Configuring Google Cloud Messaging Service for Android Devices

ZENworks. Mobile Management 3.1.x

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Google Cloud Messaging for Android

What Is GCM

Google Cloud Messaging (GCM) for Android is a service that allows *ZENworks Mobile Management* to send push notifications from the server to the *ZENworks Mobile Management* Android device agent.

How GCM Works

ZENworks Mobile Management can use the Google Cloud Messaging service to let Android devices know that it is time to synchronize. Each device establishes an accredited and encrypted IP connection with the GCM service. Whenever notifications for the device are available, the ZENworks Mobile Management server connects with GCM servers. GCM then pings the device telling it to synchronize with ZENworks Mobile Management app's device connection schedule, eliminating delayed updates to the device. Using the service offers added functionality in the following ways:

- Security commands such as Full Wipe or Lock Device are applied immediately.
- Changes made to a policy suite or user settings are applied immediately.
- Android corporate resource assignments are applied immediately.
- Fewer resources are used than with direct push, since the connection is not persistent.

Requirements

- ZENworks Mobile Management version 2.8.2 or later
- Port 5228-5230 (GCM does not provide specific IPs, so it frequently changes IPs.
- A Google Mail (Gmail) account (required for obtaining the GCM token and Sender ID)
- Submit Sender ID to Google for approval (approval process can take up to several weeks)

Prerequisites for Devices

- Devices must run Android 2.2 or higher.
- Certain 2.2.x devices will not register with GCM properly. In this case, the *ZENworks Mobile Management* device connection schedule handles the aspects of queuing of messages and delivery to the target Android app running on the device.
- Devices with an Android OS lower than 4.0.4 must have a Gmail account and have the Google Play Store application installed on the device.
- A Google account is not required on devices running Android OS 4.0.4 or higher.

An Overview of the Steps to Set Up GCM Service

Only one project is required per *ZENworks Mobile Management* system, regardless of the number of organizations hosted on the server.

From the main page of the Google APIs Console:

- 1. Create a Google API project that will generate the GCM Sender ID.
- 2. Enable the GCM Service in the main page of the Google APIs Console.
- 3. Obtain an API Key.
- 4. Submit Sender ID to Google for approval (approval process can take up to several weeks)

On the ZENworks Mobile Management server:

5. Enter the GCM credentials on the *ZENworks Mobile Management* server and enable the service for each organization.

Set up GCM

Step 1: Create a Google API Project

Make sure you have a Gmail account before you begin.

1. Navigate to the Google API Console page at https://code.google.com/apis/console and sign in using your Gmail account credentials. Do not choose the option to use an older version of the Developers Console.

Note: If you have existing projects, you may see a current project page when you log in. Click on the project name in the left panel to go back to the **Projects** page. Then create your new project by clicking **Create Project**.

Google Dev	elopers Console		est0123@gmail.com Sign out
< M Project	Project ID: avian-direction-44	Project Number: 3434999866	Estimated charges this month: \$0.00
Overview			
APIs & auth			

2. Click Create Project.

Google Developers Console		Sign out
Projects		
Billing		
Account settings		
	You don't have any projects!	
	Create a new project to get started.	
	CREATE PROJECT	

3. Enter a name for the project in the **Project name** field. Make a note of the **Project ID** and the **Project Number** that have been assigned. You will need them when submitting the Google CCS form and when configuring GCM service on the *ZENworks Mobile Management* server.

4. Check the box next to the *Terms of Service* for the Google Platform products and click **Create**. The *Project ID* and *Project Number* will display on the main Google API Console page.

Project name	0	GCM Project	
Project ID	0	avian-direction-449	C
	mail	about Google Cloud Platform updates, s	special offers, and ev

Step 2: Enable GCM Service

- 1. From the left panel of the main Google API Console page, select **APIs & auth > APIs**.
- 2. Scroll to locate the Google Cloud Messaging for Android and click OFF to toggle the option ON.



3. When the terms of service display, check the box beside the agreement statement and click **Accept**. GCM is now enabled for the project.

Step 3: Obtain the API Key from the Google API Website

- 1. Again, from the left panel of the main Google API Console page, select **APIs & auth > Credentials**.
- 2. Under Public API access, click the CREATE NEW KEY button.

My Project	OAuth	Comp	ute Engine and /	App Engine Lear	n more		
Overview	OAuth 2.0 allows users to specific data with you (for example, contact lists) wi	Create a new key					sercontent.com
APIs & auth APIs	Reeping their usernames, passwords, and other info private. Learn more	The APIs repre requests includ to tie a request	sented in the Goo le a unique projec to a specific proj	gle APIs Console t identifier. This en ect in order to mor	require that ables the Console itor traffic, enforce	9	
Credentials	CREATE NEW CLIENT ID	quotas, and ha	ndle billing.				
Consent screen		Server key	Browser key	Android key	iOS key		
Notification endpoints							
Permissions Settings Support	Public API access Use of this key does not requ any user action or consent, of not grant access to any acco information, and is not used f authorization.	iire loes uunt or					
App Engine Preview	Learn more						
Compute Engine	CREATE NEW KEY						
Cloud Storage							
Cloud Datastore Preview							
Cloud SQL							
BigQuery 🖾							

3. Select the **Server key** option on the pop-up.

4. On the pop-up, click **Create**.

My Project	OAuth	Compute Engine and App Engine Learn more	
	OAuth 2 specific example	Create a server key and configure allowed IPs	m .com
	passwor private.	This key should be kept secret on your server. Every API request is generated by software running on a machine that you control. Per-user limits will be enforced using the address found in each request's userIp parameter. (if specified). If the userIp	
Credentials	CREAT	parameter is missing, your machine's IP address will be used instead. Learn more	
		Accept requests from these server IP addresses	
		One IP address or subnet per line. Example: 192.168.0.1 or 172.16.0.0/16	
	Public Use of t		
	any use		
	informat.		
	Learn m	Create	
	CREAT		

5. Make a note of the **API key**. You will need this along with the *Sender ID* created in Step 1 to configure the *ZENworks Mobile Management* server for GCM service.

GCM Project	OAuth	Compute Engine and A	pp Engine Learn more
Очеллем	OAuth 2.0 allows users to share specific data with you (for	Client ID	3986683.apps.googleusercontent.com
oromon	example, contact lists) while keeping their usernames,	Email address	3986683@developer.gserviceaccount.com
APIs & auth	passwords, and other information private.	Download JSON	
APIs	Learn more		
Credentials	CREATE NEW CLIENT ID		
Consent screen			
Notification endpoints			
	Public API access	Key for server applicati	ions
Permissions	Use of this key does not require	API key	AIzaSyDK5iRJQnetoPJvWjOzIja1744g
Permissions Settings	Use of this key does not require any user action or consent, does not grant access to any account	API key	AIzaSyDK5iRJQnetoFJvWj0zIjal744g
Permissions Settings Support	Use of this key does not require any user action or consent, does not grant access to any account information, and is not used for authorization	API key IPs	AIzaSyDK5iRJQnetoPJvWjOzIjal744g Any IP allowed
Permissions Settings Support Preview	Use of this key does not require any user action or consent, does not grant access to any account information, and is not used for authorization. Learn more	API key IPs Activation date	AIzaSyDK5iRJQnetoPJvWjOZIjal744g Any IP allowed Jan 3, 2014 7:20 AM
Permissions Settings Support App Engine ^{Preview}	Use of this key does not require any user action or consent, does not grant access to any account information, and is not used for authorization. Learn more	API key IPs Activation date Activated by	AIzaSyDK51RJQnetoPJvWjOZIjal744g Any IP allowed Jan 3, 2014 7:20 AM notify23@gmail.com (you)
Permissions Settings Support App Engine ^{Preview} Compute Engine	Use of this key does not require any user action or consent, does not grant access to any account information, and is not used for authorization. Learn more CREATE NEW KEY	API key IPs Activation date Activated by	AIzaSyDK5iRJQnetoPJvWjOZIjal744g Any IP allowed Jan 3, 2014 7:20 AM notify230gmail.com (you)
Permissions Settings Support App Engine ^{Preview} Compute Engine Cloud Storage	Use of this key does not require any user action or consent, does not grant access to any account information, and is not used for authorization. Learn more	API key IPs Activation date Activated by Edit allowed IPs Rege	AIZaSyDK5iRJQnetoPJvWjOZIjal744g Any IF allowed Jan 3, 2014 7:20 AM notify23@gmail.com (you) enerate key Delete
Permissions Settings Support App Engine Compute Engine Cloud Storage Cloud Datastore	Use of this key does not require any user action or consent, does not grant access to any account information, and is not used for authorization. Learn more	API key IPs Activation date Activated by Edit allowed IPs Rege	AIzaSyDK5iRJQnetoPJvWjOZIjal744g Any IP allowed Jan 3, 2014 7:20 AM notify23@gmail.com (you) enerate key Delete
Permissions Settings Support App Engine Compute Engine Cloud Storage Cloud Datastore Preview Cloud SQL	Use of this key does not require any user action or consent, does not grant access to any account information, and is not used for authorization. Learn more	API key IPs Activation date Activated by Edit allowed IPs Rege	AIzaSyDK5iRJQnetoPJvWjOZIjal744g Any IP allowed Jan 3, 2014 7:20 AM notify23@gmail.com (you) enerate key Delete
Permissions Settings Support App Engine Compute Engine Cloud Storage Cloud Datastore Cloud Datastore Cloud SQL	Use of this key does not require any user action or consent, does not grant access to any account information, and is not used for authorization. Learn more CREATE NEW KEY	API key IPs Activation date Activated by Edit allowed IPs Rege	AIzaSyDK5iRJQnetoPJvWjOZIjal744g Any IP allowed Jan 3, 2014 7:20 AM notify23@gmail.com (you) enerate key Delete

Step 4: Register the Project ID with Google

The last step is to register the Project ID (Sender ID) for GCM Cloud Connection Service (CCS). Registering your Project ID whitelists it with Google and gives your server access to the GCM APIs.

Once you have submitted the CCS form, approval from Google can take from one day to several weeks, so you will want to submit the form as soon as you generate the Sender ID and API Key.

- 1. From a browser, navigate to https://services.google.com/fb/forms/gcm.
- 2. Fill out the form, entering either the **Project ID** or Project Name in the **GCM Project ID** field.
- 3. Click Submit to send the form.

Configure the Server for GCM Service

The GCM service must be enabled for the system on the *ZENworks Mobile Management* server under *System Settings*. GCM credentials (Sender ID and API Key) are also entered here.

Only one set of credentials is required per system, regardless of the number of organizations the system hosts. The GCM service can be turned or left off for each individual organization.

Enter your GCM credentials and enable the GCM service for the system

- From the ZENworks Mobile Management dashboard, select System > System Administration > System Settings.
- 2. Check the box next to Enable GCM.



- 3. In the Sender ID field, enter the Project Number that was generated via the Google API Console.
- 4. Enter the **API Key** that was generated via the Google API Console.

5. Click Save Changes.

Toggle the service on for each organization that will use GCM

- 1. From the ZENworks Mobile Management dashboard, select System > Organization.
- 2. Check the box next to Use GCM to turn on the service for the organization.

System Management	Settings > Organization	
Organization Organization Administrators	Organization Settings	×0
About ZENworks Granization Administrative Roles Granization Administration Comparison Comparison	Organization Name: : Organization Alias: : Contact Person: : Contact Person's E-mail Address: :	* ABC Co. * ABC Co. * Jeremy Smith * ismith@company.com
	Contact Person's Secondary E-mail: Contact Person's Phone Number: -	* 3301234567 Ext:
	Contact Person's Secondary Phone: Send Welcome Letter to Users:	Ext:
	Display EULA:	Note: If this setting is enabled, the user must accept an End User License Agreement to complete enrollment of the ZENworks device app
	Maximum Number of Devices Per User:	3 * Note: Limits the number of devices a user can enroll. Select a maximum ranging from 1 to 99.
	SMTP Server:	192.168.2.3
	Signing Certificate:	Upload
	Use GCM:	\square
	APNs Certificate:	Edit Test Now com.apple.mgmt.External.af853723-55b9-4018-8360-a62d0df167f7 (Enabled)
	APNs Expiration Date:	Oct 11 2014 10:49AM

3. Click Save Changes.

4. To turn on GCM service for other organizations hosted by the system, switch to another organization and mark the **Use GCM** checkbox.

To switch organizations:

Select System > System Administration > Organizations and click the Switch Organizations button.