CS4830 - Big Data Laboratory
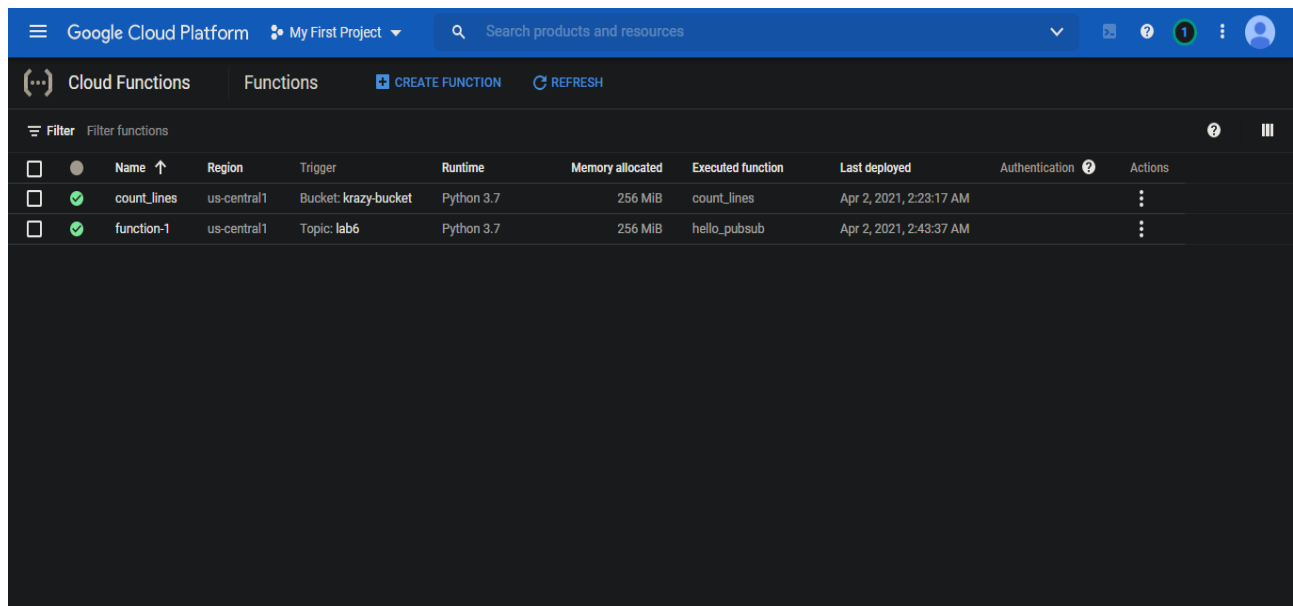## Lab 6 Assignment
Report

Sahil Ahmad Ansari
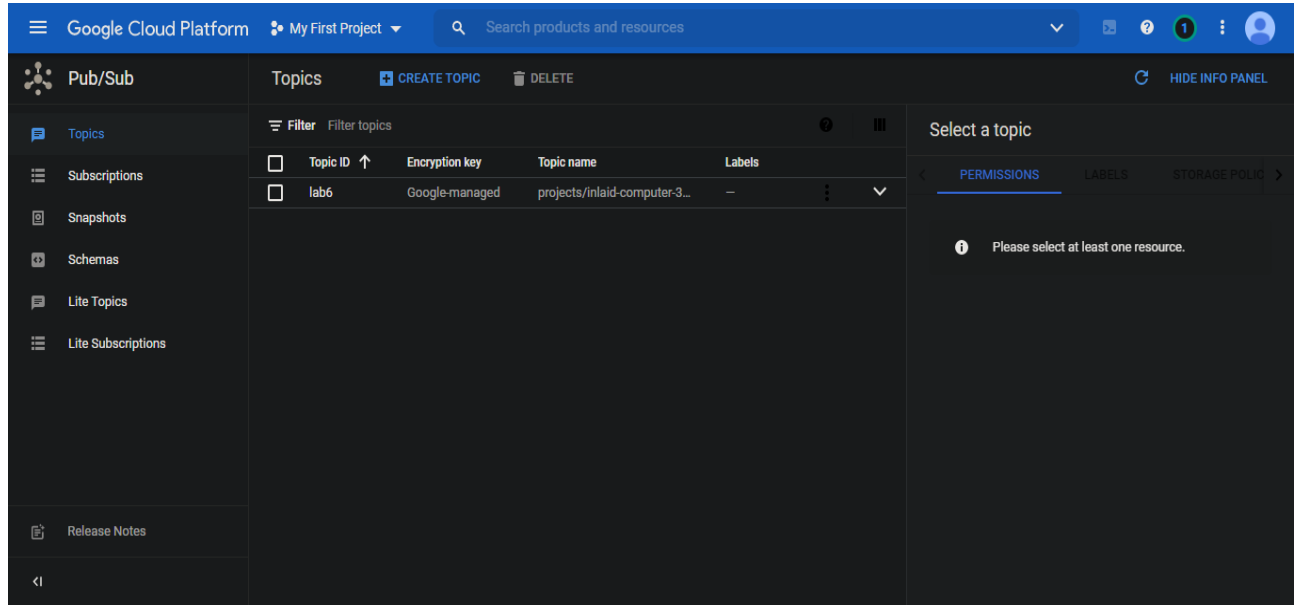### ME17B065

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1. Question 1

Two cloud functions were created for this task. The first one gets triggered whenever a file is added to the respective bucket and the second one gets triggered whenever a message is posted to the respective topic. The first cloud function simply pushes the name of the file added to the bucket to the pub/sub topic named 'lab6'. The second cloud function is a subscriber to the topic 'lab6' and it downloads the file pushed to the bucket using the filename and counts the number of lines in it. The following are the required screenshots:
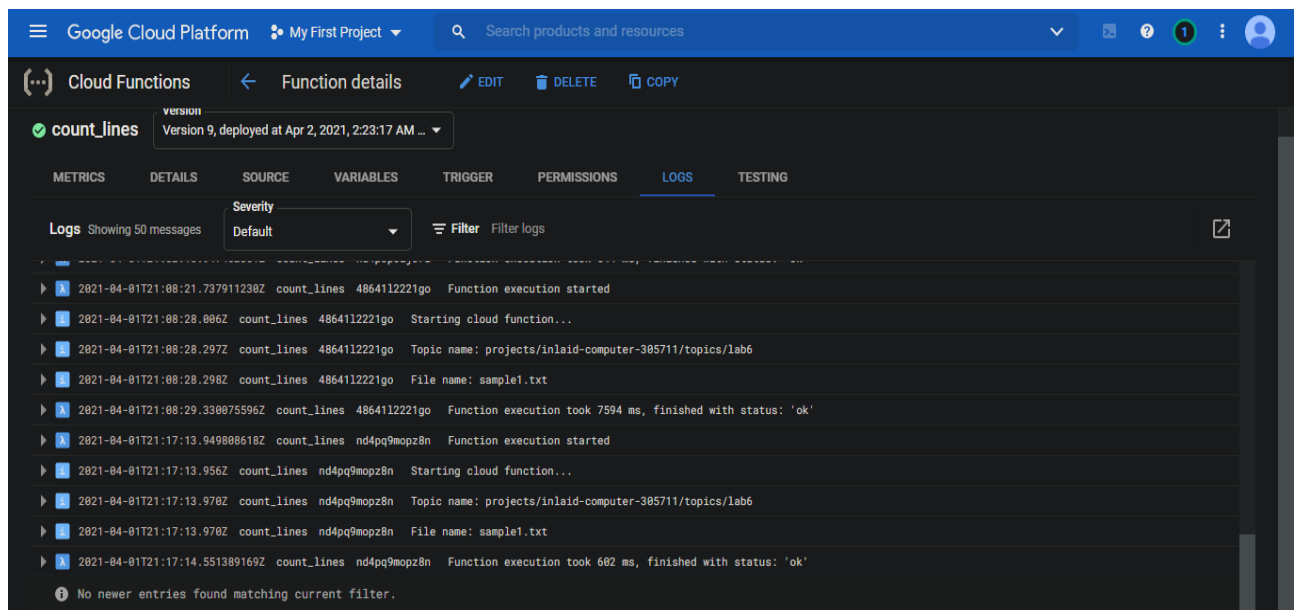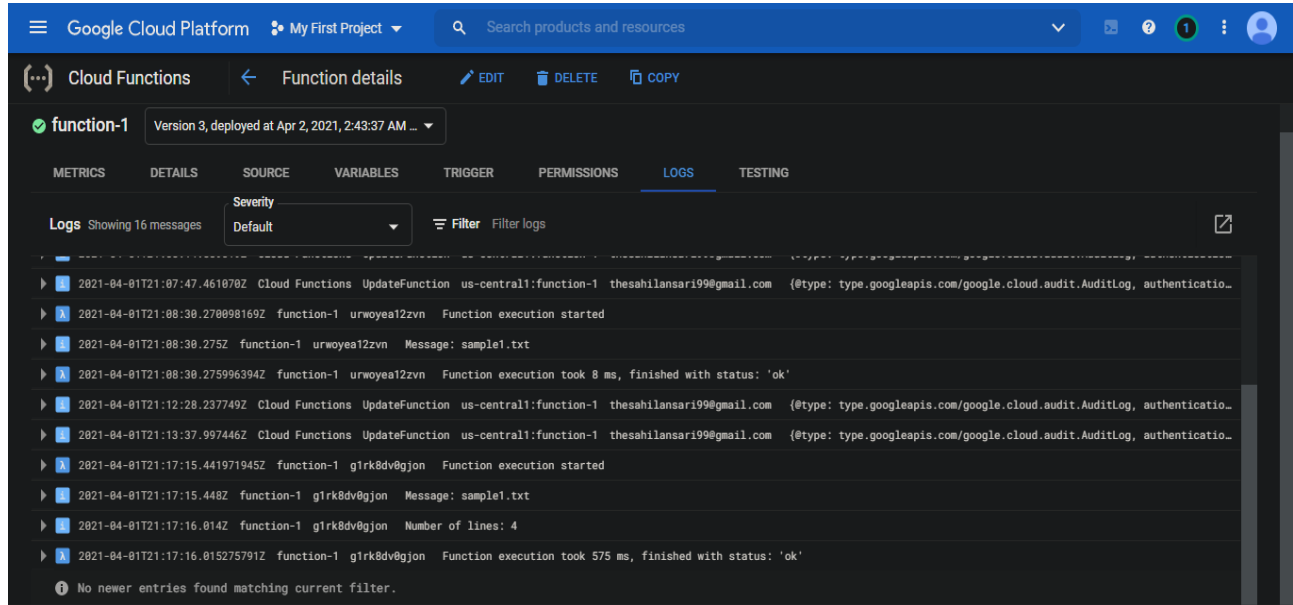

(a) Cloud Functions

(a) Screenshot of topic in pub/sub

(a) Screenshot of logs for first cloud function

(a) Screenshot of logs for second cloud function

The file named sample1.txt was uploaded to the bucket named 'krazy-bucket'. The second cloud function detected 4 lines in the file uploaded.

2. Question 2

Pull and Push subscriptions are two mechanisms for message delivery in Pubub.

a. Pull Subscription

In pull subscription, the subscriber application initiates requests to the Pub/Sub server to retrieve messages. The subscribing application explicitly calls the pull method, which requests messages for delivery. The Pull subscription should be used when we there is a large volume of messages and the efficiency and throughput of message processing is critical. A pull subscription will be useful in applications such as a news website, which will pull all the news posted to a topic.

b. Push Subscription

In push subscription, Pub/Sub initiates requests to the subscriber application to deliver messages. The Pub/Sub server sends each message as an HTTPS request to the subscriber application at a pre-configured endpoint. The endpoint acknowledges the message by returning an HTTP success status code. A push subscription must be used when multiple topics must be processed by the same webhook. The push endpoint can also be a load balancer. A push subscription will be useful in applications such as Notification engine, where message needs to be pushed to the notification engine to send out notifications to the respective clients.