

Building Real Time Apps With Firebase & AngularJS

by Dave Max





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Today

- The What of Firebase
- The Why Of Firebase
- Building an app using Firebase and Angular
- The What Else of Firebase

What is Firebase?

- Firebase is a real time application platform
- API to store and sync data - stores bits of JSON in the cloud and synchronizes them in real-time
- A set of services that allows you to:
 - authenticate users
 - manage security rules
 - host files

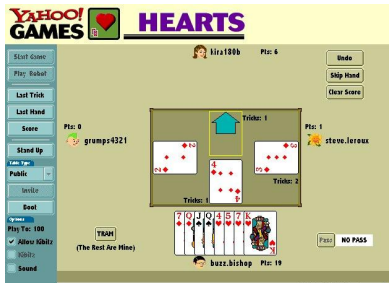
The Why Of Firebase - History



70s: Mainframe (Thin Client)



80s: Personal Computer (Thick Client)



90s: The Web 1.0 (Thin Client)

Today's Devices



- Connected Thick Client
- Device does some work
- Works offline (sometimes)
- Request-response model

Is It Really Real-Time?

- Changes to data on one client are synchronized to all clients subscribed to that data in **MILLISECONDS**.
- Over 1 Million devices are syncing data through Firebase at any given time.
- Now a part of the Google Cloud Platform so it can scale that level of performance.

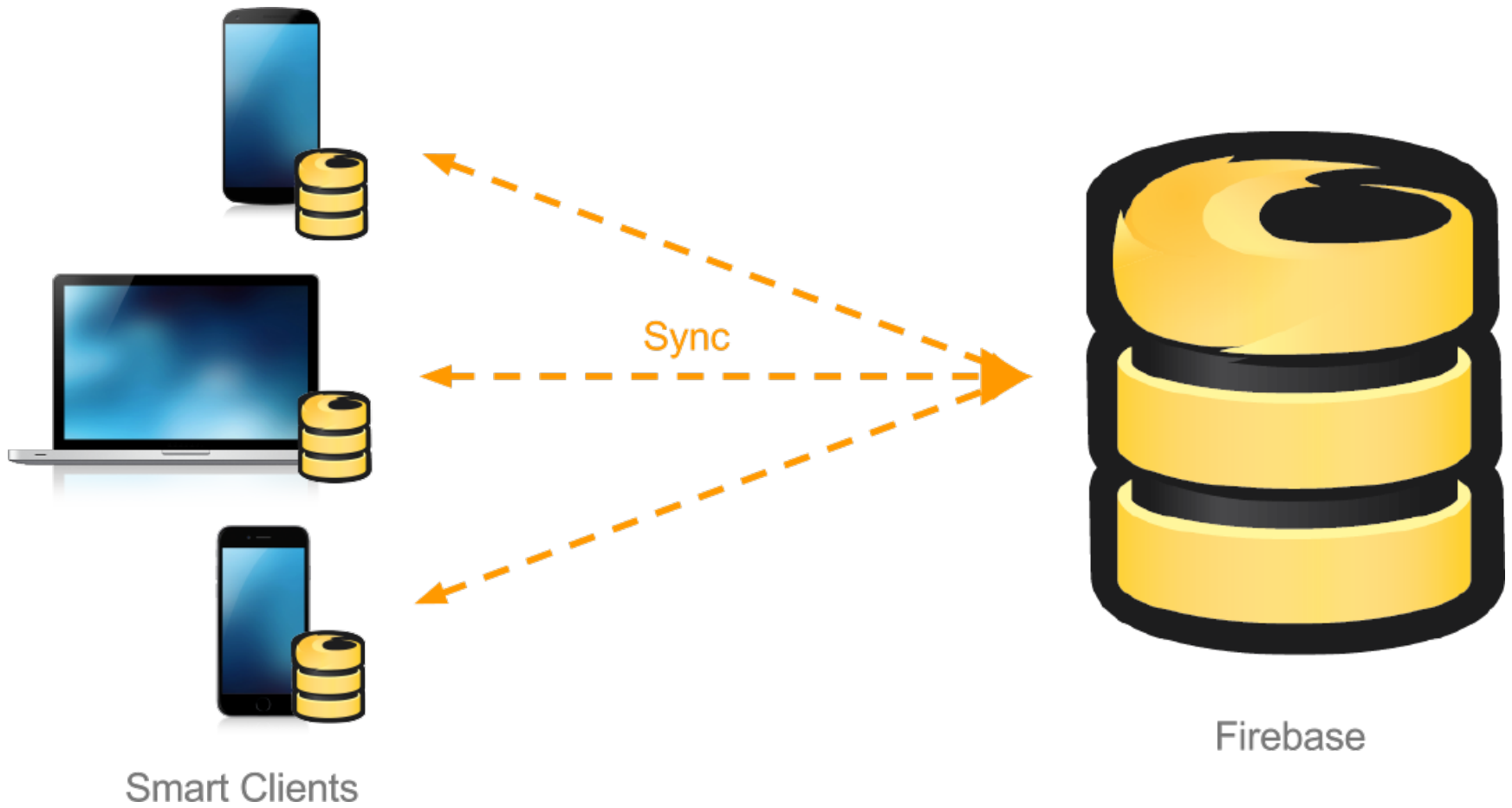
Why It Matters?

- 65% of all mobile connections in the world are 2G or slower
- Firebase can sync with the local cache of data on your device so apps remain responsive even when the network connection is slow or unreliable.

Benefits Of 3-Way Data Binding

- 3-way data binding is easiest to imagine as combining Firebase with an MVC (like Angular) which already offers 2-way data binding
- Data in the DOM syncs with scope/memory which syncs with Firebase... that data then syncs with the scope/memory of other clients/devices

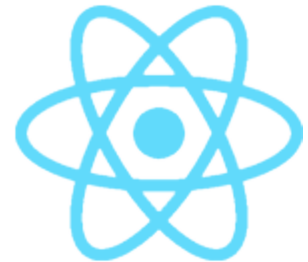
Firestore Syncs Data To Clients



Building An Application

- Many apps are just moving data around and performing CRUD operations
- For these Firebase provides a real-time messaging/notification layer and a data persistence layer
- That means NO SERVER CODE!

Easy To Integrate



What will we build today?

- MeetupBase is an application I dreamed up yesterday that will let meetup attendees share questions with speakers (and each other) in real-time.
- Pure HTML5, CSS, and AngularJS tied to Firebase... prove the 'no server code' claim.
- Possibly even useful... sort of.

Synchronized Arrays in Firebase

- Synchronized arrays should be used for any list of objects that will be sorted, iterated, and which have unique ids.
- We can create a synchronized array with the `$asArray()` method. This array is sorted [in the same order](#) as the records on the server.
- The synchronized array assumes that items are added using [\\$add](#), and that they will therefore be keyed using Firebase [push ids](#).

What else does Firebase do?

- User authentication - OAuth
- Security - Via Forge & Blaze Compiler
- Hosting - Static files and app assets

Firestore & AngularFire Resources

- Try It Out:
 - Hacker Plan: Free
 - Candle Plan : 1 Month Free Trial
 - Ask me for an activation code!
- Learn More About Firestore:
 - <https://www.firestore.com/how-it-works.html>
- AngularFire & Other Libraries:
 - <https://www.firebaseio.com/docs/web/libraries>

Thank you!



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