

# Introduction

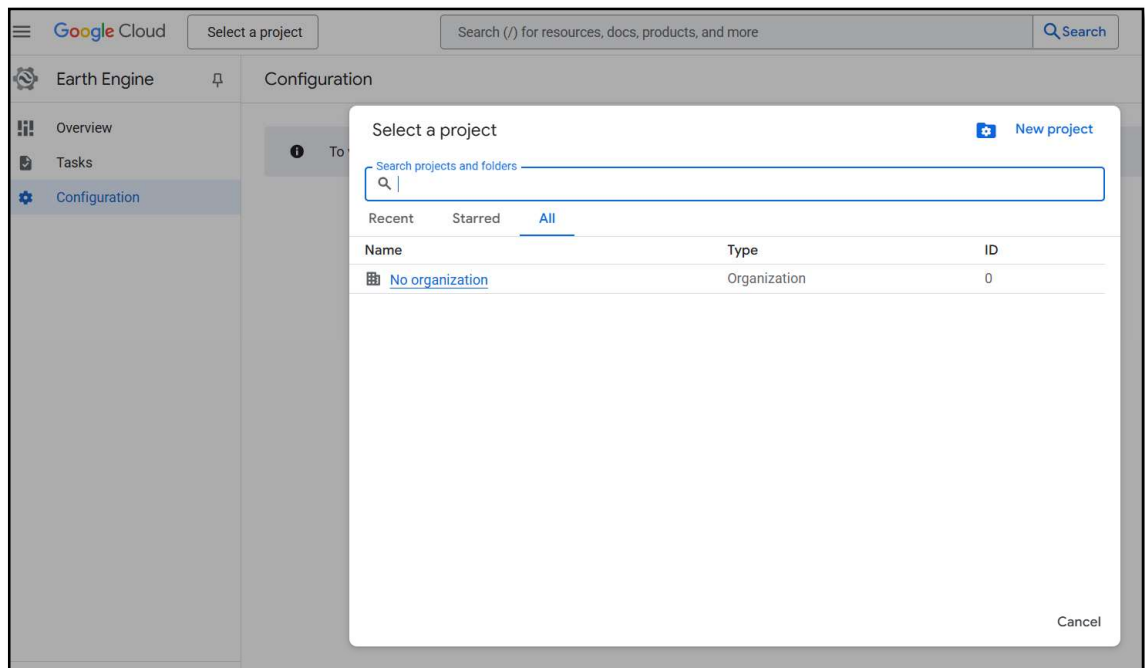
This tutorial will show you how to activate **Google Earth Engine** and follow the steps for using it in your projects.

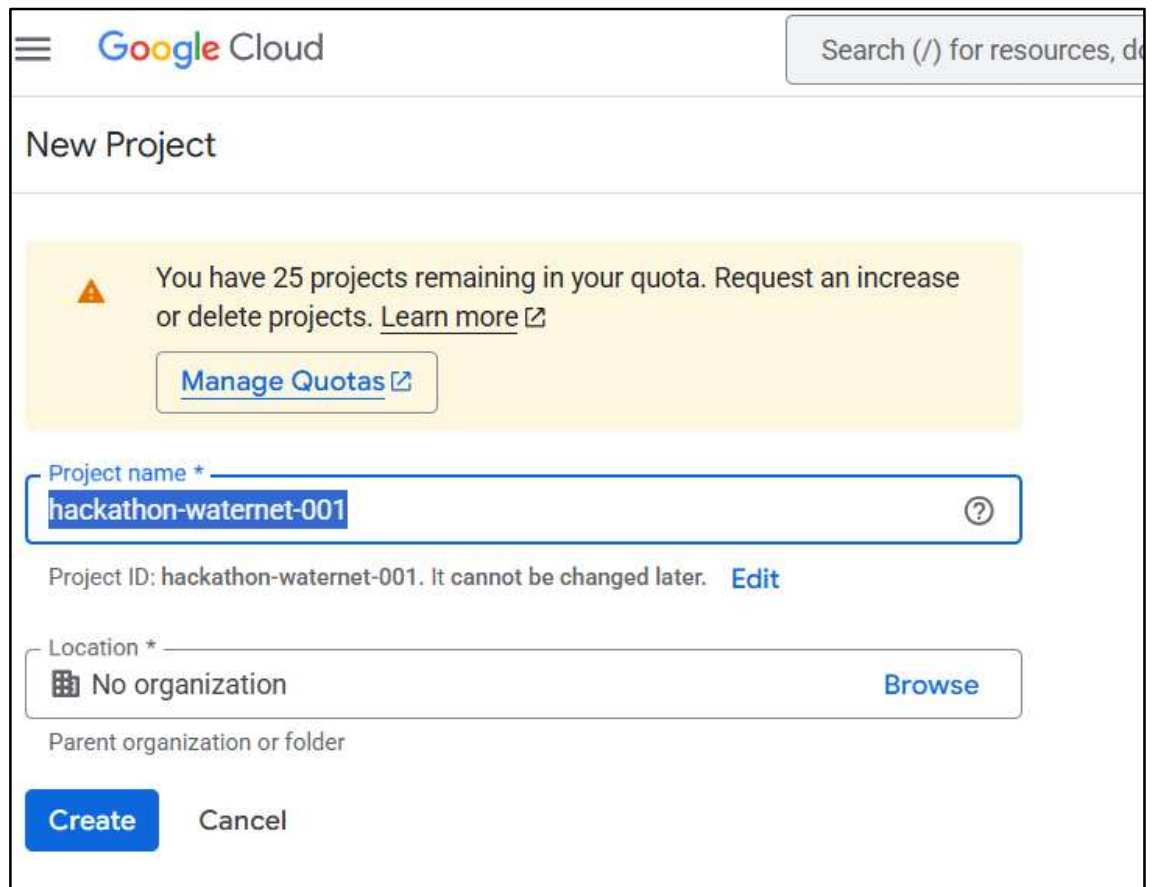
If you don't want to use your personal Google account and Google Drive for the hackathon, we recommend creating a separate Gmail account specifically for this purpose.

## Activating Google Earth Engine

Step by step

1. First, make sure you have a Gmail account.
2. Go to the Google Earth Engine sign-up website (<https://earthengine.google.com/signup/>) and log in with your Google credentials to start the registration.
3. Once inside, create a new project: select *Project* → *New Project*, give it a name, and confirm. This is illustrated in the figures below.







Google Cloud

Search (/) for resources, docs, products, and more


## New Project

 You have 25 projects remaining in your quota. Request an increase or delete projects. [Learn more](#)

[Manage Quotas](#)

Project name \*  
**hackathon-waternet-001** 

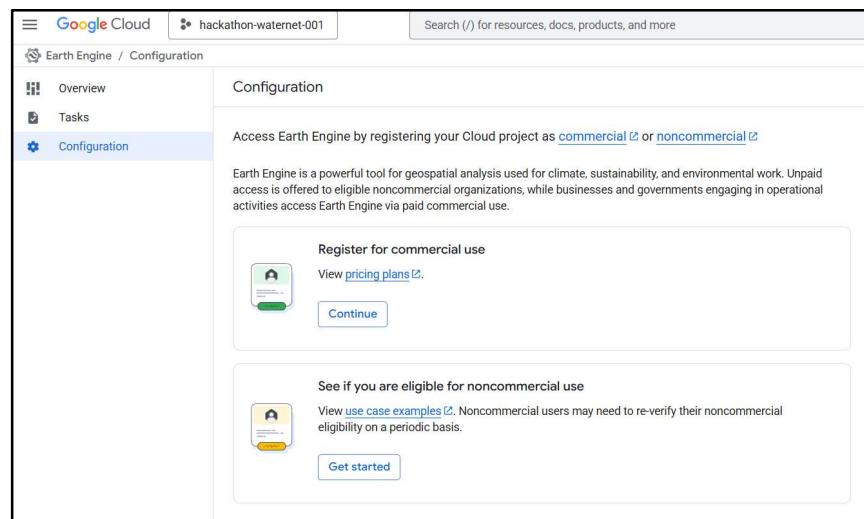
Project ID: hackathon-waternet-001. It cannot be changed later. [Edit](#)

Location \*  
 No organization [Browse](#)

Parent organization or folder

[Create](#) [Cancel](#)

- After creating the project, configure it for non-commercial use. As a university student, you are eligible for non-commercial access. Go to *Get started* and fill in your details. Select *Public or private academic institution*, enter your information, and briefly describe your work. You can follow the process in the figures below.



Google Cloud

hackathon-waternet-001

Search (/) for resources, docs, products, and more

Earth Engine / Configuration

Overview

Tasks

Configuration

### Configuration

Access Earth Engine by registering your Cloud project as [commercial](#) or [noncommercial](#)

Earth Engine is a powerful tool for geospatial analysis used for climate, sustainability, and environmental work. Unpaid access is offered to eligible noncommercial organizations, while businesses and governments engaging in operational activities access Earth Engine via paid commercial use.

**Register for commercial use**  
[View pricing plans](#)  
[Continue](#)

**See if you are eligible for noncommercial use**  
[View use case examples](#). Noncommercial users may need to re-verify their noncommercial eligibility on a periodic basis.  
[Get started](#)

1

Select your organization type

Which of the following best describes you or your organization? \*

Public or private academic institution (including faculty, staff, stud... ▼

Next

2

Check noncommercial eligibility

3

Choose your plan

4

Describe your work

5

Review summary

Register

Cancel

2

Check noncommercial eligibility

What is the name of your academic institution? \*

Delft University of Technology

Will you receive any payment (including fee-for-service) from commercial entities, operational entities, or government organizations for applications or data created using Earth Engine? Note: This does not include research-only grants. \*

☐ Yes

☒ No

How would you describe your use of Earth Engine? \*

☒ Scientific research  
e.g., advancing remote sensing methodologies

☐ Decision making  
e.g., analysis that focuses on decision support

What is your research question? \*

Understand effects of water quality in the Amstel River

What is the geographic scope of your study? \*

☐ Global

☒ Regional

Please specify the region \*

Amsterdam, Netherlands

Have you previously published work on this topic that used Earth Engine? \*

☐ Yes

☒ No

Check eligibility

**4 Describe your work**

Does your work with Earth Engine fall into any of these categories?

- ☐ Mitigation  
e.g., reduction or avoidance of greenhouse gas emissions / CO2 equivalent
- ☐ Adaptation  
e.g., helping people and communities adapt to the impacts of climate change
- ☐ Protection & conservation  
e.g., land and ocean-based interventions to conserve biodiversity and ecosystems

Will you use Earth Engine for any of the following? \*

- ☐ Agriculture
- ☐ Forestry
- ☒ Freshwater (e.g., rivers, oscillators, groundwater)
- ☐ Health Care / Social Work
- ☐ Housing & Urban Development
- ☐ Human Rights
- ☐ Humanitarian Aid
- ☐ Indigenous Rights and Interests
- ☐ Insurance




**5 Register**

Register

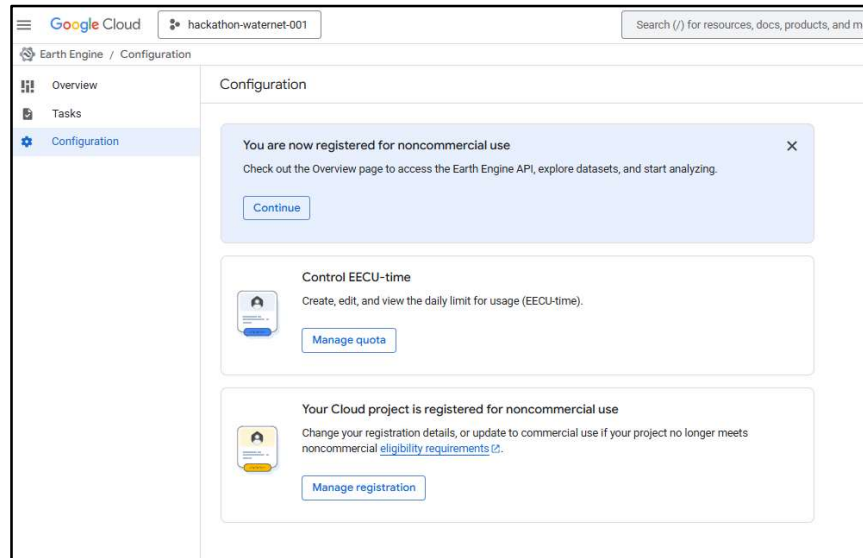
5. Finally, enable the required APIs by clicking *Enable* when prompted. Once this is done, you are registered for non-commercial use.

**Enable required APIs**

**i** To complete registration please enable the Earth Engine API.

[Google Earth Engine API](#)    Not enabled

Send feedback   Cancel   **Enable**



## Authentication when using the service

Now that your project is created and Google Earth Engine cloud services are enabled, you will need to authenticate whenever required for a **token**.

- Click the authentication link that appears. You will be redirected to the authenticator.

### Notebook Authenticator

Active account:

SWITCH ACCOUNT

Cloud Project:

**\*(required)**

CHOOSE PROJECT

Data access:

☐ Use read-only scopes

**WARNING:** ONLY PROCEED IF YOU NEED TO ACCESS EARTH ENGINE FROM A NOTEBOOK

The token that you generate here will allow access to your Google account. Ensure that you understand the notebook that you are running.

Any code that you include in the notebook (and anyone with access to the notebook kernel) will be able to copy or **change** your data. Enable read-only scopes above to prevent data changes.

If you are not running a notebook, or you don't understand these warnings, then the link that sent you here may be trying to trick you. Do not proceed!

GENERATE TOKEN

- Select the project you created earlier: choose *Project* → *Select existing cloud project*, then pick your project.

**Choose a Cloud Project for your notebook**

The selected project will control the web application used for authentication.

☒ **Create a new Cloud Project**

Select a parent organization or folder.

No organization

Choose a publicly visible ID for your personal Earth Engine Cloud Project. This value must be unique and it cannot be changed later.

ee-riciao

Optional: Choose a name to help you identify the Cloud Project.

Earth Engine default project

☐ **Select an existing Cloud Project**


CANCEL SELECT

- Grant all access when requested.

### Select what Earth Engine Notebook Client -

can access

☒ Select all


 See, edit, create, and delete all of your Google Drive files. [Learn more](#) ☒

☒ See, edit, configure, and delete your Google Cloud data and see the email address for your Google Account.. [Learn more](#) ☒


☒ View and manage your Google Earth Engine data. [Learn more](#) ☒

☒ Manage your data and permissions in Cloud Storage and see the email address for your Google Account. [Learn more](#) ☒

- Copy the authorization code provided and paste it back into your Google Colab tutorial.

 Sign in with Google

## Make sure you trust Earth Engine Notebook Client



Earth Engine Notebook Client - is requesting access to your Google Account. To protect your account, don't continue unless you know and trust this app.


### Sign in or provide access to Earth Engine Notebook

To sign in or provide access:

1. Copy the authorization code from the Authorization code section.
2. Navigate to Earth Engine Notebook Client -
3. Paste the authorization code on the Earth Engine Notebook

### Authorization code

Please copy this code, switch to your application and paste it there:

`4/1AVMBsJhjfdC6D_scdoKUrxEfC_0kq--  
AfdEBo901Cnw87TEdWqX8aPjG9dg`

### Don't sign in or provide access to Earth Engine Notebook Client

If you don't want to continue, close this window.

This completes the authentication process.