Video Intelligence: Qwik Start

GSP154

Overview

Google Cloud Video Intelligence makes videos searchable and discoverable by extracting metadata with an easy to use REST API. You can now search every moment of every video file in your catalog. It quickly annotates videos stored in Cloud Storage, and helps you identify key entities (nouns) within your video; and when they occur within the video. Separate signal from noise by retrieving relevant information within the entire video, shot-by-shot, -or per frame.

Setup and Requirements

Before you click the Start Lab button

Read these instructions. Labs are timed and you cannot pause them. The timer, which starts when you click **Start Lab**, shows how long Google Cloud resources will be made available to you.

This Qwiklabs hands-on lab lets you do the lab activities yourself in a real cloud environment, not in a simulation or demo environment. It does so by giving you new, temporary credentials that you use to sign in and access Google Cloud for the duration of the lab.

What you need

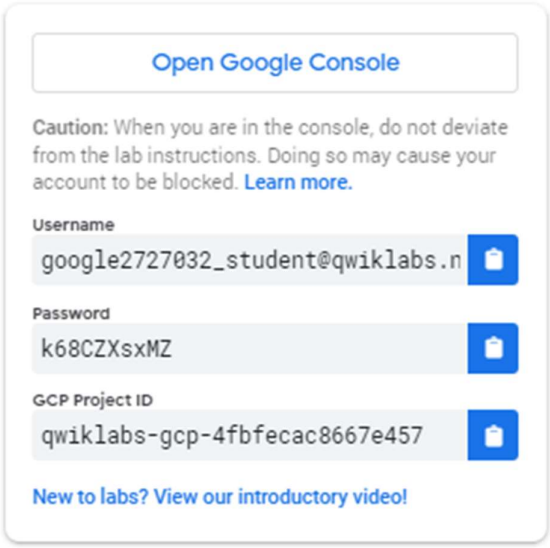
To complete this lab, you need:

- Access to a standard internet browser (Chrome browser recommended).
- Time to complete the lab.
  Note: If you already have your own personal Google Cloud account or project, do not use it for this lab.

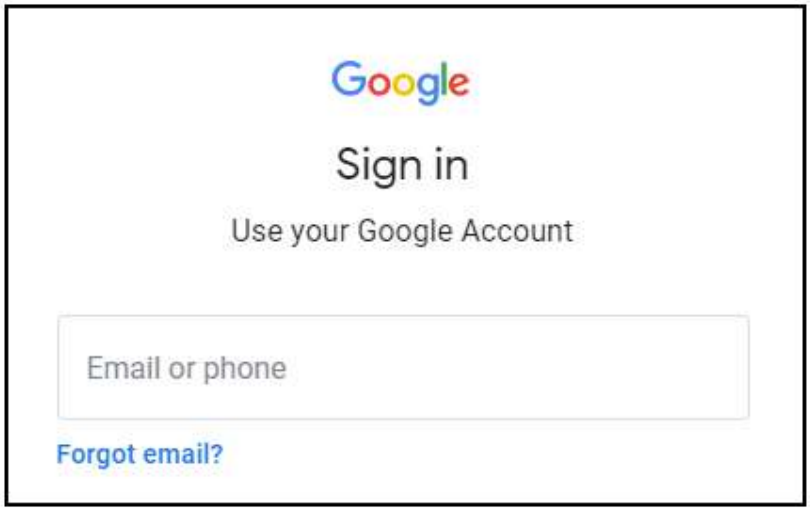
Note: If you are using a Pixelbook, open an Incognito window to run this lab.

How to start your lab and sign in to the Google Cloud Console

1. Click the **Start Lab** button. If you need to pay for the lab, a pop-up opens for you to select your payment method. On the left is a panel populated with the temporary credentials that you must use for this lab.

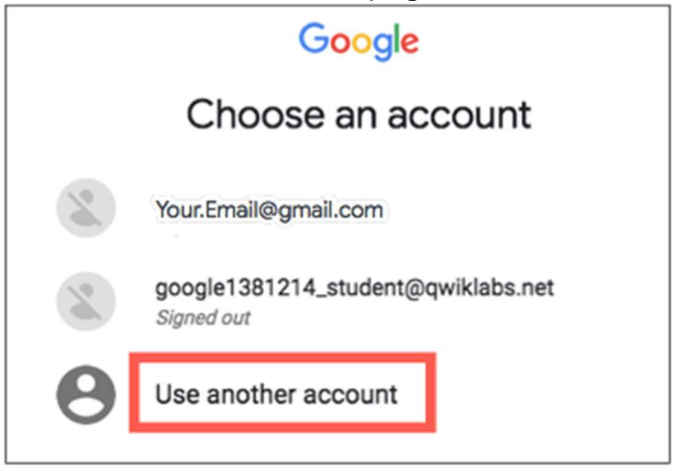


2. Copy the username, and then click **Open Google Console**. The lab spins up resources, and then opens another tab that shows the **Sign in** page.



Tip: Open the tabs in separate windows, side-by-side.

If you see the **Choose an account** page, click **Use Another Account**.



3. In the **Sign in** page, paste the username that you copied from the Connection Details panel. Then copy and paste the password.

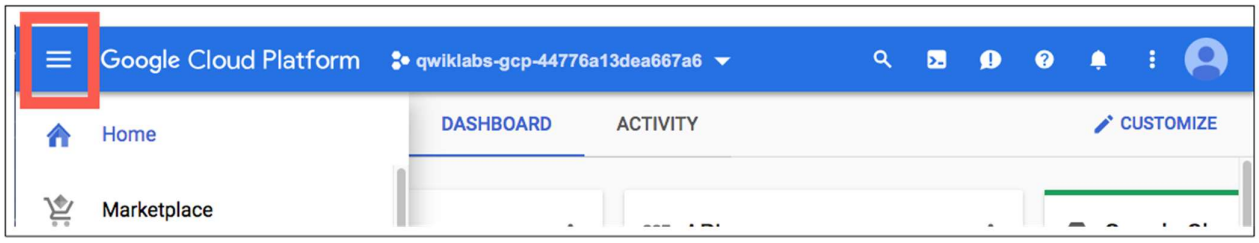
   Important: You must use the credentials from the Connection Details panel. Do not use your Qwiklabs credentials. If you have your own Google Cloud account, do not use it for this lab (avoids incurring charges).

4. Click through the subsequent pages:

   - Accept the terms and conditions.
   - Do not add recovery options or two-factor authentication (because this is a temporary account).
   - Do not sign up for free trials.

After a few moments, the Cloud Console opens in this tab.

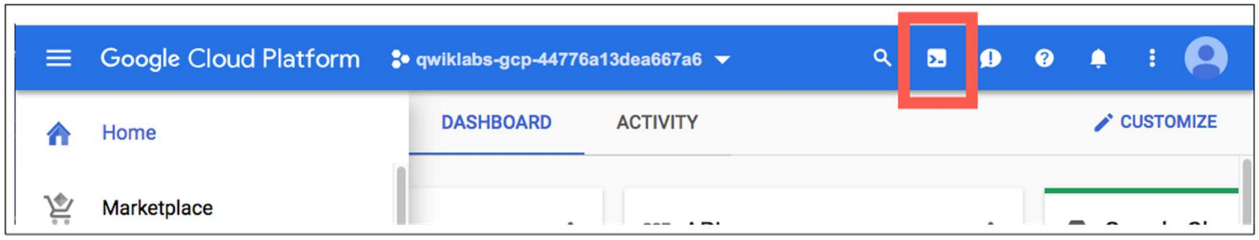
Note: You can view the menu with a list of Google Cloud Products and Services by clicking the **Navigation menu** at the top-
left.



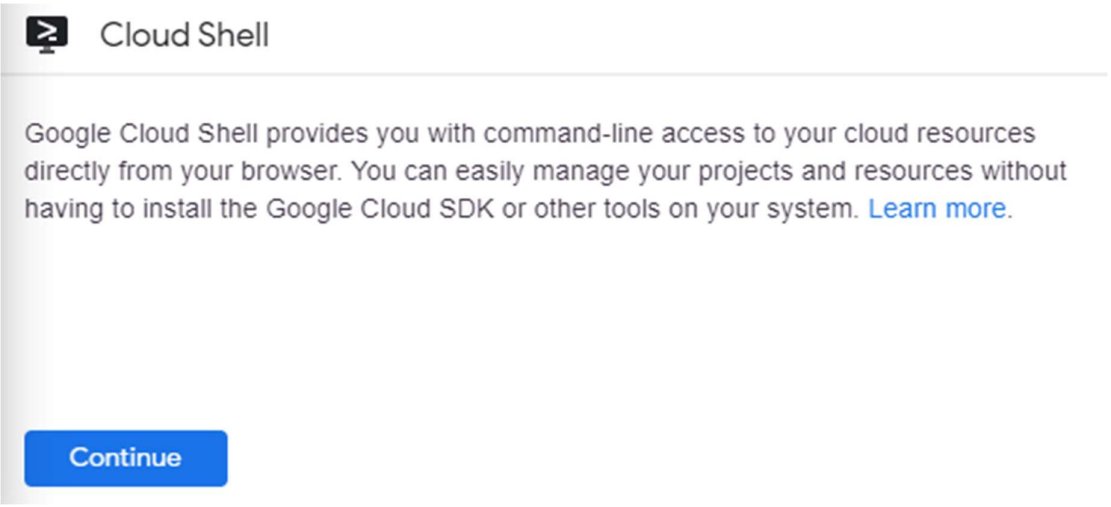
Activate Cloud Shell

Cloud Shell is a virtual machine that is loaded with development tools. It offers a persistent 5GB home directory and runs on the Google Cloud. Cloud Shell provides command-line access to your Google Cloud resources.

In the Cloud Console, in the top right toolbar, click the **Activate Cloud Shell** button.



Click **Continue**.



It takes a few moments to provision and connect to the environment. When you are connected, you are already authenticated, and the project is set to your *PROJECT_ID*. For example:

`gcloud` is the command-line tool for Google Cloud. It comes pre-installed on Cloud Shell and supports tab-completion.

You can list the active account name with this command:

```
gcloud auth list
```

(Output)

```
Credentialed accounts:
 - <myaccount>@<mydomain>.com (active)
```

(Example output)

```
Credentialed accounts:
 - google1623327_student@qwiklabs.net
```

You can list the project ID with this command:

```
gcloud config list project
```

(Output)

```
[core]
```

```
project = <project_ID>
```
(Example output)

```
[core]
project = qwiklabs-gcp-44776a13dea667a6
```
For full documentation of `gcloud` see the gcloud command-line tool overview.

Enable the Video Intelligence API

For this lab the **Cloud Video Intelligence API** is enabled for you.

Set up authorization

This lab creates and uses a service account that is tied to your Qwiklabs Google Cloud project for authorization.

In Cloud Shell run the following command to create a new service account named `quickstart`:

```
gcloud iam service-accounts create quickstart
```
Create a service account key file, replacing `<your-project-123>` with your Qwiklabs Project ID:

```
gcloud iam service-accounts keys create key.json --iam-account quickstart@<your-project-123>.iam.gserviceaccount.com
```
Now authenticate your service account, passing the location of your service account key file:

```
gcloud auth activate-service-account --key-file key.json
```
Obtain an authorization token using your service account:

```
gcloud auth print-access-token
```
The token will print in the output, and you'll be using it in a future step.

Make an annotate video request

Use the editor of your choice (`nano`, `vi`, etc. or the `gcloud` editor) to create a JSON request file with the following text, and save it as `request.json` :

```
{
   "inputUri":"gs://spls/gsp154/video/train.mp4",
   "features": [
       "LABEL_DETECTION"
   ]
}
```

To make the process simpler, a public video of a train is used. If preferred, any video can be used in place by uploading it to Cloud Storage and providing its Cloud Storage URI (format: gs://bucket/object) for the value of "inputUri".

Use `curl` to make a `videos:annotate` request passing the filename of the entity request:

```
curl -s -H 'Content-Type: application/json' \
    -H 'Authorization: Bearer '$(gcloud auth print-access-token)'' \
    'https://videointelligence.googleapis.com/v1/videos:annotate' \
    -d @request.json
```

The Video Intelligence API creates an operation to process your request. You should now see a response that includes your operation name, which should look similar to this one:

```
{
  "name": "projects/474887704060/locations/asia-east1/operations/16366311060670521152"
}
```

You will use this operation name, locations and projects in the future step.

Use this script to request information on the operation by calling the `v1.operations` endpoint. Replace the `PROJECTS`, `LOCATIONS` and `OPERATION_NAME` with the value you just received in the previous command:

```
curl -s -H 'Content-Type: application/json' \
    -H 'Authorization: Bearer '$(gcloud auth print-access-token)'' \

'https://videointelligence.googleapis.com/v1/projects/PROJECTS/locations/LOCATIONS/oper
ations/OPERATION_NAME'
```

You'll now see information related to your operation. If the operation has completed, a `done` field is included and set to `true`:

```
{
  "name": "projects/425437283751/locations/asia-east1/operations/17938636079131796601",
  "metadata": {
    "@type": "type.googleapis.com/google.cloud.videointelligence.v1.Annota
tionProgressMetadata",
    "progressMetadata": [
      {
        "inputUri": "gs://spls/gsp154/video/train.mp4",
        "startTime": "2016-09-22T21:41:56.766091Z",
        "lastUpdateTime": "2016-09-22T21:42:03.889743Z"
      }
    ]
  },
  ...
```

```
}
```

After giving the request some time (about a minute, typically), re-run the command and the same request returns annotated results:

```
{
  "name": "projects/425437283751/locations/asia-east1/operations/17938636079131796601",
  "metadata": {
    "@type":
"type.googleapis.com/google.cloud.videointelligence.v1.AnnotateVideoProgress",
    "annotationProgress": [
      {
        "inputUri": "/spls/gsp154/video/train.mp4",
        "progressPercent": 100,
        "startTime": "2017-02-17T22:39:00.333942Z",
        "updateTime": "2017-02-17T22:39:11.414399Z"
      }
    ]
  },
  "done": true,
  "response": {
    "@type":
"type.googleapis.com/google.cloud.videointelligence.v1.AnnotateVideoResponse",
    "annotationResults": [
      {
        "inputUri": "/spls/gsp154/video/train.mp4",
        "segmentLabelAnnotations": [
          {
            "entity": {
              "entityId": "/m/01yrx",
              "languageCode": "en-US"
            },
            "segments": [
              {
                "segment": {
                  "startTimeOffset": "0s",
                  "endTimeOffset": "14.833664s"
                },
                "confidence": 0.98509187
              }
            ]
          },
         ...
```

You've sent your first request to Cloud Video Intelligence API.

Congratulations!

Finish Your Quest

This self-paced lab is part of the Baseline: Deploy & Develop and Baseline: Data, ML, AI Quests. A Quest is a series of related labs that form a learning path. Completing this Quest earns you the badge above, to recognize your achievement. You can make your badge (or badges) public and link to them in your online resume or social media account. Enroll in a Quest and get immediate completion credit if you've taken this lab. See other available Qwiklabs Quests.

Next Steps / Learn More

This lab is also part of a series of labs called Qwik Starts. These labs are designed to give you a little taste of the many features available with Google Cloud. Search for "Qwik Starts" in the lab catalog to find the next lab you'd like to take!

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Manual Last Updated November 10, 2020
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