Application Organizer

Team: Denver Chernin

The goal of this project is to create an API database system that allows for easy organization of applications such as organizing ones' applications on Indeed with multiple job openings in different fields. This API will allow you to store applications, make sure they are in formats that you want them (validation of application), and query out information for individual jobs or people. The software and hardware that will be used are as follows: Kubernetes ingress, servers, and deployment of pods, PostgreSQL database (hosted on Heroku) to store the json applications into a table specific to that job field, a RabbitMQ messenger to pass information from server to worker, and a google bucket to store the occasional self portrait that is attached to an application.

First, the client will query the IP exposed by my ingress that will forward traffic through the service and load balance onto one of the servers. Then, the rest server will either query the PostgreSQL database for information and return it to the client or it will validate the application and pass it on to the worker node through a RabbitMQ channel to parse and insert into the correct table and bucket. I will debug my API by using similar mechanism to Lab 7 where once the server is completed, I will use shell to pass information through my server and will be able to check connections to the databases and google buckets. Once the entire API is up and running, I will create shell scripts that will pass large amounts of applications through the rest server making sure that all communications are working correctly, and database tables are being populated.

This project will meet project requirements as it uses more than 4 different cloud technologies. Those technologies are API interfaces, message queues, databases, containers (Kubernetes (GKE) and Docker), and storage services (google cloud bucket). In addition, these technologies are not being used naively, and are being used to their full potential. These technologies are being used verbosely.

You will find the diagram of my project on the second page of this document.

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