

A photograph of the Tower Bridge in London, showing its two stone towers and blue suspension cables. The bridge is partially open, with the walkways raised. The River Thames is visible in the foreground, with a small boat and a larger ferry. The sky is overcast with grey clouds. A red banner is overlaid across the middle of the image.

GOOGLE WORKSPACE OBJECTS

GOOGLE WORKSPACE OBJECTS

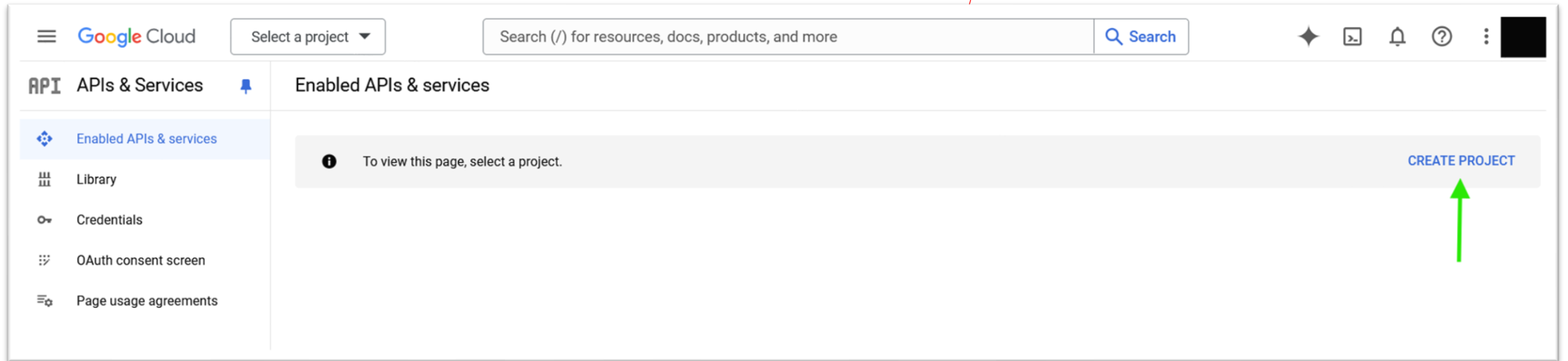
PxPlus objects that were created to work with the Google Workspace® cloud-based applications

- **[Google Drive \(*obj/GoogleDrive\)](#) - Works with the Google Workspace® Drive file storage application**
 - List files
 - Upload/Download files
 - Create folders
 - Export files
 - Delete files
 - Copy files
- **[Google Docs \(*obj/GoogleDocs\)](#) - Works with the Google Workspace® Docs word processing application**
 - Create document
 - Insert/Append/Delete text
 - Find and replace/insert text
 - Set font
 - Find text
 - Set color
 - Uses Drive object
 - Export as Word document
- **[Google Sheets \(*obj/GoogleSheets\)](#) - Works with the Google Workspace® Sheets spreadsheet application**
 - Create spreadsheet
 - Read/Write to cells
 - Find & replace data in cells
 - Create sheets
 - Create/Modify/Delete
 - named ranges
 - Insert/Delete Columns
 - Insert/Delete Rows
 - Set font
 - Set number format
 - Set color
 - Uses Drive object
 - Export as Excel spreadsheet

GOOGLE WORKSPACE OBJECTS

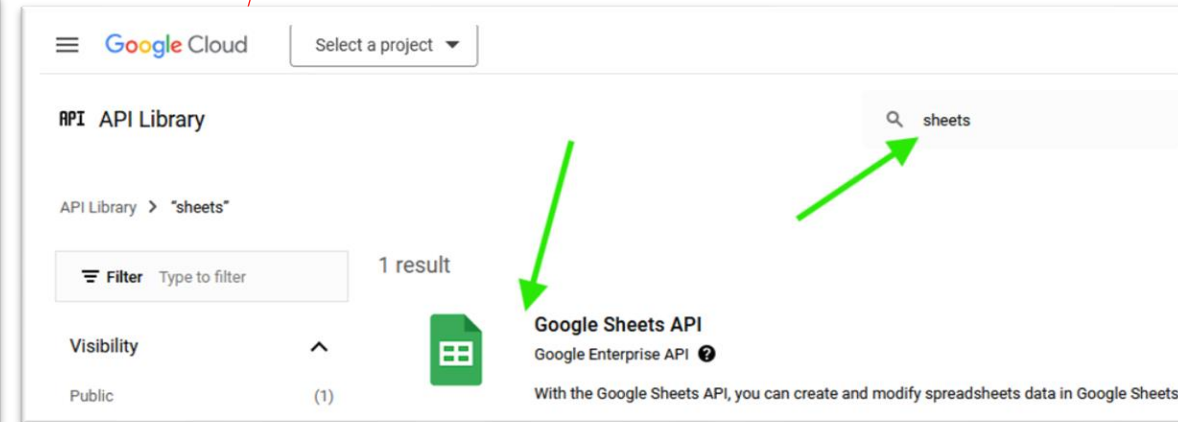
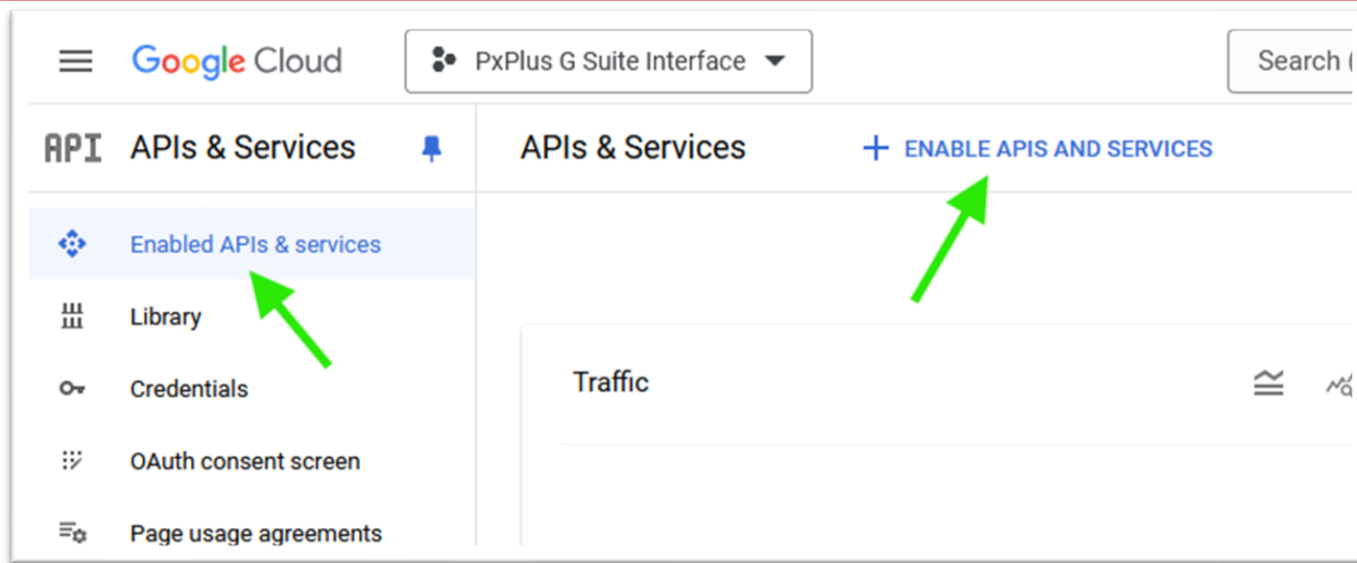
- Need to do the Google API App Setup to obtain a Client ID and Client Secret
- Must allow access to the needed Google APIs
- To test the Google Workspace objects, you need to add, as a "Test User", the Google account that you will use to test the objects and whose Drive, Docs and/or Sheets you will access
- Once testing is done, you can publish the app, which makes it available for others (besides Test Users) and removes the unverified warning
 - Publication requires Google to verify the app, and Google informs you about what this process requires when you publish the app

GOOGLE WORKSPACE OBJECTS

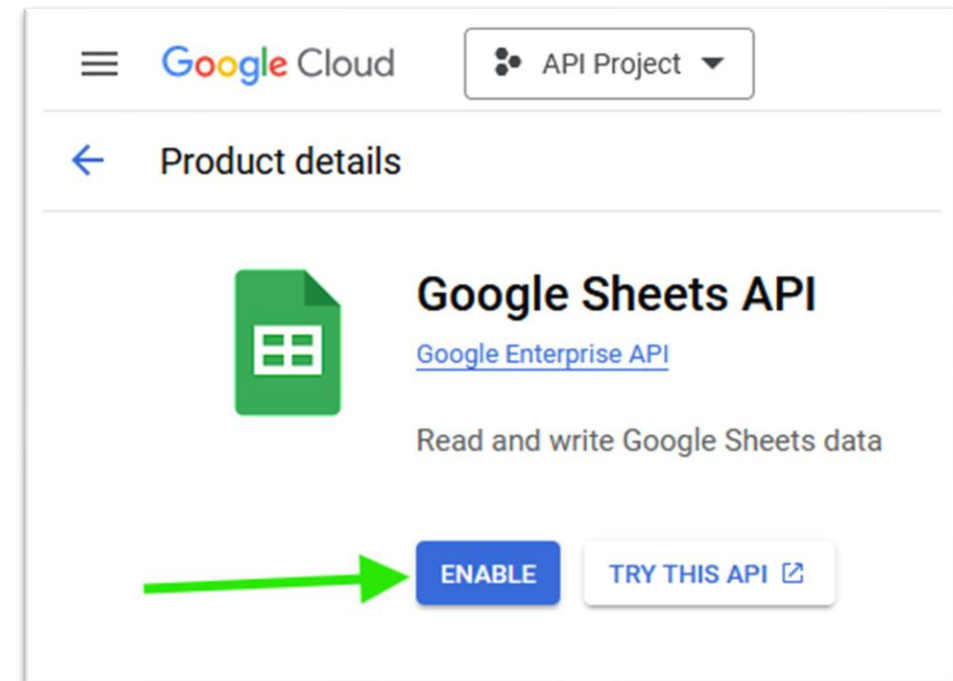


- **Go to the [Google API Console](#)**
- **Create or select a project**
- **Input a name and if needed an organization**
- **Click CREATE**

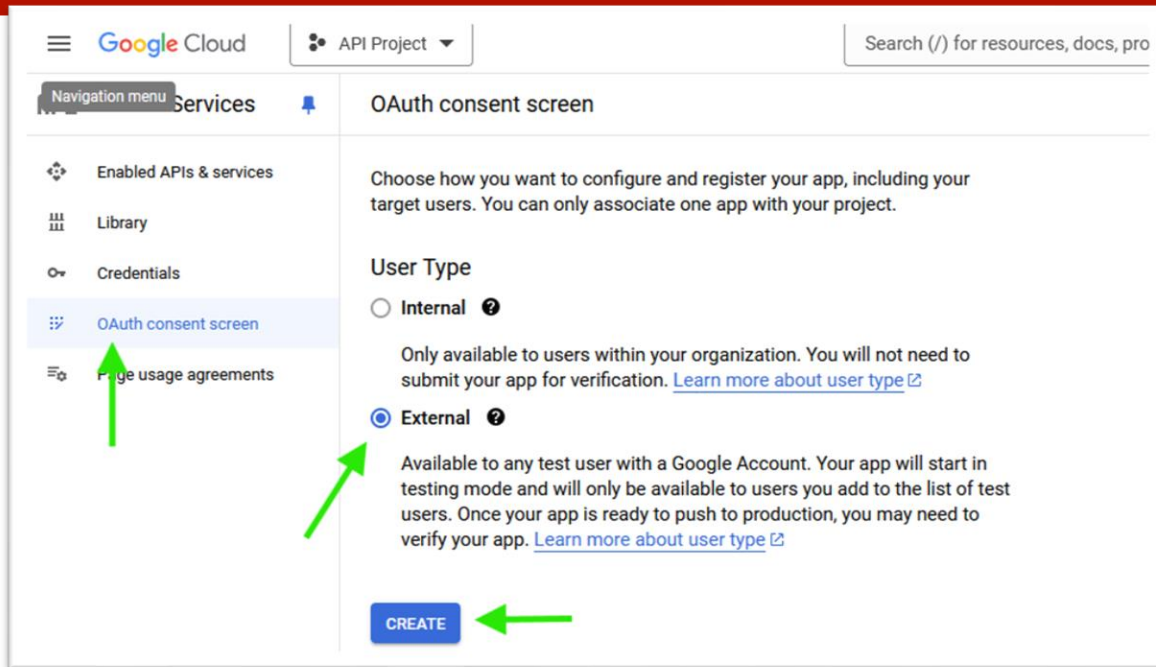
GOOGLE WORKSPACE OBJECTS



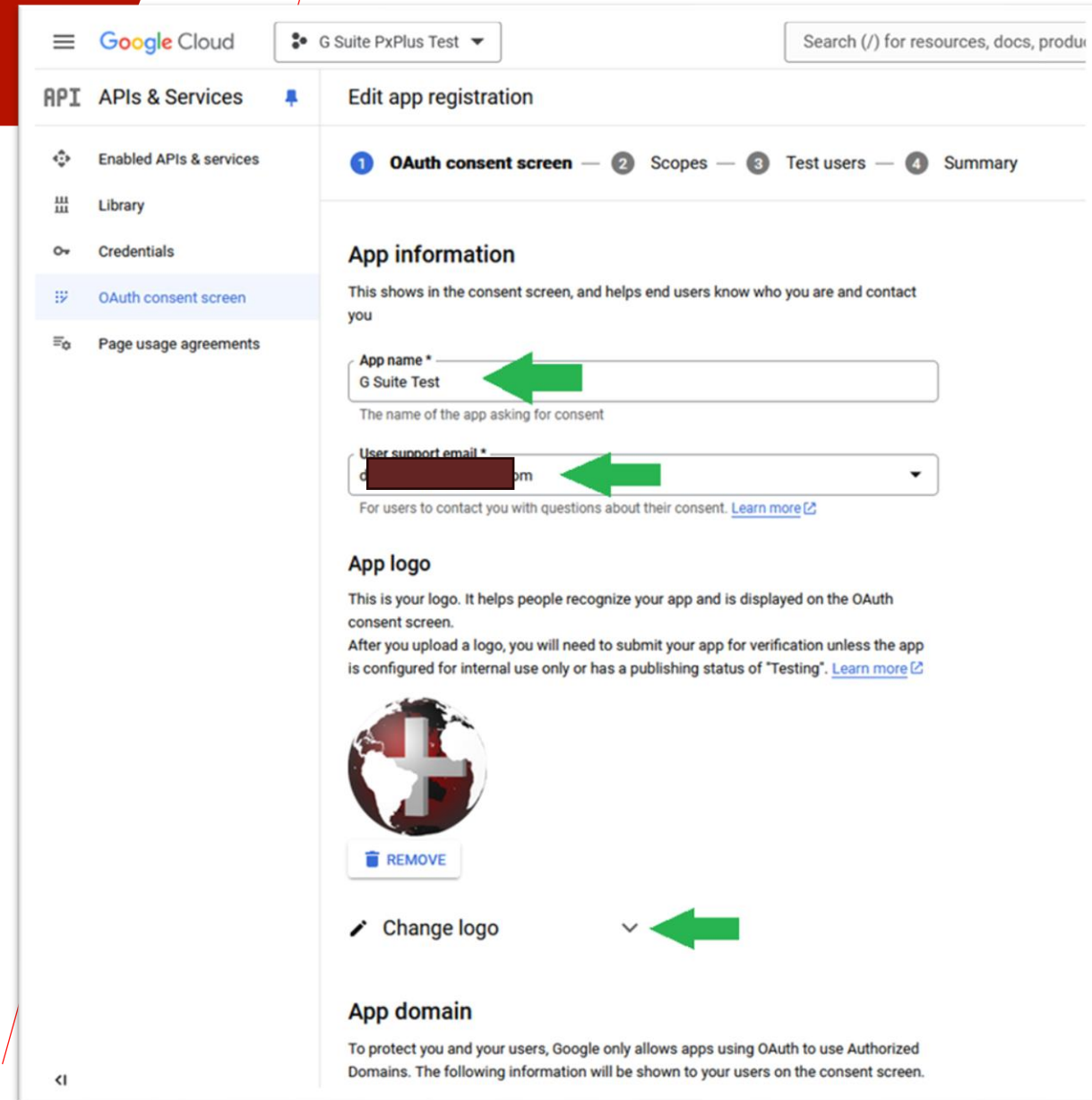
- **Allow access to Google APIs**
 - Enable Google Drive API
 - Enable Google Docs API
 - Enable Google Sheets API



GOOGLE WORKSPACE OBJECTS



- **Create an OAuth consent screen**
 - Click OAuth consent screen
 - Select External and click CREATE
 - Set the Application name, Application logo, and Support e-mail that will display on your application consent screen



GOOGLE WORKSPACE OBJECTS

- **Create an OAuth consent screen**
 - Set Application links
 - Input vxplus.com for Authorized domains
 - Click SAVE AND CONTINUE

Google Cloud G Suite PxPlus Test Search (/) for resou

API APIs & Services

- Enabled APIs & services
- Library
- Credentials
- OAuth consent screen**
- Page usage agreements

Edit app registration

Change logo

App domain

To protect you and your users, Google only allows apps using OAuth to use Authorized Domains. The following information will be shown to your users on the consent screen.

Application home page
https://home.vxplus.com
Provide users a link to your home page

Application privacy policy link
https://privacy.vxplus.com
Provide users a link to your public privacy policy

Application terms of service link
Provide users a link to your public terms of service

Authorized domains

When a domain is used on the consent screen or in an OAuth client's configuration, it must be pre-registered here. If your app needs to go through verification, please go to the [Google Search Console](#) to check if your domains are authorized. [Learn more](#) about the authorized domain limit.

Authorized domain 1 *
vxplus.com

+ ADD DOMAIN

Developer contact information

Email addresses *
devon.austen@vxplus.com

These email addresses are for Google to notify you about any changes to your project.

SAVE AND CONTINUE

GOOGLE WORKSPACE OBJECTS

Google Cloud PxPlus G Suite Interface

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

API APIs & Services

Enabled APIs & services

Library

Credentials

OAuth consent screen

Page usage agreements

Prepare for verification

Your app is currently being verified. Any changes you save will automatically submit your app for reverification.

OAuth consent screen — **Scopes** — Optional info — Final review

Scopes express the permissions you request users to authorize for your app and allow your project to access specific types of private user data from their Google Account. [Learn more](#)

If you add sensitive (🔒) or restricted (🔒) scopes, like scopes that let you access a user's emails or contacts, you will need to submit your app for verification. [Learn more](#)

[ADD OR REMOVE SCOPES](#)

Your non-sensitive scopes

API	Scope	User-facing description
		No rows to display

Update selected scopes

Only scopes for enabled APIs are listed below. To add a missing scope to this screen, find and enable the API in the [Google API Library](#) or use the Pasted Scopes text box below. Refresh the page to see any new APIs you enable from the Library.

Filter Enter property name or value

API	Scope	User-facing description
<input type="checkbox"/>	.../auth/userinfo.email	See your primary Google Account email address
<input type="checkbox"/>	.../auth/userinfo.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 Docs API .../auth/documents	See, edit, create, and delete all your Google Docs documents
<input type="checkbox"/>	Google Docs API .../auth/documents.readonly	See all your Google Docs documents
<input checked="" type="checkbox"/>	Google Docs API .../auth/drive	See, edit, create, and delete all of your Google Drive files
<input type="checkbox"/>	Google Docs API .../auth/drive.readonly	See and download all your Google Drive files
<input type="checkbox"/>	Google Docs API .../auth/drive.file	See, edit, create, and delete only the specific Google Drive files you use with this app
<input type="checkbox"/>	Google Drive API .../auth/drive.meet.readonly	See and download your Google Drive files that were created or edited by Google Meet.
<input type="checkbox"/>	Google Drive API .../auth/docs	See, edit, create, and delete all of your Google Drive files

- **Define scopes**

- Click **ADD OR REMOVE SCOPES**

- Select Google Drive API `../auth/drive`
- Select Google Docs API `../auth/documents`
- Select Google Sheets API `../auth/spreadsheets`

- Click **UPDATE** and then click **SAVE AND CONTINUE**

GOOGLE WORKSPACE OBJECTS

- Click ADD USERS
 - Only emails added here will be able to use this API until app is published
 - While unpublished, the test users will be warned the app is not verified
- Click SAVE AND CONTINUE

Google Cloud | G Suite PxPlus Test | Search (/) for resources, docs, p

API APIs & Services | Edit app registration

OAuth consent screen — Scopes — 3 Test users — 4 Summary

Test users

While publishing status is set to "Testing", only test users are able to access the app. Allowed user cap prior to app verification is 100, and is counted over the entire lifetime of the app. [Learn more](#)

[+ ADD USERS](#)

Filter Enter property name or value

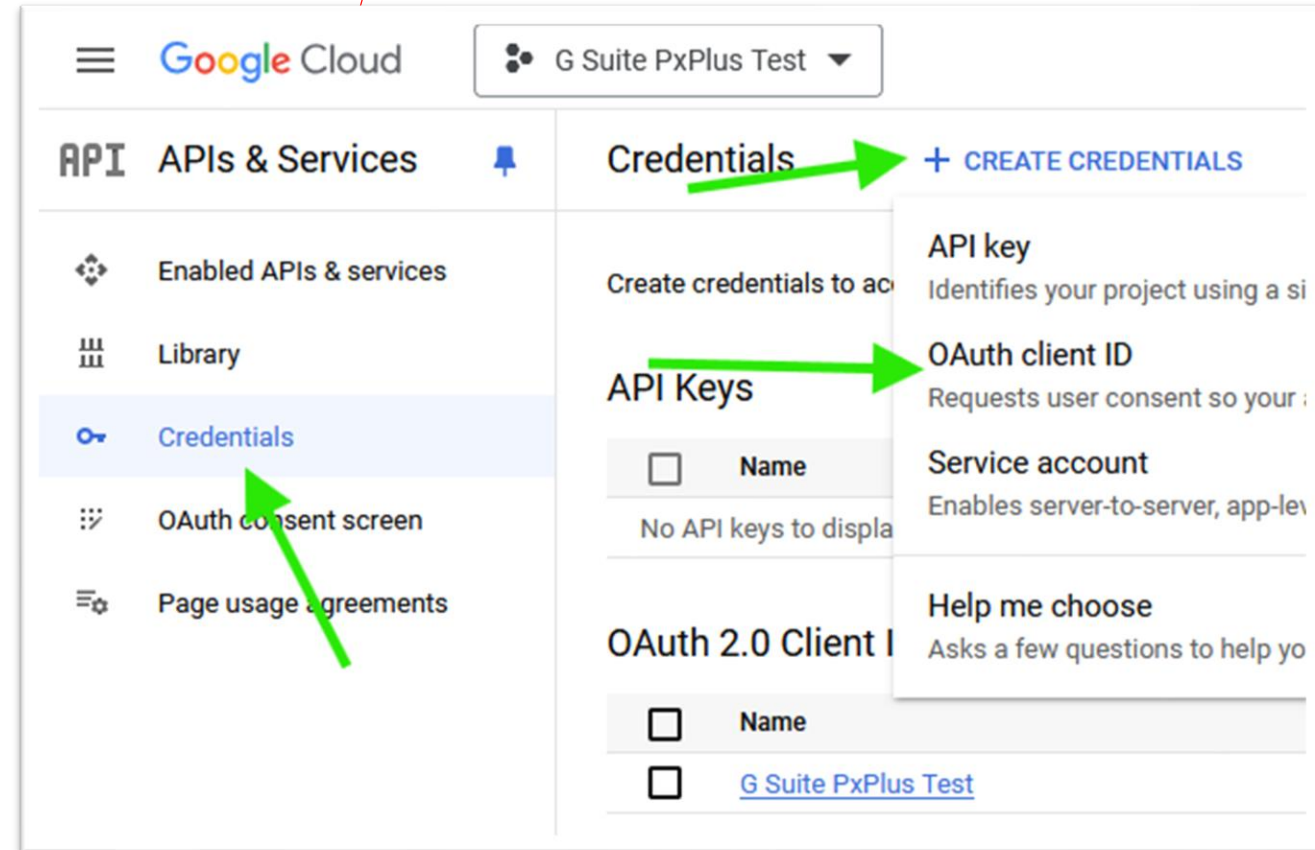
User information

[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

[SAVE AND CONTINUE](#) CANCEL

GOOGLE WORKSPACE OBJECTS

- **Create Client ID and Client Secret**
 - Click Credentials
 - Click Create credentials
 - Click OAuth client ID



GOOGLE WORKSPACE OBJECTS

- **Create Client ID and Client Secret**
 - For Application type, select Web application
 - Authorized redirect URIs
 - Click ADD URI
 - Add <https://www.pvxplus.com/oauth.pvp>
 - Click CREATE

Google Cloud | G Suite PxPlus Test

API APIs & Services

Enabled APIs & services

Library

Credentials

OAuth consent screen

Page usage agreements

Create OAuth client ID

A client ID is used to identify a single app to Google's OAuth servers. If your app runs on multiple platforms, each will need its own client ID. See [Setting up OAuth 2.0](#) for more information. [Learn more](#) about OAuth client types.

Application type *
Web application

Name *
Web client 2

The name of your OAuth 2.0 client. This name is only used to identify the client in the console and will not be shown to end users.

The domains of the URIs you add below will be automatically added to your [OAuth consent screen](#) as [authorized domains](#).

Authorized JavaScript origins

For use with requests from a browser

+ ADD URI

Authorized redirect URIs

For use with requests from a web server

+ ADD URI

Note: It may take 5 minutes to a few hours for settings to take effect

CREATE

GOOGLE WORKSPACE OBJECTS

- **Create Client ID and Client Secret**
 - Copy/Save the client ID and client secret
 - These numbers are needed by the Google Workspace objects

OAuth client created

The client ID and secret can always be accessed from Credentials in APIs & Services

i OAuth access is restricted to the [test users](#) listed on your [OAuth consent screen](#)

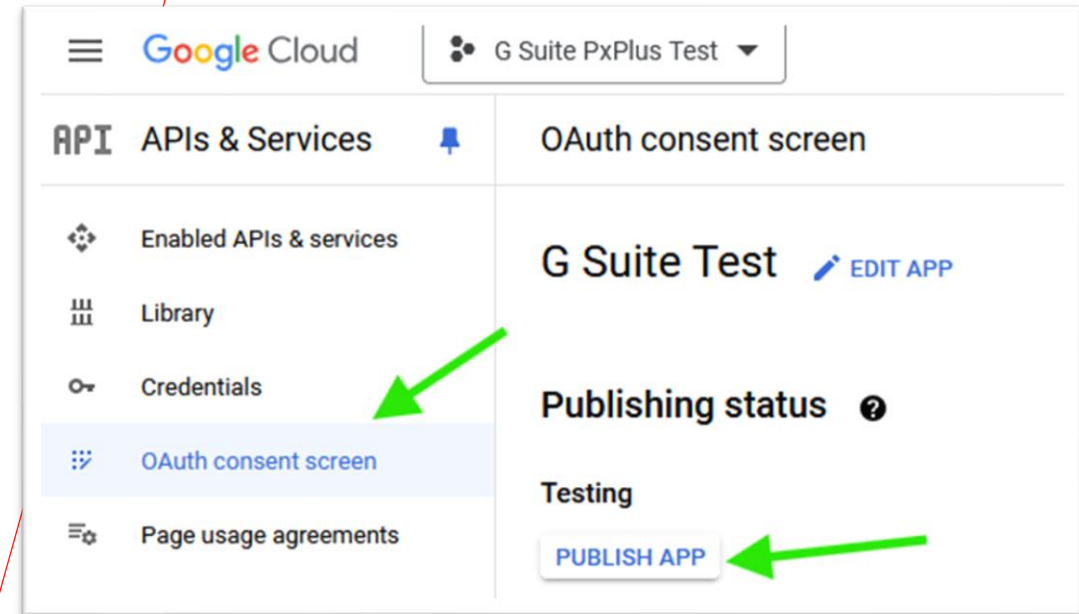
Client ID	[REDACTED]
Client secret	[REDACTED]
Creation date	September 13, 2024 at 3:06:11 PM GMT-4
Status	✓ Enabled

[↓ DOWNLOAD JSON](#)

OK

GOOGLE WORKSPACE OBJECTS

- **When done testing, you can publish the app**
 - This will allow anyone to use the app
 - Removes the unverified warning



GOOGLE WORKSPACE OBJECTS

- To instantiate a Google Workspace object, include the Client ID and Client Secret

```
sheets_obj=new("*obj/GoogleSheets",client_ID$,client_secret$[,login_token$])
```

- During instantiation, user will be asked to select and login to a Google account and allow PxPlus access to it via a web browser
- When this process is completed, the **Login()** method must be run to complete login
- Once logged in, the **login_token\$** property can be accessed and saved
 - This may optionally be used the next time the object is instantiated to avoid having to select a Google account and login again
- Methods and properties are all designed to be similar to the Microsoft Word and Excel objects

GOOGLE WORKSPACE OBJECTS

- **Files are stored in your Google Drive cloud storage, not as local files**
- **Google Drive supports directories and sub-directories**
- **All methods that support a path allow the Google Drive directories and the file name to be specified so that files can be organized more easily**

- For example, to create a new document in the Google Drives directory "Template", the following method can be used:

```
driveCreateDocument("Templates\invoice")
```

- **To work with a local file, upload it to Google Drive by using the UploadFile() method**
 - May convert the file into a Google file type such as a document or spreadsheet
 - List of supported conversions: https://developers.google.com/drive/api/v3/manage-uploads#import_to_google_docs_types
- **To download a Google file such as a document or spreadsheet, use the DownloadFile() or ExportFile() method**
 - Export converts the file into a local file type of file, determined by the file extension specified in the output path
 - List of supported conversions: <https://developers.google.com/drive/api/v3/ref-export-formats>

GOOGLE WORKSPACE OBJECTS

- **Most times the first thing you will need to do is open a file**
 - To open a file you use the Google Drive path or file ID in one of the open methods
 - **OpenDocumentByID(document_fileID\$)** or **OpenDocumentByPath(document_path\$)**
 - **OpenSpreadsheetByID(spreadsheet_fileID\$)** or **OpenSpreadsheetByPath(spreadsheet_path\$)**
 - **OpenFileByID(fileID\$)** or **OpenFileByPath(file_path\$)**
- **When a file is opened, the object assigns it an index**
 - The index start at 1 and goes up for each open file
 - The **ACTIVE_DOCUMENT**, **ACTIVE_SPREADSHEET**, and **ACTIVE_FILE** properties can be used to get the index of the last opened file
 - If no file is specified in a method call, the active index is used
 - THE **DOCUMENTS_COUNT**, **SPREADSHEETS_COUNT**, and **FILES_COUNT** properties can be used to find out how many opened files there are
 - You can use this to loop through each open file if the loop starts at 1 and goes to the count

GOOGLE WORKSPACE OBJECTS

For documents you can work with different

- **Paragraphs**

- Paragraphs are referenced via a 1 based index number
 - Paragraph 1 is the 1st paragraph in the document
 - Paragraph 10 is the 10th paragraph in the document or appended to the end of the document if there is less than 10 paragraphs in the document
 - **docs'InsertParagraph("My new paragraph.",10)**

- **Sentences**

- These work the same as paragraphs and are just a 1 based index
- **docs'InsertSentence("My new sentence. ",130)**

- **Modify text at a searched for location**

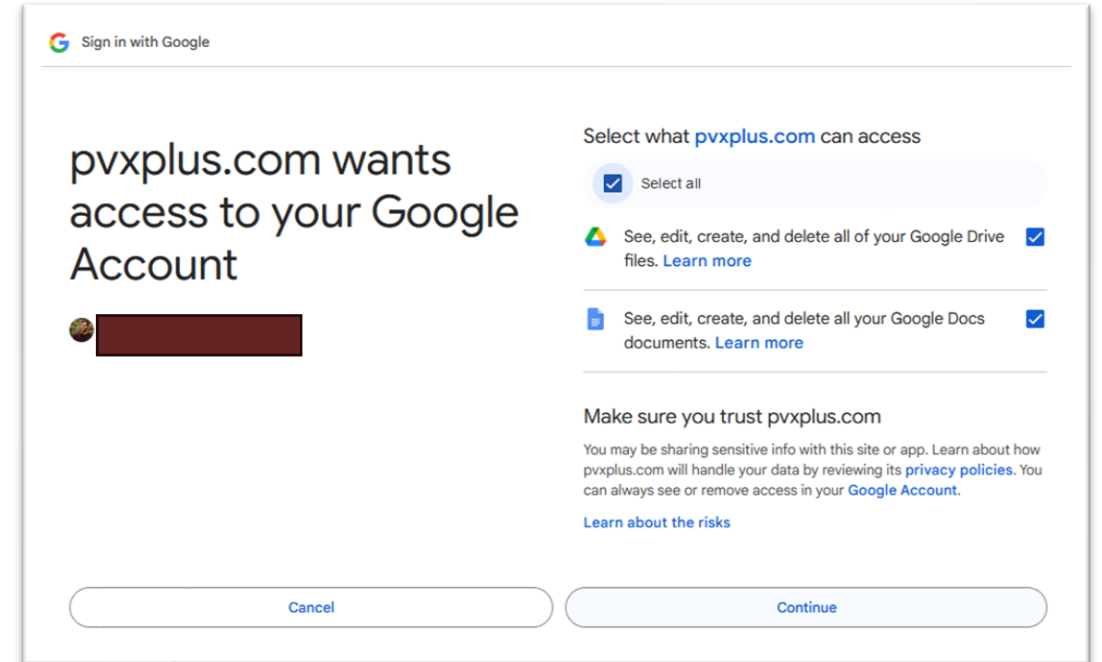
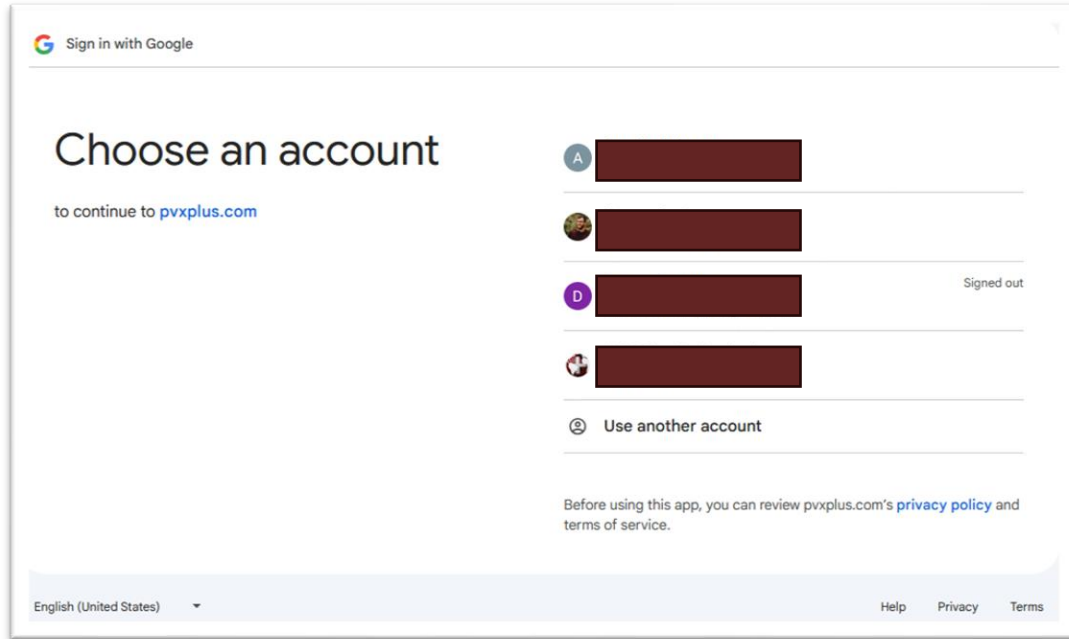
- **docs'FindInsert("something"," was changed")**
 - Defaults to inserting after the find position
 - Use the property **INSERT_BEFORE** to have it insert before the found position

GOOGLE WORKSPACE OBJECTS

For spreadsheets you can work with different

- Sheets in the spreadsheet
 - `sheets'CreateSheet("Added Sheet")`
 - `sheets'SetSheet(3)` or `sheets'SetSheet("Added Sheet")`
 - Object keeps track of **ACTIVE_SHEET** which allows code to not specify a sheet defaulting to active sheet
- Ranges
 - `sheets'AddNamedRange("totals","A30:D30")`
 - `sheets'SetRange("A30:D30")` or `sheets'SetRange("totals")`
 - Object keeps track of **ACTIVE_RANGE\$** which allows code to not specify a range defaulting to the active range
- Cells
 - Can be specified as a specific cell "A12" or a range or named range
- Find/replace
 - `sheets'FindReplaceAll("[CompanyName]",companyName$)`

GOOGLE WORKSPACE OBJECTS



Authorization accepted

You have granted PxPlus Access to your Google Docs.

Authorization services provided by PVX Plus Technologies Ltd.
<http://www.pvxplus.com>

GOOGLE WORKSPACE OBJECTS

Before

November 5, 2024

Lipscomb Therapy and SPA
2210 Hidden Vista

Noelville, ON
Canada
M1Q 2G8

Dear [FirstName]:

New Discount

I would like to take this opportunity to thank you for being a loyal customer of Canadian Automotive Toy Stores.

To reward you for the \$15,690.95 you have spent at the store so far this year, we are enclosing a 25% off coupon for use anytime during the rest of 2024.

Enjoy your toy shopping!

Sincerely,

S. Manager

Sr. Sales Manager, Canadian Automotive Toy Stores

After

November 5, 2024

Lipscomb Therapy and SPA
2210 Hidden Vista

Noelville, ON
Canada
M1Q 2G8

Dear Jack:

NEW DISCOUNT

I would like to take this opportunity to thank you for being a loyal customer of Canadian Automotive Toy Stores.

To reward you for the \$15,690.95 you have spent at the store so far this year, we are enclosing a **25% off coupon** for use anytime during the rest of 2024.

Enjoy your toy shopping!

Sincerely,

S. Manager

Sr. Sales Manager, Canadian Automotive Toy Stores