

Q4.

#### 1. Create GCP storage bucket

Open the Cloud Storage browser in the Google Cloud Platform Console.

Click Create bucket to open the bucket creation form.

Enter your bucket information and click Continue to complete each step:

Specify a Name, subject to the bucket name requirements.

Click on Create

#### 2. Create Cloud Function

Open the Cloud Functions Overview page in the GCP Console:

Make sure that the project for which you enabled Cloud Functions is selected.

Click Create function.

Name your function.

In the Trigger field, select Cloud Storage Trigger.

Select Finalise/Create and Enter The bucket name.

In the Source code field, select Inline editor.

Use the Runtime dropdown to select a runtime.(python)

Add Python code in main.py for object detection and Required packages in Requirements.txt

Deploy the function:

At the bottom of the page, click Create.

[main.py](#) [requirements.txt](#)

```
1 class FileNotAnImageException(Exception):
2     def __init__(self, message):
3         super(FileNotAnImageException, self).__init__(message)
4 def detect_object(data, context):
5     try:
6         from google.cloud import storage, vision, datastore
7         #from wand.image import Image
8         storage_client = storage.Client()
9         dsclient = datastore.Client()
10        client = vision.ImageAnnotatorClient()
11        file_data = data
12        file_name = file_data['name']
13        bucket_name = file_data['bucket']
14        blob = storage_client.bucket(bucket_name).get_blob(file_name)
15        blob_uri = f'gs://{bucket_name}/{file_name}'
16        print(blob_uri)
17        image = vision.types.Image()
18        image.source.image_uri=blob_uri
19        objects = client.object_localization(image=image).localized_object_annotations
20        print('Number of objects found: {}'.format(len(objects)))
21        for object_ in objects:
22            print('\n{} (confidence: {})'.format(object_.name, object_.score))
23            incomplete_key=dsclient.key('Task')
24            task=datastore.Entity(key=incomplete_key)
25            task.update({
26                'object' : object_.name,
27                'confidence': object_.score
28            })
29            dsclient.put(task)
30    except FileNotAnImageException as fnaie:
31        print(fnaie)
32    except Exception as e:
33        print(e)
```

Close

### 3. Upload a image file in Bucket then It will trigger function and detect objects.

The screenshot shows the Google Cloud Platform Storage browser interface. The left sidebar contains navigation options: Storage, Browser, Transfer, Transfer Appliance, and Settings. The main area displays the 'Bucket details' for 'jaygcp-bucket'. The 'Objects' tab is selected, showing a list of files. An 'Upload 4 of 4 complete' dialog box is open, indicating that four files have been successfully uploaded.

Name	Size	Type	Storage class	Last modified	Public access	Encryption	Retention expiration date	Holds
apple.jpeg	12.67 KB	image/jpeg	Multi-Regional	7/22/19, 4:03:45 PM UTC+5:30	Not public	Google-managed key	-	None
car.jpeg	10.46 KB	image/jpeg	Multi-Regional	7/22/19, 4:08:31 PM UTC+5:30	Not public	Google-managed key	-	None
fruits.jpeg	11.49 KB	image/jpeg	Multi-Regional	7/22/19, 4:05:45 PM UTC+5:30	Not public	Google-managed key	-	None

### 4. View logs

Back on the Cloud Functions Overview page, display the menu for your function, and click View logs.

The screenshot shows the Google Cloud Platform Cloud Functions Overview page. The 'Logs Viewer' is open, displaying logs for the function 'cf-jay1' in the 'us-central1' region. The logs show the function's execution, including the upload of 'apple.jpeg' and 'car.jpeg' to the 'jaygcp-bucket'.

Time	Log Level	Message
2019-07-23 12:37:22.247 IST	INFO	gs://jaygcp-bucket/car.jpeg
2019-07-23 12:37:22.703 IST	INFO	Number of objects found: 1
2019-07-23 12:37:22.703 IST	INFO	{\"insertId\": \"000001-72c3fe05-1016-428a-9bed-0dc2e5dd2ec2\", \"resource\": {\"t...
2019-07-23 12:37:22.703 IST	INFO	Car (confidence: 0.9610316753387451)
2019-07-23 12:37:22.859 IST	INFO	Function execution took 8727 ms, finished with status: 'ok'
2019-07-23 12:39:46.312 IST	INFO	Function execution started
2019-07-23 12:39:51.227 IST	INFO	{\"insertId\": \"000000-8ff02975-85b9-44c9-9521-48cac3f7ea6f\", \"resource\": {\"t...
2019-07-23 12:39:51.227 IST	INFO	gs://jaygcp-bucket/apple.jpeg
2019-07-23 12:39:51.777 IST	INFO	Number of objects found: 2
2019-07-23 12:39:51.777 IST	INFO	{\"insertId\": \"000001-8ff02975-85b9-44c9-9521-48cac3f7ea6f\", \"resource\": {\"t...
2019-07-23 12:39:51.777 IST	INFO	Apple (confidence: 0.977660369873047)
2019-07-23 12:39:52.012 IST	INFO	{\"insertId\": \"000000-8ff02975-85b9-44c9-9521-48cac3f7ea6f\", \"resource\": {\"t...
2019-07-23 12:39:52.012 IST	INFO	Fruit (confidence: 0.7378929853439331)
2019-07-23 12:39:52.155 IST	INFO	Function execution took 5844 ms, finished with status: 'ok'

5.In Datstore

Google Cloud Platform

Training

Entities

CREATE ENTITY

DELETE

QUERY BY KIND

QUERY BY GQL

Namespace

[default]

Kind

Task

FILTER ENTITIES

confidence

is a floating point number

greater than

0

⊖

⊕

APPLY FILTERS

CLEAR FILTERS

⌂

⌵

<input type="checkbox"/>	Name/ID ↑	confidence	object
<input type="checkbox"/>	id=5657058552578048	0.7378929853439331	Fruit
<input type="checkbox"/>	id=5665436792258560	0.9610316753387451	Car
<input type="checkbox"/>	id=5743433398353920	0.9777660369873047	Apple