

# Google Calendar Connector for Lotus Notes

## Installation & Administration Guide

- Google Apps for Business
- Google Apps for Education



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**1600 Amphitheatre Parkway**  
**Mountain View, CA 94043**  
[www.google.com](http://www.google.com)

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# Introduction

## About this guide

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This guide is provided to help you understand and implement Google Calendar Connector for Lotus Notes (GCCLN).

## What's in this guide

This guide contains the following information:

- An overview of the features and functionality
- An explanation of the architecture of the connector
- Instructions for installing and then configuring the connector
- Event logs and troubleshooting tips

## Who should use this guide

This guide is intended for the administrators who are responsible for the installation and management of the Google Calendar Connector for Lotus Notes. Those administrators need to have a thorough understanding of Lotus Notes administration.

## Where to find the latest version of this guide

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Please consult the product's Web site for the latest configuration and support information. You may also contact Google Solutions Providers for consulting services and options.

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## Overview

Google Apps Migration for Lotus Notes (GAMLN) is a native IBM Lotus Notes application that you install on an IBM Lotus Domino server running on Microsoft Windows. Once you install GAMLN, you can then migrate Notes users and Mail-In databases to Google Apps. Migration includes mail, calendars, contacts, and groups.

GAMLN also supports an optional Calendar Connector component (the Calendar Connector or GCCLN). This document deals specifically with this component. For a detailed description of the GAMLN migration system you should refer to the dedicated guide which can be found here <http://www.google.com/support/a/bin/answer.py?hl=en&answer=154630>

GCCLN is designed to let users in the same organization experience a level of coexistence between Notes Calendar and Google Apps Calendar. It is ideal for use by customers who are migrating to Google Apps from Lotus Notes where they want to retain free/busy visibility across both systems during the migration period. Whilst GCCLN is bundled with GAMLN, both products can be used independently of each other.

### Important Notes:

1. GCCLN should not be used for customers who are piloting Google Apps as the connector overwrites the calendars of Notes users who have moved to Google Calendar.
2. You MUST NOT use GAMLN and the GCCLN “Notes to Google Busy Time Lookup” service at the same time for any of your users. You should only identify a user in the Domino directory as a “Google” calendar user once that user has been fully migrated to Apps. Running a GAMLN migration against a “Google” calendar user at the same time will result in lost Notes events.

## Features

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GCCLN provides the following features.

**Google to Notes Busy Time Lookup:** Allows Google users to lookup Notes user’s busy time information when organizing meetings in Google Calendar.

**Notes to Google Busy Time Lookup:** Allows Notes users to view the busy time information for Notes users who have moved to Google Calendar.

### Google to Notes Busy Time Lookup

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The Google to Notes lookup is made in real time using a web service provided as part of your Google Apps domain.

A user adds an attendee to a meeting and the web service consumer on the Google servers will make a call to the Domino service provider included in the connector. The connector will then access the Notes busy time store and return the information to Google calendar for display in the scheduler dialog.


**Note:** Web service requests originate from the Google Calendar user. As long as the Google Calendar user has access to the Domino Http server that hosts the connector the Domino server DOES NOT need to be placed in your DMZ.

## Notes to Google Busy Time Lookup

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The Notes to Google lookup is made against the Notes busy time store. An agent on the GCCLN server polls the Google calendars every hour extracting meeting details and updating the Notes systems with the Google data.

**Note:** The Notes mail files of users who have already migrated to Google Calendar must be retained to support this feature.

 **Very important:** To support Notes to Google Lookups, GCCLN will remove all calendar events both future and historical from the user's Notes mail file and populate the Notes calendar with Google future events only.

Do not set a person's calendar field value to "Google" if you wish to retain the Notes calendar as all Notes calendar information will be lost. The connector will not be able to restore the Notes calendar once the person has been identified as a Google calendar user by GCCLN.

In addition, you must not set a person's calendar field to "Google" until that person has been fully migrated to Apps and is no longer using the Notes calendar. Using GAMLN alongside this GCCLN service for the same user at the same time will result in permanently lost data in Notes.

## Architecture

This section covers the primary architectural components of the GCCLN.

### Components

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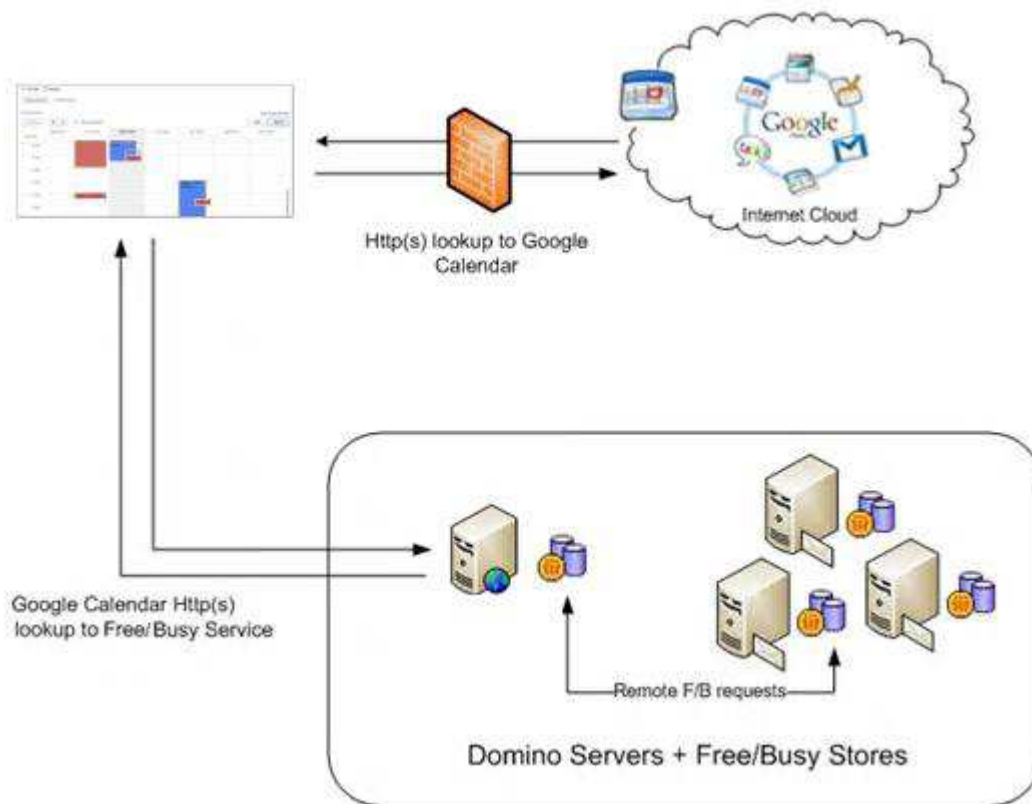
**Calendar Connector database:** This database contains all of the configuration information needed by the connector and the agents that are required to provide the key connector features.

**“(GetNotesFreeBusy)” agent:** This agent acts as the web service provider for Google to Notes busy time lookups.

**“Update Calendars” agent:** This agent carries out the following tasks:

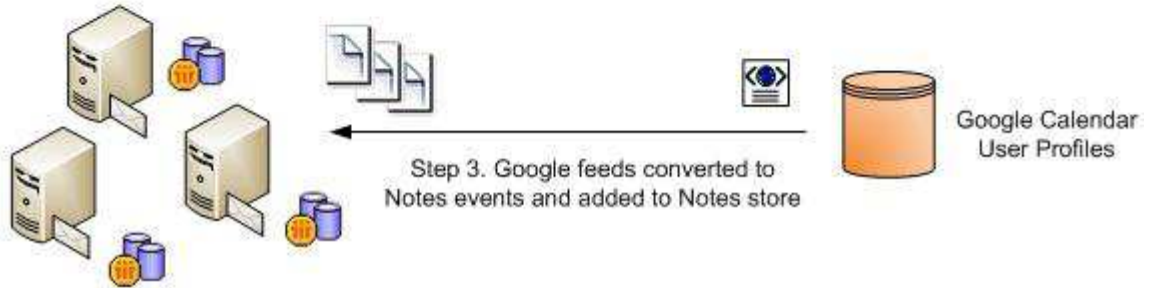
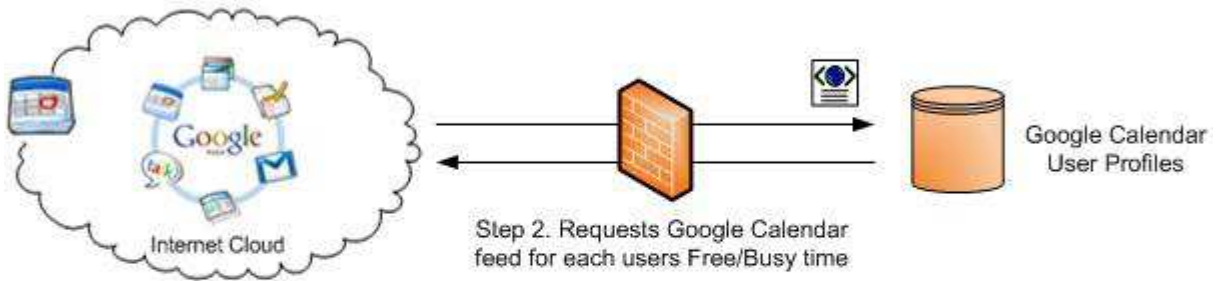
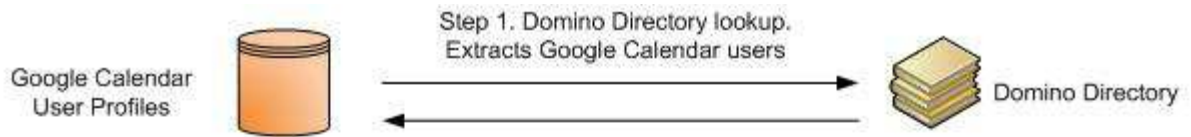
1. Reads the Domino directory and creates a user profile internally for every user who has the “Calendar” field set to “Google”.
2. Checks all existing profiles against the Person documents in the Domino directory. Any person whose “Calendar” field is no longer set to “Google” is removed from the system.
3. Gets the Google Calendar busy time information for each user listed in the connector.
4. Writes the Google Calendar busy time information back to the Notes system.

The following diagrams show how these components fit together.



Google Calendar to Notes User Lookup using Google Web Service





Actions completed by the "Update Calendars" polling agent to support Notes to Google Calendar Lookup

## Topologies

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The Calendar Connector database can be installed and configured differently depending upon the size and spread of your Domino environment.

### Option 1 - Single server/site implementation

Where all Domino mail servers exist at one site you will install the Calendar Connector database onto a single server in your organization. This server will be solely responsible for:

- Acting as the web service provider for incoming Google to Notes lookups.
- Acting as the polling server, polling Google Calendars and updating the Notes busy time stores for Notes to Google lookups.

This server will reach out to any other server in your organization to obtain and to update free/busy information as required by each of the two services.

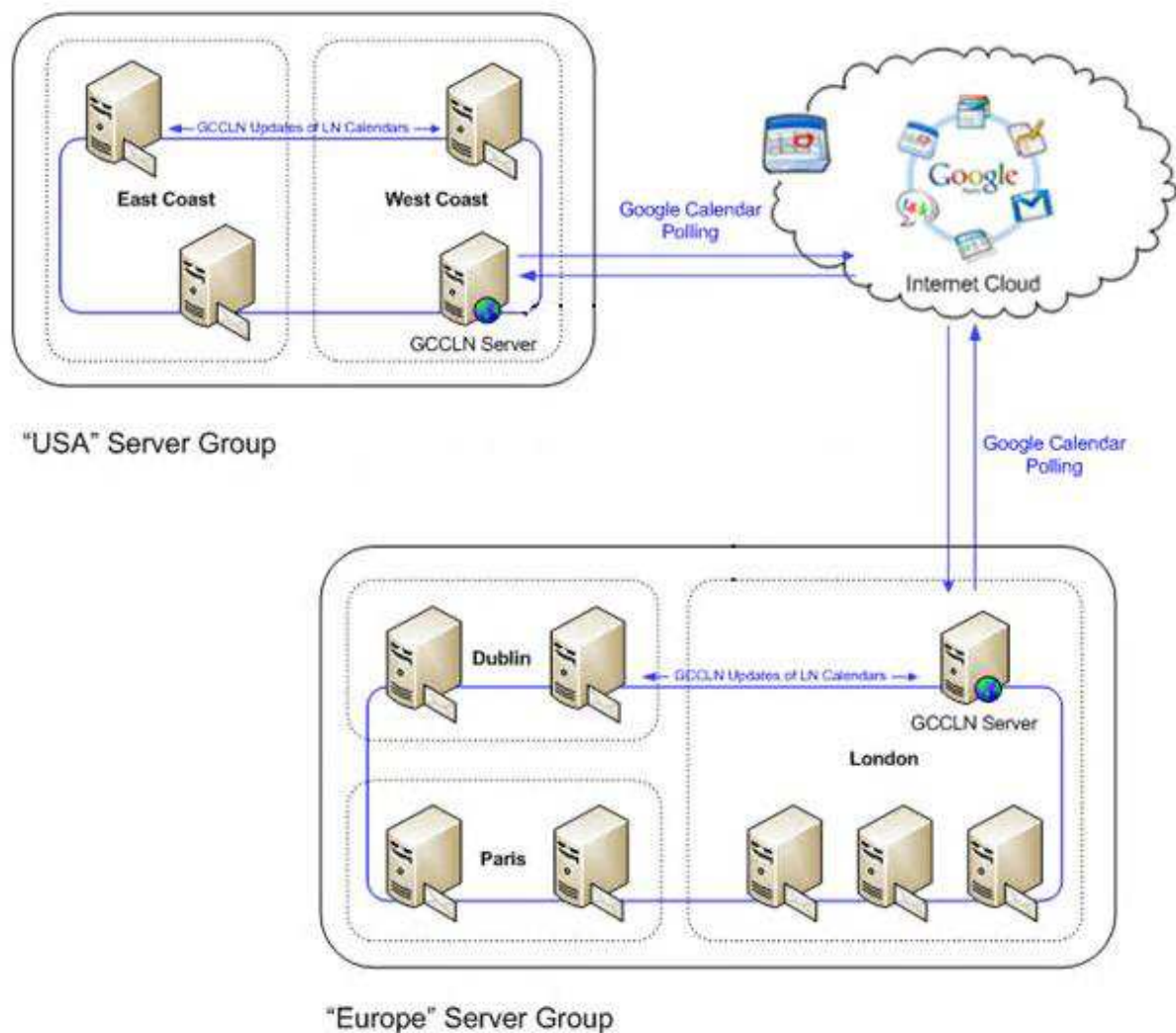
### Option 2 Multi server/site implementation

Where mail servers are located across multiple sites/time zones you should install an instance of the connector at each site. In this configuration:

- One instance acts as the web service provider for incoming Google to Notes lookups.
- Each instance acts as a polling server for users whose mail servers are held at that site. This allows the polling services to be shared across multiple servers offering optimum performance.

**Note:** It is important that each instance of the connector is installed separately. Do not replicate the connector across multiple servers.

The following diagram shows how the polling activity is managed in a multiple connector server implementation.



"Update Calendars" polling agent in a multiple implementation. Each GCCLN server processes only those users whose home mail server is part of its Server Group.

## Installation

In order for you to successfully implement the Calendar Connector, it is important that you follow the guidelines provided here. This section outlines the system requirements and preparations you need to make before you install the product, and the installation procedure.

### System requirements

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To implement the Google Calendar Connector for Lotus Notes, your environment must meet the following minimum requirements for Google Apps, Lotus Domino and Notes, and Microsoft Windows.

#### Google Apps requirements

- Google Apps for Business or Google Apps for Education Edition.
- API access must be enabled in your Apps domain.

#### Domino system requirements for each server where the connector is installed

- Lotus Domino Server 6.5 or higher for Windows (32 or 64 bit).
- If you are adding a dedicated connector server to your network, the server must be registered as part of your existing Domino Organization.
- Microsoft Windows 2003 Server or higher.
- The connector server ID must have Editor (with delete rights) or above access to all mail files.
- Microsoft Core XML Services 6.0. If your version of Windows does not include Core XML Services 6.09, you can download them at:

<http://www.microsoft.com/downloads/details.aspx?FamilyID=993c0bcf-3bcf-4009-be21-27e85e1857b1&DisplayLang=en>

Microsoft Core XML Services 6.0 is included with various Microsoft products (for example, Microsoft SQL Server and Microsoft Office). To see whether you have Microsoft Core XML Services 6.0 installed, you can search your Windows folder for msxml6.dll.

#### Miscellaneous requirements

- The Lotus Notes mail files for each user who has moved to Google calendar must be retained along with their Person document in the Domino directory. This is required to support the Notes to Google busy time lookup function. As a minimum the following fields must be filled in for each Notes user:

FirstName, LastName, UserName, ShortName, MailFile, Domain, and MailSystem

In addition users must still be identifiable as Notes mail users. If you set forwarding addresses Domino will not return free/busy information for these users. Where forwarding is required, you should apply a forwarding rule at the mail file level for each of your users as this will ensure that Domino will continue to respond to free/busy requests.

- The server(s) responsible for polling the Google servers for calendar information should have access to the internet.

## Things to do before you install GCCLN

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You need to do some preparatory work before you install GCCLN. If you ignore this preparatory work, you will encounter problems when using the system.

### Prepare the Domino servers

#### Verify system requirements

Confirm your server or servers meet the specifications detailed earlier in this guide.

#### Make sure that the Http task is running on your connector server



Applies to the server responsible for responding to incoming Free/Busy requests from Google.

Load the Domino Http task on the Connector server. You should refer to your Domino Administrator Help database for more details on configuring the Domino Http task. You should also ensure that you have enabled the SSL port.

#### Enable concurrent web agents on your connector server



Applies to the server responsible for responding to incoming Free/Busy requests from Google.

Set the "Run web agents concurrently?" field to "Enabled". This setting can be found in the Domino directory on the Server document's **Internet Protocols > Domino Web Engine** tab.

#### Increase max concurrent agents & max LotusScript/Java execution times on your connector server



Applies to the servers that are responsible for polling Google calendars.

It is suggested that you increase the "Max concurrent agents" setting on your Connector server by 1 to ensure that the "Update Calendars" agent does not impede other agents which may be running on the server.

If the "Update Calendars" agent is not completing successfully in the times allowed by your connector server you will also need to increase the "Max LotusScript/Java execution times" to allow the agent to complete gracefully.

These settings can be found in the Domino directory on the Server document's **Server Tasks > Agent Manager** tab.

#### Set trusted servers on all mail servers

A server that is responsible for polling Google calendars and updating the Notes busy time information must have trusted server access to all the mail servers that it is responsible for managing.

To identify a server as a trusted server:

1. In the Domino directory, open the Server document for each mail server.
2. On the Security tab, in the "Trusted servers" field, enter the name of the relevant Connector server or add a group to which the Connector server is a member.

### Sign the installation templates and check access

Use the Domino Administrator client to copy the Notes templates “google-calconn.ntf” and “gccln-log.ntf” provided in the installation kit to your Connector server. Sign the template with the server ID.

**Note:** The server(s) on which the Connector runs polling activities must have at least Editor level access with document delete rights to each Google user’s Notes mail file that it is responsible for managing.

## Update the Person Form in your Domino Directory

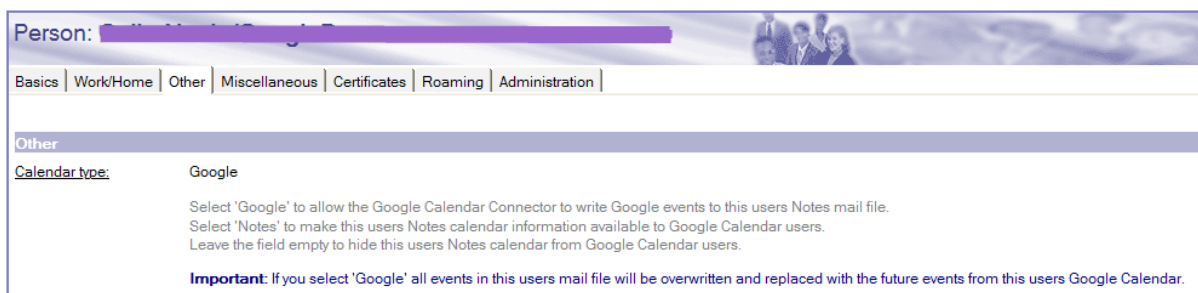
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Before users on either system can share busy time information a new field called “Calendar” must be added to the Person form in your Domino directory.

There are number of ways that you can add and manage this field. One approach is as follows

### Add the calendar field to the \$PersonExtensibleSchema Domino directory sub form

This particular sub form appears on each Person’s “Other” tab and is designed to allow you to add your own attributes to the Person form. An example is shown below.



The screenshot shows the Domino Person form interface. At the top, there is a header with the text "Person:" followed by a redacted name. Below the header is a navigation bar with tabs: Basics, Work/Home, Other, Miscellaneous, Certificates, Roaming, and Administration. The "Other" tab is selected. Under the "Other" tab, there is a field labeled "Calendar type:" with the value "Google". Below this field, there is explanatory text: "Select 'Google' to allow the Google Calendar Connector to write Google events to this users Notes mail file. Select 'Notes' to make this users Notes calendar information available to Google Calendar users. Leave the field empty to hide this users Notes calendar from Google Calendar users." At the bottom of the form, there is an "Important:" note: "If you select 'Google' all events in this users mail file will be overwritten and replaced with the future events from this users Google Calendar."

**Note:** A copy of the “\$PersonExtensibleSchema” sub form is provided in the calendar connector template. If you have not already modified this sub form in your own Domino directory you can simply add the one provided in the kit in place of the one you have to reveal the field.


### Set the calendar field for each person who wants to share calendars with the other service

This can be done manually, through the use of a simple agent, or through the use of the GAMLN API.

The “Calendar” field can be set to “Notes”, “Google” or it can be left empty:

- Notes: Users who remain on Lotus Notes. Only these user’s calendar details will be exposed to the Google web service.
- Google: Users who have moved to Google Calendar from Lotus Notes. These users are processed by the “Update Calendars” agent. Events from the Google calendar will be written back to the Notes calendar to ensure that existing Notes users can still see busy time details for this user even after migration.
- Empty: Any Notes user who does not want to expose their calendar to Google users.

**Note:** Although you cannot use the sub form provided, you can add the Calendar field to your Lotus Notes Rooms and Resource documents. This allows Google Calendar users to view free/busy time for Notes rooms and resources. However it is not possible to book these resources from Google Calendar.

 **Very important:** Once the “Calendar” field is set to “Google” the connector will delete all calendar events both future and historical from the user’s Notes mail file and populate the calendar with Google future events only. Only set the calendar field value to “Google” once the person has been fully migrated and has discontinued use of the Notes calendar as overwritten events cannot be recovered by the connector.

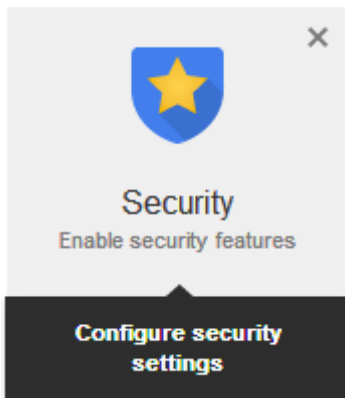
Do not use GAMLN and the GCCLN polling service for the same user at the same time as this will result in permanently lost data in Notes and duplicate events in Apps. Migrate your users first and only then should you switch the calendar field to “Google”.

## Configure Google Apps

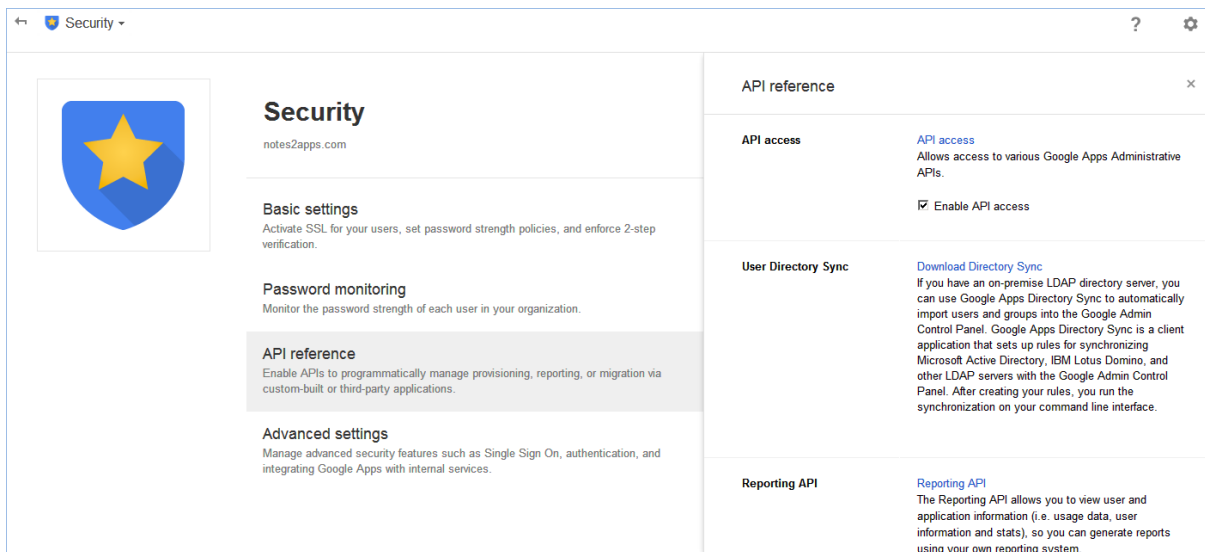
Once you have completed the Domino server configuration, you must now configure the Web service consumer for your Google Apps domain(s). To do this, complete the following steps.


Log in to your Google Apps domain as a domain super administrator.

Select the “Security” control from the dashboard.



Select “API reference” and “Enable API access” in the right hand pane.

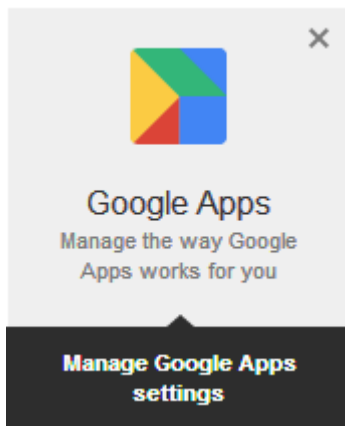
The screenshot shows the Google Admin console's Security settings page. The left pane is titled "Security" and includes sections for "Basic settings", "Password monitoring", "API reference" (which is highlighted), and "Advanced settings". The right pane is titled "API reference" and contains three sections: "API access" with a checkbox for "Enable API access" that is checked, "User Directory Sync", and "Reporting API".

Security	
	<b>Security</b> notes2apps.com
<b>Basic settings</b>	Activate SSL for your users, set password strength policies, and enforce 2-step verification.
<b>Password monitoring</b>	Monitor the password strength of each user in your organization.
<b>API reference</b>	Enable APIs to programmatically manage provisioning, reporting, or migration via custom-built or third-party applications.
<b>Advanced settings</b>	Manage advanced security features such as Single Sign On, authentication, and integrating Google Apps with internal services.

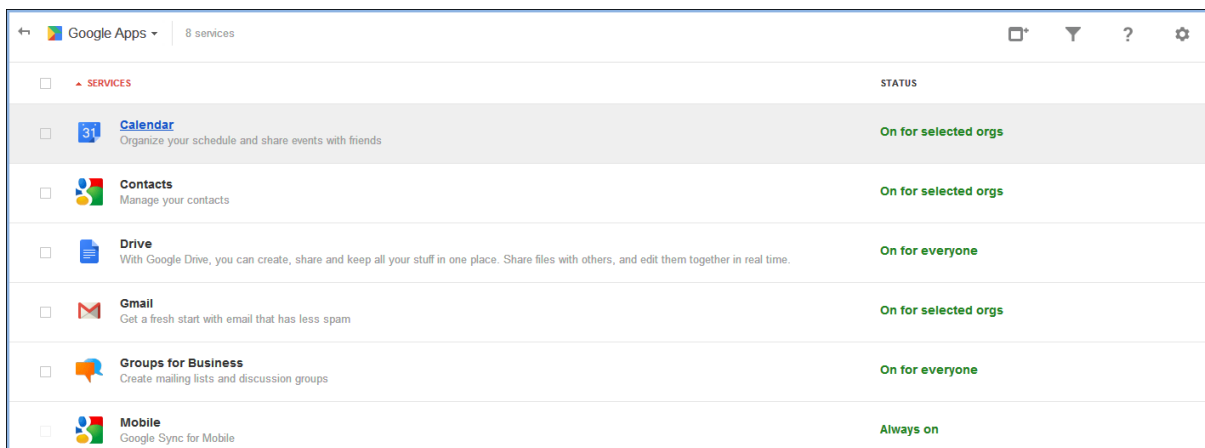
API reference	
<b>API access</b>	<a href="#">API access</a> Allows access to various Google Apps Administrative APIs. <input checked="" type="checkbox"/> Enable API access
<b>User Directory Sync</b>	<a href="#">Download Directory Sync</a> If you have an on-premise LDAP directory server, you can use Google Apps Directory Sync to automatically import users and groups into the Google Admin Control Panel. Google Apps Directory Sync is a client application that sets up rules for synchronizing Microsoft Active Directory, IBM Lotus Domino, and other LDAP servers with the Google Admin Control Panel. After creating your rules, you run the synchronization on your command line interface.
<b>Reporting API</b>	<a href="#">Reporting API</a> The Reporting API allows you to view user and application information (i.e. usage data, user information and stats), so you can generate reports using your own reporting system.



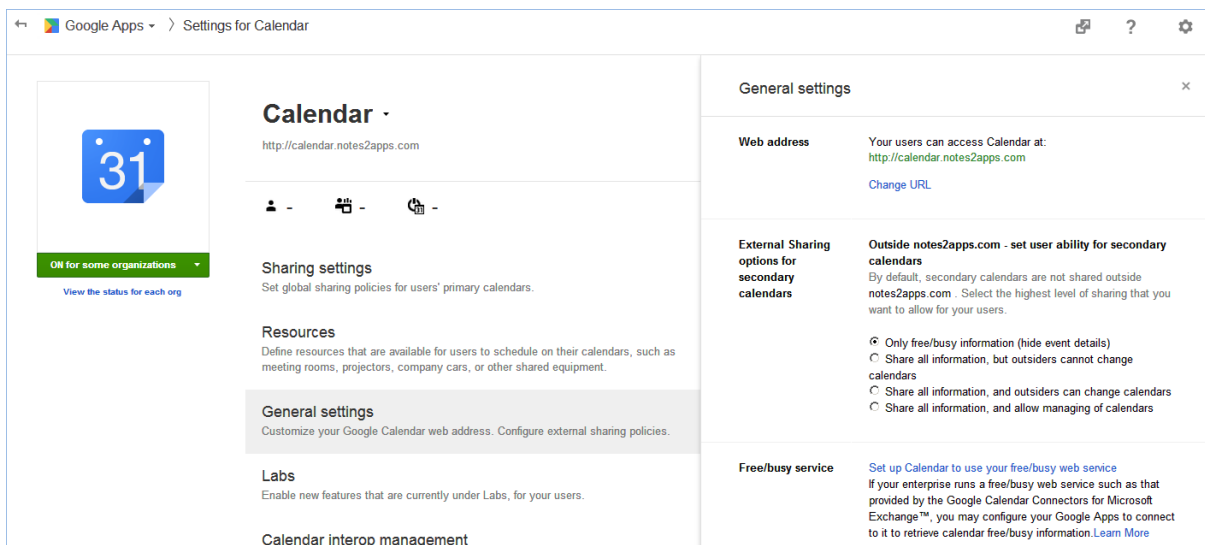
Return to your dashboard and select the “Google Apps” control.



Select the “Calendar” service.

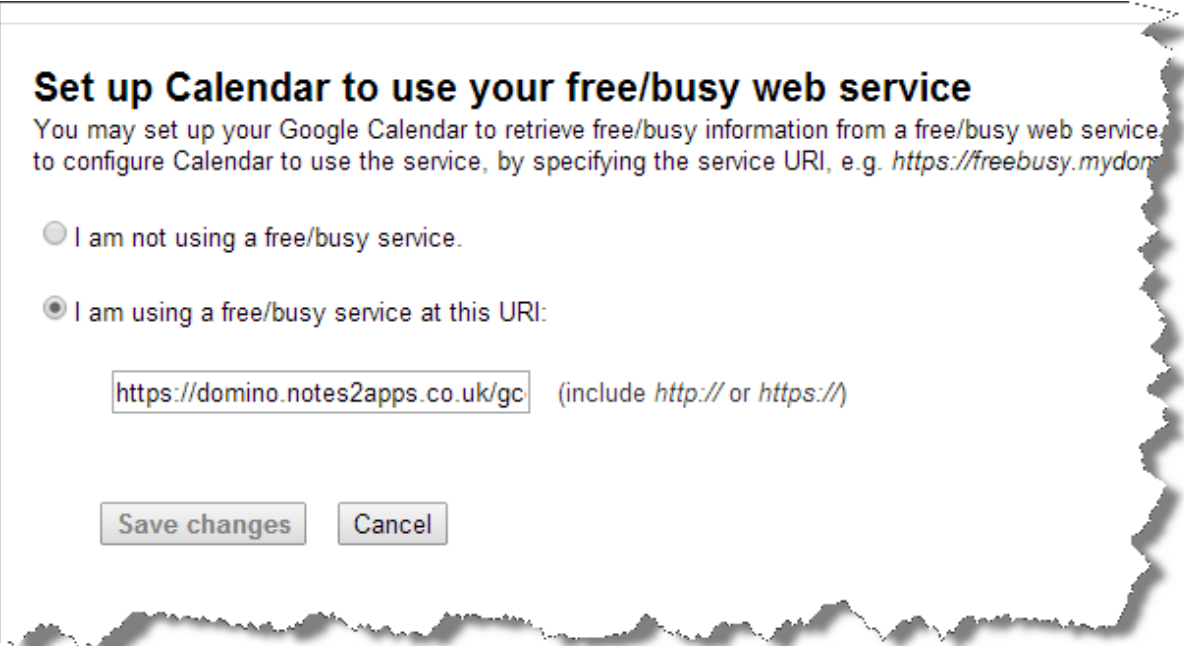


Select “General settings” and then select the “Set up Calendar to use your free/busy web service” link in the right hand pane.



Choose "I am using a free/busy service at this URI:" option and enter the full URL to the (GetNotesFreeBusy) agent in your Calendar Connector database. An example URI is as follows

[http://dominoserver.mycompany.com/google-calconn.nsf/\(GetNotesFreeBusy\)?OpenAgent](http://dominoserver.mycompany.com/google-calconn.nsf/(GetNotesFreeBusy)?OpenAgent)



**Set up Calendar to use your free/busy web service**

You may set up your Google Calendar to retrieve free/busy information from a free/busy web service. To configure Calendar to use the service, by specifying the service URI, e.g. *https://freebusy.mydomino.com*

I am not using a free/busy service.

I am using a free/busy service at this URI:

(include *http://* or *https://*)

Press the Save changes button.

## Create the Calendar Connector Database on your Domino Server

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Create a database on your server from the google-calconn.ntf template that you copied to your server earlier. It is recommended to place this database in a sub folder on the Domino server (e.g. "gccln") rather than the root directory.

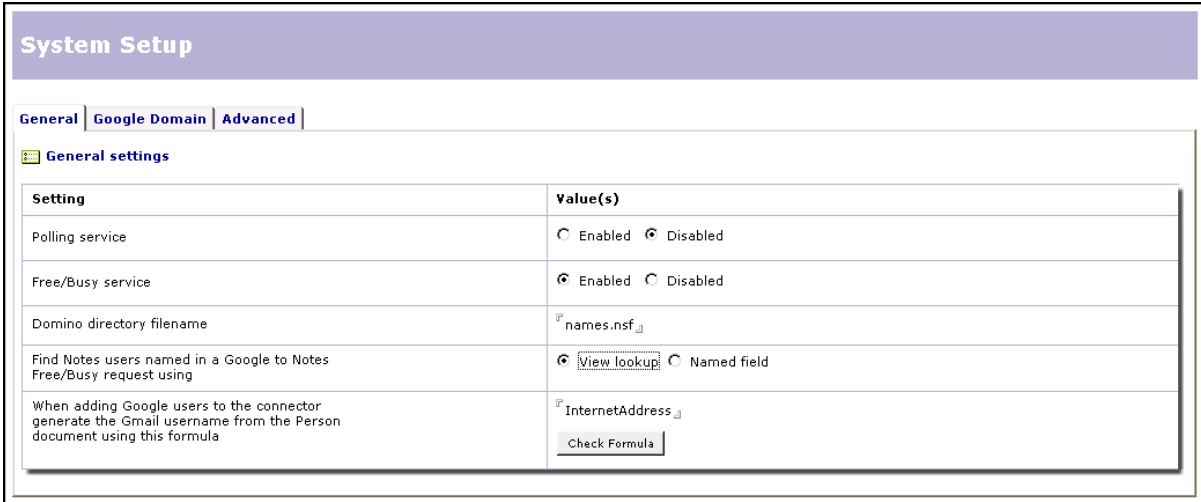
Do not copy the template to an NSF file. If you do, the monitoring agents will not run and the ACL will not be set up correctly.

## Complete the System Setup form

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Once you have created the Calendar Connector database, a new setup form opens automatically. Follow the instructions in the sections below to complete the setup form.

### General Tab



The screenshot shows the 'System Setup' form with the 'General' tab selected. The 'General settings' section contains a table with the following settings:

Setting	Value(s)
Polling service	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
Free/Busy service	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Domino directory filename	<input type="text" value="names.nsf"/>
Find Notes users named in a Google to Notes Free/Busy request using	<input checked="" type="radio"/> <input type="text" value="View lookup"/> <input type="radio"/> Named field
When adding Google users to the connector generate the Gmail username from the Person document using this formula	<input type="text" value="InternetAddress"/> <input type="button" value="Check Formula"/>

Configure the General tab as described below.

### Polling service

This field is used to enable/disable the polling service on this server. This should be enabled on all servers.

### Free/Busy service

This field is used to enable/disable the free/busy web service on this server. In a multiple server implementation this field should be enabled on one server only.

### Domino directory file name

Enter the name of the Domino directory.

## Find Notes users named in a Google to Notes Free/Busy request using

When a Google user requests free/busy information for a Notes user the system must locate the Notes user in the Domino directory before the request can be fulfilled. The system has two ways to locate the Notes user in the directory.

Select "View lookup" where the Google user adds the Notes user's SMTP address to the calendar event. The system will locate each Notes user via the address supplied by referring to the directory's (\$Users) view.

The system also allows a match to be made using a named field on the Person document. This option should only be used if the addresses used by the Google Calendar user are not shown in the (\$Users) view. To use this approach, select "Named field" and enter the name of the field to use in the "Lookup field" box provided.

## When adding Google users to the connector generate the Gmail username from the Person document using the formula

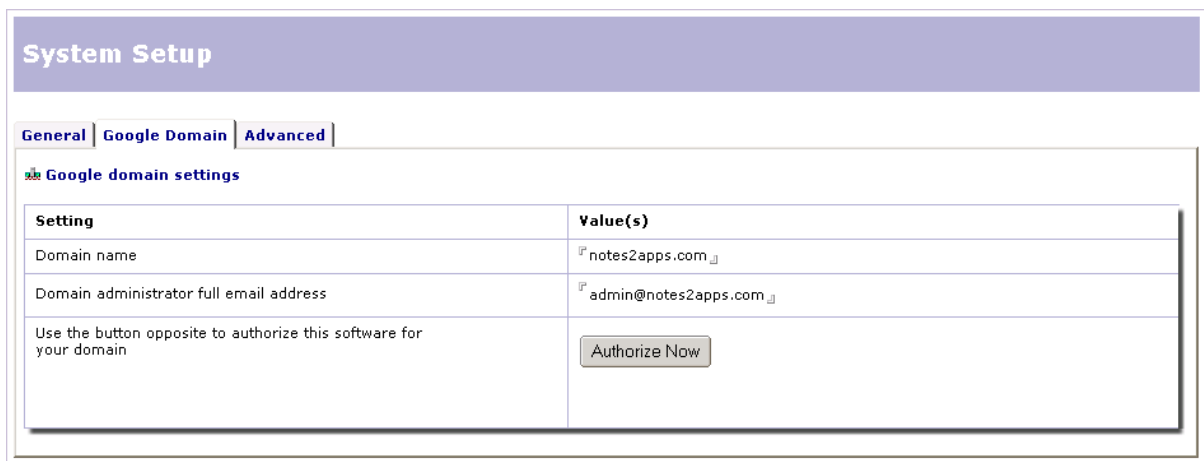
Enter the name of the field in each Person document that contains the Google Apps user name for each Notes user who has moved to Google Apps. Usually this is the InternetAddress field, but you can use any field.

This field is used to ensure that the agent that polls the Google calendars knows which account to access for each Notes user listed in the Domino directory and identified as using the "Google" calendar system.

You can also enter a formula in this field. For example, the formula `@LowerCase(ShortName)+"@<mygoogle-domain>.com"` takes the first value in each user's ShortName/User ID field, converts it to lowercase, and appends `@<my-google-domain>.com` to create the Gmail user name/address.

**Note:** An invalid formula results in Name conversion failures during polling. Use the Check Formula button at the top of the form to validate your formula.

## Google Domain Tab



The screenshot shows the 'System Setup' interface with the 'Google Domain' tab selected. It displays a table for 'Google domain settings' with the following data:

Setting	Value(s)
Domain name	notes2apps.com
Domain administrator full email address	admin@notes2apps.com
Use the button opposite to authorize this software for your domain	<input type="button" value="Authorize Now"/>

### Domain name

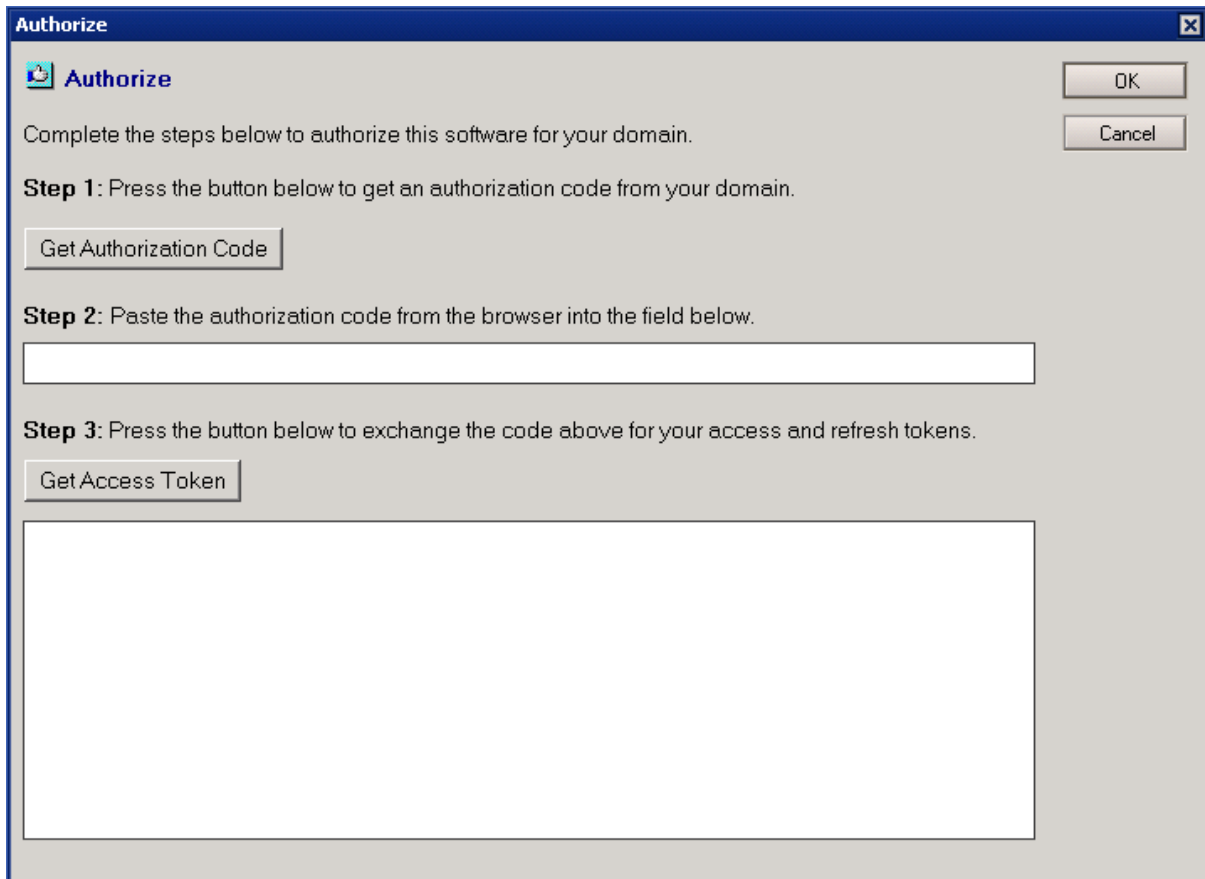
Enter your Google Apps domain name.

### Domain administrator full email address

Enter the full email address of your Google domain's super administrator.

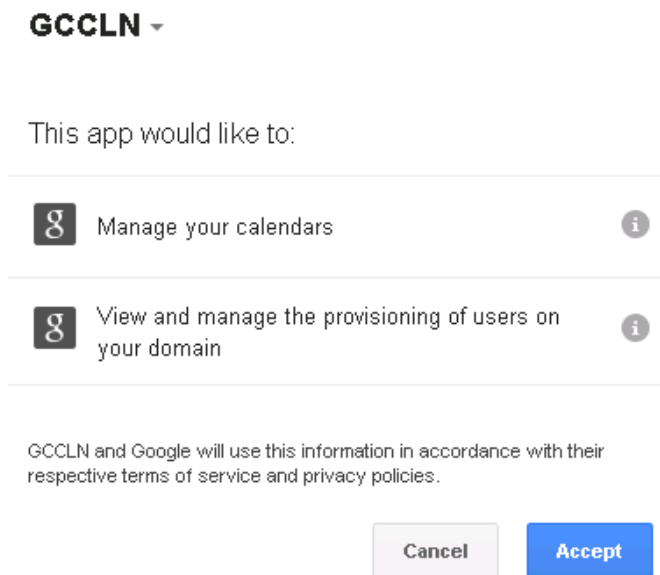
You must now authorize the software for your domain. To do this, complete the following steps:

1. Ensure the Notes client is set to use the operating system's default browser when opening web pages. Refer to your Notes help for more information on setting your default browser for Lotus Notes as the steps vary between different versions of the client.
2. Press the Authorize Now button. You will see the following dialog box.

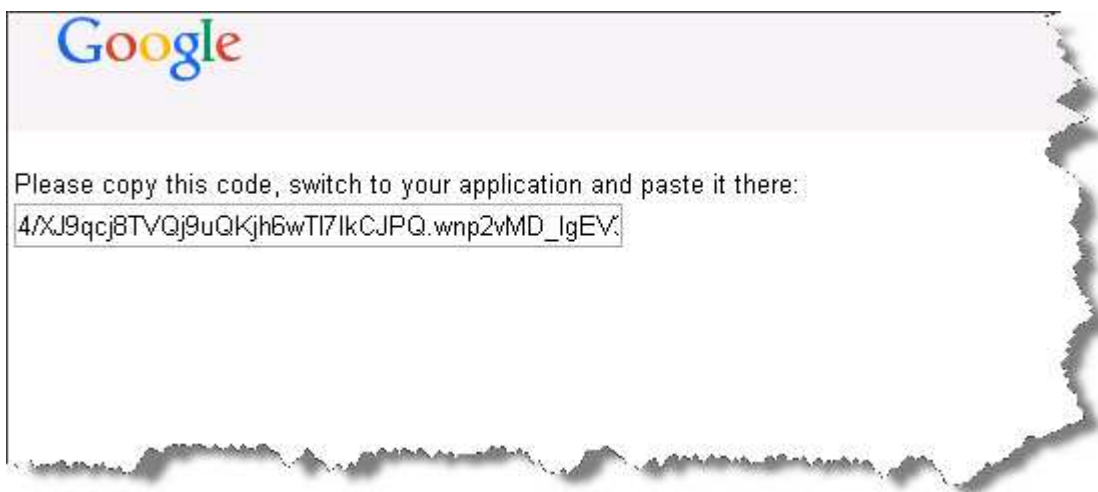


3. Press the Get Authorization Code button.

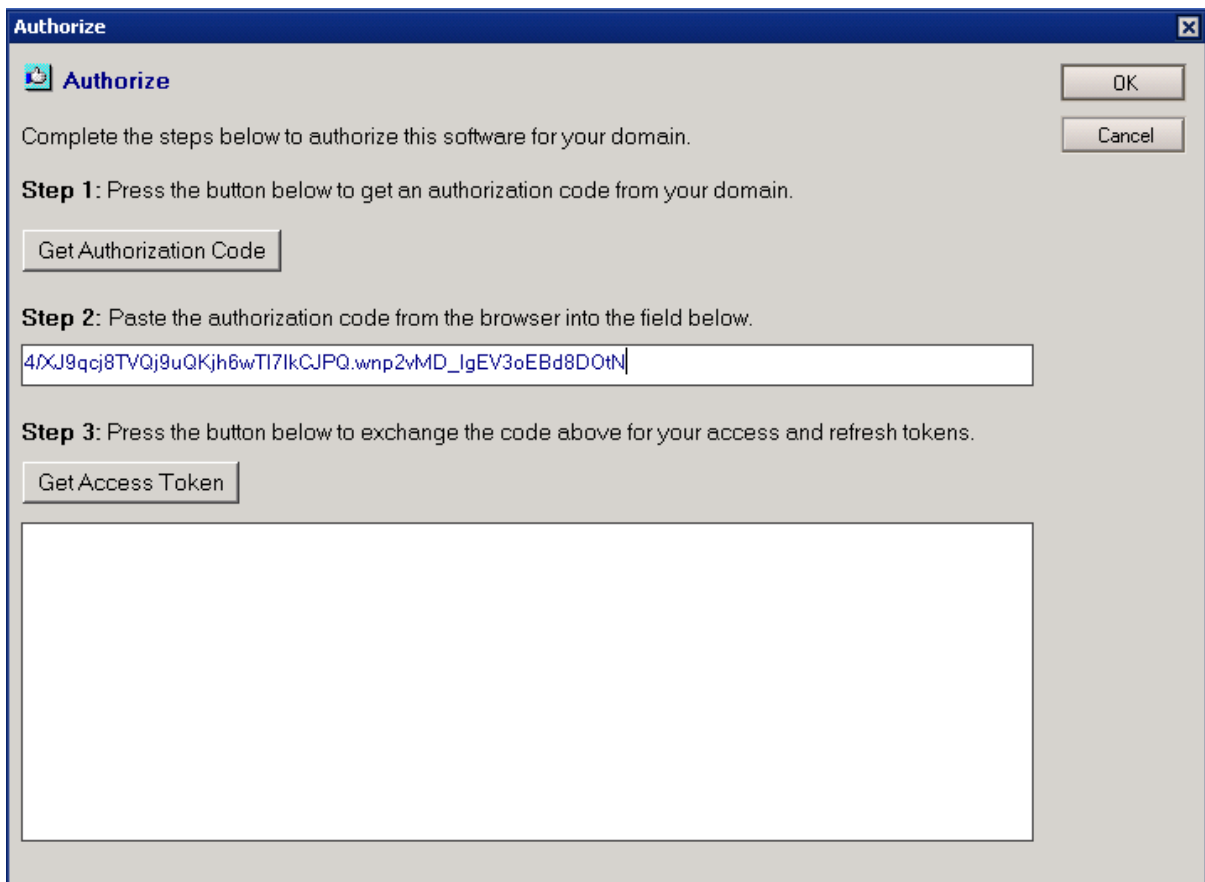
4. Log in to your Apps domain using your super administrator credentials if prompted. You will see the following page.



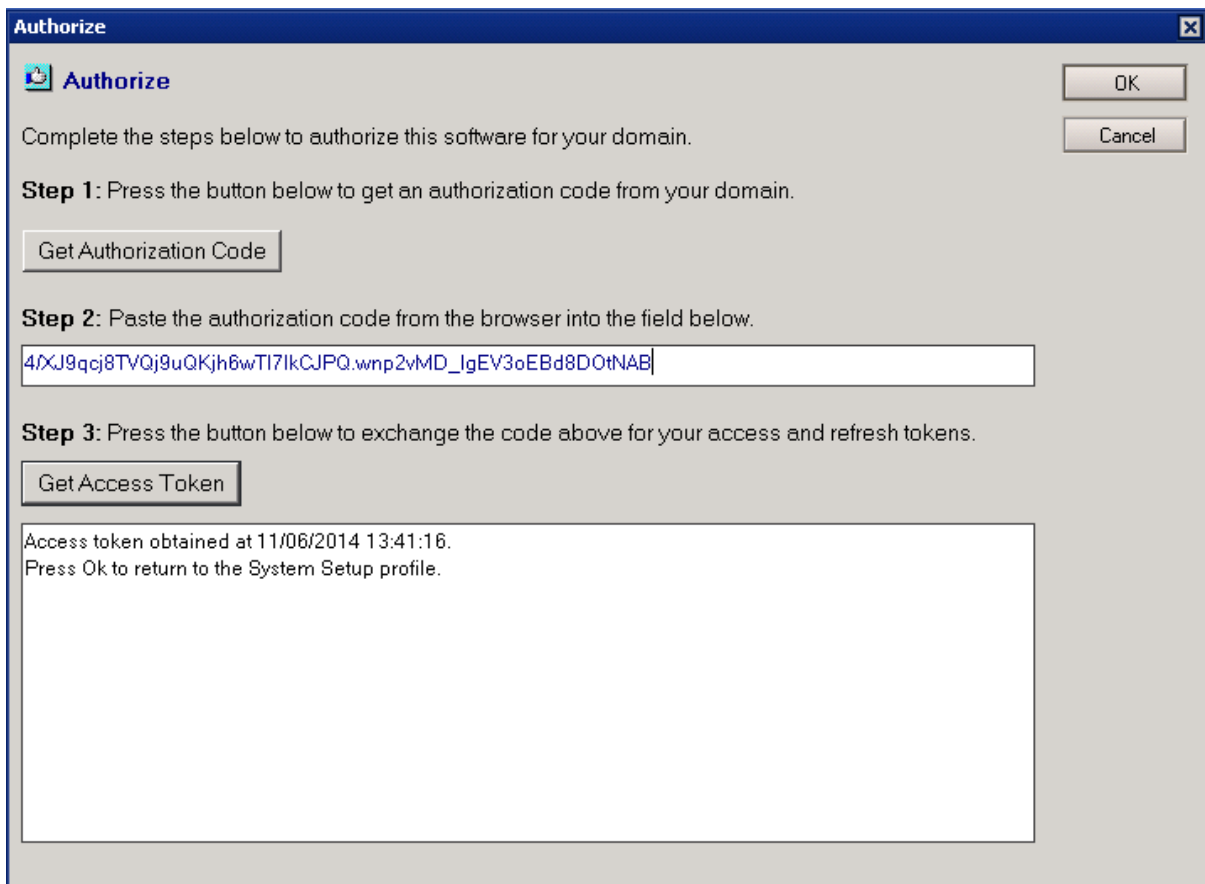
5. Click Accept. You are redirected to the following page.



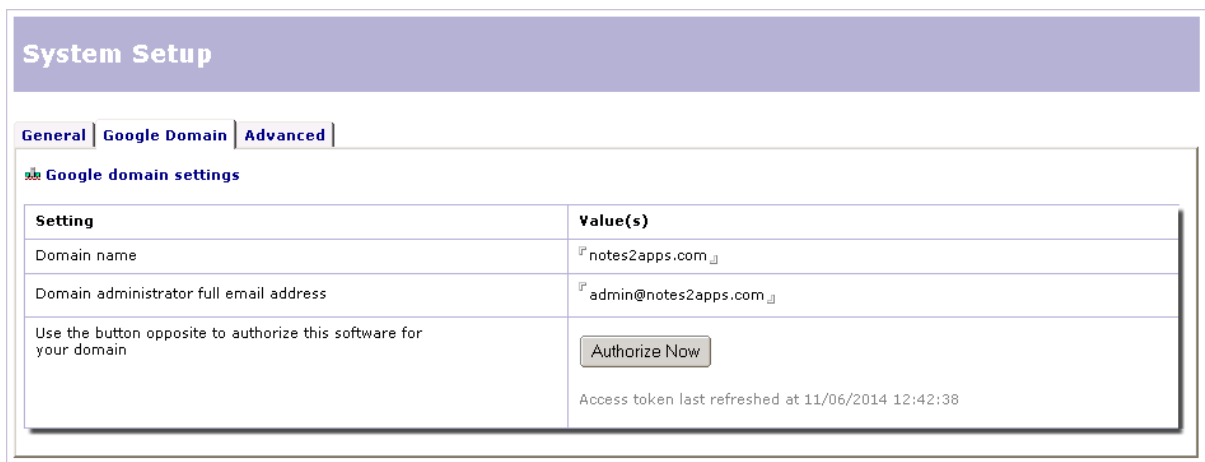
6. Copy the code from the web page into the Authorize dialog box as shown below.



7. Press the Get Access Token button. A message in the dialog box indicates the token has been obtained.



8. Press OK to close the dialog box. If you do not see an access token valid from date/time beneath the Authorize Now button, check the connector log for more information.





## Advanced Tab

### System Setup

**General** | **Google Domain** | **Advanced**

↔ **Advanced settings**

Setting	Value(s)
<b>Detailed event logging</b> Enable this option only if you need to, as it will have a detrimental impact on system performance.	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
<b>Google free busy feed size</b> Choose how many days ahead to extract from the Google calendar when updating the local Notes calendars.	31 day(s)

📌 **Other settings** (Usage of these parameters will depend upon domain type and GCC version)

Setting	Value(s)
<b>Use whitelisting</b> Set to 'Enabled' if your connector server is publicly accessible from the internet. Do not change the whitelist values unless instructed to do so by Google Support.	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
<b>Fall back protocol</b> Used for backwards compatibility.	Https
<b>Fall back URL</b> Used for backwards compatibility.	www.google.com/calendar/mailslot

Configure the Advanced tab as described below.

### Detailed event logging

A log database is created automatically from the "gccln-log.ntf" template and placed into the same folder as the connector database. Basic polling service activities are always added to the connector log.

Set this field to "Enabled" to include detailed polling activity and free/busy web service events in the log. This is useful when resolving configuration issues but under normal circumstances this field should be set to "Disabled".

### Google free busy feed size

Enter the number of days that you want to collect from each Google Calendar when the polling agent runs.

### Use whitelisting

Enable white listing if your connector server is available from the internet. This allows you to prevent intrusion attacks. There is no need to enable white listing if your connector server is on the internal network. Do not change the default white list values unless advised to do so by Google Support.

### Fall back protocol and Fall back URL

These settings are for backwards compatibility only. Do not change these values unless advised to do so by Google Support.

## Create Server Group Document

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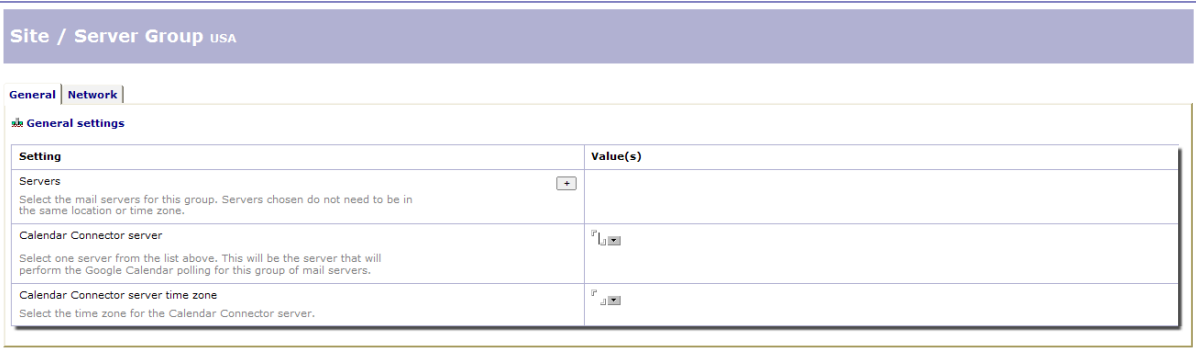
Once you have completed the system setup document you must create a Server Group (aka Site) document for this instance of the connector. To create a Server Group document, complete the following steps.

Select “Server Groups” from the left hand navigator.

Press the “New Server Group” action button and enter the “Server Group” name when prompted.

Now complete the form as described below.

### General Tab



The screenshot shows the 'General' tab of the 'Server Group' configuration page. The page title is 'Site / Server Group USA'. Below the title bar, there are two tabs: 'General' (selected) and 'Network'. Under the 'General' tab, there is a section titled 'General settings' with a gear icon. Below this is a table with two columns: 'Setting' and 'Value(s)'. The table contains three rows:

Setting	Value(s)
<b>Servers</b> Select the mail servers for this group. Servers chosen do not need to be in the same location or time zone.	<input type="button" value="+"/>
<b>Calendar Connector server</b> Select one server from the list above. This will be the server that will perform the Google Calendar polling for this group of mail servers.	<input type="text" value=""/>
<b>Calendar Connector server time zone</b> Select the time zone for the Calendar Connector server.	<input type="text" value=""/>

Configure the General tab as described below.

#### Servers

Use the button provided to select the mail servers in this group.

#### Calendar Connector server

Choose your Calendar Connector server.

**Note:** The Connector agents run regularly and will take up valuable server resources. Depending upon the load on your servers you may need to have dedicated Calendar Connector servers. You should review your server load statistics regularly.

#### Calendar Connector server time zone

Select the Calendar Connector time zone.

**Note:** The servers in the group may exist in different time zones but it is important you choose the correct time zone for the Connector server.

## Network Tab

Site / Server Group **Saturn**

**General** | **Network**

**Network settings**

Setting	Value(s)
<b>Delay between Http posts</b> For best performance leave the value at '0'. However, if you experience Http locks you may need to increase this value to insert a short delay between each subsequent transmission.	<input type="text" value="0.0"/> second(s)
<b>Http transport</b> Select the transport layer. 'ServerXMLHttp' is the preferred method. 'XMLHttp' is not designed for server to server communications and should only be used to debug connectivity issues when directed by Google support.	<input checked="" type="radio"/> ServerXMLHttp <input type="radio"/> XMLHttp
<b>Proxy server</b> If your Domino server connects to the internet through a proxy, enter the proxy server's host name and port opposite. Eg: <i>myproxy.acme.com:8080</i>	<input type="text"/>
<b>Proxy credentials</b> If your proxy server requires authentication, enter the username and password opposite.	<b>Username:</b> <input type="text"/> <b>Password:</b> <input type="text"/>
<b>Network timeouts</b> On busy networks, you may experience timeouts between Domino and the Google servers. Set this field to 'On' if you want the process to abort when timeouts occur. To ignore timeouts set the value to 'Off'. In this instance, the system will wait for the Google servers to respond even when timeout thresholds have been reached.	<input checked="" type="radio"/> On <input type="radio"/> Off

Configure the Network tab as described below.

### Delay between HTTP posts

If you experience HTTP locks or service-unavailable responses from Google Apps, you may need to increase this value to introduce a delay between successive posts. For optimum performance, keep the value at 0.0.

### HTTP transport

Use ServerXMLHTTP whenever possible. XMLHTTP should only be used for demonstrations or proofs of concept and is not supported in production environments. XMLHTTP does not support any proxy options.

### Proxy server and Proxy credentials

If your servers connect to the web through a proxy server, enter that server's <hostname:port> or <IP address:port> here. If your proxy requires credentials, enter the username and password.

### Network time-outs

You may, on occasion, experience time-outs between your servers and the Google servers. The normal behavior in these circumstances is for the system to exit early and wait for the next scheduled run. If you wish to ignore time-outs and have the system wait for the Google servers to respond, set this to Off. You should only do this, however, if you are experiencing regular time-outs.

## What Happens Next

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Once the system has been configured and the “Update Calendars” agent has run, you should see a profile for each Google Calendar user listed in the “Google Users” view.



Google Calendar Connector	Open	Toggle Status				
			^ User v	Google Apps username	Mail file	Last updated ▾
			Meeting Attendee	attendee@notes2apps.com	mail\mattende	09/06/2014 08:12:40
			Meeting Organiser	organizer@notes2apps.co.nz	mail\morganis	10/06/2014 15:30:43
			Notes Administrator	admin@notes2apps.com	mail\nadminis	10/06/2014 18:32:41

This view shows each Google Calendar user along with their Google Apps email address, the location of their Notes mail file and when the Notes Calendar was last updated.

**Note:** The “Update Calendars” polling process checks to see if the Google calendar has been updated since the last update was made to the Notes calendar. If the Google calendar has not changed, the system does not rewrite the Google events to Notes and the “Last updated” value in the view above remains unchanged.

## Administration

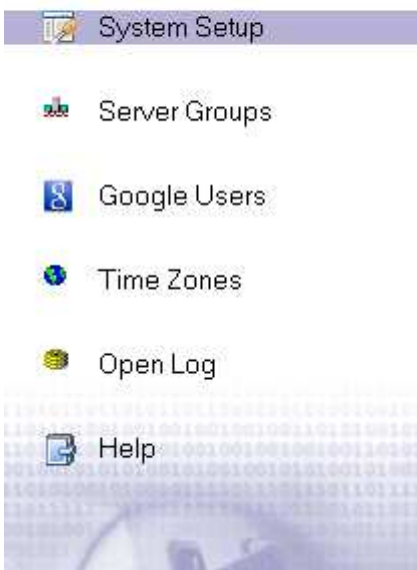
This section covers the basic management and tracking of the Calendar Connector. It also offers some troubleshooting tips.

### Views

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This system contains three views.

#### Google Calendar Connector



The Server Groups view shows your site/server group document.

The Google Users view contains a user profile for every user in the Domino directory where the calendar field is set to "Google". These are created automatically by the "Update Calendars" polling agent.

The Time Zones view contains a document for each web time zone available in the Google calendar system. This document shows the web zone as well as the Notes time zone to which it is mapped. These mappings are used to convert Notes date/time values from one zone to the zone requested by the Google web service consumer when a Google calendar user looks up the free/busy information of a Notes user.

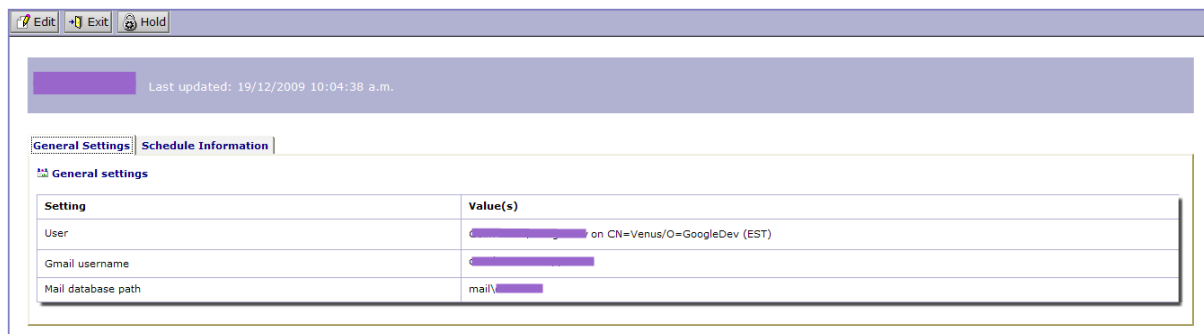
The "Open Log" link opens the connector log database.

## User Profiles

User profiles are created by the “Update Calendars” agent and there should be a user profile document for each user in the Domino directory where the “Calendar” field is set to “Google”.

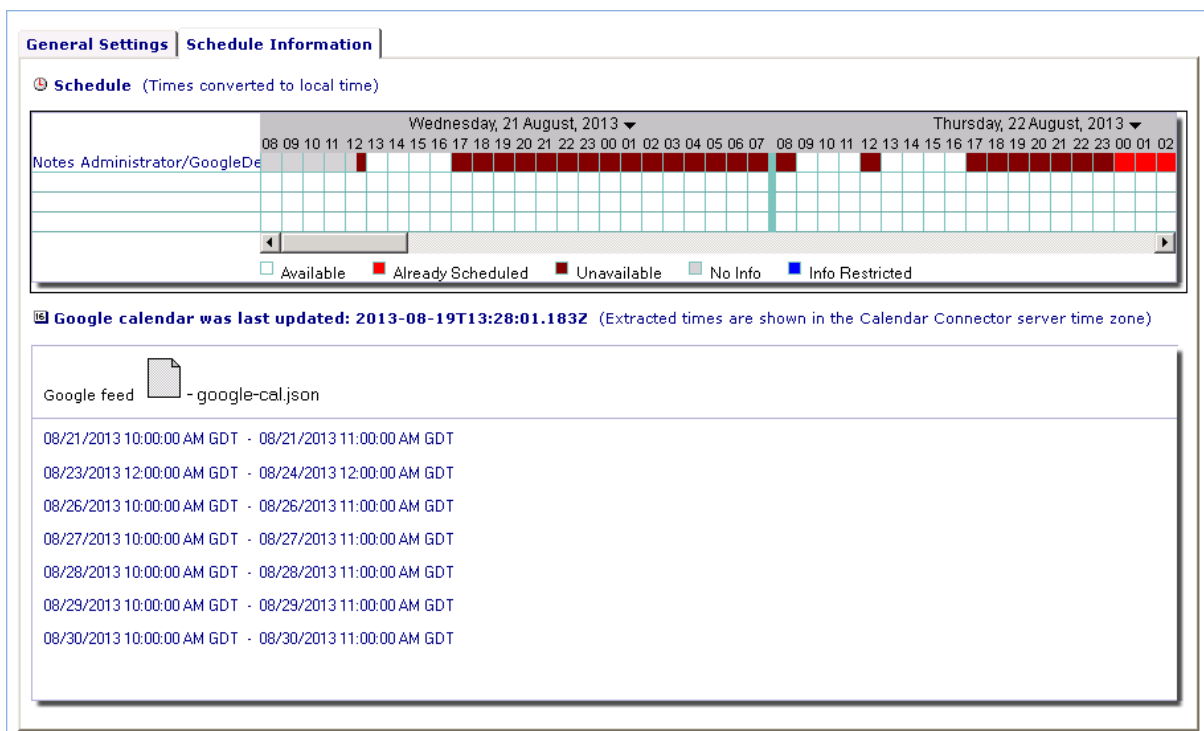
A user profile holds the following key pieces of information:

- Notes username
- Gmail username (This is the only editable field on the document)
- Location of the user’s Notes mail file



The user profile also contains the “Schedule Information” tab. This is very useful for checking that the polling of the Google calendars is working as expected for individual users. This tab contains the following:

- This user’s free/busy information rendered through a standard Notes scheduler control
- The busy time blocks extracted from the Google feed when the users Google calendar was last polled. These are the times that are written back to the Notes mail for this user.
- The actual Google calendar feed from the last polling activity. This is saved as an attachment.



## Putting a user on hold

To suspend a user from the polling process, you can put the user on hold. To put a user on hold you can select the user(s) from the “Google Users” view and press the “Toggle Status” action or you can open the user profile and press the “Hold” button. When a user is on hold, the system will skip the user during the regular Google calendar polling activity which is undertaken by the “Update Calendars” agent.

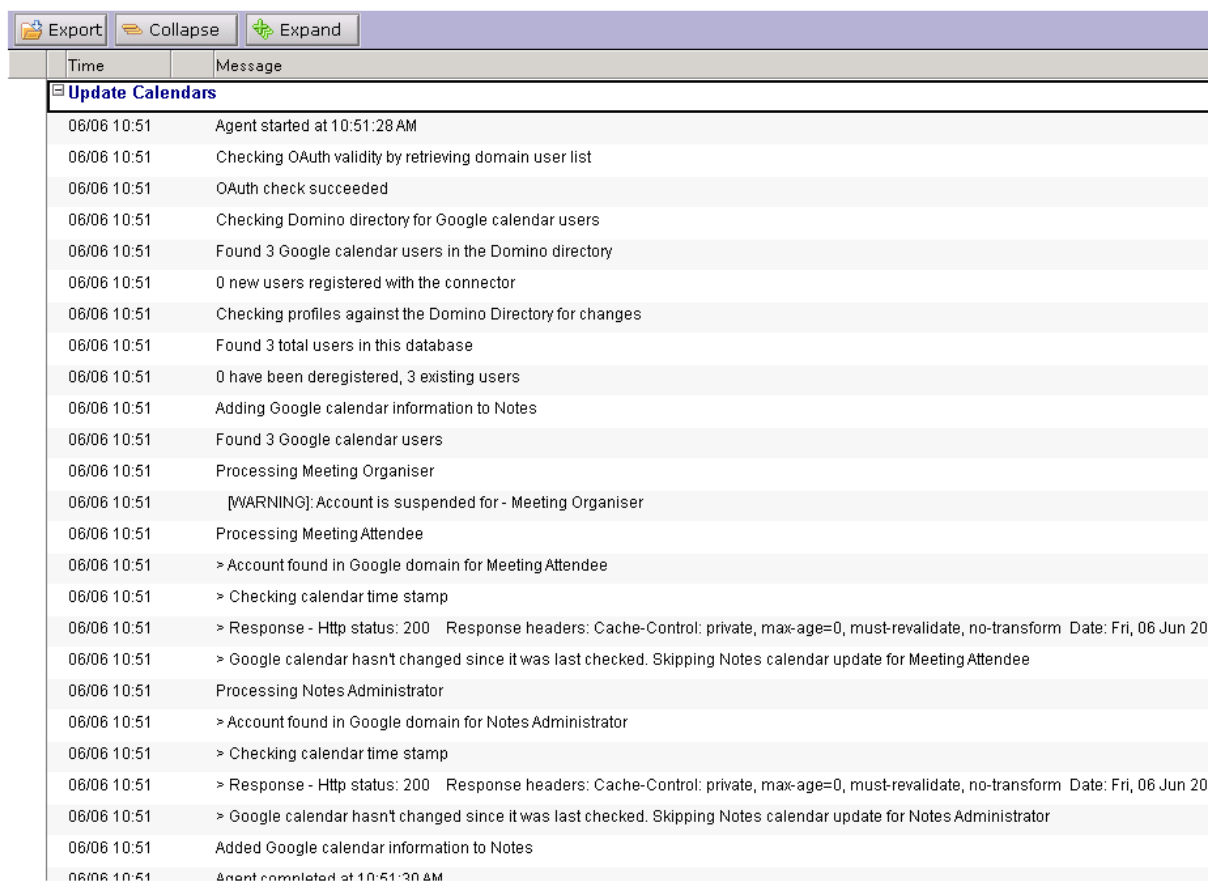
To resume processing of held users press the “Toggle Status” button once more from the view level, or the “Resume” button from the user profile form.

## Event Logs

The system logs basic polling events to a separate database log which can be accessed from the "Open Log" link on the connector menu.

Free/Busy web service events and detailed polling events are also logged when “Detailed event logging” is enabled on the system setup profile.

A screenshot of the log database is shown below:



The screenshot shows a log interface with a toolbar at the top containing 'Export', 'Collapse', and 'Expand' buttons. Below the toolbar is a table with two columns: 'Time' and 'Message'. The table is titled 'Update Calendars' and contains the following entries:

Time	Message
06/06 10:51	Agent started at 10:51:28 AM
06/06 10:51	Checking OAuth validity by retrieving domain user list
06/06 10:51	OAuth check succeeded
06/06 10:51	Checking Domino directory for Google calendar users
06/06 10:51	Found 3 Google calendar users in the Domino directory
06/06 10:51	0 new users registered with the connector
06/06 10:51	Checking profiles against the Domino Directory for changes
06/06 10:51	Found 3 total users in this database
06/06 10:51	0 have been deregistered, 3 existing users
06/06 10:51	Adding Google calendar information to Notes
06/06 10:51	Found 3 Google calendar users
06/06 10:51	Processing Meeting Organiser
06/06 10:51	[WARNING]: Account is suspended for - Meeting Organiser
06/06 10:51	Processing Meeting Attendee
06/06 10:51	> Account found in Google domain for Meeting Attendee
06/06 10:51	> Checking calendar time stamp
06/06 10:51	> Response - Http status: 200 Response headers: Cache-Control: private, max-age=0, must-revalidate, no-transform Date: Fri, 06 Jun 20
06/06 10:51	> Google calendar hasn't changed since it was last checked. Skipping Notes calendar update for Meeting Attendee
06/06 10:51	Processing Notes Administrator
06/06 10:51	> Account found in Google domain for Notes Administrator
06/06 10:51	> Checking calendar time stamp
06/06 10:51	> Response - Http status: 200 Response headers: Cache-Control: private, max-age=0, must-revalidate, no-transform Date: Fri, 06 Jun 20
06/06 10:51	> Google calendar hasn't changed since it was last checked. Skipping Notes calendar update for Notes Administrator
06/06 10:51	Added Google calendar information to Notes
06/06 10:51	Agent completed at 10:51:30 AM

**Note:** A daily cleanup task purges log entries that are more than 7 days old.

## Troubleshooting

### **Google calendar users are not able to see Notes calendar details. Instead they see “Calendar does not exist or is not shared”**

The Google calendar user is not able to connect to your Domino server. Check all settings and confirm that there are no restrictions preventing requests getting through to the Domino server from the browser. Enable detailed event logging and check the log database for incoming web service requests.

The Notes user has been provisioned in Google Apps. Google calendar free/busy information takes precedence over the information returned by the connector. Adding the user to an OU where the calendar service is disabled or suspending the user in Apps will allow Notes free/busy information to be displayed to the Google calendar user.

The user is not configured in the Domino directory as a “Notes” calendar user.

### **I see the following entries in my server log:**

```
AMgr: Agent 'Update Calendars' in 'dbname.nsf' does not have proper execution access, cannot be run
```

OR

```
AMgr: Agent 'Update Calendars' in 'dbname.nsf' encountered error: Error validating user's agent execution access
```

The template provided was not signed before you installed the tool. You need to sign the connector database with a trusted ID (server ID is recommended).

### **I’m getting an error that says “Notes error: Unable to open Name and Address Book...”**

Make sure that the server on which the mail file resides has the connector server listed as a trusted server.

### **My Notes calendars are not being updated with Google information even though I have active Google calendar users listed in the connector**

If the Update Calendars agent is failing to connect to the Google servers to read Google events, enable detailed event logging and check the log database for more information. Also check your Domino server log for errors when the Update Calendars agent is running.

### **My system quits with the following error in the Domino server log: Agent printing: \*\* Feed terminated: Microsoft Http / Network error occurred \*\***

It is not uncommon to see occasional HTTP-connection time-outs. You can set the system to ignore network time-outs. See “Network time-outs” earlier for more details.



## Connector characteristics and constraints

The system has been designed with performance in mind. The following characteristics have been built into the connector.

1. The system returns only busy time blocks to the other calendar. Event details are not returned.
2. The system does not read event details. Whilst, it is not likely that your busy time store is gathering event details as IBM recommend that you do not do this. Even if you have enabled detail gathering, the Notes events returned will ignore these details and continue to return times only.
3. Notes Room/Resource information can be returned to Google Calendar users during the free/busy lookup by adding the "Calendar" field to the room/resource document in the Domino directory and setting it to "Notes" but it is not possible to book these resources from Google Calendar.
4. Google Resource information is not returned to Notes users.
5. A domain administrator can access a person's calendar irrespective of the setting that is made by that person in his/her Shared Settings area.