SOFE 4790U
Distributed Systems

Lab

Fall 2022

Group # 1

Due Date: September 18th, 2022

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Discussion:

Part 1

The problem here is that it is fairly difficult to keep an eye on the running services in the GCP than watching the ones on the premises because there are a lot of dependencies on various services given by a platform. There are many possibilities for failure according to the article due to factors relating to the platform. These are the reasons why you should always keep an eye out if everything is working accordingly. Solutions are by having the health monitoring check which application is running and which one has any failures. Another way could be to check various resources such as the cloud storage, databases, etc all locations available. The requirements are checking up on services to know everything is running and available.

Part 2

In this phase, we followed the directions to deploy the circuitbreaker pattern to prevent, manage, and reduce the chance of failures. How it worked is it allowed for failing services to recover, before sending them requests again and other ways of stopping failures like rerouting traffic and limiting rate. The circuitbreaker was the reason why it worked and without it, the request wouldnt be able to respond because it would keep trying multiple times without the chance to recover. After some time the circuitbreaker will allow for the requests to the services to go through when it has healed.

Part 3

Similarly with this phase, the example was to show us that the main function wasnt workinging and returning the inputs as outputs. Here the decorator function was able to extend the behaviour with making any changes.

Design:

Persistent volumes are a storage in the GKE cluster that is monitored by me as the administrator using the storage-class.yaml i have set up in the text editor. Persistent volume claim is the request used in the example to access the storage class which i named as gold using one of three access modes i chose as readwriteonce. This is used to see performance for various problems which is what this lab is all about finding.
https://drive.google.com/drive/folders/1qadlzqCpUuoK6LPSTOKYIMFcEYjYezie?usp=sharing