

# PF4 Google Calendar Synchronisation

synchronise your ProjectFork tasks and milestones with Google Calendar.

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## ABSTRACT

PF4 Google Calendar Synchronisation is a Joomla 3.x package that provides ProjectFork task and milestone synchronisation with Google Calendars.

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## Overview

The PF4 Google Calendar Synchronisation package provides a means of synchronising your ProjectFork projects, tasks and milestones by creating a Google Calendar for each of your projects and Google calendar events for each project's tasks and milestones.

## PF4 Google Calendar Package

### Package Installation

The entire package is approximately 4Mb in size. By default, the maximum upload filesize for php is set at 2Mb. Please make sure that your php installation can handle uploading files greater than 4Mb.

A simple way to check is to create a php file with the following content:

```
<?php
    phpinfo();
?>
```

Save the file, upload it to your webserver and then proceed to view this page from your browser. Search for the following:

- upload\_max\_filesize
- post\_max\_size

and ensure they are set to values greater than 4Mb. Once you have verified these settings delete the file from your webserver.

If you need to adjust these values locate your php.ini file and make the necessary changes. If you are unable to locate your php.ini file ask your hosting provider for advice.

Your purchase contains a file called "unzip\_pkg\_pfgooglecal.zip". The zip file contains 2 items

- The installable Joomla package called "pkg\_pfgooglecalendar.zip"
- and a php file called "synchroniser.php"

With your favourite FTP client, transfer the synchroniser.php file to the ROOT directory of your Joomla installation.

With a browser, navigate to <http://yourjoomlainstallation/synchroniser.php>. You should see an accordion list of all your ProjectFork projects. **DO NOT** interact with this webpage until you have installed and configured the actual Joomla package.

Next proceed to install pkg\_pfgooglecalendar.zip as per any normal Joomla extension.

The package will install a content plugin called “Content – Projectfork Google Calendar Sync” and a Joomla Library called “pfextensions”

The content plugin will also create 2 new database tables called #\_\_pf\_google\_calendars and #\_\_pf\_google\_calendar\_events.

The content plugin is disabled by default. Do not enable it until you have configured it. The plugin utilises a Google Service Account for authentication and authorisation. The beauty of a Google Service Account is that it does not require the end user to manually authorise the plugin to interact with Google Calendars.

### Content Plugin Configuration Screen

The content plugin’s configuration options can be found under the “Google Integration Options” tab as illustrated in figure 1. The options are as follows:

1. **Enable PF => Google Sync** – Whether one-way synchronisation from PF to Google Calendar should be enabled.
2. **Enable Google => PF Sync** – Whether synchronisation from Google Calendar to PF should be enabled. This functionality is not provided with the current version of this plugin.
3. **Primary Calendar Id** – Your Primary Google Calendar’s ID
4. **Service Account Key Path** – the path to where you have saved the service account json key file that was generated when you created the Google Service Account
5. **Project => Calendar Delete** – whether or not to delete the associated Google Calendar when you delete a ProjectFork project.

Before we configure the plugin let’s begin by creating our Google Project and Service Account.

The screenshot shows the configuration page for the 'Projectfork Google Calendar Sync' plugin. At the top, there is a dark blue header with the plugin name and a wrench icon. Below the header is a light gray bar containing four buttons: 'Save' (green), 'Save & Close' (green with a checkmark), 'Close' (red with an 'X'), and 'Help' (gray with a question mark). Below this bar are three tabs: 'Plugin' (selected), 'Google Integration Options', and 'Documentation / Support'. A light blue informational box contains the text: 'Google Calendar Integration. IMPORTANT: A Google Service Account is required for this content plugin to work. Please take the time to read the documentation prior to use!'. The main configuration area includes five settings:

- 'Enable PF => Google Sync': A toggle switch with 'No' and 'Yes' options, where 'Yes' is selected (green).
- 'Enable Google => PF Sync': A toggle switch with 'No' and 'Yes' options, where 'No' is selected (red).
- 'Primary Calendar Id': A text input field containing 'xxx@gmail.com'.
- 'Service Account Key Path': A text input field containing '/Users/kona/Sites/keys/xxxxxxxxxx.json'.
- 'Project => Calendar Delete': A toggle switch with 'No' and 'Yes' options, where 'Yes' is selected (green).

Figure 1

## Google Account

Decide whether you want to use your existing Google account or create a new account specifically for this plugin.

We strongly recommend that you create a new Google Account.

Once you have created your new Google Account log in and navigate to your account's calendar. The Calendar that's created when you created your new Google account is known as your account's primary calendar.

The first thing you need to gather is your primary calendar's id. To do this, click on the calendar's dropdown arrow to bring up the context menu and select "Calendar Settings" as illustrated in figure 2.

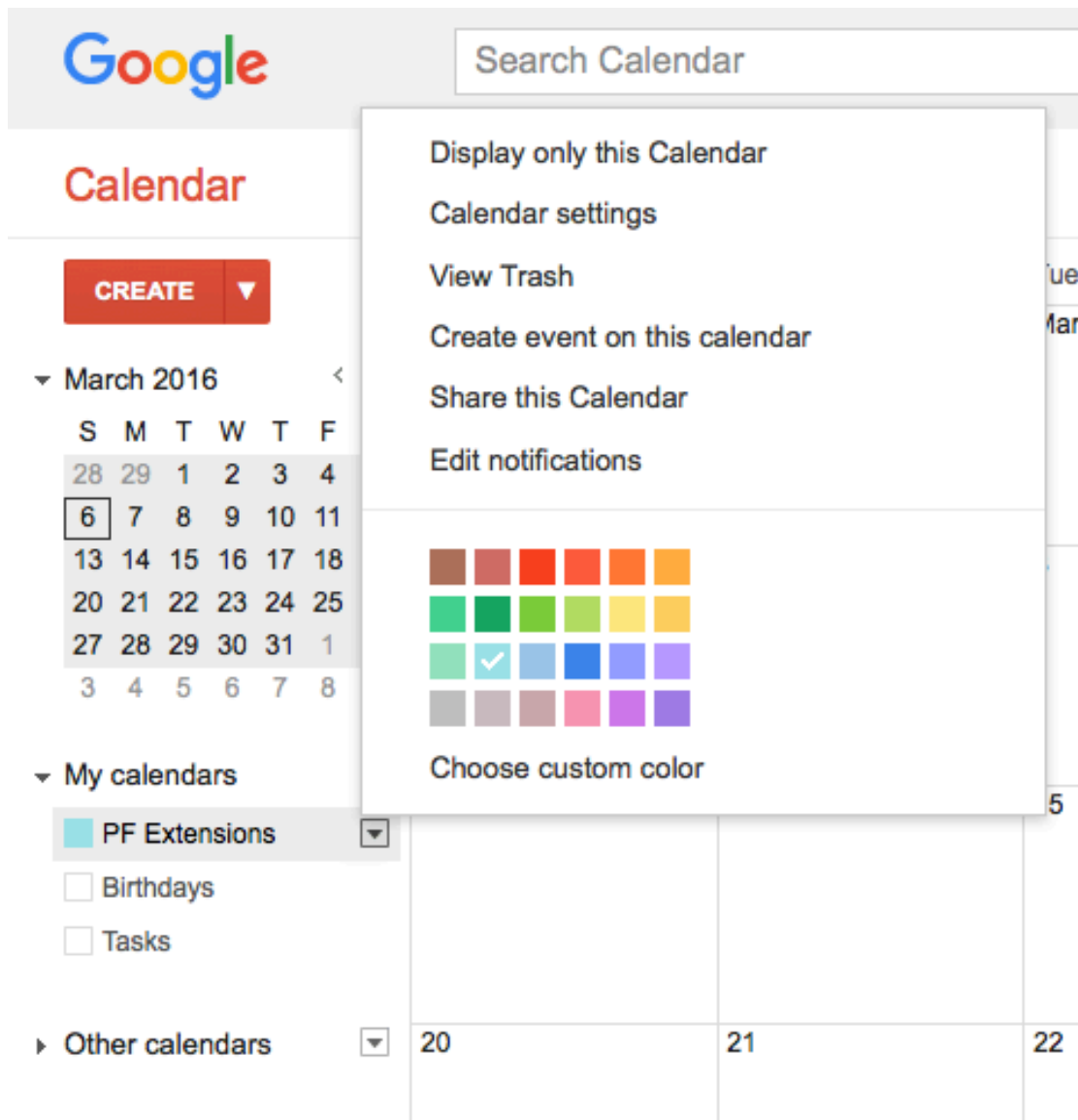


Figure 2

On the Calendar Settings Page find the calendar's id (in the Calendar Address section – see figure 3 below) and make a note of it. It is one of the configuration parameters for the plugin.

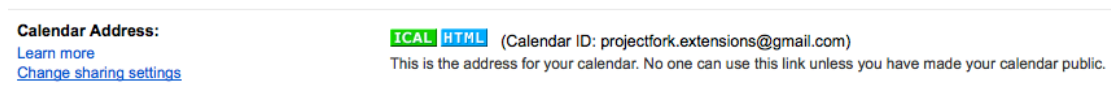


Figure 3

## Google Developers Console

Having created a new Google Account, open a new browser window and navigate to <https://console.developers.google.com/> and login to the

Google Developers Console with the credentials from your newly created Google Account.

We are now going to create a new Google Project, enable the Google Calendar API and create the necessary Google Service Account.

### Creating a New Project

From the Google Developers Console click the “Select a project” dropdown and then click the “Create a project..” link as shown in figure 4 below.

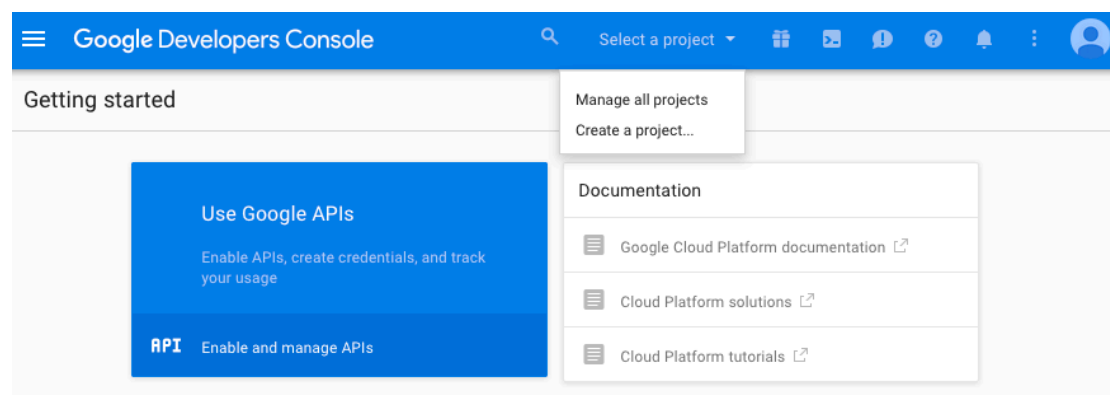


Figure 4

On the resulting page, enter a project name of your choice, accept the terms and conditions and click the “Create” button.

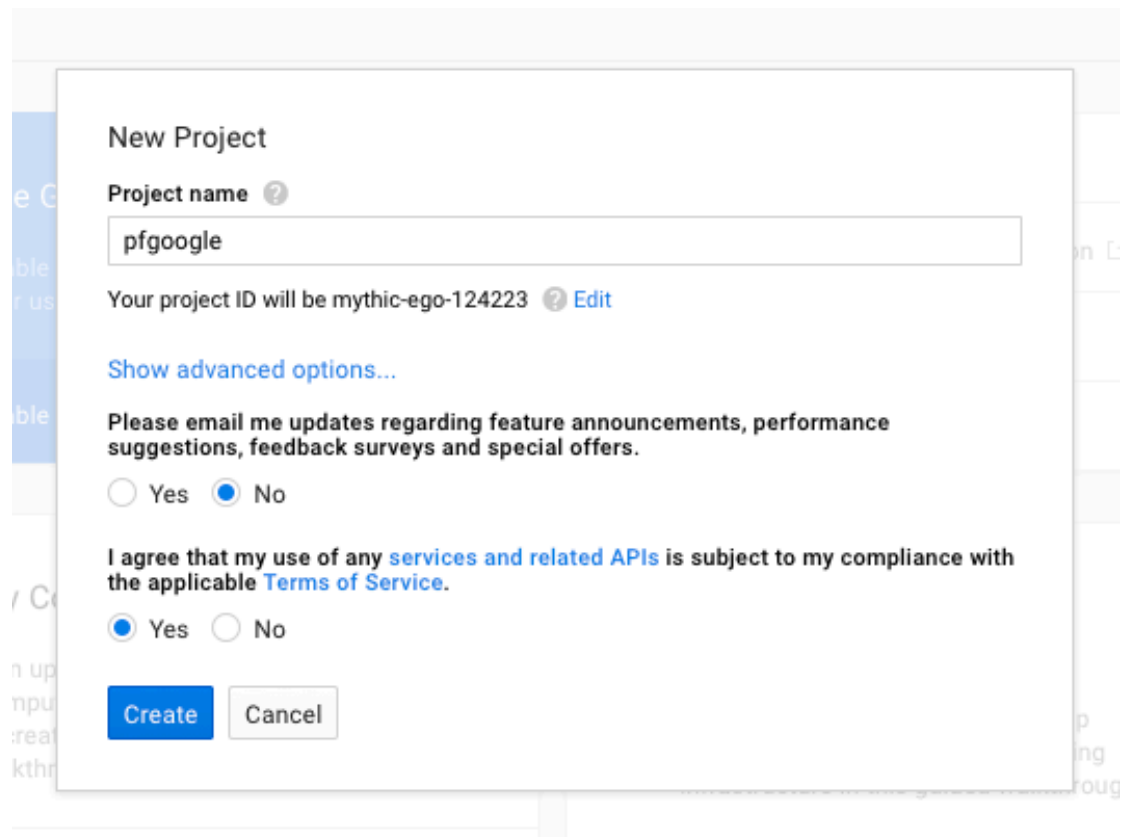


Figure 5

### Enabling the Google Calendar API

Once you have successfully created a new project you will be redirected to the project's dashboard where you should proceed to "Enable and manage APIs" as shown in figures 6, 7 and 8 below.



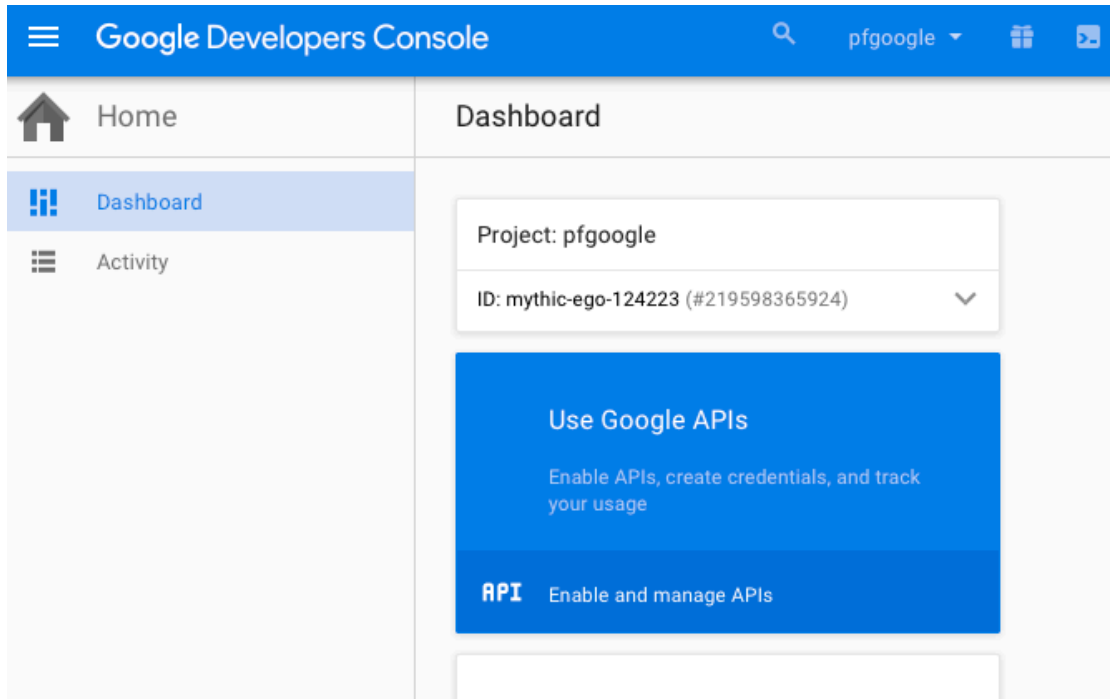


Figure 6

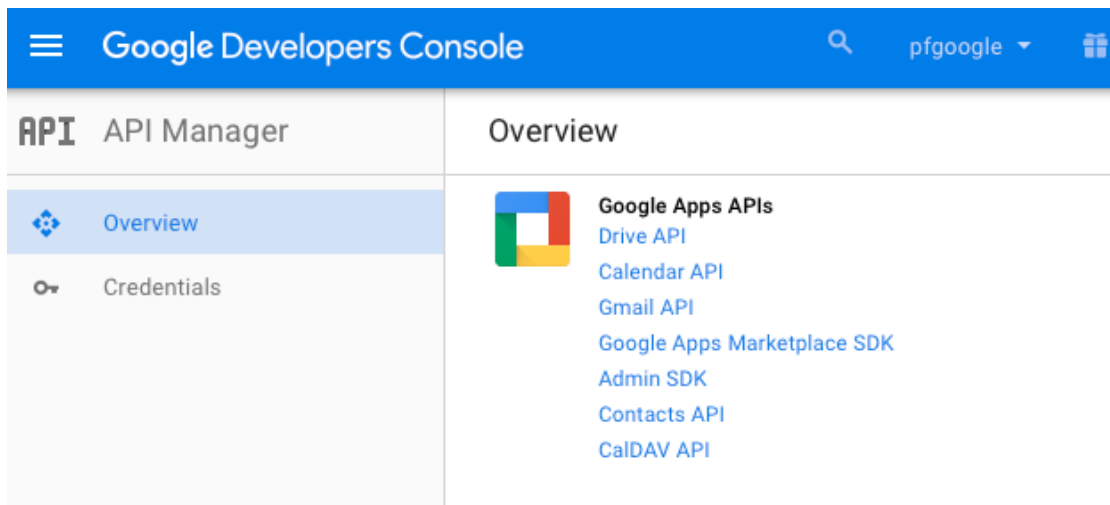


Figure 7

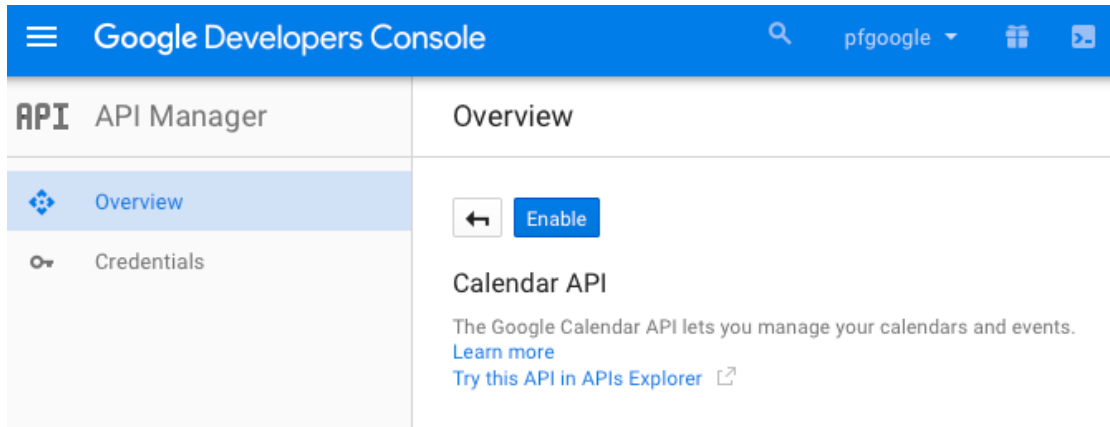


Figure 8

### Creating a Google Service Account

After enabling the Google Calendar API you will need to create the necessary credentials before you can use the API with your project. Click on the “Go to Credentials” button as shown in figure 9 below.

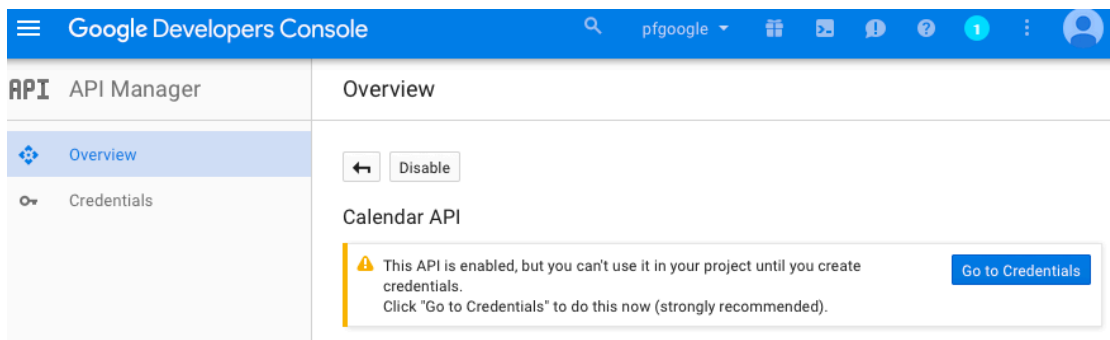


Figure 9

On resulting page click the “service account” hyperlink that can be found under the “Find out what kind of credentials you need” section as illustrated in figure 10 below.

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## Credentials

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### Add credentials to your project

---

#### 1 Find out what kind of credentials you need

We'll help you set up the correct credentials

If you wish you can skip this step and create an [API key](#), [client ID](#), or [service account](#)

##### Which API are you using?

Determines what kind of credentials you need.

Calendar API ▼

##### Where will you be calling the API from?

Determines which settings you'll need to configure.

Choose... ▼

##### What data will you be accessing?

- User data  
Access data belonging to a Google user, with their permission
- Application data  
Access data belonging to your own application

[What credentials do I need?](#)

Figure 10

On the resulting page click the “Create Service Account” button as illustrated in figure 11.

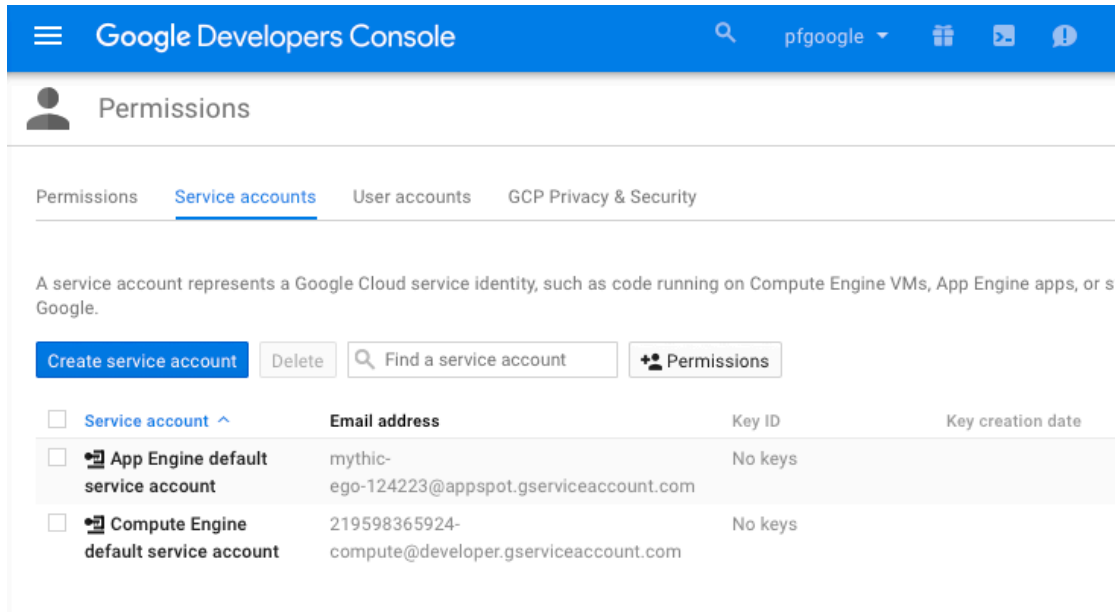


Figure 11

Enter a service account name of your choice, click the “Furnish a new private key” checkbox, select the JSON key type and click the “Create” button as illustrated in figure 12.

**Create service account**

**Name**  
pfgoogle-service

**Service account ID**  
pfgoogle-service @mythic-ego-124223.iam.gserviceaccount.com ↻

**Furnish a new private key**  
Downloads a file that contains the public/private key pair. Store the file securely because this key can't be recovered if lost.

**Key type**

**JSON**  
Recommended

**P12**  
For backward compatibility with code using the P12 format

**Enable Google Apps Domain-wide Delegation**  
Grants a client access to all users' data on a Google Apps domain without manual authorization on their part. [Learn more](#)

**Create** **Cancel**

Figure 12

Once the service account has been created you will be prompted to save the key file as illustrated in figure 13 below.

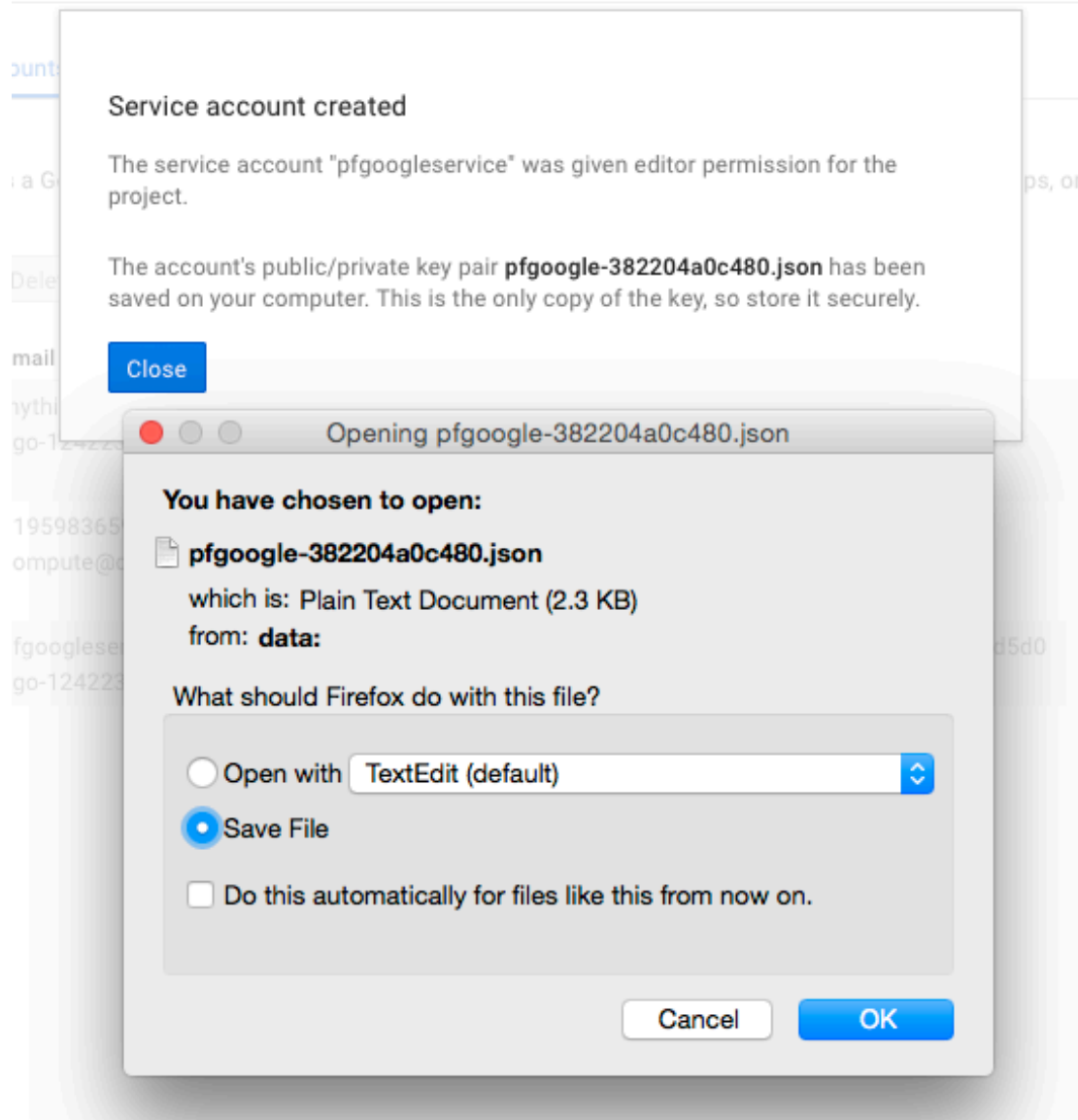


Figure 13

Save the key file to your desktop for now. You will need to move the key file to your webserver once you have finished with the Google Developer Console.

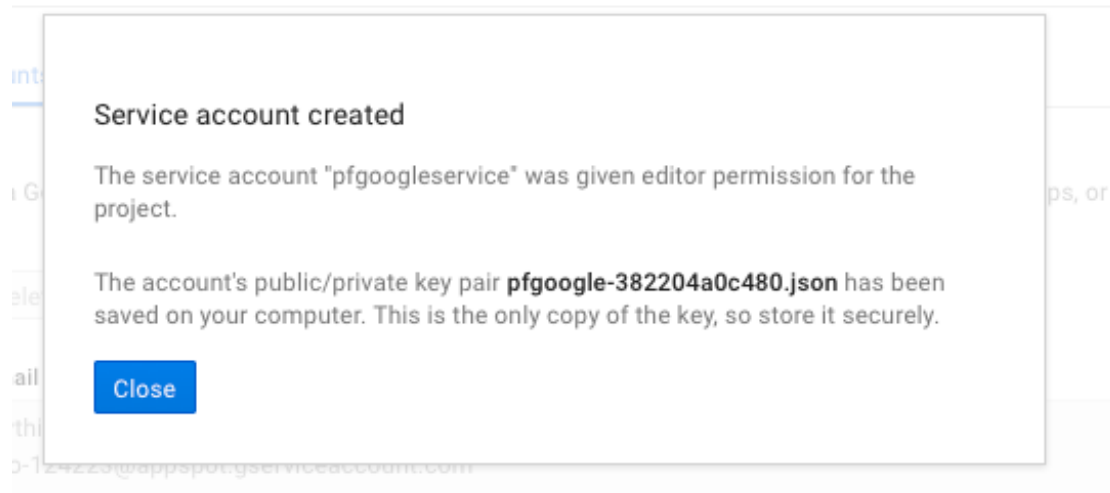


Figure 14

Once the download has completed close the “Service account created” dialog box. You should then see your newly created service account appear in the list of service accounts as illustrated in figure 15 below.

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.

<input type="checkbox"/>	Service account ^	Email address	Key ID	Key creation date
<input type="checkbox"/>	App Engine default service account	mythic-ego-124223@appspot.gserviceaccount.com	No keys	
<input type="checkbox"/>	Compute Engine default service account	219598365924-compute@developer.gserviceaccount.com	No keys	
<input type="checkbox"/>	pfgoogleservice	pfgoogleservice@mythic-ego-124223.iam.gserviceaccount.com	382204a0c4801d3bdb9655b50f9f1c907660d5d0	Mar 6, 2016

Figure 15

Take note of the service account’s email address. You will need it to share your primary Google Calendar.

### Google Calendar Sharing

Now that you have successfully created your Google project and service account, head back to your Google Calendar. Click the dropdown arrow next to your Google Calendar and click the “Share this Calendar” link as illustrated in figure 16 below.

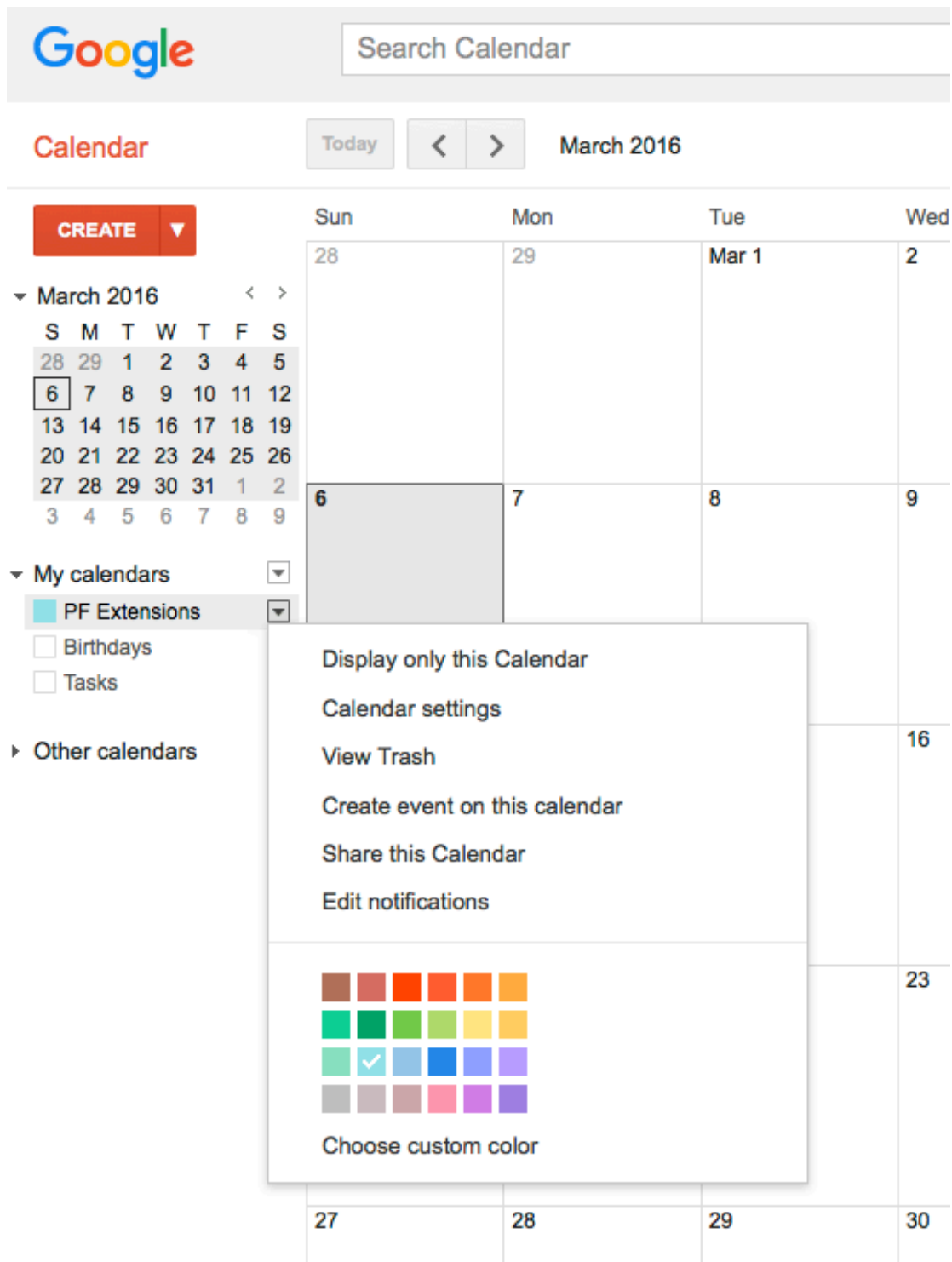


Figure 16

On the “Share this Calendar” screen (refer to figure 17) enter the service account’s email address, you took note of in the previous section, into the Person textbox, select the “Manage changes to events” option from the Permission Settings dropdown and click the “Add Person” button.



**PF Extensions Details**

[Calendar Details](#) [Share this Calendar](#) [Edit notifications](#) [Trash](#)

[← Back to calendar](#)

**Make this calendar public** [Learn more](#)  
 This calendar will appear in public Google search results.  
 Share only my free/busy information (Hide details)

**Share with specific people**

Person	Permission Settings <a href="#">Learn more</a>	Remove
<input type="text" value="pfgooglesevice@mythic-ego-124"/>	<input type="text" value="Make changes to events"/> <input type="button" value="Add Person"/>	
sitename@my-documented-project.iam.gserviceaccount.com	<input type="text" value="Make changes to events"/>	<input type="button" value="Trash"/>
projectfork.extensions@gmail.com	Make changes AND manage sharing	

Figure 17

Having clicked the “Add Person” button you should now see the service account in the “Share with specific people” list as illustrated in figure 18 below.

**PF Extensions Details**

[Calendar Details](#) [Share this Calendar](#) [Edit notifications](#) [Trash](#)

[← Back to calendar](#)

**Make this calendar public** [Learn more](#)  
 This calendar will appear in public Google search results.  
 Share only my free/busy information (Hide details)

**Share with specific people**

Person	Permission Settings <a href="#">Learn more</a>	Remove
<input type="text" value="Enter email address"/>	<input type="text" value="Make changes to events"/> <input type="button" value="Add Person"/>	
sitename@my-documented-project.iam.gserviceaccount.com	<input type="text" value="Make changes to events"/>	<input type="button" value="Trash"/>
projectfork.extensions@gmail.com	Make changes AND manage sharing	
pfgooglesevice@mythic-ego-124223.iam.gserviceaccount.com	<input type="text" value="Make changes to events"/>	<input type="button" value="Trash"/>

Figure 18

To finish, click the “Save” button at the top of the page, next to the “<<Back to calendar” link.

You have now successfully authorised the service account to access and make changes to your Google account utilising the Calendar API you enabled.

The service account will not make any direct changes to your Primary Calendar. The service account is only used to add, update and delete secondary calendars that it creates and their associated events. We will explain this further in the next section.

## Content Plugin Configuration

### Finalising the Content Plugin's Configuration

It is now time to finalise configuring the content plugin. Head back to the plugin's configuration page and:

- Enter your Primary Google Calendar Id into the **Primary Calendar Id** textbox
- Upload your service account key file to your webserver.  
**IMPORTANT: We strongly advise that you upload the file outside the ROOT directory of your Joomla site.**

Once you have uploaded the file, make a note of the absolute path to the file and enter it into the **Service Account Key Path** textbox.

- Enable **PF => Google Sync**
- Decide whether you want the plugin to delete associated Calendars when you delete a Projectfork project.  
**IMPORTANT: if you choose to enable Project => Calendar Delete** be aware that trashing a Project does not constitute a delete action. A delete action is only triggered when you remove the project from the trash.
- **Finally**, save your changes and enable the plugin.

### Initial Synchronisation

It is now time to head back to

<http://yourjoomlainstallation/synchroniser.php>

You can use this webpage script to perform the initial synchronisation of all your existing ProjectFork Projects and their associated milestones and tasks.

**IMPORTANT: If you choose not to perform the initial synchronisation then the plugin will not sync any changes you make to existing ProjectFork projects, milestones and tasks and will only perform synchronisation for projects (and their associated tasks and milestones) that are created after the plugin has been enabled.**

The script presents you with an accordion list of all the Projects that have not been synchronised as illustrated in figure 19 below.

It knows what projects, milestones and tasks have not been synchronised by examining the `#_pf_google_calendars` and `#_pf_google_calendar_events` database tables respectively. For every ProjectFork project that has been synchronised successfully there will be a corresponding entry in the `#_pf_google_calendars` table and for every task and milestone, a corresponding entry in the `#_pf_google_calendar_events` table that links the ProjectFork item to a Google Calendar/event Id provided by Google's API.

Expanding an accordion you will notice you have an option to sync the Project's tasks and/or milestones. If you elect not to include the Project's tasks and milestones in the synchronisation then the script will create an empty secondary calendar with the same name as the corresponding project.

If you elect to sync either the tasks or milestones then the script will firstly create the Secondary calendar and then add each task and/or milestone as Calendar events into the newly created secondary calendar.

# Projectfork -> Google Calendar Synchronisation Script

The following accordion lists all published Projectfork projects that do not have an associated Google Calendar.

The screenshot shows an accordion interface with the following content:

- My First Project** (selected)
  - this is my first PF project

---

  - Include Project Tasks
  - Include Project Milestones
  - [Create Google Calendar and Synchronise](#)
- Public Project One
- My First Public Project
- test this abc
- My Test Project One
- My Test Project Two

Figure 19

## Google Secondary Calendars

As mentioned previously, the service account you created is authorised to make changes to your Google Account based on the Google APIs you have chosen to enable. In this instance, the Google service account we created can make changes to your account's Google Calendars via the Google Calendar API.

The plugin is configured to not make changes to your Primary Google Calendar but instead, every time you create a new Project (or synchronise a Project via the synchroniser.php script) the service account will create a corresponding Google calendar. These calendars are called Secondary Calendars and appear in the "Other calendars" area as illustrated in figure 20 below.

# Calendar

CREATE

▼ March 2016

S	M	T	W	T	F	S
28	29	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

▼ My calendars

PF Extensions

Birthdays

Tasks

▼ Other calendars

ACME Project

Holidays in Australia

Figure 20

## Package Release Notes

### Version 1.0.0 – initial release

The initial release provides a content plugin and Joomla library that enables **one-way synchronisation** of ProjectFork projects, their milestones and tasks.

**Version 1.0.0 DOES NOT provide or embed Google Calendars for or into Projectfork.**

### Package Road Map

- Introduce two-way synchronisation – Version 1.1.0
- Embed Google Calendar into Projectfork – Version 1.1.0