Firestore

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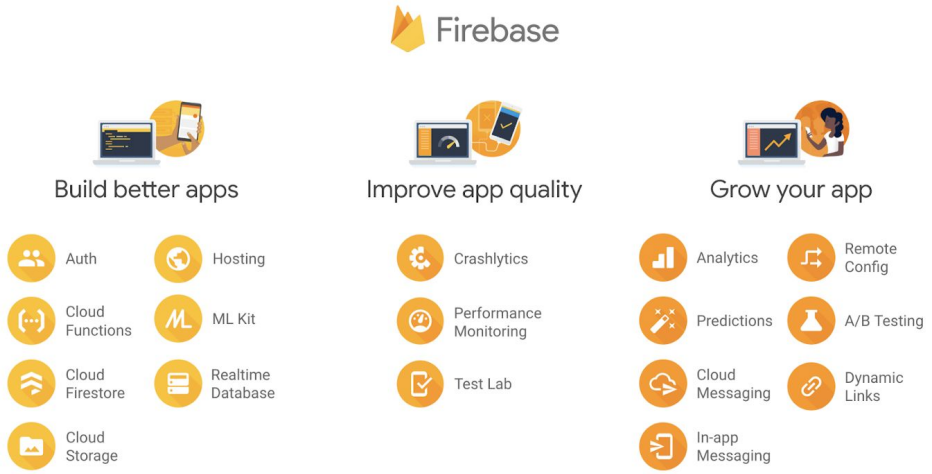
What is Firestore?

It’s a part of Firebase, which is a suite of Google Cloud services

Other important Firebase services include:

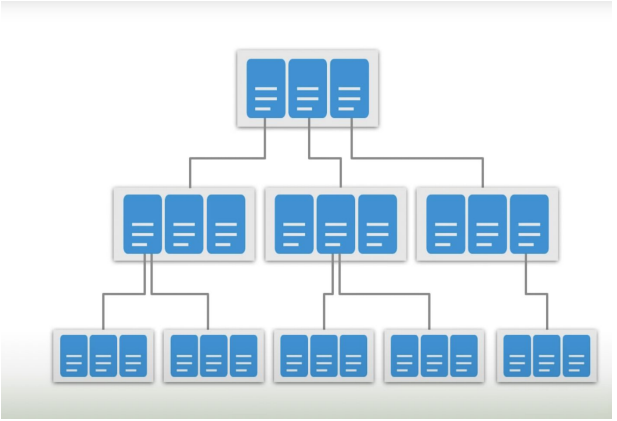
- Auth
- Storage
- Functions
- Analytics
- Messaging



NoSQL vs Relational databases

Firestore is a NoSQL database:

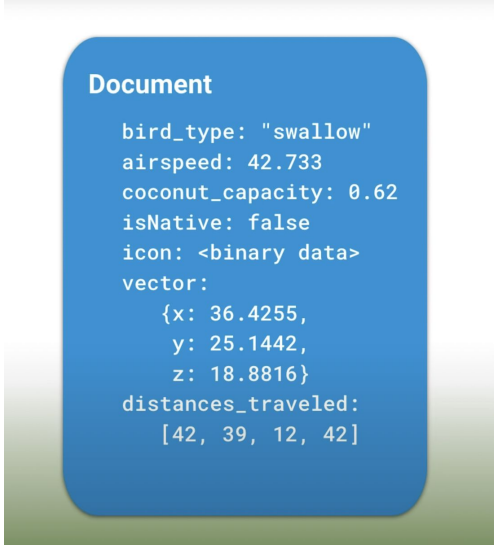
- Data stored as documents rather than table entries
- The database is constructed of one or more collections
- Each collection can contain one or more documents
- Documents can contain sub-collections



Document

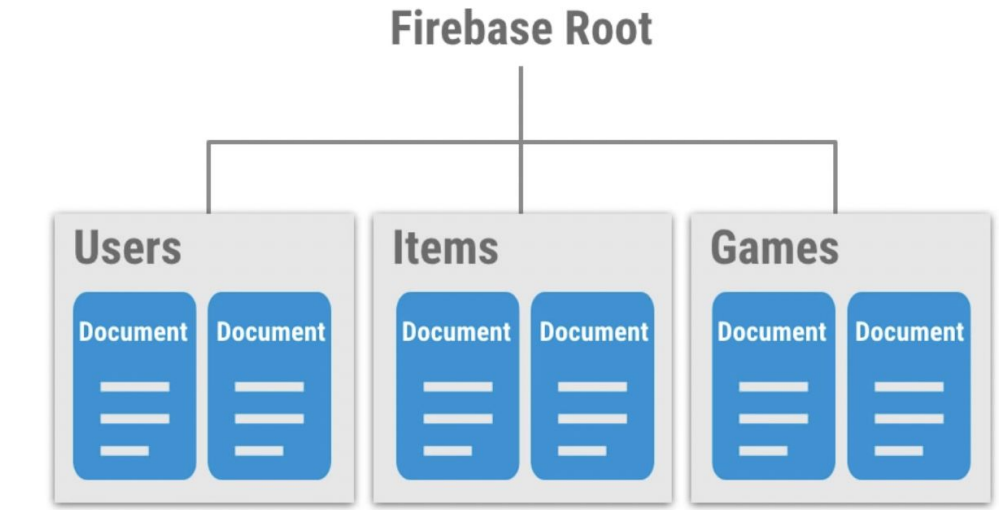
A Firestore document:

- Is basically a set of **fields** and **values**
- Each field is accessed using a string **key**
- The values can be from a range of common data types (strings, booleans, integers, floats, lists, maps, etc.)
- There is a limit to the max size for a document (**1 MiB)**



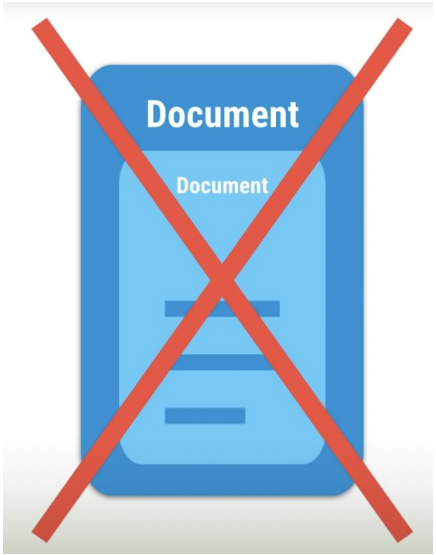
Collections

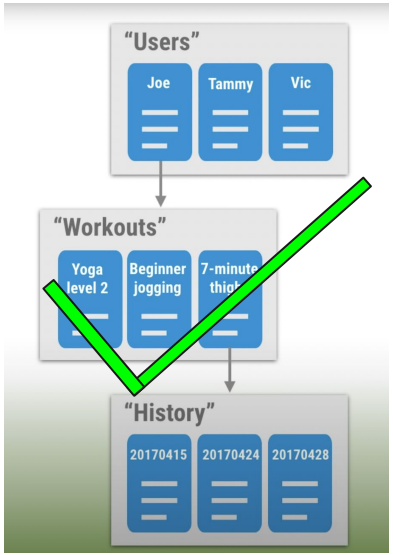
- Collections contain a number of documents
- The documents under a collection do not need to follow the same structure (i.e. have the same fields)



Nesting documents

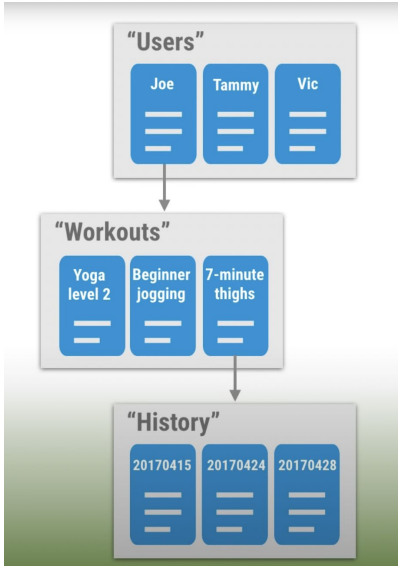
- Documents cannot contain other documents within themselves (but they can contain the id of the other document in one of their fields)
- Documents can though have sub-collections within them that contain other child documents





Accessing documents

- Each document has a specific unique ID (at least unique within the enclosing collection)
- We access documents by specifying the path from the database root
- For example, to access the first document in “History” we use:
  `“Users/Joe/7-minute thighs/History/20170415”`



Other Firestore features

- **Offline persistence**
  Data is cached in the device and can be accessed while offline
- **Realtime updates**
  reflected while the app is open
- **Paginated queries**
  Get a range of documents from a large collection