

Cloud Computing LAB - 7

1. Creating Service Account “videolabel” with proper roles for the Video Label Project

The screenshot shows the Google Cloud IAM & Admin console. The left sidebar contains navigation links for IAM, PAM, Principal Access Boundary, Identity & Organization, Policy Troubleshooter, Policy Analyzer, Organization Policies, Service Accounts, Workload Identity Federat..., Workforce Identity Federa..., Labels, Tags, Settings, Manage Resources, and Release Notes. The main content area is titled 'Service accounts' and shows a table of service accounts for project 'Video Label'. The table has columns for Email, Status, Name, Description, Key ID, Key creation date, OAuth 2.0 Client ID, and Actions. One service account is listed: 'videolabel@video-label-432702.iam.gserviceaccount.com' with status 'Enabled'. A notification at the bottom says 'Service account created'.

Email	Status	Name	Description	Key ID	Key creation date	OAuth 2.0 Client ID	Actions
videolabel@video-label-432702.iam.gserviceaccount.com	Enabled	videolabel		No keys		111972227	

2. Creating Keys for the videolabel service account

The screenshot shows the Google Cloud IAM & Admin console. The left sidebar contains navigation links for IAM, PAM, Principal Access Boundary, Identity & Organization, Policy Troubleshooter, Policy Analyzer, Organization Policies, Service Accounts, Workload Identity Federat..., Workforce Identity Federa..., Labels, Tags, Settings, Manage Resources, and Release Notes. The main content area is titled 'Service accounts' and shows a table of service accounts for project 'Video Label'. The table has columns for Email, Status, Name, Description, Key ID, Key creation date, OAuth 2.0 Client ID, and Actions. One service account is listed: 'videolabel@video-label-432702.iam.gserviceaccount.com' with status 'Enabled'. The 'Actions' menu for this service account is open, showing options: 'Manage details', 'Manage permissions', 'Manage keys', 'View metrics', 'View logs', 'Disable', and 'Delete'. Below the table, there is a section for 'ADD KEY' with options 'Create new key' and 'Upload existing key'.

Email	Status	Name	Description	Key ID	Key creation date	OAuth 2.0 Client ID	Actions
videolabel@video-label-432702.iam.gserviceaccount.com	Enabled	videolabel		No keys		111972227	

- Manage details
- Manage permissions
- Manage keys
- View metrics
- View logs
- Disable
- Delete

ADD KEY

- Create new key
- Upload existing key

3. Enabling Cloud Intelligence API

Product details

Cloud Video Intelligence API

[Google Enterprise API](#)

Detects objects, explicit content, and scene changes in videos. It also specifies the region for...

[ENABLE](#) [TRY THIS API](#)

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Overview

Detects objects, explicit content, and scene changes in videos. It also specifies the region for annotation and transcribes speech to text. Supports both asynchronous API and streaming API.

Additional details

Type: [SaaS & APIs](#)
Last product update: 7/22/22
Category: [Machine learning](#), [Google Enterprise APIs](#)
Service name: videointelligence.googleapis.com

Pricing

Celebrity Recognition

FREE

Service account created

4. Creating a bucket “video_label_noel”

Cloud Storage

Buckets

[CREATE](#) [REFRESH](#)

[GO TO PATH](#) [LEARN](#)

Introducing the folder browser and folder permissions (using Managed Folders)

The object browser is now enhanced with a folder browser allowing you to easily manage and browse through folders inside your buckets. Using the folder browser you can edit the access for your folders, allowing you to manage access (including object listing) to folders and the objects inside them, without granting access to your whole bucket.

[LEARN MORE](#)

View security recommendations

Improve security by applying security recommendations to your buckets.

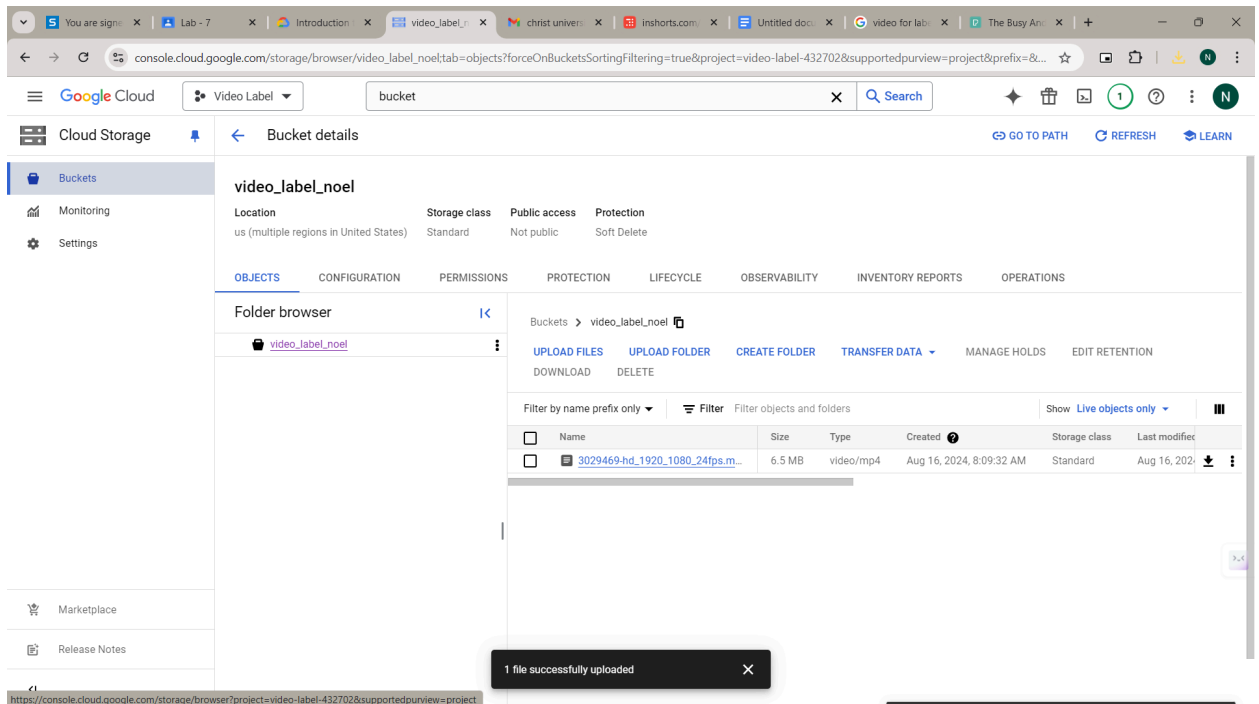
[GET PREMIUM](#) [LEARN MORE](#)

Filter buckets

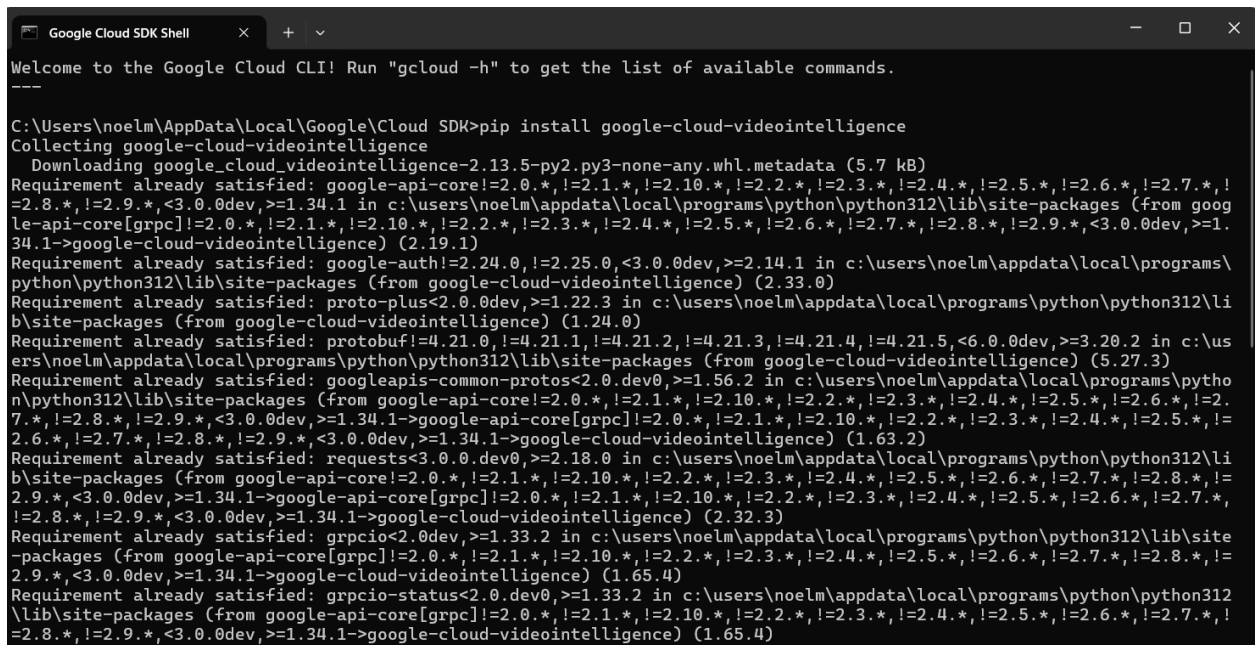
<input type="checkbox"/>	Name ↑	Created	Location type	Location	Default storage class	Last modified	Public access	Access control
<input type="checkbox"/>	video_label_noel	Aug 16, 2024, 8:02:04 AM	Multi-region	us	Standard	Aug 16, 2024, 8:02:04 AM	Not public	Uniform

Created bucket video_label_noel

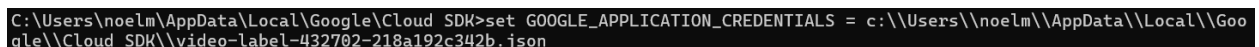
5. Uploading Video to the bucket



6. Installing required libraries



7. Specifying the credentials



8. Creating and saving the python file in the same folder as the SDK

```
import os
os.environ["GOOGLE_APPLICATION_CREDENTIALS"] = "c:\\Users\\noelm\\AppData\\Local\\Google\\Cloud SDK\\video-label-432702-218a192c342b.json"

from google.cloud import videointelligence_v1 as videointelligence
def analyze_labels_in_video(gcs_uri):
    video_client = videointelligence.VideoIntelligenceServiceClient()
    features = [videointelligence.Feature.LABEL_DETECTION]
    operation = video_client.annotate_video(
        request={"features": features, "input_uri": gcs_uri}
    )

    print("Processing video for label detection...")
    result = operation.result(timeout=90)
    print("Finished processing.")

    annotation_results = result.annotation_results[0]

    for label in annotation_results.segment_label_annotations:
        print(f"Label: {label.entity.description}")
        for category in label.category_entities:
            print(f" - Category: {category.description}")

gcs_uri = "gs://video_label_noel/3029469-hd_1920_1080_24fps.mp4"
analyze_labels_in_video(gcs_uri)
```

9. Running the python script

```
C:\Users\noelm\AppData\Local\Google\Cloud SDK>python cc_lab7.py
Processing video for label detection...
Finished processing.
Label: public space
 - Category: city
Label: urban area
 - Category: city
Label: city
 - Category: geographical feature
Label: times square
Label: downtown
 - Category: city
Label: new york city
Label: street
 - Category: road
Label: pedestrian
 - Category: person
```