Firebase vs. Firestore | What are the differences?

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This article will explain the differences between Firebase, which is a backend as a service owned by Google, and Firestore, which is a NoSQL scalable realtime database.

- Firebase – Comprehensive app development platform from Google
- Cloud Firestore – NoSQL scalable database that is part of Firebase

Firestore is a part of Firebase, and the latter also offers features outside that of any realtime database. But many users evaluate **Firebase vs. Firestore** benefits as there are differences in what they offer. Take a look at the information given below to get a better idea about each.

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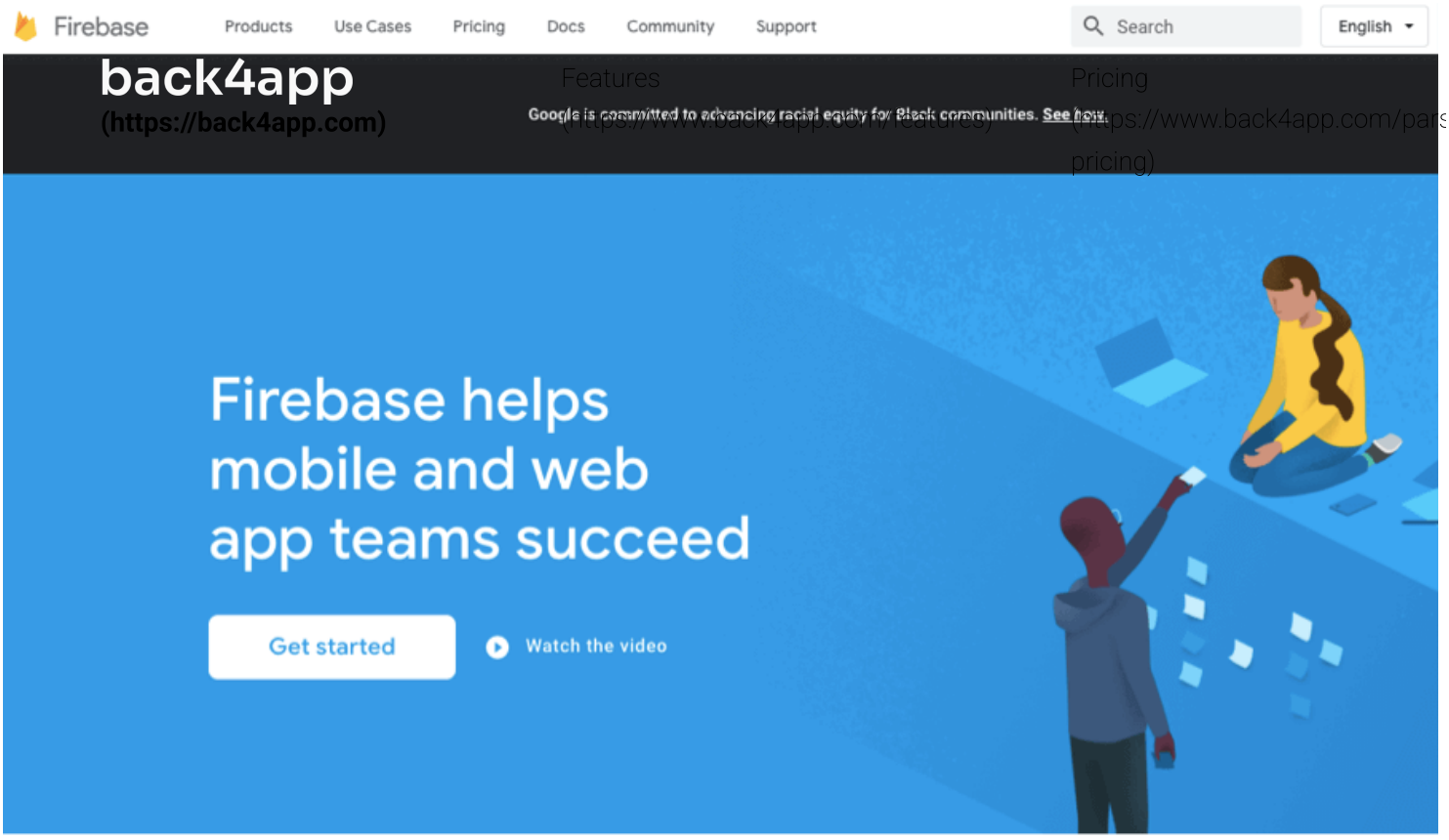


Firebase (https://blog.back4app.com/firebase/) is a **BaaS platform (https://blog.back4app.com/backend-as-a-service-baas/)** offering a wide variety of features and components for enhanced mobile and web application development. Firebase is preferred by many business owners and developers due to the level of usability it offers.

Using the service reduces the need for users to develop APIs and manage servers. Firebase can also be customized based on the specific requirements of developers.

Firebase works with two different databases. The Real-Time Database is the original Firebase database product, and Cloud Firestore is a new and improved version of the Real-Time Database.

Firebase offers file storage security for users and enables them to utilize Google Cloud Storage. The service makes use of advanced authentication and security features for controlling privileges and

reducing threats. Developers can use the real-time database features of Firebase for achieving enhanced connectivity.

Applications hosted on Firebase are usually faster than those hosted across many of its competitor platforms. It lets developers save a significant amount of time required for hosting, management, development, and storage.

Firebase is convenient for most developers as its users can use their Google accounts to log into their Firebase backends, and experience all its Spark Plan features. The platform uses a NoSQL database, which is comparatively better than conventional relational databases.

Firebase Features

Realtime Database – The real-time database of Firebase enables developers to store and sync data in real-time efficiently. It also allows users to access the database while they are offline. Firebase performs storage of data storage as JSON and is also synchronized across clients.

Cloud Firestore – Cloud Firestore refers to a NoSQL cloud database that can be used to store and sync data for server-side and client-side programming purposes. Cloud Firestore facilitates flexible mobile, web, and server development. It can also be used for synchronizing data across real-time applications. Firestore is also integrated with Google Cloud and Firebase.

Cloud Functions – Firebase Cloud Functions is a serverless framework that lets developers run backend code to respond to the components of Firebase and HTTPS requests. Cloud Functions are responsible for integrating the Firebase platform and securing user logic. This is an important feature.

Authentication – Firebase Authentication refers to a full-fledged, token-based authorization system. It helps in the smooth integration of the application with several widely-used platforms, including Twitter, Facebook, and Google.

Cloud Storage – Firebase Cloud Storage is a feature-rich object storage service for the development of applications. It is a cost-friendly service that assigns Google-level security for the download and upload of files. Cloud Storage can help users store user-generated content and media files.

Firebase Pricing

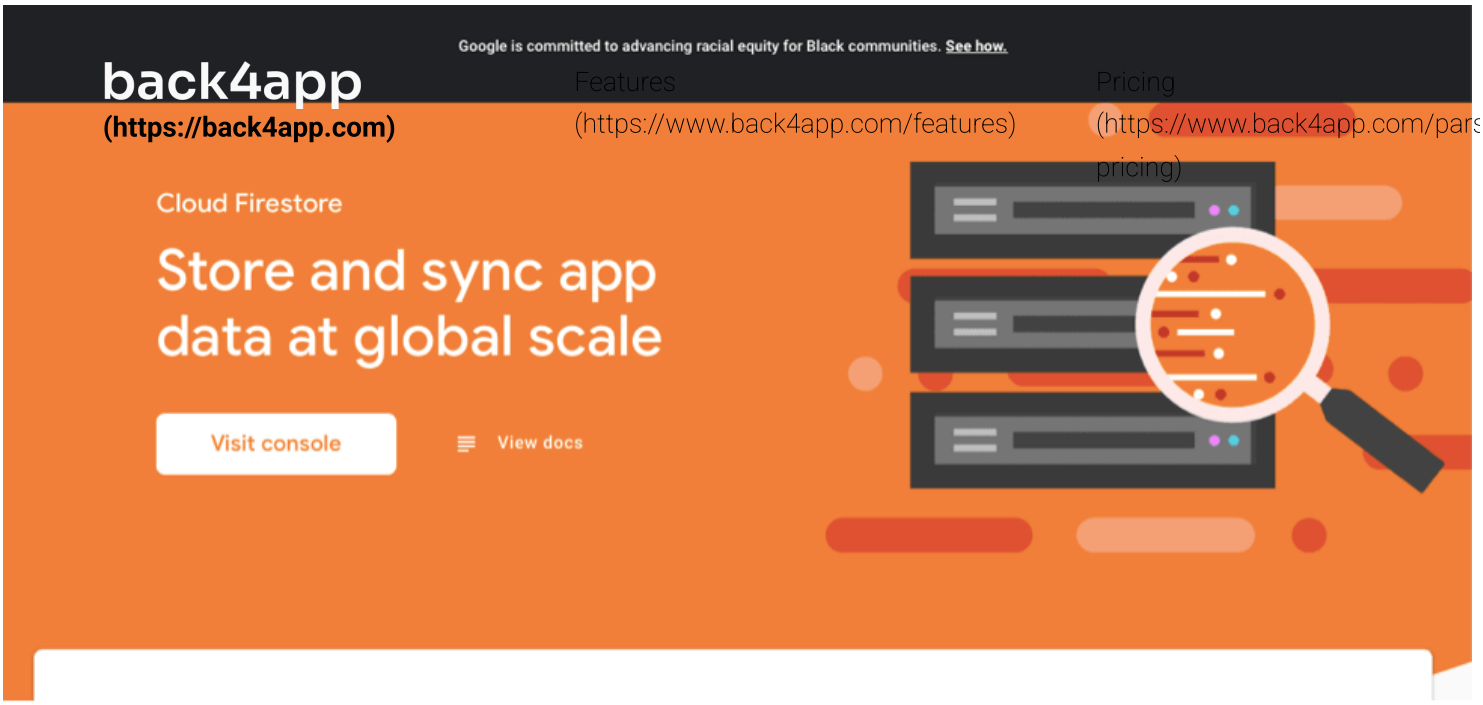
Firebase has two different pricing tiers:

- Free Tier – Ideal for development and small apps
- Pay as you go – Ideal for production environments

To know more about Firebase pricing structure, please refer to the article **Firebase Pricing for Dummies (https://blog.back4app.com/firebase-pricing/)**.

(https://www.back4app.com)

What is Firestore?



Google Firestore (https://blog.back4app.com/what-is-firestore/)or Cloud Firestore is a part of the Google Firebase app development platform. It is a cloud-hosted NoSQL database option for the storage and synchronization of data. Users can directly access Firestore from their web and mobile applications with native SDKs.

Users can use it with programming languages such as Java, Unity, Node.js, Go, and C++ SDKs, and there is also support for RPC and REST APIs. Using the Firestore database facilitates better performance, automatic scaling, peak reliability, and considerable ease-of-use.

Firestore enables the syncing of data across various client applications through real-time listeners. It makes use of Access Management, and Cloud Identity features from Google for authentication purposes. Firestore enables the storage of data as documents, and these documents are stored within collections.

Firestore documents offer support for a vast range of data types like numbers, nested objects, and strings. It can be integrated with Google Firebase and the Google Cloud Platform. Developers pre-

fer Firestore due to the reliability and security it offers.

Cloud Firestore provides support for indexed queries, facilitating the filtering and sort functions with the single queries option. ACID transaction advantages are also available across collections and documents. Cloud Firestore being serverless, is convenient for developers and reduces the need to set up servers and manage access to data.

Firebase and Google Cloud platform integration enable improved prototyping and iterations, along with advanced synchronization and offline support. Firestore offers offline support for web, iOS, and Android platforms. It helps to keep applications updated in near real-time once any changes are implemented to backend data.

Firestore Capabilities

Real-Time Updates – Cloud Firestore utilizes synchronization for updating data across connected devices. This capability also enables users to implement one-time fetch queries efficiently.

Offline Synchronization – Cloud Firestore performs caching of data being used by an app to let it read, write, query, and listen to data even with an offline device.

Data Structure – Cloud Firestore's data model offers support for hierarchical data structures. Users can store their data as documents that are stored in collections. Documents contain complex nested objects and subcollections.

Expressive Querying – Cloud Firestore enables the use of queries for fetching specific individual documents or retrieving documents matching query parameters from a collection. Queries include multiple chained filters and support sorting and filtering.

Scalability – Cloud Firestore offers the scalability you expect from the Google Cloud Platform. Some of its capabilities include multi-regional replication, atomic batch operations, assurance of consistency, and support for real transactions.

Firestore Pricing

Firestore also provides a free tier and charges based on the following variables:

- Database storage
- Bandwidth
- Number of transactions (write, read, and delete)

The pricing for each variable as follows:

Variable	**Pricing**
Storage	$0.18/GiB
Bandwidth	Pricing will vary depending on the region. For instance, data transfer out from the US to Europe will cost $0.12/GB. For detailed information, please refer to Firestore's pricing page.
Document writes Document reads Document deletes	$0.18/100K $0.06/100K $0.02/100K

Firebase vs. Firestore Comparison

	Firebase	**Cloud Firestore**
Summary	App development platform	NoSQL Scalable Database
Core Features	Databases, Cloud Functions, Storage, Analytics, A/B Testing, Authentication, etc.	Scalable hosting, multi region deployment, data synchronization.
Databases	Two. Firestore and The Real Time Database	Firestore

Database Type	Both are NoSQL	NoSQL
Plans	Spark and Blaze	Spark and Blaze
Free Tier	Yes	Yes
Pricing Model	Pay as you go	Pay as you go
Pricing	Depends on the service	Function of network out, database size, writes, reads, and deletes.

Comparing the Firebase Realtime Database and Firestore here are some differences:

- Firestore provides better querying and more structured data
- Firestore is designed to scale
- Firestore provides multi region deployment

Comparing Firebase vs. Firestore pricing, we obverse that both are available on the Blaze and Spark plans. The Realtime Database limits the total connections to 200k, and Firestore is more affordable considering the GB-stored variable.

Generally speaking, Firestore is a more robust and advanced database, but you should evaluate the Realtime Database mainly because of the pricing model. Depending on how your application works and the pricing variables applicable to it, the Realtime Database may save you a significant amount of dollars in monthly bills.

Conclusion

Firebase is Google's app development platform. It includes a vast range of products and features that allow developers to create apps fast without managing the infrastructure.

Firestore is one of the two databases available at Firebase. It's a new and improved version of the Real-Time Database, and its capabilities include real-time updates, offline synchronization, scala-

bility, and multi-region deployment.

FAQ

What is Firebase?

Firebase is Google's app development platform. It includes a vast range of products and features that allow developers to create apps fast without managing the infrastructure.

What is Firestore?

Firestore is one of the two databases available at Firebase. It's a new and improved version of the Real-Time Database, and its capabilities include real-time updates, offline synchronization, scalability, and multi-region deployment.

What are the differences between Firebase and Firestore?

Firebase is a more compressive solution vs. Firestore and incorporates multiple services like databases, notifications, analytics, ML, etc. Firestore is a NoSQL database that is part of the Firebase app development platform.

Jessica Clark

I'm a professional software engineer freelancer. I'm passionate about coding and tech startups.

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