

Raihan Khan

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EXPERIENCE

- AppsCode Ltd.** Dhaka, Bangladesh
Software Engineer Aug 2021 - Present
Maintain and Develop various CRD based features for the KubeDB Kubernetes Operator to simplify and automate routine database tasks such as Provisioning, Monitoring, Upgrading, Patching, Scaling, Volume Expansion, Backup, Recovery, Failure detection, and Repair for various popular databases on private and public clouds.

PROJECTS

- KubeDB Kafka** AppsCode Inc.
Go, Kubernetes, Docker, Bashscript, Kafka July 2022 - Present
 - Designed the project architecture and implemented using Kubernetes CRD and Kubebuilder SDK to provision and manage a TLS-secure Apache Kafka cluster in Zookeeperless Kraft mode along with the necessary Kubernetes resources.
 - Built custom docker image along with necessary scripts to bootstrap Kafka containers with required configurations for clustering, security and connectivity to external systems.
 - Enhanced user experience by providing support for a concurrently running, fully-customizable health checker that can monitor read/write operations and securely connect to cluster using an external go-client to ensure database healthiness, support for monitoring kafka broker and quorum controllers using prometheus and grafana.
- KubeDB Elasticsearch** AppsCode Inc.
Go, Kubernetes, Docker, Elasticsearch, OpenSearch, Bashscript February 2022 - July 2022
 - Added Elasticsearch user credential synchronization feature support for database built-in users by ensuring operator generated Kubernetes secrets prior to database provisioning
 - Enhanced integrated database health checker by including concurrent read/write monitoring and a configurable api in the operator CRD that let users manage health-checking behaviors via managing interval, timeout, failure threshold for health check iterations
 - Extended support for performing Upgrade, Restart, HorizontalScaling, VerticalScaling, VolumeExpansion and ReconfigureTLS in KubeDB managed Elasticsearch and OpenSearch cluster for day 2 lifecycle management
- KubeDB Dashboard** AppsCode Inc.
Go, Kubernetes, Docker, Kibana, OpenSearch Dashboards August 2021 - February 2022
 - Designed the project architecture and implemented from scratch to provision Kibana and OpenSearch Dashboards for connecting KubeDB managed Elasticsearch and OpenSearch databases in Kubernetes native way.
 - Secured communication between Elasticsearch/OpenSearch nodes and their corresponding dashboards by adding TLS support through operator generated certificates embedded in Kubernetes secret.
 - Improved user experience by adding support for concurrently running healthchecker, autonomous upgrade to compatible database version, and integrated Go Client library for Kibana.

SKILLS

- Tools and Technologies:** Go, Kubernetes, Docker, Helm, Prometheus, Grafana, REST, gRPC, Git, CI/CD
- Databases and Systems:** Kafka, Elasticsearch, OpenSearch, Kibana, Logstash, Fluentd, MySQL
- Languages:** Go, C++, Python

EDUCATION

- Comilla University** Comilla, Bangladesh
Bachelor of Science in Computer Science and Engineering; GPA: 3.29/4.00 2016 - 2021

ACHIEVEMENTS

- Participated in 15 national level programming contests including ICPC Dhaka Regional Contest 2019 (as CoU Dauntless) and National Collegiate Programming Contest 2018 and 2020 (as CoU Mirror Squad).