flask
Databases - PostgreSQL, MySQL, ETCD, consul
Logging/Monitoring - prometheus, grafana, fluentd, telegraf
OS - Unix/Linux
Container Orchestration - Kubernetes
Service Mesh - Istio
CI/CD - gitlab, drone, jenkins
Cloud Providers - AWS, GCP, Azure

Noteworthy Projects

All projects are available on Github : **github.com/tasdikrahman**

- **SRM Search Engine**: *SysAdmin & Backend developer*
  A General Purpose Search Engine, funded by ***"National Internet Exchange of India"***. Oversaw migration to a *Flask* app from CGI service. Wrote RESTful API's for various modules for our search service and scripts to automate the maintenance of our server. Crawlers to extract & index millions of pages. Helped design & set up a 15 node, master-slave Hadoop cluster.
- **Plino** **plino.heroku.com/**
  Conceived plino, a high accuracy spam filtering system built on top of a custom *Naive Bayes Classifier*, trained against 33,000 emails. Designed & developed RESTful APIs using Flask. Implemented Caching for server load reduction. *Achieved over 3000+ users* in our 1st version.

Technical Talks given

- **"Resilient Multi-Cloud Strategies: Harnessing Kubernetes, Cluster API, and Cell-Based Architecture"**, KubeCon EU 2025, London, April 2025
- **"How to make pod assignment to thousands of nodes every day easier"**, ContainerDays, Hamburg, September 2024
- **"Keeping up with Kubernetes cluster upgrades"**, Kubernetes Meetup, Bangalore, September 2022
- **"TDD: An Experience report"**, Bangalore Ruby meetup, India, December 2020
- **"Achieving repeatable, extensible and self serve infrastructure"**, Rootconf Hyderabad, India, November 2019
- **"Kingsly - The Cert Manager"**, DevConf India, July 2019
- **"Enabling Canary deployments in k8s"**, DevopsDays India, December 2019 (Lightening talk)
- **"Kuberception: Self hosting kubernetes"**, DevOpsDays India, December 2018
- **"Diving deep on how imports work in Python"**, PyCon Taiwan, June 2017
- **"Introduction to Ansible"**, Bangalore Python User group Meetup, April 2017
- **"Demystifying how imports work in Python"**, ChennaiPy Meetup, October 2016