

Cloud Natural Language API: Qwik Start | Google Cloud Skills Boost

Qwiklabs : 10-13 minutes

GSP097



Google Cloud Self-Paced Labs

Overview

"*Natural language*" is the language that humans use to communicate with each other. Natural language processing (NLP) is a field of computer science that is concerned with the interaction between computers and human language. NLP research has the goal of enabling computers to understand and process human language in a way that is similar humans.

The Cloud Natural Language API is a cloud-based service that provides natural language processing capabilities. It can be used to analyze text, identify entities, extract information, and answer questions.

Cloud Natural Language API features

Entity Recognition: Identify entities in text, such as people, places, and things.

Sentiment Analysis: Analyze the sentiment of text, such as whether it is positive, negative, or neutral.

Information Extraction: Extract information from text, such as dates, times, and price.

Question Answering: Answer questions about text.

Integrated REST API: Access via REST API. Text can be uploaded in the request or integrated with [Cloud Storage](#).

What you'll do

In this lab you'll use the `analyze-entities` method to ask the Cloud Natural Language API to extract "entities" (e.g. people, places, and events) from a snippet of text.

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 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.

To complete this lab, you need:

- Access to a standard internet browser (Chrome browser recommended).

Note: Use an Incognito or private browser window to run this lab. This prevents any conflicts between your personal account and the Student account, which may cause extra charges incurred to your personal account.

- Time to complete the lab---remember, once you start, you cannot pause a lab.

Note: If you already have your own personal Google Cloud account or project, do not use it for this lab to avoid extra charges to your account.

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 the **Lab Details** panel with the following:
 - The **Open Google Console** button
 - Time remaining
 - The temporary credentials that you must use for this lab
 - Other information, if needed, to step through this lab

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

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

Note: If you see the **Choose an account** dialog, click **Use Another Account**.

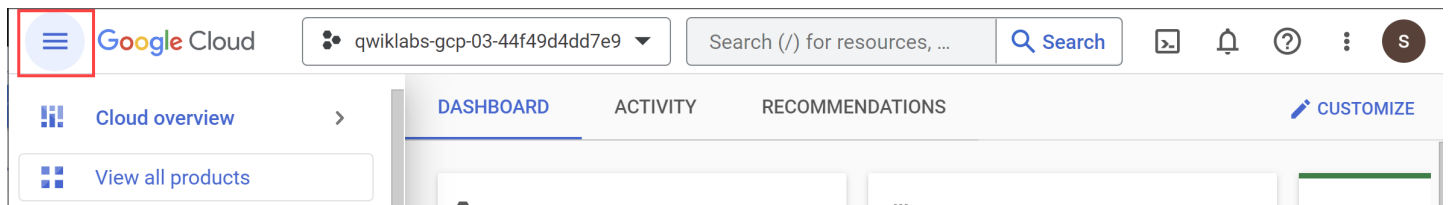
3. If necessary, copy the **Username** from the **Lab Details** panel and paste it into the **Sign in** dialog. Click **Next**.
4. Copy the **Password** from the **Lab Details** panel and paste it into the **Welcome** dialog. Click **Next**.

Important: You must use the credentials from the left panel. Do not use your Google Cloud Skills Boost credentials. **Note:** Using your own Google Cloud account for this lab may incur extra charges.

5. 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.

1. Click **Activate Cloud Shell**  at the top of the Google Cloud console.

When you are connected, you are already authenticated, and the project is set to your **PROJECT_ID**. The output contains a line that declares the **PROJECT_ID** for this session:

Your Cloud Platform project in this session is set to YOUR_PROJECT_ID

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

2. (Optional) You can list the active account name with this command:

```
gcloud auth list
```

3. Click **Authorize**.

4. Your output should now look like this:

Output:

```
ACTIVE: * ACCOUNT: student-01-xxxxxxxxxxxx@qwiklabs.net To set the active account, run: $ gcloud
config set account `ACCOUNT`
```

5. (Optional) 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 Note: For full documentation of gcloud, in Google Cloud,
refer to the gcloud CLI overview guide.
```

Task 1. Create an API key

1. First, you will set an environment variable with your PROJECT_ID which you will use throughout this lab:

```
export GOOGLE_CLOUD_PROJECT=$(gcloud config get-value core/project)
```

2. Next, create a new service account to access the Natural Language API:

```
gcloud iam service-accounts create my-natlang-sa \ --display-name "my natural language service account"
```

3. Then, create credentials to log in as your new service account. Create these credentials and save it as a JSON file "~/key.json" by using the following command:

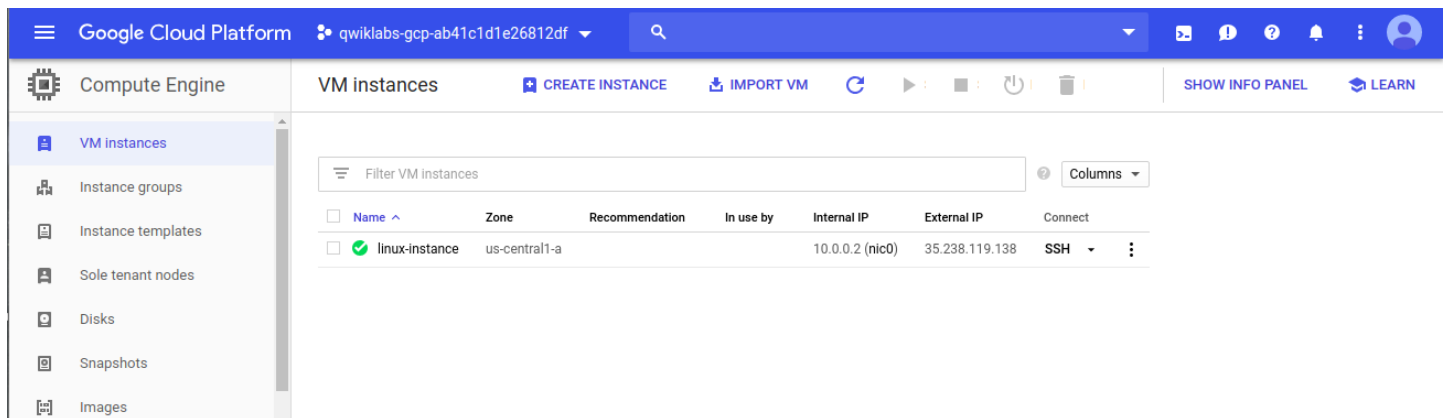
```
gcloud iam service-accounts keys create ~/key.json \ --iam-account my-natlang-sa@${GOOGLE_CLOUD_PROJECT}.iam.gserviceaccount.com
```

4. Finally, set the `GOOGLE_APPLICATION_CREDENTIALS` environment variable. The environment variable should be set to the full path of the credentials JSON file you created, which you can see in the output from the previous command:

```
export GOOGLE_APPLICATION_CREDENTIALS="/home/USER/key.json" Create an API Key
```

Task 2. Make an entity analysis request

In order to perform next steps please connect to the instance provisioned for you via ssh. Open the navigation menu and select **Compute Engine**. You should see the following provisioned linux instance:



1. Click on the **SSH** button. You will be brought to an interactive shell. **Remain in this SSH session for the rest of the lab.**

Now you'll try out the Natural Language API's entity analysis with the following sentence:

Michelangelo Caravaggio, Italian painter, is known for 'The Calling of Saint Matthew'

2. Run the following `gcloud` command:

```
gcloud ml language analyze-entities --content="Michelangelo Caravaggio, Italian painter, is known for 'The Calling of Saint Matthew'." > result.json Make an Entity Analysis Request
```

3. Run the below command to preview the output of result.json file:

```
cat result.json
```

You should see a response similar to the following in the result.json file:

```
{ "entities": [ { "name": "Michelangelo Caravaggio", "type": "PERSON", "metadata": { "wikipedia_url": "http://en.wikipedia.org/wiki/Caravaggio", "mid": "/m/020bg" }, "salience": 0.83047235, "mentions": [ { "text": { "content": "Michelangelo Caravaggio", "beginOffset": 0 }, "type": "PROPER" }, { "text": { "content": "painter", "beginOffset": 33 }, "type": "COMMON" } ] }, { "name": "Italian", "type": "LOCATION", "metadata": { "mid": "/m/03rjj", "wikipedia_url": "http://en.wikipedia.org/wiki/Italy" }, "salience": 0.13870546, "mentions": [ { "text": { "content": "Italian", "beginOffset": 25 }, "type": "PROPER" } ] }, { "name": "The Calling of Saint Matthew", "type": "EVENT", "metadata": { "mid": "/m/085_p7", "wikipedia_url": "http://en.wikipedia.org/wiki/The_Calling_of_St_Matthew_(Caravaggio)" }, "salience": 0.030822212, "mentions": [ { "text": { "content": "The Calling of Saint Matthew", "beginOffset": 69 }, "type": "PROPER" } ] }, "language": "en" }
```

Read through your results. For each "entity" in the response, you'll see:

- The entity name and type, a person, location, event, etc.
- metadata, an associated Wikipedia URL if there is one.
- salience, and the indices of where this entity appeared in the text. Salience is a number in the [0,1] range that refers to the centrality of the entity to the text as a whole.
- mentions, which is the same entity mentioned in different ways.

You've sent your first request to the Cloud Natural Language API.

Congratulations!

You extracted entities from a snippet of text using the Cloud Natural Language API.

Finish your quest

This self-paced lab is part of the [Baseline: Data, ML, AI](#) and [Intro to ML: Language Processing](#) quests. A quest is a series of related labs that form a learning path. Completing a quest earns you a badge 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 any quest that contains this lab and get immediate completion credit. See the [Google Cloud Skills Boost catalog](#) to see all available quests.

Next steps / Learn more

This lab is 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 [Google Cloud Skills Boost catalog](#) to find the next lab you'd like to take!

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