To export data from Google Analytics 4 (GA4) using Python, you can utilize the Google Analytics Data API v1. Below is a Python script for exporting data from GA4. This example assumes you have already set up a service account in Google Cloud and downloaded the JSON key file for authentication.

pip install google-analytics-data

Service Account Key File: Ensure that your service account key file is securely stored and its path is correctly specified in SERVICE\_ACCOUNT\_FILE.

Property ID: Replace YOUR\_GA4\_PROPERTY\_ID with the actual property ID from your GA4 account.

Metrics and Dimensions: Customize the dimensions and metrics as per your requirements.

Date Range: Modify the start\_date and end\_date parameters to fit your needs.

CSV Export: The data is saved in ga4\_data\_export.csv in the same directory as the script.

The SERVICE\_ACCOUNT\_FILE in the script refers to the JSON key file of a service account that has permissions to access the Google Analytics Data API. This file is essential for authentication and should be downloaded from the Google Cloud Console.

**Steps to Obtain the SERVICE\_ACCOUNT\_FILE**

1. **Create a Service Account**:
   * Go to the Google Cloud Console.
   * Navigate to **IAM & Admin** > **Service Accounts**.
   * Click **Create Service Account**.
2. **Assign Permissions**:
   * Assign the role **"Analytics Data Viewer"** to the service account.
3. **Create a Key**:
   * After creating the service account, click on it to open the details.
   * Go to the **Keys** tab and click **Add Key** > **Create New Key**.
   * Select **JSON** format and click **Create**. This downloads the key file to your computer.
4. **Grant Access to the GA4 Property**:
   * Go to your GA4 account.
   * Navigate to **Admin** > **Account Access Management**.
   * Add the service account's email (found in the JSON file) and assign it **Viewer** or higher permissions.
5. **Save the JSON File**:
   * Place the downloaded JSON file in a secure directory within your project.
   * In the script, set SERVICE\_ACCOUNT\_FILE to the path of this file.

Example:

python

Copy code

SERVICE\_ACCOUNT\_FILE = 'path/to/service\_account\_key.json'

**Security Best Practices**

* **Do not hardcode sensitive keys in your script**: Store them in environment variables or a secure location.
* **Restrict permissions**: Assign only the necessary roles to the service account.
* **Keep the key file secure**: Avoid sharing or exposing it in public repositories.

**Step-by-Step Guide: Granting Access to a GA4 Property for a Service Account**

To ensure your service account can access your GA4 property data, follow these steps:

**1. Access GA4 Admin Settings**

1. Log in to Google Analytics.
2. In your GA4 account, select the property where you want to grant access.
3. Navigate to **Admin** in the left-hand menu.

**2. Open Account Access Management**

1. Under the **Account** or **Property** section, find and click on **Account Access Management** or **Property Access Management** (depending on the scope you want to assign access to).
   * **Account Access Management**: Grants access at the account level (applies to all properties in the account).
   * **Property Access Management**: Grants access only to a specific property.

**3. Add the Service Account Email**

1. Click the **+** button in the upper-right corner and select **Add Users**.
2. In the **Add users** window:
   * Enter the **email address** of the service account. You can find this email in your service account JSON key file under the client\_email field. It looks something like this:

css

Copy code

your-service-account@your-project-id.iam.gserviceaccount.com

**4. Assign Permissions**

1. In the **Permissions** section, select the appropriate role for the service account. Typically:
   * Choose **Viewer** if you only need the service account to read data.
   * Choose **Editor** if you need to configure reports or settings (less common for data export).
2. Ensure the **Notify new users by email** box is unchecked (since service accounts do not have an inbox).

**5. Confirm Access**

1. Click **Add** to save the changes.
2. The service account now has access to the GA4 property or account.

**Verification**

Once access is granted:

1. Run your Python script to fetch data.
2. If you encounter any errors, double-check the **email address**, **permissions**, and ensure the service account key is valid.