



Firestore Workshop

GradTechClub

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Introduction











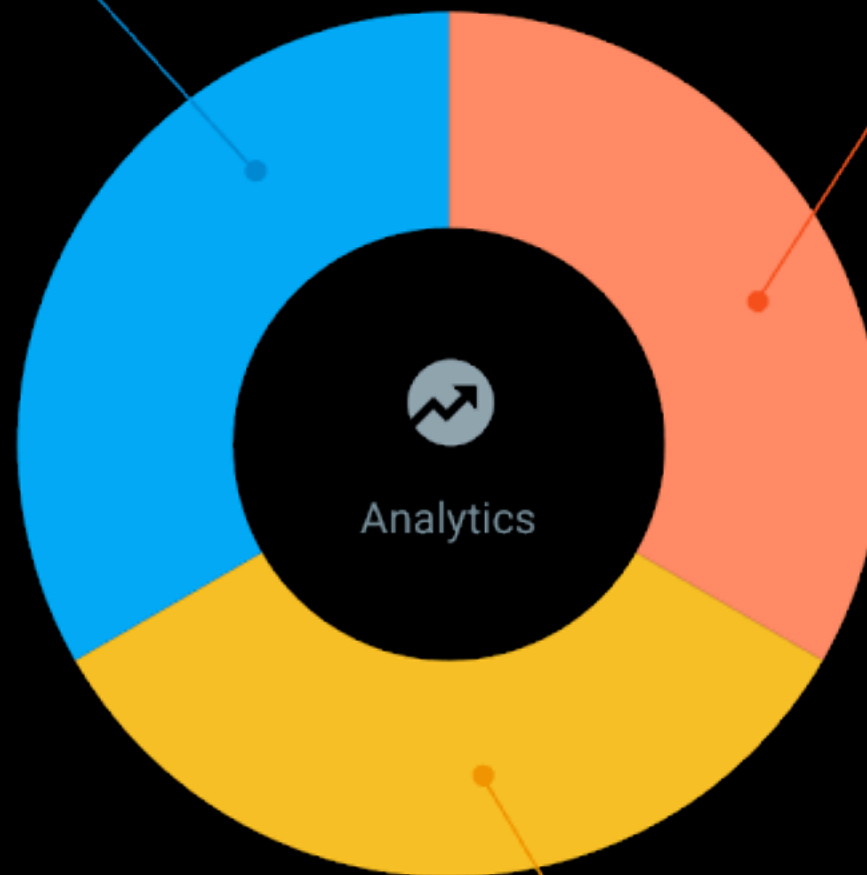
- Firebase is Google's mobile and web development platform.
- It helps users to build cloud-enabled apps in Android, iOS, Web, Unity, C++ and Admin.
- It is intended to help grow the app's user base.
- It provides a wide list of services for Developing & Testing apps and in the Growth and Engagement of the audience for the apps.

Services








DEVELOP

-  Realtime Database
-  Authentication
-  Cloud Messaging
-  Storage
-  Hosting
-  Remote Config
-  Test Lab
-  Crash Reporting



GROW

-  Notifications
-  App Indexing
-  Dynamic Links
-  Invites
-  AdWords

EARN





Firebase for Android

- Collects usage and behaviour data for the app.
- Types of Log
 - Events - User actions, System events, errors
 - User Properties - Language preference and Geographical Location

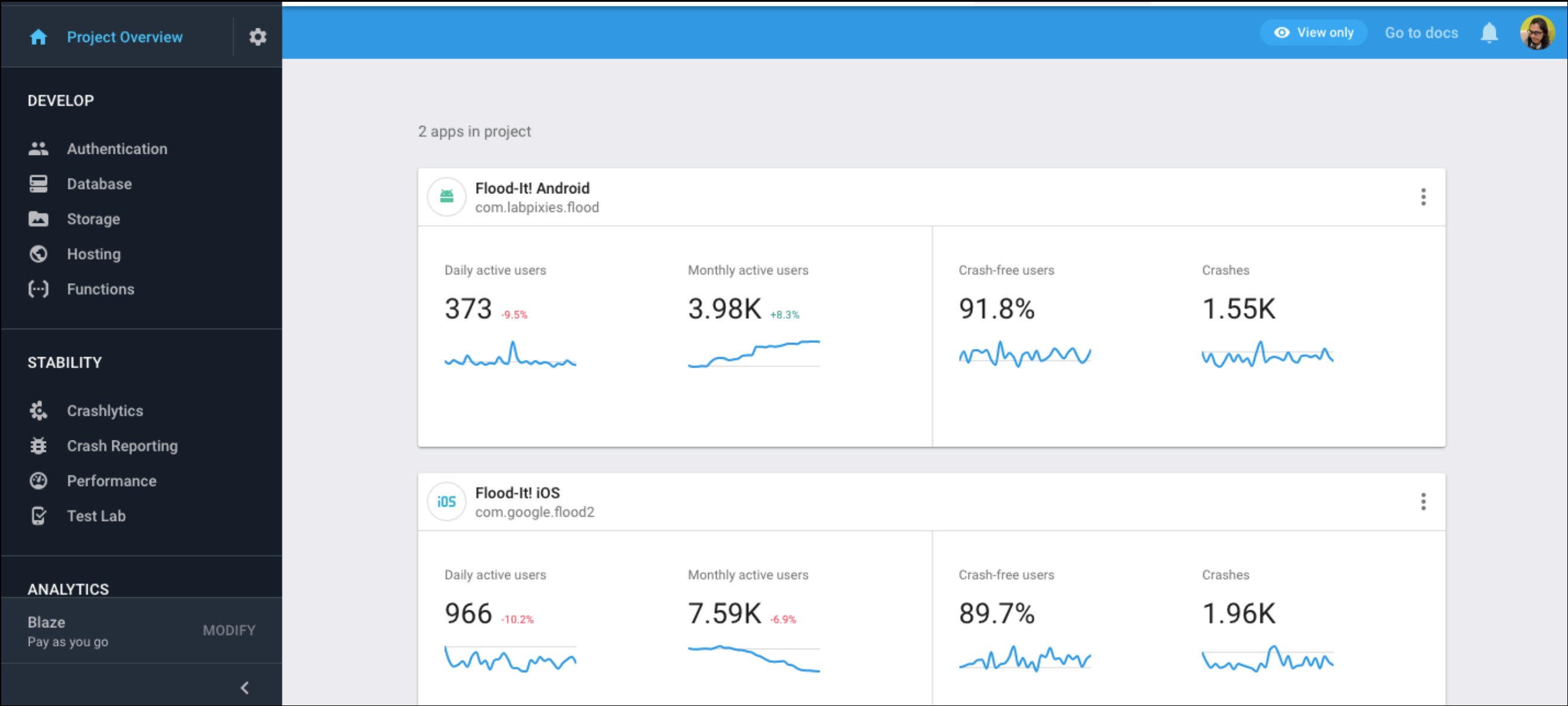


Connecting Firebase to App

- Manual
 - Firebase Assistant (Android Studio 2.2 and above)
-

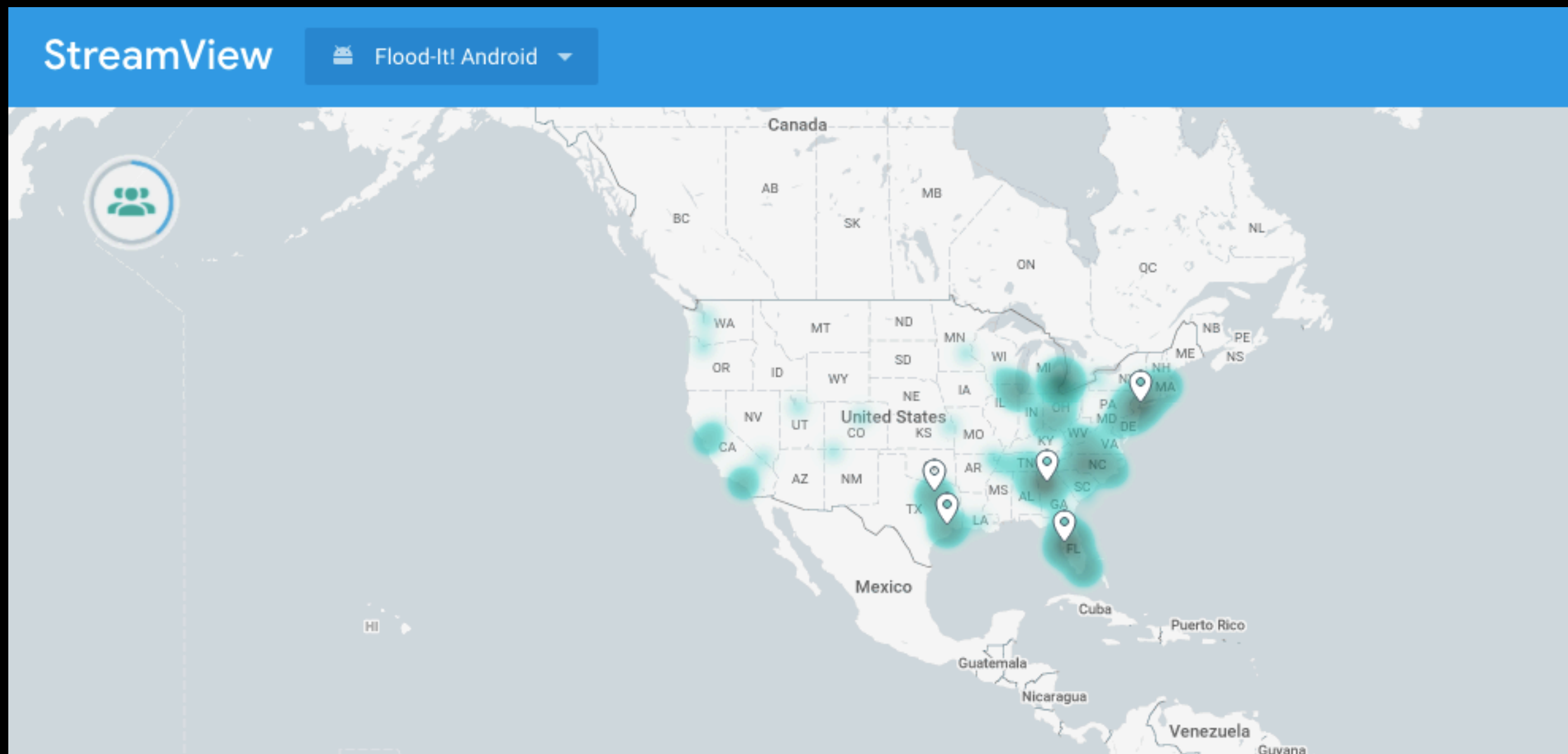


Connecting Firebase to App (Contd.)





Connecting Firebase to App (Contd.)





Firebase for Android

- Collects usage and behaviour data for the app.
- Types of Log
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Adding Analytics to App

Gradle

- compile 'com.google.firebase:firebase-core:11.8.0'

Main Activity

- private FirebaseAnalytics mFirebaseAnalytics;
-

onCreate()

- mFirebaseAnalytics = FirebaseAnalytics.getInstance(this);

logEvent()

- Explore pre-defined or custom events



Connecting Firebase to App

- Manual
 - Firebase Assistant (Android Studio 2.2 and above)
-



Development Services

- Authentication
- Database
- Storage
- Hosting
- Functions

Authentication



- Authenticate users to the app using backend services, SDKs and UI libraries.
- Types of authentication
 - Email / password
 - Phone
 - Social Media (Google, Twitter, Facebook)
 - Github
 - Anonymous (Guest Accounts)

Authentication (Contd.)



Templates

Email ?

Email address verification

Password reset

Email address change

SMTP settings

SMS

SMS verification

Email address verification

When a user signs up using an email address and password, you can send them a confirmation email to verify their registered email address. [Learn more](#)

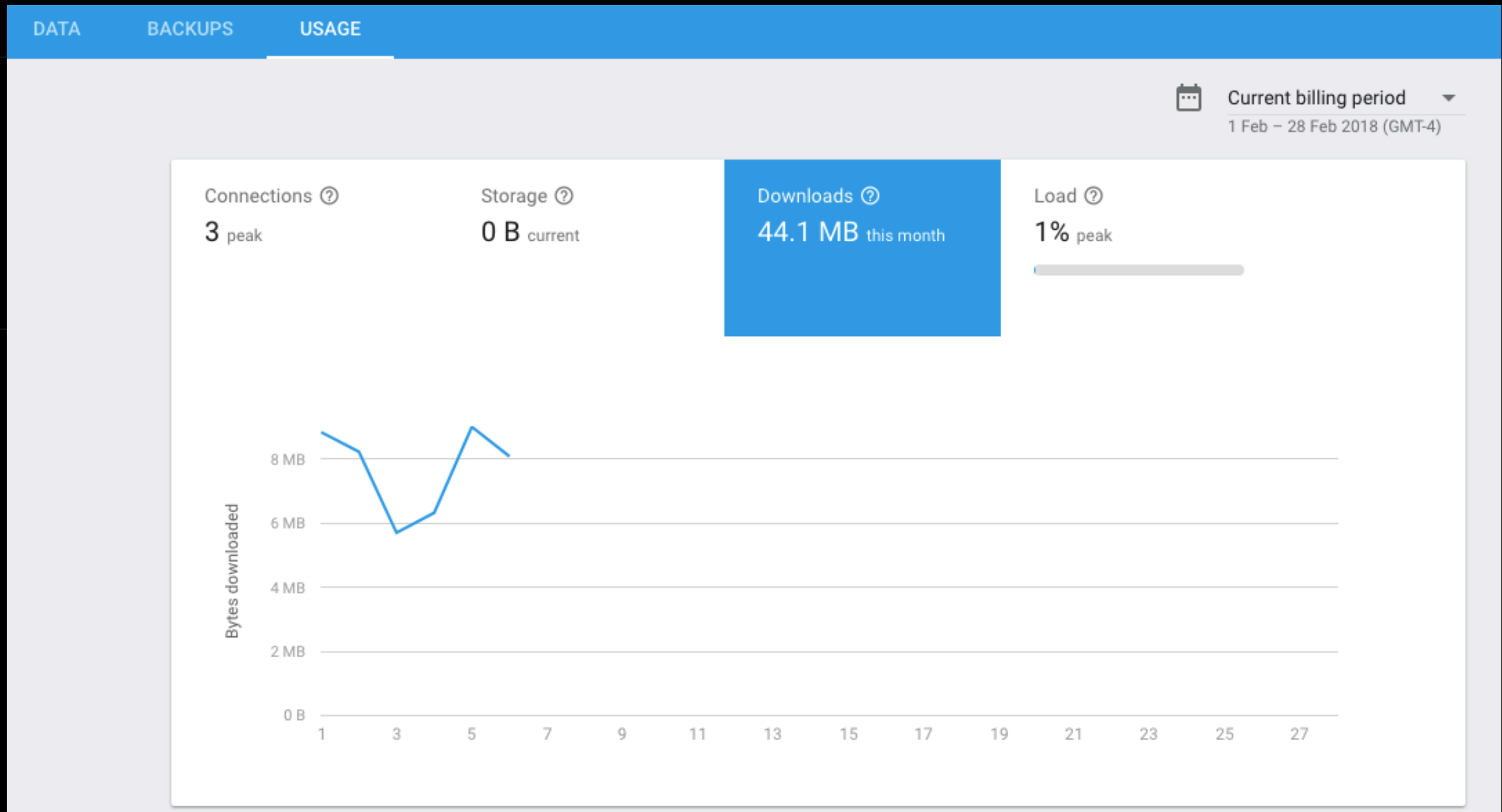
Sender name	From
not provided	noreply@fir-demo-project.firebaseio.com
Reply to	
not provided	
Subject	
Verify your email for Firebase Demo Project	
Message	
Hello %DISPLAY_NAME%,	
Follow this link to verify your email address.	
<a href="https://fir-demo-project.firebaseio.com/__/auth/action?mode=<action>&oobCode=<code>">https://fir-demo-project.firebaseio.com/__/auth/action?mode=<action>&oobCode=<code>	
If you didn't ask to verify this address, you can ignore this email.	

Database



-
- Cloud-hosted NoSQL database.
 - Storage format is JSON.
-
- Daily data backup.
 - Key capabilities
 - Realtime
 - Offline
 - Access from Client Devices
 - Scale across multiple databases

Database (Contd.)



Storage



-
- Store user generated content.
 - Google cloud access to the stored data.
-
- Key Capabilities
 - Robust operations
 - Strong security
 - High scalability

Hosting



-
- Fast and secure static hosting for the web apps.
 - Key capabilities
 - Secure connection
 - Fast content delivery
 - Rapid deployment
 - One-click rollback

Hosting (Contd.)





Demo

<https://goo.gl/4hpnyV>

Create Firebase Account & add Project



- Go to <https://firebase.google.com/> and click Get started.

Add a project

Project name

My awesome project

Project ID

my-awesome-project-id

Country/region

United States

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 any time.

[Learn more](#)

CANCEL

CREATE PROJECT

Create Firebase Account & add Project



A screenshot of the Firebase console dashboard. The left sidebar is dark grey and contains the 'Firebase' logo at the top, followed by 'Project Overview' with a home icon and a settings gear icon. Below this are sections for 'DEVELOP' (Authentication, Database, Storage, Hosting, Functions), 'STABILITY' (Crashlytics, Crash Reporting, Performance, Test Lab), and 'ANALYTICS' (Spark, with a 'Free \$0/month' label and an 'UPGRADE' button). The main content area has a blue background with the text 'Welcome to Firebase! Get started here.' and three circular icons for 'iOS', 'Android', and 'Web' (represented by a code symbol). Below these are three buttons: 'Add Firebase to your iOS app', 'Add Firebase to your Android app', and 'Add Firebase to your web app'. A light blue banner at the bottom of the main area says 'Receive email updates about new Firebase features, research and events' with a 'SIGN UP' button and a close 'X' icon. The bottom of the dashboard features a 'Discover Firebase' section with three colorful, abstract illustrations.

Add Firebase to app



Add Firebase to your Android app

1

2

3

Register appDownload config fileAdd Firebase SDK

Android package name ?

com.yourapp.android

App nickname (optional) ?

Freemium Android App

Debug signing certificate SHA-1 (optional) ?

00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00

Required for Dynamic Links, Invites and Google Sign-In or phone number support in Auth. Edit SHA-1s in Settings.

CANCEL

REGISTER APP

in project newProject

Add Firebase to app



Add Firebase to your Android app

1

2


3

Register appDownload config fileAdd Firebase SDK

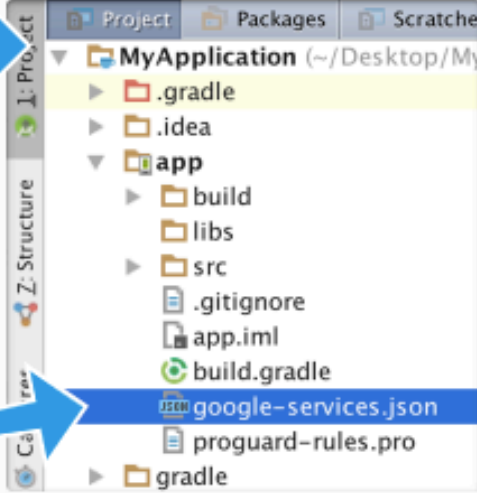
Android Studio instructions

Alternatives: [Unity](#) [C++](#)

- Download google-services.json
- Switch to the **Project** view in Android Studio to see your project root directory.
- Move the **google-services.json** file you have just downloaded into your Android app module root directory.



google-services.json



Already added the dependencies?
[Skip to the console](#)

CONTINUE

Add Google-services plugin



Project-level build.gradle

```
buildscript {  
    repositories {  
        jcenter()  
    }  
    dependencies {  
        classpath 'com.android.tools.build:gradle:2.3.3'  
        classpath 'com.google.gms:google-services:3.1.0'  
        // NOTE: Do not place your application dependencies here; they belong  
        // in the individual module build.gradle files  
    }  
}
```

App-level build.gradle

```
dependencies {  
    compile fileTree(dir: 'libs', include: ['*.jar'])  
    androidTestCompile('com.android.support.test.espresso:espresso-core:2.2.2', {  
        exclude group: 'com.android.support', module: 'support-annotations'  
    })  
    compile 'com.android.support:appcompat-v7:25.3.0'  
    compile 'com.android.support.constraint:constraint-layout:1.0.2'  
    compile 'com.google.android.gms:play-services:9.2.0'  
    testCompile 'junit:junit:4.12'  
}  
  
apply plugin: 'com.google.gms.google-services'
```


Add Firebase Authentication to app



- **Firestore dashboard -> Develop -> Authentication -> Sign-in method -> Email/Password**

The screenshot shows the Firebase Authentication console for a project named 'ASworkshop'. The left sidebar contains navigation links for 'Project Overview', 'DEVELOP' (with sub-links for Authentication, Database, Storage, Hosting, and Functions), 'STABILITY', 'ANALYTICS', 'GROW', and 'Spark'. The main content area is titled 'Authentication' and has tabs for 'USERS', 'SIGN-IN METHOD' (which is selected), 'TEMPLATES', and 'USAGE'. Under the 'SIGN-IN METHOD' tab, there is a section for 'Sign-in providers' containing a table with the following data:

Provider	Status
Email/Password	Enabled
Phone	Disabled
Google	Disabled
Facebook	Disabled
Twitter	Disabled
GitHub	Disabled
Anonymous	Disabled

Add Firebase Authentication to app



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Provider	Status
Email/Password	Enabled
Phone	Disabled
Google	Disabled
Facebook	Disabled
Twitter	Disabled
GitHub	Disabled
Anonymous	Disabled