# Computer Vision Fundamentals with Google Cloud Vision API

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*Roll no : 20BIS025*

*Date:06.03.2023*

*Topic: Object Detection,Landmark Annotation & Text Extraction using Google Cloud Vision API*

*Team Member :*

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*Shamyutha – 20BIS039*

## *Problem statement :*

*Some years ago, finding and classifying individual objects within an image was an extremely difficult task. Today, with the help of computer vision, digital devices can simply and quickly identify the content of images, which opens new ways of visual data understanding and analysis across different fields.*

*The main goal of object detection is to scan digital images or real-life scenarios to locate instances of every object, separate them, and analyze their necessary features for real-time predictions.*

*This project focus on detecting the objects , landmarks and also extract the text from a image.*

## *Tasks involved in this project*

*This project focuses on detecting*

*Task 1.Labels in images*

*Task 2.Web detection of images*

*Task 3.Faces(also nose,ear,eye,eyebrows…) in images and its location on xyz coordinates*

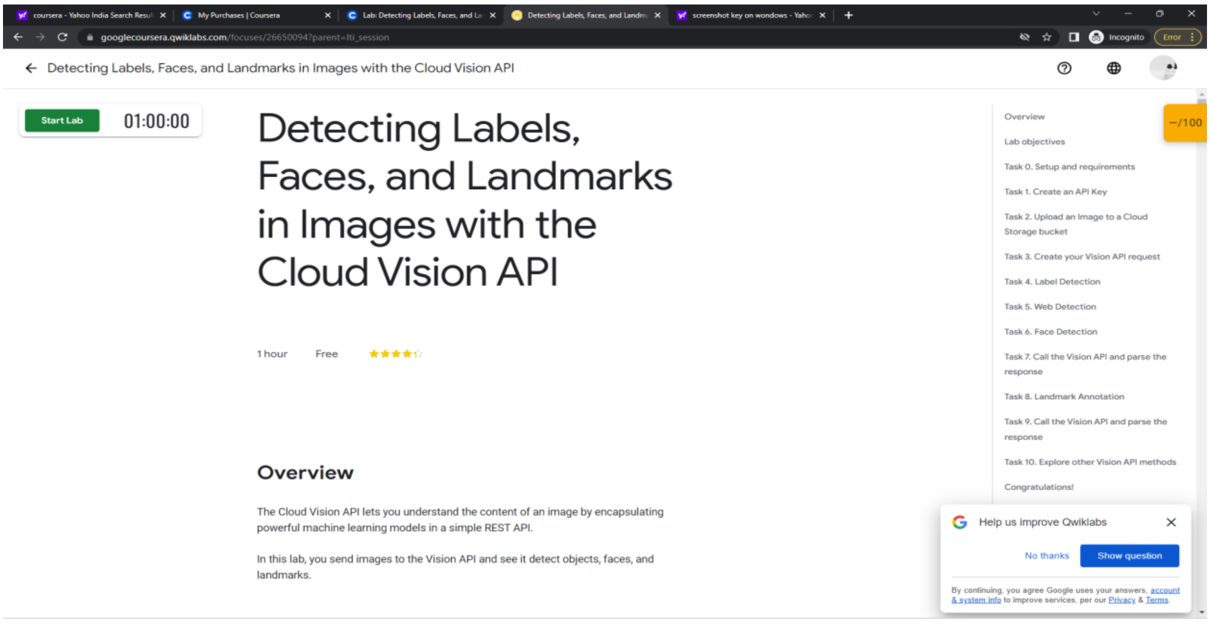
*Task 4. Landmarks Annotation in Images*

*Task 5.Text Extraction from image*

*with the use of Google Cloud Vision API*

## *Procedure to do :*

*1.Start lab {open coursera on incognito mode}*


coursera - Yahoo India Search Resul
My Purchases | Coursera
Lab: Detecting Labels, Faces, and La
Detecting Labels, Faces, and Landm
screenshot key on wondows - Yahoo
googlecoursera.qwiklabs.com/focuses/26650094?parent=lti_session
Incognito
Error
Start Lab
01:00:00
1 hour
Free
—/100

Detecting Labels, Faces, and Landmarks in Images with the Cloud Vision API

# Detecting Labels, Faces, and Landmarks in Images with the Cloud Vision API

## Overview

The Cloud Vision API lets you understand the content of an image by encapsulating powerful machine learning models in a simple REST API.

In this lab, you send images to the Vision API and see it detect objects, faces, and landmarks.

- Overview
- Lab objectives
- Task 0. Setup and requirements
- Task 1. Create an API Key
- Task 2. Upload an Image to a Cloud Storage bucket
- Task 3. Create your Vision API request
- Task 4. Label Detection
- Task 5. Web Detection
- Task 6. Face Detection
- Task 7. Call the Vision API and parse the response
- Task 8. Landmark Annotation
- Task 9. Call the Vision API and parse the response
- Task 10. Explore other Vision API methods
- Congratulations!

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No thanks | Show question

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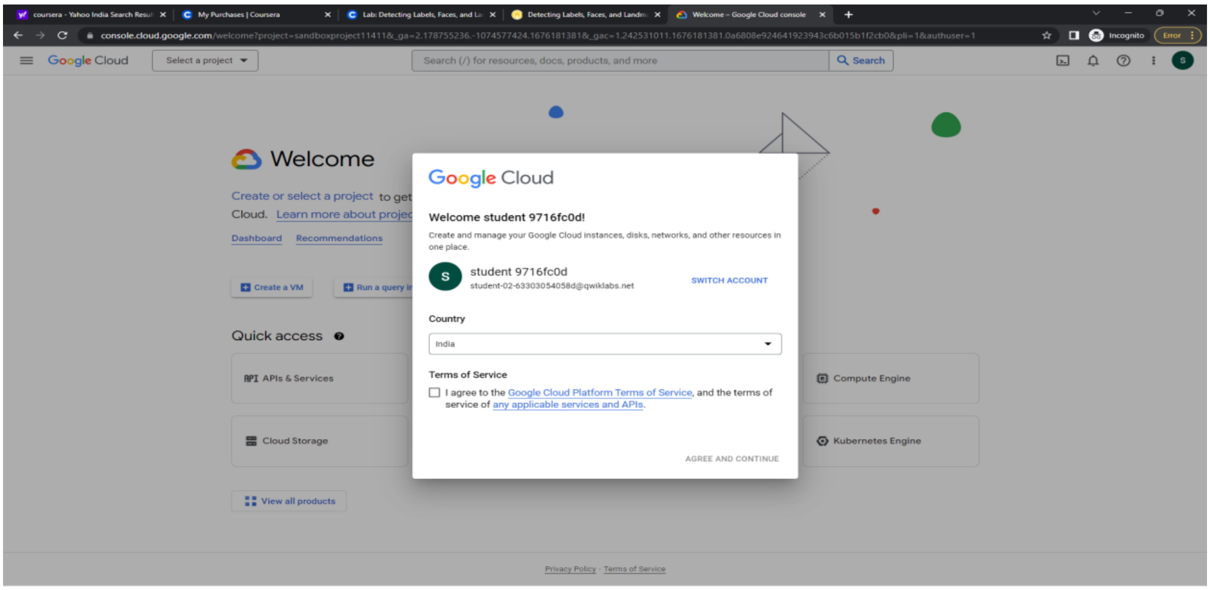
*2.You will get the credential at the left once you started lab, Open google cloud on browser incognito mode and apply the given credentials*


coursera - Yahoo India Search Resul
My Purchases | Coursera
Lab: Detecting Labels, Faces, and La
Detecting Labels, Faces, and Landm
Welcome – Google Cloud console
console.cloud.google.com/welcome?project=sandboxproject11411&_ga=2.178755236.-1074577424.1676181381&_gac=1.242531011.1676181381.0a6808e924641923943c6b015b1f2cb0&pli=1&authuser=1
Incognito
Error
Google Cloud
Select a project
Search (/) for resources, docs, products, and more
Search
Welcome
Create or select a project to get
Cloud. Learn more about projec
Dashboard
Recommendations
Create a VM
Run a query i
Quick access
API APIs & Services
Cloud Storage
Compute Engine
Kubernetes Engine
View all products
Privacy Policy · Terms of Service

Google Cloud

**Welcome student 9716fc0d!**

Create and manage your Google Cloud instances, disks, networks, and other resources in one place.

student 9716fc0d
student-02-63303054058d@qwiklabs.net

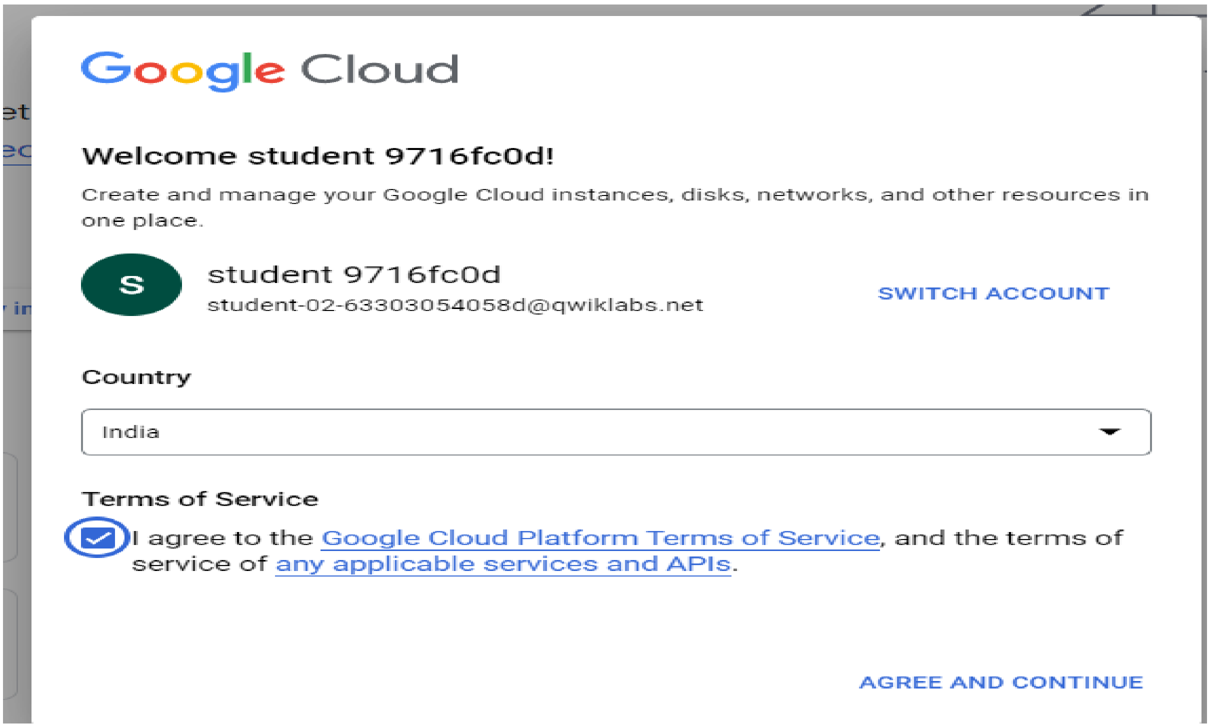
SWITCH ACCOUNT

Country: India

Terms of Service

□ I agree to the Google Cloud Platform Terms of Service, and the terms of service of any applicable services and APIs.

AGREE AND CONTINUE



Google Cloud

Welcome student 9716fc0d!

Create and manage your Google Cloud instances, disks, networks, and other resources in one place.

student 9716fc0d
student-02-63303054058d@qwiklabs.net

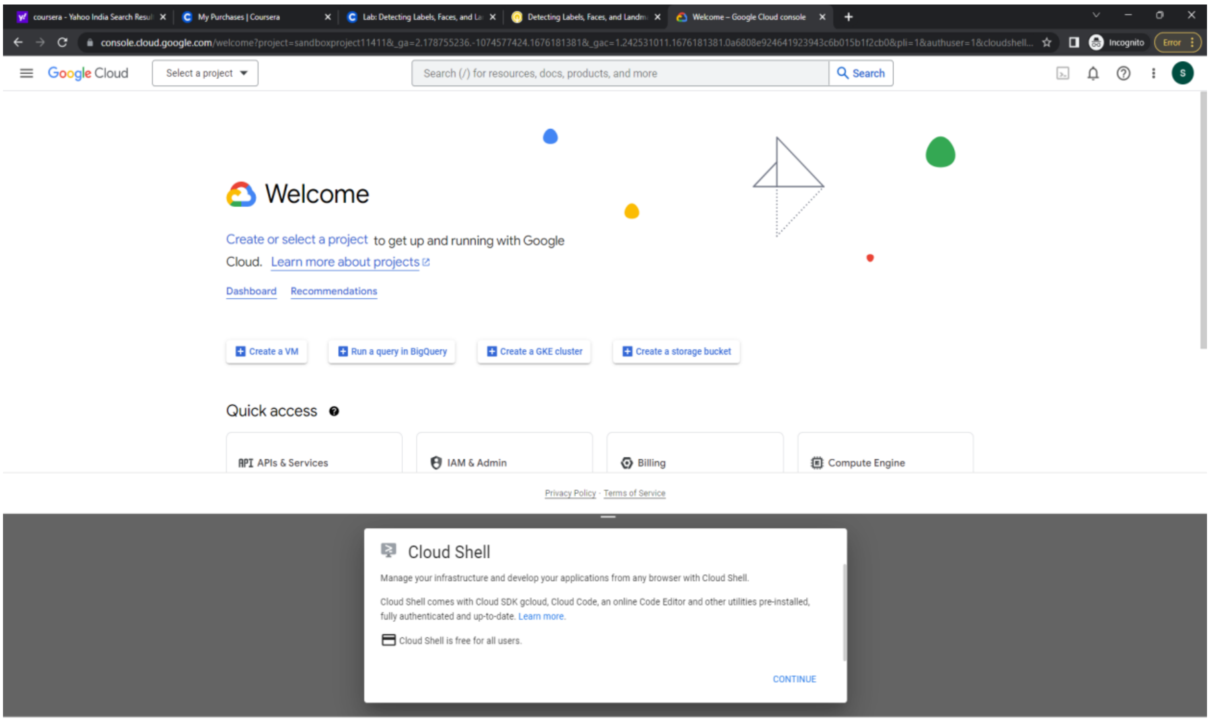
Country: India

Terms of Service

☑ I agree to the Google Cloud Platform Terms of Service, and the terms of service of any applicable services and APIs.

*3.Activate Cloud Shell*

*4.Click the **Activate Cloud Shell** button (>_) at the top right of the console. Click **Continue**.*



console.cloud.google.com/welcome?project=sandboxproject11411&_ga=2.178755236.-1074577424.1676181381&_gac=1.242531011.1676181381.0a6808e924641923943c6b015b1f2cb0&pli=1&authuser=1&cloudshell...

Welcome

Create or select a project to get up and running with Google Cloud. Learn more about projects

Cloud Shell

Manage your infrastructure and develop your applications from any browser with Cloud Shell.

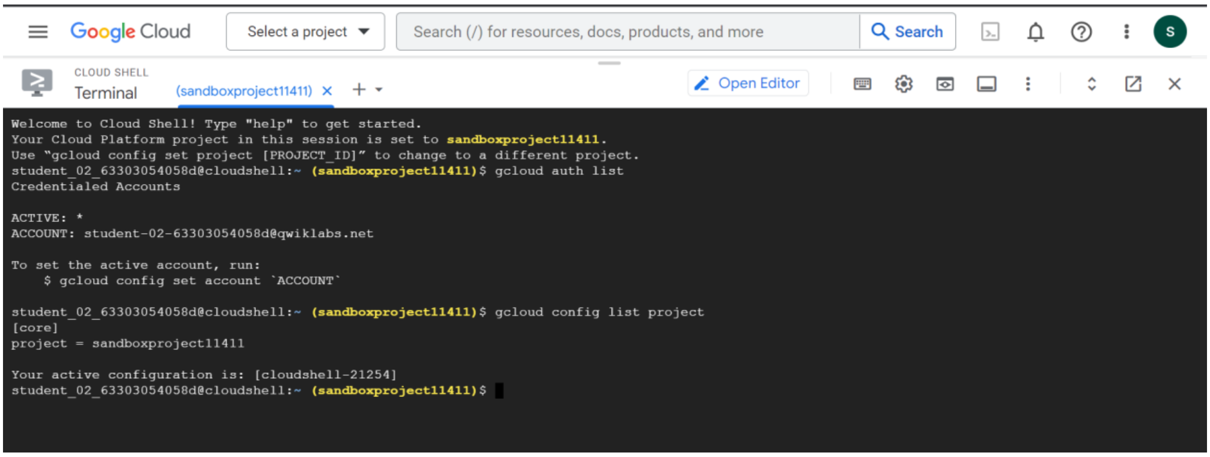
Cloud Shell comes with Cloud SDK gcloud, Cloud Code, an online Code Editor and other utilities pre-installed, fully authenticated and up-to-date. Learn more.

Cloud Shell is free for all users.

*5.Sample commands :*

*gcloud auth list*

*gcloud config list project*



```
Welcome to Cloud Shell! Type "help" to get started.
Your Cloud Platform project in this session is set to sandboxproject11411.
Use "gcloud config set project [PROJECT_ID]" to change to a different project.
student_02_63303054058d@cloudshell:~ (sandboxproject11411)$ gcloud auth list
Credentialed Accounts

ACTIVE: *
ACCOUNT: student-02-63303054058d@qwiklabs.net

To set the active account, run:
    $ gcloud config set account `ACCOUNT`

student_02_63303054058d@cloudshell:~ (sandboxproject11411)$ gcloud config list project
[core]
project = sandboxproject11411

Your active configuration is: [cloudshell-21254]
student_02_63303054058d@cloudshell:~ (sandboxproject11411)$
```

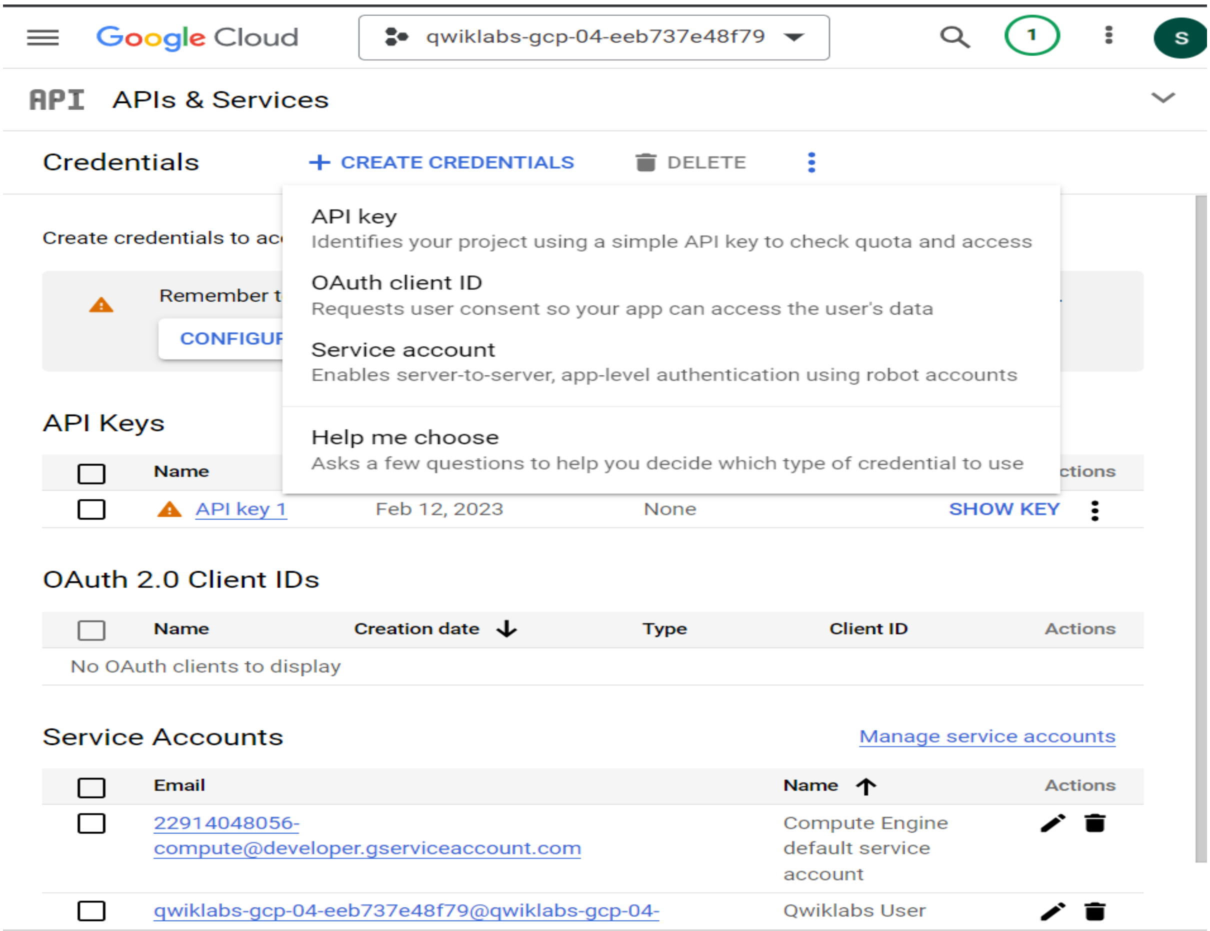
*6.Create an API Key*

*Since you are using curl to send a request to the Vision API, you need to generate an API key to pass in your request URL.*

*To create an API key, navigate to APIs & Services > Credentials in your Cloud console:*

*Click CREATE CREDENTIALS and select API key.*

*Next, copy the key you just generated and click CLOSE.*



Create credentials to ac

Remember t

CONFIGUR

API key
Identifies your project using a simple API key to check quota and access

OAuth client ID
Requests user consent so your app can access the user's data

Service account
Enables server-to-server, app-level authentication using robot accounts

Help me choose
Asks a few questions to help you decide which type of credential to use

## API Keys

| □ | Name | | | ctions |
|---|---|---|---|---|
| □ | API key 1 | Feb 12, 2023 | None | SHOW KEY |

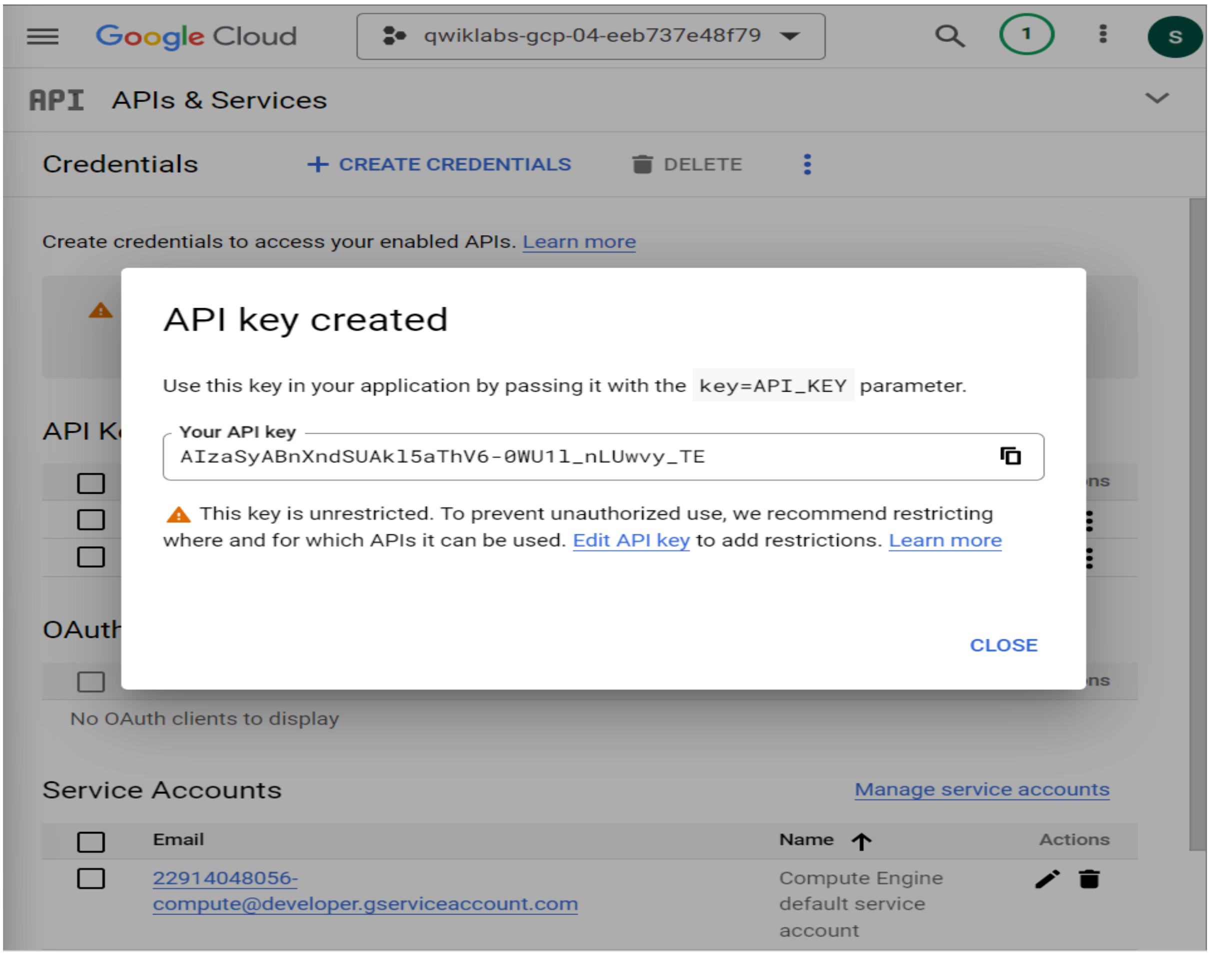
## OAuth 2.0 Client IDs

| □ | Name | Creation date ↓ | Type | Client ID | Actions |
|---|---|---|---|---|---|
| | No OAuth clients to display | | | | |

## Service Accounts

Manage service accounts

| □ | Email | Name ↑ | Actions |
|---|---|---|---|
| □ | 22914048056-compute@developer.gserviceaccount.com | Compute Engine default service account | |
| □ | qwiklabs-gcp-04-eeb737e48f79@qwiklabs-gcp-04- | Qwiklabs User | |



Create credentials to access your enabled APIs. Learn more

API key created

Use this key in your application by passing it with the `key=API_KEY` parameter.

Your API key

```
AIzaSyABnXndSUAk15aThV6-0WU1l_nLUwvy_TE
```

⚠ This key is unrestricted. To prevent unauthorized use, we recommend restricting where and for which APIs it can be used. Edit API key to add restrictions. Learn more

No OAuth clients to display

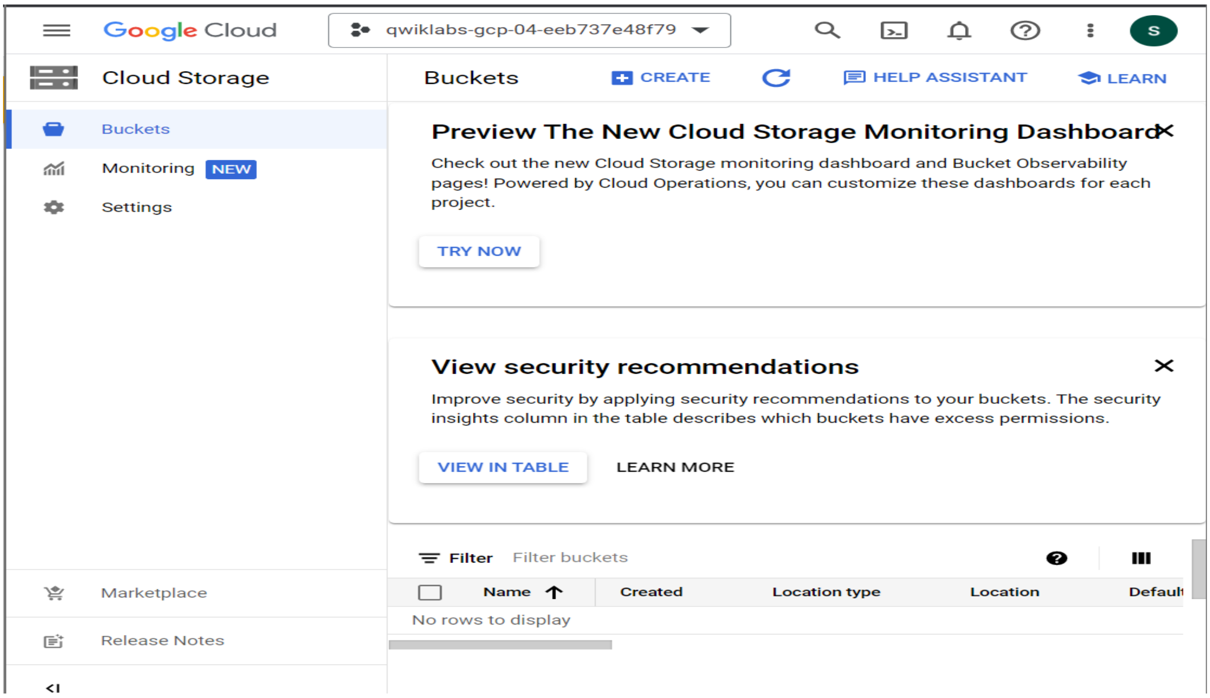
Service Accounts — Manage service accounts

| | Email | Name ↑ | Actions |
|---|---|---|---|
| □ | 22914048056-compute@developer.gserviceaccount.com | Compute Engine default service account | |

*API key for me: AIzaSyDd1NBE2tfG38JN55wbRF3Y2p9TbiSv-dQ*

*7.Upload an Image to a Cloud Storage bucket*

*1. Navigate to Navigation menu > Cloud Storage in the Cloud console for your project, then click CREATE BUCKET.*



**Preview The New Cloud Storage Monitoring Dashboard**

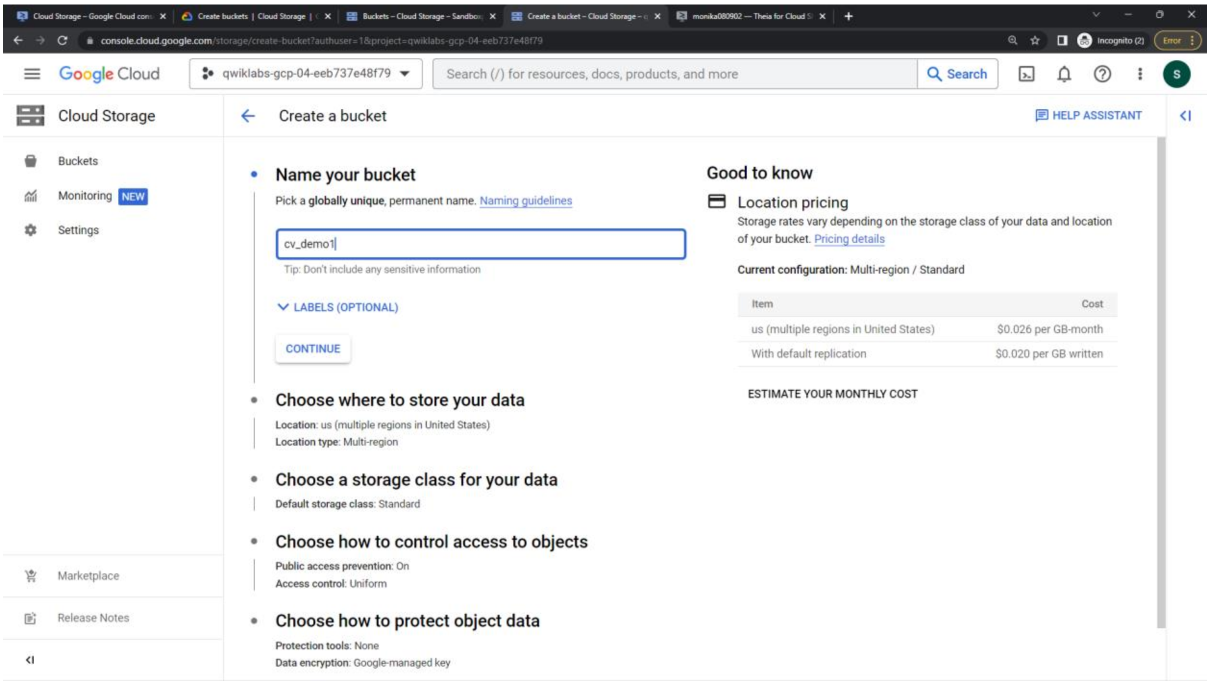
Check out the new Cloud Storage monitoring dashboard and Bucket Observability pages! Powered by Cloud Operations, you can customize these dashboards for each project.

**View security recommendations**

Improve security by applying security recommendations to your buckets. The security insights column in the table describes which buckets have excess permissions.

| □ | Name ↑ | Created | Location type | Location | Default |
|---|---|---|---|---|---|

No rows to display



Cloud Storage – Google Cloud con
Create buckets | Cloud Storage |
Buckets – Cloud Storage – Sandbox
Create a bucket – Cloud Storage –
monika080902 — Theia for Cloud S
Incognito (2)
Error
Google Cloud
qwiklabs-gcp-04-eeb737e48f79
Search (/) for resources, docs, products, and more
Search
S
Cloud Storage
Buckets
Monitoring NEW
Settings
Marketplace
Release Notes
HELP ASSISTANT
LABELS (OPTIONAL)
CONTINUE
ESTIMATE YOUR MONTHLY COST

console.cloud.google.com/storage/create-bucket?authuser=1&project=qwiklabs-gcp-04-eeb737e48f79

Create a bucket

**Name your bucket**

Pick a **globally unique**, permanent name. Naming guidelines

cv_demo1

Tip: Don't include any sensitive information

**Choose where to store your data**

**Location**: us (multiple regions in United States)
**Location type**: Multi-region

**Choose a storage class for your data**

**Default storage class**: Standard

**Choose how to control access to objects**

**Public access prevention**: On
**Access control**: Uniform

**Choose how to protect object data**

**Protection tools**: None
**Data encryption**: Google-managed key

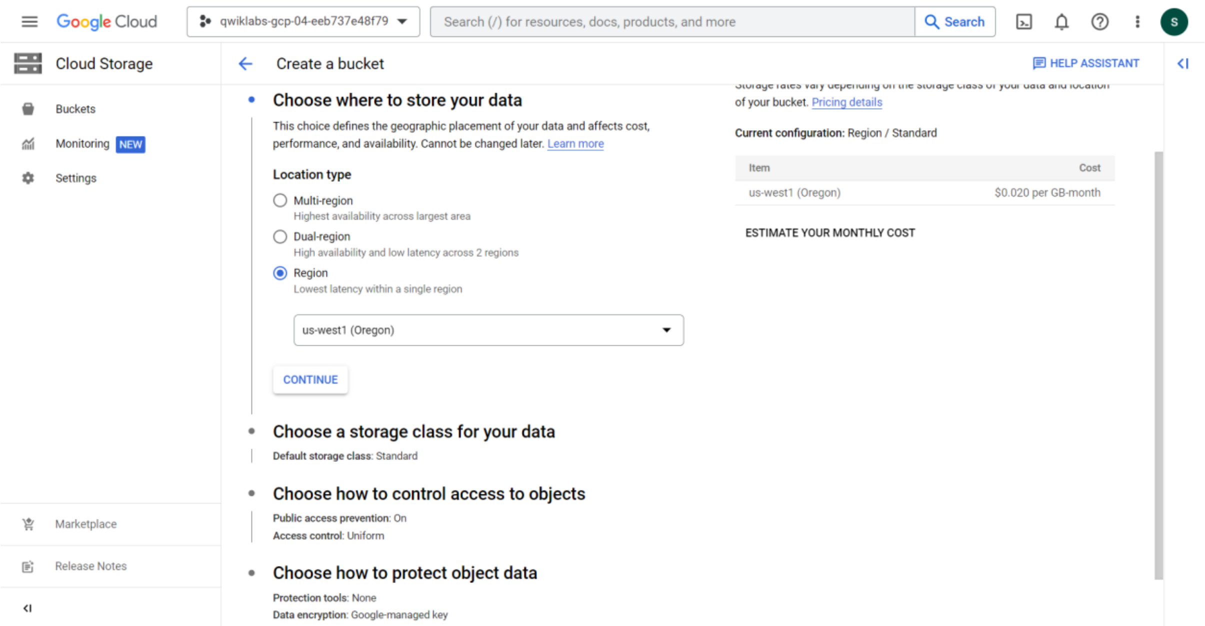
**Good to know**

**Location pricing**

Storage rates vary depending on the storage class of your data and location of your bucket. Pricing details

**Current configuration:** Multi-region / Standard

| Item | Cost |
|---|---|
| us (multiple regions in United States) | $0.026 per GB-month |
| With default replication | $0.020 per GB written |



Create a bucket

Choose where to store your data

This choice defines the geographic placement of your data and affects cost, performance, and availability. Cannot be changed later. Learn more

Location type

○ Multi-region
Highest availability across largest area

○ Dual-region
High availability and low latency across 2 regions

● Region
Lowest latency within a single region

us-west1 (Oregon)

CONTINUE

Choose a storage class for your data

**Default storage class:** Standard

Choose how to control access to objects

**Public access prevention:** On
**Access control:** Uniform

Choose how to protect object data

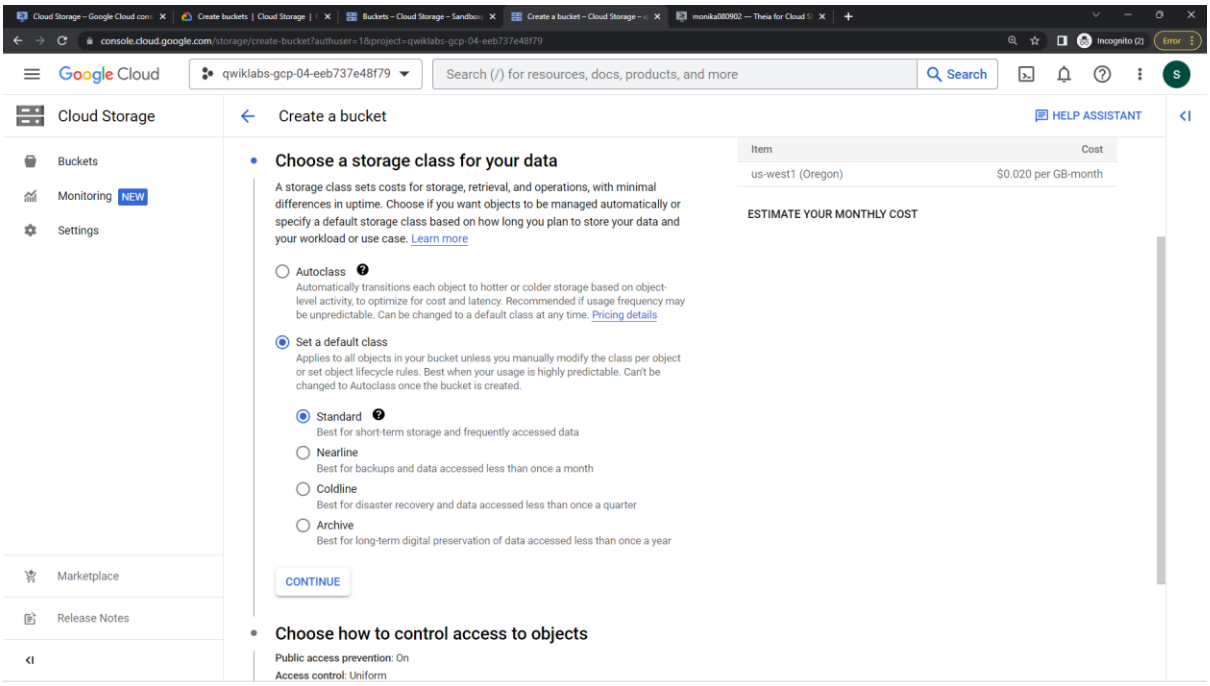
**Protection tools:** None
**Data encryption:** Google-managed key

Storage rates vary depending on the storage class of your data and location of your bucket. Pricing details

**Current configuration:** Region / Standard

| Item | Cost |
|---|---|
| us-west1 (Oregon) | $0.020 per GB-month |

ESTIMATE YOUR MONTHLY COST


Cloud Storage – Google Cloud cons
Create buckets | Cloud Storage |
Buckets – Cloud Storage – Sandbox
Create a bucket – Cloud Storage –
monika080902 — Theia for Cloud S
console.cloud.google.com/storage/create-bucket?authuser=1&project=qwiklabs-gcp-04-eeb737e48f79
Incognito (2)
Error
Google Cloud
qwiklabs-gcp-04-eeb737e48f79
Search (/) for resources, docs, products, and more
Search
Cloud Storage
Buckets
Monitoring NEW
Settings
Marketplace
Release Notes
HELP ASSISTANT

Create a bucket

Choose a storage class for your data

A storage class sets costs for storage, retrieval, and operations, with minimal differences in uptime. Choose if you want objects to be managed automatically or specify a default storage class based on how long you plan to store your data and your workload or use case. Learn more

○ Autoclass
Automatically transitions each object to hotter or colder storage based on object-level activity, to optimize for cost and latency. Recommended if usage frequency may be unpredictable. Can be changed to a default class at any time. Pricing details

● Set a default class
Applies to all objects in your bucket unless you manually modify the class per object or set object lifecycle rules. Best when your usage is highly predictable. Can't be changed to Autoclass once the bucket is created.

● Standard
Best for short-term storage and frequently accessed data

○ Nearline
Best for backups and data accessed less than once a month

○ Coldline
Best for disaster recovery and data accessed less than once a quarter

○ Archive
Best for long-term digital preservation of data accessed less than once a year

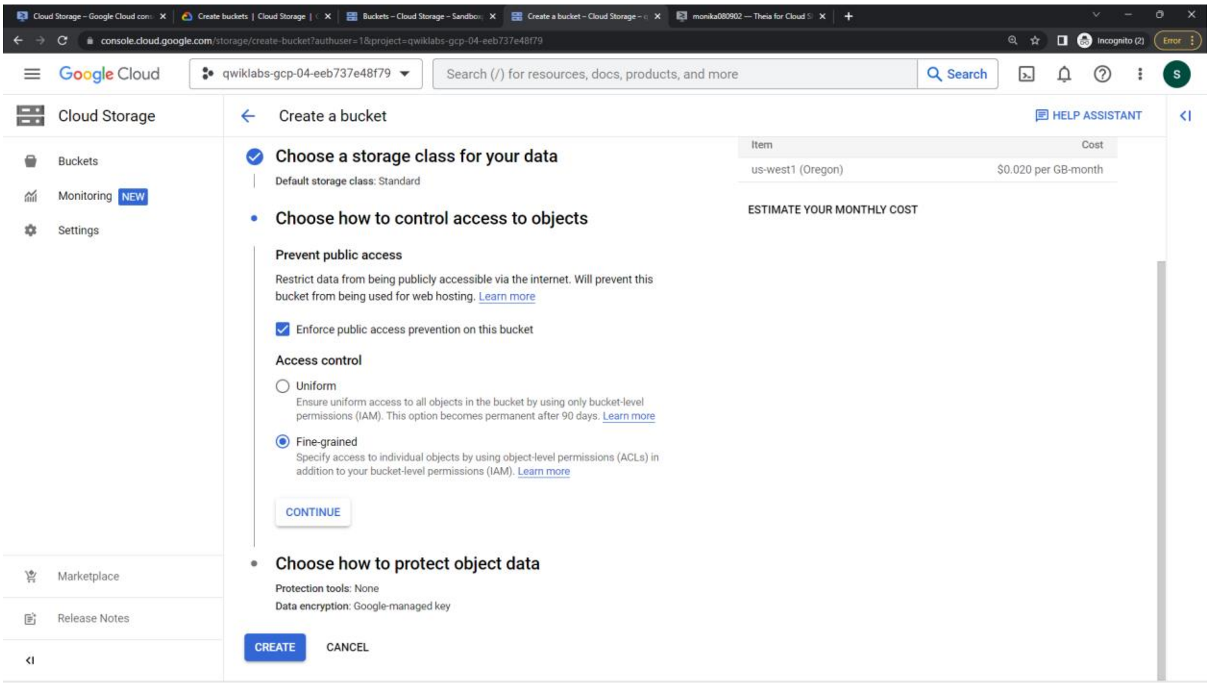
CONTINUE

Choose how to control access to objects

**Public access prevention:** On
**Access control:** Uniform

| Item | Cost |
|---|---|
| us-west1 (Oregon) | $0.020 per GB-month |

ESTIMATE YOUR MONTHLY COST



console.cloud.google.com/storage/create-bucket?authuser=1&project=qwiklabs-gcp-04-eeb737e48f79

Create a bucket

Choose a storage class for your data

Default storage class: Standard

Choose how to control access to objects

Prevent public access

Restrict data from being publicly accessible via the internet. Will prevent this bucket from being used for web hosting. Learn more

☑ Enforce public access prevention on this bucket

Access control

○ Uniform
Ensure uniform access to all objects in the bucket by using only bucket-level permissions (IAM). This option becomes permanent after 90 days. Learn more

● Fine-grained
Specify access to individual objects by using object-level permissions (ACLs) in addition to your bucket-level permissions (IAM). Learn more

CONTINUE

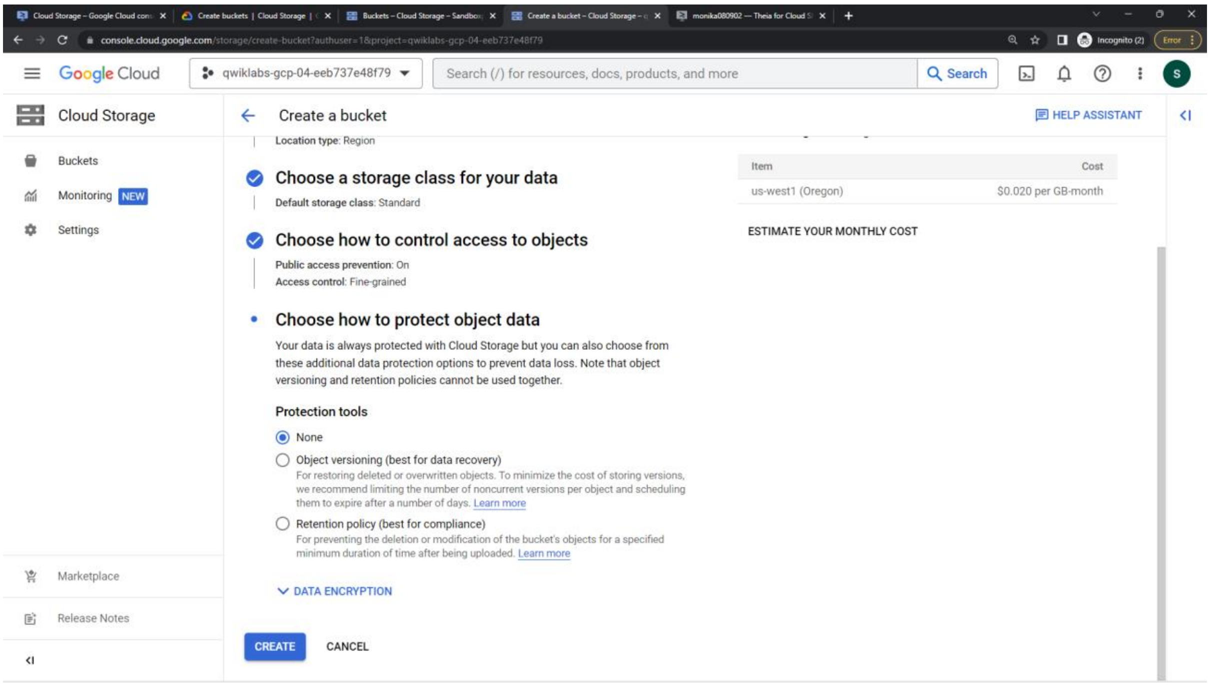
Choose how to protect object data

Protection tools: None
Data encryption: Google-managed key

CREATE CANCEL

| Item | Cost |
|---|---|
| us-west1 (Oregon) | $0.020 per GB-month |

ESTIMATE YOUR MONTHLY COST



Create a bucket

Location type: Region

Choose a storage class for your data

Default storage class: Standard

Choose how to control access to objects

Public access prevention: On
Access control: Fine-grained

Choose how to protect object data

Your data is always protected with Cloud Storage but you can also choose from these additional data protection options to prevent data loss. Note that object versioning and retention policies cannot be used together.

Protection tools

● None

○ Object versioning (best for data recovery)
For restoring deleted or overwritten objects. To minimize the cost of storing versions, we recommend limiting the number of noncurrent versions per object and scheduling them to expire after a number of days. Learn more

○ Retention policy (best for compliance)
For preventing the deletion or modification of the bucket's objects for a specified minimum duration of time after being uploaded. Learn more

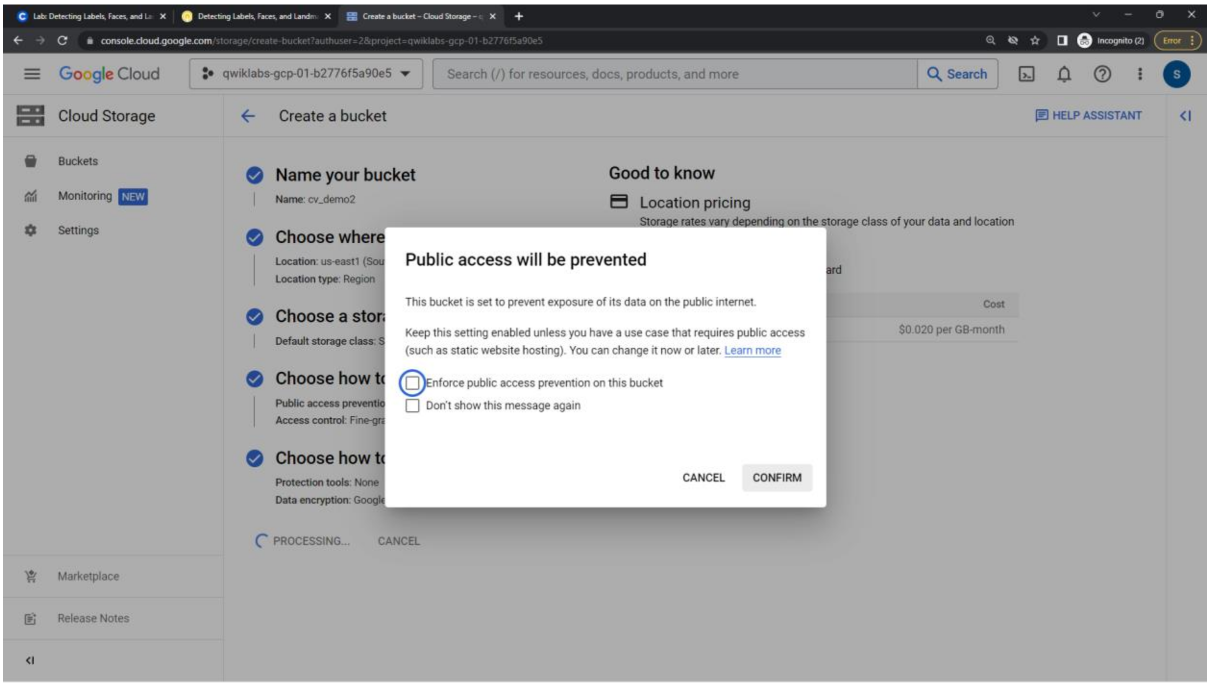
DATA ENCRYPTION

CREATE CANCEL

| Item | Cost |
|---|---|
| us-west1 (Oregon) | $0.020 per GB-month |

ESTIMATE YOUR MONTHLY COST

*Untick both and confirm.*



Create a bucket

Name your bucket
Name: cv_demo2

Choose where
Location: us-east1 (Sou
Location type: Region

Choose a stor
Default storage class: S

Choose how t
Public access preventio
Access control: Fine-gra

Choose how t
Protection tools: None
Data encryption: Google

PROCESSING... CANCEL

Good to know
Location pricing
Storage rates vary depending on the storage class of your data and location

| Cost |
|---|
| $0.020 per GB-month |

**Public access will be prevented**

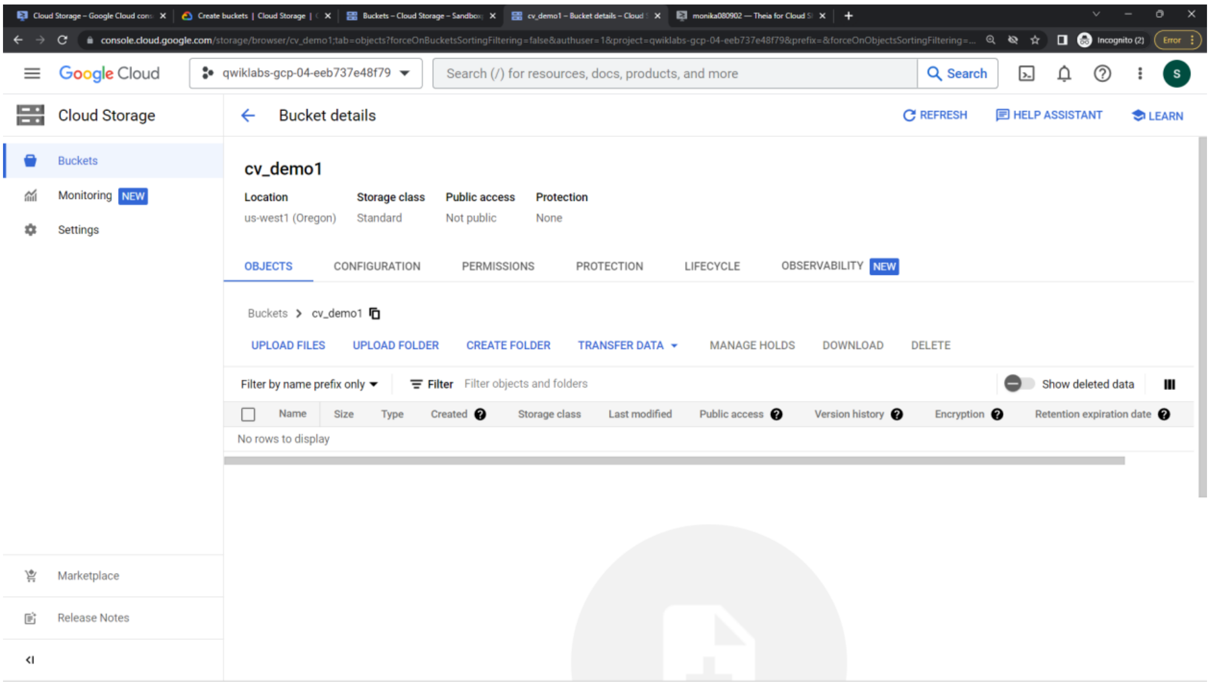
This bucket is set to prevent exposure of its data on the public internet.

Keep this setting enabled unless you have a use case that requires public access (such as static website hosting). You can change it now or later. Learn more

□ Enforce public access prevention on this bucket
□ Don't show this message again

CANCEL CONFIRM

console.cloud.google.com/storage/create-bucket?authuser=2&project=qwiklabs-gcp-01-b2776f5a90e5
Google Cloud
qwiklabs-gcp-01-b2776f5a90e5
Search (/) for resources, docs, products, and more
Search
Cloud Storage
HELP ASSISTANT
Buckets
Monitoring NEW
Settings
Marketplace
Release Notes



Bucket details

cv_demo1

| Location | Storage class | Public access | Protection |
|---|---|---|---|
| us-west1 (Oregon) | Standard | Not public | None |

Buckets > cv_demo1

| □ | Name | Size | Type | Created | Storage class | Last modified | Public access | Version history | Encryption | Retention expiration date |
|---|---|---|---|---|---|---|---|---|---|---|

No rows to display

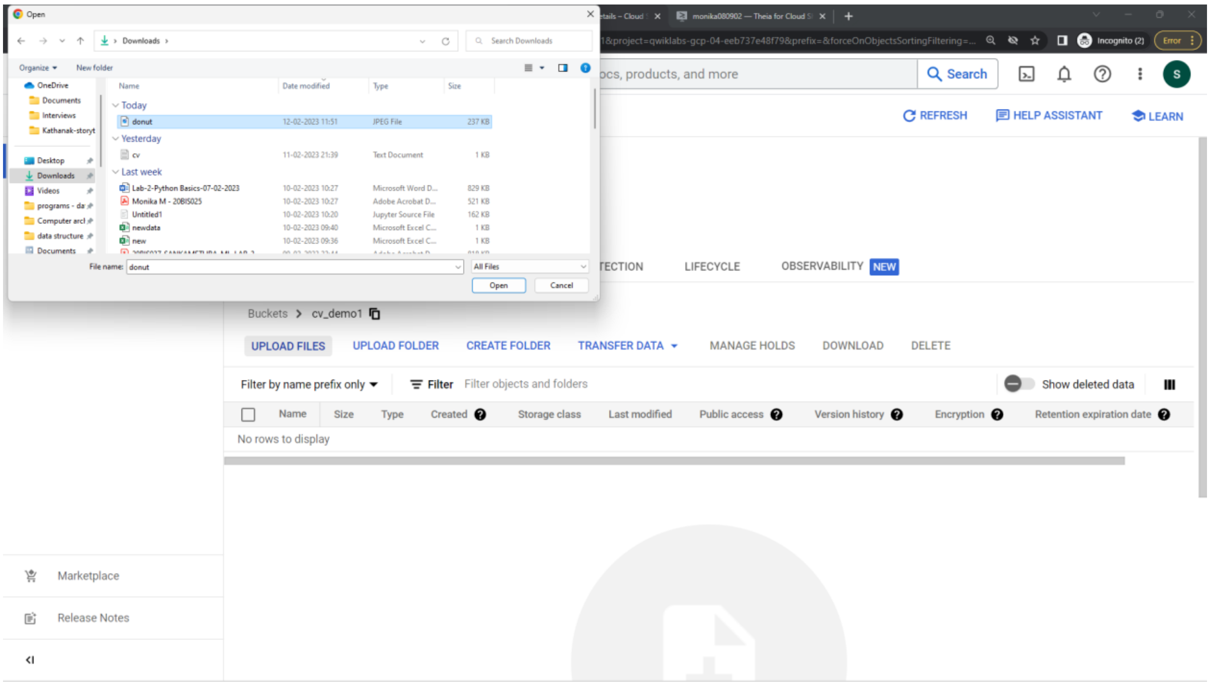
console.cloud.google.com/storage/browser/cv_demo1;tab=objects?forceOnBucketsSortingFiltering=false&authuser=1&project=qwiklabs-gcp-04-eeb737e48f79&prefix=&forceOnObjectsSortingFiltering=...
Google Cloud
qwiklabs-gcp-04-eeb737e48f79
Search (/) for resources, docs, products, and more
Search
Cloud Storage
REFRESH
HELP ASSISTANT
LEARN
Buckets
Monitoring NEW
Settings
OBJECTS
CONFIGURATION
PERMISSIONS
PROTECTION
LIFECYCLE
OBSERVABILITY NEW
UPLOAD FILES
UPLOAD FOLDER
CREATE FOLDER
TRANSFER DATA
MANAGE HOLDS
DOWNLOAD
DELETE
Filter by name prefix only
Filter
Filter objects and folders
Show deleted data
Marketplace
Release Notes

*Thus bucket created .*

*8.Upload an image to your bucket*

*Right click on the following image of donuts, then click Save image as and save it to your computer as donuts.png.*

*9.Go to the bucket you just created and click UPLOAD FILES. Then select donuts.png.*



Open

Downloads

| Name | Date modified | Type | Size |
|---|---|---|---|
| Today | | | |
| donut | 12-02-2023 11:51 | JPEG File | 237 KB |
| Yesterday | | | |
| cv | 11-02-2023 21:39 | Text Document | 1 KB |
| Last week | | | |
| Lab-2-Python Basics-07-02-2023 | 10-02-2023 10:27 | Microsoft Word D... | 829 KB |
| Monika M - 20BIS025 | 10-02-2023 10:27 | Adobe Acrobat D... | 521 KB |
| Untitled1 | 10-02-2023 10:20 | Jupyter Source File | 162 KB |
| newdata | 10-02-2023 09:40 | Microsoft Excel C... | 1 KB |
| new | 10-02-2023 09:36 | Microsoft Excel C... | 1 KB |

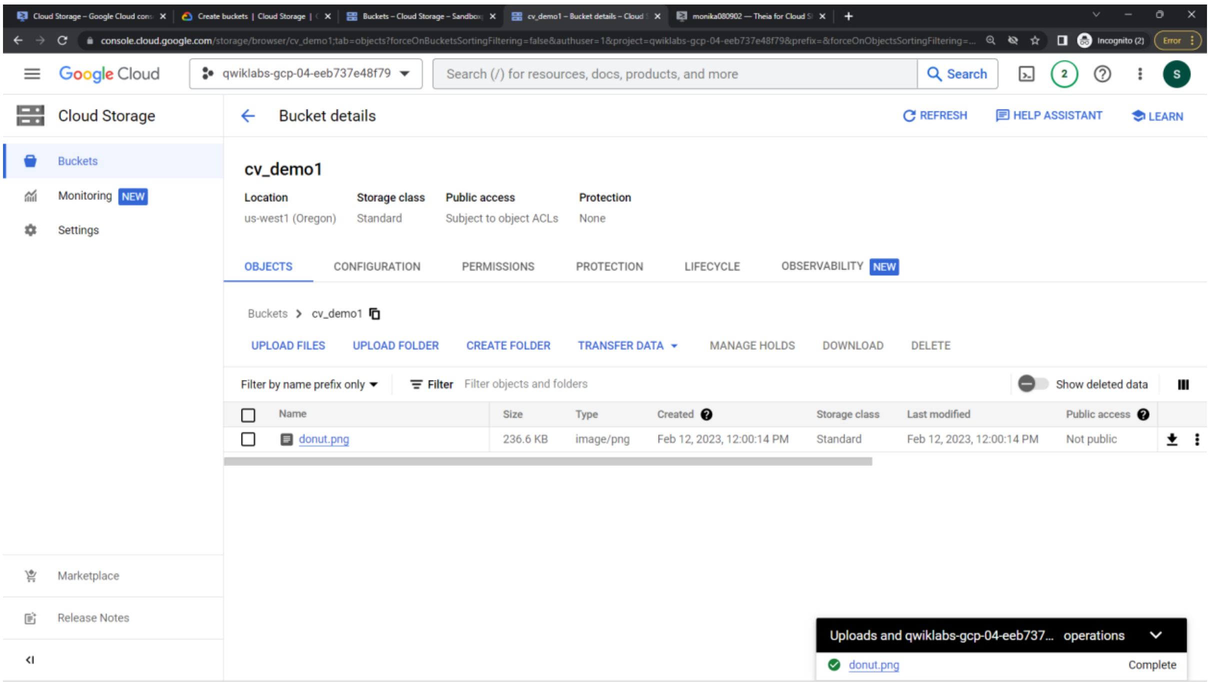
File name: donut

All Files

Buckets > cv_demo1

| ☐ | Name | Size | Type | Created | Storage class | Last modified | Public access | Version history | Encryption | Retention expiration date |
|---|---|---|---|---|---|---|---|---|---|---|

No rows to display



cv_demo1

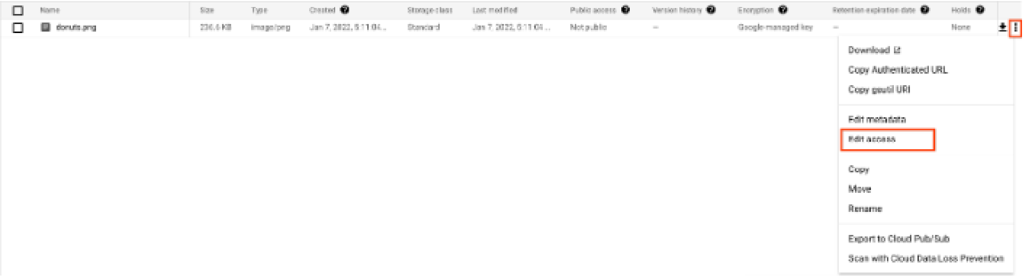
| Location | Storage class | Public access | Protection |
|---|---|---|---|
| us-west1 (Oregon) | Standard | Subject to object ACLs | None |

| □ | Name | Size | Type | Created | Storage class | Last modified | Public access |
|---|---|---|---|---|---|---|---|
| □ | donut.png | 236.6 KB | image/png | Feb 12, 2023, 12:00:14 PM | Standard | Feb 12, 2023, 12:00:14 PM | Not public |

Uploads and qwiklabs-gcp-04-eeb737... operations

donut.png Complete

*10.Now you need to make this image publicly available. Click on the 3 dots for your image and select* ***Edit access****.*



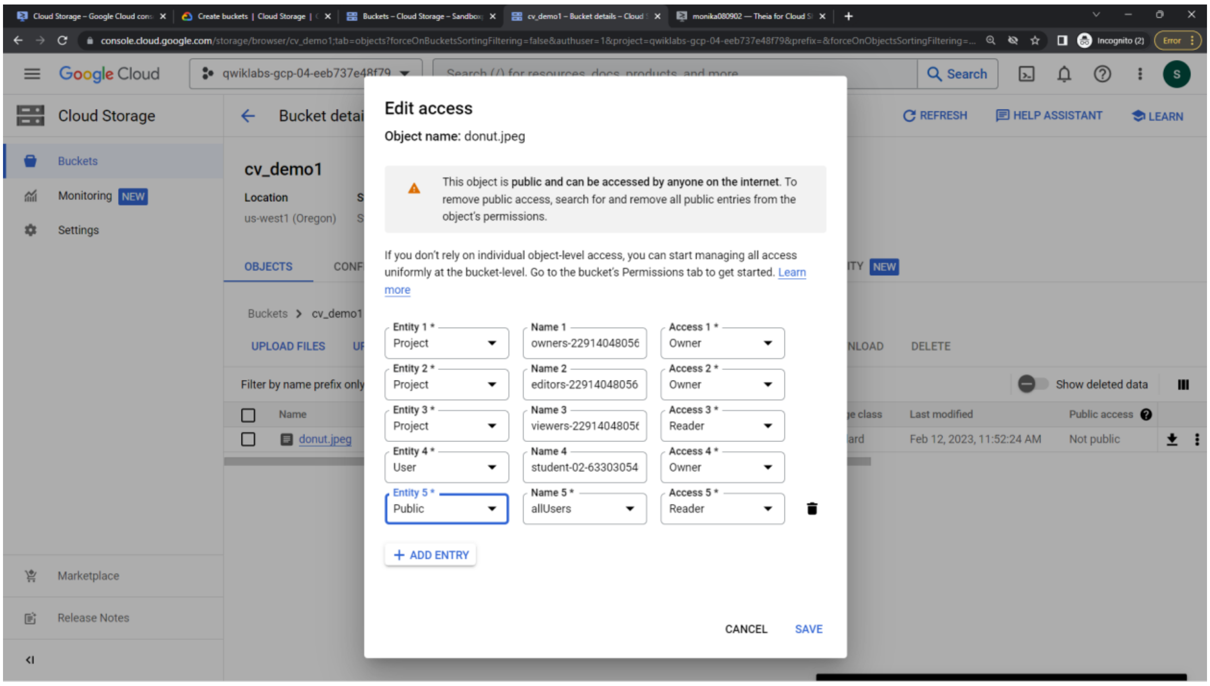
| □ | Name | Size | Type | Created | Storage class | Last modified | Public access | Version history | Encryption | Retention expiration date | Holds |
|---|---|---|---|---|---|---|---|---|---|---|---|
| □ | donuts.png | 236.6 KB | image/png | Jan 7, 2022, 5:11:04... | Standard | Jan 7, 2022, 5:11:04... | Not public | – | Google-managed key | – | None |

4. Click **Add entry** then enter the following:

**Entity:** Public

**Name:** allUsers

**Access:** Reader



Edit access

**Object name:** donut.jpeg

This object is **public and can be accessed by anyone on the internet**. To remove public access, search for and remove all public entries from the object's permissions.

If you don't rely on individual object-level access, you can start managing all access uniformly at the bucket-level. Go to the bucket's Permissions tab to get started. Learn more

| Entity | Name | Access |
|---|---|---|
| Entity 1 *: Project | Name 1: owners-22914048056 | Access 1 *: Owner |
| Entity 2 *: Project | Name 2: editors-22914048056 | Access 2 *: Owner |
| Entity 3 *: Project | Name 3: viewers-22914048056 | Access 3 *: Reader |
| Entity 4 *: User | Name 4: student-02-63303054 | Access 4 *: Owner |
| Entity 5 *: Public | Name 5 *: allUsers | Access 5 *: Reader |

+ ADD ENTRY

CANCEL SAVE

*11.click save*

*12.Create your Vision API request*

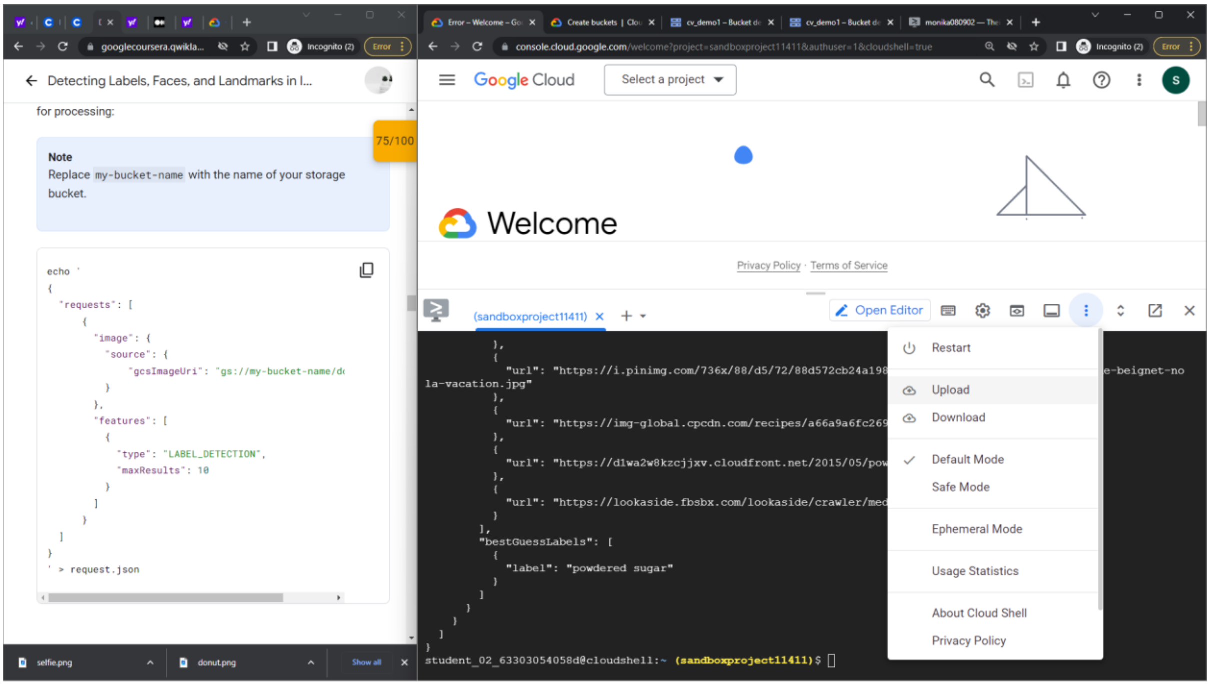
*Now you create a request.json(maybe on notepad or something) file in the Cloud Shell environment.*

***Note***
*Replace my-bucket-name with the name of your storage bucket.*

```
{1
  "requests": [
     {
       "image": {
         "source": {
            "gcsImageUri": "gs://my-bucket-name/donuts.png"
         }
```

```
        },
      "features": [
        {
          "type": "LABEL_DETECTION",
          "maxResults": 10
        }
      ]
    }
  ]
}
```

13.Upload json file:



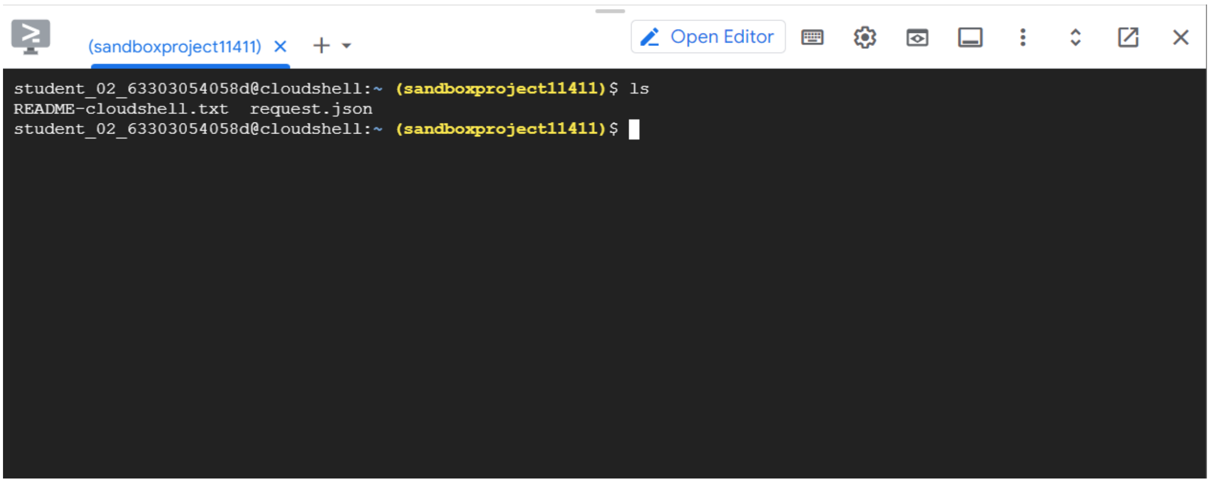
Detecting Labels, Faces, and Landmarks in I...

for processing:

**Note**
Replace `my-bucket-name` with the name of your storage bucket.

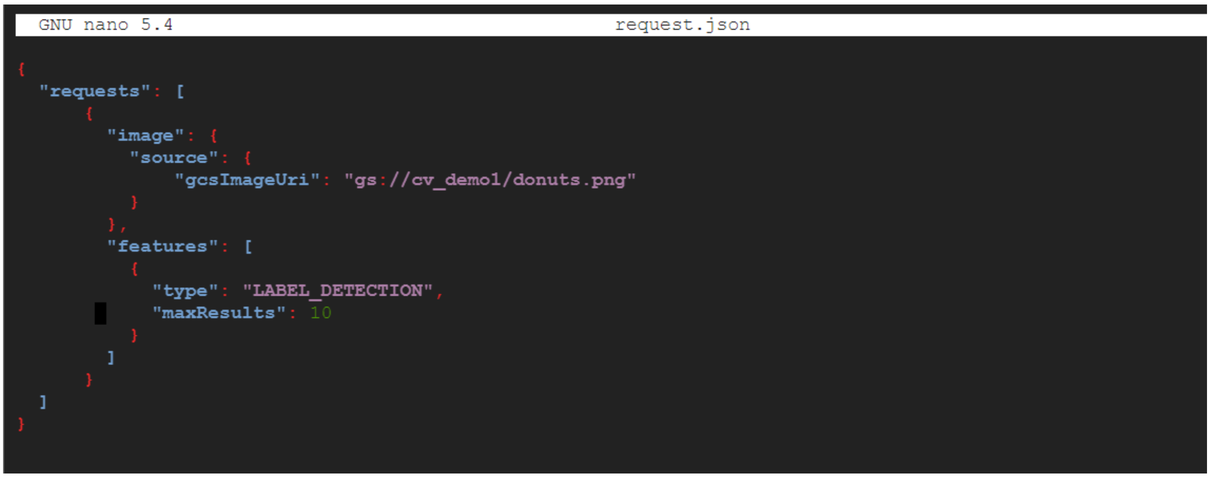
```
echo '
{
  "requests": [
      {
        "image": {
          "source": {
              "gcsImageUri": "gs://my-bucket-name/d
          }
        },
        "features": [
          {
            "type": "LABEL_DETECTION",
            "maxResults": 10
          }
        ]
      }
  ]
}
' > request.json
```

```
          },
          {
            "url": "https://i.pinimg.com/736x/88/d5/72/88d572cb24a198                    e-beignet-no
la-vacation.jpg"
          },
          {
            "url": "https://img-global.cpcdn.com/recipes/a66a9a6fc269
          },
          {
            "url": "https://d1wa2w8kzcjjxv.cloudfront.net/2015/05/pow
          },
          {
            "url": "https://lookaside.fbsbx.com/lookaside/crawler/med
          }
        ],
        "bestGuessLabels": [
          {
            "label": "powdered sugar"
          }
        ]
      }
    }
  ]
}
student_02_63303054058d@cloudshell:~ (sandboxproject11411)$ 
```



```
student_02_63303054058d@cloudshell:~ (sandboxproject11411)$ ls
README-cloudshell.txt  request.json
student_02_63303054058d@cloudshell:~ (sandboxproject11411)$
```

*Using nano to display content in request.json:*



```
  GNU nano 5.4                                        request.json
{
  "requests": [
      {
        "image": {
          "source": {
              "gcsImageUri": "gs://cv_demo1/donuts.png"
          }
        },
        "features": [
          {
            "type": "LABEL_DETECTION",
            "maxResults": 10
          }
        ]
      }
  ]
}
```

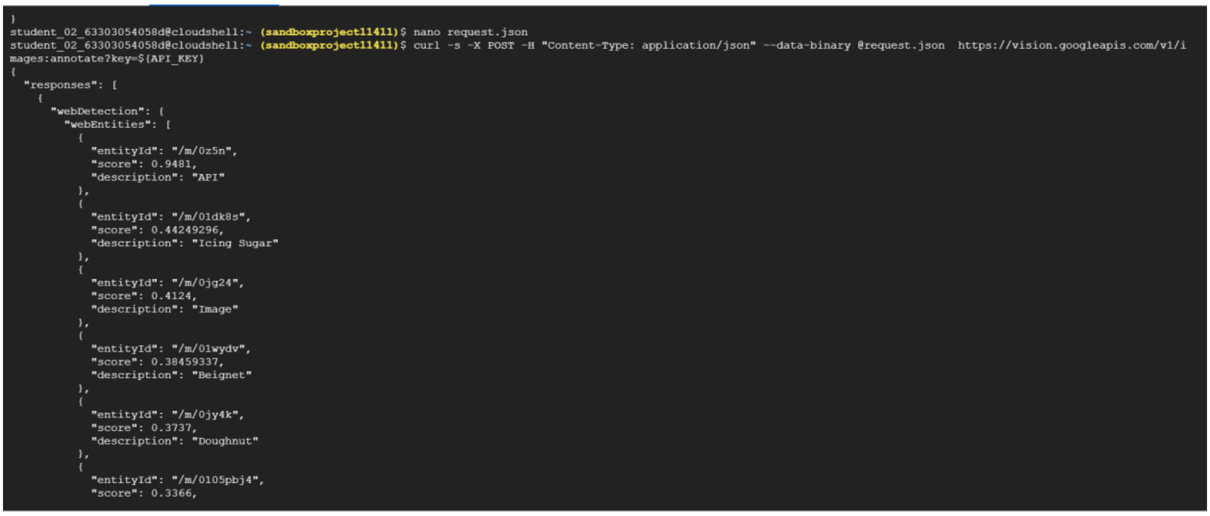
## *Task 1.Label Detection*

*The first Cloud Vision API feature you try out is label detection. This method returns a list of labels (words) of what's in your image.*

*Call the Vision API with curl:[copy paste this cmd]*

```
curl -s -X POST -H "Content-Type: application/json" --data-binary
@request.json
https://vision.googleapis.com/v1/images:annotate?key=${API_KEY}
```

## *Output:*



```
}
student_02_63303054058d@cloudshell:~ (sandboxproject11411)$ nano request.json
student_02_63303054058d@cloudshell:~ (sandboxproject11411)$ curl -s -X POST -H "Content-Type: application/json" --data-binary @request.json  https://vision.googleapis.com/v1/i
mages:annotate?key=${API_KEY}
{
  "responses": [
    {
      "webDetection": {
        "webEntities": [
          {
            "entityId": "/m/0z5n",
            "score": 0.9481,
            "description": "API"
          },
          {
            "entityId": "/m/01dk8s",
            "score": 0.44249296,
            "description": "Icing Sugar"
          },
          {
            "entityId": "/m/0jg24",
            "score": 0.4124,
            "description": "Image"
          },
          {
            "entityId": "/m/01wydv",
            "score": 0.38459337,
            "description": "Beignet"
          },
          {
            "entityId": "/m/0jy4k",
            "score": 0.3737,
            "description": "Doughnut"
          },
          {
            "entityId": "/m/0105pbj4",
            "score": 0.3366,
```

## *Conclusion:*

*Thus for the image (i.e. donuts.png) we obtained the all the objects.*

## ***Task 2. Web Detection***

- *A list of entities found in your image, based on content from pages with similar images*
- *URLs of exact and partial matching images found across the web, along with the URLs of those pages*
- *URLs of similar images, like doing a reverse image search*

*1.Under the features list, change type from LABEL_DETECTION to WEB_DETECTION. The request.json should now look like this:*

*Note*

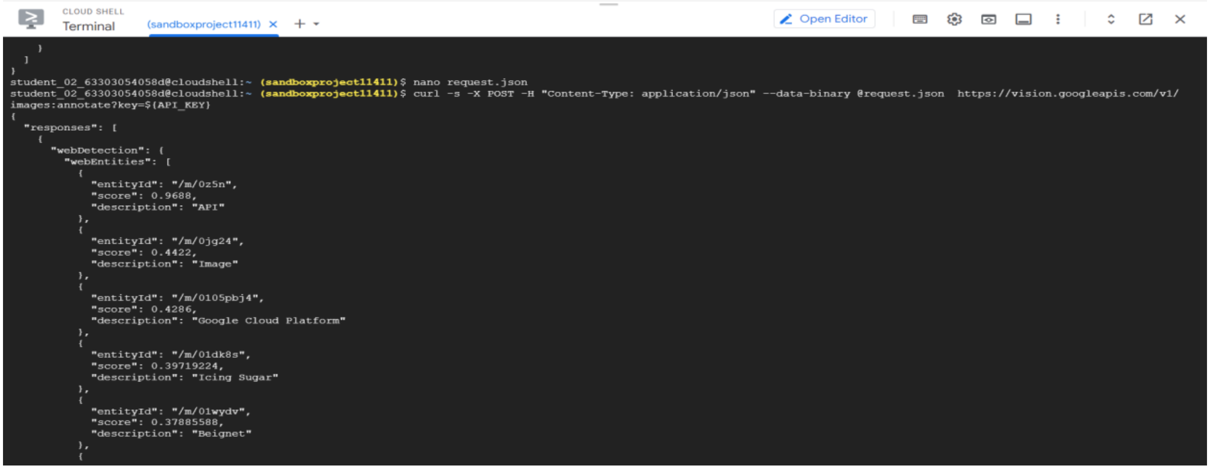
*Replace my-bucket-name with the name of your storage bucket.*

```
{
  "requests": [
     {
        "image": {
          "source": {
              "gcsImageUri": "gs://my-bucket-name/donuts.png"
          }
        },
        "features": [
          {
            "type": "WEB_DETECTION",
            "maxResults": 10
          }
        ]
      }
  ]
}
```

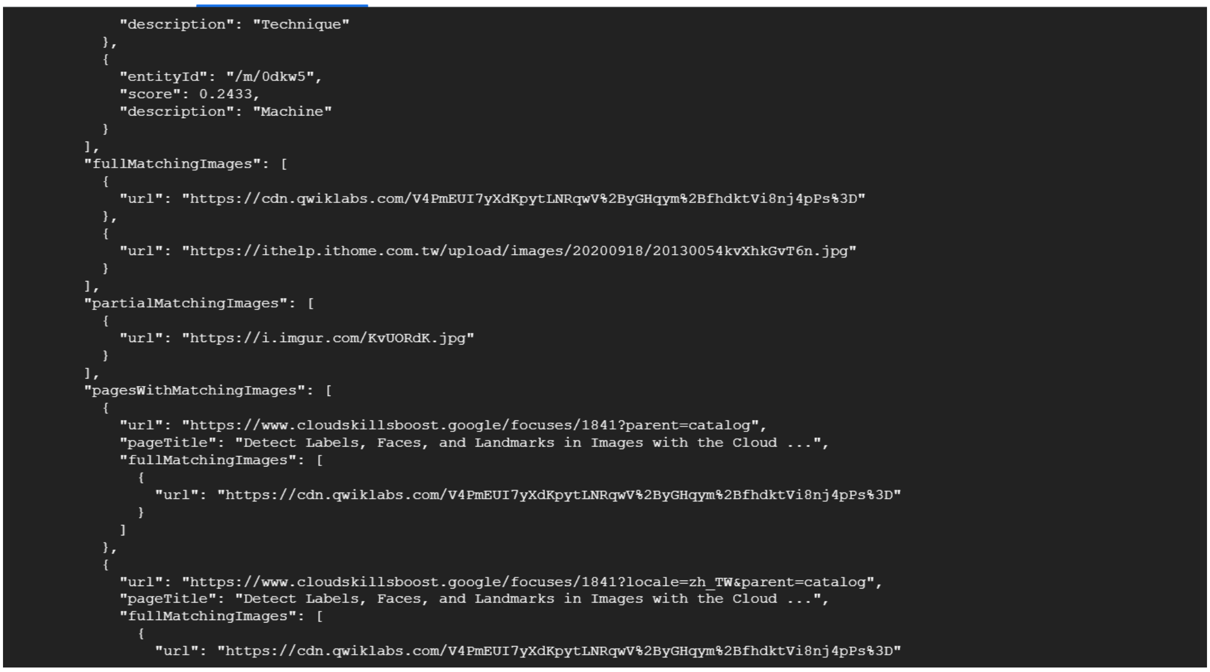
2. To send it to the Vision API, use the same curl command as before (just press the up arrow in Cloud Shell):

```
curl -s -X POST -H "Content-Type: application/json" --data-binary
@request.json
https://vision.googleapis.com/v1/images:annotate?key=${API_KEY}
```

## *Output:*



```
    }
  ]
}
student_02_63303054058d@cloudshell:~ (sandboxproject11411)$ nano request.json
student_02_63303054058d@cloudshell:~ (sandboxproject11411)$ curl -s -X POST -H "Content-Type: application/json" --data-binary @request.json  https://vision.googleapis.com/v1/
images:annotate?key=${API_KEY}
{
  "responses": [
    {
      "webDetection": {
        "webEntities": [
          {
            "entityId": "/m/0z5n",
            "score": 0.9688,
            "description": "API"
          },
          {
            "entityId": "/m/0jg24",
            "score": 0.4422,
            "description": "Image"
          },
          {
            "entityId": "/m/0105pbj4",
            "score": 0.4286,
            "description": "Google Cloud Platform"
          },
          {
            "entityId": "/m/01dk8s",
            "score": 0.39719224,
            "description": "Icing Sugar"
          },
          {
            "entityId": "/m/01wydv",
            "score": 0.37885588,
            "description": "Beignet"
          },
          {
```



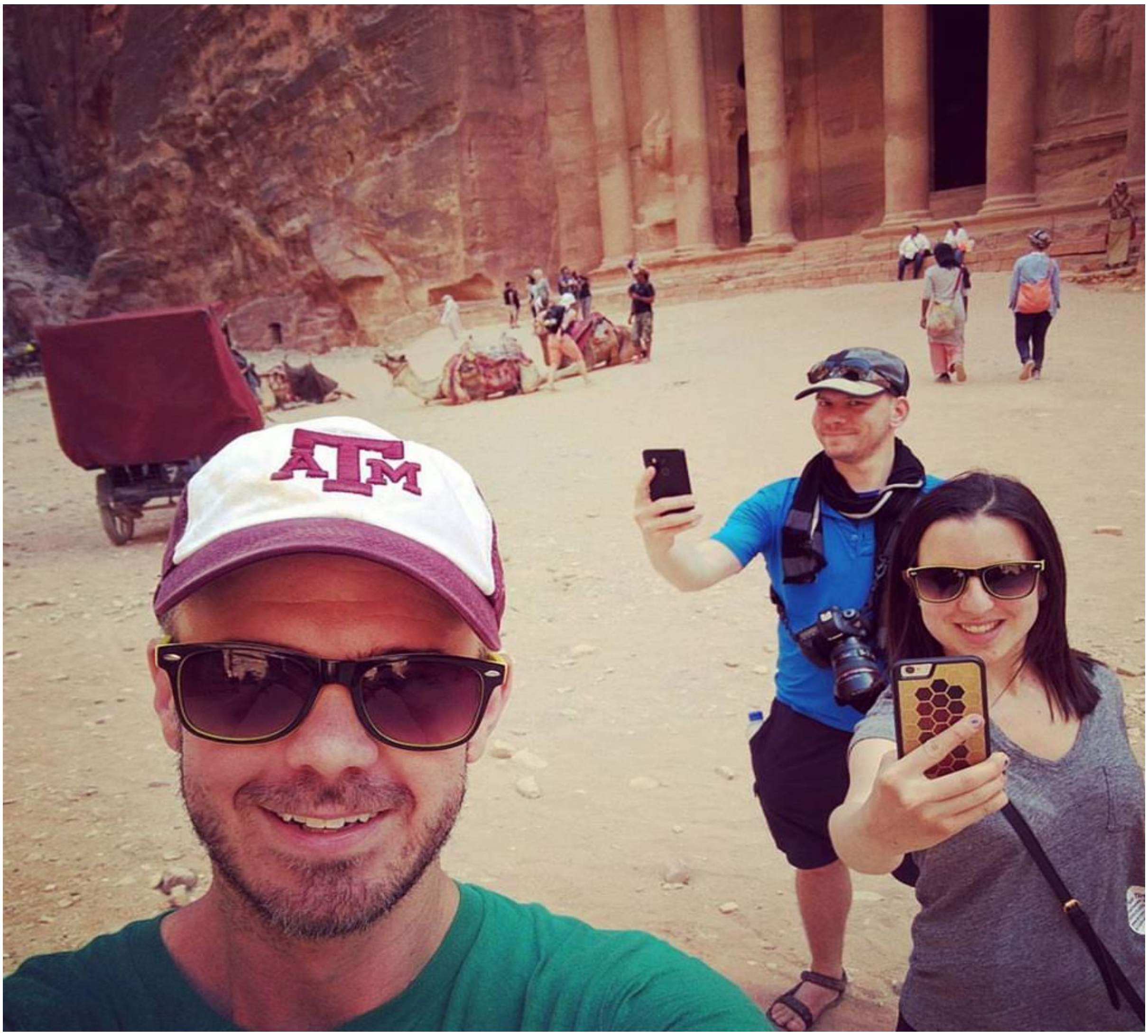
```
            "description": "Technique"
          },
          {
            "entityId": "/m/0dkw5",
            "score": 0.2433,
            "description": "Machine"
          }
        ],
        "fullMatchingImages": [
          {
            "url": "https://cdn.qwiklabs.com/V4PmEUI7yXdKpytLNRqwV%2ByGHqym%2BfhdktVi8nj4pPs%3D"
          },
          {
            "url": "https://ithelp.ithome.com.tw/upload/images/20200918/20130054kvXhkGvT6n.jpg"
          }
        ],
        "partialMatchingImages": [
          {
            "url": "https://i.imgur.com/KvUORdK.jpg"
          }
        ],
        "pagesWithMatchingImages": [
          {
            "url": "https://www.cloudskillsboost.google/focuses/1841?parent=catalog",
            "pageTitle": "Detect Labels, Faces, and Landmarks in Images with the Cloud ...",
            "fullMatchingImages": [
              {
                "url": "https://cdn.qwiklabs.com/V4PmEUI7yXdKpytLNRqwV%2ByGHqym%2BfhdktVi8nj4pPs%3D"
              }
            ]
          },
          {
            "url": "https://www.cloudskillsboost.google/focuses/1841?locale=zh_TW&parent=catalog",
            "pageTitle": "Detect Labels, Faces, and Landmarks in Images with the Cloud ...",
            "fullMatchingImages": [
              {
                "url": "https://cdn.qwiklabs.com/V4PmEUI7yXdKpytLNRqwV%2ByGHqym%2BfhdktVi8nj4pPs%3D"
```

## *Conclusion:*

*Thus we got the similar webpages link in accordance with donut.png image*

## *Task 3: Face detection:*

1. *Right click on the following image, then click **Save image as** and save it to your computer as **selfie.png**.*



*2.Now upload it to your Cloud Storage bucket the same way you did before, and make it public.*

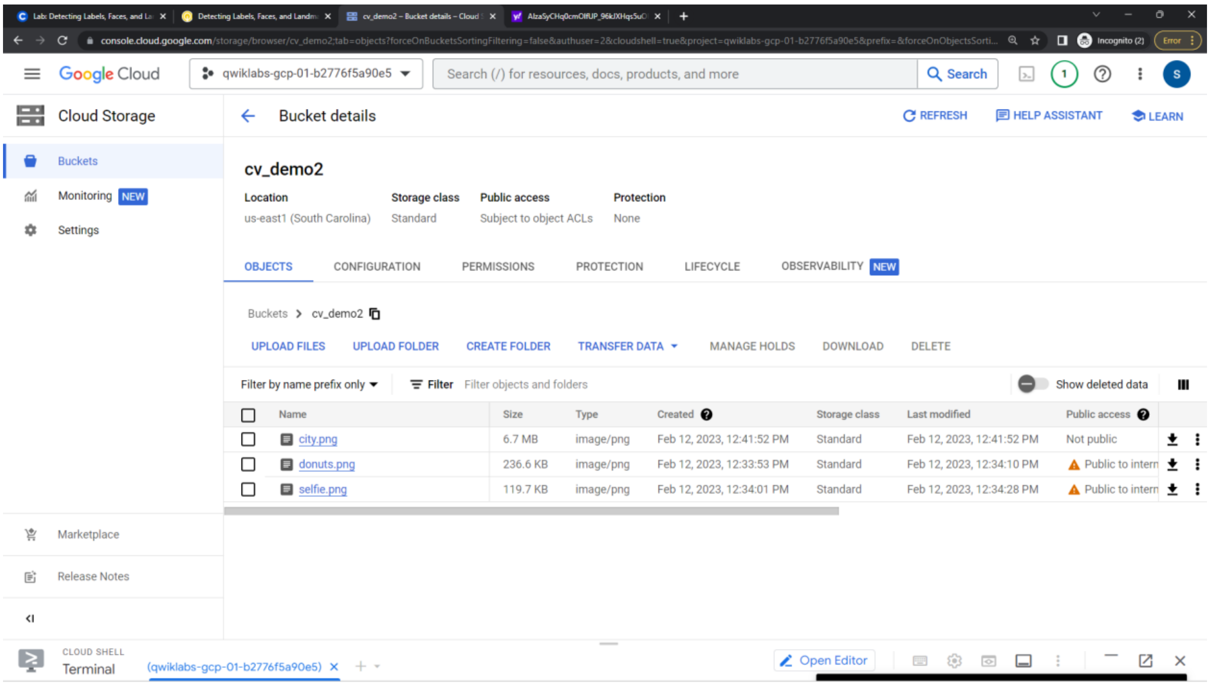
*Update request file:*

*3. Edit the request.json file as follows:[Replace my-bucket-name with your bucket name]*

*[use nano request.json to edit the file].*

```
{
  "requests": [
    {
      "image": {
        "source": {
            "gcsImageUri": "gs://my-bucket-name/selfie.png"
        }
      },
      "features": [
        {
          "type": "FACE_DETECTION"
        },
        {
          "type": "LANDMARK_DETECTION"
        }
      ]
    }
  ]
}
```

*4.After editing press ctrl+o and ctrl+x*



cv_demo2

| Location | Storage class | Public access | Protection |
|---|---|---|---|
| us-east1 (South Carolina) | Standard | Subject to object ACLs | None |

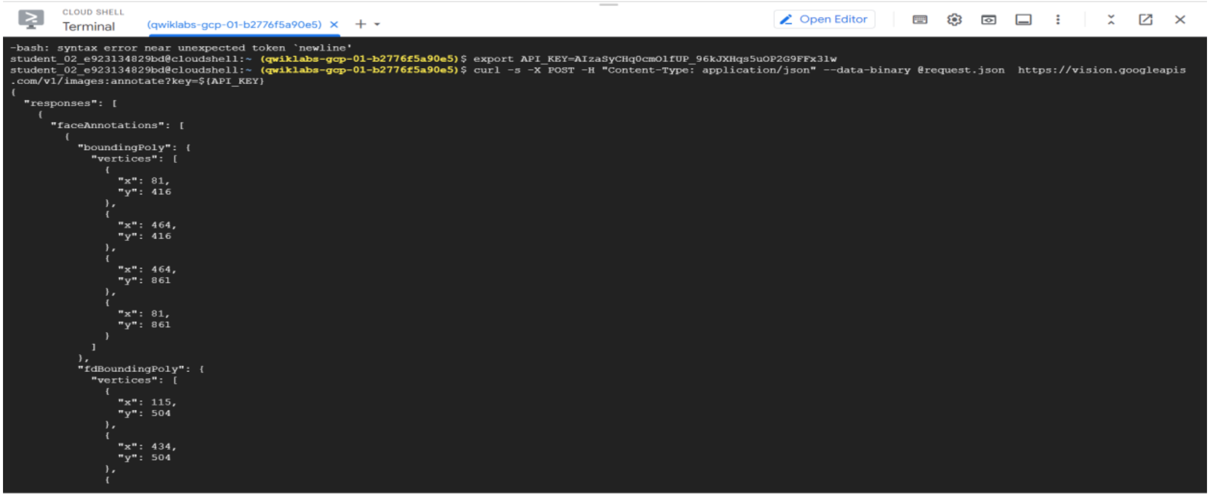
| | Name | Size | Type | Created | Storage class | Last modified | Public access |
|---|---|---|---|---|---|---|---|
| □ | city.png | 6.7 MB | image/png | Feb 12, 2023, 12:41:52 PM | Standard | Feb 12, 2023, 12:41:52 PM | Not public |
| □ | donuts.png | 236.6 KB | image/png | Feb 12, 2023, 12:33:53 PM | Standard | Feb 12, 2023, 12:34:10 PM | Public to intern |
| □ | selfie.png | 119.7 KB | image/png | Feb 12, 2023, 12:34:01 PM | Standard | Feb 12, 2023, 12:34:28 PM | Public to intern |

Lab: Detecting Labels, Faces, and La
Detecting Labels, Faces, and Landm
cv_demo2 – Bucket details – Cloud
AIzaSyCHq0cmOlfUP_96kJXHqs5uO
console.cloud.google.com/storage/browser/cv_demo2;tab=objects?forceOnBucketsSortingFiltering=false&authuser=2&cloudshell=true&project=qwiklabs-gcp-01-b2776f5a90e5&prefix=&forceOnObjectsSorti...
Incognito (2)
Error
Google Cloud
qwiklabs-gcp-01-b2776f5a90e5
Search (/) for resources, docs, products, and more
Search
Cloud Storage
Bucket details
REFRESH
HELP ASSISTANT
LEARN
Buckets
Monitoring NEW
Settings
OBJECTS
CONFIGURATION
PERMISSIONS
PROTECTION
LIFECYCLE
OBSERVABILITY NEW
Buckets > cv_demo2
UPLOAD FILES
UPLOAD FOLDER
CREATE FOLDER
TRANSFER DATA
MANAGE HOLDS
DOWNLOAD
DELETE
Filter by name prefix only
Filter
Filter objects and folders
Show deleted data
Marketplace
Release Notes
CLOUD SHELL
Terminal
(qwiklabs-gcp-01-b2776f5a90e5)
Open Editor

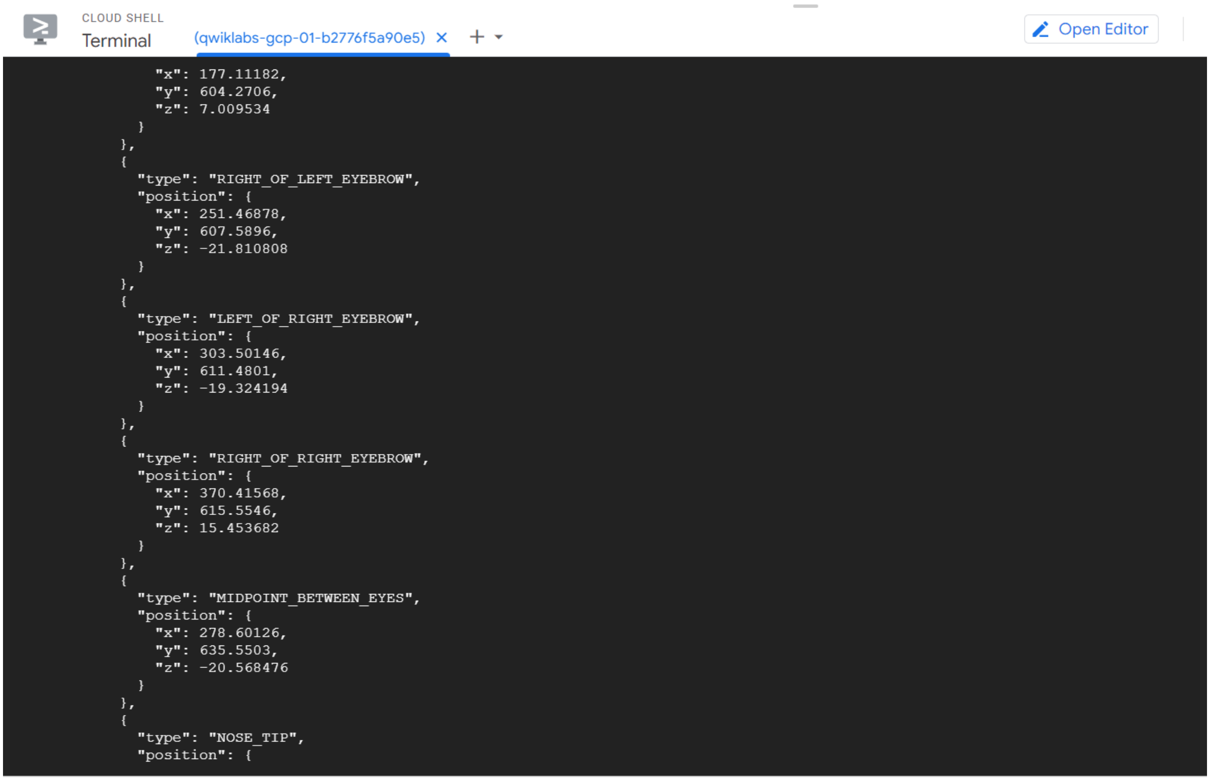
## ***Call the Vision API and parse the response***

```
curl -s -X POST -H "Content-Type: application/json" --data-binary
@request.json
https://vision.googleapis.com/v1/images:annotate?key=${API_KEY}
```

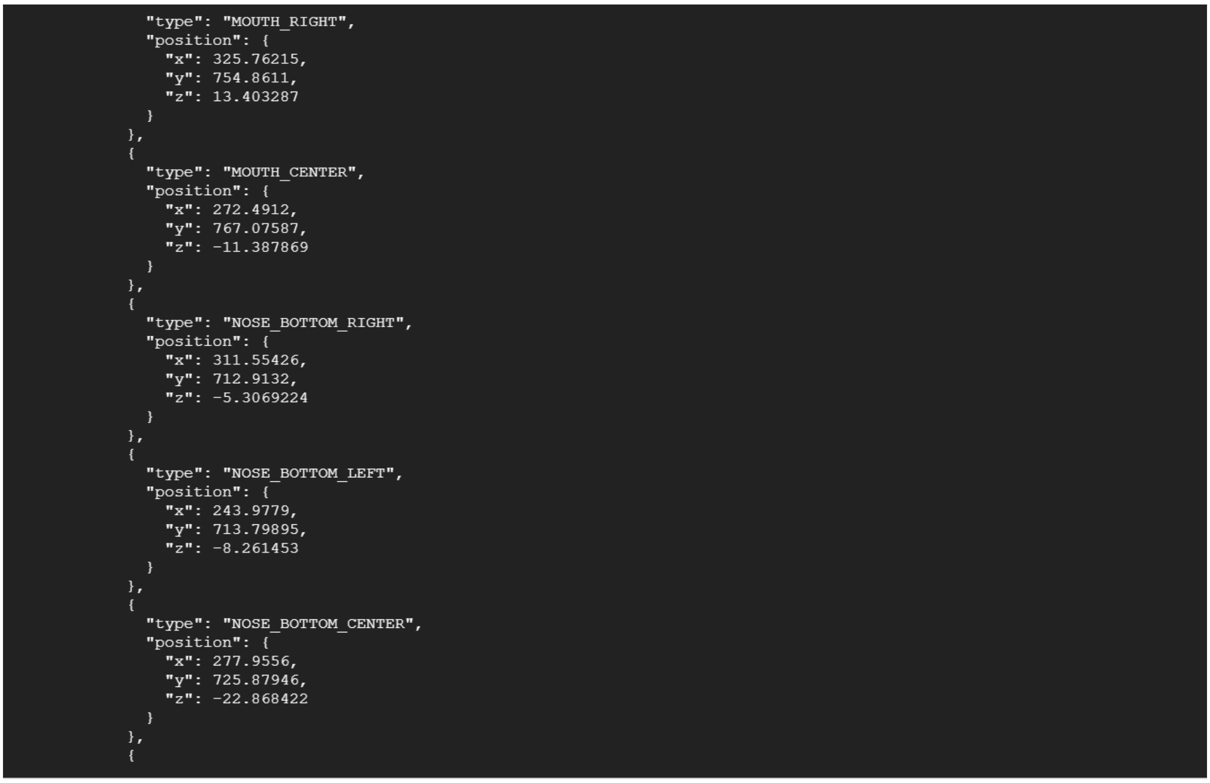
*Output:*



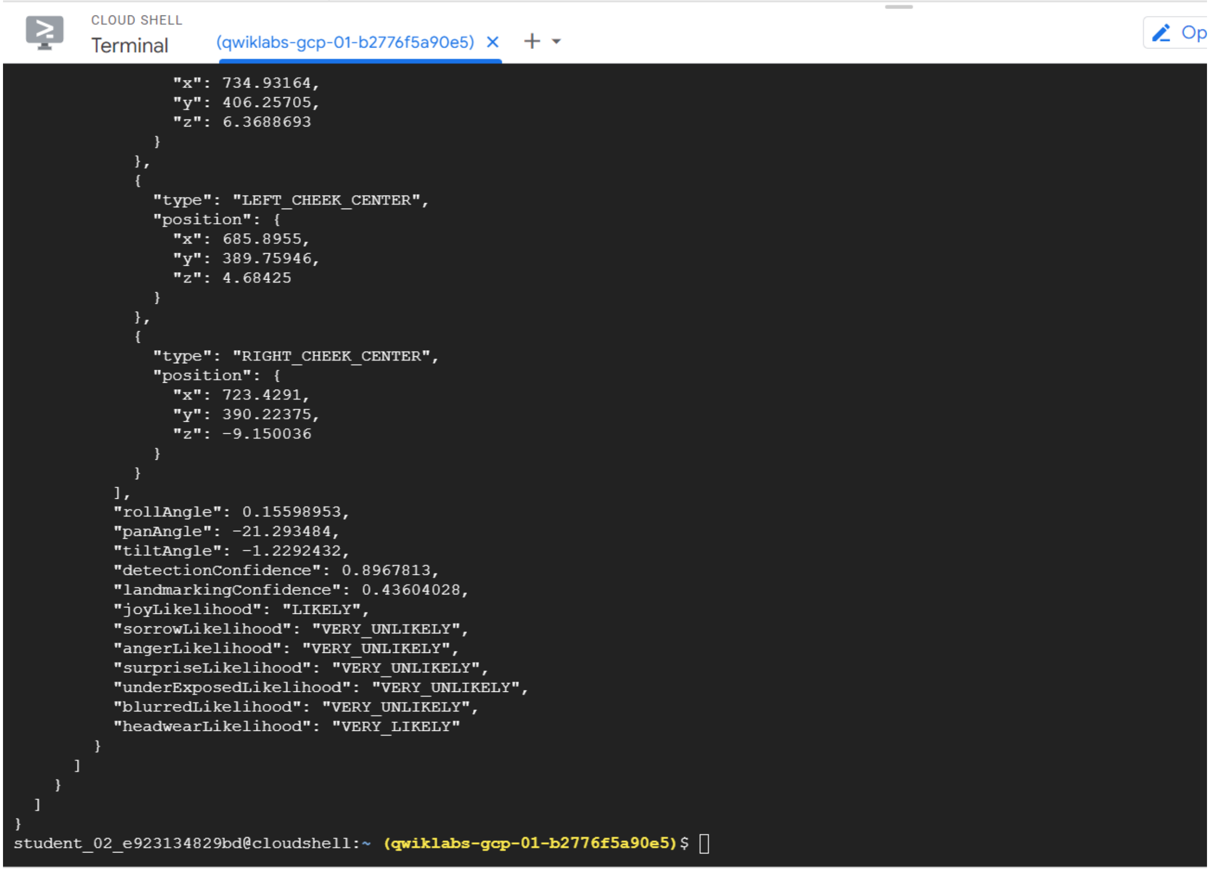
```
-bash: syntax error near unexpected token `newline'
student_02_e923134829bd@cloudshell:~ (qwiklabs-gcp-01-b2776f5a90e5)$ export API_KEY=AIzaSyCHq0cmOlfUP_96kJXHqs5uOP2G9FFx3lw
student_02_e923134829bd@cloudshell:~ (qwiklabs-gcp-01-b2776f5a90e5)$ curl -s -X POST -H "Content-Type: application/json" --data-binary @request.json  https://vision.googleapis
.com/v1/images:annotate?key=${API_KEY}
{
  "responses": [
    {
      "faceAnnotations": [
        {
          "boundingPoly": {
            "vertices": [
              {
                "x": 81,
                "y": 416
              },
              {
                "x": 464,
                "y": 416
              },
              {
                "x": 464,
                "y": 861
              },
              {
                "x": 81,
                "y": 861
              }
            ]
          },
          "fdBoundingPoly": {
            "vertices": [
              {
                "x": 115,
                "y": 504
              },
              {
                "x": 434,
                "y": 504
              },
              {
```



```
                "x": 177.11182,
                "y": 604.2706,
                "z": 7.009534
              }
            },
            {
              "type": "RIGHT_OF_LEFT_EYEBROW",
              "position": {
                "x": 251.46878,
                "y": 607.5896,
                "z": -21.810808
              }
            },
            {
              "type": "LEFT_OF_RIGHT_EYEBROW",
              "position": {
                "x": 303.50146,
                "y": 611.4801,
                "z": -19.324194
              }
            },
            {
              "type": "RIGHT_OF_RIGHT_EYEBROW",
              "position": {
                "x": 370.41568,
                "y": 615.5546,
                "z": 15.453682
              }
            },
            {
              "type": "MIDPOINT_BETWEEN_EYES",
              "position": {
                "x": 278.60126,
                "y": 635.5503,
                "z": -20.568476
              }
            },
            {
              "type": "NOSE_TIP",
              "position": {
```



```
              "type": "MOUTH_RIGHT",
              "position": {
                "x": 325.76215,
                "y": 754.8611,
                "z": 13.403287
              }
            },
            {
              "type": "MOUTH_CENTER",
              "position": {
                "x": 272.4912,
                "y": 767.07587,
                "z": -11.387869
              }
            },
            {
              "type": "NOSE_BOTTOM_RIGHT",
              "position": {
                "x": 311.55426,
                "y": 712.9132,
                "z": -5.3069224
              }
            },
            {
              "type": "NOSE_BOTTOM_LEFT",
              "position": {
                "x": 243.9779,
                "y": 713.79895,
                "z": -8.261453
              }
            },
            {
              "type": "NOSE_BOTTOM_CENTER",
              "position": {
                "x": 277.9556,
                "y": 725.87946,
                "z": -22.868422
              }
            },
            {
```



```
                "x": 734.93164,
                "y": 406.25705,
                "z": 6.3688693
              }
            },
            {
              "type": "LEFT_CHEEK_CENTER",
              "position": {
                "x": 685.8955,
                "y": 389.75946,
                "z": 4.68425
              }
            },
            {
              "type": "RIGHT_CHEEK_CENTER",
              "position": {
                "x": 723.4291,
                "y": 390.22375,
                "z": -9.150036
              }
            }
          ],
          "rollAngle": 0.15598953,
          "panAngle": -21.293484,
          "tiltAngle": -1.2292432,
          "detectionConfidence": 0.8967813,
          "landmarkingConfidence": 0.43604028,
          "joyLikelihood": "LIKELY",
          "sorrowLikelihood": "VERY_UNLIKELY",
          "angerLikelihood": "VERY_UNLIKELY",
          "surpriseLikelihood": "VERY_UNLIKELY",
          "underExposedLikelihood": "VERY_UNLIKELY",
          "blurredLikelihood": "VERY_UNLIKELY",
          "headwearLikelihood": "VERY_LIKELY"
        }
      ]
    }
  ]
}
student_02_e923134829bd@cloudshell:~ (qwiklabs-gcp-01-b2776f5a90e5)$
```

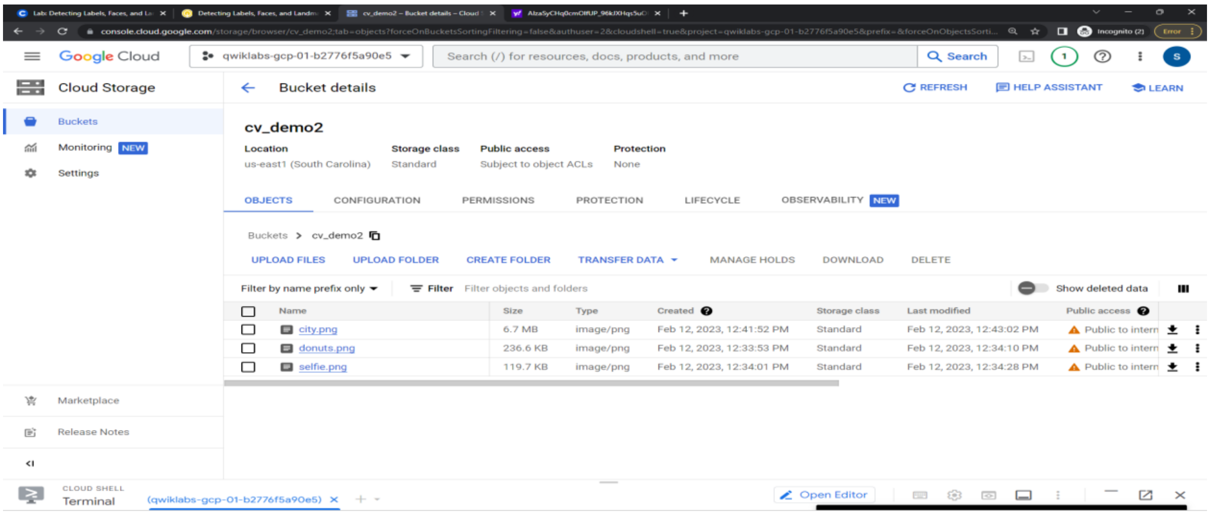
*Conclusion:*

*Thus we got the all the organs in the face and its location in correspond to xyz coordinates.*

## *Task 4. Landmark Annotation*

*Landmark detection can identify common (and obscure) landmarks. It returns the name of the landmark, its latitude and longitude coordinates, and the location of where the landmark was identified in an image*

1. *1. Right click on the following image, then click **Save image as** and save it to your computer as **city.png**.*
2. *Now upload it to your Cloud Storage bucket the same way you did before, and make it public.*



cv_demo2

Location: us-east1 (South Carolina)
Storage class: Standard
Public access: Subject to object ACLs
Protection: None

| Name | Size | Type | Created | Storage class | Last modified | Public access |
|---|---|---|---|---|---|---|
| city.png | 6.7 MB | image/png | Feb 12, 2023, 12:41:52 PM | Standard | Feb 12, 2023, 12:43:02 PM | Public to intern |
| donuts.png | 236.6 KB | image/png | Feb 12, 2023, 12:33:53 PM | Standard | Feb 12, 2023, 12:34:10 PM | Public to intern |
| selfie.png | 119.7 KB | image/png | Feb 12, 2023, 12:34:01 PM | Standard | Feb 12, 2023, 12:34:28 PM | Public to intern |

*3. Edit the request.json file as follows:[Replace my-bucket-name with your bucket name]*

*[use nano request.json to edit the file].*

```
{
  "requests": [
    {
      "image": {
        "source": {
          "gcsImageUri": "gs://my-bucket-name/city.png"
        }
      },
      "features": [
        {
          "type": "LANDMARK_DETECTION",
          "maxResults": 10
        }
      ]
    }
  ]
}
```

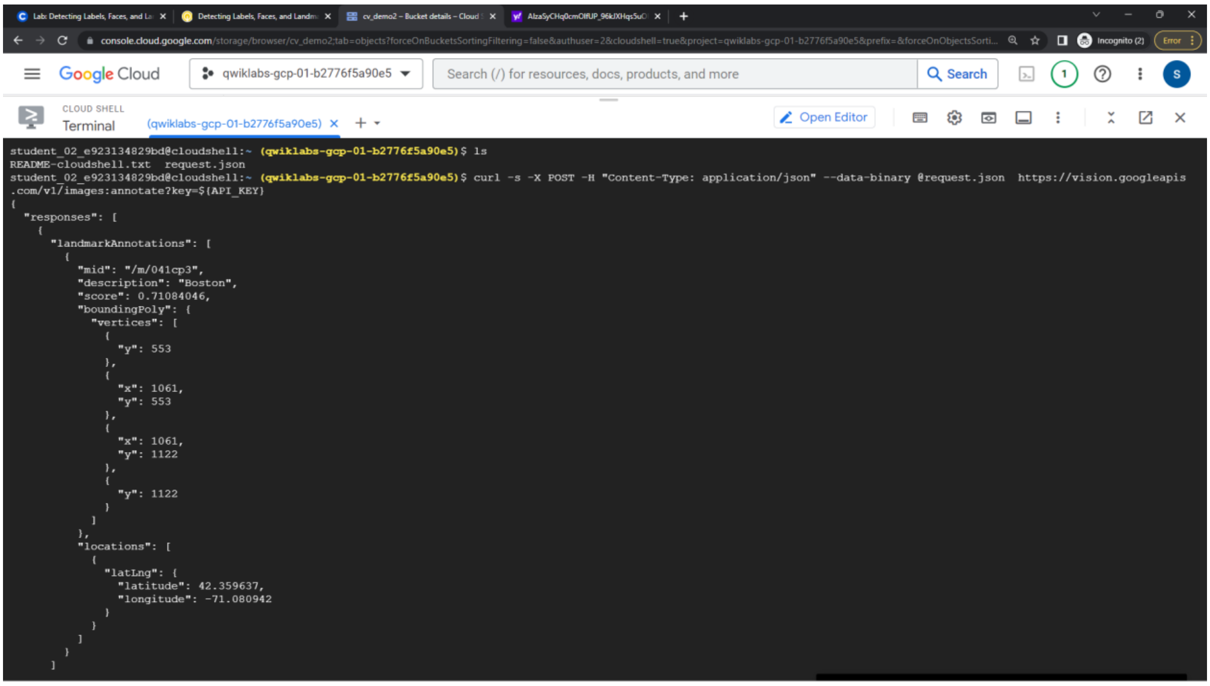
*After editing press ctrl+o and ctrl+x*

*Call the Vision API and parse the response*

*Paste this command on terminal :*

*curl -s -X POST -H "Content-Type: application/json" --data-binary @request.json [https://vision.googleapis.com/v1/images:annotate?key=${API_KEY}](https://vision.googleapis.com/v1/images:annotate?key=${API_KEY})*

## *Output:*


Lab: Detecting Labels, Faces, and La
Detecting Labels, Faces, and Landm
cv_demo2 – Bucket details – Cloud
AIzaSyCHq0cmOfUP_96kIXHqs5uC
console.cloud.google.com/storage/browser/cv_demo2;tab=objects?forceOnBucketsSortingFiltering=false&authuser=2&cloudshell=true&project=qwiklabs-gcp-01-b2776f5a90e5&prefix=&forceOnObjectsSorti...
Incognito (2)
Error
Google Cloud
qwiklabs-gcp-01-b2776f5a90e5
Search (/) for resources, docs, products, and more
Search
CLOUD SHELL
Terminal
(qwiklabs-gcp-01-b2776f5a90e5)
Open Editor

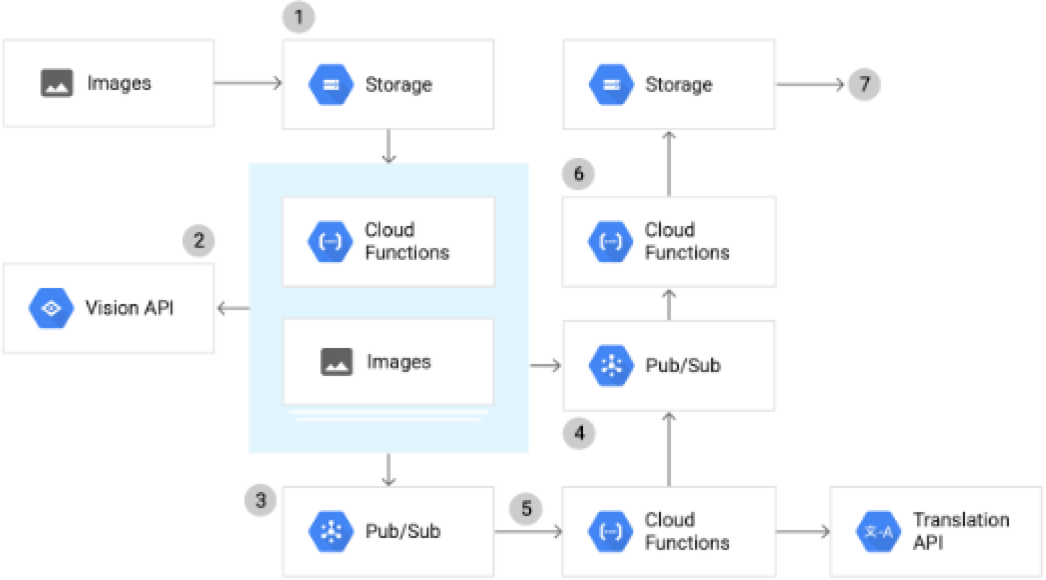
```
student_02_e923134829bd@cloudshell:~ (qwiklabs-gcp-01-b2776f5a90e5)$ ls
README-cloudshell.txt  request.json
student_02_e923134829bd@cloudshell:~ (qwiklabs-gcp-01-b2776f5a90e5)$ curl -s -X POST -H "Content-Type: application/json" --data-binary @request.json  https://vision.googleapis
.com/v1/images:annotate?key=${API_KEY}
{
  "responses": [
    {
      "landmarkAnnotations": [
        {
          "mid": "/m/041cp3",
          "description": "Boston",
          "score": 0.71084046,
          "boundingPoly": {
            "vertices": [
              {
                "y": 553
              },
              {
                "x": 1061,
                "y": 553
              },
              {
                "x": 1061,
                "y": 1122
              },
              {
                "y": 1122
              }
            ]
          },
          "locations": [
            {
              "latLng": {
                "latitude": 42.359637,
                "longitude": -71.080942
              }
            }
          ]
        }
      ]
```

## *Conclusion:*

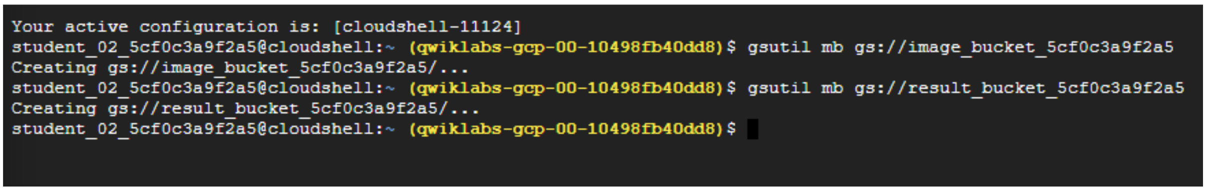
*We obtained the landmark annotation available in the images.*

## *Task 5: Text Extraction from an image*

*Visualize the flow of data:*

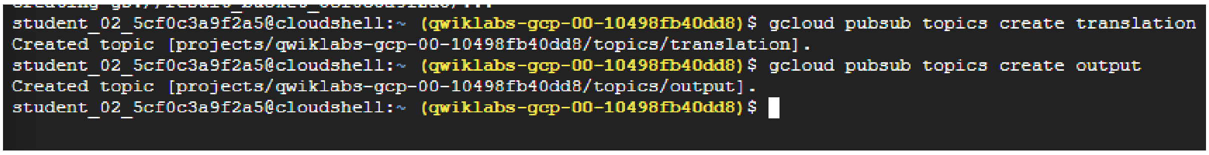


*2.Prepare the application*
*2.1.Create two cloud storage buckets for storing the image and the result.*
*gsutil mb gs://YOUR_IMAGE_BUCKET_NAME*
*gsutil mb gs://YOUR_RESULT_BUCKET_NAME*



```
Your active configuration is: [cloudshell-11124]
student_02_5cf0c3a9f2a5@cloudshell:~ (qwiklabs-gcp-00-10498fb40dd8)$ gsutil mb gs://image_bucket_5cf0c3a9f2a5
Creating gs://image_bucket_5cf0c3a9f2a5/...
student_02_5cf0c3a9f2a5@cloudshell:~ (qwiklabs-gcp-00-10498fb40dd8)$ gsutil mb gs://result_bucket_5cf0c3a9f2a5
Creating gs://result_bucket_5cf0c3a9f2a5/...
student_02_5cf0c3a9f2a5@cloudshell:~ (qwiklabs-gcp-00-10498fb40dd8)$
```

*2.2.Create pubsub topics*
*gcloud pubsub topics create YOUR_TRANSLATE_TOPIC_NAME*
*gcloud pubsub topics create YOUR_RESULT_TOPIC_NAME*

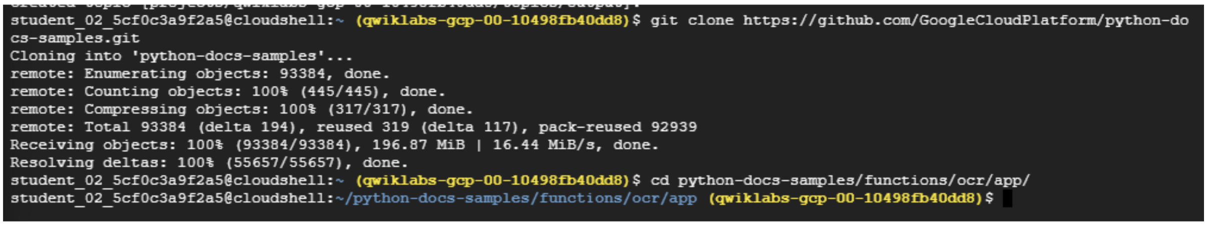


```
student_02_5cf0c3a9f2a5@cloudshell:~ (qwiklabs-gcp-00-10498fb40dd8)$ gcloud pubsub topics create translation
Created topic [projects/qwiklabs-gcp-00-10498fb40dd8/topics/translation].
student_02_5cf0c3a9f2a5@cloudshell:~ (qwiklabs-gcp-00-10498fb40dd8)$ gcloud pubsub topics create output
Created topic [projects/qwiklabs-gcp-00-10498fb40dd8/topics/output].
student_02_5cf0c3a9f2a5@cloudshell:~ (qwiklabs-gcp-00-10498fb40dd8)$
```

2.3.Clone the sample app repository to your Cloud Shell:
git clone [https://github.com/GoogleCloudPlatform/python-docs-samples.git](https://github.com/GoogleCloudPlatform/python-docs-samples.git)

Code to extract the text from image:

4.Change to the directory that contains the Cloud Functions sample code:
cd python-docs-samples/functions/ocr/app/



```
student_02_5cf0c3a9f2a5@cloudshell:~ (qwiklabs-gcp-00-10498fb40dd8)$ git clone https://github.com/GoogleCloudPlatform/python-do
cs-samples.git
Cloning into 'python-docs-samples'...
remote: Enumerating objects: 93384, done.
remote: Counting objects: 100% (445/445), done.
remote: Compressing objects: 100% (317/317), done.
remote: Total 93384 (delta 194), reused 319 (delta 117), pack-reused 92939
Receiving objects: 100% (93384/93384), 196.87 MiB | 16.44 MiB/s, done.
Resolving deltas: 100% (55657/55657), done.
student_02_5cf0c3a9f2a5@cloudshell:~ (qwiklabs-gcp-00-10498fb40dd8)$ cd python-docs-samples/functions/ocr/app/
student_02_5cf0c3a9f2a5@cloudshell:~/python-docs-samples/functions/ocr/app (qwiklabs-gcp-00-10498fb40dd8)$
```

5. python-docs-samples/functions/ocr/app/ folder consists of a main.py file which includes ocr_detect, ocr_process, ocr_translate, ocr_ save and message_validatation_helper functions defined in Task 1. Visualizing the flow of data.

6.Understand the code [optional]
1. Reads an uploaded image file from Cloud Storage and calls a function to detect whether the image contains text.

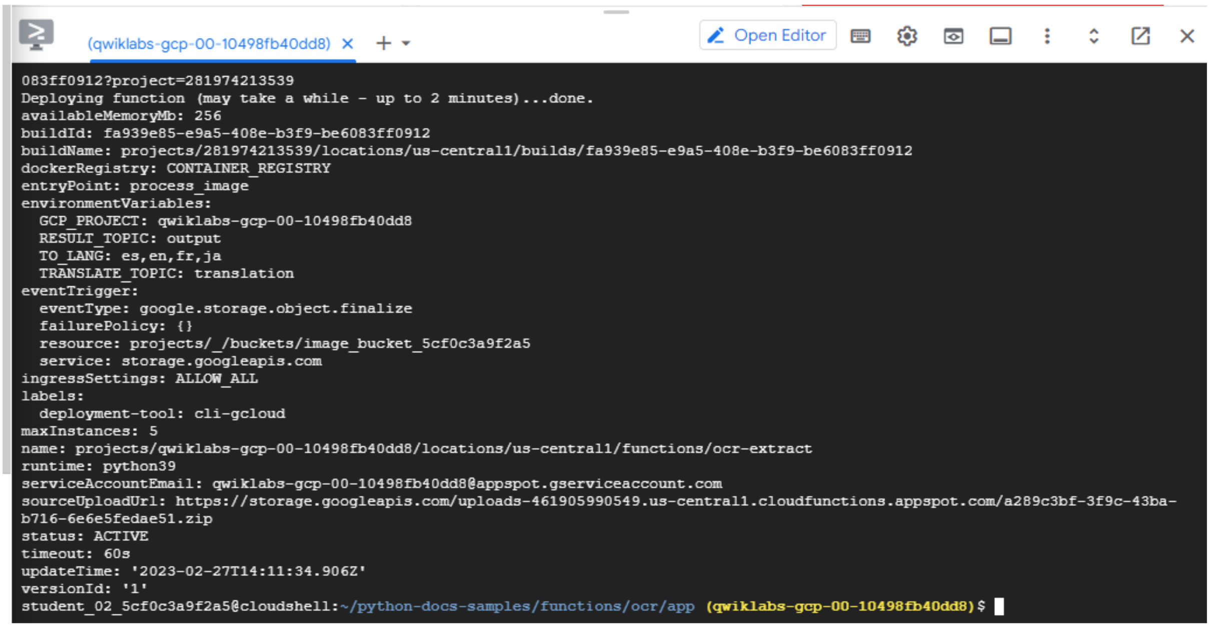
2. Extracts text from the image using the Cloud Vision API and queues the text for translation.

3. translates the extracted text and queues the translated text to be saved back to Cloud Storage.

4. Finally, it receives the translated text and saves it back to Cloud Storage.

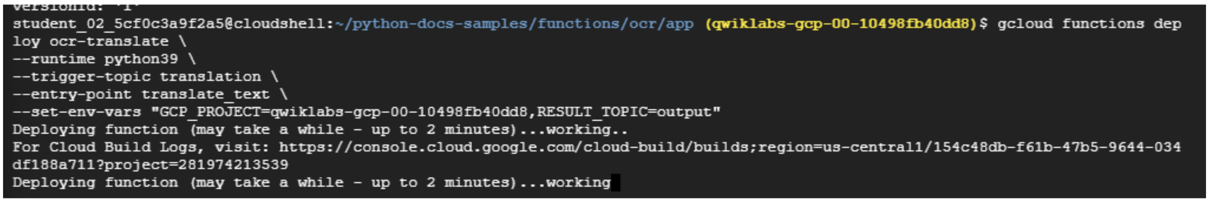
7. Deploy the functions
7.1.To deploy the image processing function with a Cloud Storage trigger, run the following command in the directory that contains the sample code.
gcloud functions deploy ocr-extract \
--runtime python39 \
--trigger-bucket YOUR_IMAGE_BUCKET_NAME \
--entry-point process_image \

*--set-env-vars*
*"^:^GCP_PROJECT=YOUR_GCP_PROJECT_ID:TRANSLATE_TOPIC=YOUR_TRANSLATE_TOPIC_NAME:RESULT_TOPIC=YOUR_RESULT_TOPIC_NAME:TO_LANG=es,en,fr,ja"*
*where YOUR_IMAGE_BUCKET_NAME is the name of your Cloud Storage bucket where you upload the images.*



```
083ff0912?project=281974213539
Deploying function (may take a while - up to 2 minutes)...done.
availableMemoryMb: 256
buildId: fa939e85-e9a5-408e-b3f9-be6083ff0912
buildName: projects/281974213539/locations/us-central1/builds/fa939e85-e9a5-408e-b3f9-be6083ff0912
dockerRegistry: CONTAINER_REGISTRY
entryPoint: process_image
environmentVariables:
  GCP_PROJECT: qwiklabs-gcp-00-10498fb40dd8
  RESULT_TOPIC: output
  TO_LANG: es,en,fr,ja
  TRANSLATE_TOPIC: translation
eventTrigger:
  eventType: google.storage.object.finalize
  failurePolicy: {}
  resource: projects/_/buckets/image_bucket_5cf0c3a9f2a5
  service: storage.googleapis.com
ingressSettings: ALLOW_ALL
labels:
  deployment-tool: cli-gcloud
maxInstances: 5
name: projects/qwiklabs-gcp-00-10498fb40dd8/locations/us-central1/functions/ocr-extract
runtime: python39
serviceAccountEmail: qwiklabs-gcp-00-10498fb40dd8@appspot.gserviceaccount.com
sourceUploadUrl: https://storage.googleapis.com/uploads-461905990549.us-central1.cloudfunctions.appspot.com/a289c3bf-3f9c-43ba-
b716-6e6e5fedae51.zip
status: ACTIVE
timeout: 60s
updateTime: '2023-02-27T14:11:34.906Z'
versionId: '1'
student_02_5cf0c3a9f2a5@cloudshell:~/python-docs-samples/functions/ocr/app (qwiklabs-gcp-00-10498fb40dd8)$
```

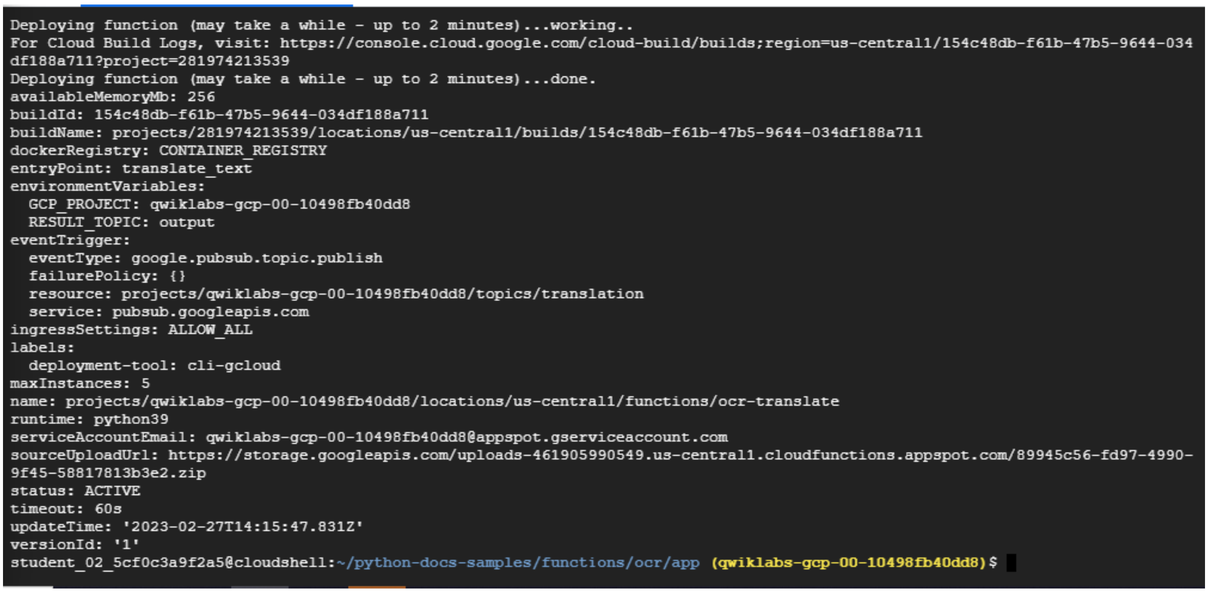
*7.2.To deploy the text translation function with a Cloud Pub/Sub trigger, run the following command in the directory that contains the sample code:*
*gcloud functions deploy ocr-translate *
*--runtime python39 *
*--trigger-topic YOUR_TRANSLATE_TOPIC_NAME *
*--entry-point translate_text *
*--set-env-vars*
*"GCP_PROJECT=YOUR_GCP_PROJECT_ID,RESULT_TOPIC=YOUR_RESULT_TOPIC_NAME"*



```
versionId: '1'
student_02_5cf0c3a9f2a5@cloudshell:~/python-docs-samples/functions/ocr/app (qwiklabs-gcp-00-10498fb40dd8)$ gcloud functions dep
loy ocr-translate \
--runtime python39 \
--trigger-topic translation \
--entry-point translate_text \
--set-env-vars "GCP_PROJECT=qwiklabs-gcp-00-10498fb40dd8,RESULT_TOPIC=output"
Deploying function (may take a while - up to 2 minutes)...working..
For Cloud Build Logs, visit: https://console.cloud.google.com/cloud-build/builds;region=us-central1/154c48db-f61b-47b5-9644-034
df188a711?project=281974213539
Deploying function (may take a while - up to 2 minutes)...working
```

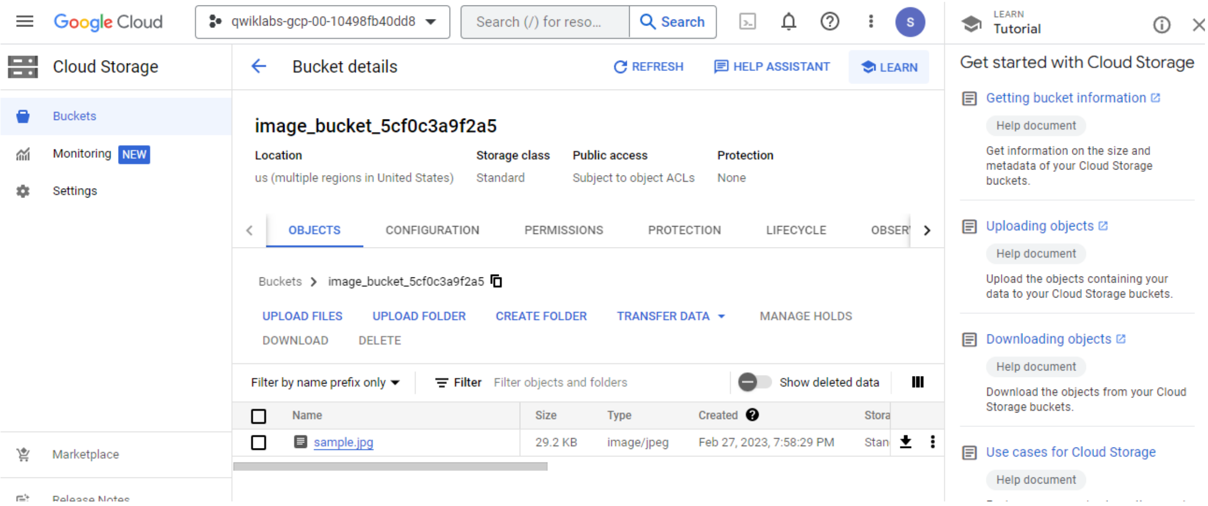
*7.3.To deploy the function that saves results to Cloud Storage with a Cloud Pub/Sub trigger, run the following command in the directory that contains the sample code:*

```
gcloud functions deploy ocr-save \
--runtime python39 \
--trigger-topic YOUR_RESULT_TOPIC_NAME \
--entry-point save_result \
--set-env-vars
"GCP_PROJECT=YOUR_GCP_PROJECT_ID,RESULT_BUCKET=YOUR_RESULT_BUCKET_NAME"
```



```
Deploying function (may take a while - up to 2 minutes)...working..
For Cloud Build Logs, visit: https://console.cloud.google.com/cloud-build/builds;region=us-central1/154c48db-f61b-47b5-9644-034
df188a711?project=281974213539
Deploying function (may take a while - up to 2 minutes)...done.
availableMemoryMb: 256
buildId: 154c48db-f61b-47b5-9644-034df188a711
buildName: projects/281974213539/locations/us-central1/builds/154c48db-f61b-47b5-9644-034df188a711
dockerRegistry: CONTAINER_REGISTRY
entryPoint: translate_text
environmentVariables:
  GCP_PROJECT: qwiklabs-gcp-00-10498fb40dd8
  RESULT_TOPIC: output
eventTrigger:
  eventType: google.pubsub.topic.publish
  failurePolicy: {}
  resource: projects/qwiklabs-gcp-00-10498fb40dd8/topics/translation
  service: pubsub.googleapis.com
ingressSettings: ALLOW_ALL
labels:
  deployment-tool: cli-gcloud
maxInstances: 5
name: projects/qwiklabs-gcp-00-10498fb40dd8/locations/us-central1/functions/ocr-translate
runtime: python39
serviceAccountEmail: qwiklabs-gcp-00-10498fb40dd8@appspot.gserviceaccount.com
sourceUploadUrl: https://storage.googleapis.com/uploads-461905990549.us-central1.cloudfunctions.appspot.com/89945c56-fd97-4990-
9f45-58817813b3e2.zip
status: ACTIVE
timeout: 60s
updateTime: '2023-02-27T14:15:47.831Z'
versionId: '1'
student_02_5cf0c3a9f2a5@cloudshell:~/python-docs-samples/functions/ocr/app (qwiklabs-gcp-00-10498fb40dd8)$
```

*8.Upload an image:*



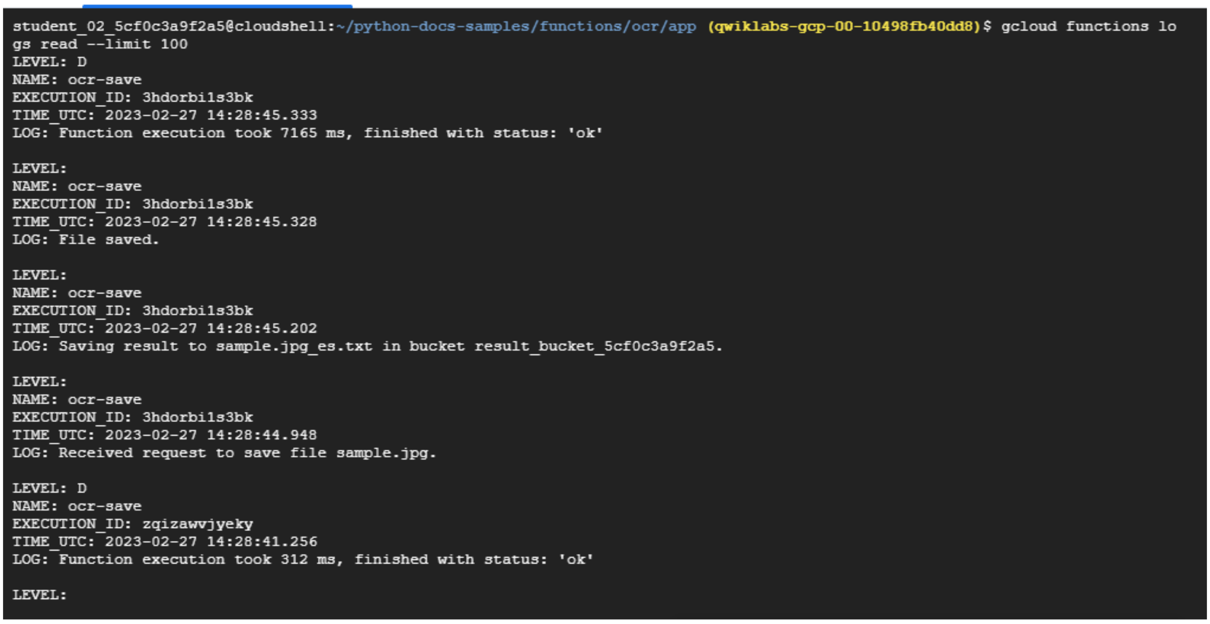
image_bucket_5cf0c3a9f2a5

| Location | Storage class | Public access | Protection |
|---|---|---|---|
| us (multiple regions in United States) | Standard | Subject to object ACLs | None |

Buckets > image_bucket_5cf0c3a9f2a5

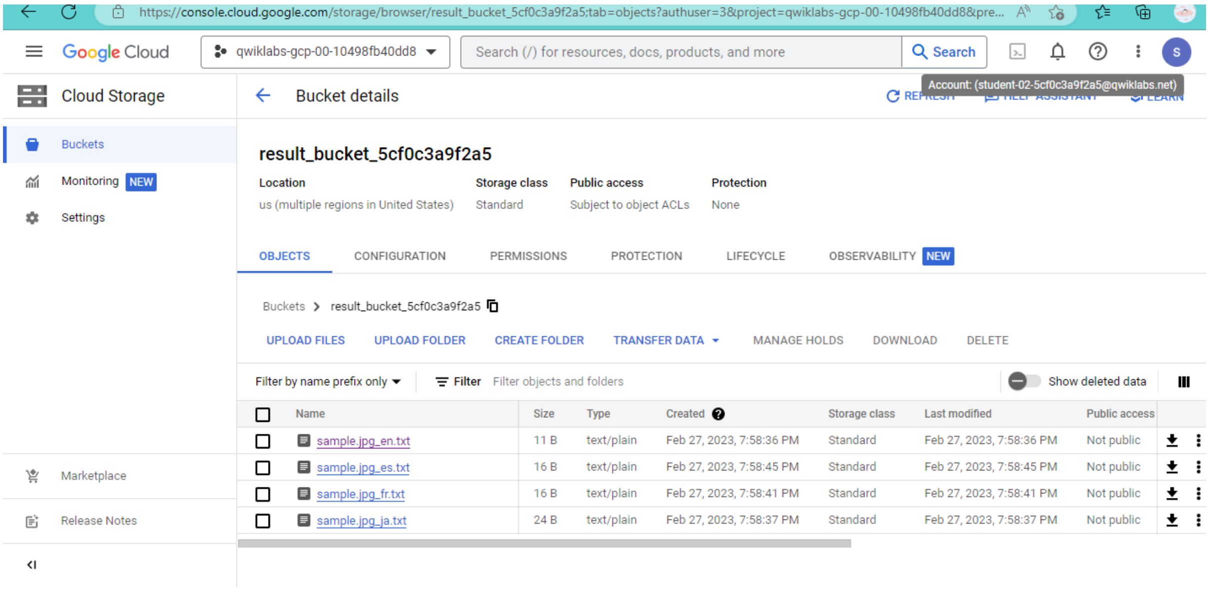
| □ | Name | Size | Type | Created | Stora |
|---|---|---|---|---|---|
| □ | sample.jpg | 29.2 KB | image/jpeg | Feb 27, 2023, 7:58:29 PM | Stan |

*Watch the logs to be sure the executions have completed:*
*gcloud functions logs read --limit 100*



```
student_02_5cf0c3a9f2a5@cloudshell:~/python-docs-samples/functions/ocr/app (qwiklabs-gcp-00-10498fb40dd8)$ gcloud functions lo
gs read --limit 100
LEVEL: D
NAME: ocr-save
EXECUTION_ID: 3hdorbi1s3bk
TIME_UTC: 2023-02-27 14:28:45.333
LOG: Function execution took 7165 ms, finished with status: 'ok'

LEVEL:
NAME: ocr-save
EXECUTION_ID: 3hdorbi1s3bk
TIME_UTC: 2023-02-27 14:28:45.328
LOG: File saved.

LEVEL:
NAME: ocr-save
EXECUTION_ID: 3hdorbi1s3bk
TIME_UTC: 2023-02-27 14:28:45.202
LOG: Saving result to sample.jpg_es.txt in bucket result_bucket_5cf0c3a9f2a5.

LEVEL:
NAME: ocr-save
EXECUTION_ID: 3hdorbi1s3bk
TIME_UTC: 2023-02-27 14:28:44.948
LOG: Received request to save file sample.jpg.

LEVEL: D
NAME: ocr-save
EXECUTION_ID: zqizawvjyeky
TIME_UTC: 2023-02-27 14:28:41.256
LOG: Function execution took 312 ms, finished with status: 'ok'

LEVEL:
```

*You can view the saved translations in the Cloud Storage bucket you used for* ***YOUR_RESULT_BUCKET_NAME****.*



https://console.cloud.google.com/storage/browser/result_bucket_5cf0c3a9f2a5;tab=objects?authuser=3&project=qwiklabs-gcp-00-10498fb40dd8&pre...
Google Cloud
qwiklabs-gcp-00-10498fb40dd8
Search (/) for resources, docs, products, and more
Search
Account: (student-02-5cf0c3a9f2a5@qwiklabs.net)
Cloud Storage
Bucket details
REFRESH
HELP ASSISTANT
LEARN
Buckets
Monitoring NEW
Settings
Marketplace
Release Notes
OBJECTS
CONFIGURATION
PERMISSIONS
PROTECTION
LIFECYCLE
OBSERVABILITY NEW
Buckets > result_bucket_5cf0c3a9f2a5
UPLOAD FILES
UPLOAD FOLDER
CREATE FOLDER
TRANSFER DATA
MANAGE HOLDS
DOWNLOAD
DELETE
Filter by name prefix only
Filter
Filter objects and folders
Show deleted data

result_bucket_5cf0c3a9f2a5

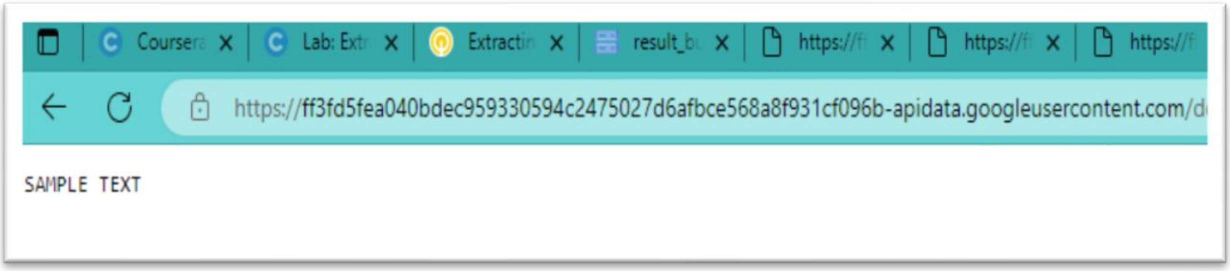
| Location | Storage class | Public access | Protection |
|---|---|---|---|
| us (multiple regions in United States) | Standard | Subject to object ACLs | None |

| □ | Name | Size | Type | Created | Storage class | Last modified | Public access |
|---|---|---|---|---|---|---|---|
| □ | sample.jpg_en.txt | 11 B | text/plain | Feb 27, 2023, 7:58:36 PM | Standard | Feb 27, 2023, 7:58:36 PM | Not public |
| □ | sample.jpg_es.txt | 16 B | text/plain | Feb 27, 2023, 7:58:45 PM | Standard | Feb 27, 2023, 7:58:45 PM | Not public |
| □ | sample.jpg_fr.txt | 16 B | text/plain | Feb 27, 2023, 7:58:41 PM | Standard | Feb 27, 2023, 7:58:41 PM | Not public |
| □ | sample.jpg_ja.txt | 24 B | text/plain | Feb 27, 2023, 7:58:37 PM | Standard | Feb 27, 2023, 7:58:37 PM | Not public |

## Output:

*Text extraction:*

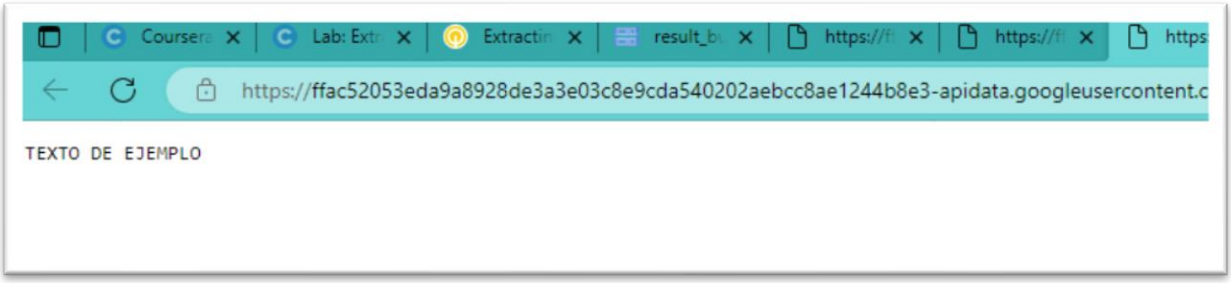
*English:*



https://ff3fd5fea040bdec959330594c2475027d6afbce568a8f931cf096b-apidata.googleusercontent.com/d

```
SAMPLE TEXT
```

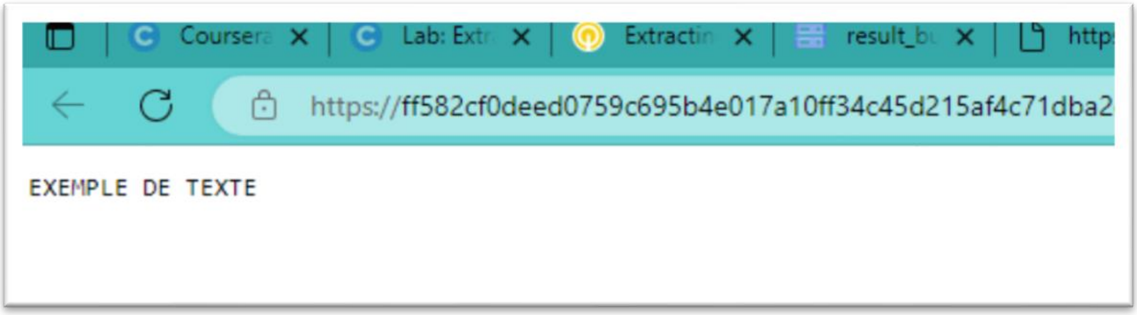
*Spanish:*



https://ffac52053eda9a8928de3a3e03c8e9cda540202aebcc8ae1244b8e3-apidata.googleusercontent.c

```
TEXTO DE EJEMPLO
```

*French:*



https://ff582cf0deed0759c695b4e017a10ff34c45d215af4c71dba2

```
EXEMPLE DE TEXTE
```

## Conclusion:

*All the tasks had been successfully completed and the output is verified .*