

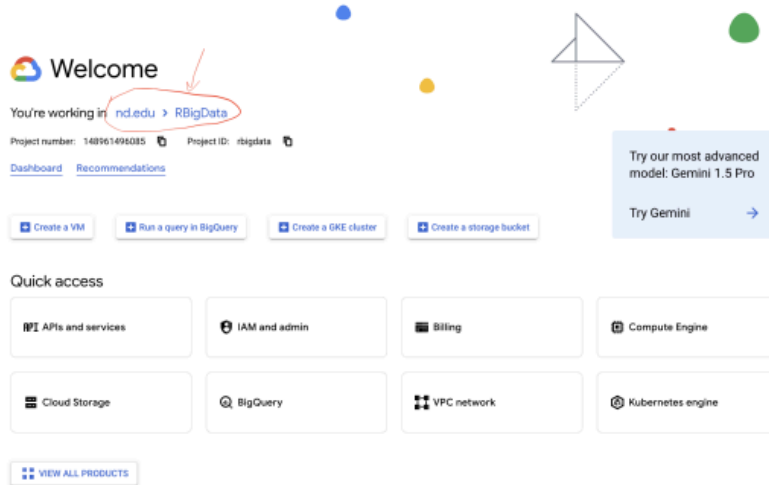


Use Google Cloud

Enable the API


To use Google Cloud, we need to set up the API services. Here is a brief tutorial on how to do it based on enabling and using the Google Cloud Vision.

1. To start, to to Google Cloud console at <https://console.cloud.google.com/> [https://console.cloud.google.com/]



2. Click on nd.edu > first project or sth else there and in the popup window to create a new project.

New Project

 You have 17 projects remaining in your quota. Request an increase or delete projects. [Learn more](#)

[MANAGE QUOTAS](#)

Project name *
MyProject

Project ID: genuine-rope-440400-u9. It cannot be changed later. [EDIT](#)

Organisation *
nd.edu

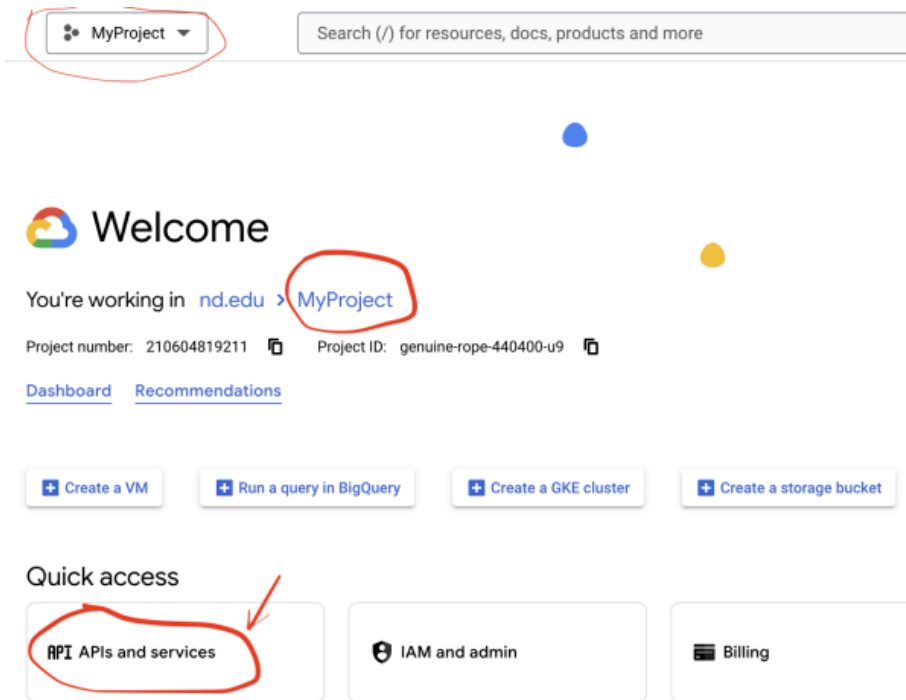
Select an organisation to attach it to a project. This selection can't be changed later.

Location *
nd.edu [BROWSE](#)

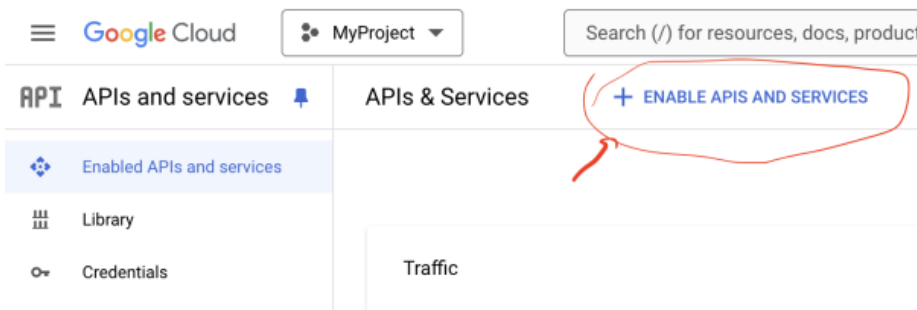
Parent organisation or folder

[CREATE](#) [CANCEL](#)

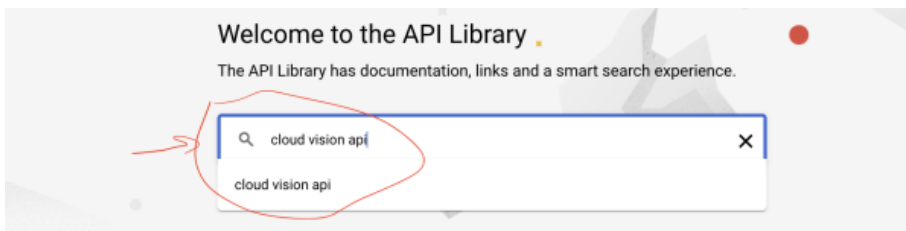
3. Select the newly created project and then click on "API and Services"



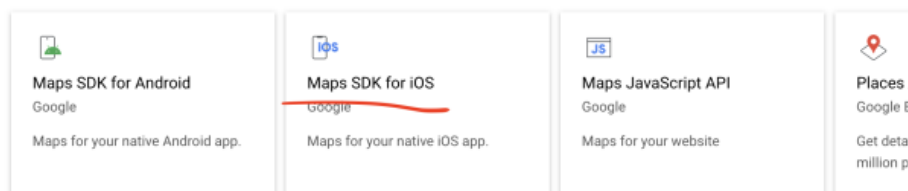
4. Then click on “+ENABLE APIS AND SERVICES”



5. Select or search for “Cloud Vision API” and enable it.



Maps





Cloud Vision API

[Google Enterprise API](#)

Image Content Analysis

ENABLE

TRY THIS API [↗](#)

6. Click on “Create credentials”

APIs and services [API/Service details](#) [DISABLE API](#)

Enabled APIs and services

- Library
- Credentials**
- OAuth consent screen
- Page usage agreements

To use this API, you may need credentials. [CREATE CREDENTIALS](#)

Cloud Vision API

Integrates Google Vision features, including image labeling, face, logo, and landmark detection, optical character recognition (OCR), and detection of explicit content, into applications.

By Google Enterprise API [?](#)

Service name	Type	Status	Documentation
vision.googleapis.com	Public API	Enabled	LEARN MORE

Explore [TRY IN API EXPLORER](#) [MAINTENANCE AND SUPPORT](#)

7. Now create the credentials following each step.

- Enabled APIs and services
- Library
- Credentials**
- OAuth consent screen
- Page usage agreements

1 Credential Type

Which API are you using?

Different APIs use different auth platforms and some credentials can be restricted to only call certain APIs.

Select an API *
Cloud Vision API

What data will you be accessing? *

Different credentials are required to authorise access depending on the type of data that you request. [Learn more](#)

1 This Google Cloud API is usually accessed from a server using a service account. To create a service account, select 'Application data'.

- ☒ **User data** 2
Data belonging to a Google user, like their email address or age. User consent required. This will create an OAuth client.
- ☐ **Application data**
Data belonging to your own application, such as your app's Cloud Firestore backend. This will create a service account.

NEXT

2 Your credentials

DONE

CANCEL

- Enabled APIs and services
- Library
- Credentials**
- OAuth consent screen
- Page usage agreements

App information

This shows in the consent screen, and helps end users know who you are and contact you

App name *
myRproject
The name of the app asking for consent

User support email *
zzhang4@nd.edu
For users to contact you with questions about their consent. [Learn more](#)

App logo

This is your logo. It helps people to recognise your app and is displayed on the OAuth consent screen.
After you upload a logo, you will need to submit your app for verification unless the app is configured for internal use only or has a publishing status of 'Testing'. [Learn more](#)


Logo file to upload BROWSE
Upload an image, not larger than 1 MB on the consent screen that will help users recognise your app. Allowed image formats are JPG, PNG and BMP. Logos should be square and 120px by 120px for the best results.

Developer contact information

Email addresses *
zzhang4@nd.edu
These email addresses are for Google to notify you about any changes to your project.

SAVE AND CONTINUE

One can specify the scope of the APIs. Here we choose Cloud Vision.

APIs and services  Create credentials

Enabled APIs and services

Library

Credentials

OAuth consent screen

Page usage agreements

3

Scopes (optional)

1

You can also choose scopes when you register your app.

Scopes express the permissions that you request users to authorise for your app and allow your project to access specific types of private user data from their Google Account. [Learn more](#)

ADD OR REMOVE SCOPES

Update selected scopes



1

Only scopes for enabled APIs are listed below. To add a missing scope to this screen, find and enable the API in the [Google API Library](#) or use the Pasted Scopes text box below. Refresh the page to see any new APIs you enable from the Library.

Filter

Enter property name or value

?

 API 	Scope	User-facing description
<input type="checkbox"/> Cloud Trace API	.../auth/trace.append	Write Trace data for a project or application
<input checked="" type="checkbox"/> Cloud Vision API	.../auth/cloud-vision	Apply machine learning models to understand and label images
<input type="checkbox"/> Service Management API	.../auth/service .management	Manage your Google API service configuration
<input type="checkbox"/> Service Management API	.../auth/service .management.readonly	View your Google API service configuration
<input type="checkbox"/> Service Management API	.../auth/iam.test	Test Identity and Access Management (IAM) Permissions

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Now create the client ID

4

OAuth Client ID

A client ID is used to identify a single app to Google's OAuth servers. If your app runs on multiple platforms, each will need its own client ID. See [Setting up OAuth 2.0](#) for more information. [Learn more](#) about OAuth client types.

Application type *

Desktop app

Name *

Desktop client 1

The name of your OAuth 2.0 client. This name is only used to identify the client in the console and will not be shown to end users.

Note: It may take five minutes to a few hours for settings to take effect

CREATE

CANCEL

After it, you can download the ID as a JSON file.

5 Your credentials

Download your credentials

Download this credential information in JSON format. This is always available for you on the [credentials page](#).

Client ID
210604819211-qo8225qh3kco4b0qnv126ruct022c3n.apps.goo

↓ DOWNLOAD

Your OAuth consent screen has been configured and is ready for use by others in your Google Workspace organization.

If you need users outside of your organization to have access, you can change the app type to "External" on the [OAuth consent screen page](#). Most external apps also require [verification](#), which can take up to 4-6 weeks (depending on which OAuth scopes your app uses).

Click on "Done" to complete it.

Authenticate within R

We now use the R package `googleAuthR` to authenticate to Google.

1. Load the library (you may need to install it first using `install.packages('googleAuthR')`) 2. Specify the scopes to use 3. Set the client ID using `gar_set_client`. `file.choose()` allows you to choose the JSON file you saved earlier. 4. Then for the use of the first time, use `gar_auth` to authenticate.

```
library(googleAuthR)

# specify the scopes - Google cloud and cloud vision for example.
scopes = c("https://www.googleapis.com/auth/cloud-vision",
           "https://www.googleapis.com/auth/cloud-platform")

# set the client
gar_set_client(file.choose(), scopes = scopes)

# authenticate and go through the OAuth2
gar_auth(email = "xxxx@nd.edu")
```

Use the Cloud Vision service

```
library(googleCloudVisionR)
API.call <- gcv_get_image_annotations(imagePaths = "calm1.png", feature="FACE_DETECTION")
API.call
```