**Stock Market Project: Cloud Functions Error Log**

**1. Error: file\_name or bucket Not Found in Pub/Sub Event**

**Error Description:**

* **Error Message**: KeyError: 'file\_name' or KeyError: 'bucket'.
* **Cause**: When handling the **Pub/Sub event**, the **file\_name** or **bucket** attributes were either missing or incorrectly referenced in the event message.

**Resolution:**

* Ensure that the **Pub/Sub message** from **GCS** contains the correct **JSON structure** with **bucket** and **file\_name**attributes.

Example Pub/Sub message structure:

json

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{

"bucket": "your-bucket",

"name": "path/to/your-file.json"

}

* Access the attributes correctly in your **Cloud Function**:

python

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bucket\_name = event['attributes']['bucket']

file\_name = event['attributes']['objectId']

**2. Cloud Function Not Triggered on File Upload**

**Error Description:**

* **Error Message**: Function not triggered or no logs in Cloud Functions.
* **Cause**: The **Pub/Sub notification** was not properly set up, or there was an issue with the **Cloud Function**subscription.

**Resolution:**

* Verify that **Google Cloud Storage** is properly sending notifications to the **Pub/Sub topic** by checking the notification setup with:

bash

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gsutil notification list gs://your-bucket/raw\_data/to\_process/

* Ensure that your **Cloud Function** is correctly subscribed to the **Pub/Sub topic**. Check **IAM roles and permissions**for both the function and the **service account**.

You can also test the Pub/Sub functionality by manually publishing a message:

bash

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gcloud pubsub topics publish gcs-transformed-file-upload --message '{"bucket": "your-bucket", "name": "your-file.json"}'

**3. Error: Permission Denied for GCS or BigQuery**

**Error Description:**

* **Error Message**: Permission denied or 403 Forbidden.
* **Cause**: The **Cloud Function** or the **service account** does not have sufficient **IAM roles** to access **Google Cloud Storage** or **BigQuery**.

**Resolution:**

* Ensure that the **service account** used by the **Cloud Function** and **Dataproc** has the **appropriate IAM roles**:
  + **Storage Object Admin** (for accessing GCS).
  + **BigQuery Data Editor** (for writing to BigQuery).

You can assign these roles via **IAM & Admin** in the **Google Cloud Console**.

**4. File Not Found in GCS (Transform Data)**

**Error Description:**

* **Error Message**: FileNotFoundError or 404 Not Found.
* **Cause**: The **raw data** file was either deleted, not uploaded, or the **file path** was incorrect.

**Resolution:**

* Verify that the file exists in the **GCS folder** using the following command:

bash

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gsutil ls gs://your-bucket/raw\_data/to\_process/

* Ensure the **correct path** is being passed in your **Cloud Function**.

**5. Cloud Function Timeout**

**Error Description:**

* **Error Message**: Function timed out.
* **Cause**: The **Cloud Function** may be taking longer than the default execution time (540 seconds, or 9 minutes).

**Resolution:**

* **Increase the timeout** for your Cloud Function using the --timeout flag when deploying:

bash

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gcloud functions deploy your-function-name --timeout 540s

**6. Location Mismatch Error: Cloud Function and GCS Bucket Region Mismatch**

**Error Description:**

* **Error Message**:

pgsql

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Bucket 'my-stock-data-bucket-vandana' is in location 'us', but the trigger location is 'us-central1'. The trigger must be in the same location as the bucket.

* **Cause**: **Google Cloud** enforces that **resources** such as **Cloud Functions** and **Google Cloud Storage (GCS)** must be in the **same region** when interacting. In this case, the **Cloud Function** was deployed in the **us-central1** region, while the **GCS bucket** was in the **us** region.

**Resolution:**

* **Ensure that the Cloud Function and GCS bucket are in the same region**.
  + Use the --region flag to specify the **region** when deploying the Cloud Function:

bash

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gcloud functions deploy your-function-name \

--runtime python310 \

--trigger-resource your-bucket-name \

--trigger-event google.storage.object.finalize \

--region=us \

--allow-unauthenticated