

Google workspace API

What is Google workspace API

API for google workspace i.e. most ,if not all are for any gmail account i.e. :

- Email (gmail)
- Docs (google docs)
- Sheets (google sheets)
-

Motivation for Google workspace API

My motivation is to use google sheets api as simple database \ cms \ store

This go nicely with the fact that i have paid version of google workspace (check my slides [here](#)) for www.nathankrasney.com but you can use it for any google account

Steps to create a project

1. Create a google cloud project to use google workspace api via a project e.g. name “Google Sheets API Sample” .Check how to create google workspace project [here](#)
2. Enable API for “Google Sheets API Sample” project. .Check how to enable API [here](#)
3. Create credential - most likely service account
4. Export the service credential file
5. Share the resource with client_email from the credential file
6. Use the credential file (must be on .gitignore) inside your application which access google workspace API e.g. google sheet API

Google workspace API console

The screenshot shows the Google Cloud API console interface. At the top, the 'Google Sheets API sample' is selected in the breadcrumb navigation. The left sidebar shows the 'Google Workspace' API selected. The main content area displays the 'Overview' page for 'All Google Workspace APIs'. Under the 'Getting Started' section, there are links for 'Learn about API capabilities and setup', 'Watch videos to learn about building API solutions', 'Discover and enable APIs', 'Try out methods with the Google APIs Explorer', 'Use developer API samples on GitHub', and 'Get help or contact Support'. On the right, the 'Requests by API' chart for the last 30 days shows 'No data is available for the selected time frame.' Below the chart is a 'View metrics' link. At the bottom, the 'Enabled APIs' table shows the 'Google Sheets API' as enabled.

Google Cloud

Google Sheets API sample

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

Search

Google Workspace

Overview

All Google Workspace APIs

Overview

APIs

Metrics

Quotas

Credentials

Product Library

Getting Started

- Learn about API capabilities and setup
- Watch videos to learn about building API solutions
- Discover and enable APIs
- Try out methods with the Google APIs Explorer
- Use developer API samples on GitHub
- Get help or contact Support

Requests by API Last 30 days

No data is available for the selected time frame.

View metrics

Enabled APIs Last 30 days

API	Requests
Google Sheets API	-

Credential for API which are enabled

Indeed it is enabled

[Navigate to this screen](#)

Credentials in google work space

Credentials are used to obtain an access token from Google's authorization servers so your app can call Google Workspace APIs

Credential types

The credentials required depends on the type of data, platform, and access methodology of your app. There are three types of credential types available:

- [API key](#) – Use this credential to access publicly-available data anonymously in your app.
- [OAuth client ID](#) – Use this credential to authenticate as an end user and access their data. Requires your app to request and receive consent from the user.
- [Service account](#) – Use this credential to authenticate as a robot service account or to access resources on behalf of Google Workspace or Cloud Identity users through domain-wide delegation.

Credentials in my project

The screenshot shows the Google Cloud console interface. At the top, the project name 'Google Sheets API sample' is highlighted with a red box. The left sidebar contains navigation links: Overview, APIs, Metrics, Quotas, Credentials (highlighted), and Product Library. The main content area is titled 'Credentials' and includes a section 'Credentials compatible with this API'. Below this, there is a warning message about OAuth consent screens and a 'CONFIGURE CONSENT SCREEN' button. Two sections are highlighted with red boxes: 'OAuth 2.0 Client IDs' and 'Service Accounts'. The 'OAuth 2.0 Client IDs' section shows a table with columns for Name, Creation date, Type, Client ID, and Actions, but it contains the text 'No OAuth clients to display'. The 'Service Accounts' section shows a table with columns for Email, Name, and Actions, but it contains the text 'No service accounts to display'. A purple arrow points from a text box at the bottom to the 'Service Accounts' section. Another text box points to a link in the 'OAuth 2.0 Client IDs' section. A third text box at the bottom explains the two types of credentials.

Google Cloud

Google Sheets API sample

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

Search

Google Workspace

Credentials

Overview

APIs

Metrics

Quotas

Credentials

Product Library

Credentials compatible with this API

To view all credentials visit [Credentials in APIs & Services](#)

Remember to configure the OAuth consent screen with information about your application.

[CONFIGURE CONSENT SCREEN](#)

OAuth 2.0 Client IDs

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

Click [here](#) to manage service account and navigate to next slide

[Manage service accounts](#)

Service Accounts

Email	Name ↑	Actions
No service accounts to display		

There are two types of credentials related to the google sheets api sample : OAuth2.0 and service account. Using the api from the cloud the service account seems appropriate

Manage service account Screen

The screenshot shows the Google Cloud IAM & Admin console. The browser tab is 'Service accounts - IAM & Admin'. The URL is 'https://console.cloud.google.com/iam-admin/serviceaccounts?project=serious-fabric-37'. The left sidebar shows the 'Service Accounts' section selected. The main content area is titled 'Service accounts for project "Google Sheets API sample"'. It contains a description of service accounts and a table with columns: Email, Status, Name, Description, Key ID, Key creation date, OAuth 2 Cli, and Actions. The table is currently empty, showing 'No rows to display'. The right sidebar has a 'Recommended for you' section with links to 'Service accounts', 'Creating and managing service accounts', and 'Manage access to projects, folders, and organizations'.

Google Cloud | Google Sheets API sample | Search (/) for resources, docs... | Search

IAM & Admin

- IAM
- Identity & Organization
- Policy Troubleshooter
- Policy Analyzer **NEW**
- Organization Policies
- Service Accounts**
- Workload Identity Federa...
- Labels
- Tags

Service accounts + CREATE SERVICE ACCOUNT DELETE HELP ASSISTANT LEARN

Service accounts for project "Google Sheets API sample"

A service account represents a Google Cloud service identity, such as code running on Compute Engine VMs, App Engine apps, or systems running outside Google. [Learn more about service accounts.](#)

Organization policies can be used to secure service accounts and block risky service account features, such as automatic IAM Grants, key creation/upload, or the creation of service accounts entirely. [Learn more about service account organization policies.](#)

Filter Enter property name or value

Email	Status	Name	Description	Key ID	Key creation date	OAuth 2 Cli	Actions
No rows to display							

Recommended for you

- Service accounts**
Help document
IAM service accounts and roles that are available on service accounts.
- Creating and managing service accounts**
Help document
Create and manage service accounts using the IAM API and the Google Cloud console, and the `gcloud` CLI.
- Manage access to projects, folders, and organizations**
Help document
This page describes how to grant,

User \ service account

They are represented by the same properties

Email

Secret : password for user account and public\private keys for service account

Accessible by : only the email owner by user account , at least one for service account

IAM roles

User account

- Belong to a person e.g. John Doe .John access his google account using email [johndoe@gmail.com](mailto: johndoe@gmail.com) and password 123abc. This access is not shared by anyone else
- Has IAM (Identity **A**ccess **M**anagement) roles that grant permission to do operations on google (cloud??) resources , e.g. access monitoring admin panel or access kubernetes admin panel

Email: yajaira@yourcompanysdomain.net

Password: *****

Accessible by: Yajaira

IAM Roles:

- Kubernetes Engine Cluster Admin
- Compute Admin
- Monitoring Admin

Disabled: False



Service account 1/x

- An identity that an instance or an application can use to run API request on your behalf
- Like user account a service account has email but instead of a password it can be authenticate only by private \ public key pair (is this the public key while private on google server??)
- While user account can be access by one person a service account can be accessed by many

Email: sql-reader@PROJECT_ID.iam.gserviceaccount.com

Key: c22860b84297e641bc6a6796c6828f4f2a3860d5

Accessible by:

- your-app-server (compute instance)
- your-app.py (application)
- Yajaira and Frank (user accounts)

IAM Roles:

- Cloud SQL Viewer
- BigQuery Data Editor

Public key ?

Service account 2/x

- You can not login to service account via browser as possible for user account
- Service account typically represent virtual machine , applications and users while user account represent a single user
- Service account can also have IAM (Identity **A**ccess **M**anagement) roles like user account

Two types of service account

User managed service account

- An identity that an instance or application can use to run API requests on your behalf
- You create this via the IAM menu
- Two google managed service account are created by default when you create user managed service account



App Engine
Default Service
Account

Email: PROJECT_ID@appspot.gserviceaccount.cc

IAM Roles (by default):

- Editor

Google managed service account

- Created and managed by google



Compute Engine
Default Service
Account

Email: PROJECT_NUMBER-compute@cloudservices.gserviceaccount.com

IAM Roles (by default):

- Editor

service accounts on google cloud platform

Click here

The screenshot shows the Google Cloud Platform console interface. On the left, the navigation menu is visible. The 'IAM & Admin' option, represented by a shield icon, is highlighted with a red rectangle. A pink arrow points from a callout box labeled 'Click here' to this menu item. The main content area on the right is titled 'Credentials' and shows sections for 'Credentials compatible with this API', 'OAuth 2.0 Client IDs', and 'Service Accounts'. The 'Service Accounts' section is currently empty, displaying 'No service accounts to display'.

Google workspace service account credentials

1. Create a service account
2. Create credentials for a service account
3. Optional: Set up domain-wide delegation for a service account

Create service account 1/x

Create a service account

1. In the Google Cloud console, go to Menu ☰ > **IAM & Admin** > **Service Accounts**.



Go to Service Accounts

Click here

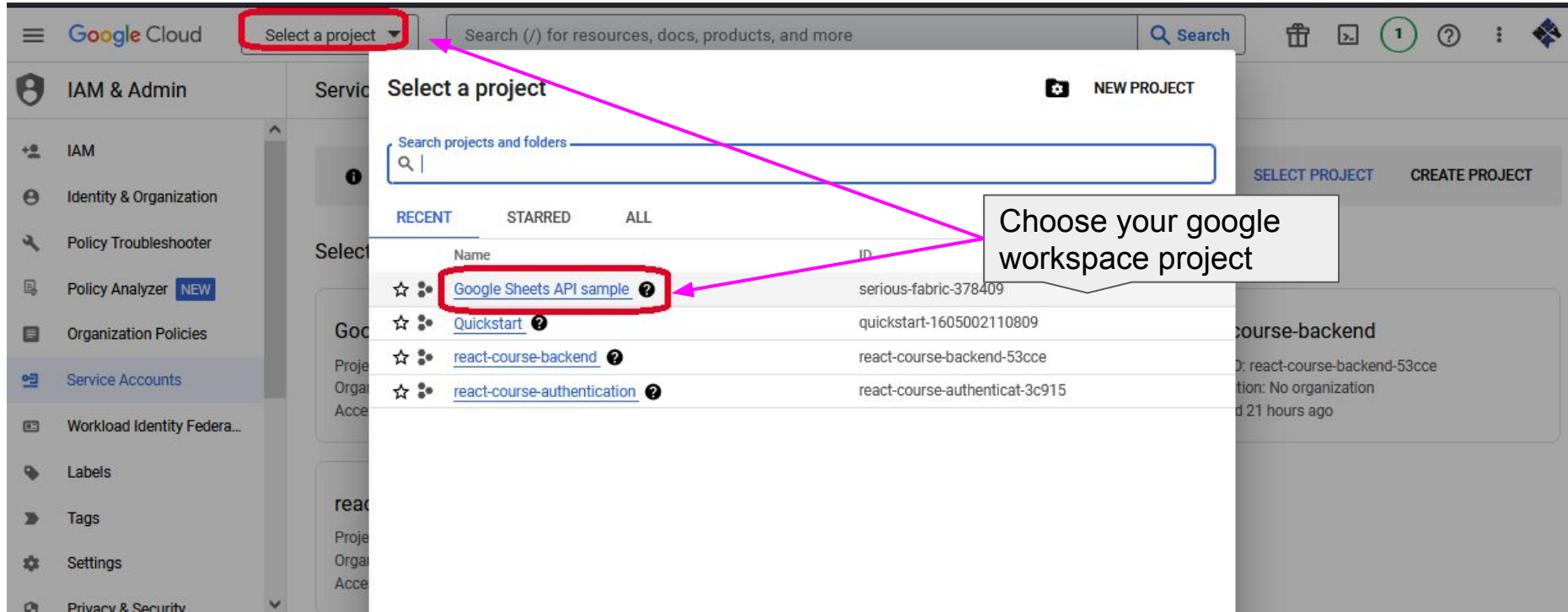


2. Click **Create service account**.
3. Fill in the service account details, then click **Create and continue**.

★ Note: By default, Google creates a unique service account ID. If you would like to change the ID, modify the ID in the service account ID field.

4. Optional: Assign roles to your service account to grant access to your Google Cloud project's resources. For more details, refer to [Granting, changing, and revoking access to resources](#) .
5. Click **Continue**.
6. Optional: Enter users or groups that can manage and perform actions with this service account. For more details, refer to [Managing service account impersonation](#) .
7. Click **Done**.

Create service account 2/x



Create service account 3/x

The screenshot shows the Google Cloud IAM & Admin console. The left sidebar contains the navigation menu with 'Service Accounts' selected. The main content area is titled 'Service accounts' and features a '+ CREATE SERVICE ACCOUNT' button, which is highlighted with a red rectangular box. To the right of this button is a 'DELETE' button and a vertical ellipsis menu. Below the buttons, there is a section titled 'Service accounts for project "Google Sheets API sample"' with explanatory text and links. At the bottom, there is a table with columns: Email, Status, Name, Description, Key ID, Key creation date, OAuth 2 Cli, and Actions. The table currently shows 'No rows to display'.

Google Cloud

Google Sheets API sample

Search (/) for resources, docs... Search

IAM & Admin

Service accounts

+ CREATE SERVICE ACCOUNT

DELETE

HELP ASSISTANT

LEARN

Service accounts for project "Google Sheets API sample"

A service account represents a Google Cloud service identity, such as code running on Compute Engine VMs, App Engine apps, or systems running outside Google. [Learn more about service accounts.](#)

Organization policies can be used to secure service accounts and block risky service account features, such as automatic IAM Grants, key creation/upload, or the creation of service accounts entirely. [Learn more about service account organization policies.](#)

Filter Enter property name or value

<input type="checkbox"/>	Email	Status	Name ↑	Description	Key ID	Key creation date	OAuth 2 Cli	Actions
No rows to display								

Click to create service account

Create service account 4/x

Google Cloud

Google Sheets API sample

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

IAM & Admin

IAM

Identity & Organization

Policy Troubleshooter

Policy Analyzer NEW

Organization Policies

Service Accounts

Workload Identity Federa...

Labels

Tags

Settings

Privacy & Security

Manage Resources

Create service account

1 Service account details

Service account name

Display name for this service account

Service account ID *

X C

Email address: <id>@serious-fabric-378409.iam.gserviceaccount.com

Service account description

Describe what this service account will do

CREATE AND CONTINUE

2 Grant this service account access to project (optional)

3 Grant users access to this service account (optional)

Create service account 5/x

Google Cloud

Google Sheets API sample

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

IAM & Admin

← Create service account

1 Service account details

Service account name
Service Google Sheets API sample
Display name for this service account

Service account ID *
service-google-sheets-api-samp

Email address: service-google-sheets-api-samp@serious-fabric-378409.iam.gserviceaccount.com

Service account description Copied
Describe what this service account will do

CREATE AND CONTINUE

2 Grant this service account access to project (optional)

Fill this and get the account id filled automatically

Click here

Create service account 6/x

IAM & Admin

- IAM
- Identity & Organization
- Policy Troubleshooter
- Policy Analyzer **NEW**
- Organization Policies
- Service Accounts**
- Workload Identity Federa...
- Labels
- Tags
- Settings
- Privacy & Security
- Manage Resources
- Release Notes

Create service account

1 **Service account details**

2 **Grant this service account access to project (optional)**

Grant this service account access to Google Sheets API sample so that it has permission to complete specific actions on the resources in your project. [Learn more](#)

Select a role

IAM condition (optional) ?

+ ADD IAM CONDITION

+ ADD ANOTHER ROLE

CONTINUE

3 **Grant users access to this service account (optional)**

DONE CANCEL

You get this message then click Done

Service account created

Create service account 7/x

The screenshot shows the Google Cloud IAM & Admin console. The left sidebar lists navigation options: IAM, Identity & Organization, Policy Troubleshooter, Policy Analyzer (NEW), Organization Policies, Service Accounts (highlighted), Workload Identity Federation, Labels, Tags, Settings, Privacy & Security, and Manage Resources. The main content area is titled 'Service accounts' and shows 'Service accounts for project "Google Sheets API sample"'. It includes a table of service accounts with columns: Email, Status, Name, Description, Key ID, Key created, and Actions. A single service account is listed, highlighted with a red box: 'service-google-sheets-api-samp@serious-fabric-378409.iam.gserviceaccount.com'. The status is 'Active' (green checkmark), and it has 'No keys'. A pink arrow points from a text box 'The service is created' to the red box.

Google Cloud

Google Sheets API sample

Search (/) for resources, docs...

Search

1

?

⋮

⚙️

IAM & Admin

Service accounts

+ CREATE SERVICE ACCOUNT

DELETE

⋮

HELP ASSISTANT

LEARN

Service accounts for project "Google Sheets API sample"

A service account represents a Google Cloud service identity, such as code running on Compute Engine VMs, App Engine apps, or systems running outside Google. [Learn more about service accounts.](#)

Organization policies can be used to secure service accounts and block risky service account features, such as automatic IAM Grants, key creation/upload, or the creation of service accounts entirely. [Learn more about service account organization policies.](#)

Filter Enter property name or value

Email	Status	Name	Description	Key ID	Key created	Actions
<input type="checkbox"/> service-google-sheets-api-samp@serious-fabric-378409.iam.gserviceaccount.com	Active	Service Google Sheets API sample		No keys		⋮

The service is created

Create credentials for a service account 1/x

Create credentials for a service account

You need to obtain credentials in the form of a public/private key pair. These credentials are used by your code to authorize service account actions within your app.

To obtain credentials for your service account:

1. In the Google Cloud console, go to Menu ☰ > **IAM & Admin** > **Service Accounts**.

Go to Service Accounts

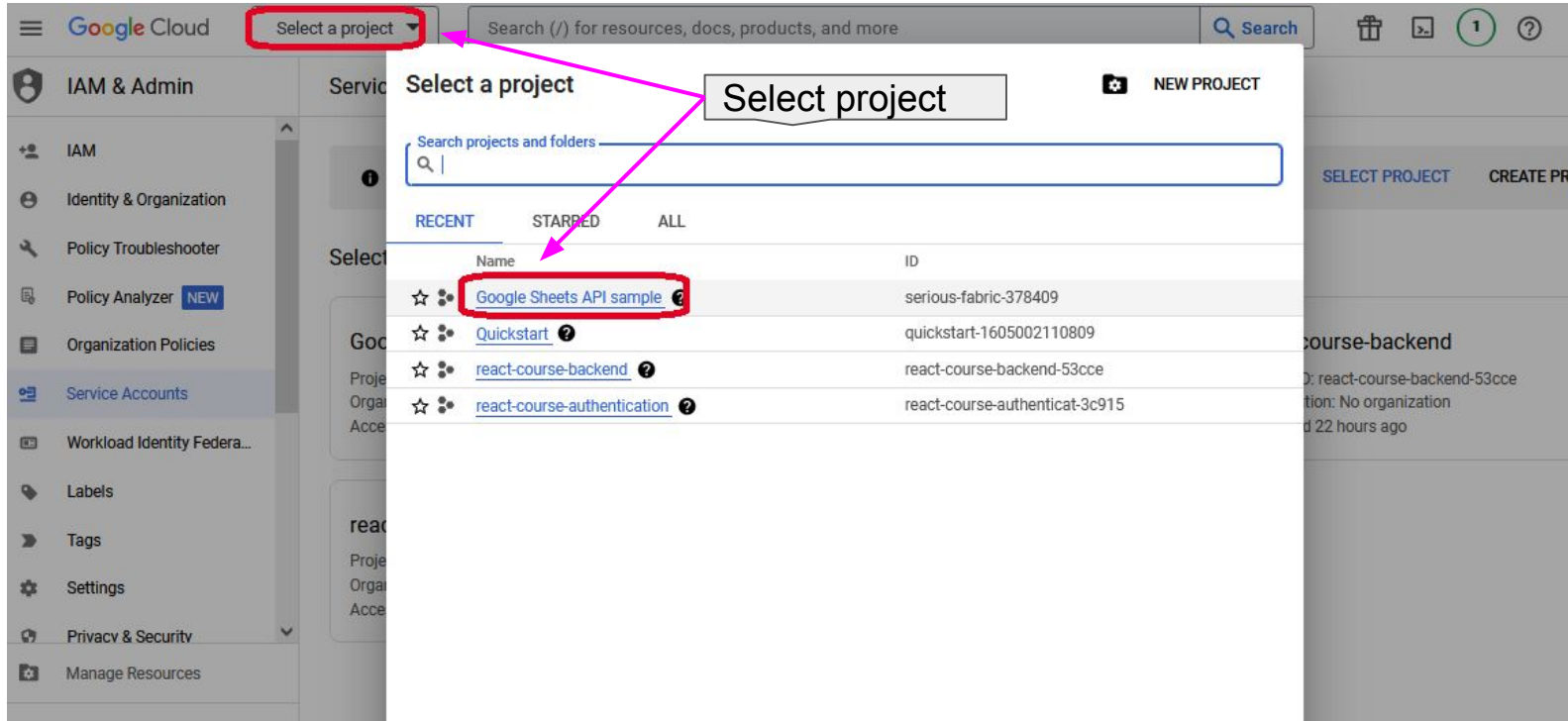
Click here

2. Select your service account.
3. Click **Keys** > **Add key** > **Create new key**.
4. Select **JSON**, then click **Create**.

Your new public/private key pair is generated and downloaded to your machine as a new file. This file is the only copy of this key. For information about how to store your key securely, see [Managing service account keys](#) .

5. Click **Close**.

Create credentials for a service account 2/x



Create credentials for a service account 3/x

The screenshot shows the Google Cloud IAM & Admin console. The breadcrumb navigation at the top indicates the path: Google Cloud > Google Sheets API sample. The left sidebar shows the navigation menu with 'Service Accounts' selected. The main content area is titled 'Service accounts for project "Google Sheets API sample"'. It contains a table of service accounts. One service account is listed with the email 'service-google-sheets-api-samp@serious-fabric-378409.iam.gserviceaccount.com'. The 'Actions' column for this service account has a dropdown menu open, with 'Manage keys' highlighted by a red box. A pink arrow points from a callout box with the text 'Click here' to the 'Manage keys' option.

Google Cloud

Google Sheets API sample

Search (/) for resources, docs... Search

IAM & Admin

Service accounts + CREATE SERVICE ACCOUNT DELETE HELP ASSISTANT LEARN

Service accounts for project "Google Sheets API sample"

A service account represents a Google Cloud service identity, such as code running on Compute Engine VMs, App Engine apps, or systems running outside Google. [Learn more about service accounts.](#)

Organization policies can be used to secure service accounts and block risky service account features, such as automatic IAM Grants, key creation/upload, or the creation of service accounts entirely. [Learn more about service account organization policies.](#)

Filter Enter property name or value

	Email	Status	Name ↑	Description	Key ID	Key crea	Actions
<input type="checkbox"/>	service-google-sheets-api-samp@serious-fabric-378409.iam.gserviceaccount.com	✓	Service Google Sheets API sample		No keys		<div>⋮ Manage details Manage permissions Manage keys View metrics View logs Disable</div>

Click here

Create credentials for a service account 4/x

Google Cloud

Google Sheets API sample

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

Search

IAM & Admin

Service Google Sheets API sample

DETAILS PERMISSIONS **KEYS** METRICS LOGS

Keys

Service account keys could pose a security risk if compromised. We recommend you avoid downloading service account keys and instead use the [Federation](#). You can learn more about the best way to authenticate service accounts on Google Cloud [here](#).

Add a new key pair or upload a public key certificate from an existing key pair.

Block service account key creation using [organization policies](#).
[Learn more about setting organization policies for service accounts](#)

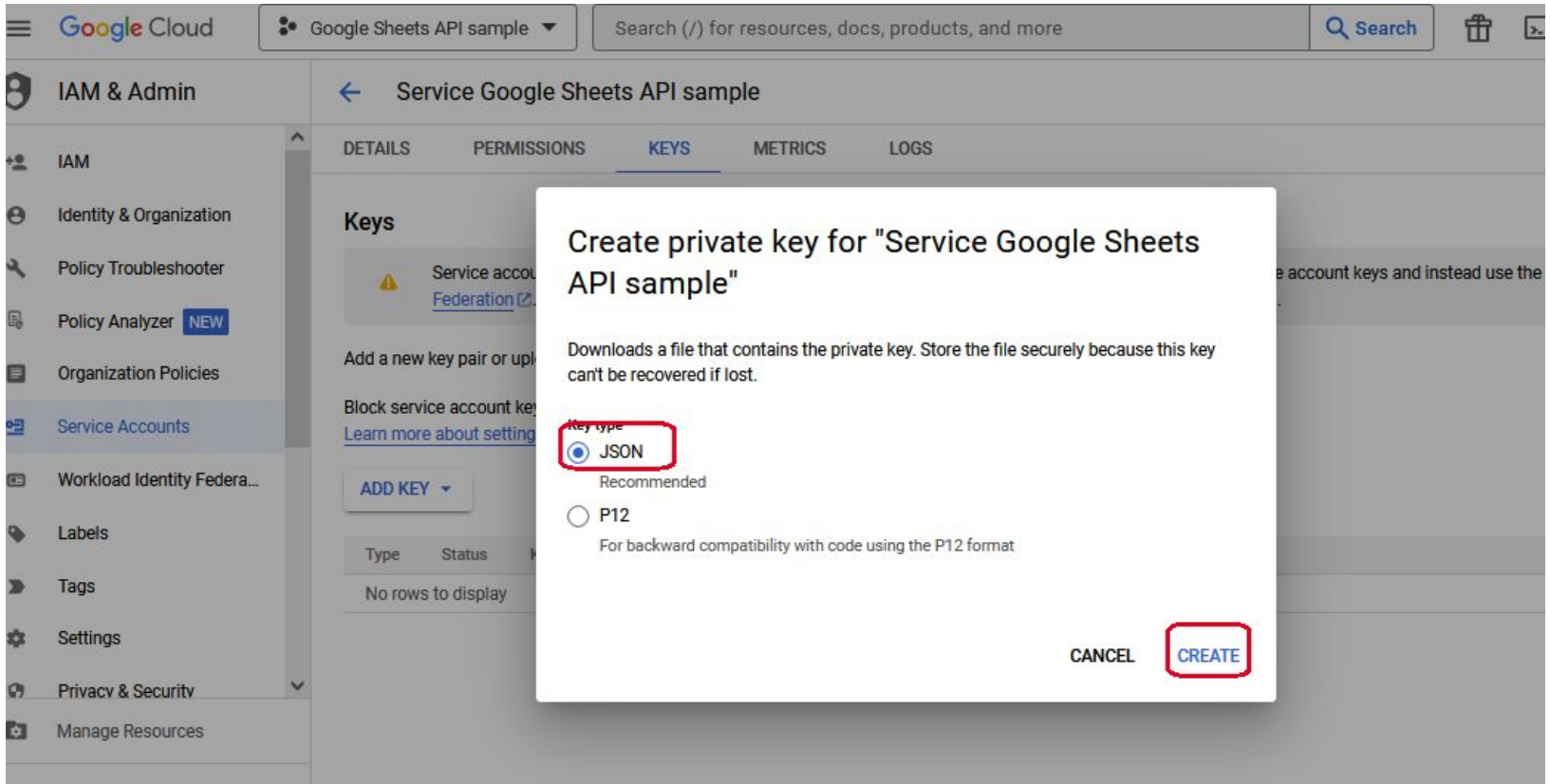
ADD KEY

Create new key

Upload existing key

Key creation date	Key expiration date
-------------------	---------------------

Create credentials for a service account 5/x



Create credentials for a service account 6/x

File serious-fabric-378409-482c310235f1.json is created on disk

Use client_email to share google resource e.g. google sheet

```
{
  "type": "service_account",
  "project_id": "serious-fabric-378409",
  "private_key_id": "482c310235f12ae4dfb87a2351ff841215434b66",
  "private_key": "-----BEGIN PRIVATE KEY-----\nMIIEvQIBADANBgkqhkiG9w0BAQEFAASCBKcwggSjAgEAAoIBAQDDdfE7OBzS
  "client_email": "service-google-sheets-api-samp@serious-fabric-378409.iam.gserviceaccount.com",
  "client_id": "100771169002336130897",
  "auth_uri": "https://accounts.google.com/o/oauth2/auth",
  "token_uri": "https://oauth2.googleapis.com/token",
  "auth_provider_x509_cert_url": "https://www.googleapis.com/oauth2/v1/certs",
  "client_x509_cert_url": "https://www.googleapis.com/robot/v1/metadata/x509/service-google-sheets-api-sam
}
```

Questions

- Clicking on Metrics - i see no traffic for natankrasney@gmail.com. But i do access gmail api t move from inbox to inbox_old so why i see no traffic ???
 - may be because it was created not via this workspace
 - may be the metrics is per project and the project used 'Google sheets api sample' has no api calls yet
- In general there are few type of credentials for google api : , why google sheets api has only two : OAuth and Service

References 1/x

Official docs

[Access all Google Workspace APIs in the Cloud Console](#) - Nov 2022

[Google Sheet API with NodeJS | Google Sheet as backend | Google Sheet CRUD operation with NodeJS](#) - June 2021

[Using Google Drive as a CMS](#)

References 2/x

[official docs : authentication and authorization](#)

[What are Service Accounts?](#) - Feb 2021 , google cloud tech . excellent

[Creating, managing, and retiring Service Accounts](#) - Mar 2021 , google cloud tech

[Service accounts & security](#) - May 2021 . good explanation