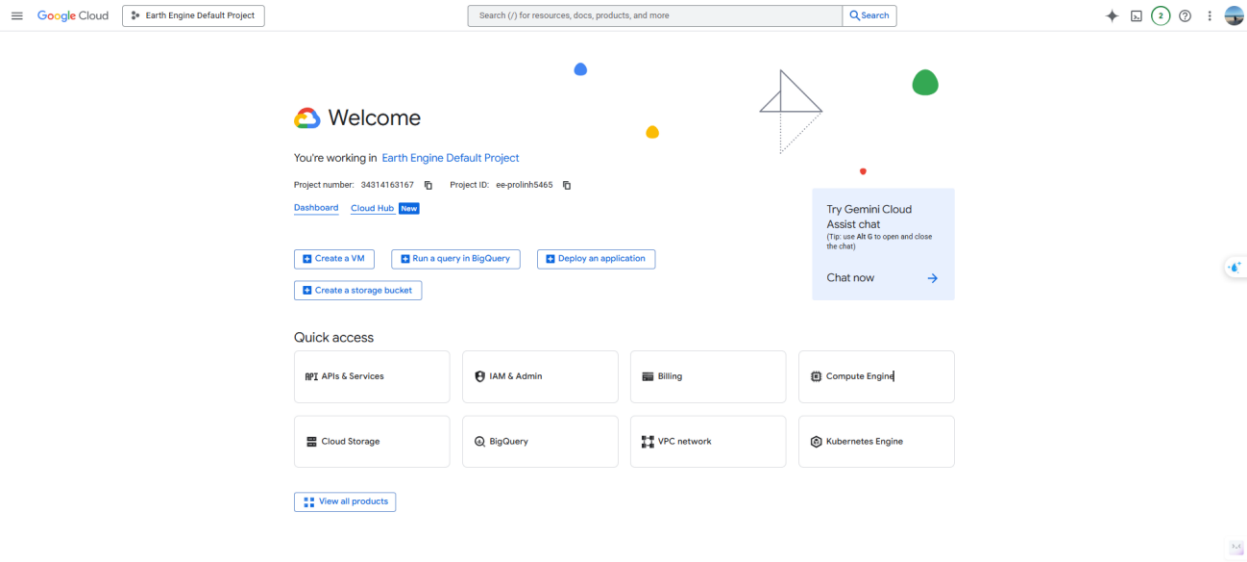
1. Introduction

In order to automate data reading and writing processes to Google Sheets through Python, it is necessary to establish a service account on the Google Cloud Platform (GCP). This account enables secure communication between Python scripts and Google services using OAuth 2.0 credentials. The following sections describe the step-by-step procedure to create a service account, enable the required APIs, and configure the authentication environment for Python integration.

2. Creating a Google Cloud Project

1. Access the Google Cloud Console at https://console.cloud.google.com/.
2. Log in using a valid Google account.
3. From the project selection menu, choose **"New Project"**.
4. Assign a project name (e.g., *Sheet Automation System*) and click **Create**.
5. Once created, ensure the project is selected as the active workspace.

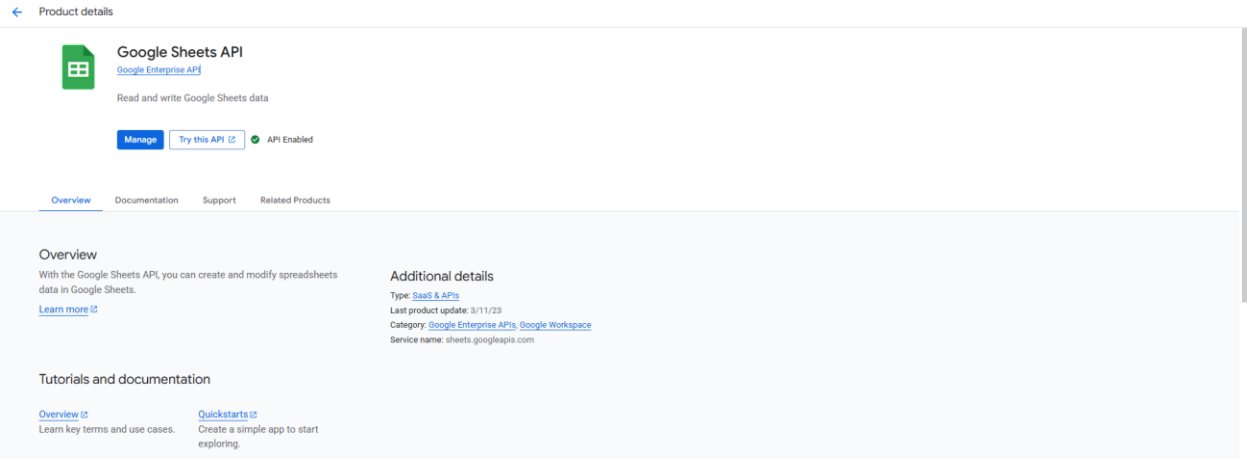


3. Enabling Google APIs

To allow programmatic interaction with Google Sheets, the following APIs must be activated within the project:

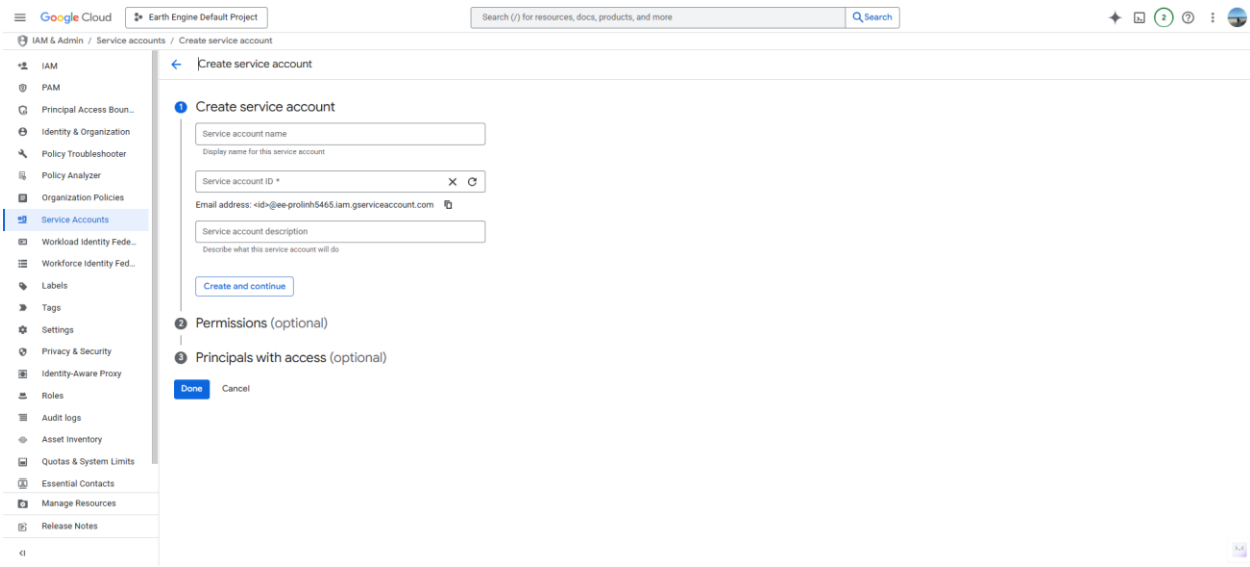
- **Google Sheets API**
- **Google Drive API**

These can be enabled by navigating to:
APIs & Services → Library, searching for each API by name, and selecting **Enable**.



4. Creating a Service Account

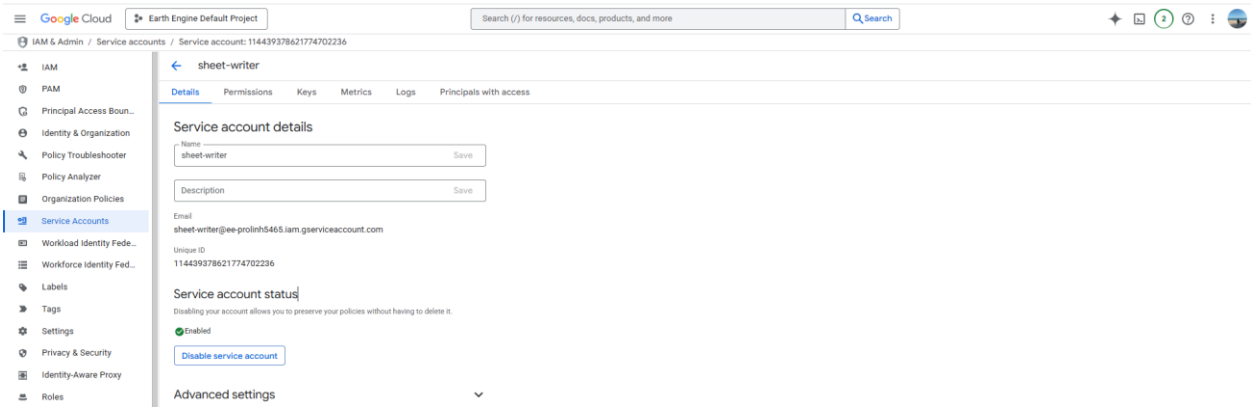
1. Go to **APIs & Services → Credentials**.
2. Select **Create Credentials → Service Account**.
3. Provide an account name and description (e.g., *Python Sheets Access*).
4. Assign a role such as **Editor**, which grants permissions for reading and writing data.
5. Complete the setup and return to the service account management page.



5. Generating a Service Account Key

1. Under the created service account, open the **Keys** tab.
2. Select **Add Key → Create new key**.

3. Choose the **JSON** format and click **Create**.
4. A key file (e.g., *service-account-key.json*) will be downloaded.
5. Rename the file to credentials.json and store it securely in the working directory of the Python project.



6. Granting Access to the Target Google Sheet

1. Open the desired Google Sheet.
2. Click **Share** and enter the service account's email address, which has the form:
3. service-account-name@project-id.iam.gserviceaccount.com
4. Assign the **Editor** role to allow modification privileges.