## *Firebase*

## What Is Firebase?

Firebase is originally developed by Firebase inc and later acquired by Google. It provides different kinds of services that help you to develop high-quality mobile and web applications to grow your business. It is compatible with Web, iOS, Android, and OS X clients. With Firebase, developers don’t need to worry about the backend programming, Authentication, API development, database (real-time cloud-hosted NoSQL database and cloud firestorm), File storage, etc. Firebase provides all the services with very efficient and fast performance.

Firebase is a full package that can help in developing your mobile or web applications faster with fewer resources and more efficiency. Now, let’s look at some of the services and use of it.

**There are many services which Firebase provides, Most useful of them are:**

* Cloud Firestore
* Cloud Functions
* Authentication
* Hosting
* Cloud Storage
* Google Analytics
* Predictions
* Cloud Messaging
* Dynamic Links
* Remote Config

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This article purely focuses on how Firebase services can make the [mobile application development](https://www.zealousweb.com/services/mobile-apps/) process easier.

We know that the widely used services for this purpose are Cloud Messaging, Authentication, Dynamic Links, Predictions, Google Analytics, and Remote Config. Let’s discuss these services in detail.

#### 1. Cloud Firestore

Cloud Firestore helps store, sync, and query app data at a global scale. It’s a NoSQL database built specifically for global-level applications. It enables you to query and structure your data the way you like it.

You can use collections and documents to build hierarchies to store related data and easily retrieve it using expressive queries. All queries come with the ability to scale with the size of the result set making your app ready to scale from day one.

#### 2. Firebase Realtime Database

Firebase Realtime Database is a cloud-hosted NoSQL database that helps you store and sync data in real-time. Here’s a detailed guide on the same to advance your learning further.

#### 3. Remote Config

Remote Config helps you control and optimize your app on the go. You can control the app’s behavior and appearance to make changes by updating the configuration from the Firebase Console.

Further, it lets you dynamically turn features on and off, personalize by audience groups, and run experiments that too without setting up any complex infrastructure.

It also allows you to implement feature flags so you can gradually roll out new and exciting features for stable performance.

#### 4. App Check

App check is an additional layer of security to protect your APIs. It protects your data and your customers by attesting that incoming traffic is from your app and blocks traffic that doesn’t have valid credentials.

Also, App Check helps protect your app backend from abuse, like phishing, billing fraud, data poisoning, app impersonation, etc.

#### 5. Firebase Cloud Functions

Cloud functions allow you to develop backend without servers. It helps create functions that get triggered by Firebase functions, for instance, changes in data of the Realtime Database, new user sign-ups, and conversion events.

The best thing about Cloud Functions is you can run your mobile backend code without managing servers. Moreover, they are single-purpose JavaScript functions that are executed in a secure and managed NodeJS environment.

#### 6. Firebase Authentication

Firebase Auth offers simple, no-cost multi-platform sign-in. It aims to make it easy to build secure authentication systems and enhance the sign-in and onboarding experience.

It’s an end-to-end identity solution that supports email and password accounts, phone auth, and Google, Twitter, and other login methods.

#### 7. Cloud Messaging

Firebase cloud messaging allows you to send notifications at no cost across platforms. It offers a reliable and battery-efficient connection between server and device to send and receive notification messages on Android, iOS, and others at no cost.

This Firebase product helps you easily target messages using pre-defined segments or create your own using demographics and behavior. You can easily customize notifications and no coding is required for sending notifications.

#### 8. Firebase Hosting

Firebase Hosting offers fast and secure web hosting for single-page web apps, mobile landing pages, or a PWA without the hassle of setting up a server. The hosting service is SSD-backed which makes content delivery faster around the globe.

Moreover, Firebase Hosting offers free SSL certificates for custom domains. The best thing is it can be deployed with one command.

#### 9. Cloud Storage

Firebase Cloud Storage is designed to help you store and serve user-generated content easily and quickly. The infrastructure is built with scalability in mind to grow your app from prototype to production using the same technology that powers apps like Spotify and Google Photos.

For users not always online, Firebase SDK is built for cloud storage with mobile connectivity in mind. It has the capabilities to automatically pause and resume the data upload and transfer.

#### 10. Firebase Machine Learning

Firebase Machine Learning allows developers to add ML capabilities to mobile apps. You can use Firebase ML to train and deploy custom models or use more turn-key solutions with Cloud Vision [APIs](https://www.ashutec.com/services/api-development-services).

Firebase ML can be used to distribute models to your users over the air. It decreases the initial app installation size since models are downloaded by the device. You can also A/B test multiple models without having to republish the entire app.

### **Conclusion**

So, these were the products and services offered by Google Firebase. All of these services and products are helpful in some or other ways and reduce the burden on developers while cutting costs to an extent.