

# Push Notifications for Android Devices

Firebase Cloud Messaging (FCM) is the new version of Google Cloud Messaging (GCM) that enables a ZENworks MDM Server to send data to an Android device. The data might be a send-to-sync message that informs the device that there is new ZENworks data to be retrieved from the ZENworks MDM Server, or it might be a message with payload that pushes data directly to the device. The ZENworks MDM Server communicates with the FCM service, which then pushes the notification to the device. After receiving the push notification, the device contacts the ZENworks MDM Server directly to provide the requested information or to receive the changes.

To connect to the FCM service, you need to create a Firebase project in the Firebase console and obtain a .JSON file (that contains the Project Number) and a Server Key. The .JSON file and the Server Key are then used to configure ZENworks' access to the FCM service.

For existing users of the GCM project, we strongly recommend that you migrate to the FCM service in order to benefit from its new features. However, if you do not want to migrate to the FCM service, then ZENworks will continue using the existing GCM configuration to communicate with enrolled mobile devices. If you want to view the existing GCM configuration details, then navigate to **Configuration > Management Zone Settings > Push Notifications > Google Cloud Messaging (Obsolete)**. This page lets you only view the GCM configuration details and you will be unable to edit any of the configuration details.

If you want to create a new FCM project, then refer to [Create a Firebase Project](#).

## Configuring Firebase Cloud Messaging

This section details the procedure to configure Firebase Cloud Messaging.

### Prerequisites

- ♦ **MDM Server:** An MDM role is assigned to a Primary Server.

### Create a Firebase Project

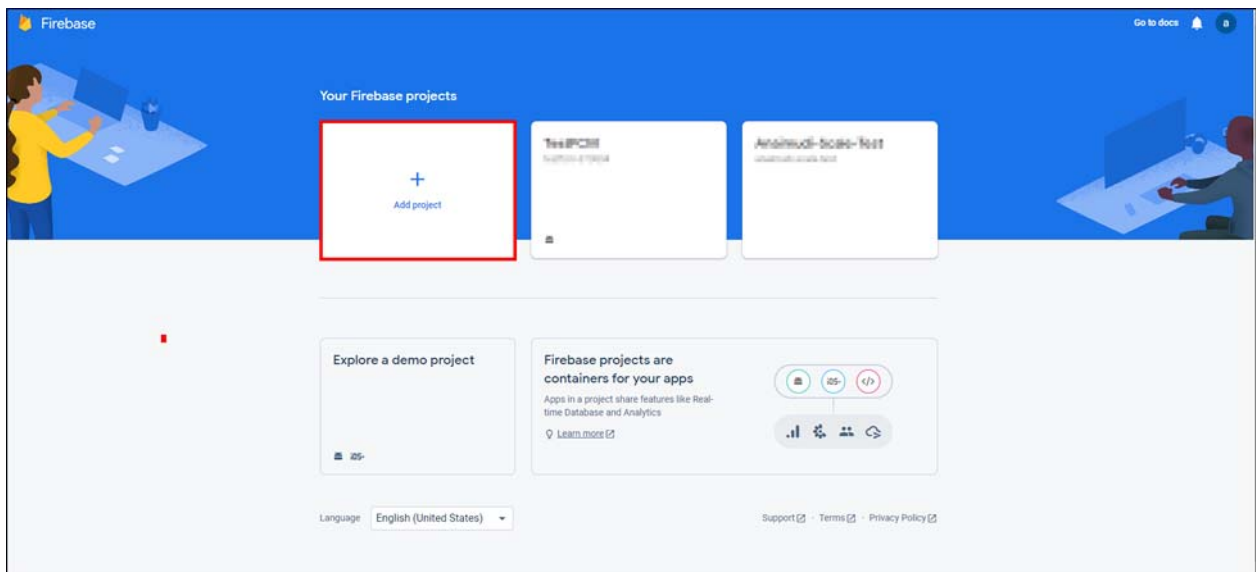
Follow these steps, if you want to create a Firebase project.

- 1 On the Getting Started with Mobile Management page, navigate to the **Android Devices** section, click **Configure FCM** to display the Firebase Cloud Messaging page. Alternatively, from the left hand side navigation pane of ZCC, navigate to **Configuration > Push Notification > Firebase Cloud Messaging**.
- 2 Click **Firebase Developers Console**, which will direct you to the Firebase console at <https://console.firebase.google.com>.

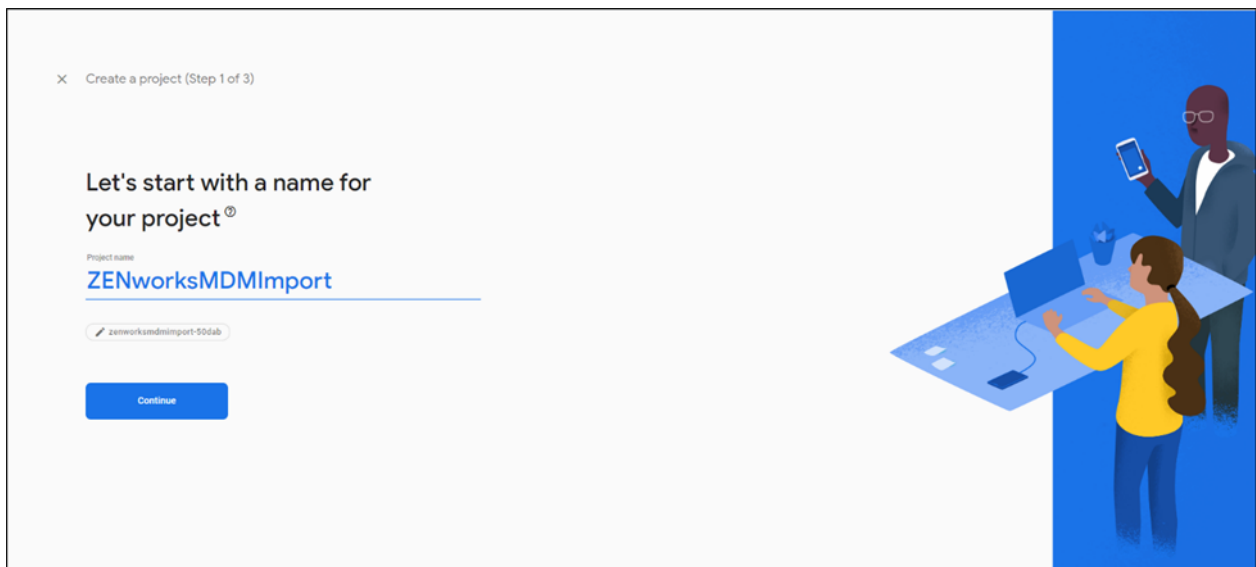
3 Sign in using your Google account credentials.

As a best practice, we recommend that this should be a Google account created specifically for managing your corporate Google services and not a personal Google account.

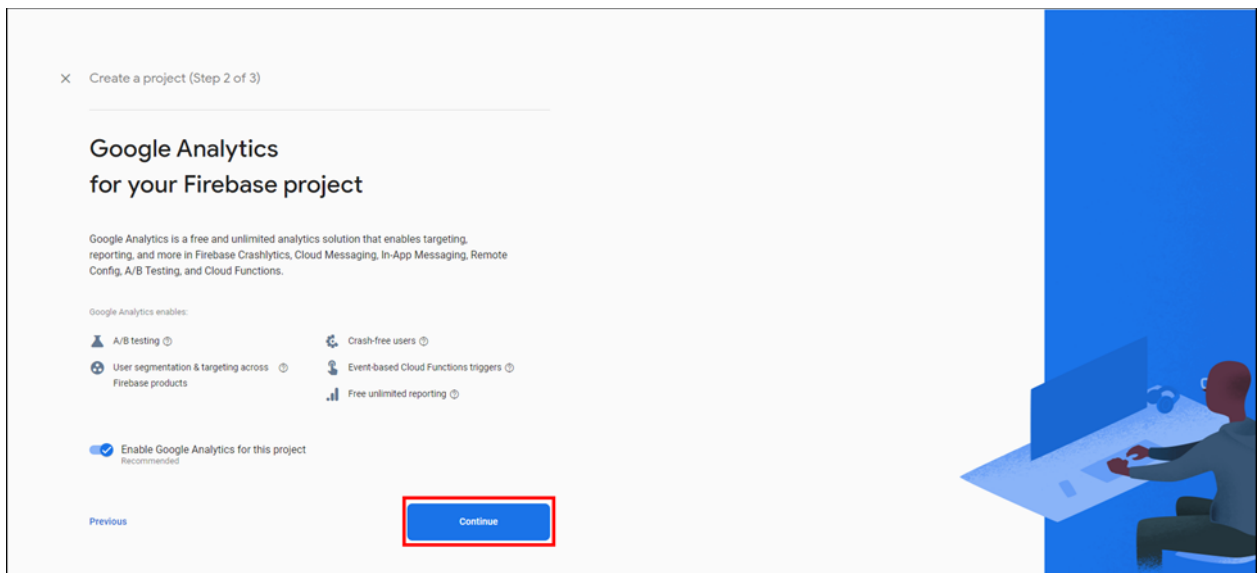
4 Click **Add Project**.



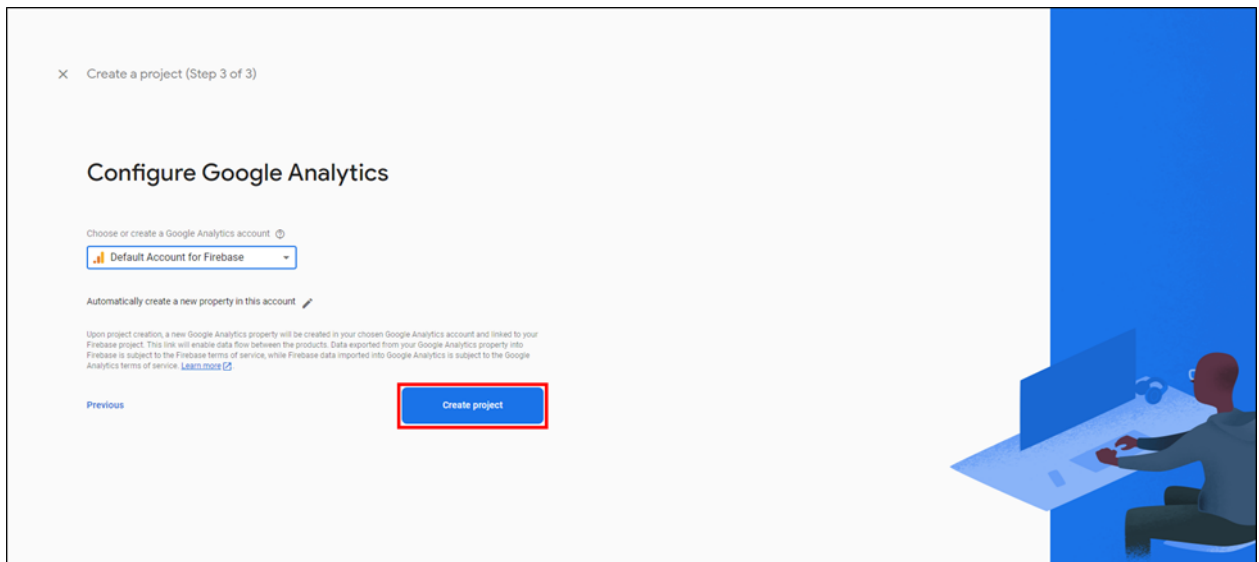
5 Specify a **Project Name** and click **Continue**.



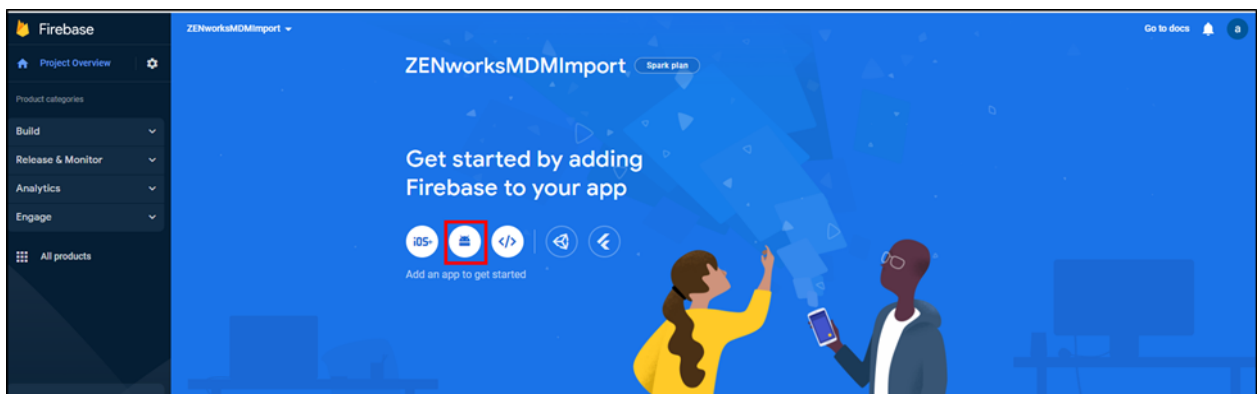
6 Click **Continue**.



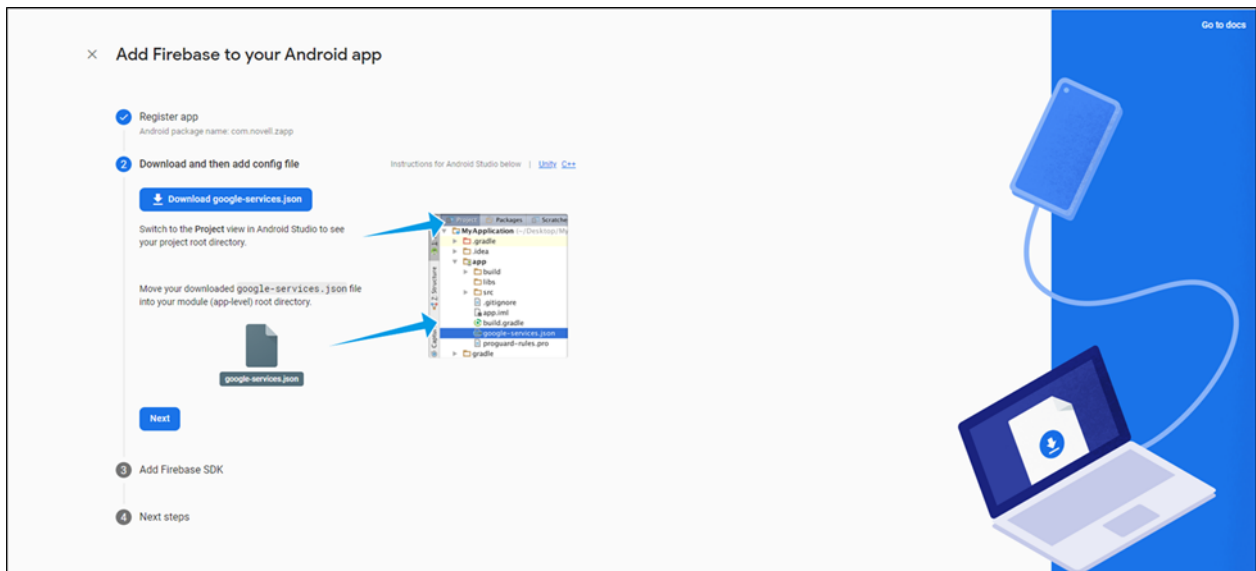
7 Click **Create Project**.



8 Select the Android icon in the **Project Overview** page.

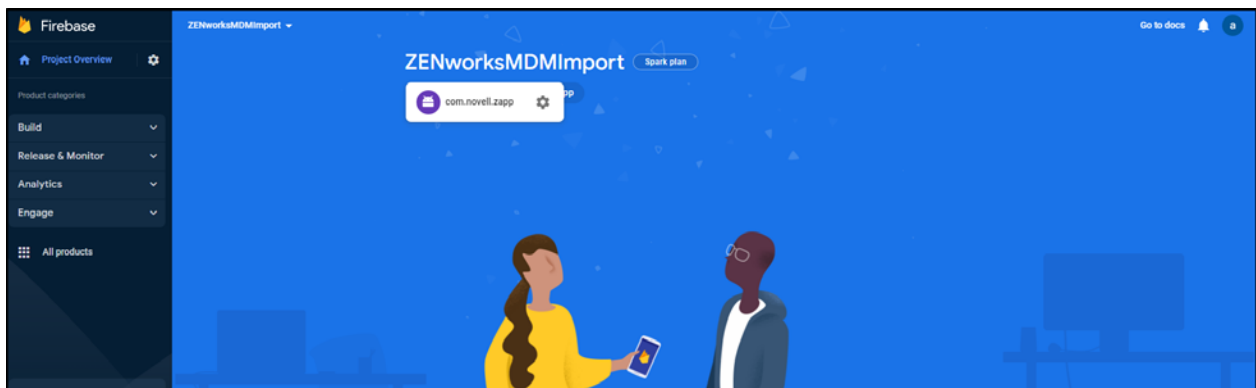


- 9 Specify the **Android Package Name** for the ZENworks Agent App, that is, **com.novell.zapp**. Click **Register App**.

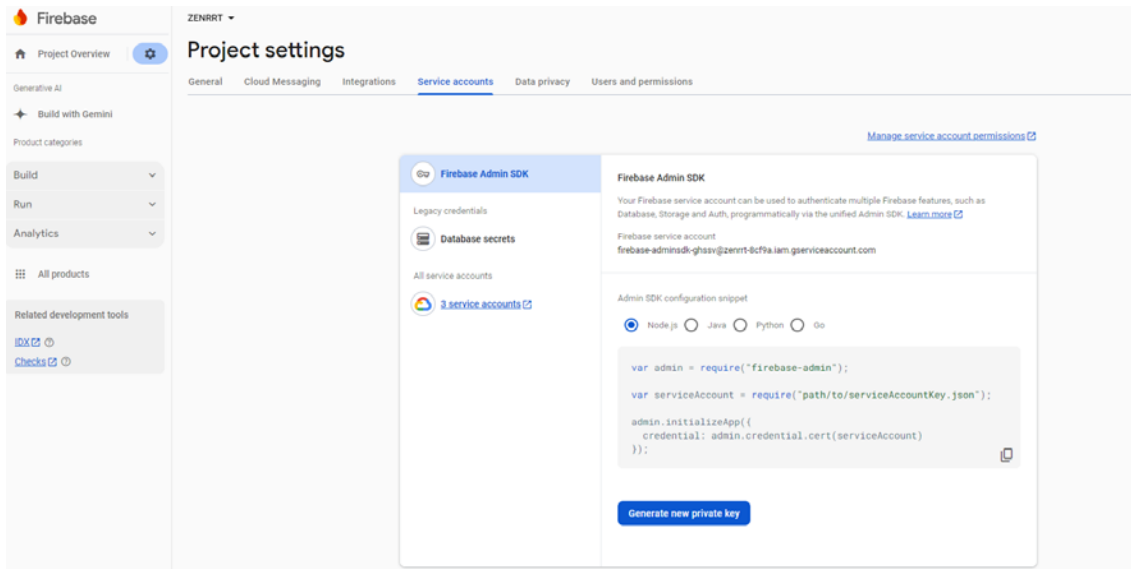


- 10 Click **Next** and then click **Continue to console**.

- 11 Click **com.novell.zapp** in the Project Overview page then click the gear icon.



- 12 Select the **Service accounts** tab. Click **Generate new private key**. A Service Account JSON file will be downloaded.



13 Exit the Firebase Console, then continue with [Step 14](#).

14 In ZCC, on the Firebase Cloud Messaging page configure ZENworks with the Project JSON and Service Account JSON files:

For the ZENworks 2020 and 2020 Update 1 releases, before importing the .JSON file, ensure that the file contains the firebase URL parameter. If the file does not contain the firebase URL parameter, then the error message Invalid file selected. Select a valid .JSON file is displayed. To add the parameter, edit the file and specify the following: `firebase_url: https://(project_id).firebaseio.com`

For example: In the following file, the `firebase_url` parameter is missing:

```
"project_info": {
  "project_number": "973364669284",
  "project_id": "fir-project-75920",
  "storage_bucket": "fir-project-75920.appspot.com"
},
```

If the project ID is `fir-project-75920`, then you need to add the `firebase_url` parameter in the following manner:

```
"project_info": {
  "project_number": "973364669284",
  "firebase_url": "https://fir-project-75920.firebaseio.com",
  "project_id": "fir-project-75920",
  "storage_bucket": "fir-project-75920.appspot.com"
},
```

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**NOTE:** `project_id` in the .json file is unique to the Firebase project.

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From the ZENworks 2020 Update 2 release onwards, you do not need to update the firebase URL in the .json file.

**14a** Click the **Enable Firebase Cloud Messaging** check box to turn on the option.

**14b** Specify the following fields with the information you generated in the Firebase Developers Console:

- ♦ **Project JSON file:** Upload the .JSON file that you have downloaded from the Firebase Console

- ♦ **Service Account JSON File:** Upload the Service Account JSON file that you had downloaded from the Service accounts tab.
- ♦ **Key activation date:** Specify the key's activation date.
- ♦ **Google User ID:** Specify the Google account ID used to log in to the Firebase Developers Console and create or import the Firebase project.

**14c** Click **Test FCM** to validate that the information is entered correctly. This option will test the connection to the FCM service from each of the MDM Servers configured in the zone. If the connectivity fails from one or more MDM Servers, then the failed servers are listed.

**14d** Click **OK** to save your Firebase Cloud Messaging configuration.

## Re-configuring FCM

If you have already configured FCM and want to re-configure it, then it is ***mandatory that you remove the existing FCM setting*** before you go ahead and configure a new FCM setting. To remove the setting in ZCC:

1. Navigate to **Configuration > Management Zone Settings > Push Notifications > Firebase Cloud Messaging**
2. Click **Remove**.

After removing the FCM configuration, you can now proceed to configuring a new FCM setting by following the procedure in [Create a Firebase Project](#). After re-configuring FCM, ensure that all the enrolled Android devices in the zone sync with the ZENworks server to obtain the latest changes.

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