

GDG Cloud



Surabaya

INX+25

Deploying the ADK Agent as a Containerized Service on Cloud Run

Efficient, Resilient, and Secure ADK Agent
Deployment on Google Cloud Run

Ananda Dwi Rahmawati
Google Developer Expert - Cloud Modern Architecture



Ananda Dwi Rahmawati

- Cloud & DevOps Engineer, Singapore
- Google Developer Expert Cloud - Modern Architecture
- Master of Computer Science - University of Texas at Austin
- <https://linktr.ee/misskecupbung>



“Containerizing the ADK Agent and deploying it on Cloud Run empowers teams to achieve rapid **scalability, seamless updates, and robust security**—unlocking the full potential of cloud-native automation.”

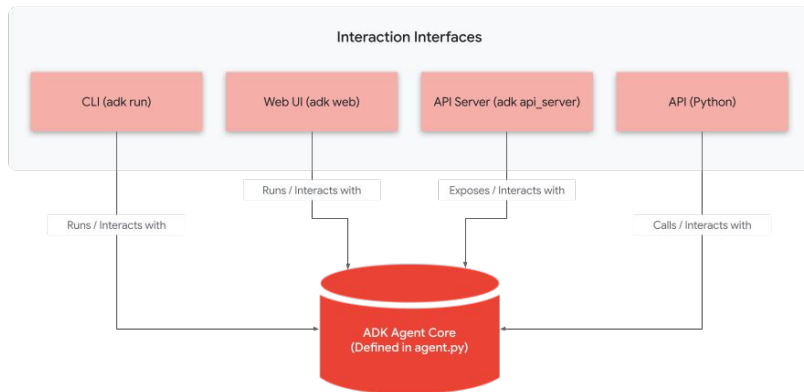
Label

Introduction to ADK Agent & Cloud Run

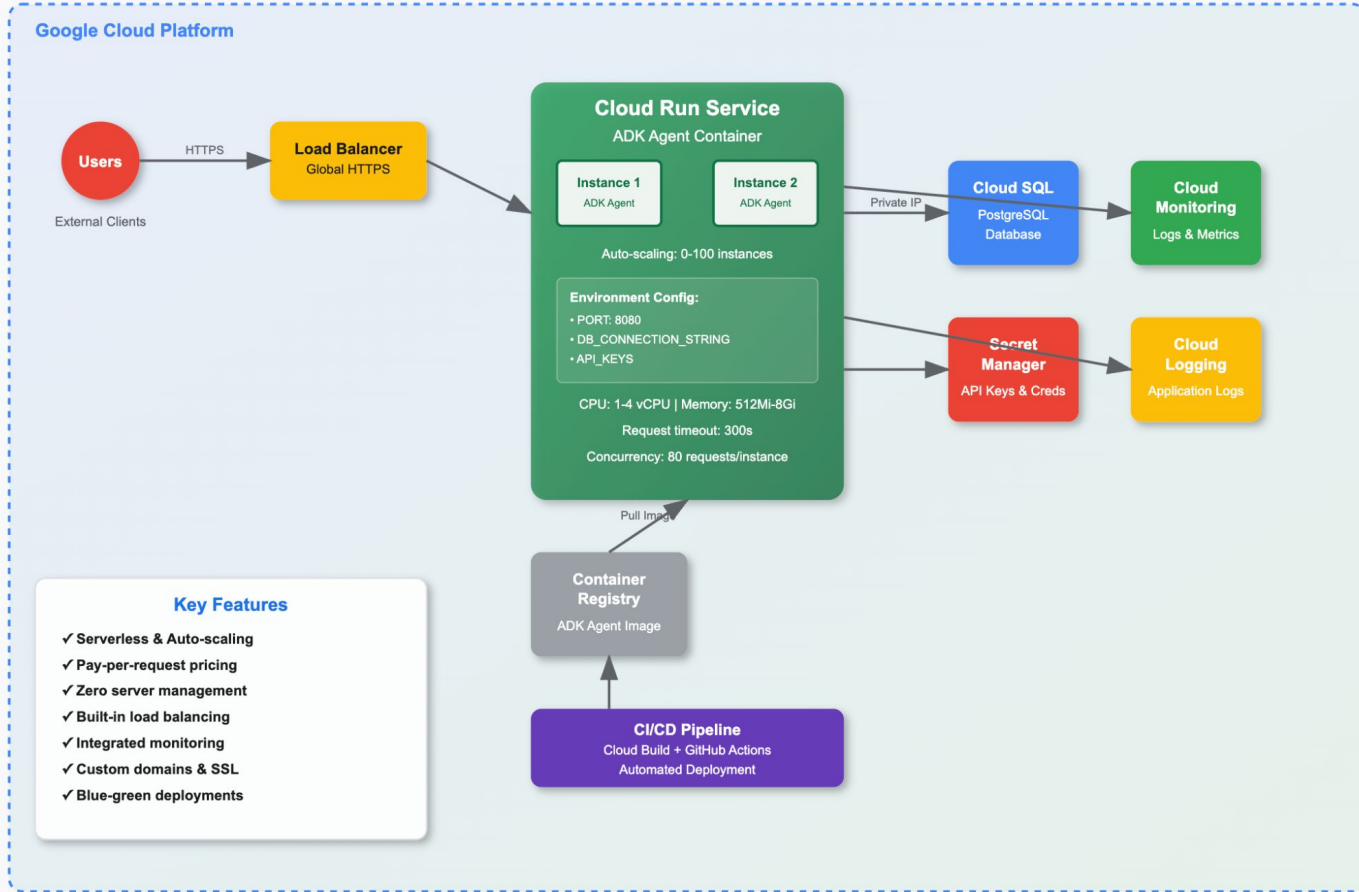
ADK Agent

The Agent Development Kit (ADK) is a flexible, modular framework for **building** and **deploying AI agents**. ADK streamlines agent development with key features including:

- **Model-Agnostic:** Optimized for Gemini and Google Cloud, but supports any AI model or backend.
- **Deployment-Agnostic:** Agents deploy across environments, including local machines, containers, and cloud platforms like Cloud Run.
- **Modular Architecture:** Enables developers to compose agents from reusable components, supporting simple tasks and complex workflows.
- **Interoperability:** Compatible with other frameworks and tools for seamless orchestration and extension.
- **Developer Experience:** Offers robust APIs, configuration options, and debugging tools to accelerate agent development and deployment.



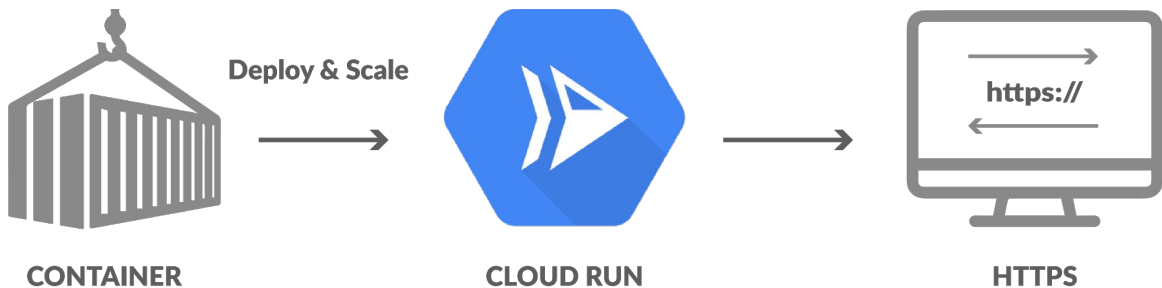
ADK Agent Deployment on Google Cloud Run



Cloud Run

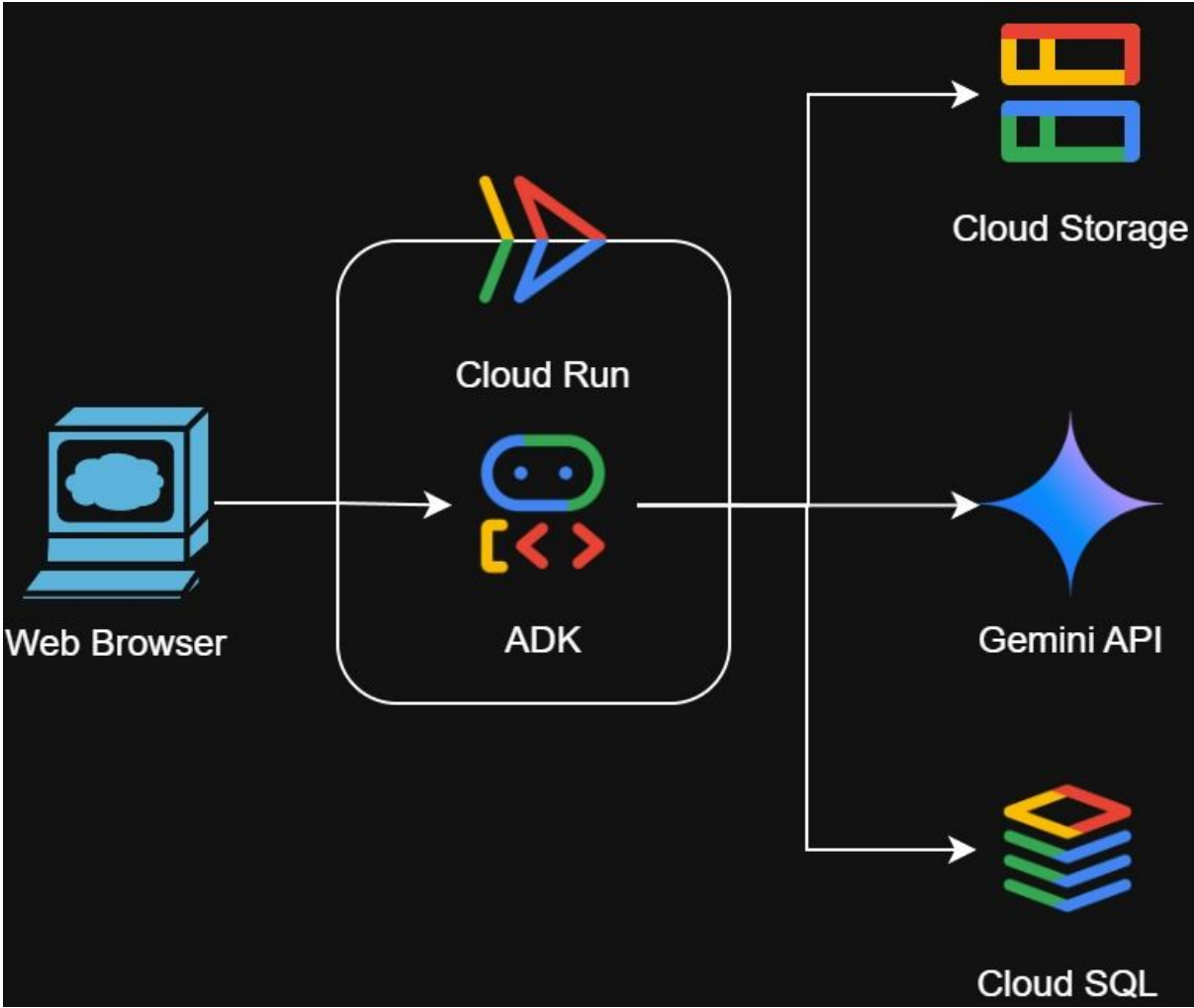
Cloud Run is a fully managed compute platform by Google Cloud for running containerized apps.

- **Deploy any Docker container**—no server management needed.
- **Scales automatically:** from zero to thousands of instances.
- Pay only when in use.
- **Ideal for microservices**, APIs, or event-driven apps.



Label

Let's Demo!

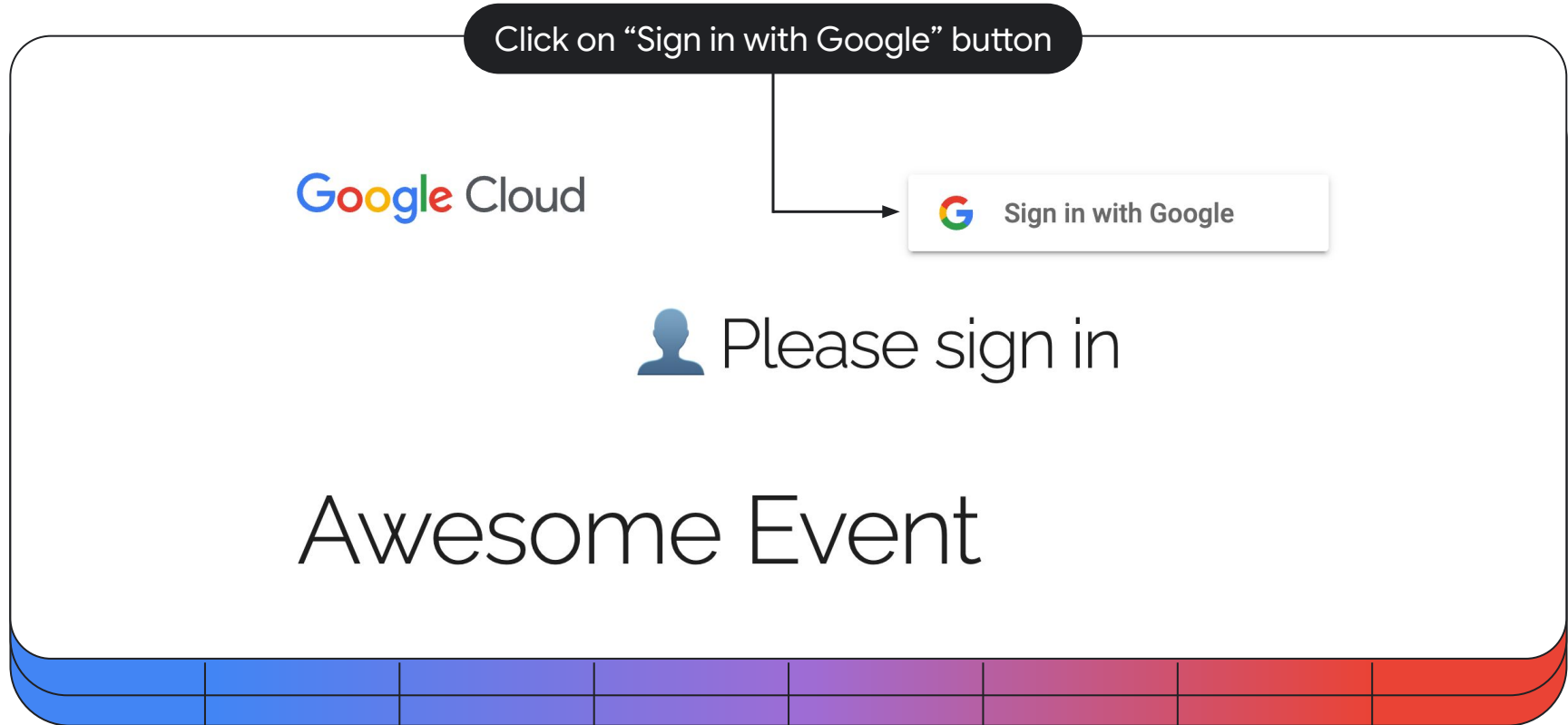




<https://trygcp.dev/e/build-ai-SUR05>

Open this URL

You will need to be signed in



You will need to be signed in

You should see a similar page. Click on this button

Google Cloud

[Sign out](#)

Hi, welcome Cloud Developer (ccloud-dev@gmail.com)

Awesome Event

Your credit will allow you to use Google Cloud [Free Tier products](#).

It has an amount of **\$1**.

Once redeemed, it will be valid for **180 days** or until the balance is depleted if you use non-free services.

CLICK HERE TO ACCESS YOUR CREDITS

After redeeming your credit in the Google Cloud console, please [proceed to the next step](#).

Make sure that you are applying for the correct account

GCP credit application

Fill in the following information below to apply GCP credits to your account listed below.

First name *

Amazing

Last name *

Person

Account email

cloud-dev@gmail.com

Credits will be applied to this account. If you'd like to apply credits to a different account, specify your preference [here](#).

Coupon code

JJKT-50BF-8FM9-KD8N

Terms and conditions

The following terms and conditions apply to the credit you received for Google Cloud products (the "Credit(s)").

The Credit is subject to valid registration and acceptance of an account with Google Cloud and satisfaction of any applicable eligibility requirements including the Google Cloud Platform [Terms of Service](#). You will be responsible for all usage in excess of the Credit and you may not be notified once the Credit is exhausted. The Credit is non-transferable and may not be sold or bartered. The Credit is valid for a limited time only and expires on the date indicated when you receive the applicable Credit code or on such date as designated by Google (in which case the earlier date applies). You may not use the Credit to engage in mining cryptocurrency unless you have obtained Google's written consent, which consent may be revoked by Google in its sole discretion at any time. Google reserves the right to cancel the Credit or change these terms at any time. You are responsible for determining the applicable tax treatment of receiving the Credits and for paying all applicable taxes. Offer void where prohibited by law.

Except for graduate or work-study students participating in an event in their personal capacities, if you are a government employee, including an employee of a public university, public educational institution or state-owned enterprise, you may not use (and you are ineligible to receive) any Credits.

ACCEPT AND CONTINUE

* Indicates required

Click on "Accept and Continue" to proceed



Google Developer Group

Step 1

Claim credits

Step2

Create a
Google Cloud
project

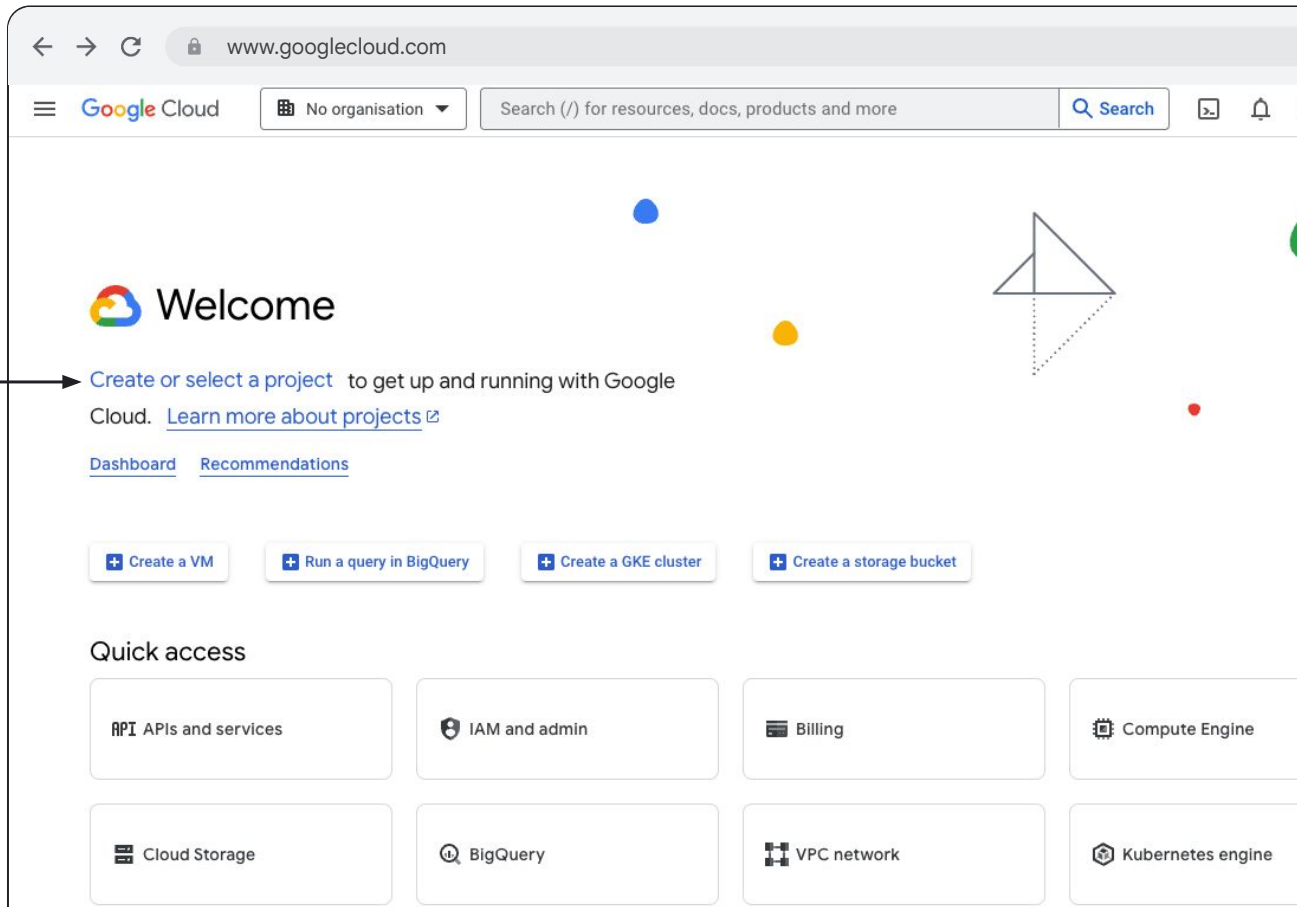


Google Developer Group

Go to:

console.cloud.google.com

Click on “Create or select a project”



The screenshot shows the Google Cloud console homepage. At the top, there's a navigation bar with the Google Cloud logo, a dropdown for 'No organisation', a search bar, and a search button. Below the navigation bar, the main content area features a 'Welcome' message with the Google Cloud logo. A callout arrow from the text 'Click on “Create or select a project”' points to the link 'Create or select a project' in the 'Welcome' section. Below the 'Welcome' message, there are links for 'Dashboard' and 'Recommendations'. Further down, there are four buttons: 'Create a VM', 'Run a query in BigQuery', 'Create a GKE cluster', and 'Create a storage bucket'. At the bottom, there's a 'Quick access' section with eight tiles: 'API APIs and services', 'IAM and admin', 'Billing', 'Compute Engine', 'Cloud Storage', 'BigQuery', 'VPC network', and 'Kubernetes engine'.

www.googlecloud.com

Google Cloud

No organisation

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

Search

Welcome

Create or select a project to get up and running with Google Cloud. [Learn more about projects](#)

[Dashboard](#) [Recommendations](#)

Create a VM Run a query in BigQuery Create a GKE cluster Create a storage bucket

Quick access

API APIs and services IAM and admin Billing Compute Engine

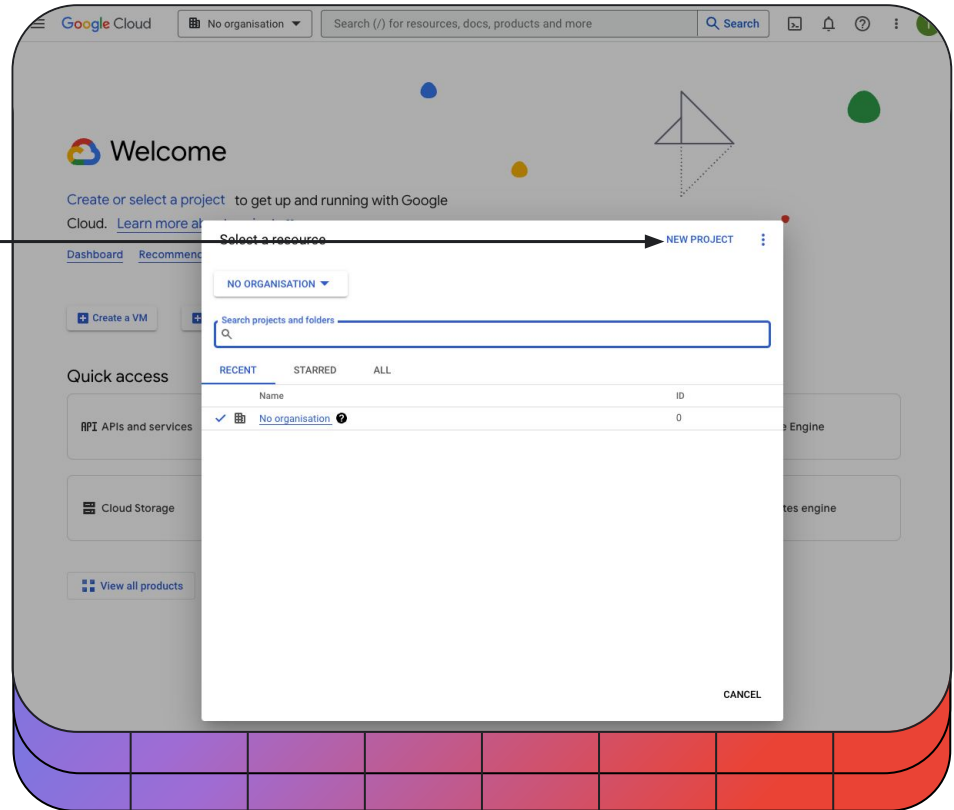
Cloud Storage BigQuery VPC network Kubernetes engine



Google Developer Group

Creating a new project

Click on “New Project”



Google Developer Group

Creating a new project

Name your project

If you see a billing account, make sure to select the "Trial Billing Account". If NOT, still create the project and go to next slide

Click "CREATE"

New Project



You have 23 projects remaining in your quota. Request an increase or delete projects. [Learn more](#)

[MANAGE QUOTAS](#)

Project name *

awesome-project



Project ID: awesome-project-402007. It cannot be changed later. [EDIT](#)

Billing account *

Google Cloud Platform Trial Billing Account



Any charges for this project will be billed to the account you select here.

Location *

No organization

[BROWSE](#)

Parent organization or folder

CREATE

CANCEL



Google Developer Group

If you don't see a billing account in the previous step:

1) Go to Billing from Google Cloud Console and

2) Set your project's billing account to **Google Cloud Platform Trial Billing Account**



Set the billing account for project "My First Project"

This project pays for both Google Cloud Platform and Maps Platform. Select a billing account that supports both Google Cloud Platform and Maps Platform. [Learn more](#)

Billing account *

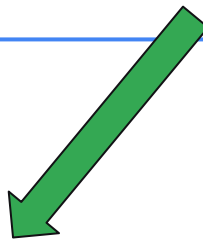
Google Cloud Platform Trial Billing Account

▼ ?

Any charges for this project will be billed to the account you select here.

CANCEL

SET ACCOUNT



Issues When attempting to redeem credits

It may be unclear where the credits

That is where they will see the credits

Google Cloud Billing Account Overview

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

PAID ACCOUNT MANAGE BILLING ACCOUNT

Overview

Cost management

- Reports
- Cost table
- Cost breakdown
- Budgets & alerts
- Billing export

Cost optimization

- FinOps hub
- Committed use discounts (CUD)
- CUD analysis
- Pricing
- Cost estimation
- Credits

FinOps hub

Save up to \$0.00

0% of last month's total cost

FinOps score

FinOps maturity: Not available

View details on FinOps hub

Create a budget alert

Set a monthly budget for your billing account. You'll get email notifications as your costs approach and exceed the budget amount.

\$100

\$

CREATE

View details on Reports

View details on Budgets and alerts

Google Cloud Credits

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

ALL CREDITS

View and download credit details here. Active committed use discounts are not included here and can be viewed on the [Commitments page](#).

Filter Filter credits

Credit name	Status	Percent remaining	Remaining value	Original value	Type	Credit ID	Scope
Frictionless access to Google Cloud	Available	100%	\$5.00	\$5.00	One-time	N0LED275...	Any service on this billing account.

Cost management

- Reports
- Cost table
- Cost breakdown
- Budgets & alerts
- Billing export

Cost optimization

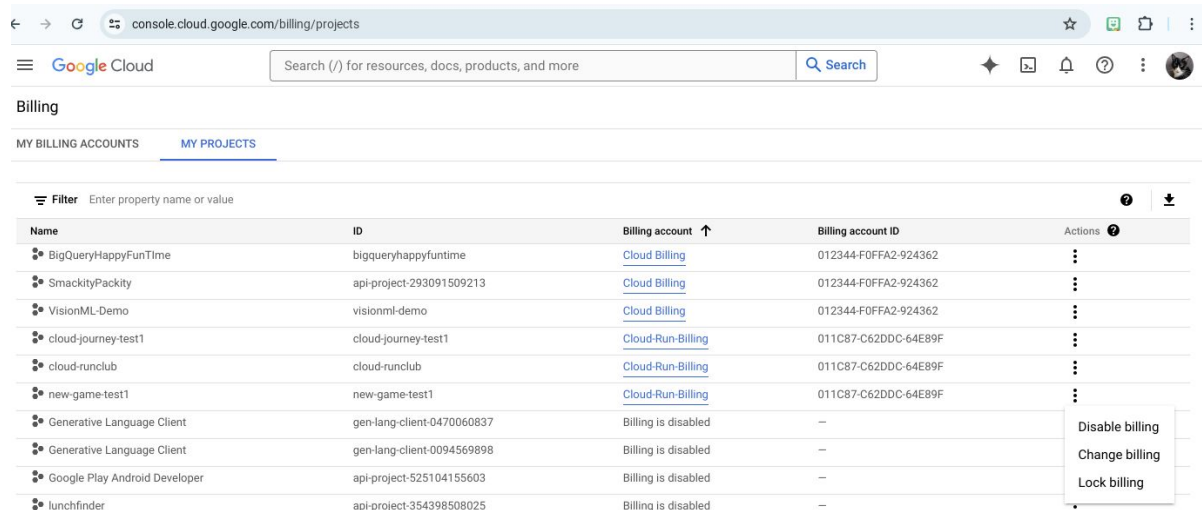
- FinOps hub
- Committed use discounts (CUD)
- CUD analysis
- Pricing
- Cost estimation
- Credits

Billing management

- Account management

Issues if the user ALREADY has a existing billing account make sure they use the correct one

Click on the 3 Dot menu on the



console.cloud.google.com/billing/projects

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

Billing

MY BILLING ACCOUNTS MY PROJECTS

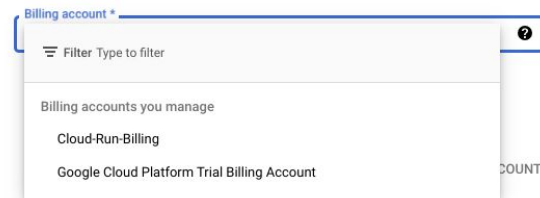
Filter Enter property name or value

Name	ID	Billing account ↑	Billing account ID	Actions
BigQueryHappyFunTime	bigqueryhappyfuntime	Cloud Billing	012344-F0FFA2-924362	⋮
SmackityPackity	api-project-293091509213	Cloud Billing	012344-F0FFA2-924362	⋮
VisionML-Demo	visionml-demo	Cloud Billing	012344-F0FFA2-924362	⋮
cloud-journey-test1	cloud-journey-test1	Cloud-Run-Billing	011C87-C62DDC-64E89F	⋮
cloud-runclub	cloud-runclub	Cloud-Run-Billing	011C87-C62DDC-64E89F	⋮
new-game-test1	new-game-test1	Cloud-Run-Billing	011C87-C62DDC-64E89F	⋮
Generative Language Client	gen-lang-client-0470060837	Billing is disabled	—	⋮
Generative Language Client	gen-lang-client-0094569898	Billing is disabled	—	⋮
Google Play Android Developer	api-project-525104155603	Billing is disabled	—	⋮
lunchfinder	api-project-354398508025	Billing is disabled	—	⋮

Disable billing
Change billing
Lock billing

Set the billing account for project “new-game-test1”

This project pays for both Google Cloud Platform and Maps Platform. Select a billing account that supports both Google Cloud Platform and Maps Platform. [Learn more](#)



Learn more about **Google Cloud** at
goo.gle/clouddevs



