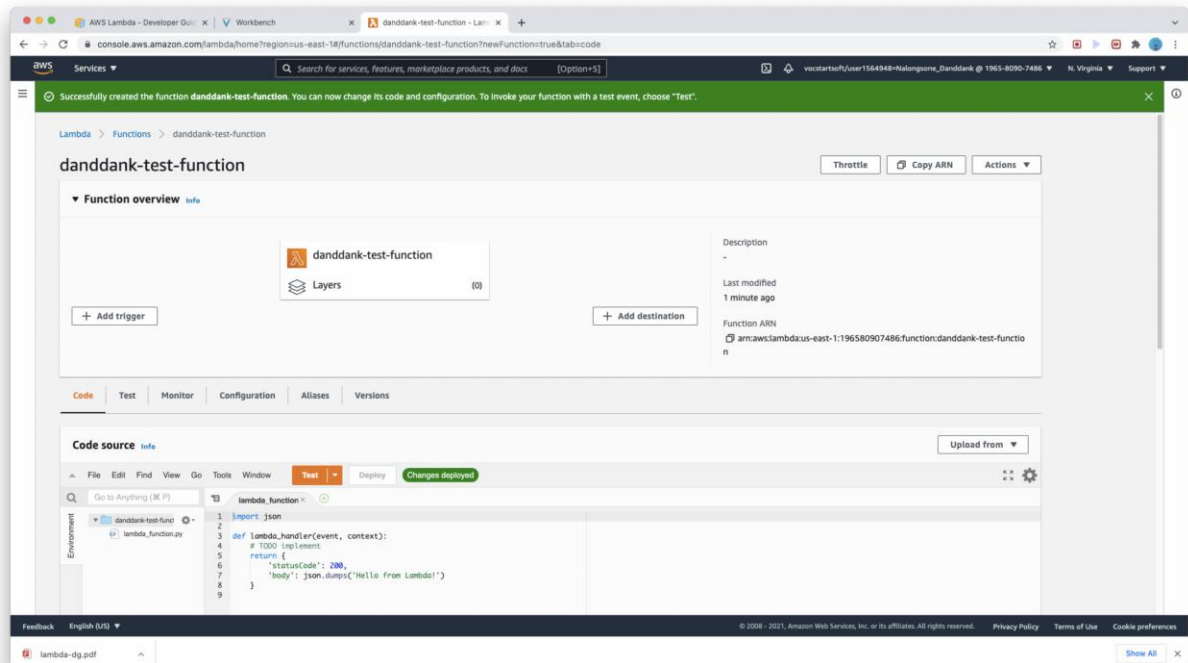


Lab #10 : Serverless Compute: AWS Lambda and GCP Cloud Functions

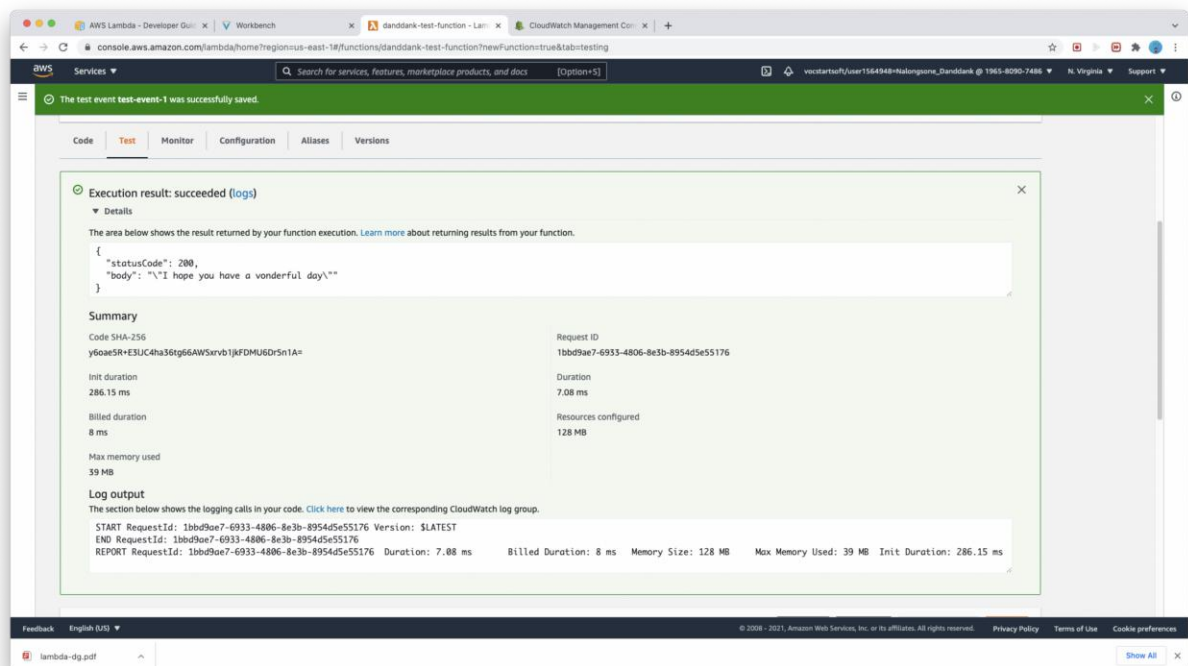
Exercise 1: AWS Lambda

Part 1: Create a Lambda function with default function code

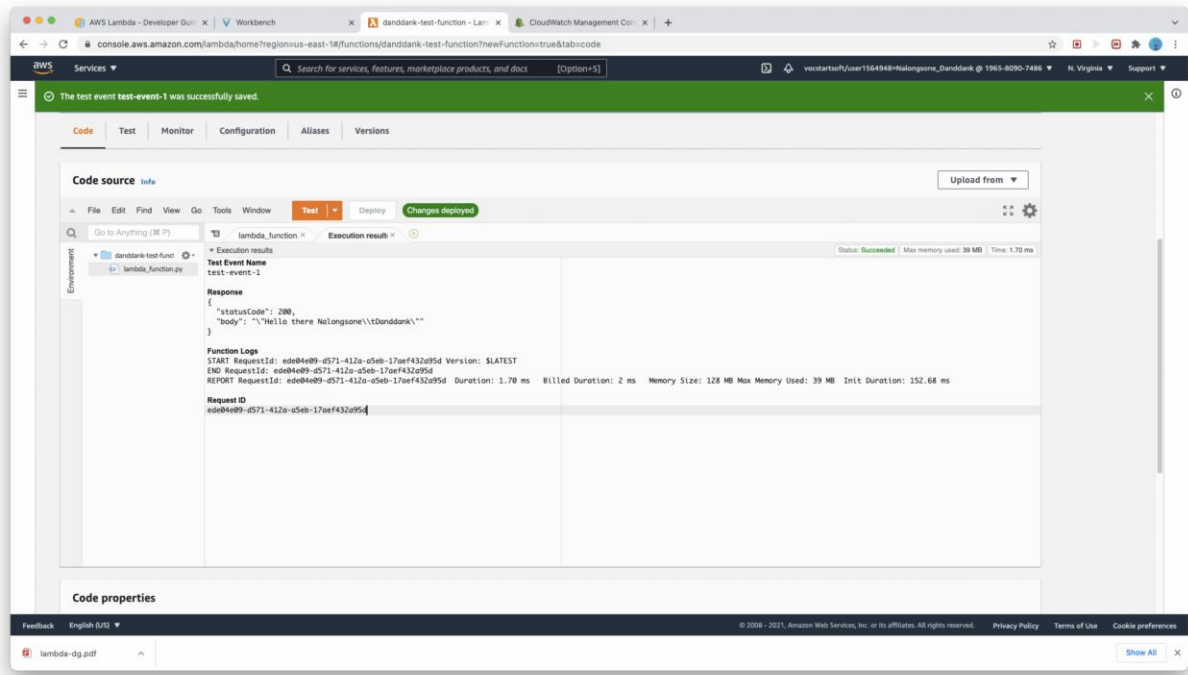
Lab report screen-shot #1:



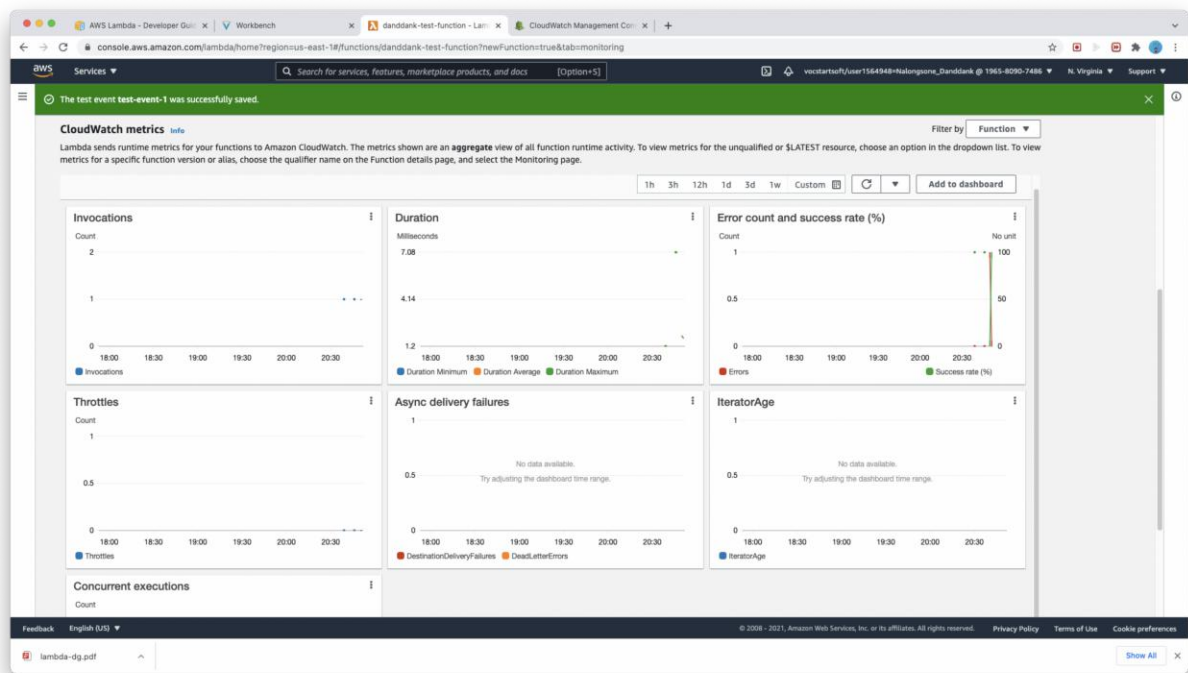
Lab report screen-shot #2:



Lab report screen-shot #3:

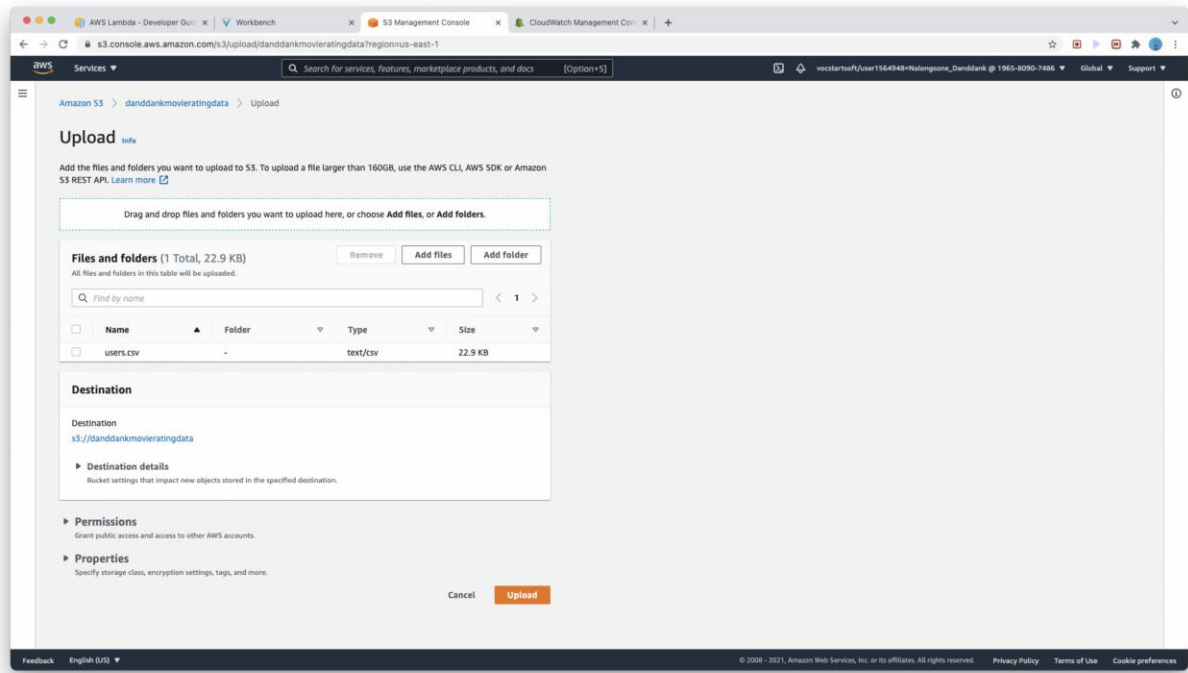


Lab report screen-shot #4:

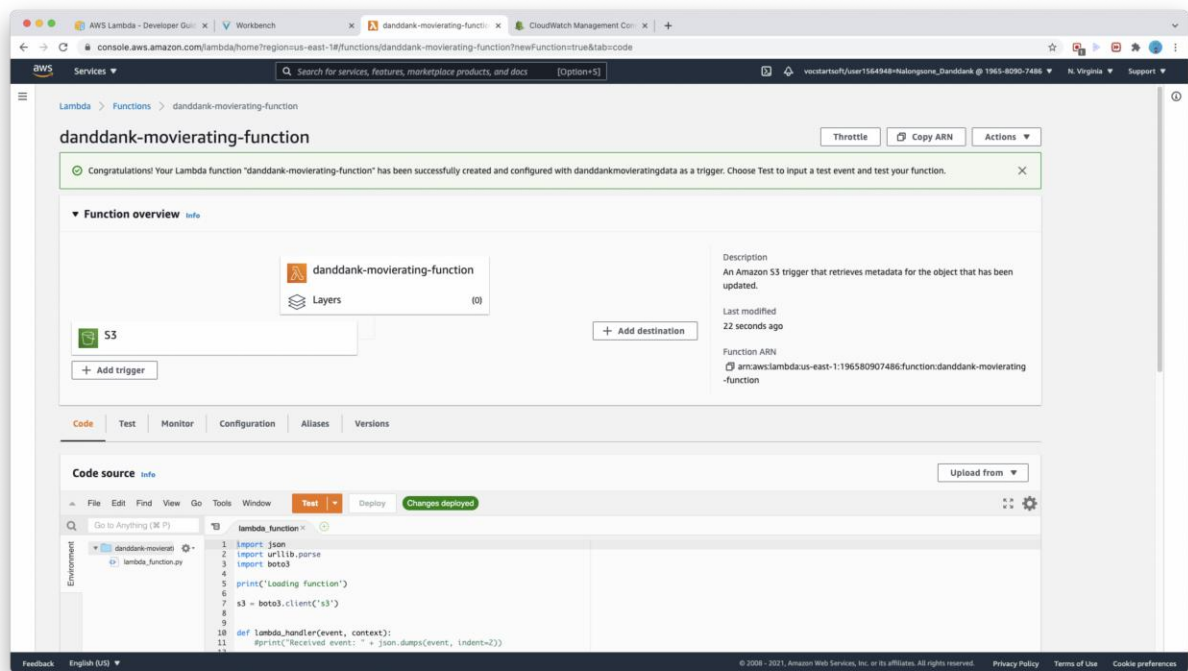


Part 2: Create an S3-triggered Lambda function

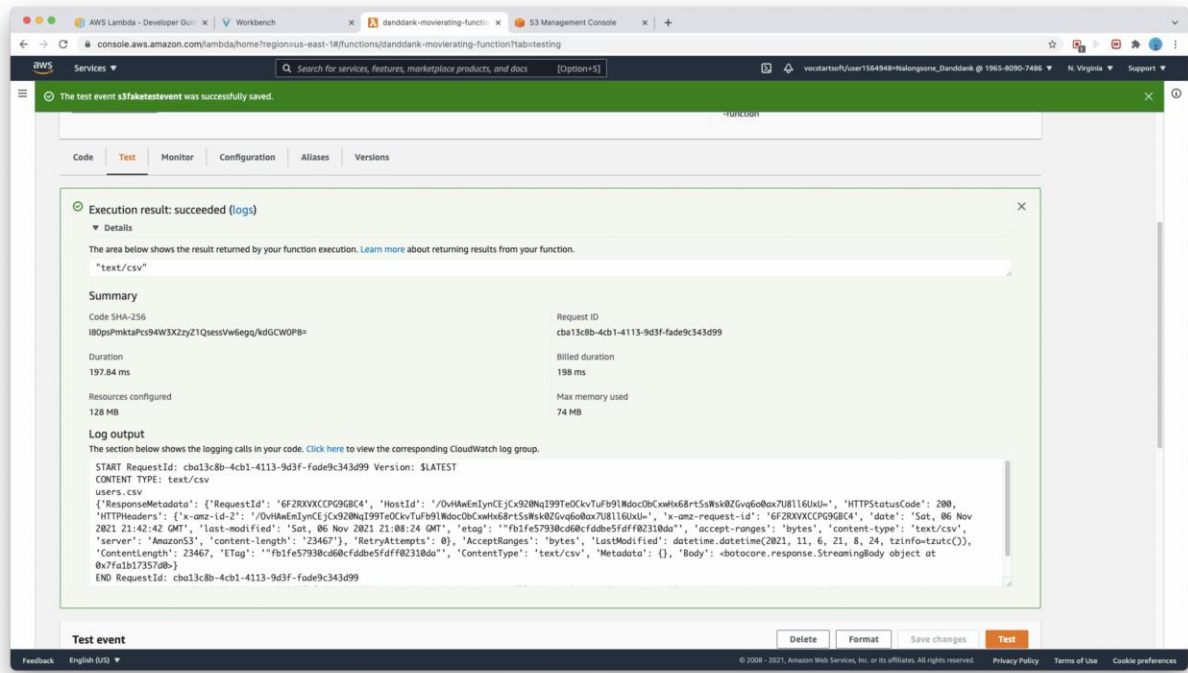
Lab report screen-shot #5:



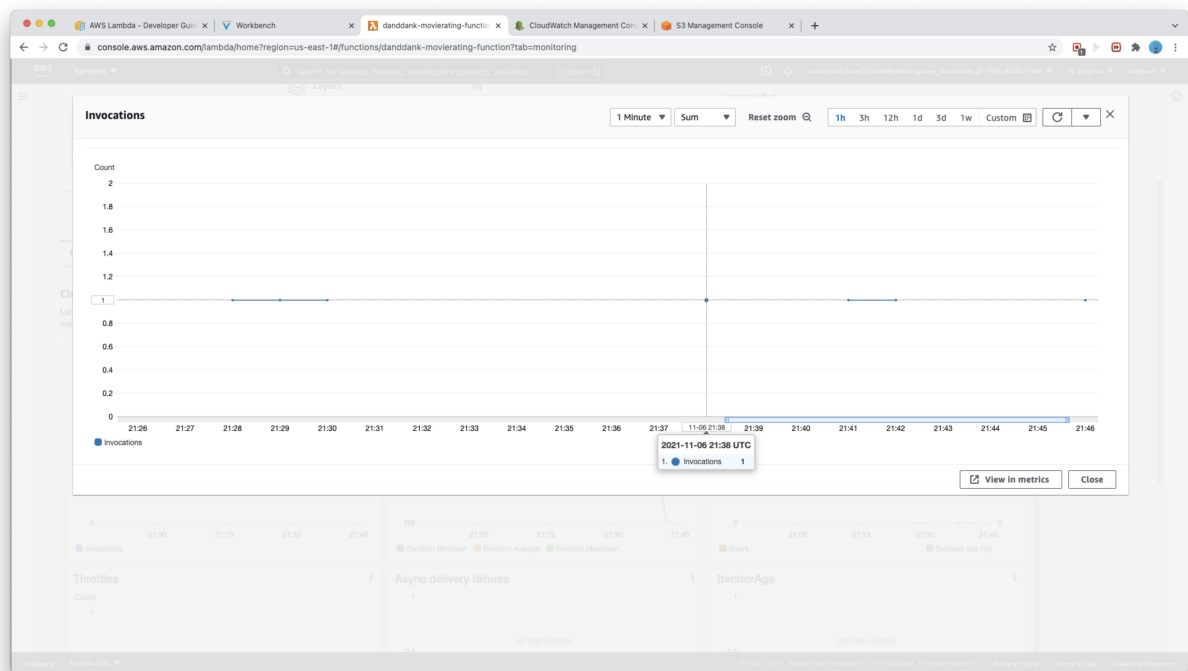
Lab report screen-shot #6:



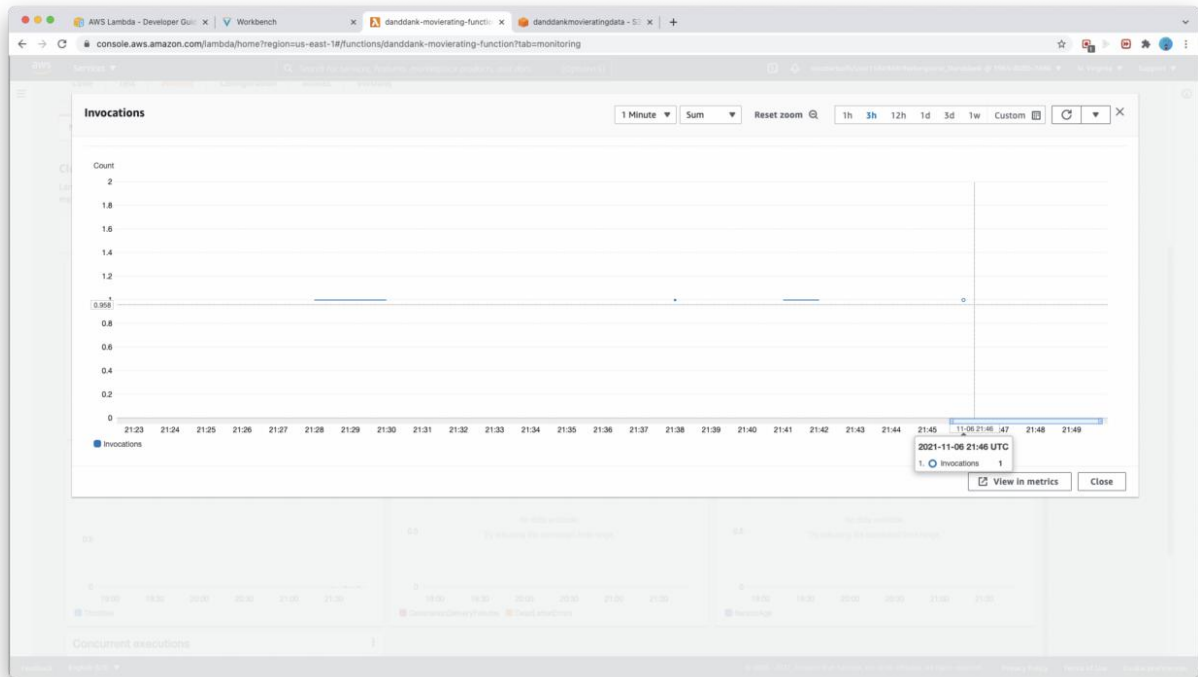
Lab report screen-shot #7:



Lab report screen-shot #8:



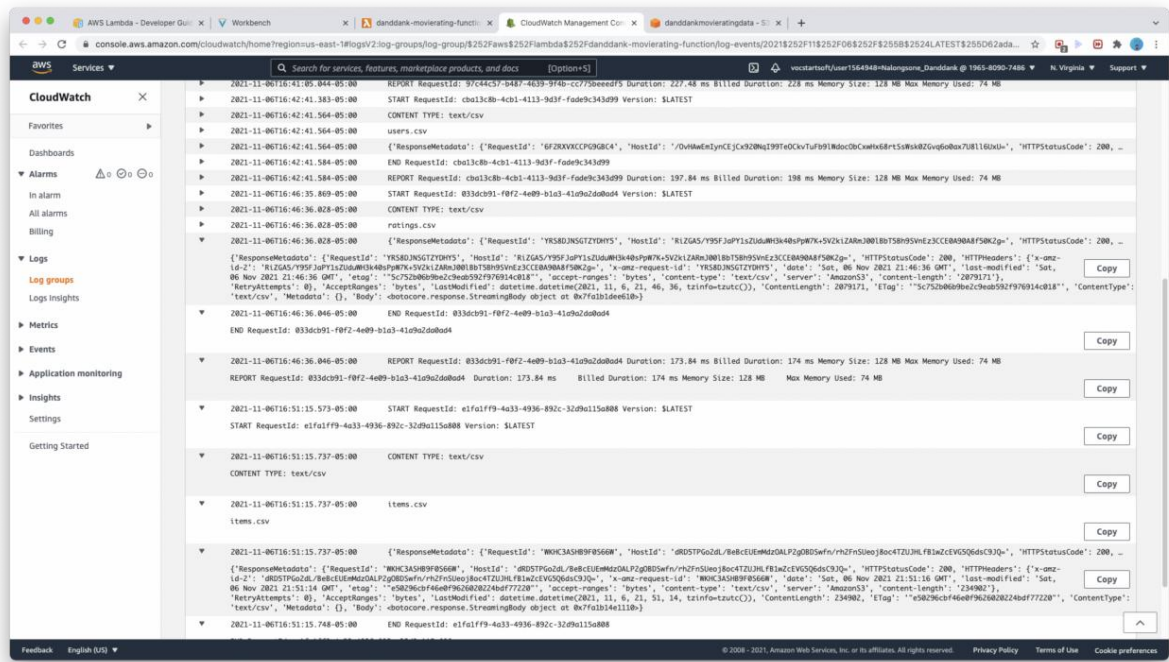
Lab report screen-shot #9:



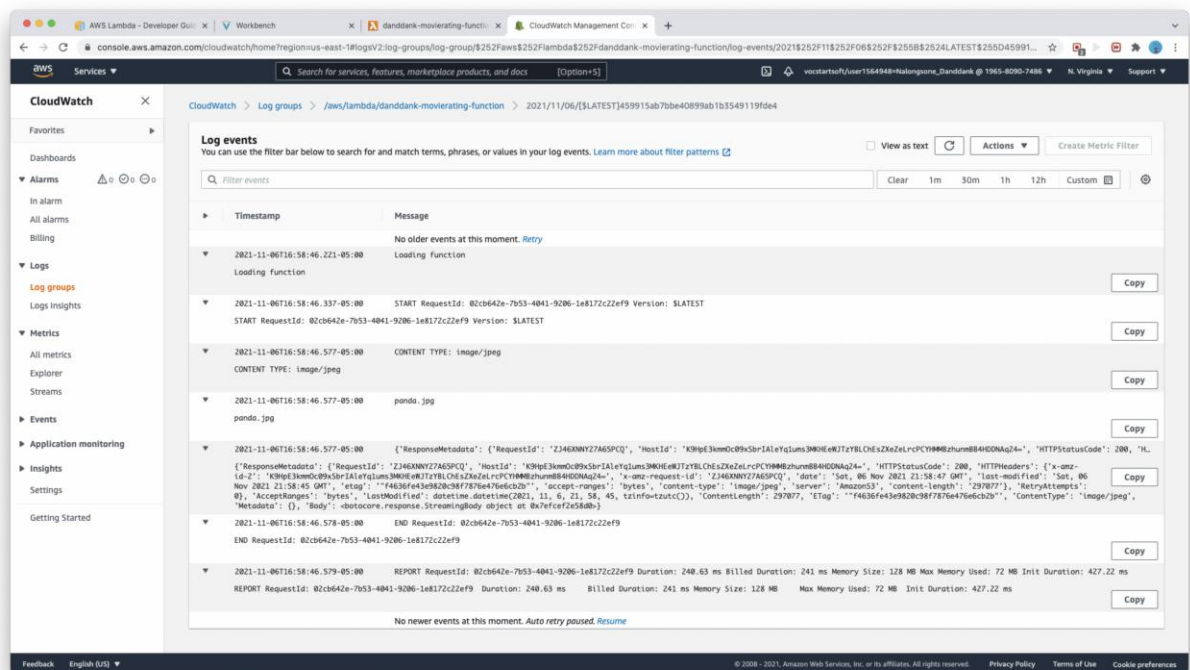
Lab report screen-shot #10:

The screenshot shows the AWS CloudWatch console with a list of log events for the 'dandank-movierating-function'. The left sidebar contains navigation options like Dashboards, Alarms, Logs, Metrics, Events, and Application monitoring. The main panel displays a list of log events with details such as RequestId, Duration, Billed Duration, Memory Size, and Max Memory Used. The events include 'REPORT', 'START', 'END', and 'CONTENT TYPE' messages. A 'Copy' button is present next to each event entry.

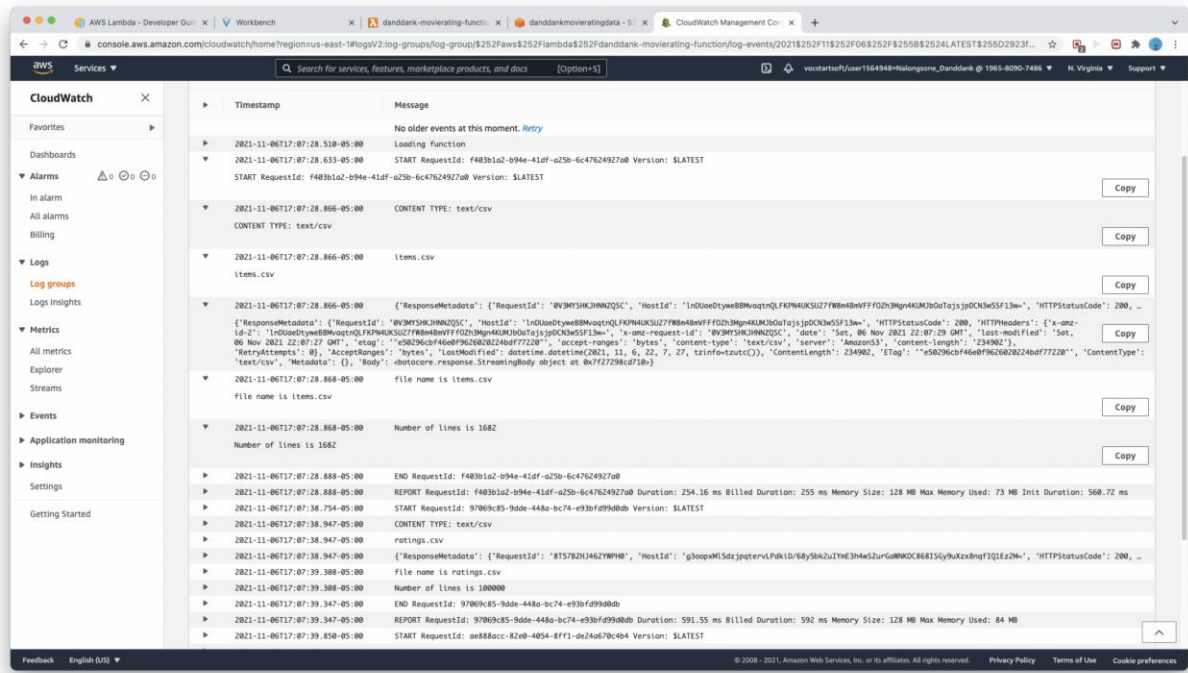
Time	Log Event	Details
2021-11-06T16:41:05.044-05:00	REPORT	RequestId: 97c4c57-b487-4639-9f4b-cc75beedf3 Duration: 227.48 ms Billed Duration: 228 ms Memory Size: 128 MB Max Memory Used: 74 MB
2021-11-06T16:42:41.363-05:00	START	RequestId: cb013c8b-4c01-4113-9d3f-fade9c343d99 Version: \$LATEST
2021-11-06T16:42:41.364-05:00	CONTENT TYPE	text/csv
2021-11-06T16:42:41.364-05:00	users.csv	users.csv
2021-11-06T16:42:41.364-05:00	END	RequestId: cb013c8b-4c01-4113-9d3f-fade9c343d99
2021-11-06T16:42:41.364-05:00	REPORT	RequestId: cb013c8b-4c01-4113-9d3f-fade9c343d99 Duration: 197.84 ms Billed Duration: 198 ms Memory Size: 128 MB Max Memory Used: 74 MB
2021-11-06T16:42:41.364-05:00	START	RequestId: 033dc91-f0f2-4e09-b1a3-41e0a2d0b0d4 Version: \$LATEST
2021-11-06T16:42:41.364-05:00	CONTENT TYPE	text/csv
2021-11-06T16:42:41.364-05:00	ratings.csv	ratings.csv
2021-11-06T16:42:41.364-05:00	END	RequestId: 033dc91-f0f2-4e09-b1a3-41e0a2d0b0d4



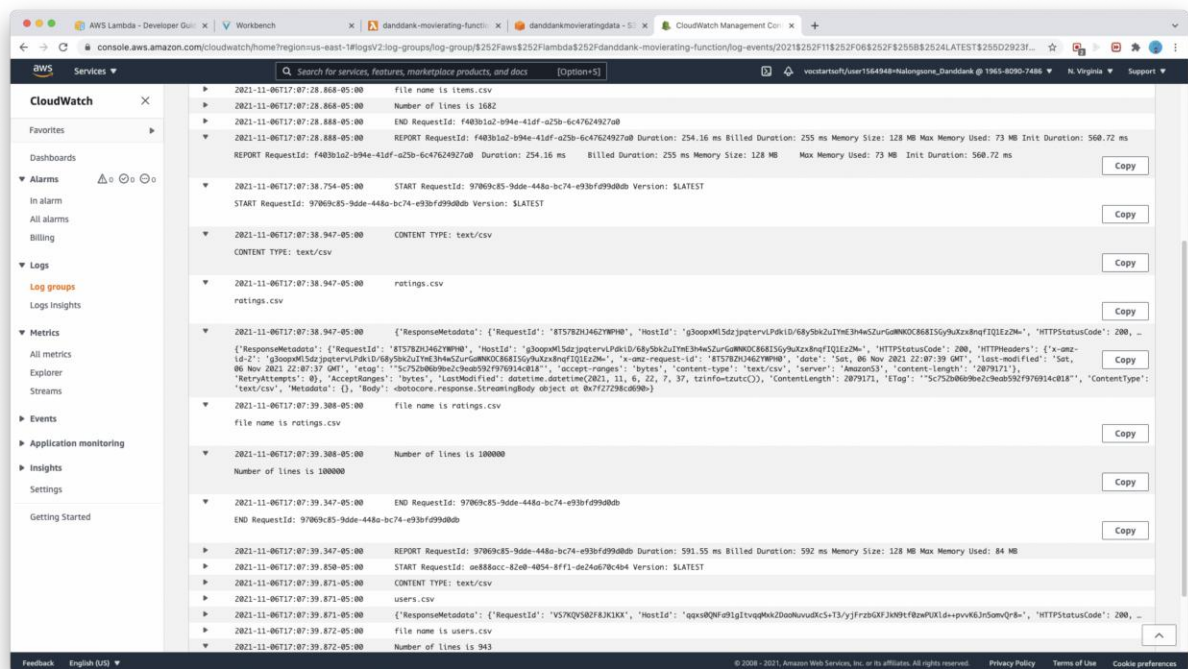
Lab report screen-shot #11:



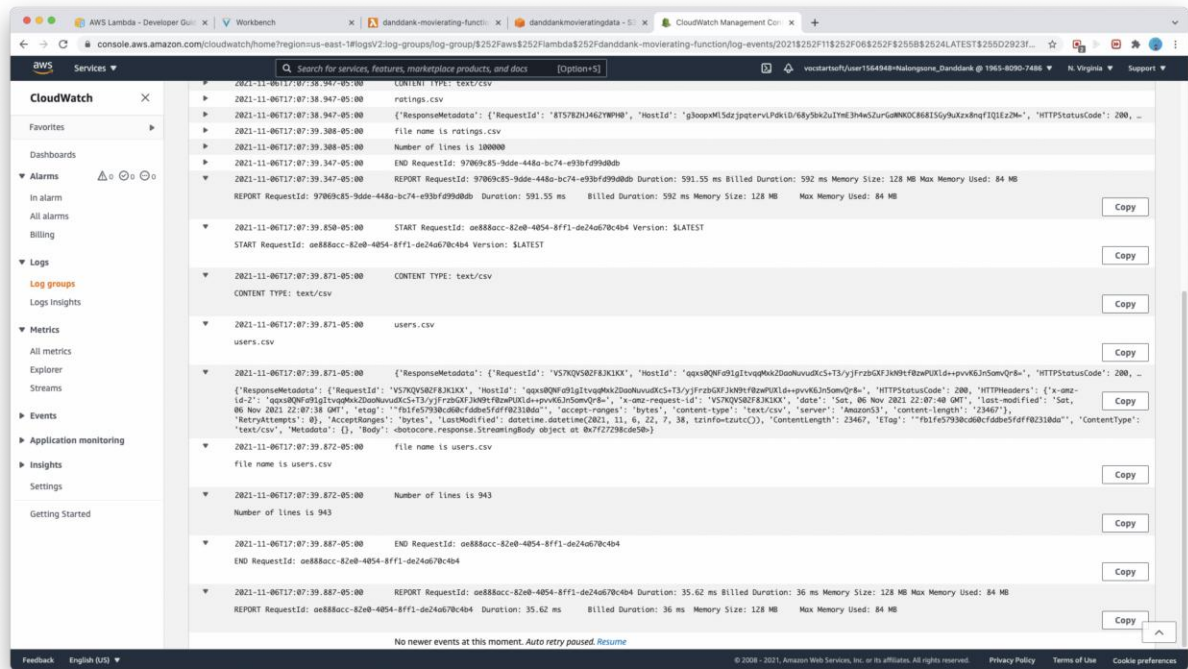
Lab report screen-shot #12:



Lab report screen-shot #13:



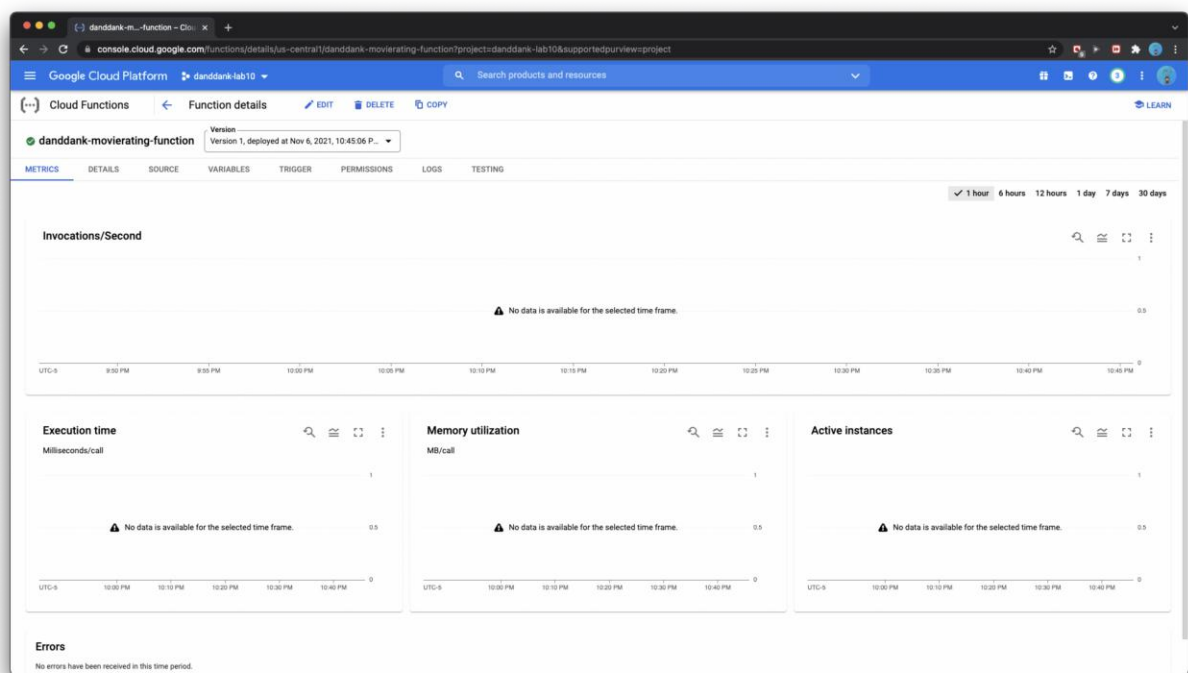
Lab report screen-shot #14:



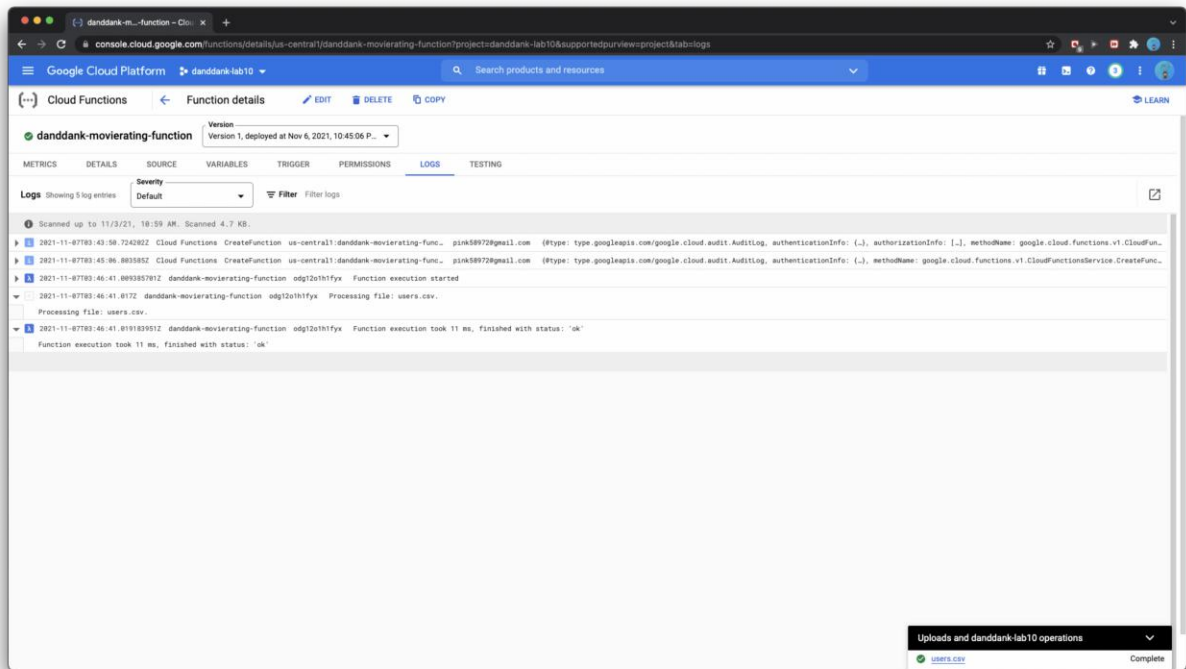
Exercise 2: Google Cloud Functions

Part 1: Creating a storage-triggered function

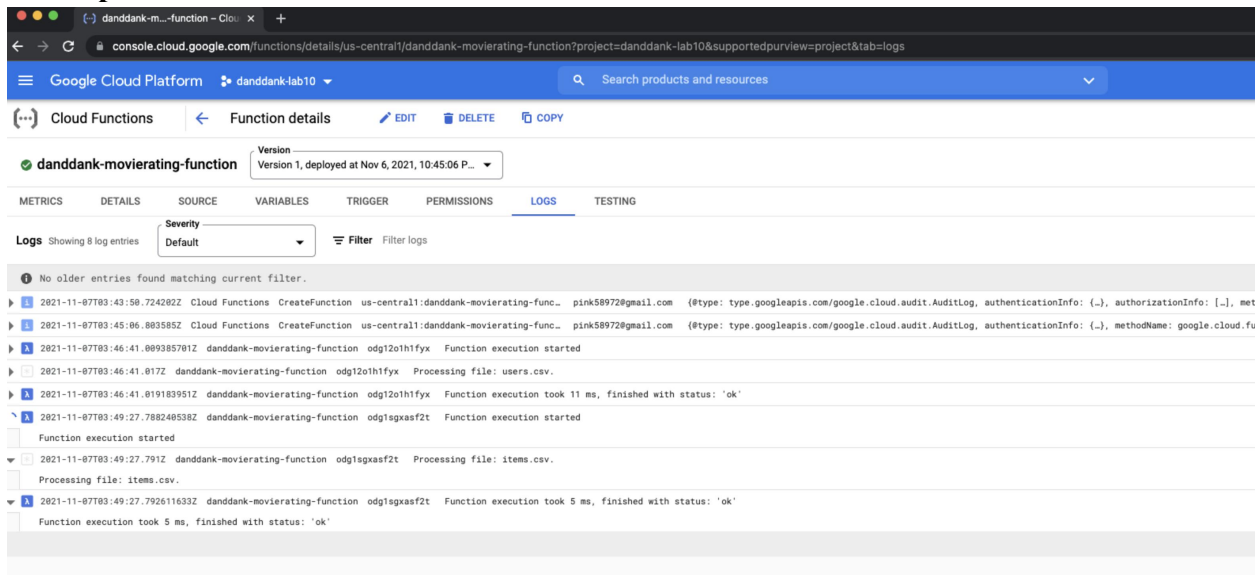
Lab report screen-shot #15:



Lab report screen-shot #16:



Lab report screen-shot #17:



Lab report screen-shot #18:

Google Cloud Platform console showing the logs for the function `danddank-movierating-function`. The logs show the function's execution details, including the trigger, the function name, the bucket, and the status of the execution.

Log entries (showing 17 log entries):

- 2021-11-07T03:43:50.724202Z Cloud Functions CreateFunction us-central1:danddank-movierating-func... pink58972@gmail.com (@type: type.googleapis.com/google.cloud.audit.AuditLog, authenticationInfo: {...}, authoriz...
- 2021-11-07T03:45:06.803585Z Cloud Functions CreateFunction us-central1:danddank-movierating-func... pink58972@gmail.com (@type: type.googleapis.com/google.cloud.audit.AuditLog, authenticationInfo: {...}, methodNam...
- 2021-11-07T03:46:41.009385701Z danddank-movierating-function odg12olh1fyx Function execution started
- 2021-11-07T03:46:41.017Z danddank-movierating-function odg12olh1fyx Processing file: users.csv.
- 2021-11-07T03:46:41.019183951Z danddank-movierating-function odg12olh1fyx Function execution took 11 ms, finished with status: 'ok'
- 2021-11-07T03:49:27.788240538Z danddank-movierating-function odg1sgxasf2t Function execution started
- 2021-11-07T03:49:27.791Z danddank-movierating-function odg1sgxasf2t Processing file: items.csv.
- 2021-11-07T03:49:27.792611633Z danddank-movierating-function odg1sgxasf2t Function execution took 5 ms, finished with status: 'ok'
- 2021-11-07T04:25:49.177267Z Cloud Functions UpdateFunction us-central1:danddank-movierating-func... pink58972@gmail.com (@type: type.googleapis.com/google.cloud.audit.AuditLog, authenticationInfo: {...}, authoriz...
- 2021-11-07T04:26:50.402722Z Cloud Functions UpdateFunction us-central1:danddank-movierating-func... pink58972@gmail.com (@type: type.googleapis.com/google.cloud.audit.AuditLog, authenticationInfo: {...}, methodNam...
- 2021-11-07T04:27:43.234492568Z danddank-movierating-function xs3qaez4x0i Function execution started
- 2021-11-07T04:27:43.242Z danddank-movierating-function xs3qaez4x0i File: users.csv
- 2021-11-07T04:27:43.242Z danddank-movierating-function xs3qaez4x0i Event type: google.storage.object.finalize
- 2021-11-07T04:26:50.402722Z danddank-movierating-function xs3qaez4x0i Bucket: danddankmovieratinglab10
- 2021-11-07T04:27:43.242Z danddank-movierating-function xs3qaez4x0i Created: 2021-11-07T04:27:42.146Z
- 2021-11-07T04:27:43.242Z danddank-movierating-function xs3qaez4x0i Updated: 2021-11-07T04:27:42.146Z
- 2021-11-07T04:27:43.244015018Z danddank-movierating-function xs3qaez4x0i Function execution took 11 ms, finished with status: 'ok'

No newer entries found matching current filter.

Lab report screen-shot #19:

Google Cloud Platform console showing the source code for the function `danddank-csv-data-processing`. The code is written in Python 3.8 and uses the `hello_gcs` entry point.

Runtime: Python 3.8 Entry point: hello_gcs

Source code:

```

1 from google.cloud import storage
2
3 def hello_gcs(event, context):
4     file_name = event['name']
5     bucket = event['bucket']
6     client = storage.Client()
7     bucket = client.get_bucket(bucket)
8     file_blob = bucket.get_blob(file_name)
9     file_str = file_blob.download_as_string()
10    print(file_name)
11    count = 0
12    lines = file_str.splitlines()
13    for line in lines:
14        count = count + 1
15    print("number of lines in %s is %s"%(file_name, count))
16

```

Lab report screen-shot #20:

