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Cloud Run Function Trigger

# Assignment: Create Cloud Run Function Triggered by Cloud Storage using Eventarc

## Objective

Deploy a serverless function on Cloud Run that is triggered automatically when a file is uploaded to Cloud Storage. The trigger is managed using Eventarc.

## Step 1: Create and Configure GCP Project

gcloud projects create calcium-field-455700-p2  
gcloud config set project calcium-field-455700-p2  
gcloud components update  
gcloud auth login

## Step 2: Enable Required APIs

gcloud services enable artifactregistry.googleapis.com \  
 cloudbuild.googleapis.com \  
 eventarc.googleapis.com \  
 run.googleapis.com \  
 storage.googleapis.com

## Step 3: Set Configuration Variables

export REGION=us-central1  
gcloud config set run/region ${REGION}  
gcloud config set run/platform managed  
gcloud config set eventarc/location ${REGION}

## Step 4: Create Cloud Storage Bucket

gcloud storage buckets create -l us-central1 gs://calcium-field-455700-p2-bucket/

## Step 5: Create the Event-Driven Function

Create a folder named helloGCS and add the following two files:

## File: index.js

const functions = require('@google-cloud/functions-framework');  
  
functions.cloudEvent('helloGCS', cloudEvent => {  
 const file = cloudEvent.data;  
 console.log(`Bucket: ${file.bucket}`);  
 console.log(`File: ${file.name}`);  
 console.log(`Created: ${file.timeCreated}`);  
});

## File: package.json

{  
 "name": "nodejs-docs-samples-functions-v2-storage",  
 "version": "0.0.1",  
 "dependencies": {  
 "@google-cloud/functions-framework": "^3.0.0"  
 }  
}

## Step 6: Deploy to Cloud Run

gcloud run deploy helloworld-events \  
 --source . \  
 --function helloGCS \  
 --base-image nodejs22 \  
 --region us-central1

## Step 7: Create Eventarc Trigger

gcloud eventarc triggers create trigger-gcs-upload \  
 --location=us-central1 \  
 --destination-run-service=helloworld-events \  
 --destination-run-region=us-central1 \  
 --event-filters="type=google.cloud.storage.object.v1.finalized" \  
 --event-filters="bucket=calcium-field-455700-p2-bucket" \  
 --service-account=431054994240-compute@developer.gserviceaccount.com

## Step 8: Upload File to Trigger Function

echo "Hello World" > random.txt  
gcloud storage cp random.txt gs://calcium-field-455700-p2-bucket/random.txt

## Step 9: View Logs to Verify Trigger

gcloud logging read "resource.labels.service\_name=helloworld-events AND textPayload:random.txt" --format=json

## Cleanup (Optional)

gcloud run services delete helloworld-events  
gcloud eventarc triggers delete trigger-gcs-upload  
gcloud config unset run/region  
gcloud config unset project

## Summary

- Cloud Storage bucket: calcium-field-455700-p2-bucket  
- Cloud Run service: helloworld-events  
- Trigger name: trigger-gcs-upload  
- Event: google.cloud.storage.object.v1.finalized  
- Successfully verified by uploading a test file and reading Cloud Logging