

TECHNICAL REFERENCE GUIDE

Setting up a Google Service Account



EXECUTIVE SUMMARY

This *White Paper* provides details how to set up a **Google Service Account** in order to migrate multiple user mailboxes TO & FROM G Suite / Gmail in batch mode, without needing to rely on end-user passwords.

Need more help?

If you can't find the information you seek, please view the Help File, which contains the most detailed information about every feature within the tool, including additional best practices.

Please also contact us directly to get answers to your questions, as well as inform us of what's missing in this White Paper – we're always looking for ways to improve our offering, and documentation is an important piece of the puzzle.

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Section 1: Overview

There are two methods to migrate email to and from G Suite/Gmail in batch mode. Transend Migrator can connect to the Google message store via both the Google API (recommended) and IMAP.

In Transend Migrator, you have the following options in the Source and Target dropdown windows:

- Gmail IMAP (service account) – uses IMAP to migrate email data
- G Suite/Google Apps (service account) – uses Google API to migrate Email, Calendars, Contacts and Tasks.

Note: IMAP supports migrating email data only, and does not support migrating Calendars, Contacts and Tasks

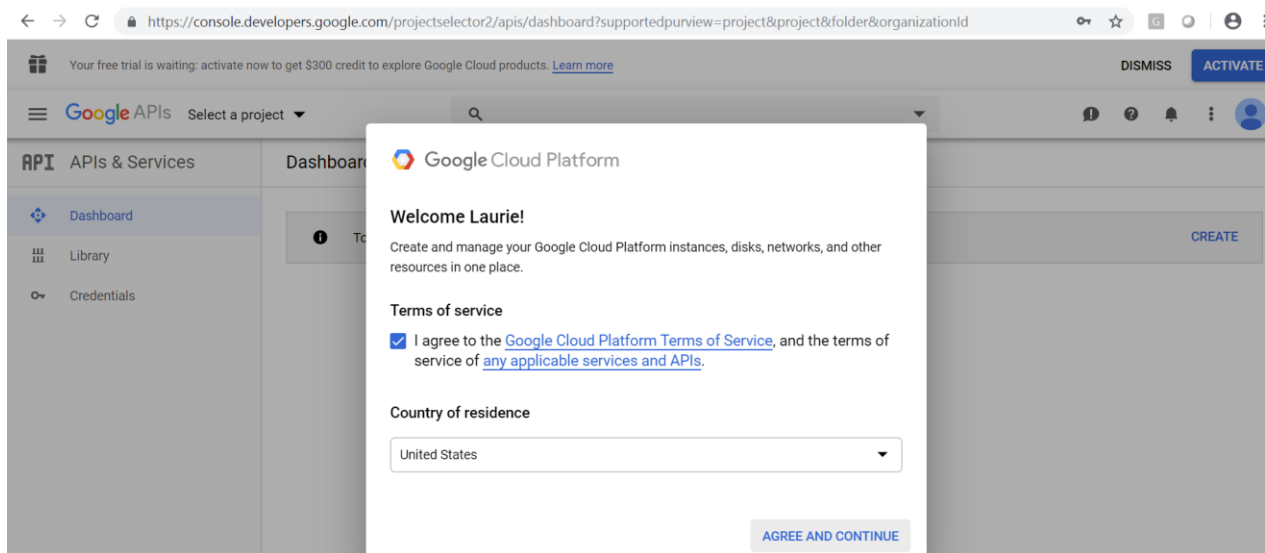
The below steps detail how to create and enable a service account and a Google project in order to grant access to your Google APIs to migrate user data via the service account.

Section 2: Create a Service Account in Google Developers Console

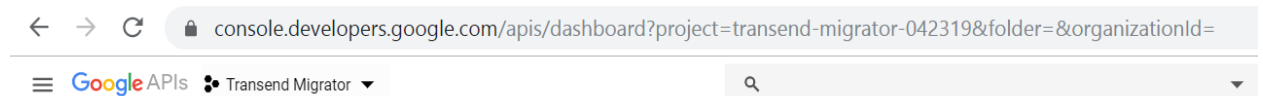
Recommended: Use the Google Chrome web browser to create the Google Service Account. Some configuration options do not display in Internet Explorer or Firefox.

You will be given a service account email address and client id which you should note, and be able to download a private key file P12 format ("Google-privatekey.p12") which you should store in a secure location.

- Go to the [Google Developers Console](https://console.developers.google.com): console.developers.google.com
- Click **I agree** and click **AGREE AND CONTINUE**



- Click the three dots to create a new Project



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- Click **New Project** (in the upper right) or use an existing Project

The screenshot shows a 'Select from' dialog box. At the top, it says 'Select from' followed by a dropdown menu showing 'TRANSENDTESTING.COM'. To the right is a 'NEW PROJECT' button and a three-dot menu icon. Below this is a search bar with the placeholder text 'Search projects and folders'. Under the search bar are two tabs: 'RECENT' (which is selected) and 'ALL'. Below the tabs is a table with two columns: 'Name' and 'ID'. The table contains one entry: 'Transend Migrator' with a checkmark icon on the left and a question mark icon on the right, and the ID 'transend-migrator-042319'. At the bottom right of the dialog are 'CANCEL' and 'OPEN' buttons.

Name	ID
✓ Transend Migrator ?	transend-migrator-042319

- Enter the Project Name
- Click **Browse** to set your Location to your Domain
- Click **CREATE**

The screenshot shows the 'New Project' page in the Google Cloud console. The URL in the address bar is 'console.developers.google.com/projectcreate?previousPage=%2Fapis%2Fdashboard%3Fproject%3Dtransend-migrator-042319&folder=&organiz...'. The page has a 'Project name' field with the value 'Transend Migrator 092719' and a question mark icon. Below this is a note: 'Project ID: transend-migrator-092719. It cannot be changed later. EDIT'. The 'Organization' field shows 'transendtesting.com' with a question mark icon. Below this is a note: 'This project will be attached to transendtesting.com'. The 'Location' field shows 'transendtesting.com' with a 'BROWSE' button. At the bottom are 'CREATE' and 'CANCEL' buttons.

Project name *
Transend Migrator 092719 ?

Project ID: transend-migrator-092719. It cannot be changed later. [EDIT](#)

Organization
transendtesting.com ?

This project will be attached to transendtesting.com.

Location *
transendtesting.com [BROWSE](#)

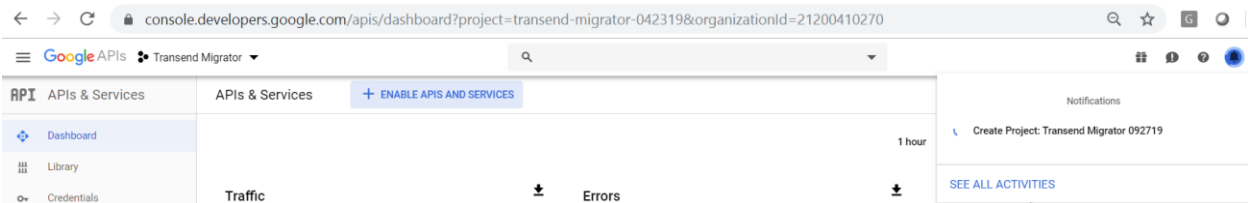
Parent organization or folder

[CREATE](#) [CANCEL](#)

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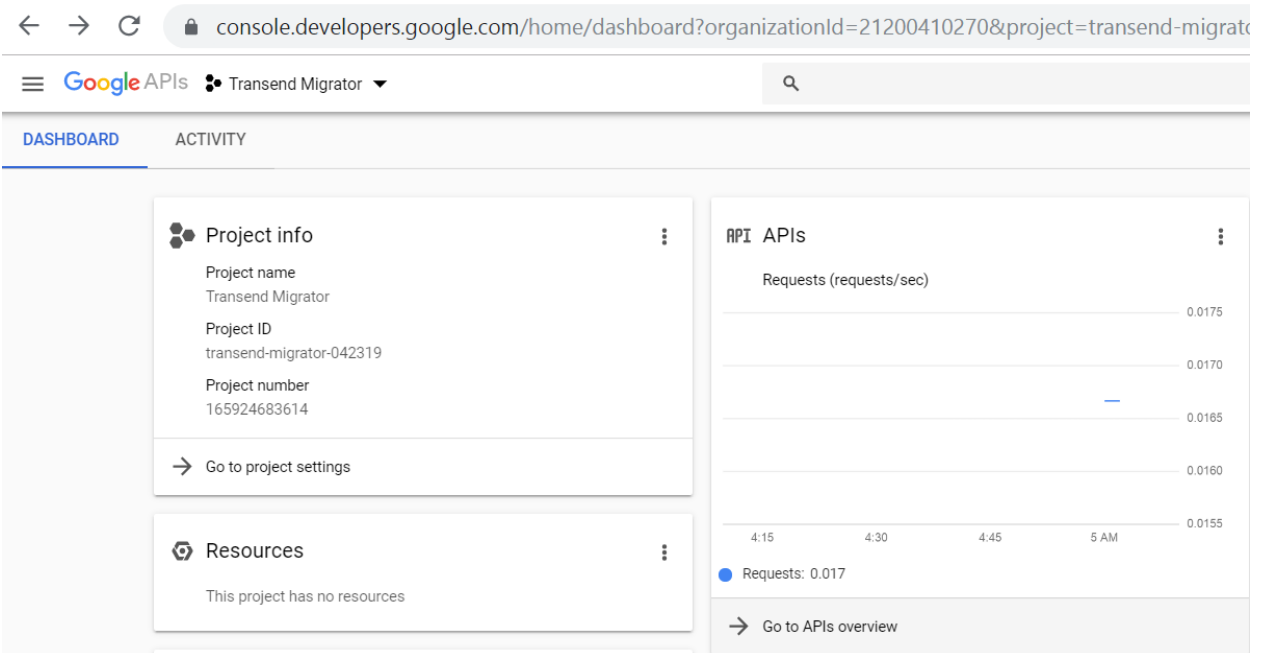
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The Project Notification will display as the Project is created

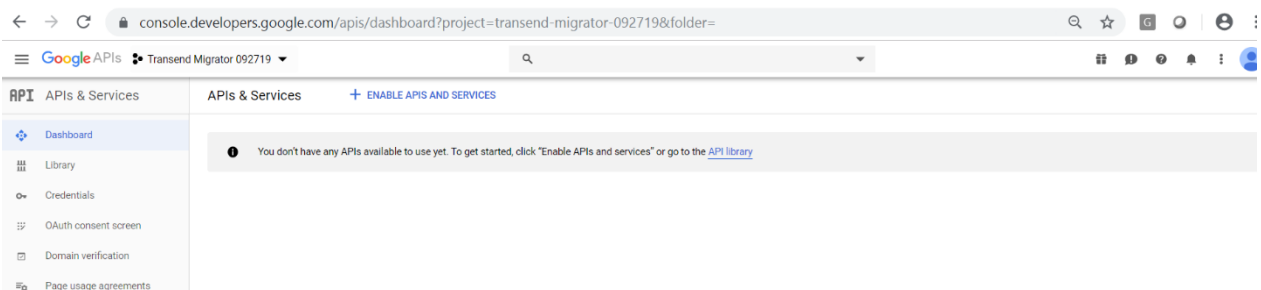


From the Dashboard

- Click **Go To APIs overview** at the bottom of the APIs box



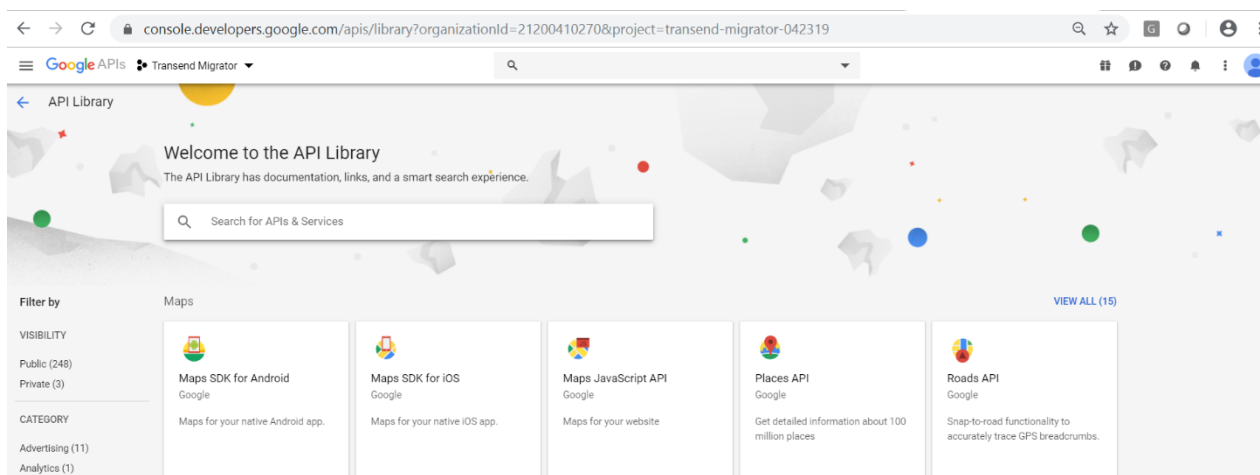
- Click **ENABLE APIS AND SERVICES**



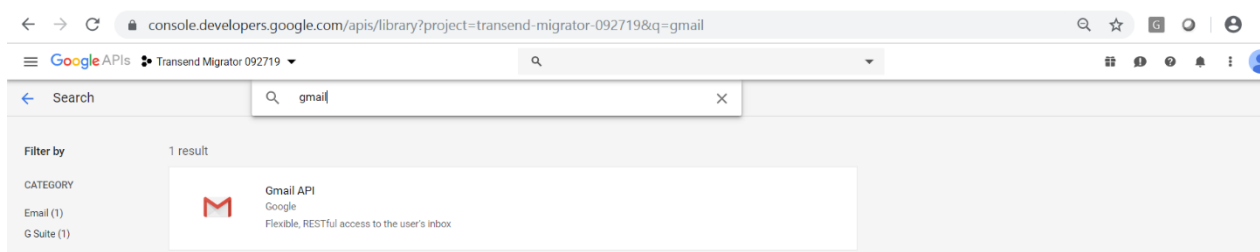
Welcome to the API Library will open, add the following required APIs:

- ✓ Gmail API
- ✓ Google Calendar API
- ✓ Contacts API
- ✓ Tasks API
- ✓ Admin SDK
- ✓ Google Drive API
- ✓ People API

- In the *Search for APIs & Services* box, enter the term **Gmail API**

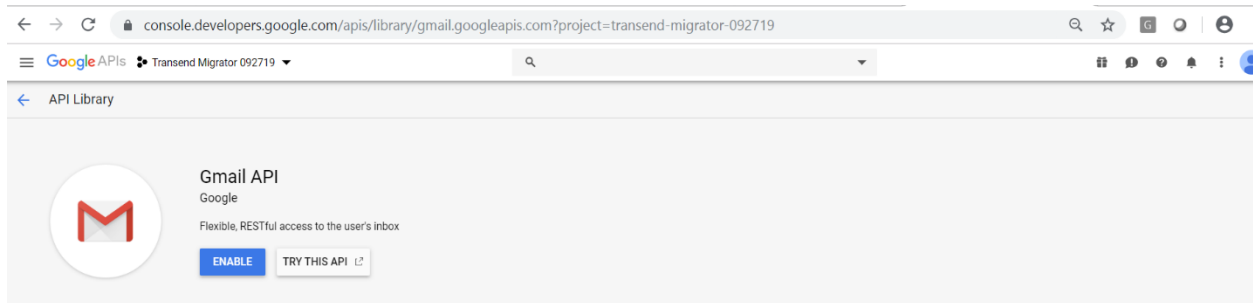


- Open the **Gmail API**



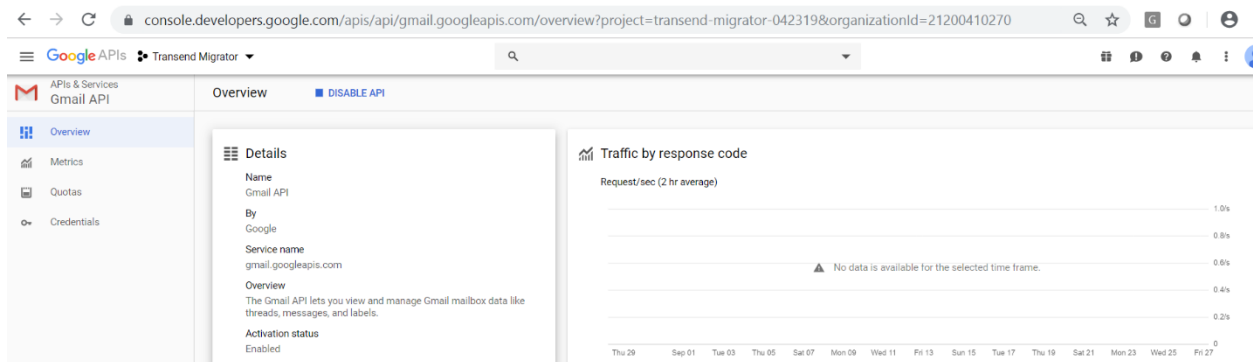
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- Click **Enable**

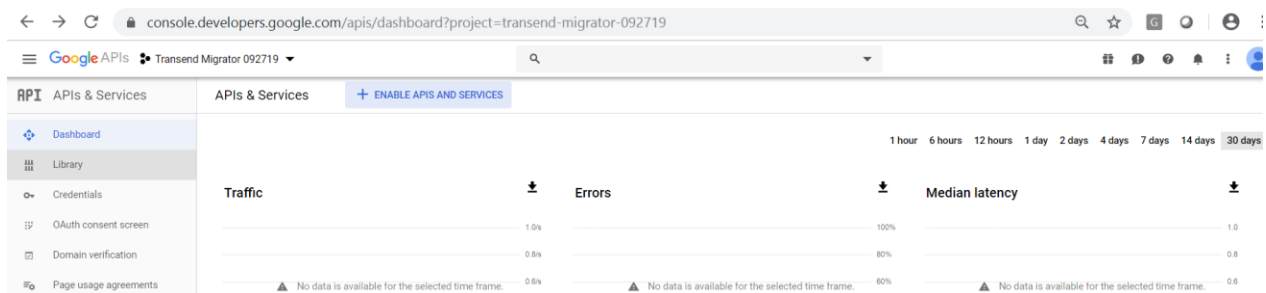


This will open the Gmail API

- Click the top link **Apps & Services Gmail API**

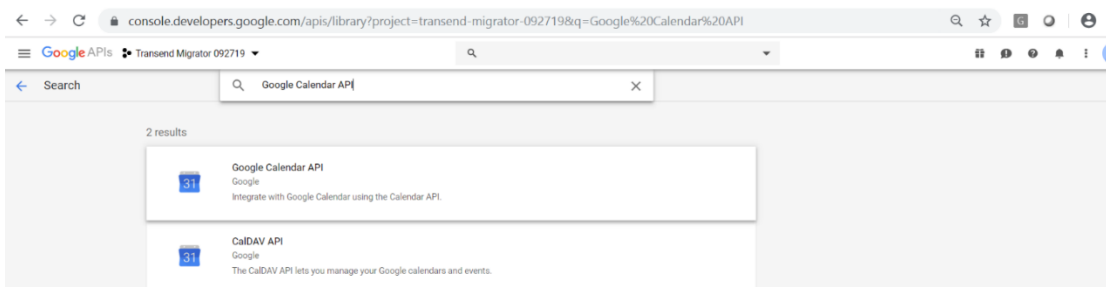


- Click **Library** in the side navigation to open the API Library



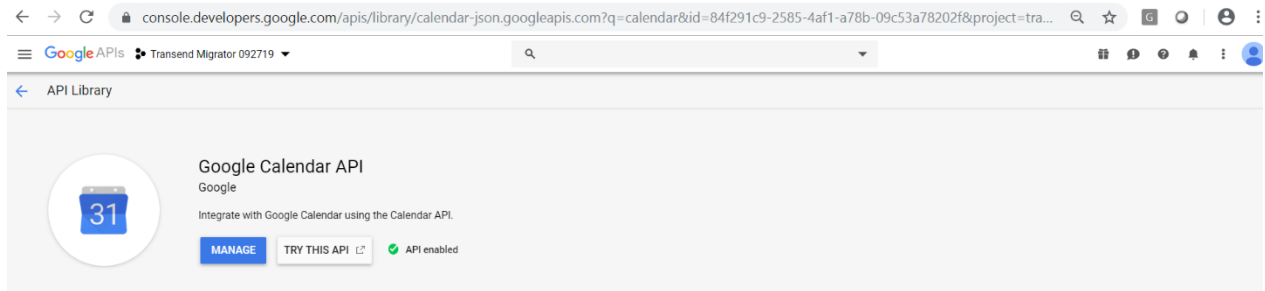
Search in the API Library for the following term: **Google Calendar API**

- Click **Google Calendar API** to open and enable



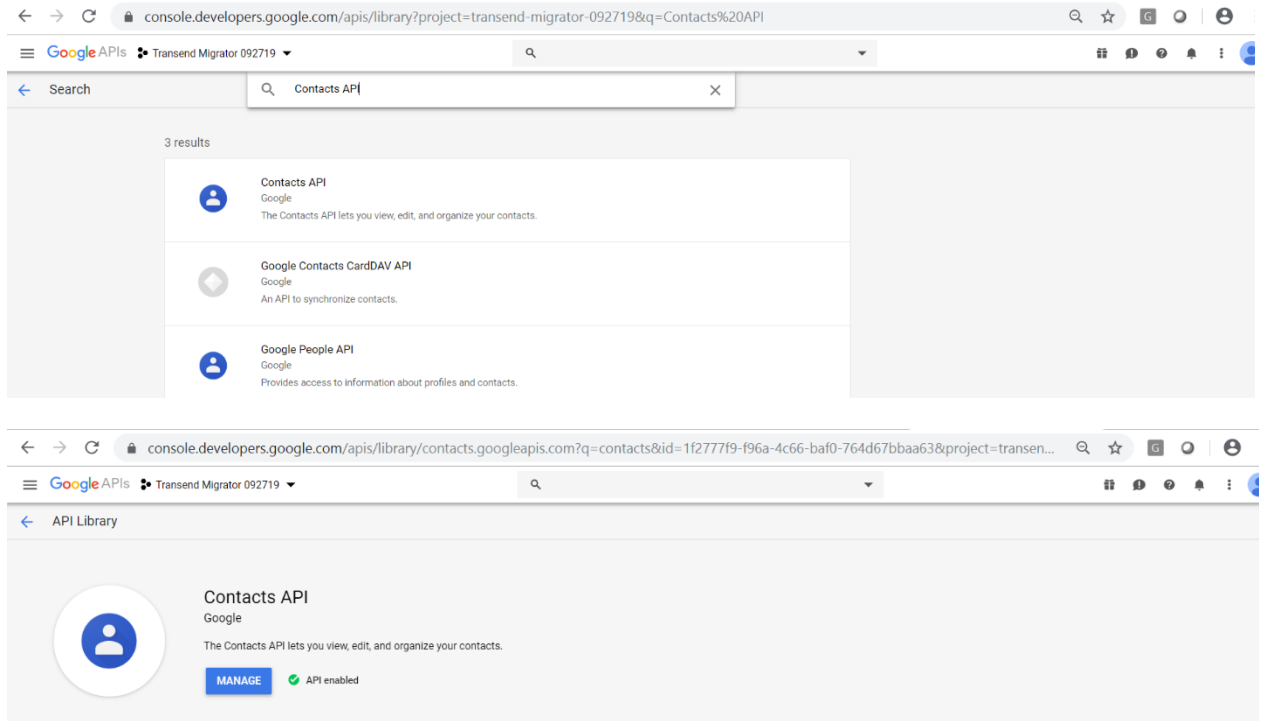
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- Click **Enable**



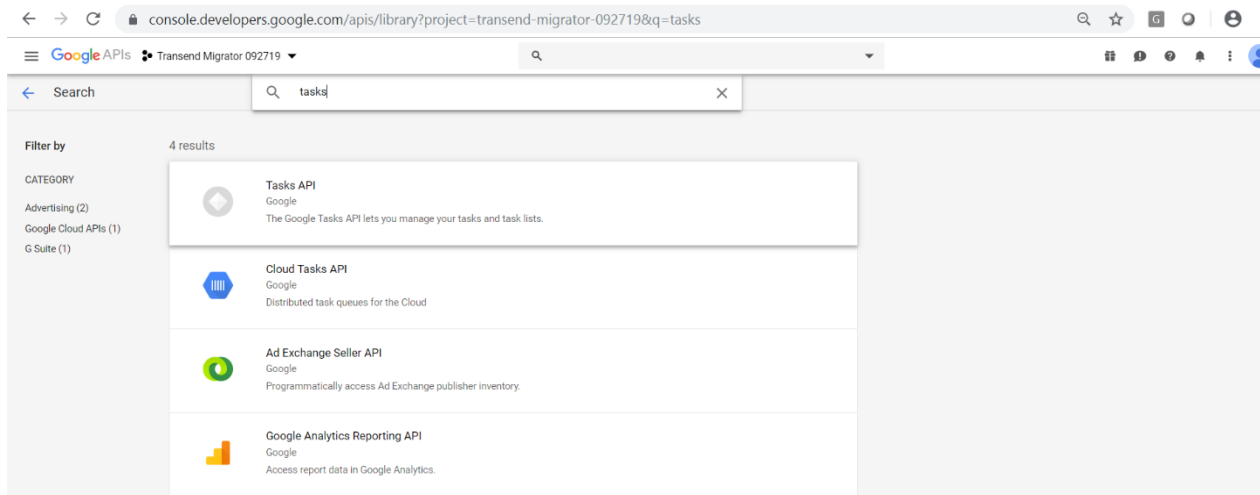
Search in the API Library for the following term: **Contacts API**

- Click **Google Contacts API** to open and enable

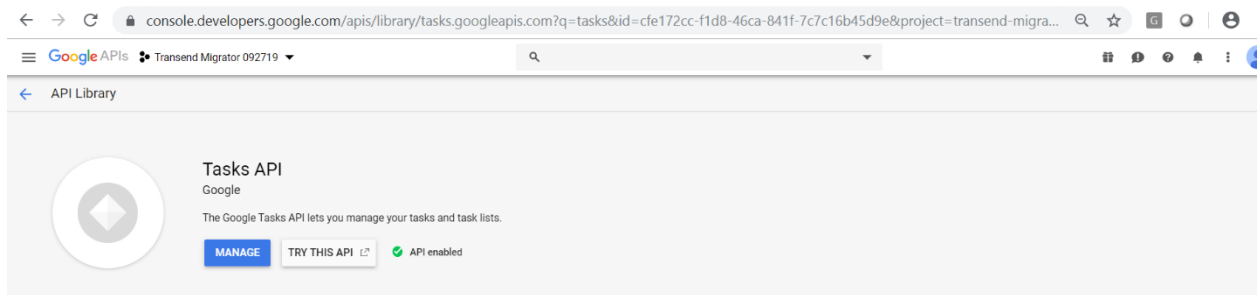


Search the API Library for the following term: **Tasks API**

- Click **Google Tasks API** to open and enable

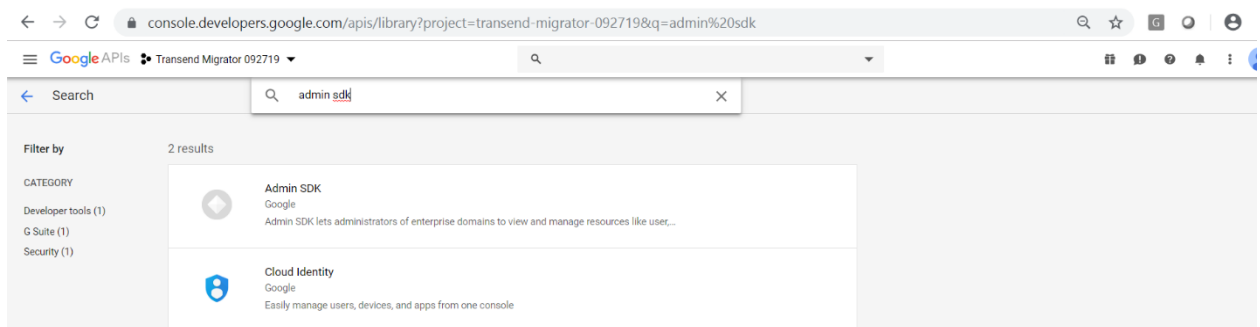


- Click **Enable** – Check that the API enabled is checked



Search in the API Library for the following term: **Admin SDK**

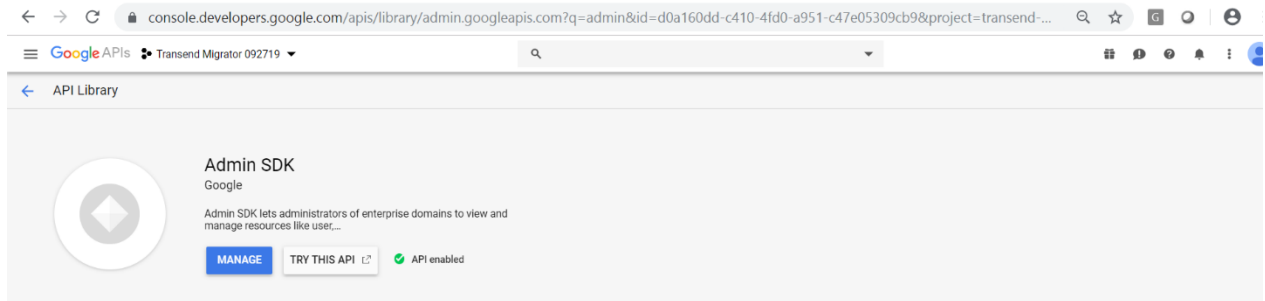
- Click **Admin SDK** to open and enable



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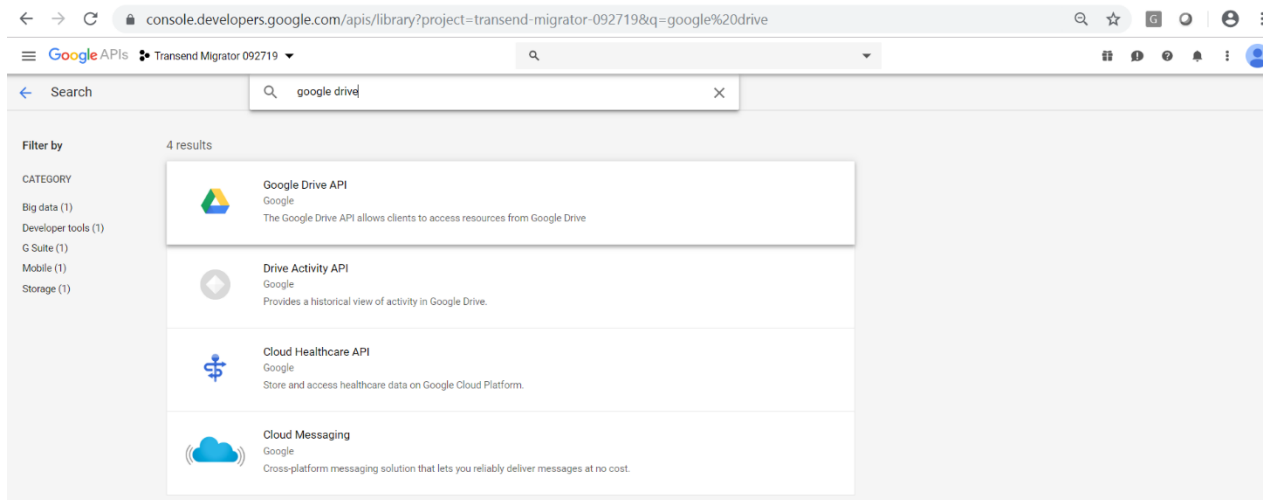
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- Click **Enable** – Check that the API enabled is checked

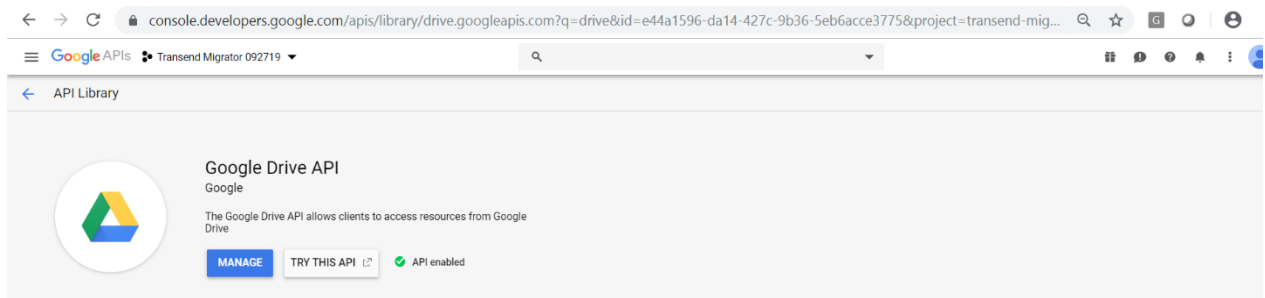


Search in the API Library for the following term: **Google Drive API**

- Click **Google Drive** to open and enable



- Click **Enable** – Check that the API enabled is checked

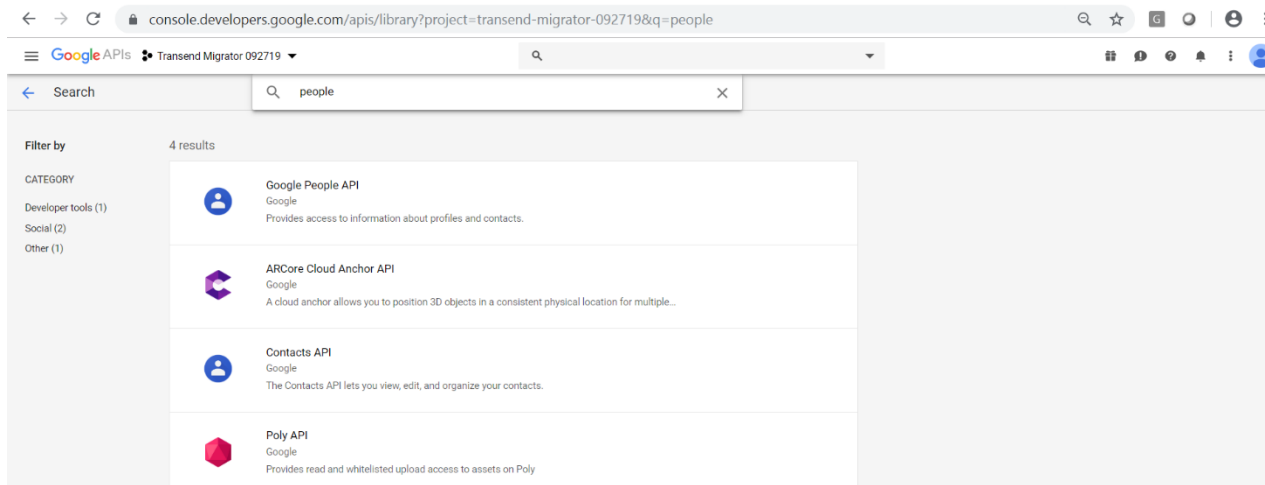


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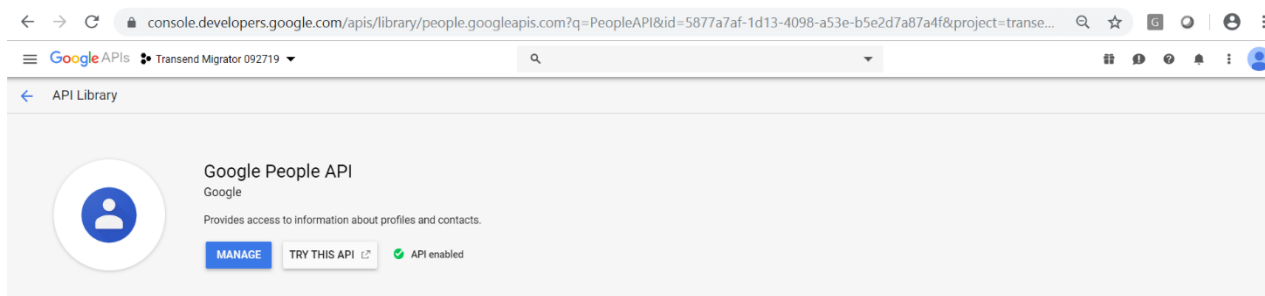
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Search in the API Library for the following term: **People API**

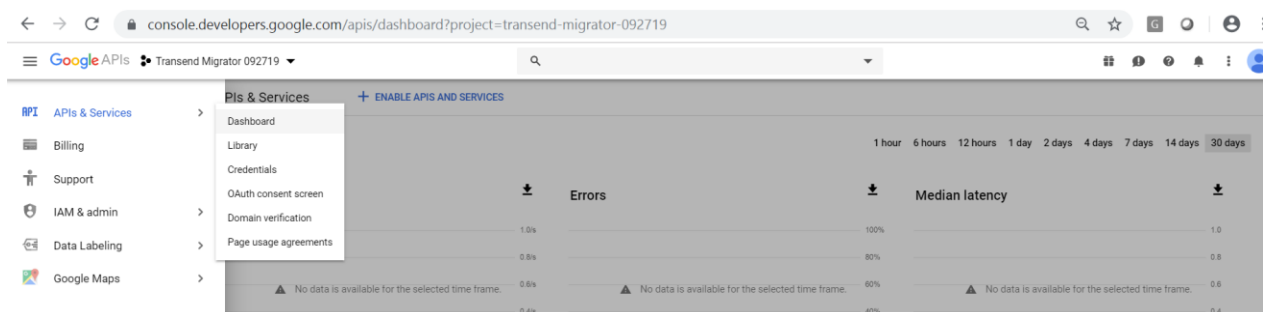
- Click **People API** to open and enable



- Click **Enable** – Check that the API enabled is checked



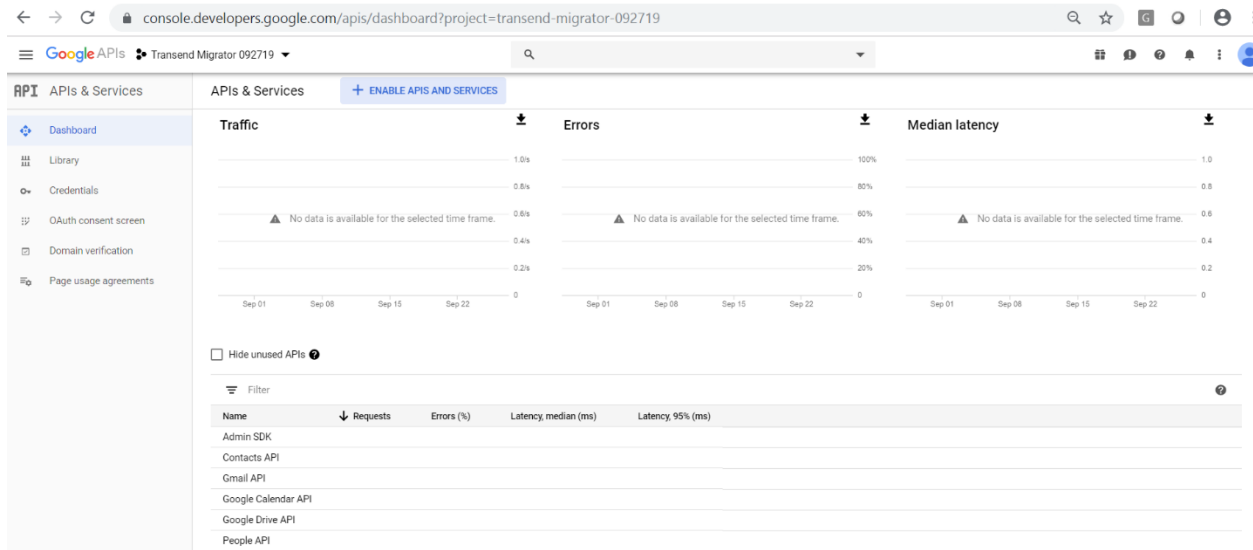
Click **APIs & Services > Dashboard**



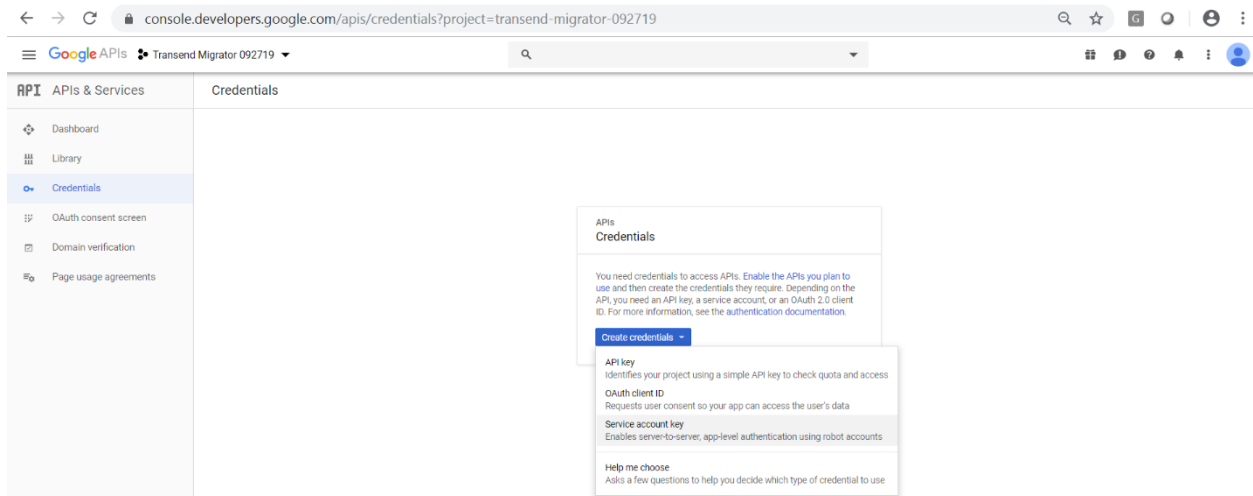
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In the Dashboard confirm all APIs are enabled



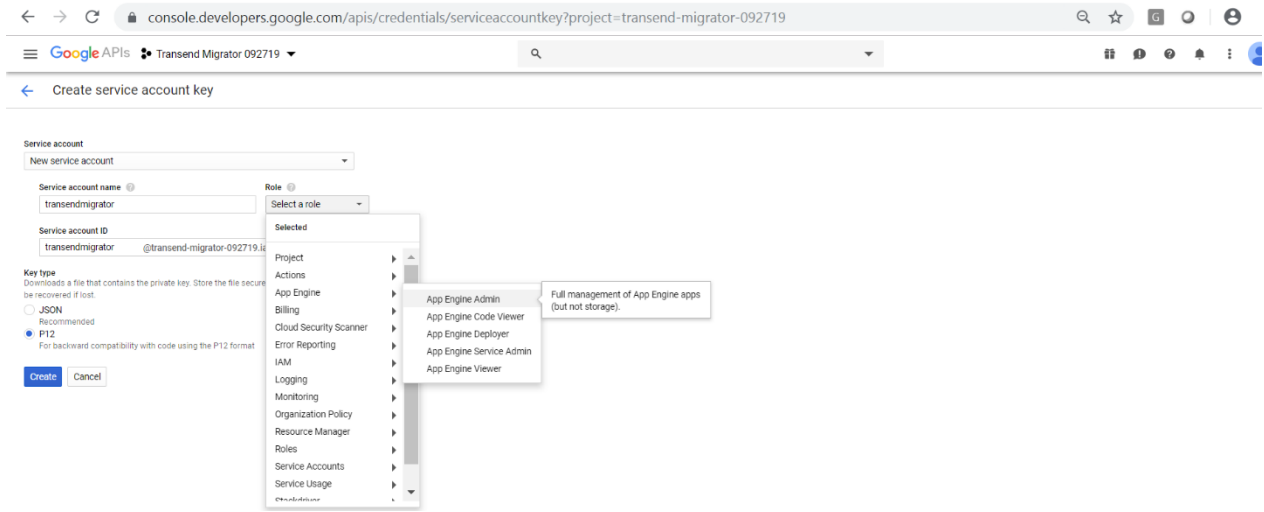
- Click **Credentials** on the side navigation
- Click **Create credentials**
- Select **Service account key**



- Select **New Service Account**
- Enter the following Service account name: **Transendmigrator**
- Click **Select a Role**
- Click **App Engine > App Engine Admin**
- Select .P12 key

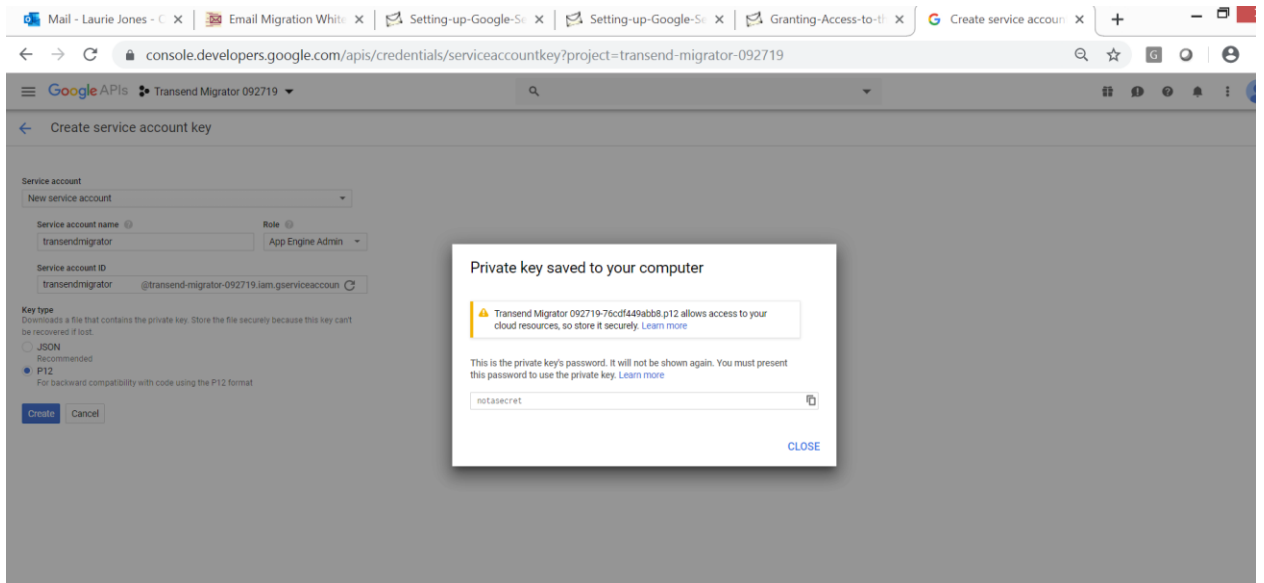
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- Click **Create**



The .P12 key is now downloaded to your workstation

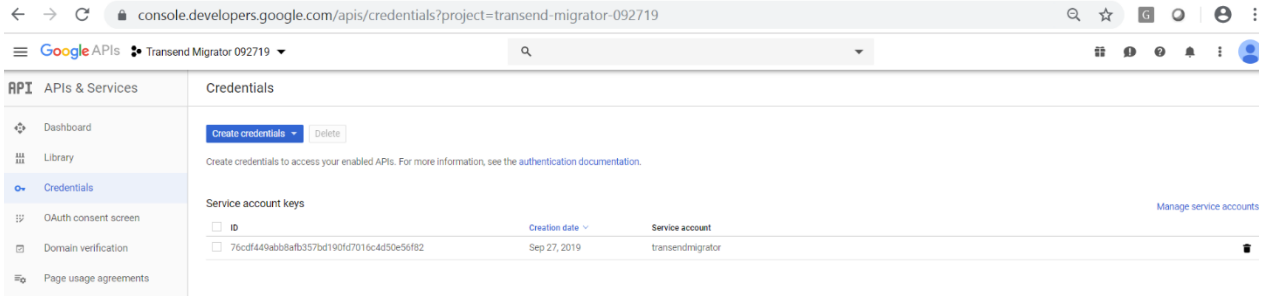
- Click **Close**



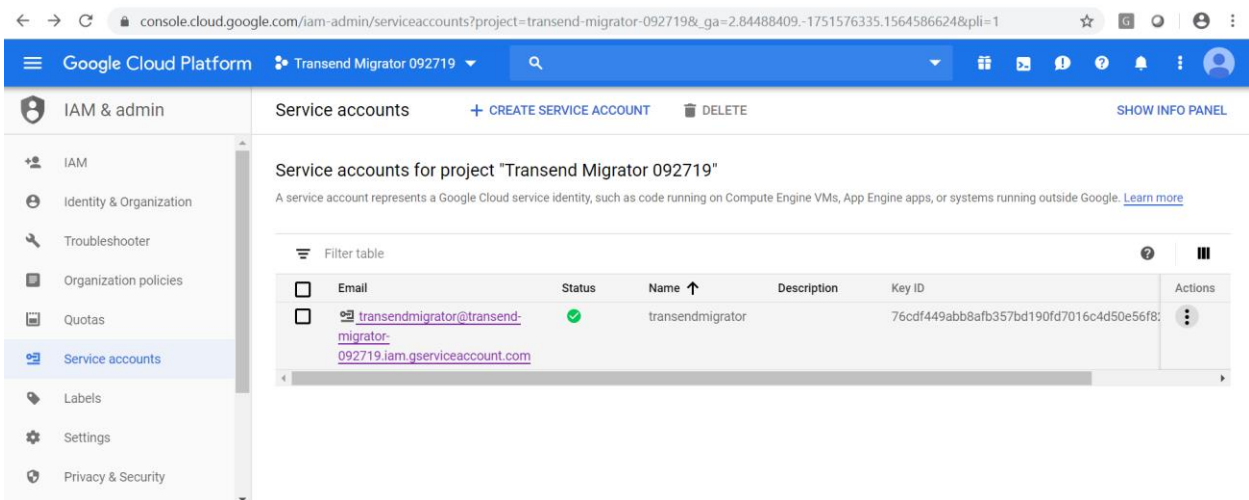
This opens the Credentials for the new service account keys

- Click on **Manage service accounts**

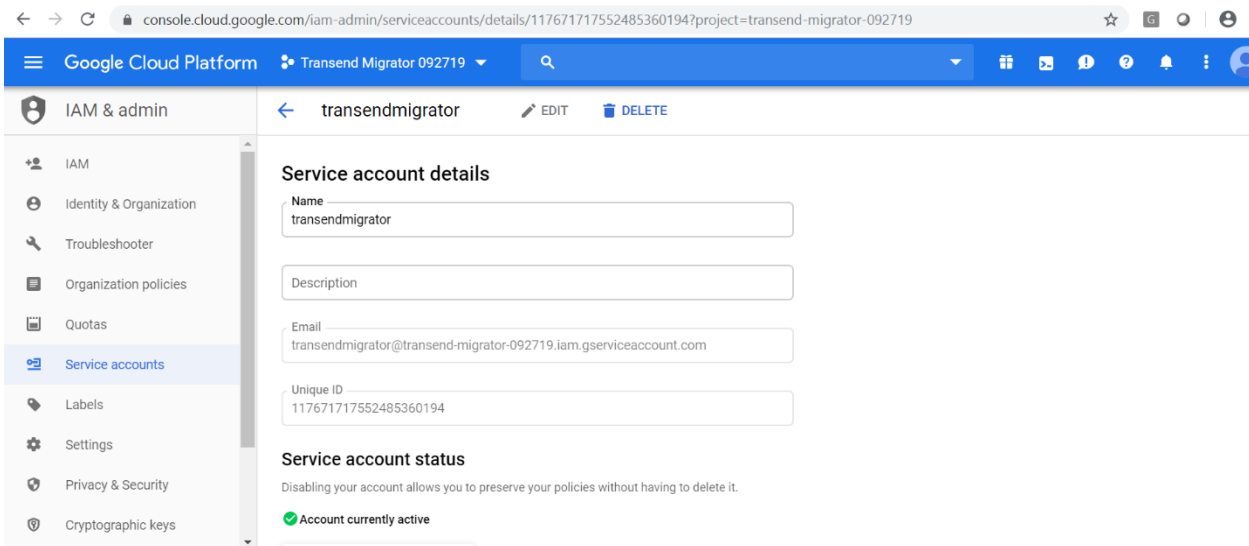
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- Open the service account by clicking on the service account email address

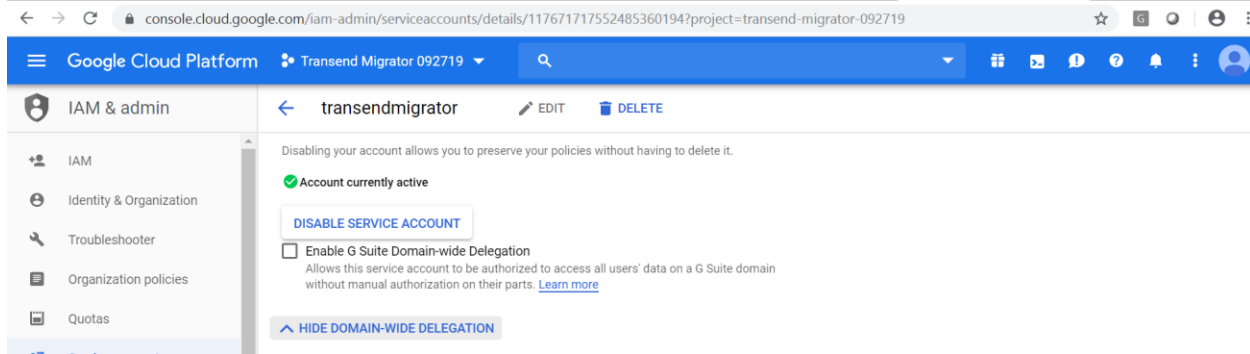


- Add Description
- Scroll down to Domain Wide Delegation on this page

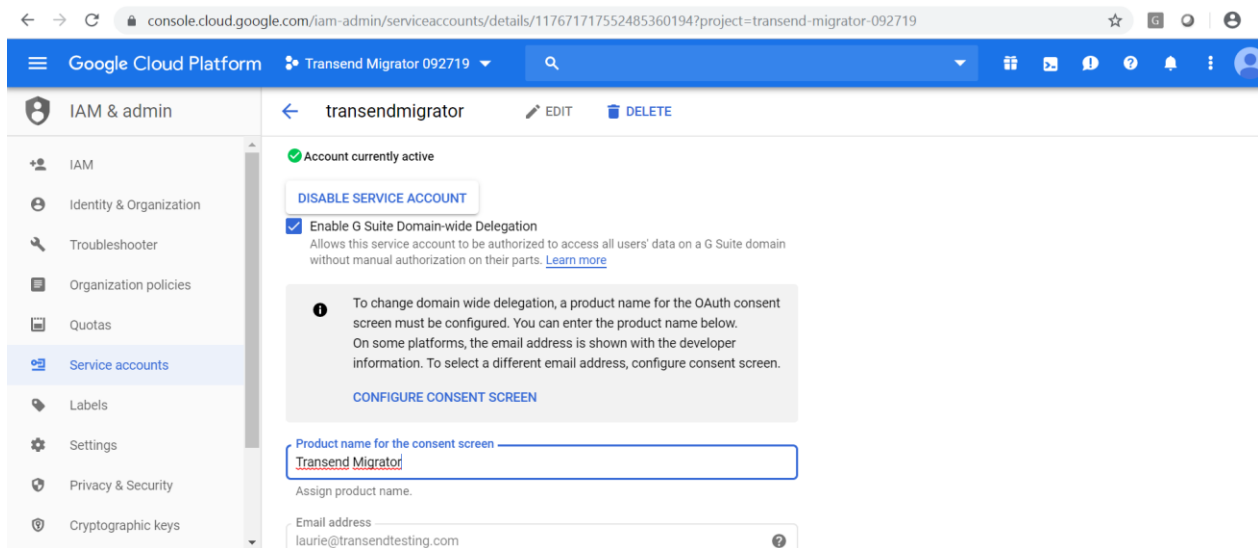


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- Click **Show Domain Wide Delegation**
- Click **Enable G Suite Domain-wide Delegation**



- Enter Product name for consent screen: **Transend Migrator**
- Click **Configure Consent Screen**



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- Application Type - Click **Internal**
- Enter the Application Name: **Transend Migrator**

The screenshot shows the Google Cloud Platform console for the project 'Transend Migrator 092719'. The left sidebar lists navigation options: Dashboard, Library, Credentials, OAuth consent screen (selected), Domain verification, and Page usage agreements. The main content area is titled 'OAuth consent screen'. It contains a description of the consent screen, an 'Application type' section with 'Internal' selected, an 'Application name' field with 'Transend Migrator' entered, and an 'Application logo' section with a 'Browse' button. On the right, there is information about the consent screen and OAuth verification.

Before your users authenticate, this consent screen will allow them to choose whether they want to grant access to their private data, as well as give them a link to your terms of service and privacy policy. This page configures the consent screen for all applications in this project.

Application type

☐ Public
Any Google Account can grant access to the scopes required by this app.
[Learn more about scopes](#)

☒ Internal
Only users with a Google Account in your organization can grant access to the scopes requested by this app.

Application name ⓘ
The name of the app asking for consent

Application logo ⓘ
An image on the consent screen that will help users recognize your app
Local file for upload

About the consent screen
The consent screen tells your users who is requesting access to their data and what kind of data you're asking to access.

OAuth verification
To protect you and your users, your consent screen and application may need to be verified by Google. Verification is required if your app is marked as **Public** and at least one of the following is true:

- Your app uses a sensitive and/or restricted scope
- Your app displays an icon on its OAuth consent screen
- Your app has a large number of authorized domains
- You have made changes to a previously-verified OAuth consent screen

The verification process may take up to several weeks, and you will receive email updates as it progresses. [Learn more](#) about verification.

Scroll down

- Click **Add Scope**

The screenshot shows the same Google Cloud Platform console page, but now with additional configuration. The 'Scopes for Google APIs' section is expanded, showing a list of scopes: email, profile, and openid. An 'Add scope' button is visible. The 'Authorized domains' section is also expanded, showing a list of domains with 'example.com' entered. The right sidebar now includes a 'Token grant rate' section and a 'Raise limit' button.

Scopes for Google APIs
Scopes allow your application to access your user's private data. [Learn more](#)
If you add a sensitive scope, such as scopes that give you full access to Calendar or Drive, Google will verify your consent screen before it's published.

email
profile
openid

Authorized domains ⓘ
To protect you and your users, Google only allows applications that authenticate using OAuth to use Authorized Domains. Your applications' links must be hosted on Authorized Domains. [Learn more](#)

Type in the domain and press Enter to add it

[Let us know what you think](#) about our OAuth experience.

OAuth grant limits

Token grant rate
Your current per minute token grant rate limit is 100 grants per minute. The per minute token grant rate resets every minute. Your current per day token grant rate limit is 10,000 grants per day. The per day token grant rate resets every day.

[Raise limit](#)

1h 6h **1d** 7d 30d

Sep 26, 2019 6:35 AM

No data for this time interval

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- **Select All** by clicking the first checkbox API
- Scroll down and click **ADD**

The screenshot shows the 'Add scope' page in the Google Cloud Platform console. The left sidebar contains the 'APIs & Services' menu with options like Dashboard, Library, Credentials, OAuth consent screen, Domain verification, and Page usage agreements. The main content area is titled 'Add scope' and includes a search bar and a table of available scopes. The first checkbox is checked, and the 'Add' button is visible at the bottom.

API	Scope	Description
<input checked="" type="checkbox"/>	email	View your email address
<input type="checkbox"/>	profile	See your personal info, including any personal info you've made publicly available
<input type="checkbox"/>	openid	Associate you with your personal info on Google
<input checked="" type="checkbox"/>	Google Drive API	See, edit, create, and delete all of your Google Drive files
<input checked="" type="checkbox"/>	Google Drive API	View and manage its own configuration data in your Google Drive
<input checked="" type="checkbox"/>	Google Drive API	View and manage Google Drive files and folders that you have opened or created with this app
<input checked="" type="checkbox"/>	Google Drive API	View and manage metadata of files in your Google Drive
<input checked="" type="checkbox"/>	Google Drive API	View metadata for files in your Google Drive

Cannot find a scope? Only scopes for enabled APIs are listed above. To add a missing scope please visit the [Google API Library](#) to find and enable the API you would like to use before returning to add scopes, or [manually paste](#) your scopes.

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Scroll to **Authorized Domains**

- Enter your Google Domain
- Click **Save**

The screenshot shows the 'OAuth consent screen' configuration page in the Google Cloud Platform console. The left sidebar lists navigation options: Dashboard, Library, Credentials, OAuth consent screen (selected), Domain verification, and Page usage agreements. The main content area is titled 'OAuth consent screen' and includes a URL field with the value '.../auth/gmail.labels'. Below this is an 'Add scope' button. The 'Authorized domains' section contains a text input field with 'transendtesting.com' and a note: 'To protect you and your users, Google only allows applications that authenticate using OAuth to use Authorized Domains. Your applications' links must be hosted on Authorized Domains. Learn more'. Below this is a note: 'Type in the domain and press Enter to add it'. The 'Application Homepage link' section has a text input field with 'https:// or http://'. The 'Application Privacy Policy link' section has a text input field with 'https:// or http://'. The 'Application Terms of Service link (Optional)' section has a text input field with 'https:// or http://'. A note at the bottom states: 'Shown on the consent screen. Must be hosted on an Authorized Domain.'

This open the credentials page

- Click **Manage service accounts**

Copy the email address and unique id to notepad:

transendmigrator@transend-migrator-092719.iam.gserviceaccount.com

117671717552485360194

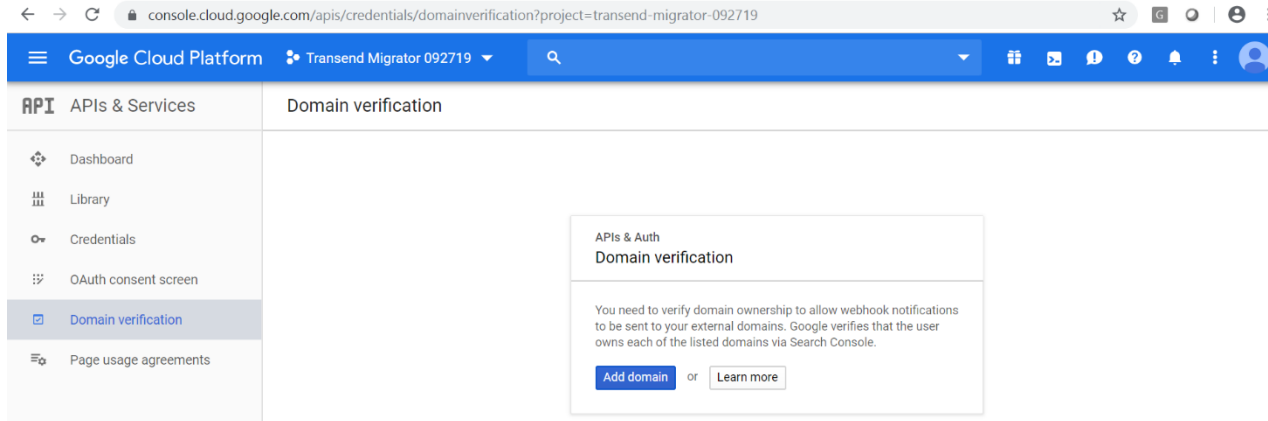
The screenshot shows the 'Credentials' page in the Google Cloud Platform console. The left sidebar lists navigation options: Dashboard, Library, Credentials (selected), OAuth consent screen, Domain verification, and Page usage agreements. The main content area is titled 'Credentials' and includes a 'Create credentials' button and a 'Delete' button. Below this is a note: 'Create credentials to access your enabled APIs. For more information, see the authentication documentation.' The 'Service account keys' section includes a table with columns: ID, Creation date, and Service account. The table contains one row with the ID '76cdf449abb8afb357bd190fd7016c4d50e56f82', the creation date 'Sep 27, 2019', and the service account 'transendmigrator'. A 'Manage service accounts' link is located to the right of the table.

ID	Creation date	Service account
76cdf449abb8afb357bd190fd7016c4d50e56f82	Sep 27, 2019	transendmigrator

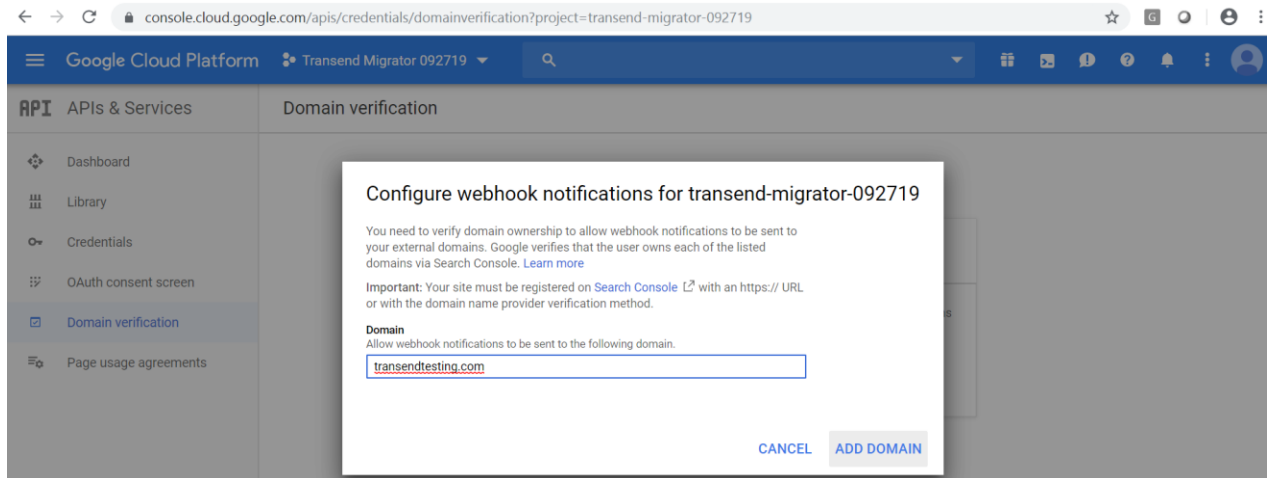
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- Click **Domain Verification**
- Click **Add domain**

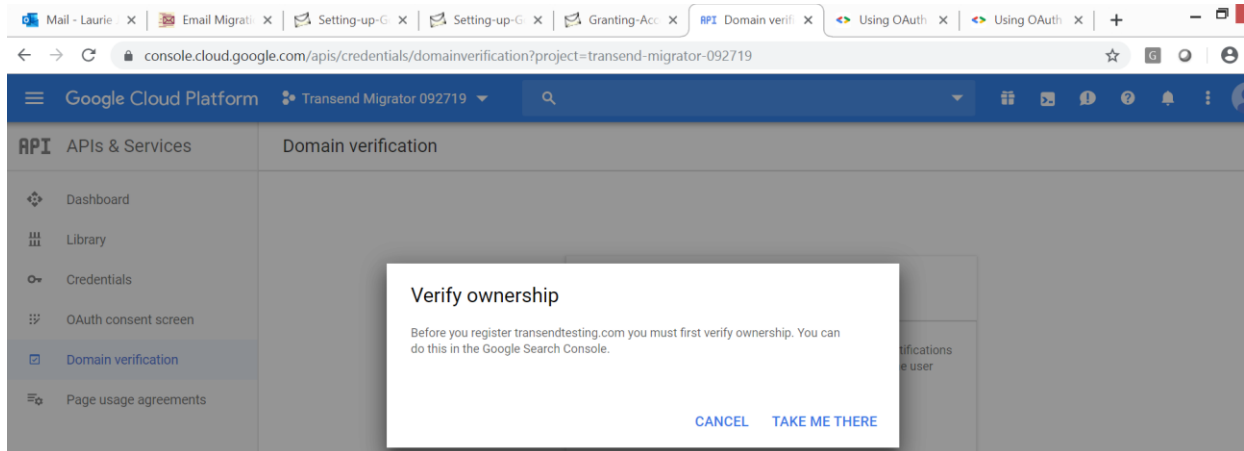


- Enter your domain name
- Add your Google domain name
- Click **Add Domain**



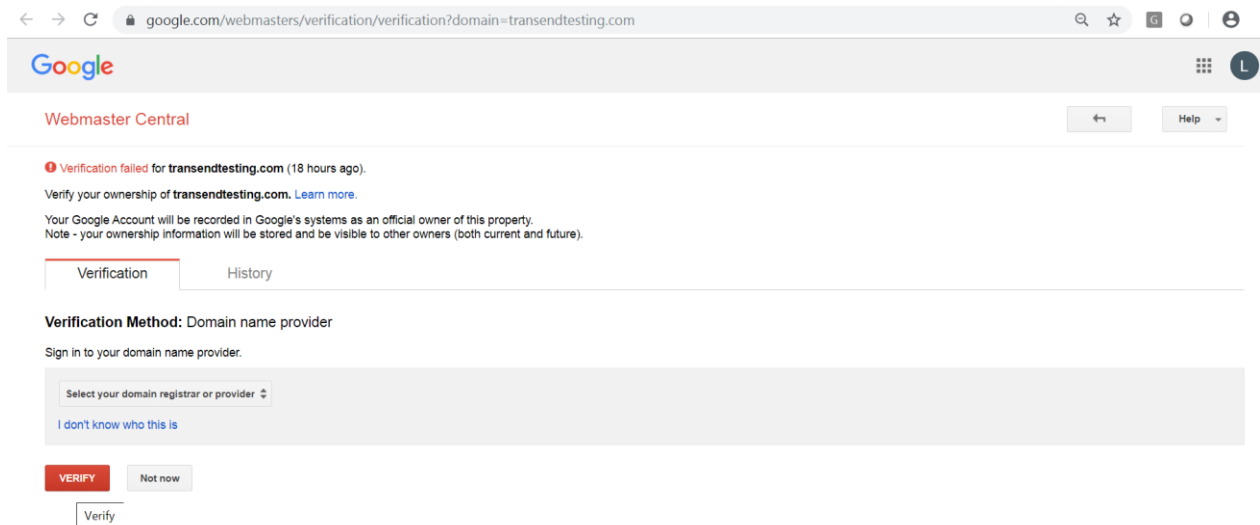
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- Click **Verify Ownership**
- Click **Take Me There**



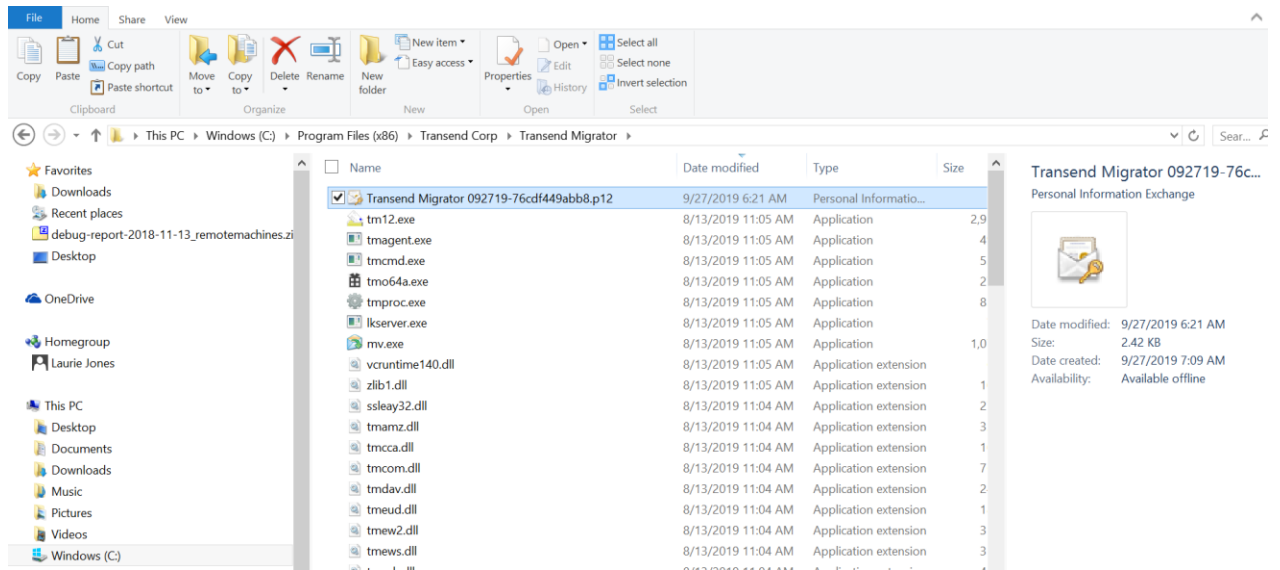
Note: You MUST be able to verify the domain to logon using the .P12 key

- Click **Verify**



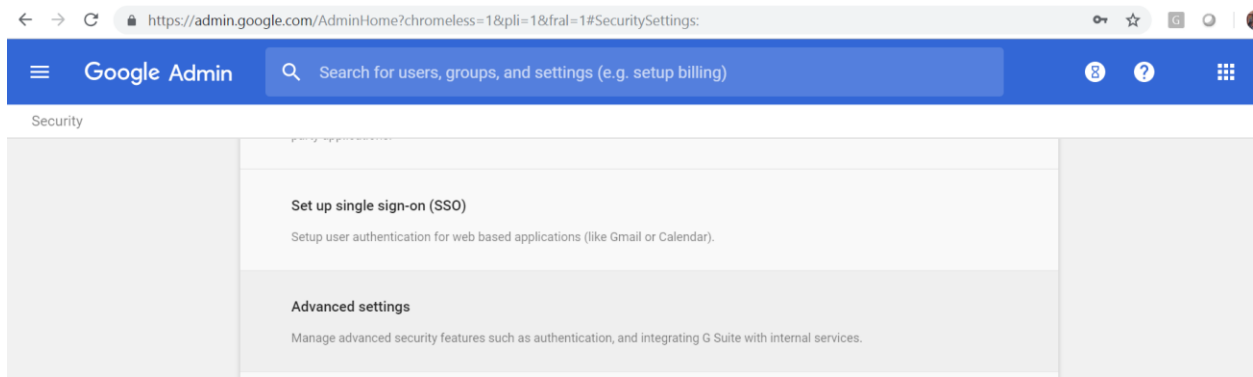
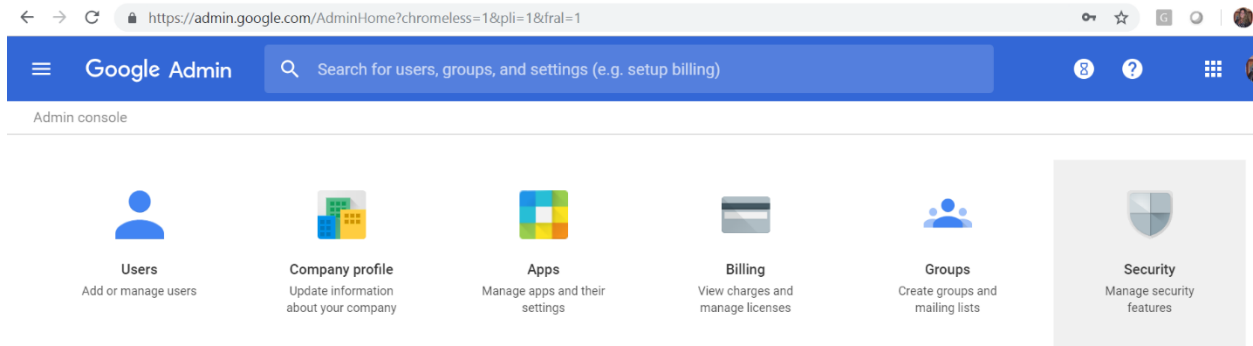
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Copy the .P12 key from Downloads to **C:\Program Files (x86)\Transend Corp\Transend Migrator**

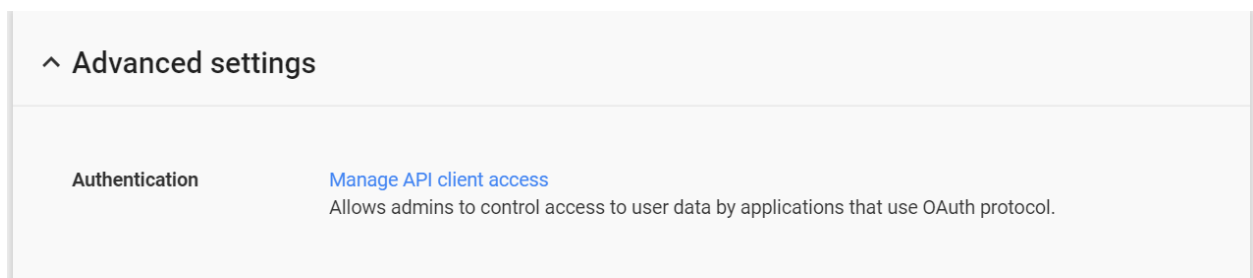


Section 3: Setting up the Service Account in Google Admin Console

- Open Google Admin Console: <https://admin.google.com>
- Click **Security > Advanced Settings**



- Click **Manage API client access**

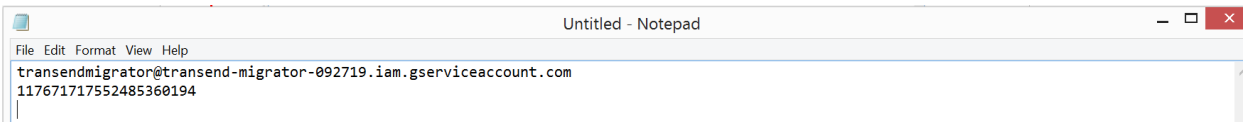
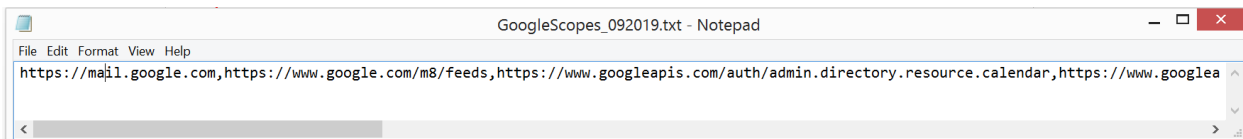


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Copy the following scopes to notepad to create a comma separated single line in notepad:

```
https://mail.google.com,  
https://www.google.com/m8/feeds,  
https://www.googleapis.com/auth/admin.directory.resource.calendar,  
https://www.googleapis.com/auth/apps.groups.migration,  
https://www.googleapis.com/auth/calendar,  
https://www.googleapis.com/auth/contacts,  
https://www.googleapis.com/auth/drive,  
https://www.googleapis.com/auth/gmail.labels,  
https://www.googleapis.com/auth/tasks,  
https://www.googleapis.com/auth/userinfo.email,  
https://www.googleapis.com/auth/userinfo.profile
```



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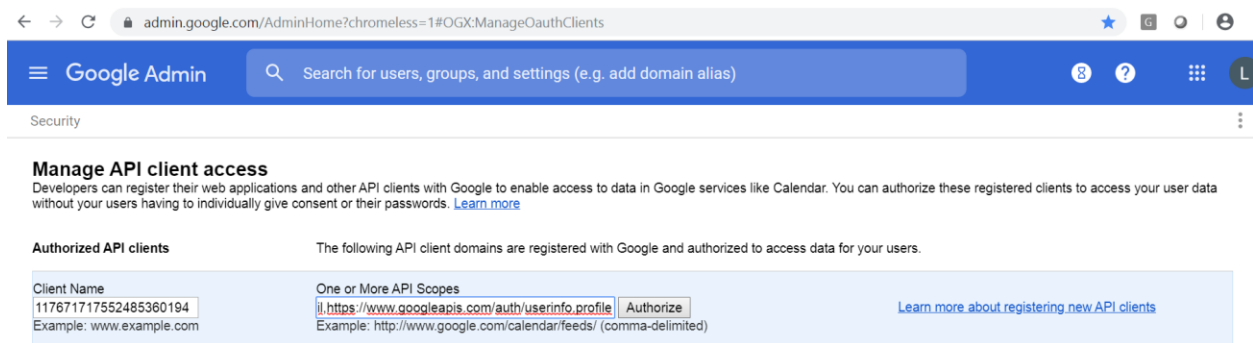
Enter Client Name:

110028911434110022061

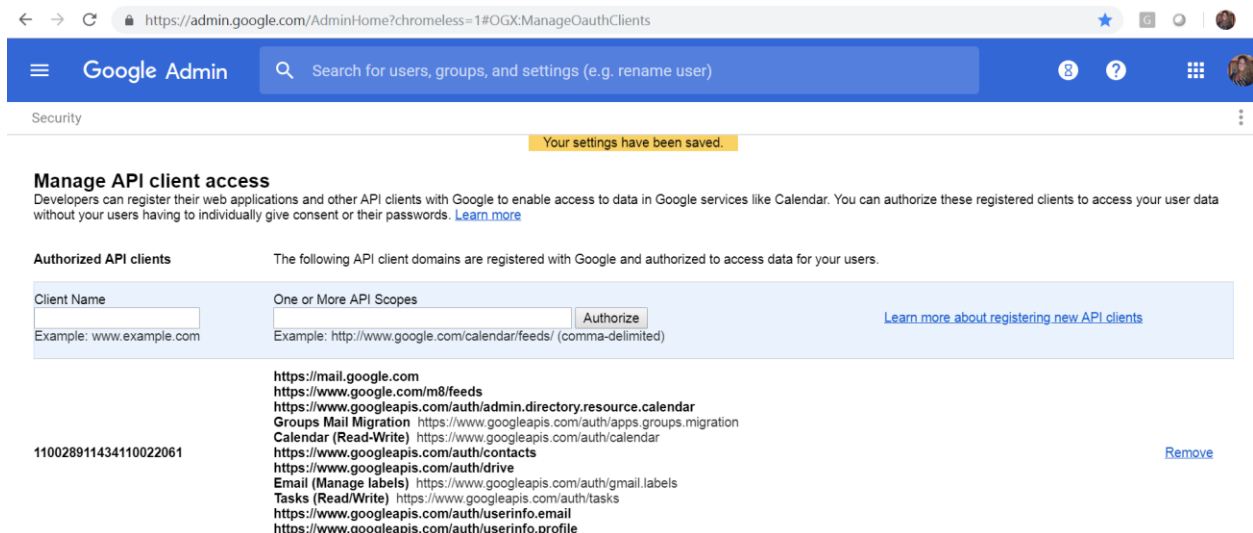
Enter Scopes as a single comma separated line:

https://mail.google.com,https://www.google.com/m8/feeds,https://www.googleapis.com/auth/admin.directory.resource.calendar,https://www.googleapis.com/auth/apps.groups.migration,https://www.googleapis.com/auth/calendar,https://www.googleapis.com/auth/contacts,https://www.googleapis.com/auth/drive,https://www.googleapis.com/auth/gmail.labels,https://www.googleapis.com/auth/tasks,https://www.googleapis.com/auth/userinfo.email,https://www.googleapis.com/auth/userinfo.profile

- Click **Authorize**



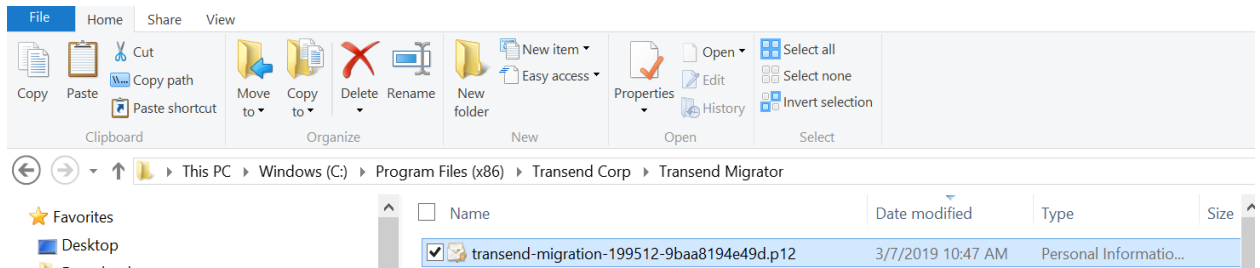
This will display when the scopes and client id are correctly entered and authorized.



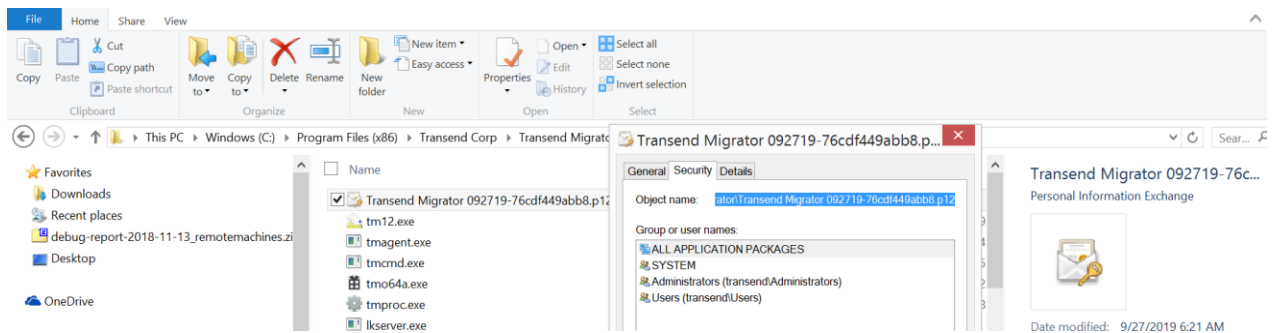
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Copy the entire path for the .P12 key to **C:\Program Files (x86)\Transend Corp\Transend Migrator**



- Click on .p12 key
- Click on **Properties**
- Click **Security** and copy the entire path of the .p12 key to notepad

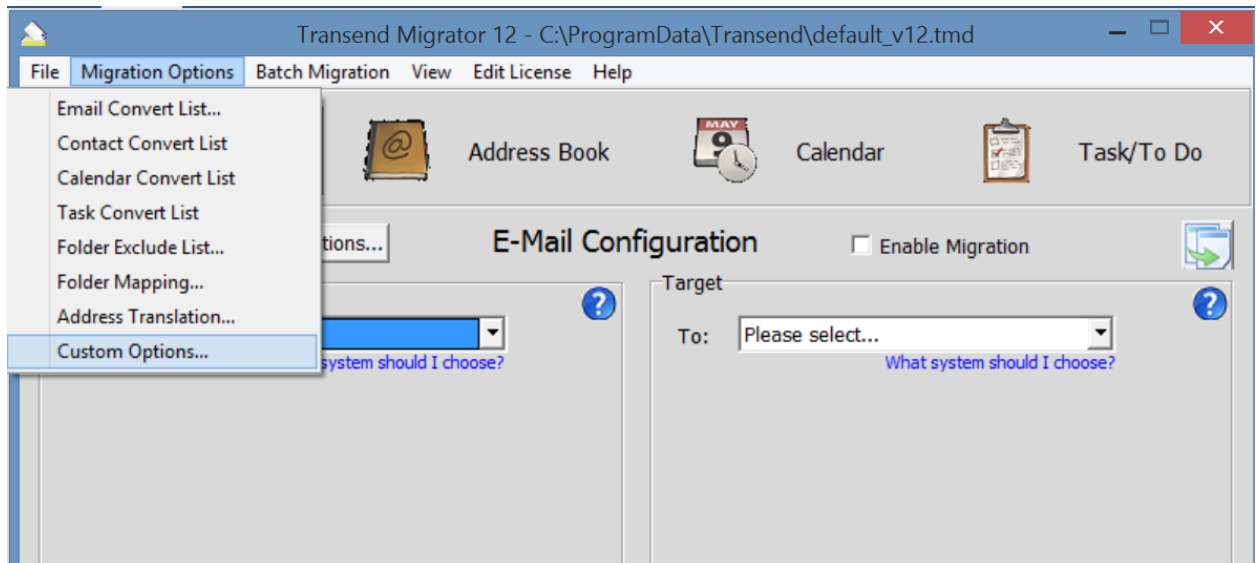


Section 4: Confirm Service Account Access in Transend Migrator

It's important to confirm your Google Service Account is properly set up and granted access to Transend Migrator.

Open Transend Migrator

- Click **Migration Options > Custom Options**



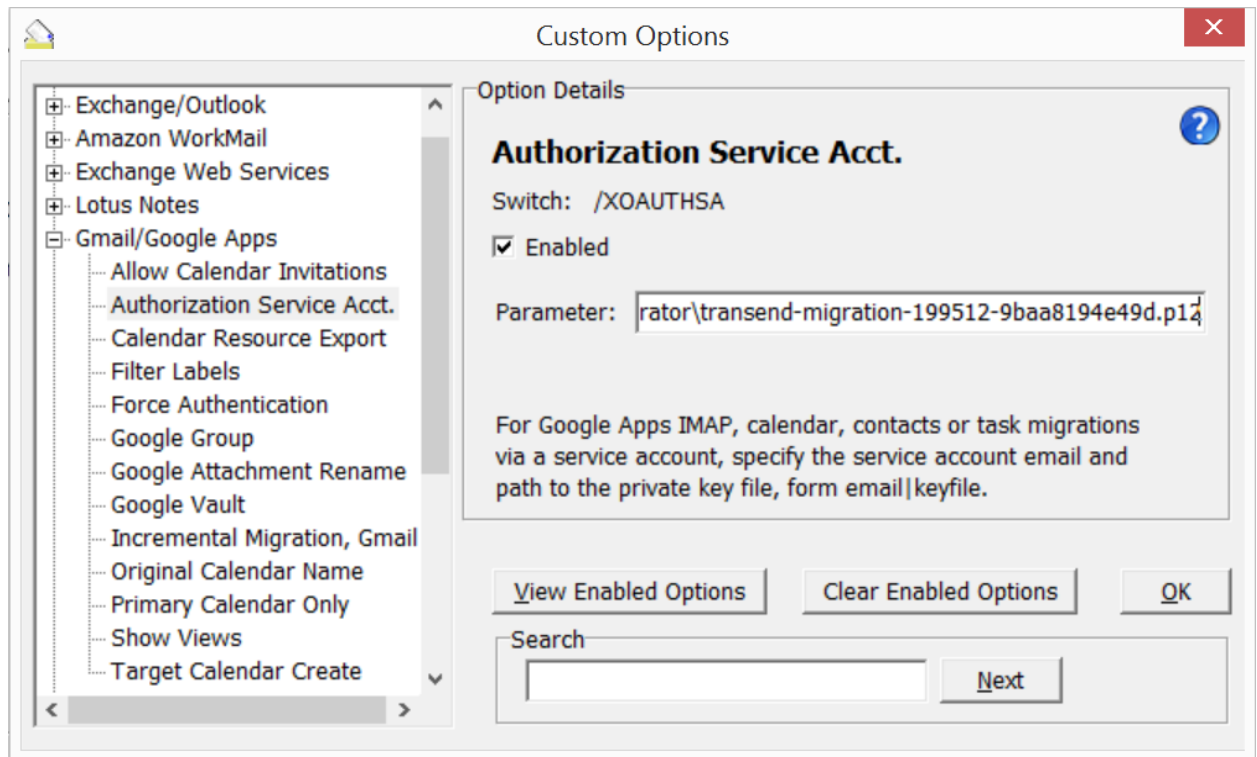
Scroll to Gmail/Google Apps

- Enter the Service Account Email Address | Full Path to .p12 key:

transend-migrator@transend-migration-199512.iam.gserviceaccount.com | C:\Program Files (x86)\Transend Corp\Transend Migrator\transend-migration-199512-9baa8194e49d.p12

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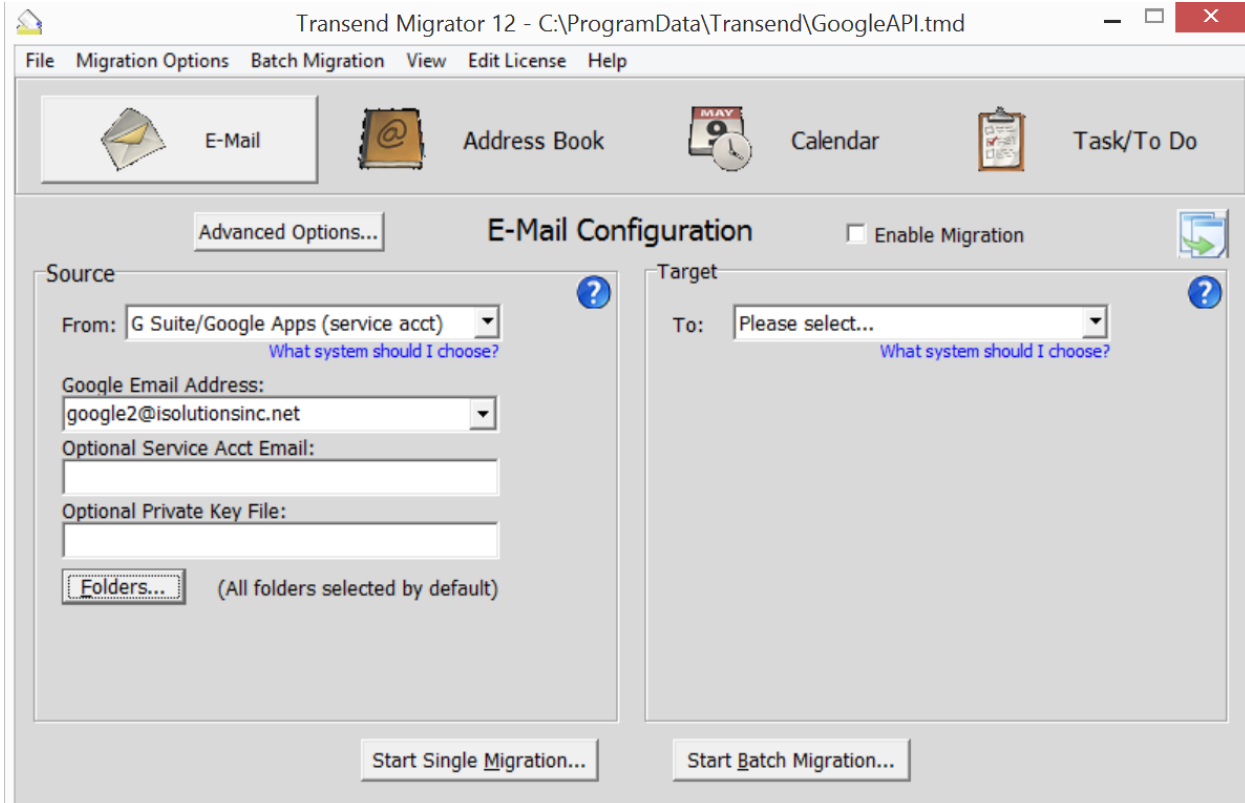
This may take several hours for Google to update and allow access.

Confirm Service Account (in the Source)

If migrating FROM G Suite

- Click Source dropdown and select **G Suite / Google Apps (service acct)** or **Gmail IMAP (service acct)**

Reminder: Gmail IMAP (service account) will migrate email only (not calendars, contacts, tasks)

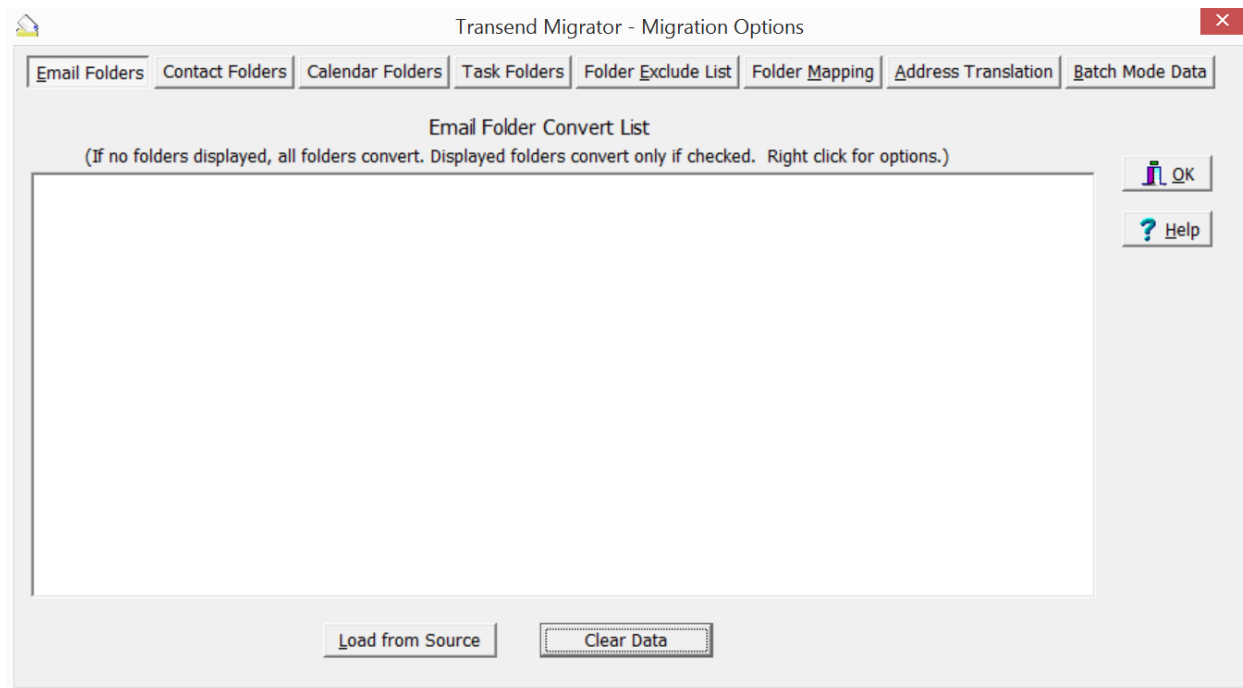
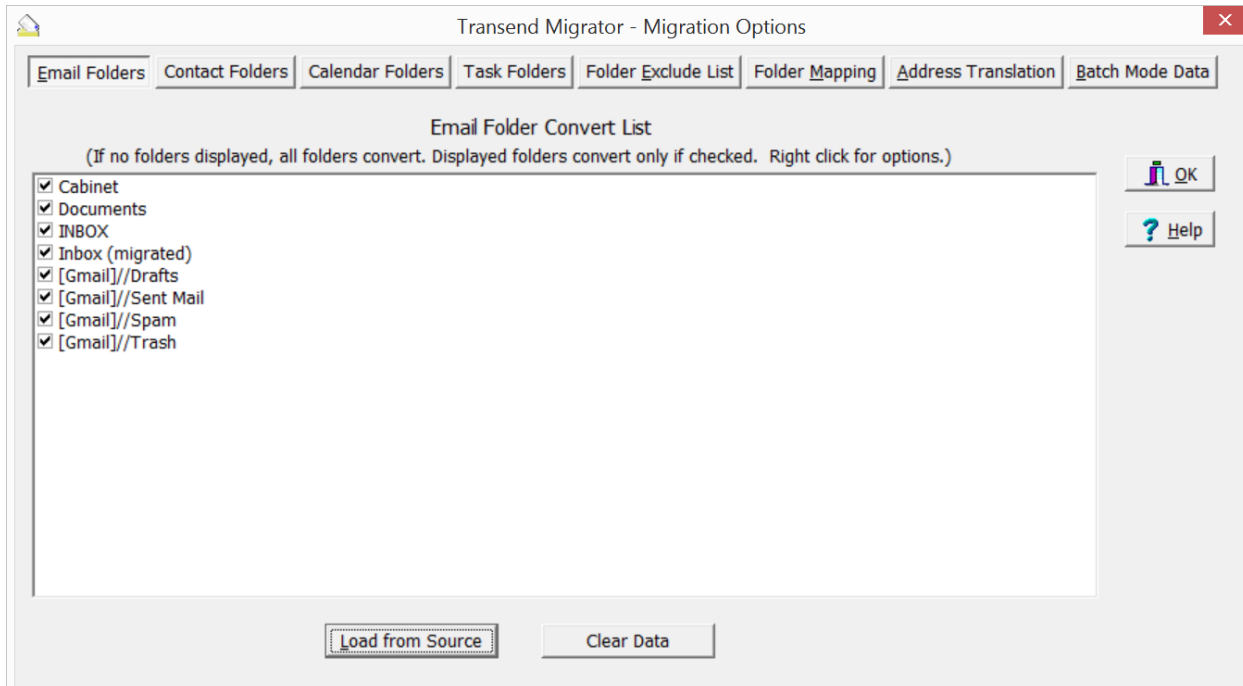


The screenshot shows the 'E-Mail Configuration' window of Transend Migrator 12. The window has a menu bar with 'File', 'Migration Options', 'Batch Migration', 'View', 'Edit License', and 'Help'. Below the menu is a toolbar with icons for 'E-Mail', 'Address Book', 'Calendar', and 'Task/To Do'. The main area is titled 'E-Mail Configuration' and includes an 'Advanced Options...' button and an 'Enable Migration' checkbox. The 'Source' section on the left contains a 'From:' dropdown menu set to 'G Suite/Google Apps (service acct)', a 'Google Email Address:' dropdown menu set to 'google2@isolutionsinc.net', an 'Optional Service Acct Email:' text box, and an 'Optional Private Key File:' text box. A 'Folders...' button is located below these fields, with the text '(All folders selected by default)' next to it. The 'Target' section on the right contains a 'To:' dropdown menu set to 'Please select...'. At the bottom of the window are two buttons: 'Start Single Migration...' and 'Start Batch Migration...'.

- Click **Folders > Load from Source** to test your connection
- Click **Clear Data** to migrate ALL folders

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Confirm Service Account (in the Target)

If migrating TO G Suite

- Click the Target dropdown menu and select the Target dropdown and select **G Suite / Google Apps (service acct)** or **Gmail IMAP (service acct)**

Reminder: Gmail IMAP (service account) will migrate email only (not calendars, contacts, tasks)

- Click **Test Logon**

