

# Speech-to-Text API: Qwik Start

GSP119



- Speech-to-Text API integrates Google's advanced speech recognition directly into developer applications for seamless audio transcription.
- Send audio files to the service and receive accurate text transcriptions in response.
- This lab teaches creating an API key to authenticate Speech-to-Text API requests securely.
- You'll construct and format a proper Speech-to-Text API request with audio data.
- Finally, execute the API call to generate text transcriptions from uploaded audio files.



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Time limit

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[Learn more.](#)[Open Google Cloud console](#)

Username

student-04-cc2224040b85c



Password

W1T1wK40yJU1



Project ID

qwiklabs-gcp-04-ea298c8



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## Task 1. Create an API key

Since you'll be using `curl` to send a request to the Speech-to-Text API, you need to generate an API key to pass in our request URL.

1. To create an API key, click **Navigation menu > APIs & services > Credentials**.
2. Then click **Create credentials**.
3. In the drop down menu, select **API key**.
4. Copy the key you just generated and click **Close**.

Click **Check my progress** to verify the objective.

[Create an API Key](#)[Check my progress](#)

Now that you have an API key, save it as an environment variable to avoid having to insert the value of your API key in each request.

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Congratulations!





API Credentials – APIs & Services -

https://console.cloud.google.com/apis/credentials?project=qwiklabs-gcp-04-ea298c8a1df0

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Enabled APIs & services Create credentials to a API key Identifies your project using a simple API key to check quota and access

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

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

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

Page usage agreements

API Keys Remember me Configure consent screen

No API keys to display

Restrictions Actions

### OAuth 2.0 Client IDs

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

### Service Accounts

| Email   | Name                                   | Actions                           |
|---|--|-----------------------------------|
| <a href="#">15780319728-compute@developer.gserviceaccount.com</a>                                 | Compute Engine default service account | <a href="#"></a> <a href="#"></a> |
| <a href="#">qwiklabs-gcp-04-ea298c8a1df0@qwiklabs-gcp-04-ea298c8a1df0.iam.gserviceaccount.com</a> | Qwiklabs User Service Account          | <a href="#"></a> <a href="#"></a> |

Manage service accounts

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Enabled APIs & services Library Credentials OAuth consent screen Page usage agreements

Create credentials to access your enabled APIs. [Learn more](#)

Remember to configure the OAuth consent screen with information about your application. [Configure consent screen](#)

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

Your API key `AlzaSyBBLhqvrCAL-2kgsvvIT1p7BJEcPjQps4` [Close](#)

OAuth 2.0 Client IDs Client ID Actions Show key [Edit API key](#) [Learn more](#)

Service Accounts Email Name Actions [Manage service accounts](#)

15780319728-compute@developer.gserviceaccount.com Compute Engine default service account

qwiklabs-gcp-04-ea298c8a1df0@qwiklabs-gcp-04-ea298c8a1df0.iam.gserviceaccount.com Qwiklabs User Service Account

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API Credentials – APIs & Services

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Enabled APIs & services Library Credentials OAuth consent screen Page usage agreements

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⚠ Remember to configure the OAuth consent screen with information about your application. [Configure consent screen](#)

API Keys

| Name                      | Creation date | Restrictions | Actions                    |
|---------------------------|---------------|--------------|----------------------------|
| <a href="#">API key 1</a> | Dec 28, 2025  | —            | Show key <a href="#">⋮</a> |

OAuth 2.0 Client IDs

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

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|---|--|-----------------------------------|
| <a href="#">15780319728-compute@developer.gserviceaccount.com</a>                                 | Compute Engine default service account | <a href="#"></a> <a href="#"></a> |
| <a href="#">qwiklabs-gcp-04-ea298c8a1df0@qwiklabs-gcp-04-ea298c8a1df0.iam.gserviceaccount.com</a> | Qwiklabs User Service Account          | <a href="#"></a> <a href="#"></a> |

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Username

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Password

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Project ID

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1. In the **Navigation menu**, select **Compute Engine**. You should see a `linux-instance` listed in the **VM instances** window.

2. Click on the **SSH** button in line with the `linux-instance`. You will be brought to an interactive shell.

3. In the command line, enter in the following, replacing `<YOUR_API_KEY>` with the API key you copied from previously generated:

```
export API_KEY=<YOUR_API_KEY>
```

You remain in this SSH session for the rest of the lab.

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VM instances – Compute Engine

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Instances Observability Instance schedules

VM instances

Filter Enter property name or value

| Status                              | Name ↑                         | Zone          | Recommendations | In use by | Internal IP       | External IP         | Connect |
|-------------------------------------|--------------------------------|---------------|-----------------|-----------|-------------------|---------------------|---------|
| <input checked="" type="checkbox"/> | <a href="#">linux-instance</a> | us-central1-c |                 |           | 10.128.0.2 (nic0) | 34.27.40.137 (nic0) | SSH     |

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VM instances – Compute Engine

http://ssh.cloud.google.com/v2/ssh/projects/qwiklabs-gcp-04-ea298c8a1df0/zones/us-central1-c/instances/linux-instance?authuser=0&hl=en\_US

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Storage

- Disk
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SSH-in-browser

Linux linux-instance 5.10.0-36-cloud-amd64 #1 SMP Debian 5.10.244-1 (2025-09-29) x86\_64

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Creating directory '/home/student-04-cc2224040b85'.

```
student-04-cc2224040b85@linux-instance:~$ export API_KEY=AIzaSyBBLhqvr1CAL-2kgsyvIT1p7BJEcPjQps4
student-04-cc2224040b85@linux-instance:~$
```

Connect

SSH

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## Task 2. Create your Speech-to-Text API request

**Note:** You will use a pre-recorded file that's available on Cloud Storage:

`gs://cloud-samples-tests/speech/brooklyn.flac`. [Listen to the audio file before sending it to the Speech-to-Text API.](#)

1. Create `request.json` in the SSH command line. You'll use this to build your request to the Speech-to-Text API:

```
touch request.json
```



2. Open the `request.json`:

```
nano request.json
```



**Note:** You can use your preferred command line editor (`nano`, `vim`, `emacs`) or

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2. Open the request.json:

nano request.json



**Note:** You can use your preferred command line editor (`nano`, `vim`, `emacs`) or `gcloud`. This lab will provide instructions for `nano`.

3. Add the following to your `request.json` file, using the `uri` value of the sample raw audio file:

```
{  
  "config": {  
    "encoding": "FLAC",  
    "languageCode": "en-US"  
  },  
  "audio": {  
    "uri": "gs://cloud-samples-tests/speech/brooklyn.flac"  
  }  
}
```

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4. Press `control + x` and then `y` to save and click `Enter` to close the `request.json` file.

The request body has a `config` and `audio` object.

In `config`, you tell the Speech-to-Text API how to process the request. The `encoding` parameter tells the API which type of audio encoding you're using while the file is being sent to the API. `FLAC` is the encoding type for `.raw` files. Learn more about encoding types in the [RecognitionConfig Guide](#).

There are other parameters you can add to your `config` object, but `encoding` is the only required one.

In the `audio` object, you pass the API the uri of the audio file in Cloud Storage.

Click **Check my progress** to verify the objective.

Create your Speech-to-Text API request

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*Assessment Completed!*

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## SSH-in-browser

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GNU nano 5.4

request.json \*

```
{  
  "config": {  
    "encoding": "FLAC",  
    "languageCode": "en-US"  
  },  
  "audio": {  
    "uri": "gs://cloud-samples-tests/speech/brooklyn.flac"  
}
```

^G Help      ^O Write Out      ^W Where Is      ^K Cut      ^T Execute      ^C Location      M-U Undo  
^X Exit      ^R Read File      ^\ Replace      ^U Paste      ^J Justify      ^\_ Go To Line      M-E Redo  
M-A Set Mark      M-] To Bracket      M-Q Previous  
M-6 Copy      ^Q Where Was      M-W Next



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Time limit

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Password

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Speech-to-Text API: Qwik Start

## Task 3. Call the Speech-to-Text API

- Pass your request body, along with the API key environment variable, to the Speech-to-Text API with the following curl command (all in one single command line):

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

Your response should look something like this:

```
{
  "results": [
    {
      "alternatives": [
        {
          "transcript": "how old is the Brooklyn Bridge",
          "confidence": 0.98267895
        }
      ]
    }
  ]
}
```

|  |        |
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permitted by applicable law.

Creating directory '/home/student-04-cc2224040b85'.

```
student-04-cc2224040b85@linux-instance:~$ export API_KEY=AIzaSyBBLhqvr1CAL-2kgsyvIT1p7BJEcPjQps4
student-04-cc2224040b85@linux-instance:~$ touch request.json
student-04-cc2224040b85@linux-instance:~$ nano request.json
student-04-cc2224040b85@linux-instance:~$ curl -s -X POST -H "Content-Type: application/json" --data-binary @request.json \
"https://speech.googleapis.com/v1/speech:recognize?key=${API_KEY}"
{
  "results": [
    {
      "alternatives": [
        {
          "transcript": "how old is the Brooklyn Bridge",
          "confidence": 0.93105143
        }
      ],
      "resultEndTime": "1.770s",
      "languageCode": "en-us"
    }
  ],
  "totalBilledTime": "2s",
  "requestId": "8883247549823555872"
}
student-04-cc2224040b85@linux-instance:~$
```



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## Speech-to-Text API: Qwik Start



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Time limit

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Username

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Password

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Project ID

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transcription. In this example you sent it a complete audio file, but you can also use the `syncRecognize` method to perform streaming speech to text transcription while the user is still speaking.

You created a Speech-to-Text API request then called the Speech-to-Text API.

2. Run the following command to save the response in a `result.json` file:

```
curl -s -X POST -H "Content-Type: application/json" --data-binary @request.json \
  "https://speech.googleapis.com/v1/speech:recognize?key=${API_KEY}" > result.json
```

Click [Check my progress](#) to verify the objective.

[Call the Speech-to-Text API](#)[Check my progress](#)*Assessment Completed!*

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      ],
      "resultEndTime": "1.770s",
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  ],
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"https://speech.googleapis.com/v1/speech:recognize?key=${API_KEY}" > result.json
student-04-cc2224040b85@linux-instance:~$
```