

**Cloud Computing (CS495)**

# **Firestore Cloud Messaging**

**Lab #2**

**Prepared by:**

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## ➤ What is “Firebase Cloud messaging”?

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Firebase Cloud Messaging (FCM) is a cross-platform messaging solution that lets you reliably deliver messages at no cost

Using FCM, you can notify a client app that new email or other data is available to sync. You can send notification messages to drive user re-engagement and retention. For use cases such as instant messaging, a message can transfer a payload of up to 4KB to a client app.

## ➤ How does it work?

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An FCM implementation includes two main components for sending and receiving:

- A trusted environment such as Cloud Functions for Firebase or an app server on which to build, target, and send messages.
- An iOS, Android, or web (JavaScript) client app that receives messages.

You can send messages using the RESTful firebase api or for testing using firebase cloud messaging console

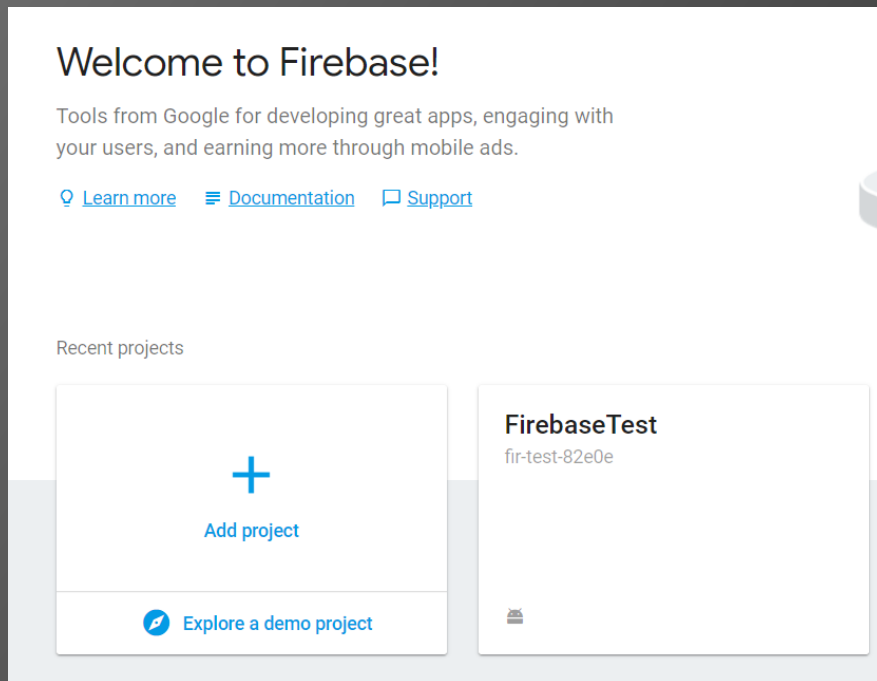
## ➤ FCM Features

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- Send notification messages or data messages
  - Send notification messages that are displayed to your user. Or send data messages and determine completely what happens in your application code
- Versatile message targeting
  - Distribute messages to your client app in any of 3 ways—to single devices, to groups of devices, or to devices subscribed to topics.
- Send messages from client apps
  - Send acknowledgments, chats, and other messages from devices back to your server over FCM's reliable and battery-efficient connection channel.

## ➤ Create Firebase Project

Open firebase console <https://console.firebase.google.com/>




**Welcome to Firebase!**


Tools from Google for developing great apps, engaging with your users, and earning more through mobile ads.

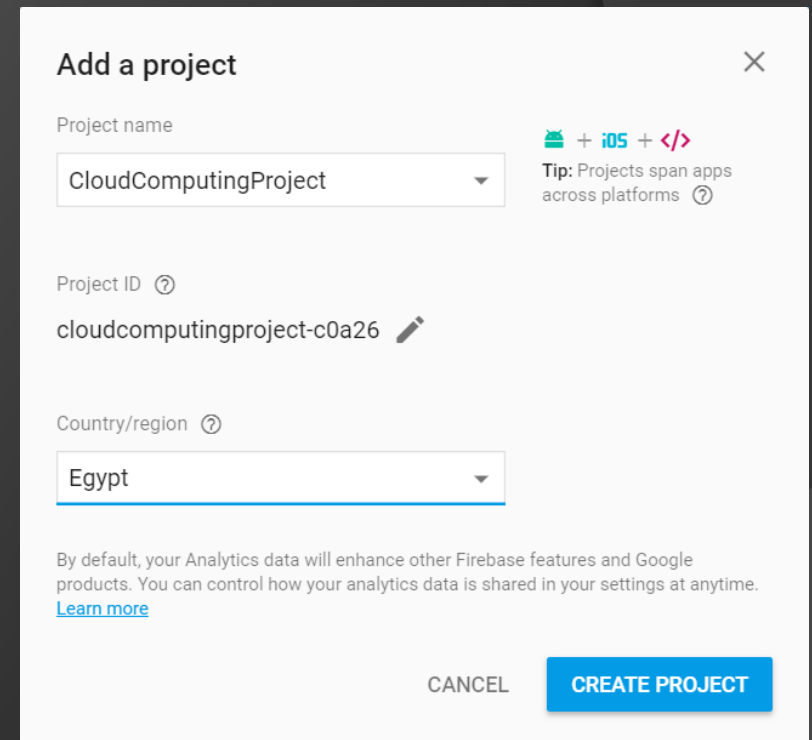
[Learn more](#) [Documentation](#) [Support](#)

Recent projects

  
Add project

**FirebaseTest**  
fir-test-82e0e




 Explore a demo project



**Add a project** ✕


Project name

CloudComputingProject

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**Tip:** Projects span apps across platforms [?](#)

Project ID [?](#)

cloudcomputingproject-c0a26 

Country/region [?](#)

Egypt

By default, your Analytics data will enhance other Firebase features and Google products. You can control how your analytics data is shared in your settings at anytime. [Learn more](#)

CANCEL **CREATE PROJECT**

## ➤ Configuring Android Project with FCM

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- Use the Firebase Assistant

To open the Firebase Assistant in Android Studio:

- Click **Tools > Firebase** to open the **Assistant** window.
- Click to expand firebase cloud messaging
- Click the **Connect to Firebase** button to connect to Firebase and add the necessary code to your app.

## ➤ Send Your First Cloud Message

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- Open your project at firebase console
- Select Notification to view notifications console

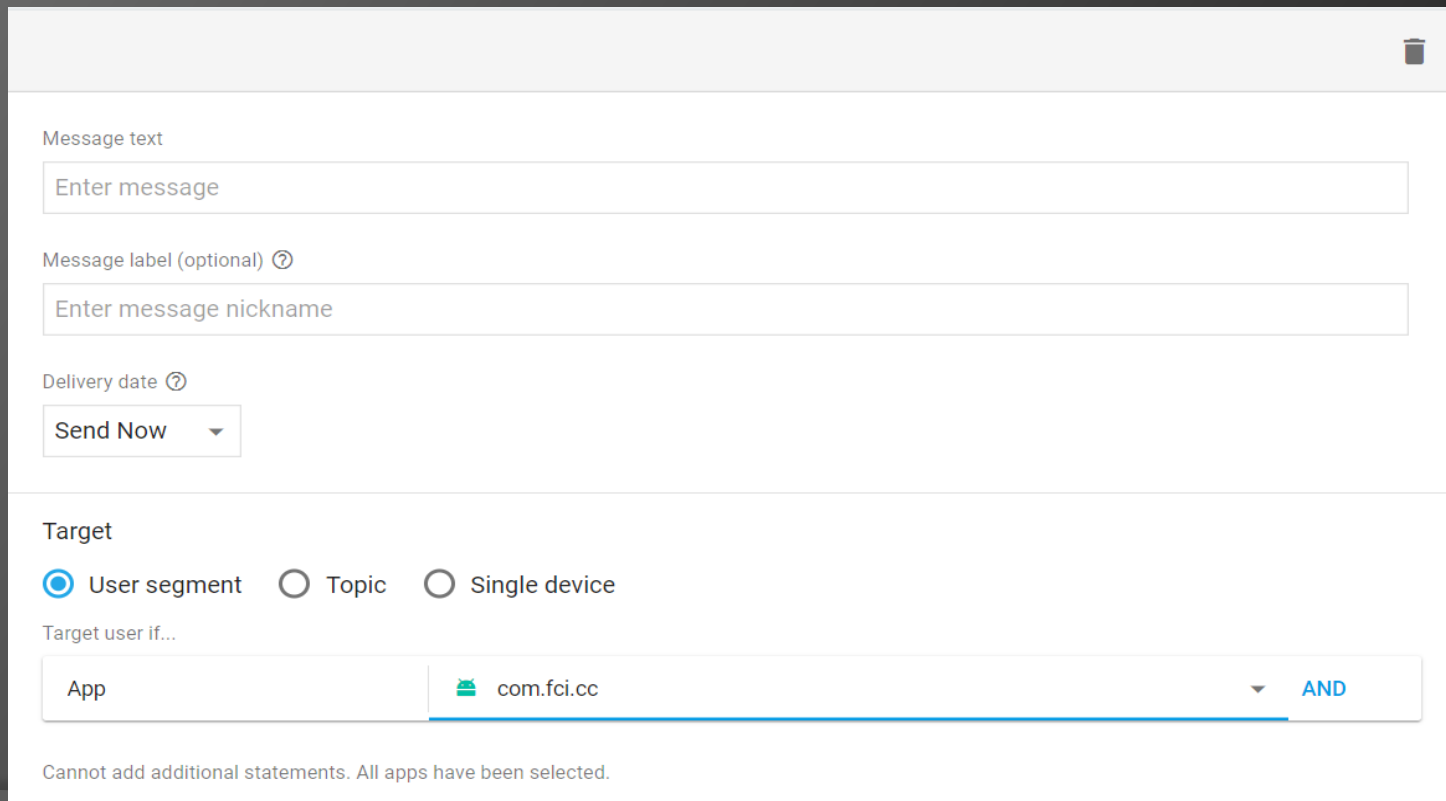
### Cloud Messaging

					CREATE EXPERIMENT	NEW MESSAGE
Message	Status ?	Delivery date ?	Platform	Target estimate ?	Open rate ?	

## ➤ Send Your First Cloud Message

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- Open your project at firebase console
- Select Notification to view notifications console



The screenshot shows the 'Compose New Message' dialog in the Firebase console. It has a light gray header with a trash icon in the top right. The main content area is white and contains several sections: 'Message text' with a text input field containing 'Enter message'; 'Message label (optional)' with a text input field containing 'Enter message nickname'; 'Delivery date' with a dropdown menu showing 'Send Now'; 'Target' section with three radio buttons: 'User segment' (selected), 'Topic', and 'Single device'; and 'Target user if...' section with a table. The table has two columns: 'App' and 'com.fci.cc'. The 'App' column has a dropdown menu showing 'App'. The 'com.fci.cc' column has a dropdown menu showing 'com.fci.cc'. To the right of the table is a blue 'AND' button. At the bottom, there is a message: 'Cannot add additional statements. All apps have been selected.'

Message text

Enter message

Message label (optional) ?

Enter message nickname

Delivery date ?

Send Now

Target

☒ User segment ☐ Topic ☐ Single device

Target user if...

App	com.fci.cc	AND
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Cannot add additional statements. All apps have been selected.



## ➤ Task 2

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- You are required to create a firebase project and integrate it in an android project
- Your app should be able to successfully receive and display cloud messages as push notifications
- Team is max 3 members

## ➤ Reference

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<https://firebase.google.com/docs/cloud-messaging/>