Document databases are databases that allow developers to store collections of similar documents that don’t have to conform to a specific schema. This makes for very flexible collections and developers can choose what kind of data should fit in a specific collection, not based on schema, but based on queries or efficient lookups.

Collections in a document database are collections of documents. They are equivalent to tables in a relational database. Each document will store data, generally in the JSON format. Collections help developers to sort documents for maximum efficiency because documents within the same collection don’t have to follow a specific schema. Each document within a collection can have different field names, a different number of fields, and even fields that contain lists. For example, maybe there is a database out there that was made for investors in media of all kinds. A single collection may be named “media” and contain books, magazines, movies, podcasts etc. Each book might have a field for the author, the publication date, and the number of paragraphs. Movies, however, won’t have paragraphs, but that doesn’t mean they can’t be stored in the same collection. In this case the database is sorted for maximum lookup efficiency because the most common accessor of this data is someone who likes to invest in all kinds of media. It’s also possible to create a collection that stores documents based on the date created, or the media type, or the genre.

The key difference between a NoSQL vs SQL database structure is that one is optimized for running on a cluster and the other is not. On the SQL model, there is a way of running on a cluster, but it introduces a single point of failure. With the NoSQL database structure, running on clusters becomes possible meaning that all transactions and data storing can be done on lots of small machines rather than a large expensive one. NoSQL is also able to accomplish this without introducing a single point of failure although this results in a sacrifice in consistency.