

# Mobile Application Development

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Produced  
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# Android & Firebase

## Part 4

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### Firebase Integration





# Agenda

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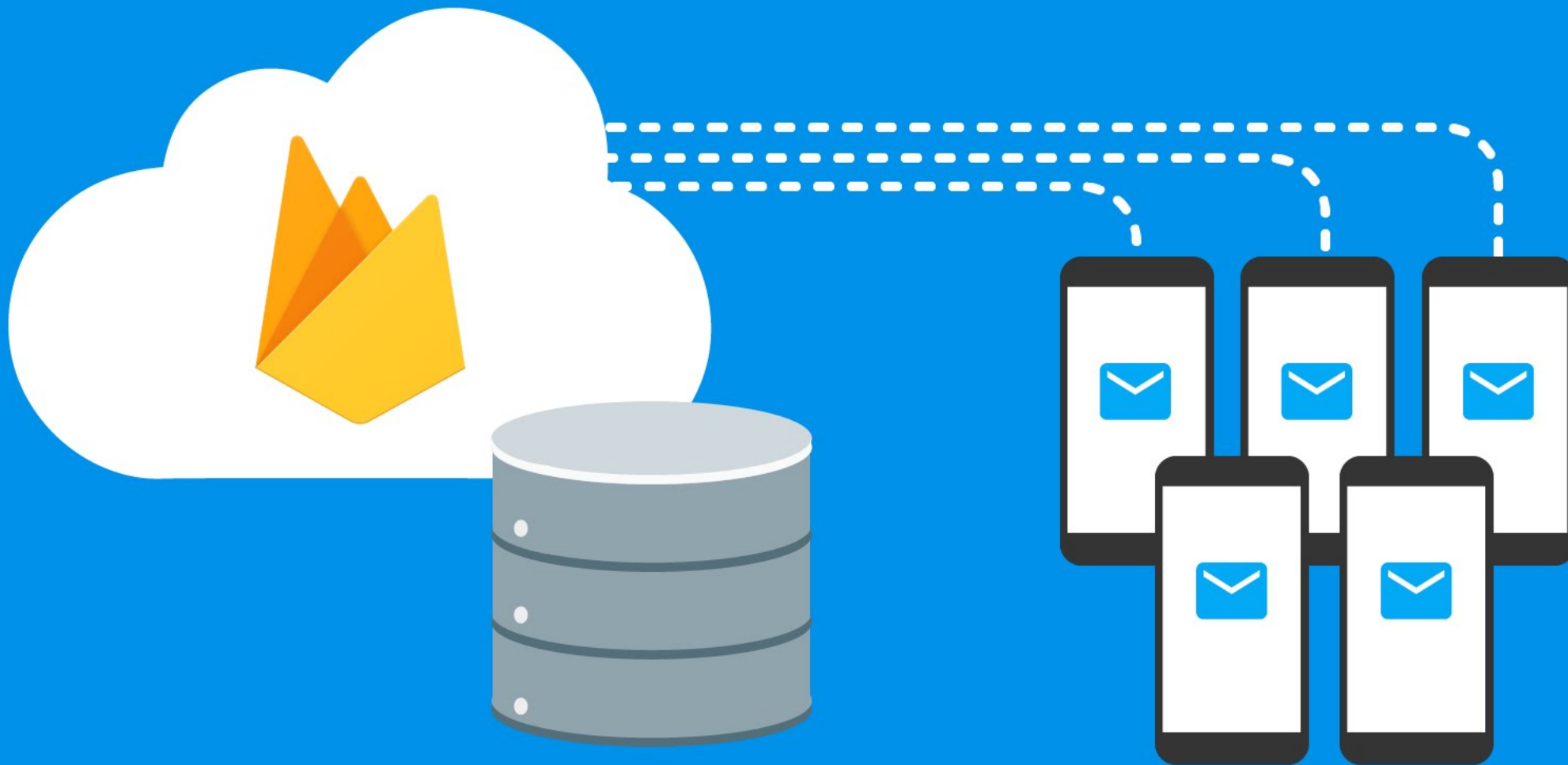
- ❑ Firebase history
- ❑ The all new Firebase
- ❑ Real-time database
- ❑ Firestore
- ❑ Authentication
- ❑ Storage
- ❑ Remote config
- ❑ Hosting
- ❑ Crash reporting
- ❑ Test lab
- ❑ Firebase cloud messaging
- ❑ Dynamic links
- ❑ App indexing
- ❑ Analytics
- ❑ CoffeeMate Highlights & Demos along the way...



# Agenda

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- ❑ Firebase history
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- ❑ **Firestore cloud messaging**
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# Cloud Messaging

User engagement  
and more



# Firestore Cloud Messaging

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- ❑ It is a cross-platform messaging solution that reliably delivers messages at no cost.
- ❑ Send notifications that are displayed to your user. Or send data messages which can be consumed by application code.
- ❑ Distribute messages to your client app in any of three ways — to single devices, to groups of devices, or to devices subscribed to topics.
- ❑ Send acknowledgments from devices back to your server over FCM's reliable and battery-efficient connection channel.
- ❑ 95% of the messages delivered in under 250 milliseconds.

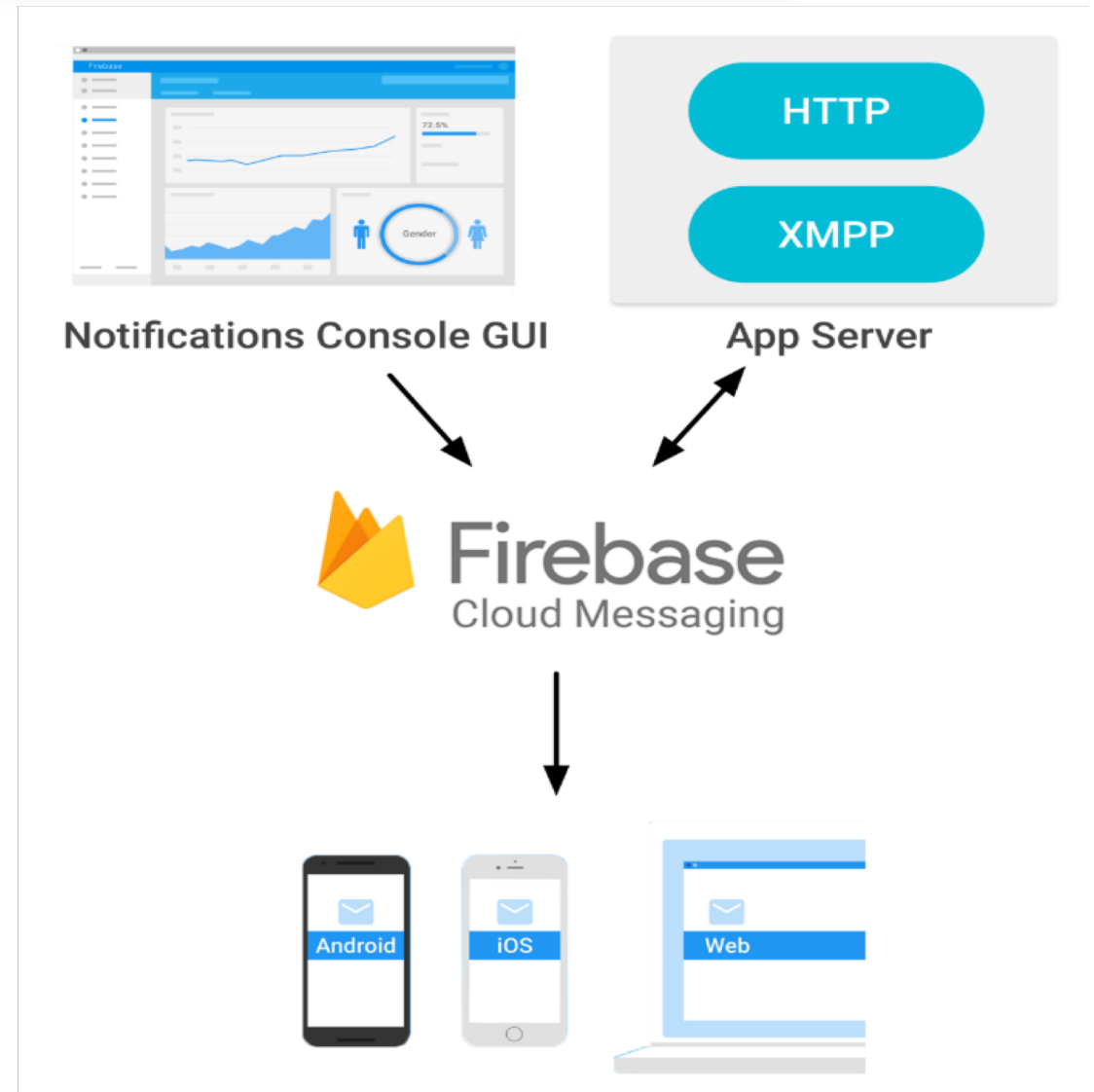


# How does FCM work?

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

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

You can send messages via the [Admin SDK](#) or the [HTTP and XMPP APIs](#). For testing or for sending marketing or engagement messages with powerful built-in targeting and analytics, you can also use the [Notifications composer](#).





# Send FCM from firebase console

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- ☐ Open the **Notifications** tab of the Firebase console and select **New Message**.
- ☐ Enter the message text.
- ☐ Select **Single Device** for the message target.
- ☐ In the field labelled **FCM Registration Token**, enter the registration token you obtained previously. (Advanced Options)





console.firebase.google.com/project/coffeematefbi/notification

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S R T CoffeeMateFBI - Notifications - Firebase console https://www.jumpyjosh.com

Firestore Analytics Overview CoffeeMateFBI Go to docs

Analytics

DEVELOP

- Authentication
- Database
- Storage
- Hosting
- Functions
- Test Lab
- Crash Reporting
- Performance

GROW


- Notifications**
- Remote Config
- Dynamic Links

EARN

- AdMob

Spark Free \$0/month UPGRADE

## Notifications



Manage notification campaigns and send messages to engage the right users at the right moment

[Learn more](#) [View the docs](#)

SEND YOUR FIRST MESSAGE



console.firebase.google.com/project/coffeematefbi/notification/compos

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S R T CoffeeMateFBI - Notifications - Firebase console https://www.jumpyjosh.com

**Firebase** CoffeeMateFBI Notifications > Compose message Go to docs

**Overview** Analytics

DEVELOP

Authentication Database Storage Hosting Functions Test Lab Crash Reporting Performance

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Notifications Remote Config Dynamic Links

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AdMob

Spark Free \$0/month **UPGRADE**

Message text

Hello from CoffeeMate !!

Message label (optional) ?

Enter message nickname

Delivery date ?

Send Now

Target

☒ User segment ☐ Topic ☐ Single device

Target user if...

App ie.cmfbf AND

**TARGET ANOTHER APP**

Conversion events ?

Advanced options

SAVE AS DRAFT **SEND MESSAGE**



# You can Also...

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- ☐ Receive Messages
- ☐ Initiate Topic Messaging (via subscription to topic by client)
- ☐ Device Group Messaging
- ☐ Send an Upstream Message



Thanks!





# Some important points though....

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- ❑ Do not think RDBMS, think JSON. How data should be structured is very important.
- ❑ Firebase has a recycler view, that integrates with real time database smoothly without any listeners.
- ❑ Test lab which is available in paid plan (Blaze), is an amazing feature for testing your app on different real and virtual devices.
- ❑ Set developer mode to true when testing remote config.



# References & Links

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- ❑ [Presentation by Kaushal Dhruw & Shakti Moyal 2016](#)
- ❑ <https://firebase.google.com>
- ❑ Demo app available at <https://goo.gl/WBP5fR>



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# Questions?