



# Firebase Workshop

Global Overview of Firebase and Demonstration

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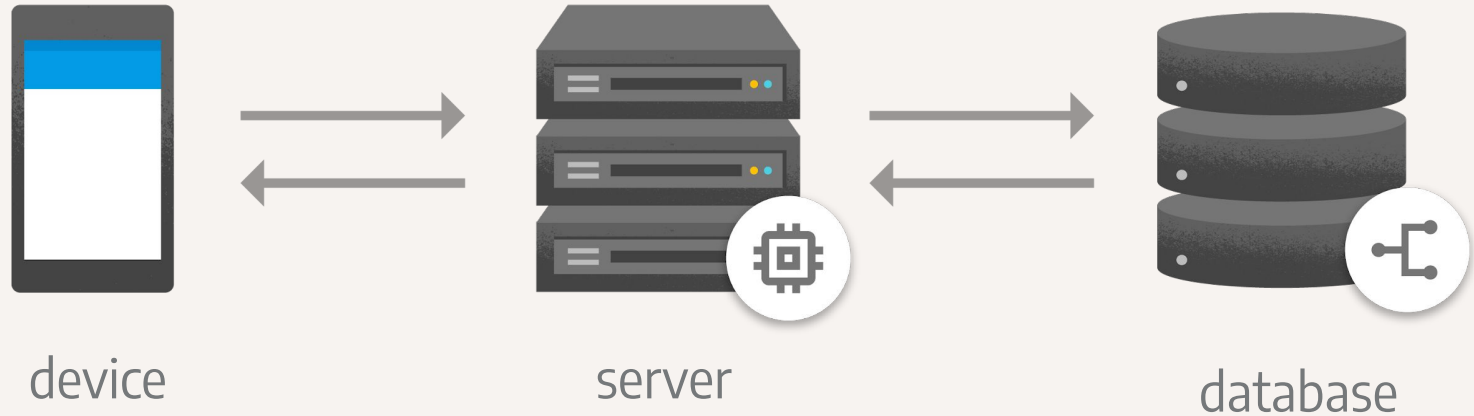
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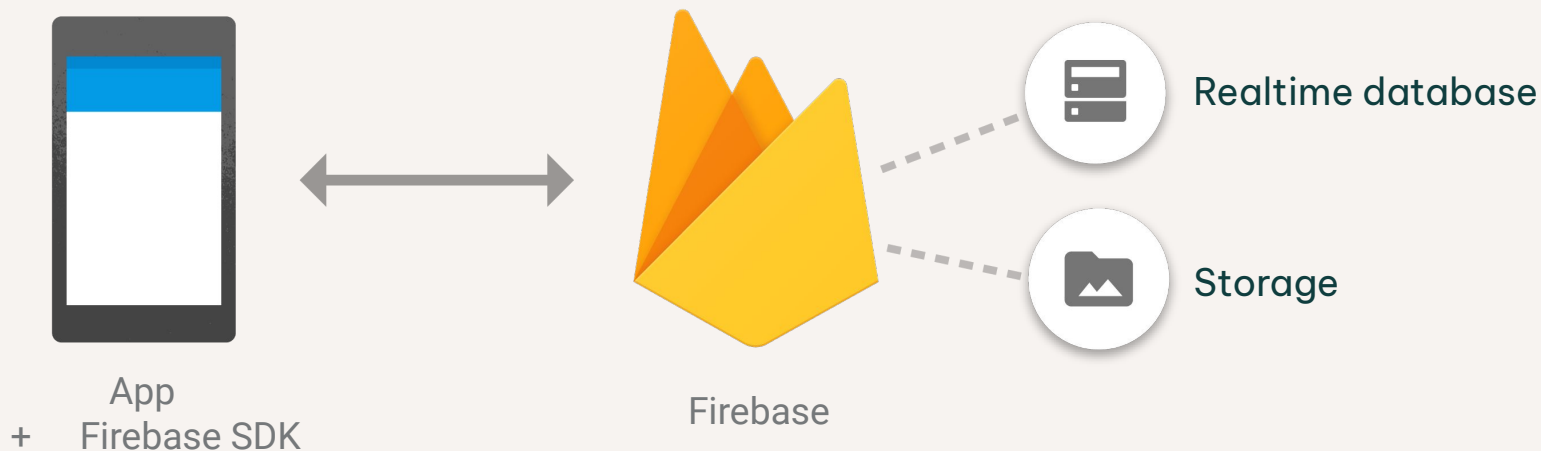
# Introduction

- Comprehensive app development platform designed to help developers build, improve, and grow their applications
- Developed by Google
- Allow to build web or mobile based application quickly
- Takes care of the backend infrastructure (BaaS)

# Traditional app development



# Firestore app development



# Overview of Firebase Services

## Build



**App hosting:** deploy app from git commit



**App Check:** layer of security to protect access to your APIs



**Authentication:** easy sign-in with any platform



**Cloud Storage:** quick and easy storage and serving of user-generated content



**Realtime Database:** real time syncing for JSON data

# Overview of Firebase Services

## Run



**App Distribution:** give a global view of your beta testing across IOS and Android



**Google Analytics:** provides free, unlimited reporting on up to 500 distinct events



**Test Lab:** run tests that simulate actual usage environments with physical and virtual devices provided

## When to use it ?

- You want to focus on frontend development
- You have to implement real-time features
- You have to deliver rapidly a working app
- You want a scalable and easy to maintain solution.

## When not to use it ?

- You want to develop an IOS application
- You do not want vendor lock-in
- You do not want a NoSQL based database
- You want support for business intelligence tools



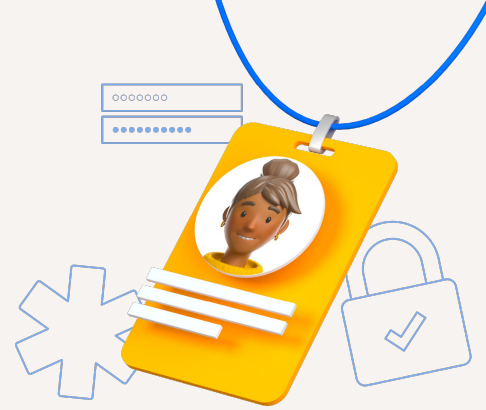
# Firestore Service: Realtime Database

- Store data in a NoSQL Cloud Database
- Data is synced across all clients in realtime
- Data is available when the app goes offline
- Accessible from client devices
- Scale across multiple databases
- Security




# Firebase Service: Authentication

- Allow authentication by password, phone number or popular identity provider like Google, Facebook, etc.
- Provides backend, SDKs and UI libraries to implement it.
- Firebase Authentication comes with an optional upgrade called Identity Platform that extends what's possible in Authentication, but it comes with a different pricing scheme.




# Pricing Realtime Database

## Free tier :

	Realtime Database	^
Simultaneous connections	100	
GB stored	1 GB	
GB downloaded	10 GB/month	
Multiple databases per project	×	

## Pay as you go tier :

	Realtime Database	^
Simultaneous connections	200k/database	
GB stored	\$5/GB	
GB downloaded	\$1/GB	
Multiple databases per project	✓	

# Pricing Authentication

## Free tier :

## Pay as you go tier :

Authentication		Authentication	
Phone Auth - All regions	10 SMS sent/day	Phone Auth - All regions	Billed per SMS sent See <a href="#">current rates</a>
Other Authentication services	✓	Other Authentication services	Depends on the country ✓
With Identity Platform		With Identity Platform	
Monthly active users	50k/month	Ex : for 100,000 - 999,999	MAU -> 0.0046\$/MAU
		Monthly active users	No-cost up to 50k MAUs Then <a href="#">Google Cloud pricing</a>
Monthly active users - SAML/OIDC	50/month	Over 50 users -> 0.015\$/MAU	
		Monthly active users - SAML/OIDC	No-cost up to 50 MAUs Then <a href="#">Google Cloud pricing</a>

# Demo



# Firebase

We made an application using express JS that handles two things :

**1** - Authentication using Firebase Authentication and Google's services

**2** - POST and GET from the Firebase Realtime Database

# References

- Pricing : <https://firebase.google.com/pricing> and [Firebase Blaze Calculator](#)
- Build Services: <https://firebase.google.com/products-build>
- Run Services: <https://firebase.google.com/products-run>
- Firebase Realtime Database: <https://firebase.google.com/docs/database>
- Firebase Realtime Database for web applications:  
<https://firebase.google.com/docs/database/web/start>
- Firebase Authentication: <https://firebase.google.com/products/auth>
- Database Sharding:  
<https://firebase.google.com/docs/database/usage/sharding>